

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,  
MELBOURNE.

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OFFICIAL  
YEAR BOOK  
OF THE  
COMMONWEALTH OF AUSTRALIA,  
CONTAINING AUTHORITATIVE STATISTICS FOR THE PERIOD  
1901-1914

AND CORRECTED STATISTICS FOR THE PERIOD 1788 TO 1900.

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No. 8.—1915.

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ISSUED UNDER THE AUTHORITY OF THE MINISTER OF STATE FOR HOME AFFAIRS

BY

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BY AUTHORITY.

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## PREFACE.

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By the Constitution of the Commonwealth of Australia, the Commonwealth is empowered "to make laws for the peace, order, and good government of the Commonwealth, with respect to," *inter alia*, "Census and Statistics." In exercising the power so conferred, a "Census and Statistics Act" was passed in 1905, and in the year following, the "Commonwealth Bureau of Census and Statistics" was created. The first Official Year Book was published early in 1908. The publication here presented is the eighth authoritative Year Book issued under the Federal Constitution.

This Year Book furnishes corrected statistics for the whole period of Australian settlement, viz., from 1788 to 1914. Wherever space has permitted, detailed statistics have been furnished for each year since Federation, viz., from 1901 to 1914. In the few instances where this has proved impracticable, reference will be necessary to Year Books Nos. 1 to 7. The inclusion, as stated, of the total available information in the more important branches of statistics enables this publication to be used wherever it is desired to make a comparative survey of the evolution of this portion of the British Empire. Not only are the results given for the Commonwealth as a whole, but also for each State therein.

The general arrangement of the publication, which has been widely commended, corresponds with that of previous issues, and is shewn in the synopsis on pp. xiii. to xxix. immediately following.

In addition, however, to what may be called purely statistical matter, each issue contains special articles dealing at length with some particular subject or subjects of more or less permanent interest. These cannot of course be repeated year after year, but usually a brief condensation is given in subsequent issues. Though many articles in Year Books Nos. 1 to 7 have been reduced to synopses or deleted, sufficient indication is given to enable the subject to be traced in previous issues.

The present issue of the Year Book contains several new features of interest. On account of the European war special interest attaches to the section dealing with "Defence," which has been considerably expanded by references to Australia's share in the conflict on sea and land. The more important legislative enactments

rendered imperative by the war, such as the "War Precautions Act," "Enemy Patents Act," &c., have also been dealt with, and special reference has been made to the question of Commonwealth Finance as affected by the war.

The methods adopted in recent years for the repression of strikes and lockouts are referred to in the section relating to "Industrial Unionism," while the section on "Labour and Industrial Statistics" gives a comparative summary of the change in rates of wages in each State during 1913 and 1914. The Appendix contains a list of islands off the Coast of Western Australia, supplementary to that given in Official Year Book No. V.

The subject matter throughout is dealt with, as far as possible, from the following points of view, viz.:—

(i.) The development of the individual States. (ii.) The progress of Australia as a whole from the earliest times. (iii.) The statistical comparison of Australia with other leading countries of the world.

The full text of the Commonwealth Constitution Act and Amendments appears on pages 16 to 39.

A feature of this publication is the use made of maps and diagrams. As a rule, facts can be properly appreciated only by the use of graphs, and the progress of events, the characteristics of growth and decline, can in general be grasped much more readily graphically than numerically. The diagram or "graph" is a direct picture in which the relative magnitudes are preserved and by which instantaneous comparisons of a wide range of facts are made possible at a glance. The statistical data, however, are also given *in extenso* numerically.

The development of Australia has been in many instances very remarkable, and this could be shewn only by tables and graphs dating back to its beginning in 1788. In most cases accurate data are not available for years much before 1860. In such cases, therefore, it seems sufficient at present to give continuous results from that year onwards.

The great mass of material embodied in each Year Book is always carefully examined, but it would be idle to hope that all error has been avoided. The Commonwealth Statistician desires to express appreciation of the opportunity afforded him of perfecting the matter of the Year Book, by those who have been kind enough to point out defects or make suggestions.

The corresponding years indicated in various sections of this book do not always necessarily refer to the same period, the year ending in some cases on 31st December, 30th June, or 31st March, etc. The precise period for which returns are given is indicated where necessary.

Recent information, or returns which have come to hand since the various Sections were sent to press, may be found in the Appendix, p. 1084.

In conclusion, the Commonwealth Statistician desires to express his cordial thanks to the State Statisticians, to the responsible officers of the various Commonwealth and State Departments, and to others, who have kindly, and often at considerable trouble, supplied all desired information.

G. H. KNIBBS,

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COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,

21st June, 1915.

# INDEX TO SPECIAL ARTICLES, ETC., APPEARING IN PREVIOUS ISSUES.

These articles have appeared in former issues of the Commonwealth Year Book, but, owing to exigencies of space, they are not included in this publication.

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## CORRIGENDA.

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Page 91.—In table, year 1895, for Western Australia, "11.72" read "38.75."

Page 702.—6th line from top of page, for "years 1909-10 and 1910-11" read "year 1909-10."

Page 715.—2nd line from top of page, for "Queensland" read "Western Australia."

Page 748.—Last line on page, in table, year 1913-14, for South Australia "34 18 10" read "34 19 6."

# STATISTICAL SUMMARY.

## STATISTICAL SUMMARY FOR THE COMMONWEALTH, 1861-1913.

(Figures for 1914, where available, will be found in the Appendix, and, in some instances, have been incorporated in the succeeding sections.)

Heading.		Years.						
		1861.	1871.	1881.	1891.	1901.	1911.	1913.
Population	Males	669,373	928,918	1,247,059	1,736,617	2,004,836	2,377,920	2,536,530
	Females	498,776	771,970	1,059,677	1,504,368	1,820,077	2,190,787	2,335,529
	Total	1,168,149	1,700,888	2,306,736	3,240,985	3,824,913	4,568,707	4,872,059
Births ...	No.	48,008	63,625	80,004	110,187	102,945	122,193	135,714
	Rate	42.28	38.00	35.26	34.47	27.16	27.21	25.25
Deaths ...	No.	20,061	22,175	33,327	47,430	46,330	47,869	51,789
	Rate	17.34	13.24	14.69	14.84	12.22	10.66	10.78
Marriages	No.	10,000	11,623	17,244	23,862	27,755	39,482	41,594
	Rate	8.64	6.94	7.60	7.47	7.32	8.79	8.67
Agriculture—								
Wheat ...	Area, acs.	704,431	1,279,778	3,002,064	3,335,528	5,115,965	7,427,834	9,287,398
	Yld., bshl	10,236,549	11,917,741	21,443,862	25,675,265	38,561,619	71,636,347	103,344,132
	Av. "	14.53	9.31	7.14	7.70	7.54	9.64	11.13
Oats ...	Area, acs.	129,738	225,492	194,816	246,129	461,430	616,857	859,020
	Yld., bshl	3,090,982	4,251,630	4,795,397	5,726,256	9,789,854	9,561,833	15,232,048
	Av. "	23.82	18.85	24.62	23.27	21.22	15.50	17.73
Barley ...	Area, acs.	27,093	48,164	75,864	68,068	74,511	116,466	222,627
	Yld., bshl	507,879	726,158	1,353,380	1,178,550	1,519,819	2,056,636	3,921,545
	Av. "	18.75	15.08	17.84	17.31	20.40	17.68	17.62
Maize ...	Area, acs.	61,178	142,078	163,777	284,428	294,849	340,065	351,879
	Yld., bshl	1,799,862	4,576,635	5,726,266	9,261,922	7,034,786	8,989,855	9,173,321
	Av. "	29.18	32.21	34.54	32.56	23.86	26.29	27.56
Hay ...	Area, acs.	222,003	303,274	768,388	942,166	1,688,402	2,518,288	2,754,672
	Yld., tons	298,184	375,871	767,194	1,067,255	2,024,608	2,867,973	3,372,596
	Av. "	1.34	1.24	1.00	1.13	1.20	1.14	1.22
Potatoes*	Area, acs.	47,338	67,911	76,265	112,834	109,685	130,463	170,223
	Yld., tons	147,610	212,896	243,216	380,477	322,524	301,489	417,893
	Av. "	3.12	3.13	3.19	3.37	2.94	2.31	2.45
Sugar Cane ...	Area, acs.	...	11,576	19,708	45,444	86,950	101,010	109,001
	Yld., tons	...	176,632	349,627	737,573	1,367,802	1,682,250	2,271,558
	Av. "	...	15.25	17.74	16.23	15.73	16.65	20.84
Vineyards	Area, acs.	7,010	16,253	14,570	48,882	63,677	60,602	61,197
	Wine, gal	495,000	2,104,000	1,488,000	3,535,000	5,816,087	4,975,147	4,709,891
Total value all agricultural production ... £		...	8,941,000	15,519,000	16,480,000	23,835,000	38,773,678	46,260,000
Pastoral, dairying, etc.								
Live Stock	(Sheep, No.	20,980,123	40,072,955	65,092,719	106,421,068	73,040,211	93,003,521	85,057,402
	Cattle ..	3,845,554	4,277,223	8,010,591	11,112,112	8,491,423	11,828,954	11,483,882
	Horses ..	431,695	701,530	1,088,029	1,584,737	1,620,422	2,279,027	2,521,983
Wool prod., lb. greasy	Pigs ..	319,147	586,017	703,188	845,888	931,309	1,110,771	800,055
	Butter product'n, lbs.	...	179,000,000	332,759,000	631,587,000	543,131,661	726,408,625	711,134,203
Cheese ..	...	...	...	...	47,433,564	101,671,066	211,573,745	198,758,238
	Bacon and ham ..	...	...	...	19,146,929	11,575,662	15,886,712	19,743,415
Total estimated value of pastoral and dairying production ... £		...	20,736,000	29,538,000	39,256,000	36,890,000	69,832,000	78,207,000
Mineral production—								
Gold...	...	9,950,000	7,239,106	5,194,390	5,281,861	14,005,732	10,551,624	9,376,573
	Silver and lead ... £	5,702	29,488	31,139	3,717,825	2,367,687	3,021,284	4,715,109
	Copper ... £	458,758	824,111	673,786	363,745	2,238,590	2,564,293	3,269,365
Tin ...	...	11,937	18,597	1,145,603	560,750	422,576	1,208,973	1,401,571
	Zinc ... £	...	...	...	2,623	4,057	1,435,169	1,347,987
Coal...	...	228,935	325,747	636,746	1,908,028	2,602,770	3,929,672	4,628,063
	Total value all mineral production ... £	10,557,533	8,484,728	7,813,523	12,093,837	22,043,104	23,480,211	25,807,557
Forestry production—								
Quantity of local timber	sup. ft.	†	†	†	†	452,131,252	591,645,786	683,091,691
	sawn or hewn	...	...	...	...	...	...	...
Manufactories—								
No. of factories	...	...	...	...	...	...	14,455	15,456
	Hands employed No.	...	...	...	...	...	911,710	337,101
	Wages paid ... £	...	...	...	...	...	97,528,371	33,608,087
Total value of outputs	...	...	...	...	...	...	133,022,090	161,560,763
	Value added in process of manufac. £	...	...	...	...	...	54,017,714	65,153,286

\* Partly estimated 1861, 1871, and 1881. † Owing to variation in classification and lack of information effective comparison is impossible. ‡ Information not available. § Area of productive cane. || Season ended 30th June, year following.

## STATISTICAL SUMMARY FOR THE COMMONWEALTH—(continued).

Heading.	Years.						
	1861.	1871.	1881.	1891.	1901.	1911.	1913.
Shipping—							
Oversea vessels (No. ent. & cleared (ton.	2,466	2,748	3,284	3,778	4,028	4,174	3,985
Commerce—	1,149,476	1,312,642	2,549,364	4,726,307	6,541,991	9,984,801	10,646,749
Imports oversea £	17,651,000	17,017,000	29,067,000	37,711,000	42,434,000	66,967,488	79,749,653
“ per head £	15/5/2	10/3/3	12/16/2	11/16/0	11/9/11	14/18/3	16/12/0
Exports oversea £	17,413,000	21,725,000	27,528,000	36,043,000	49,696,000	79,482,258	78,571,769
“ per head £	15/1/1	12/19/6	12/2/8	11/5/6	13/2/2	17/14/1	16/7/2
Total oversea trade £	35,064,000	38,742,000	56,595,000	73,754,000	92,130,000	146,449,746	158,321,422
“ per head £	30/6/3	23/2/9	24/18/10	23/1/6	24/6/1	32/2/4	32/19/2
Customs and excise duties ... £	...	...	4,809,326	7,440,869	8,656,530	13,515,005	15,040,058
“ per head, £	...	...	2/2/5	2/6/7	2/5/8	3/0/2	3/2/8
Principal Oversea Exports—							
Wool { lbs. (greasy)	60,367,492	176,635,820	328,369,169	619,259,753	518,018,134	720,364,903	660,474,075
“ { bushels	5,005,799	9,459,639	13,173,026	19,940,029	15,237,454	26,071,193	26,277,062
Wheat {	87,249	799,924	5,364,653	9,794,791	20,260,058	55,147,840	42,922,887
“ {	24,041	193,732	1,189,762	1,938,864	2,774,643	9,641,608	7,987,477
Flour { tons	7,602	12,938	40,549	33,363	96,814	175,891	221,656
“ {	113,172	170,415	519,635	328,423	589,604	1,391,529	1,863,667
Butter { lbs.	664,160	1,812,688	1,298,758	4,239,494	34,607,397	101,732,136	75,802,393
“ {	21,692	45,813	39,383	206,868	1,451,168	4,637,362	3,565,282
Skins and hides... £	180,292	100,123	316,878	873,695	1,250,938	3,227,236	5,639,827
Tallow ... £	149,201	914,278	644,149	571,069	677,745	1,936,599	2,160,253
Meats ... £	37,575	566,780	362,965	460,894	2,611,244	4,307,273	7,713,068
Timber (undressed) £	32,367	42,586	118,117	38,448	731,301	1,023,960	971,278
Gold ... £	9,957,056	7,184,833	6,445,365	5,703,532	14,315,741	12,045,766	3,545,216
Silver and lead ... £	4,237	37,891	57,954	1,932,278	2,250,253	3,284,720	4,645,521
Copper ... £	381,718	598,538	676,515	417,687	1,619,145	2,349,443	2,977,940
Coal... £	63,061	134,355	361,081	645,972	986,957	900,622	1,121,505
Govt. Railways—							
Lgh. of line open, mls	205	970	3,832	9,541	12,577	16,079	17,775
Capital cost ... £	6,654,516	19,269,786	42,741,350	99,764,090	123,587,000	152,896,000	171,226,000
Gross revenue ... £	318,823	1,102,650	3,910,122	8,654,085	11,038,000	17,848,000	19,954,000
Working expenses £	234,040	608,332	2,141,735	5,630,182	7,149,000	11,054,000	13,595,000
Per cent. of work'g exp- senses on earnings %	73.41	55.17	54.77	65.06	64.76	61.94	68.14
Postal—							
Letters and postcards dealt with ... No.	12,844,000	24,382,000	67,640,000	157,297,000	220,853,000	453,975,000	541,069,000
“ “ per head ..	11.13	14.54	29.61	49.07	58.26	101.1	112.6
Newspapers dealt with ... No.	9,609,000	13,336,000	38,063,000	85,280,000	102,727,000	139,604,000	149,740,000
“ “ per head ..	8.32	7.95	16.66	26.61	27.10	31.04	31.2
Cheque-paying Banks—							
Note circulation £	2,970,357	2,456,487	3,978,711	4,417,269	3,406,175	†876,428	330,810
Coin & bullion held £	4,662,415	6,168,869	9,108,243	16,712,923	19,737,572	30,024,225	33,684,023
Advances ... £	18,261,129	26,039,573	57,732,324	129,741,583	89,167,499	116,769,133	115,308,140
Deposits ... £	13,817,435	21,856,959	53,849,455	98,345,338	90,965,530	147,103,081	154,508,380
Savings Banks—							
Number of depositors	27,877	100,713	250,070	614,741	964,553	1,600,112	2,054,636
Total deposits ... £	1,320,739	3,193,285	7,854,480	15,536,592	30,882,645	59,393,682	80,277,812
Aver. per depositor £	47/7/7	31/14/2	31/8/2	25/5/6	32/0/4	37/2/4	39/1/4
“ “ head of population ... £	0/18/8	1/18/9	3/10/5	4/18/7	8/4/0	13/8/5	16/12/0
State Schools—							
Number of schools	1,864	2,502	4,494	6,231	7,012	8,060	8,647
Teachers ... No.	2,471	4,641	9,028	12,564	14,500	16,971	19,440
Enrolment ...	106,049	236,710	432,320	561,153	638,478	638,850	686,915
Aver. attendance ..	73,446	137,767	255,143	350,773	450,246	463,799	515,948

\* Australian produce, except gold, which includes re-exports. † Decrease due to issue of Australian notes.

# CHRONOLOGICAL TABLE.

## CHRONOLOGICAL TABLE OF CHIEF EVENTS SINCE THE ESTABLISHMENT OF SETTLEMENT IN AUSTRALIA.

NOTE.—The Government was centralised in Sydney, New South Wales, up to 1825, when Tasmania (Van Diemen's Land) was made a separate colony. In the Table, the names now borne by the States serve to indicate the localities.

Year.	
1788	N.S.W.—Arrival of "First Fleet" at Botany Bay. Land in vicinity being found unsuitable for settlement, the expedition moved to Sydney Cove (now Port Jackson). Formal possession of Port Jackson taken by Captain Phillip on 26th January. Formal proclamation of colony on 7th February. Population, 1024. Branch settlement established at Norfolk Island. French navigator La Pérouse visits Botany Bay. First cultivation of wheat and barley. First grape vines planted.
1789	N.S.W.—First wheat harvest at Parramatta, near Sydney. Discovery of Hawkesbury River. Outbreak of small-pox amongst aborigines.
1790	N.S.W.—"Second Fleet" reached Port Jackson. Landing of the New South Wales Corps. Severe suffering through lack of provisions. First Circumnavigation of Australia by Lieut. Ball.
1791	N.S.W.—1st Exploration Map of Australia published. Arrival of "Third Fleet." Territorial seal brought by King.
1792	N.S.W.—Visit of <i>Philadelphia</i> , first foreign trading vessel. Population, 4203.
1793	N.S.W.—First free immigrants arrived in the <i>Bellona</i> . First Australian church opened at Sydney. Tas.—D'Entrecasteaux discovered the Derwent River.
1794	N.S.W.—Establishment of settlement at Hawkesbury River.
1795	N.S.W.—Erection of the first printing press at Sydney. Descendants of strayed cattle discovered at Cowpastures, Nepean River.
1796	N.S.W.—First Australian Theatre opened at Sydney. Coal discovered by fishermen at Newcastle.
1797	N.S.W.—Introduction of merino sheep from Cape of Good Hope.
1798	Tas.—Tasmania proved an island by voyage of Bass and Flinders.
1800	N.S.W.—First export of coal. First Custom House in Australia established at Sydney. Flinders' Charts published. First issue of copper coin. Population, 5995.
1801	N.S.W.—First colonial manufacture of blankets and linen.
1802	Vic.—Discovery of Port Phillip by Lieut. Murray. S.A.—Discovery of Spencer's and St. Vincent Gulfs by Flinders. Q'land.—Discovery of Port Curtis and Port Bowen by Flinders.
1803	N.S.W.—First Australian wool taken to England by Capt. Macarthur. Issue of "The Sydney Gazette," first Australian newspaper. Vic.—Attempted colonisation of Port Phillip by Collins. Discovery of Yarra by Grimes. Tas.—First settlement formed at Risdon by Lieut. Bowen.
1804	N.S.W.—Insurrection of convicts at Castle Hill. Vic.—Abandonment of settlement at Port Phillip. Tas.—Foundation of settlement at Hobart by Collins, and at Yorktown by Colonel Paterson.
1805	N.S.W.—First extensive sheep farm established at Camden by Capt. Macarthur. Portion of settlers from Norfolk Island transferred to Tasmania.
1806	N.S.W.—Shortage of provisions, and floods. Tas.—Settlement at Launceston.
1807	N.S.W.—Final shipment of convicts from Norfolk Island. First shipment of merchantable wool (245 lbs.) to England.
1808	N.S.W.—Deposition of Governor Bligh.
1810	N.S.W.—First post-office established at Sydney. First Race Meeting in Australia at Hyde Park, Sydney. Population, 11,590. Tas.—First Tasmanian newspaper printed.
1813	N.S.W.—Passage across Blue Mountains discovered by Wentworth, Lawson, and Blaxland. Macquarie River discovered by Evans.
1814	N.S.W.—Australia, previously known as "New Holland," received present name on recommendation of Flinders. Creation of Civil Courts. Appointment of Mr. Kendall as Resident Magistrate in New Zealand.

- 1815 N.S.W.—Town of Bathurst founded by Governor Macquarie. First steam engine in Australia erected at Sydney. Lachlan River discovered by Evans. Tas.—Arrival of first immigrant ship with free settlers. First export of wheat to Sydney. Port Davey and Macquarie Harbour discovered by Captain Kelly.
- 1816 N.S.W.—Botanic Garden formed at Sydney.
- 1817 N.S.W.—Oxley's first exploration inland. Discovery of Lakes George and Bathurst and the Goulburn Plains by Meehan and Hume. First bank in Australia opened at Sydney. Tas.—Great prosperity in wool and whaling industries.
- 1818 N.S.W.—Cessation of free immigration. Oxley discovers Liverpool Plains, and the Peel, Hastings, and Manning Rivers. Port Essington discovered by Captain King.
- 1819 N.S.W.—Opening of first Australian Savings Bank at Sydney.
- 1820 N.S.W.—Foundation of Campbelltown. Clyde River discovered by Lieut. Johnson. Tas.—First importation of pure merino sheep.
- 1821 N.S.W.—Foundation of Philosophical (now Royal) Society. Population, 35,610. Tas.—Establishment of penal settlement at Macquarie Harbour. First Circuit Court held at Hobart.
- 1822 N.S.W.—Formation of Agricultural Society of N.S.W.
- 1823 N.S.W.—First Australian Constitution. Discovery of gold at Fish River by Assistant-Surveyor McBrien. Arrival in Sydney of Dr. John Dunmore Lang. Qld.—Oxley discovers Brisbane River.
- 1824 N.S.W.—Becomes a Crown Colony. Executive Council formed. Establishment of Supreme Court at Sydney, and introduction of trial by jury. First Australian Enactment (Currency Bill) passed by the Parliament at Sydney. Proclamation of freedom of the press. First land regulations. First manufacture of sugar. Hume and Hovell's overland expedition to the south. Vic.—Hume and Hovell, journeying overland from Sydney, arrive at Corio Bay. Qld.—Penal settlement founded at Moreton Bay (Brisbane). Fort Dundas Settlement formed at Melville Island, N. Terr.
- 1825 Tas.—Proclamation of Independence of Van Diemen's Land (Tasmania) and appointment of a nominated Legislative Council for the new colony.
- 1826 N.S.W.—Illawarra founded by Captain Bishop. Vic.—Settlement at Corinella, Western Port, formed by Captain Wright. W.A.—Military Settlement founded at King George's Sound, Albany, by Major Lockyer.
- 1827 N.S.W.—Colony becomes self-supporting. Feverish speculation in land and stock. Qld.—Darling Downs and the Condamine River discovered by Allan Cunningham. Fort Wellington established at Raffles Bay, N. Terr. Tas.—Copper ore discovered at Macquarie Harbour.
- 1828 N.S.W.—Second Constitution. First Census. Sturt's expedition down Darling River. Cotton first grown in Sydney Botanical Gardens. Gas first used at Sydney. Richmond and Clarence Rivers discovered by Captain Rous. Vic.—Abandonment of settlement at Western Port. Qld.—Cunningham discovers a route from Brisbane to the Darling Downs, and explores Brisbane River to its source. Tas.—First land sales.
- 1829 N.S.W.—Sturt's expedition down Murrumbidgee River. New South Wales Act proclaimed. All English law, so far as circumstances of the Colony allowed, came into force. W.A.—Foundation of settlement at Swan River, under command of Lieut.-Governor Stirling. Perth also founded.
- 1830 N.S.W.—Insurrection of convicts at Bathurst. Sturt, voyaging down Murrumbidgee and Murray Rivers, arrives at Lake Alexandrina. Qld.—Murder of Captain Logan by convicts at Brisbane. W.A.—First Executive Council appointed. Tas.—Trouble with natives. Black line organised to force aborigines into Tasman's Peninsula, but failed. Between 1830 and 1835, however, George Robinson, by friendly suasion, succeeded in gathering the small remnant of aborigines (203) into settlement at Flinders Island.
- 1831 N.S.W.—Crown lands first disposed of by public competition. Mitchell's explorations north of Liverpool Plains. Arrival at Sydney of first steamer, *Sophia Jane*, from England. S.S. *Surprise*, first steamship in Australia, launched at Sydney. First coal shipped from Australian Agricultural Company's workings at Newcastle, N.S.W. First assisted immigration to N.S.W. S.A.—Adelaide District discovered by Captain Barker. Murder of Barker by aborigines at Lake Alexandrina. Wakefield's first colonisation committee. W.A.—Appointment of Executive and Legislative Council. First newspaper—"Fremantle Observer." Lord Ripon's land regulations in N.S.W., W.A., and Tas.
- 1832 N.S.W.—Savings Bank of N.S.W. established.

- 1833 N.S.W.—First School of Arts established at Sydney.
- 1834 N.S.W.—First settlement at Twofold Bay. Vic.—Settlement formed at Portland Bay by Henty Bros. Qld.—Leichhardt reached Gulf of Carpentaria. S.A.—Formation of the South Australian Association. Imperial Act Colonisation of S.A. W.A.—Severe reprisals against natives at Pinjarrah.
- 1835 N.S.W.—Establishment of *dépôt* at Fort Bourke on the Darling River, by Mitchell. Vic.—John Batman's arrival at Port Phillip; makes treaty with the natives for 600,000 acres of land; claim afterwards disallowed by Imperial Government. John Pascoe Fawkner founds Melbourne on site previously selected by Batman.
- 1836 N.S.W.—Fall of snow in Sydney. Mitchell's overland journey from Sydney to Cape Northumberland, Vic., and discovery of "Australia Felix." "Squatting" formally recognised. Vic.—Proclamation of Port Phillip district as open for settlement. Captain Lonsdale first Resident Magistrate. S.A.—Founding of settlement at Adelaide under Governor Hindmarsh.
- 1837 N.S.W.—Appointment in London of Select Committee on Transportation. Heavy snowfall near Sydney. Vic.—Melbourne planned and named by Governor Bourke. First Victorian post-office established in Melbourne. First sale of Crown lands in Melbourne. First overlanders from Sydney arrived at Port Phillip. S.A.—Adelaide planned by Captain Light. First newspaper published at Adelaide. First sale of Crown lands in Adelaide.
- 1838 N.S.W.—Discontinuance of assignment of convicts. Drought and failure of crops. Frenzied speculation. Vic.—First Victorian paper published at Melbourne. Qld.—Settlement of German missionaries at Brisbane. S.A.—"Overlanding" of cattle from Sydney to Adelaide along the Murray route by Hawden and Bonney. Settlement at Port Essington, Northern Territory, formed by Captain Bremer. W.A.—Glenelg River discovered by Captain Grey.
- 1839 N.S.W.—Finding of gold at Vale of Clwydd by Count Strzelecki. Vic.—Appointment of Mr. C. J. LaTrobe as Superintendent Port Phillip district. S.A.—Lake Torrens discovered by Eyre. Port Darwin, Northern Territory, discovered by Captain Stokes. W.A.—Murchison River discovered by Captain Grey.
- 1840 N.S.W.—Abolition of transportation to New South Wales. Land regulations—proceeds of sales to be applied to payment for public works and expenditure on immigration. Foundation of viticultural industry. Monetary crisis. Vic.—Determination of northern boundary. Colonists desire separation from New South Wales. Qld.—Breaking up of penal settlements and throwing open of Moreton Bay district to free settlers. S.A.—Incorporation of Adelaide. Eyre begins his overland journey from Adelaide to King George's Sound. Tas.—Visit of the *Erebus* and *Terror* to Hobart. Dr. Hooker investigates the island flora.
- 1841 N.S.W.—Gold found near Hartley by Rev. W. B. Clarke. Separation of New Zealand. W.A.—Completion of Eyre's overland journey from Adelaide to King George's Sound. Tas.—Renewal of transportation.
- 1842 N.S.W.—Incorporation of Sydney. Vic.—Incorporation of Melbourne. S.A.—Discovery of copper at Kapunda.
- 1843 N.S.W.—First Representative Constitution. First manufacture of tweed. Financial crisis. Qld.—Moreton Bay granted legislative representation. Tas.—Agitation against further introduction of convicts.
- 1844 S.A.—Sturt's last expedition inland. Qld.—Leichhardt's expedition from Condamine River to Port Essington, Northern Territory. Arrived following year.
- 1845 N.S.W.—Mitchell's explorations on the Barcoo. Qld.—Explorations by Mitchell and Kennedy. S.A.—Discovery of the Burra copper deposits. Sturt discovered Cooper's Creek. W.A.—First steam vessel (*H.M.S. Driver*) visited Fremantle.
- 1846 N.S.W.—Mr. Gladstone proposed to revive transportation. Initiation of meat preserving. Qld.—Foundation of settlement at Port Curtis. S.A.—Proclamation of North Australia. W.A.—Organisation of first mining company. Foundation of New Norcia Mission.
- 1847 N.S.W.—Crown Land Leases Act. Opening of iron smelting works near Berrima. Overland mail established between Sydney and Adelaide. Vic.—Melbourne created a City by Royal Letters Patent. Qld.—Explorations by Leichhardt, Burnett and Kennedy. W.A.—Issue of regulations for leasing Crown lands. First export of guano.



- 1848 N.S.W.—Attempts to revive transportation. Influx of Chinese. Vic.—Earl Grey returned as Melbourne member of the Legislative Council. Qld.—Leichhardt's last journey. Kennedy speared by the blacks at York Peninsula. Chinese brought in as shepherds. W.A.—Copper and lead discovered in the Champion Bay district by the Messrs. Gregory.
- 1849 N.S.W.—Indignation of colonists at arrival of convict ship *Hashemy*. Exodus of population to goldfields of California. Vic.—Outburst of indignation at arrival of *Randolph* with convicts. Qld.—Assignment of convicts per *Hashemy* to squatters on Darling Downs. W.A.—Commencement of transportation to Western Australia.
- 1850 N.S.W.—Final abolition of transportation. First sod of first Australian railway turned at Sydney. Vic.—Gold discovered at Clunes by Hon. W. Campbell. Representative government granted. S.A.—Representative government granted. W.A.—Pearl oysters found by Lieut. Helpman at Saturday Island Shoal. Tas.—Representative government granted. Discovery of coal at the Don and Mersey.
- 1851 N.S.W.—Payable gold discovered by Hargraves, at Lewis Ponds and Summerhill Creeks. Telegraph first used. Vic.—Separation of Port Phillip—erected into independent colony under the name of Victoria. Discovery of gold in various localities. "Black Thursday," Feb. 6th, a day of intense heat, when several persons died and a vast amount of damage to property was occasioned by fires. Qld.—Agitation for separation from New South Wales. S.A.—Financial depression. Tas.—Serious exodus of population to goldfields on mainland. W.A.—Proclamation of Legislative Council Act.
- 1852 N.S.W.—Destruction of Gundagai by flood—77 lives lost. Arrival of the *Chusan*, first P. and O. mail steamer from England. S.A.—First steamer ascends the Murray River to the junction with the Darling. Tas.—Meeting of first elective Council protests against transportation. Payable gold discovered at The Nook, near Pingal, and at Nine Mile Springs.
- 1853 Tas.—Abolition of transportation.
- 1854 N.S.W.—Russian war-scare and volunteer movement. Vic.—Opening of first Australian railway—Flinders Street to Port Melbourne. Riots on Ballarat goldfields. Storming of the Eureka Stockade, Dec. 3rd.
- 1855 N.S.W.—Opening of railway—Sydney to Parramatta. Introduction of responsible Government. Vic.—Proclamation of Constitution. Qld.—Gregory's expedition in search of Leichhardt. Tas.—Responsible government.
- 1856 N.S.W.—First elective Parliament. Pitcairn Islanders placed on Norfolk Island, which was placed under jurisdiction of Governor of New South Wales. Vic.—First Parliament under responsible government. S.A.—Responsible government. Tas.—First Parliament under responsible government. W.A.—A. C. Gregory's expedition in search of Leichhardt.
- 1857 N.S.W.—Heavy floods. Wreck of the *Dunbar* (119 lives lost), and *Catherine Adamson* (21 lives lost), at Sydney Heads. Select Committee on Federation. Vic.—Manhood suffrage. S.A.—First Parliament under responsible government. Exploration by Babbage and Warburton. Passage of Torrens' Real Property Act.
- 1858 N.S.W.—Establishment of manhood suffrage and vote by ballot. Telegraphic communication between Sydney, Melbourne and Adelaide. S.A.—Stuart's explorations. Qld.—The Canoona gold rush.
- 1859 Qld.—Proclamation of Queensland as separate colony. Tas.—First submarine cable, via Circular Head and King Island, to Cape Otway.
- 1860 N.S.W.—Disastrous floods on the Shoalhaven and at Araluen. Vic.—Burke and Wills left Melbourne on their journey across Continent. Qld.—First Parliament under responsible government. S.A.—Copper discoveries at Wallaroo and Moonta.
- 1861 N.S.W.—Anti-Chinese riots at Laming Flat and Burrangong goldfields. Opening of first tramway in Sydney—cars drawn by horses. Robertson's Land Acts. Messrs. Parkes and Dalley proceed to London as emigration lecturers. Regulation of Chinese immigration. Vic.—Conference of Statisticians, Melbourne. Burke and Wills perish at Cooper's Creek, near Innamincka, S.A. W.A.—Exploration of F. Gregory in the North-west.
- 1862 N.S.W.—Raid by bushrangers on the Lachlan gold escort (£14,000 taken). Abolition of State aid to religion. Real Property Act. Vic.—C. Gavan Duffy's Land Act. Qld.—McKinlay's explorations. Heavy floods on Fitzroy River. S.A.—Stuart crosses the Continent from south to north. W.A.—Severe floods—damage to property, £30,000. First export of pearl-shell.

- 1863 N.S.W.—Bathurst and Canowindra "held up" by bushranger Gilbert. Vic.—Inter-colonial conference at Melbourne. S.A.—Taking over of the Northern Territory. W.A.—Initiation of settlement in the North-west district. Establishment of Post Office (now Government) Savings Bank.
- 1864 N.S.W.—Frequent outrages by bushrangers. Qld.—First railway begun. First sugar made from Queensland cane. Opening of first railway. W.A.—Messrs. Panton, Harding and Goldwyer, murdered by natives. Tas.—First successful shipment of English salmon ova.
- 1865 N.S.W.—Destruction by fire of St. Mary's Cathedral, Sydney.
- 1866 N.S.W.—Passage of Public Schools Act of (Sir) Henry Parkes. Vic.—Political deadlock. Qld.—Financial crisis. S.A.—Introduction of camels for exploration, etc.
- 1867 Vic.—Imposition of protective tariff. Qld.—Discovery of gold at Gympie.
- 1868 N.S.W.—Attempted assassination of the Duke of Edinburgh at Clontarf, near Sydney. Qld.—Passage of Act to regulate island labour traffic. W.A.—Arrival of the *Hougomont*, last convict ship. Tas.—First sod of first railway (Launceston and Western) turned by Duke of Edinburgh.
- 1869 N.S.W.—Establishment of Eskbank Iron Company. Vic.—Reduction of property qualification for members and electors of Legislative Council. W.A.—Opening of first telegraph line, from Perth to Fremantle. Tas.—Opening of second cable.
- 1870 N.S.W.—Opening of Intercolonial Exhibition at Sydney in celebration of centenary of Cook's landing in Australia. Withdrawal of Imperial troops. Vic.—Intercolonial Congress at Melbourne. S.A.—Commencement of transcontinental telegraph. W.A.—Meeting of first Legislative Council under Responsible Government.
- 1871 N.S.W.—Permanent military force raised. Vic.—Increase of protective duties. Qld.—Foundation of Queensland National Bank. W.A.—Passage of Elementary Education Act. Forrest's explorations. Tas.—Discovery of tin at Mount Bischoff. Launceston-Western railway opened for traffic.
- 1872 N.S.W.—International Exhibition at Sydney. Death of W. C. Wentworth. Qld.—Discovery of tin at Stanthorpe, copper at Mt. Perry, coal at Wide Bay, gold at the Palmer. S.A.—Cable from Java to Port Darwin. Completion of transcontinental telegraph line. W.A.—Cyclonic storms—destruction of town of Roeburne. Tas.—Completion of direct telegraphic communication with England.
- 1873 N.S.W.—Intercolonial Conference at Sydney. First volunteer encampment. Inauguration of mail service with San Francisco. W.A.—Warburton crosses from transcontinental telegraph line to head of De Grey River.
- 1874 N.S.W.—Triennial Parliaments Act passed. Intercolonial Conference. Qld.—Dalrymple's discoveries on north-eastern seaboard. S.A.—Adelaide University founded. W.A.—Explorations by E. Giles. John and Alexander Forrest arrived at Overland Telegraph from Murchison. Fiji Islands ceded to Great Britain.
- 1875 Qld.—Transfer of Port Albany Settlement to Thursday Island. S.A.—Wreck of the *Gothenburg*—Judge Wearing and other well-known Adelaide citizens drowned. Education Act passed. Explorations by Giles, Gosse, and Warburton. Tas.—Conference of Statisticians, Hobart.
- 1876 N.S.W.—Completion of cable—Sydney (La Perouse) to Wellington (Wakapuaka). Vic.—Members of Legislative Assembly increased to 86. W.A.—Violent gale at Exmouth Gulf, number of pearling vessels wrecked, 69 lives lost. Giles crosses colony from east to west. Tas.—Death of Truganini, last representative of Tasmanian aborigines.
- 1877 Vic.—Deadlock on question of payment to members. W.A.—Opening of telegraphic communication with South Australia. Tas.—Discovery of rich gold-bearing quartz reef at Beaconsfield.
- 1878 N.S.W.—Seamen's strike. Vic.—Visit to England of Victorian delegation re alteration of Victorian Constitution. "Black Wednesday"—wholesale dismissal of civil servants. Qld.—Restriction of Chinese immigration.
- 1879 N.S.W.—First artesian bore at Killara. International Exhibition at Garden Palace, Sydney. First steam tramway. First issue of silver coin from Mint. W.A.—Celebration of 50th anniversary of foundation of colony. A. Forrest's explorations in the Kimberley district, and discovery of the Fitzroy pastoral country.

- 1880 N.S.W.—Public Instruction Act passed. Sydney streets partially wood-paved. Vic.—Opening of first Victorian International Exhibition at Melbourne. Federal Conference, at Melbourne and Sydney.
- 1881 N.S.W.—Further restrictions on Chinese immigration. Women admitted as students at University. Vic.—Reduction of property qualification for members and electors of Legislative Council, number of members increased to 42. W.A.—Cyclone near Roeburne wrecks number of pearling vessels. On the Ashburton, 1000 sheep destroyed by cyclone.  
First simultaneous Australian Census, population 2,250,194. Visit to Australia of T.R.H. Prince Albert Victor and Prince George of Wales.
- 1882 N.S.W.—Garden Palace destroyed by fire. W.A.—Nugget of gold found between Roeburne and Cossack.
- 1883 N.S.W.—Discovery of silver at Broken Hill. Completion of railway between New South Wales and Victoria. Qld.—Annexation of New Guinea—reputed by Imperial authorities.  
Federal Conference held at Sydney. Federal Council created.
- 1884 N.S.W.—Land legislation restricting sales by auction. Vic.—Appointment of First Public Service Board. W.A.—Stockdale's explorations.  
Federation Bill passed in Victoria. Similar measure rejected in New South Wales. British protectorate declared over New Guinea.
- 1885 N.S.W.—Military contingent sent to the Soudan. Opening of the Broken Hill Proprietary Silver Mines. Qld.—Agitation for division of the colony. W.A.—Gold found by prospectors on the Margaret and Ord Rivers in the Kimberley district. Tas.—Silver-lead discovered at Mount Zeehan.
- 1886 N.S.W.—Industrial depression. Wreck of the *Ly-ee-Moon*, *Coringamite*, and *Helen Nicol*. S.A.—Celebration of jubilee of foundation of colony. W.A.—Proclamation of Kimberley goldfields. Tas.—Discovery of gold and copper at Mount Lyell.  
First session of Federal Council met at Hobart on the 26th January.
- 1887 N.S.W.—Disaster at Bulli coal mine (81 lives lost). Peat's Ferry (Hawkesbury River) railway accident. S.A.—International Exhibition at Adelaide. W.A.—Cyclone destroyed nearly the whole pearling fleet off the Ninety-Mile Beach—200 lives lost. Gold discovered at Yilgarn and Southern Cross. Australasian Conference in London. Australasian Naval Defence Force Act passed.
- 1888 N.S.W.—Destructive bush fires. Centennial celebrations. Restrictive legislation against Chinese. Imposition of poll-tax of £100. Strike of coal-miners at Newcastle. Vic.—Second Victorian International Exhibition held at Melbourne. Members of Legislative Council increased to 48, and of Assembly to 95. Qld.—Railway communication opened between Sydney and Brisbane. W.A.—Favenc's explorations.  
Centenary of first settlement in Australia. Conference of Australian Ministers at Sydney to consider question of Chinese immigration. First meeting of the Australasian Association for the Advancement of Science held in Sydney. Imperial Defence Act passed.
- 1889 N.S.W.—Destructive floods, Hunter River. Qld.—Direct railway communication established between Brisbane and Adelaide. W.A.—Framing of new Constitution.
- 1890 N.S.W.—Strike at Broken Hill. Maritime and shearers' strikes. Payment of members of Parliament. Destructive bush fires. Qld.—Wreck of the *Quetta*—146 lives lost. Floods and hurricanes. Industrial depression. W.A.—Granting of responsible government. Tas.—Opening of University.  
Meeting at Melbourne of Australasian Federation Conference. Pre-censal Conference of Statisticians at Hobart.
- 1891 N.S.W.—Election to Legislative Assembly of 35 Labour members. Arrival of Australian Auxiliary Squadron. Collapse of several building societies. Cessation of assisted immigration. Death of Sir John Robertson. W.A.—Discovery of gold on the Murchison.  
Federal Convention in Sydney, draft bill framed and adopted. Second simultaneous Australian census. Population, 3,174,392.
- 1892 N.S.W.—Broken Hill miners' strike. Run on Government Savings Bank. Opening of Women's College, Sydney University. Vic.—Suspension of Railway Commissioners. W.A.—Discovery of gold by Messrs. Bayley and Ford at Coolgardie.

- 1893 N.S.W.—Departure by the *Royal Tar* of colonists for "New Australia." Electoral Act—"One man one vote." Direct communication, Sydney to Vancouver, established. Financial crisis, chiefly affecting the eastern States.
- 1894 N.S.W.—Shearers' strike. S.A.—Adult Suffrage Bill assented to. Industrial depression.
- 1895 N.S.W.—Crown Lands Act of 1895. Death of Governor Sir R. Duff. Free-trade tariff. Land and income taxes.  
Conference of Premiers at Hobart *re* Federation.
- 1896 N.S.W.—Death of Sir Henry Parkes. Re-organisation of Public Service. People's Federal Convention at Bathurst. S.A.—Departure of Calvert expedition.
- 1897 S.A.—Floods and storms at Adelaide. Death of Sir Thomas Elder. Earthquake and hurricane in Northern Territory. Town of Palmerston destroyed.
- 1897-8 Sessions of Federal Convention at Adelaide, Sydney and Melbourne.
- 1898 N.S.W.—First surplus of wheat for export.  
Draft Federal Constitution Bill submitted to electors in Victoria, New South Wales, South Australia, and Tasmania. Requisite statutory number of votes not obtained in New South Wales.
- 1899 N.S.W.—First contingent of Australian troops to assist the British army in South Africa.  
Conference of Premiers in Melbourne to consider amendments in Federal Constitution Bill. Referendum—Bill accepted by New South Wales, Victoria, Queensland, South Australia, and Tasmania.
- 1900 N.S.W.—Old-age Pensions instituted. W.A.—Agitation for separation by gold-fields. Strike of railway engine drivers and firemen.  
Contingents of naval troops from N.S.W., Vic. and S.A. to assist in China.  
Commonwealth Constitution Act receives Royal Assent, 9th July. Mr. (afterwards Sir) Edmund Barton forms first Federal Ministry.
- 1901 Proclamation of the Commonwealth at Sydney, and swearing-in of Ministry. Opening of first Federal Parliament at Melbourne by the Duke of Cornwall and York, who visited each State of the Commonwealth. Simultaneous Australasian Census—population of the Commonwealth, 3,773,801.
- 1902 N.S.W.—Disastrous explosion at Mount Kembla Colliery—95 lives lost. Women's franchise. Jubilee of Sydney University. S.A.—Reduction of number of members of both Houses of Parliament. W.A.—Opening of pumping station at Northam in connection with Goldfields water supply.
- 1903 Vic.—Railway Strike (Enginemen). W.A.—Opening of Coolgardie and Kalgoorlie water supply.  
Inauguration of the Federal High Court. Conference of Statisticians in Melbourne.
- 1904 N.S.W.—Reduction of members of Legislative Assembly from 125 to 90.
- 1905 N.S.W.—Re-introduction of assisted immigration.
- 1906 Wireless telegraphy installed between Queenscliff, Vic., and Devonport, Tas. Consummation of Commonwealth interstate Free-trade by cessation of special Western Australian tariff. Conference of Statisticians of Australian States and New Zealand, under the presidency of the Commonwealth Statistician. Papua taken over by Commonwealth.
- 1907 N.S.W.—Strike of coal-miners in Newcastle district. Vic.—Opening of first Australian Exhibition of Women's Work in Melbourne. Bakers' strike, Melbourne. Opening of telephone, Sydney to Melbourne.  
Imperial Conference in London—Australia represented by the Hon. A. Deakin, Prime Minister. Introduction of new tariff in Federal Parliament. Allowance to Federal members of Parliament increased from £400 to £600.
- 1908 N.S.W.—Tramway employees' strike, Sydney. Fire at Newcastle—damage to property £150,000. Vic.—Railway accident at Braybrook Junction (Sunshine)—44 killed, 412 injured; compensation paid, £126,000.  
Yass-Canberra chosen as site of Federal Capital. Interstate Premiers' Conference at Melbourne. Visit of American Fleet to Australia.
- 1909 N.S.W.—Miners' strikes at Broken Hill and Newcastle. Arrest of strike leaders at Newcastle. Qld.—Opening of Queensland University. S.A.—Foundering of *Clan Ranald* in St. Vincent's Gulf—40 drowned. W.A.—Cyclone at Broome.

- Imperial Defence Conference in London—Commonwealth sends three representatives. Death at Parliament House of Sir Frederick Holder, Speaker of the House of Representatives. Commonwealth orders two destroyers and one first-class cruiser for fleet unit. Visit of Lord Kitchener to report and advise on Commonwealth military defence. Loss of the *Waratah* with 300 passengers and crew.
- 1910 Vic.—Railway accident at Richmond—9 killed, over 400 injured; compensation paid £129,000. S.A.—Strike of transport workers at Adelaide. W.A.—Cyclone at Broome—several pearling vessels wrecked, 3 whites and many coloured fishermen drowned. Strike of tramway employees at Perth. Wreck of the *Pericles* off Cape Leeuwin.
- Rt. Hon. Sir G. H. Reid takes up duty as High Commissioner for the Commonwealth of Australia in London. Referendum on financial relations between the Commonwealth and the States. Proclamation taking over Yass-Canberra (in New South Wales) as site for Federal Capital. Penny postage. Visit of Scottish Agricultural Commission. Dutch squadron visits Australia. Arrival of the *Yarra* and *Parramatta*, first vessels of Australian navy. Australian Notes Act empowers Federal Treasurer to issue notes of various denominations. Admiral Sir R. Henderson visits Australia to advise on naval defence. First issue of Commonwealth notes.
- 1911 First Federal Census—population of the Commonwealth, 4,455,005. Transfer of Northern Territory to Commonwealth by South Australia. Federal referenda relating to Monopolies and Industrial Legislation—proposals rejected. Introduction of compulsory military training. Launch of Commonwealth destroyer *Warrego* at Sydney. Establishment of penny postage to all parts of British Empire.
- 1912 Opening of Commonwealth Bank. First payments of Maternity Bonus. Turning of first sod at Port Augusta of Trans-Australian Railway (Port Augusta and Kalgoorlie). Resignation of leadership of Liberal party by Mr. Alfred Deakin, and appointment of Mr. Joseph Cook in his stead. Appointment of Administrators to Northern Territory and Federal Territory. Opening of Western Australian University. Gift of £1,000,000 to charities by Mrs. Walter Hall, Sydney, N.S.W. Numerous industrial disturbances: Brisbane tramway employees' and general strike; strike of miners at the Wonthaggi State coal mines.
- 1913 Arrival of battle cruiser *Australia*, and cruisers *Melbourne* and *Sydney*. Foundation stone of Commonwealth Building in London laid by the King. Federal Capital named Canberra and foundation stone laid. Appointment of Interstate Commission. Visit of Empire Trade Commission. Visit of Members of Empire Parliamentary Association.
- 1914 Visit of General Sir Ian Hamilton to report on military defence scheme. Double dissolution of Federal Parliament. Visit of British Association for the Advancement of Science. S.A.—Increase of numbers of members of both Houses of Parliament.
- European War. Australian Navy transferred to Imperial Navy. Captured vessels added to Australian fleet. Submarine AE1 lost at sea whilst in service in the vicinity of New Britain. German Pacific possessions seized by Australian expeditionary force (military and naval). Australian troops offered to, and accepted by Imperial Government. By 31st December, 31,000 volunteers of all ranks had left Australia for service overseas. Portion of Australian army was also mobilised, and kept under arms till the destruction of the German Pacific fleet.
- 1915 Opening of Broken Hill Proprietary's Ironworks at Newcastle, N.S.W. Australian troops in action at Dardanelles on 25th April. By 31st May, Commonwealth troops despatched abroad and in training numbered 83,000. Loss of Submarine AE2 in operations at Dardanelles.

**OFFICIAL YEAR BOOK**  
**OF THE**  
**COMMONWEALTH OF AUSTRALIA, 1914,**  
**AND EARLIER YEARS.**

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**SECTION I.**

**STATISTICAL ORGANISATION AND SOURCES OF INFORMATION.**

**§ 1. Introduction.**

1. **Development of Australian Statistics.**—In the first issue of the Commonwealth Official Year Book (No. 1, 1901-1907), an account was given of the origin and development of Australian Statistics; *vide* pp. 1 to 16 therein. Owing to considerations of space, however, this matter was considerably curtailed in succeeding Year Books, and appears in No. 4 on pp. 1 to 4. In Nos. 5, 6 and 7, and in the present issue, a still further curtailment has been made in order to make room for new matter.

Briefly, it may be stated that to the "Blue Books" compiled in Australia for the Imperial authorities, there succeeded, under Responsible Government, the statistics which each of the departments prepared for itself. State statistical departments were organised later, principally as collecting agencies of official and general information.

Absence of co-ordination in collection and compilation, due to the organisation, independently, of the various States bureaux, caused difficulties in so combining State statistics as to get a satisfactory statistic for Australia as a whole, and various conferences of State Statisticians did not completely rectify the divergencies that arose.

(i.) *Creation of the Commonwealth Bureau of Census and Statistics.* Constitutionally, matters relating to "Census and Statistics" belong to the Commonwealth, and in 1906, under the authority of the Census and Statistics Act of 1905, providing for the taking of the Census and the collecting of general statistics, the Commonwealth Bureau of Census and Statistics was created. A conference of statistical representatives of Australian States and New Zealand, under the presidency of the Commonwealth Statistician, met in November and December, 1906. For a more or less complete presentation of the affairs of the Commonwealth and of its constituent parts, various desiderata were recognised, and a series of resolutions adopted by the conference. Identity of categories, simultaneity and identity in methods of collection, and uniformity in compilation, were the main features desired. A resumé of the resolutions of this conference is given in Year Book No. 1, pp. 12-16.

(ii.) *Organisation of the Commonwealth Bureau of Census and Statistics.* In the organisation of the Bureau, while all classes of work may at any time be relegated to any officer, certain fields of activity are attended to mainly by the officers mentioned

hereunder, who, subject to the general direction of the Statistician, supervise the work of the different branches:—

JOHN STONHAM, M.A. (Sydney). Chief Compiler; and general administration.

CHARLES HENRY WICKENS, A.I.A. Supervisor of Census.

HENRY SPONDLY (Zurich University). Vital Statistics and cognate matters.

EDWARD TANNOCH MCPHEE. Trade and Customs Statistics and Commerce.

GERALD LIGHTFOOT, M.A. (Cambridge), B. at Law. Industrial and Social Statistics.

FREDERICK DALGLISH ROSSITER, M.A. (Melbourne). Defence; general control of Library, etc.

F. W. BARFORD, M.A. (Oxford), A.I.A. Financial Statistics.

**2. Sources of Information.**—Statistical information is furnished (i.) by the State Statistical Bureaux, as a result of direct demand, or through the police and special collectors; (ii.) by Commonwealth and State Departments (see lists of publications in § 2 *infra*); (iii.) in respect of returns of Trade, Customs and Excise, by the Trade and Customs Department; (iv.) by scientific and technical experts, specially requisitioned to write on particular subjects; (v.) by State Statisticians, as officers duly constituted under the Commonwealth Census and Statistics Act; (vi.) and by information supplied compulsorily, on the Commonwealth Statistician's demand.

**3. Maintenance of Secrecy.**—Under no circumstance can information supplied to a statistical office be used against the individual supplying it. All statistical enquiries are strictly impersonal, and the affairs of individuals or individual businesses are never disclosed. No other Government Department can make use of the Statistical departments in order to acquire detailed information otherwise unavailable.

**4. Accuracy Essential.**—The importance of accurate statistical information is emphasised, and the making of untrue statements is heavily penalised.

## § 2. Statistical Publications of Australia.

**1. Introductory.**—The official statistical publications of Australia may be divided bibliographically into two main divisions, viz.:—(1) Commonwealth publications dealing both individually and collectively with the several States of the Commonwealth, and (2) State publications dealing with individual States only. Besides these there are a large number of publications issued regularly, which, though not wholly statistical, necessarily contain a considerable amount of statistical information. These are included in the lists given hereunder, which are revised to 31st December, 1914.

**2. Commonwealth Publications.**—Commonwealth publications may be grouped under two heads, viz.:—(i.) Publications issued by the Commonwealth Statistician, and (ii.) Departmental Reports and Papers.

(i.) *Publications issued by the Commonwealth Statistician.* The following is a list of statistical publications issued from the Commonwealth Bureau of Census and Statistics since its inauguration and up to 31st December, 1914. The annual Demography, Finance, Production, and Transport and Communication Bulletins cover statistics from 1901. The Year Book contains figures from earlier years.

*Census Bulletins.*—No. 1.—Population of States and Territories; No. 2.—Persons of Non-European Race; No. 3.—Ages; No. 4.—Population of Counties, Local Government Areas, etc.; No. 5.—Population of Electoral Divisions, Provinces, and Districts; No. 6.—Birthplaces; No. 7.—Length of Residence in Australia; No. 8.—Religions; No. 9.—Education; No. 10.—Blindness and Deafmutism; No. 11.—Schooling; No. 12.—Conjugal Condition; No. 13.—Localities; No. 14.—Mortality Investigation; No. 15.—Families; No. 16.—Occupations; No. 17.—Occupied Dwellings.

*Finance*—Bulletins, annually, 1907 to 1913.

*Inquiry into the Cost of Living in Australia, 1910-11.*—Prices, Price-Indexes and Cost of Living in Australia.

*Labour and Industrial Statistics*—Explanatory Memorandum on the Proposed Scheme. Report No. 1—Prices, Price-Indexes and Cost of Living in Australia. No. 2—Trade Unionism, Unemployment, Wages, Prices, and Cost of Living in Australia, 1891 to 1912. No. 3—Manufacturing Industries in the Commonwealth. No. 4—Expenditure on Living in the Commonwealth, November, 1913. No. 5.—Prices, Cost of Living, Wages, Trade Unions, Unemployment, and General Industrial Conditions, 1913-14.

*Labour Bulletins*—Quarterly, March 1913 to September 1914.

*Monthly Summary of Australian Statistics*—Bulletins, since January, 1912.

*Official Year Book of the Commonwealth*—Annually, 1907 to 1913.

*Pocket Compendium of Commonwealth Statistics*, 1913.

*Population and Vital Statistics Bulletins*—Determination of the Population of Australia, 1901 to 1906. Commonwealth Demography, annually, 1906 to 1910. Vital Statistics, annually, 1907 to 1910. Commonwealth Demography (comprising matter previously included in two last-named Bulletins) 1911, 1912 and 1913. Vital Statistics, quarterly, 1907 to June 1911.\* The Nomenclature of Diseases and of Causes of Death, 1907. New Edition, 1910.

*Production*—Bulletins, annually, 1906 to 1912.

*Professional Papers*.—No. 1—The Classification of Diseases and Causes of Death, from the standpoint of the Statistician; Nos. 2 and 3—On the Influence of Infantile Mortality on Birthrate (2 papers); No. 4—On the Statistical Opportunities of the Medical Profession; No. 5—Tuberculosis Duration Frequency Curves, and the number of existing cases ultimately fatal; No. 6—The Problems of Statistics; No. 7—The Evolution and Significance of the Census; No. 8—Census Taking†; No. 9—Studies in Statistical Representation—On the nature of the curve  $y = Ax^m e^{nx^p}$ ; No. 10—Studies in Statistical Representation—Statistical Application of the Fourier series; No. 11—Suicide in Australia; No. 12—An Extension of the Principle Underlying Woolhouse's Method of Graduation‡; No. 13—The First Commonwealth Census; No. 14—Mathematical Analysis of Climatological Physiology; No. 15—The International Nosological Classification, etc.; No. 16—Secular Progress of Pulmonary Tuberculosis and Cancer, etc.; No. 17—The Improvement in Infantile Mortality, etc.; No. 18—Secular and Annual Fluctuations of Deaths from Several Diseases, etc.; No. 19—Investigations Concerning a Law of Infant Mortality‡; No. 20—Labour and Industrial Statistics‡; No. 21—A Study in Proportional Representation§.

*Railway Statistics*—Report on the Desirability of Improved Statistics of Government Railways in Australia, February, 1909.

*Shipping*—Shipping and Oversea Migration, annually, 1906 to 1913.

*Social Insurance*—Report to the Hon. the Minister of Trade and Customs.

*Social Statistics*—Bulletins, annually, 1907 to 1912.

*Superannuation for the Commonwealth Public Service*—Report to the Hon. the Minister of Home Affairs.

*The Australian Commonwealth: Its Resources and Production*—Annually, 1908 to 1914.

*Trade and Customs*—Trade, and Customs and Excise Revenue, annually, 1906 to 1913.

Trade, Shipping, and Oversea Migration—Monthly, January 1907 to December 1911 (now discontinued; issued as part of Monthly Summary of Australian Statistics).

*Transport and Communication*—Bulletins, annually, 1906 to 1913.

\* The publication of quarterly Vital Statistics has been discontinued.

† By C. H. Wickens, A.I.A. ‡ By Gerald Lightfoot, M.A. § By F. W. Barford, M.A., A.I.A.



(ii.) *Commonwealth Parliamentary and Departmental Reports and Papers.* The following are the principal official reports and papers containing statistical matter which have been issued since the inauguration of the Commonwealth :—

- Arbitration Court : Returns of Awards, Conferences, Agreements, etc.
- Australia for Farmers, 1910.
- Australia : The Dairy Country.
- Australia : The Wheat Country.
- Australian Notes : Correspondence relating to the Gold Reserve in respect of the issue of.
- Budget, annual, 1901-02 to 1914-15.
- Chief of the General Staff : Memo. *re* Defence.
- Commonwealth Bank : Balance Sheets and Reports of Auditor-General.
- Commonwealth Factories : Reports on Clothing, Cordite, Small Arms, and Harness and Leather Factories.
- Commonwealth Meteorologist : Bulletins of Climate and Meteorology of Australia ; Rainfall Maps of Australia ; Professional Papers and Charts (various) ; Monthly Meteorological Reports, commencing January, 1910.
- Commonwealth Military Journal, issued quarterly, since April 1911
- Contract Immigrants Act and Immigration Restriction Act : Returns annually, 1902 to 1913.
- Defence : Inspector-General of Military Forces : Reports, 1905 to 1907. Extracts from Report, annual, 1910 to 1913.
- Defence : Memorandum on Australian Military Defence and its progress since Federation.
- Defence : Memorandum on the Defence of Australia, by Field-Marshal Lord Kitchener.
- Defence : Military Board—Reports, 1905 and 1906.
- Defence : Naval Defence of Australia—Memorandum by Admiral Sir Reginald Henderson.
- Defence : Records of Australian Contingents to the War in South Africa, 1899-1902.
- Defence : Report on an Inspection of the Military Forces of the Commonwealth by Sir Ian Hamilton.
- Defence : Report by Sir Maurice Fitzmaurice on Naval Bases, etc.
- Defence : Reports on Dockyards, Canteens at Camps, Small Arms Factory, Royal Military College, Musketry, Universal Training, Cadets, Army Medical Corps, Organisation and Distribution, etc.
- Defence : Table of War and Peace Organization and Establishments.
- Director of Naval Forces : Report for 1906.
- Electoral Act : Commissioners' Special Reports.
- Electoral Rolls : Statement by Commonwealth Statistician *re* Inflation.
- Electoral Statistical Returns *re* Referenda of 1911 and 1913.
- Electoral Statistics of Commonwealth Elections : 1903, 1906, 1910, 1913 and 1914.
- Estimates : 1901-2 to 1914-15. Also Supplementary Estimates.
- Federal Capital City Designs.
- Fisheries : Reports of the Director on Fishing Experiments carried out by the F.I.S. "Endeavour."
- Fisheries : Reports on Pearling Industry.
- Fisheries : Zoological Results of Fishing Experiments. Parts 1 to 4.
- Fleet Unit : Memorandum *re* arrangement for providing and training personnel.
- Fruit Industry : Report of Royal Commission.
- Handbooks of the Territory of Papua.
- High Commissioner of the Commonwealth : Reports, annual, 1910 to 1912. Reports on Australian Butter Market in England. Visit to Canada and United States.

- Home Affairs: Schedule of the Department, compiled from the Minister's Digests. Nos. 1 to 19.
- Interstate Commission: Report.
- Invalid and Old-Age Pensions: Statements and Reports.
- Land Tax Assessment Act: Annual Reports of Commissioner, 1910-11, 1911-12, and 1912-13.
- Lands and Surveys: Report of Conference of Commonwealth Director and States Surveyors-General.
- Lighthouses: Reports of Inspections, etc.
- Manufactures Encouragement Act: Returns of Bounties Paid; annual.
- Military and Naval Forces Lists. Also Cadet Forces Lists.
- Military and Naval Orders.
- Naturalisation Act 1903: Returns.
- Naval Defence: Memo by the Minister of Defence.
- Navies: Relative Strength in the Pacific.
- Northern Territory: Bulletins Nos. 1 to 8.
- Northern Territory: Report of the Government Resident for 1910 (previous reports to Government of South Australia).
- Northern Territory: Report of the Acting Administrator for 1911. Administrator's Report, 1912 and 1913.
- Northern Territory: Reports, various.
- Papua: Reports, annual, 1904-5 to 1912-13, and returns to accompany same.
- Papua: Reports, various.
- Parliamentary Papers (miscellaneous); Reports of Committees, Commissions, Conferences, etc.
- Patents Statistics, 1904 to 1914.
- Postal Services Royal Commission.
- Postmaster-General's Department: Annual Reports, 1910, 1911-12, and 1912-13.
- Postmaster-General's Department: Statement of Business transacted and details of Receipts and Expenditure, 1907, 1908 and 1909.
- Press Cable Subsidy: Amount paid, etc.
- Privy Council Judgments: Reports of.
- Public Service Commissioner: Report, 1901-4, and Annual Reports, 1905 to 1913, and Public Service Lists, 1903 to 1913-14.
- Quarantine: Reports.
- Railways: Reports, various, *re* Gauges of Australian Railways, Unification of Gauges, etc. Staff Lists.
- Railways: Reports of Engineer-in-Chief.
- Representation Act 1905: Returns.
- Royal Commission on Tasmanian Customs Leakage.
- Secret Remedies: Based on British Medical Association's Analyses.
- Social Insurance: Report by the Hon. Sir John Cockburn on the Hague Conference of 1910.
- Sugar: Statistics, 1901-2 to 1910-11 *re* White and Black Labour, Production, Duties, Excise, Bounties, etc.
- Sugar Industry: Report of Royal Commission.
- Tariff Guide: 1903 to 1913. Also Customs and Tariff Schedules.
- Trade and Customs Returns, 1903 to 1905; compiled by the New South Wales Government Statistician for the Minister for Customs.
- Trade Marks Statistics, 1904 to 1914.
- Treasurer's Statements and Reports of Auditor-General, annual, 1901-2 to 1913-14.
- Treasury Notes: Amounts issued to the respective Banks of the Commonwealth.
- Treasury Statements of Receipts and Expenditure, issued quarterly in the *Commonwealth Gazette*.
- Tropical Diseases: Report by Dr. Breinl.
- Typhothetæ: Report of Interstate Commission.

**3. State Publications.**—The chief statistical publications of each State issued since Federation may be most conveniently grouped under the following heads, viz.:—(a) Publications issued by the Government Statist, (b) parliamentary and departmental reports and papers, and (c) reports and statements of local and public bodies. These are set out hereunder for each State:—

(i.) **New South Wales.**—(a) *Publications by Government Statistician:*—

The Wealth and Progress of New South Wales, 1900-1.  
 The Seven Colonies of Australasia, 1901-2.  
 A Statistical Account of Australia and New Zealand, 1902-3, 1903-4.  
 The Official Year Book of New South Wales, 1904-5 to 1913.  
 Six States of Australia and New Zealand (annual statistics), 1901 to 1905.  
 Monthly Statistical Bulletin, since 1905.  
 Statistical Registers, 1901 to 1912, and 1913 (parts).  
 Census of New South Wales, 1901.  
 Vital Statistics (annual), 1901 to 1913; and monthly issues to November, 1914.  
 Agricultural and Live-stock Statistics, 1901 to 1913.  
 Statistical View of the Progress of New South Wales during 50 years, 1856 to 1906.  
 Friendly Societies' Experience, New South Wales, 1900-1908.  
 Comparative Legislation relating to the Industrial Classes.  
 Population of New South Wales and movements of population between New South Wales and other Countries, quarterly, December 1911 to June 1914.  
 Annual and other Reports on Agricultural, Dairying, and Pastoral Industries on Manufactories and Works, and on Value of Production.  
 Statesman's Year Book, 1913.

(b) *Departmental Papers:*—

Annual Reports of—

Aborigines  
 Australian Museum  
 Board of Public Health  
 Chief Commissioner of Railways  
 Chief Medical Officer  
 Comptroller-General of Prisons  
 Department of Agriculture  
 Department of Crown Lands  
 Department of Mines  
 Department of Police  
 Department of Public Works  
 Director of Botanical Gardens and Domain  
 Director of Labour  
 Factories and Shops Act; Minimum Wage Act; Early Closing Acts; Shearers' Accommodation Act, etc.  
 Fisheries Board  
 Forestry Department  
 Government Bureau of Microbiology  
 Government Railways, Superannuation Account  
 Government Savings Bank  
 Immigration and Tourist Bureau  
 Public Service Lists.  
 The Estimates of Revenue and Expenditure.  
 Parliamentary Papers (miscellaneous); Reports of Committees, Commissions, Conferences, etc.  
 Trade Reports, various.  
 Observatory Reports and Bulletins.

Industrial Schools  
 Inspector-General of Insane  
 Labour Commissioners  
 Leprosy (Board of Health)  
 Miners' Accident Relief Fund  
 Minister of Public Instruction  
 National Art Gallery  
 National Park Trust  
 Pharmacy Board  
 Public Disaster Relief Fund  
 Public Library  
 Public Service Board  
 Registrar of Friendly Societies, Building Societies, and Trade Unions  
 Registrar-General  
 Savings Bank  
 State Brickworks  
 State Children's Relief Board  
 State Debt Commissioners  
 Superintendent of Carpenterian Reformat'y  
 Technological Museums  
 University of Sydney  
 Western Land Board.

Public Accounts and Report of the Auditor-General.  
 Treasurer's Financial Statement, and Papers to accompany.  
 General Election 1910. Double Voting. Synopsis of the Voting.  
 The New South Wales Industrial Gazette (monthly).  
 State Contracts for the Public Service.  
 Agricultural Gazette (monthly).  
 Records of the Geological Survey.  
 Statement of Assets and Liabilities of Public Companies (quarterly).  
 Statement of Assets and Liabilities of Banks (quarterly).  
 Quarterly Return of Gold Yields.  
 Trade Reports.

(c) *Reports and Statements of Local Bodies:—*

Annual Statements of Municipalities	Metropolitan Board of Water Supply and Sewerage
Fire Commissioners (formerly Fire Brigades Board)	Official Handbook of the Port of Sydney
Hospitals	Sydney Harbour Trust Commissioners
Hunter District Water Supply and Sewerage Board	Town Clerk of the City of Sydney.

(ii.) **Victoria.**—(a) *Publications by the Government Statist:—*

Statistical Registers, 1901 to 1912, and 1913 (parts).  
 The Victorian Year Books, 1902 to 1912-13, and 1913-14 (parts).  
 Quarterly Statistical Abstracts, since 1904.  
 Quarterly Returns of Vital Statistics, since 1901.  
 Vital Statistics, 1911, 1912, and 1913.  
 Monthly Returns of Oversea Imports and Exports, since 1901.  
 Statistics of Manufactories, Works, etc., 1901 to 1913.  
 Australasian Statistics, 1901-2, with Summaries for Previous Years.  
 The First Fifty Years of Responsible Government in Victoria, 1856 to 1906.  
 Census of Victoria, 1901.  
 Annual Reports on Agricultural, Viticultural, Dairying, and Pastoral Industries, and on Value of Production.  
 Annual Report on Friendly Societies.  
 Annual Report on Trade Unions.

(b) *Departmental Papers:—*

Annual Reports of—	
Board for the Protection of Aborigines	Inspector of Inebriates' Institutions
Board of Public Health	Inspector of Neglected Children and Reformatory Schools
Board of Visitors, Observatory	Inspector-General of Penal Establishments, Gaols, and Reformatory Prisons
Chief Engineer for Railway Construction	Inspector-General of Savings Banks
Chief Inspector of Explosives	Lands Purchase and Management Board
Chief Inspector of Factories, Workrooms and Shops	Licenses Reduction Board
Coal Miners' Accidents Relief Fund	Marine Board of Victoria
Committee of Public Accounts	Minister of Public Instruction
Conservator of Forests	Parliamentary Standing Committee on Railways
Council of Judges	Public Service Commissioner
Council of Public Education	Registrar of Friendly Societies
Country Roads Board	Railways Commissioners
Department of Agriculture	Secretary for Mines
Department of Crown Lands and Survey	State Rivers and Water Supply Commission
Government Astronomer	Trustees of the Public Library, Museums, and National Gallery
General Manager of State Coal Mines	Vice-Chancellor of Melbourne University.
Indeterminate Sentences Board	
Inspector of Charitable Institutions	
Inspector-General of the Insane	

Public Service List.

Accounts of the Trustees of Agricultural Colleges and the Council of Agricultural Education.

The Budget.

Returns under the Banks and Currency Act 1890, the Companies Act 1890, and the Electric Light and Power Act 1896.

Parliamentary Papers (miscellaneous); Reports of Committees, Commissions, Conferences, etc.

Statement of Expenditure under the Constitution Statute.

The Estimates of Revenue and Expenditure.

Treasurer's Statement and Report of the Auditor-General.

Determinations of Wages Boards.

The Law relating to Factories and Shops in Victoria.

Agricultural Journal (monthly).

Register of Teachers and Register of Schools.

Quarterly Returns of Yield of Goldfields.

Memoirs and Bulletins of the Geological Survey.

Vaccination Progress Report.

Bank Liabilities and Assets.

(c) *Reports of Local Bodies :—*

Annual Reports of the Melbourne Harbour  
Trust Commission  
Annual Reports of the Fire Brigades Board  
Annual Statements of Municipal and Shire  
Councils  
Geelong Municipal Waterworks Trust

Hospitals  
Report and Statement of Tramways Trust  
Statement of Accounts of the Melbourne  
and Metropolitan Board of Works, and  
Report.

(iii.) *Queensland.—(a) Publications by Government Statistician :—*

The Queensland Official Year Book, 1901.

The Census of 1901.

A.B.C. of Queensland Statistics, 1905 to 1914.

Vital Statistics (annual), 1901 to 1913; and monthly issues to November, 1914.

Statistical Registers, 1901 to 1912, and 1913.

Annual Reports on Agricultural, Dairying, and Pastoral Statistics.

(b) *Departmental Papers :—*

Annual Reports of the—

Agent-General  
Bureau of Sugar Experiment Stations  
Chief Protector of Aborigines  
Chief Inspector of Machinery & Scaffolding  
Commissioner of Public Health  
Commissioner of Income Tax  
Commissioner of Police  
Commissioner for Railways  
Comptroller-General of Prisons  
Curator of Intestate Estates  
Department of Agriculture and Stock  
Department of Public Lands  
Department of Public Works  
Director of Forests  
Director of Labour and Chief Inspector of  
Factories and Shops  
Engineer for Harbours and Rivers  
Government Analyst

Government Central Sugar Mills  
Govt. Life Insurance and Annuity Business  
Government Resident at Thursday Island  
Government Savings Bank  
Hydraulic Engineer on Water Supply  
Immigration Agent  
Inspector of Hospitals for the Insane  
Inspector of Orphanages  
Institute of Tropical Medicine  
Manager of the Government Savings Bank  
Marine Department  
Medical Inspector of Schools  
Officer in Charge, Government Relief  
Official Trustee in Insolvency.  
Public Service Board  
Public Service Superannuation Board  
Registrar of Friendly Societies, Building  
Societies, and Trade Unions

Secretary for Public Instruction  
State Children's Department  
Trustees of the Agricultural Bank  
Trustees of the National Art Gallery

Trustees of the Public Library  
Under-Secretary for Mines  
University of Queensland  
Workers' Dwellings Board

Blue Book.

Public Service Lists.

The Estimates of Revenue and Expenditure.

Parliamentary Papers (miscellaneous); Reports of Committees, Commissions, Conferences, etc.

Public Accounts and Report of the Auditor-General.

Treasurer's Financial Statement and Tables relating thereto.

Determinations of Wages Boards.

Agricultural Journal (monthly).

Mining Journal (Annual).

The Queensland Sugar Industry, 1913.

Reports of the Geological Survey.

Monthly Reports on Mining, Crown Lands, etc.

(c) *Reports and Statements of Local Bodies:—*

Brisbane Board of Waterworks.

Bundaberg Harbour Board.

Engineer for Harbours and Rivers.

Hospitals, Sanatoria, Asylums, etc.

Annual Statements of Municipalities.

Metropolitan Water and Sewerage Board.

(iv.) **South Australia.**—(a) *Publications by the Under-Secretary and Government Statist:—*

Statistical Registers, 1901 to 1912, and 1913 (parts).

Monthly Returns of Births and Deaths, 1901 to November, 1914.

Official Year Book of South Australia, 1912 and 1913.

The Census of 1901.

Blue Book.

Statistical Summary of South Australia from its foundation, 1836 to 1910.

Annual Reports on Manufactories and Works, Live Stock, Wheat Harvest, Agricultural and Viticultural Statistics.

(b) *Departmental Papers:—*

Annual Reports of the—

Actuary on Friendly Societies 1900-1904, and 1905-1909.

Agent-General

Audit-Commissioner

Chief Inspector of Factories

Chief Inspector of Fisheries

Chief Inspector of Oyster Fisheries

Chief Inspector of Stock

Commissioner of Police

Commissioner of Railways

Commissioners of the National Park

Department of Public Works

Department of Woods and Forests

Destitute Board

Gaols and Prisons

Government Astronomer

Government Geologist

Government Resident of Northern Territory to 1909 (subsequent reports to Commonwealth Government)

Governors of the Public Library, Museum, and Art Gallery

Hospital for the Insane

Marine Board

Minister for Agriculture

Minister for Education

Public Service Superannuation Board

Registrar-General of Births, Deaths, and Marriages

Registrar of Trade Unions

State Children's Council

Surveyor-General

Trustees of the Savings Bank.

Parliamentary Papers (miscellaneous); Reports of Committees, Commissions, Conferences, etc.

The Estimates of Revenue and Expenditure.  
 Financial Statement of the Treasurer and appendices relating thereto.  
 Determinations of Wages Boards.  
 Mining Operations: Half-Yearly Reviews, 1904 to 1913.  
 Records and Reports of Geological Survey.  
 Journal of the Department of Agriculture (monthly).  
 Reports of Railway Commissioners (quarterly).  
 Bulletins of Department of Agriculture.

(c) *Reports and Statements of Local Bodies*:—

Hospitals.  
 Schools of Mines and Industries.  
 Fire Brigades Boards.  
 Municipal Tramways Trust.  
 City of Adelaide Year Book.  
 Municipalities.  
 East Torrens County Board of Health.

(v.) **Western Australia.**—(a) *Publications by Government Statistician*:—

The Census of 1901.  
 Statistical Registers, 1901 to 1912 and 1913 (parts).  
 Monthly Statistical Abstracts, 1901 to November, 1914.  
 Year Books of Western Australia, 1900-03, 1902-4, 1905 (part).  
 Quarterly and Annual Reports on Population and Vital Statistics.  
 Monthly Return of Vital Statistics.  
 Crop and Live Stock Returns.  
 Blue Book.  
 Statistical View of 84 years' progress in Western Australia, 1829 to 1912.  
 Comparative Statistics, 1890 to 1912.  
 Annual Reports on Agricultural, etc., Statistics.  
 Report on Interstate Trade Returns for the Two Years 1911 and 1912.

(b) *Departmental Papers*:—

Annual Reports of the—

Aborigines Department  
 Agent-General  
 Agricultural Bank  
 Art Galleries  
 Chief Inspector of Explosives  
 Chief Inspector of Fisheries  
 Commissioner of Police  
 Commissioner of Railways  
 Commissioner of Taxation  
 Comptroller-General of Prisons  
 Department of Agriculture  
 Department of Lands and Surveys  
 Department of Mines  
 Department of Public Works  
 Department of Woods and Forests  
 Education Department  
 Geological Survey  
 Government Analyst  
 Government Astronomer  
 Government Labour Bureau

Government Savings Bank  
 Harbour and Light Department  
 Inspector-General of Insane  
 Lands Titles Department  
 Museum and Art Gallery  
 Public Library  
 Principal Medical Officer on Medical,  
 Health, Factories, Early Closing, Vac-  
 cination and Quarantine  
 Public Service Commissioner  
 Registrar of Friendly Societies  
 Registrar of Friendly Societies in connec-  
 tion with Industrial Conciliation and  
 Arbitration, and Trade Unions  
 Stock Department  
 Superintendent of Charities and Inspector  
 of Industrial and Reformatory Schools  
 Surveyor-General  
 Water Supply, Sewerage and Drainage  
 Department

Parliamentary Papers (miscellaneous); Reports of Committees, Commissions,  
 Conferences, etc.

The Estimates of Revenue and Expenditure.  
 Public Accounts and Report of the Auditor-General.  
 Agricultural Journal (monthly).

Gold and Mineral Exports (monthly).

Reports of proceedings before Boards of Conciliation and Court of Arbitration.

Bulletins of the Department of State Medicine and Public Health.

Reports and Bulletins of the Geological Survey.

Government Savings Bank, Comparative Return (Monthly).

Western Australia, 1912.

Report on Principal Electoral Systems of Western Australia.

(c) *Reports and Statements of Local Bodies :—*

Cemetery Boards

Fire Brigades

Fremantle Harbour Trust Commissioners

Fremantle Municipal Tramways and  
Electric Lighting Board

Metropolitan Waterworks Board

Municipalities, Road Boards, and Boards  
of Health

Public Hospitals

Waterworks Boards (country).

(vi.) *Tasmania. (a) Publications by Government Statistician :—*

The Census of 1901.

Statistical Registers, 1901 to 1912-13.

Reports on Vital Statistics and Migration (annual), 1901 to 1913; and monthly  
issues to November, 1914.

Reports on Agricultural and Live Stock Statistics, 1901 to 1912-13.

Statistical Summaries, 1901 to 1913-14.

Gold Yield for 1908 and previous 10 years.

Annual Reports on Agriculture, Live Stock, Production, etc., Statistics.

(b) *Departmental Papers :—*

Annual Reports of the—

Agent-General

Agricultural Bank of Tasmania

Charitable Grants Department

Chief Inspector of Factories

Chief Inspector of Stock

Commissioner of Taxes

Department of Agriculture

Department of Education

Department of Mines

Department of Neglected Children

Department of Public Health

Engineer-in-Chief of Public Works

Explosives Department

General Manager of Government Railways

Hobart and Launceston Gaols

Inspector of Machinery

Lands and Survey Department

Museum and Botanical Gardens

Police Department

Public Library

Public Service Board

Recorder of Titles

Registrar of Friendly Societies and Trade  
Unions

Savings Bank

University of Tasmania

Public Service List.

The Budget.

The Estimates of Revenue and Expenditure.

Parliamentary Papers (miscellaneous); Reports of Committees, Commissions,  
Conferences, etc.

Public Debts Sinking Fund.

Report of the Auditor-General.

Financial Statement of the Treasurer.

Wages Boards Determinations.

Geological Survey Bulletins.

Progress of the Mineral Industry (quarterly).

Agricultural Gazette (monthly).

(c) *Reports and Statements of Local Bodies :—*

Country Libraries

Fire Brigade Board

Harbour Trusts

Hobart Drainage Board

Hospitals

Industrial Schools

Life Assurance Societies

Marine Boards

Municipalities.



### § 3. Bibliography of Recent Works on Australia.

1. *General*.—It is hoped that the accompanying list of works dealing with Australia and Australian affairs generally, while not exhaustive, may prove of some service. The list refers to works published since the year 1901.

- ACKERMANN, J. *Australia*. London, 1913.  
 CLARK, A. T. *Australian Constitutional Law*. Melbourne, 1905.  
 CLARK, VICTOR S. *The Labour Movement in Australasia*. London, 1906.  
 COLLIER, JAMES. *Sir George Grey*. Christchurch, 1909.  
 COLLINGRIDGE, GEORGE. *First Discovery of Australia and New Guinea*. Sydney, 1906.  
 D'AUNET, B. *L'Aurore Australe*. Melbourne, 1905; Paris, 1907.  
 FAVENC, E. *Explorers of Australia*. Melbourne, 1908.  
 FEDERAL HANDBOOK ON AUSTRALIA. Melbourne, 1914.  
 FITCHETT, Rev. W. H. *The New World of the South: I. Australia in the Making; II. The Romance of Australian History*. London, 1913.  
 FOX, FRANK. *Peeps at Many Lands. Australia*. London, 1911.  
 FRASER, J. FOSTER. *Australia: The Making of a Nation*. London, 1910.  
 GILLIES, WM. *Stories in English History for Young Australians*. Melbourne, 1905.  
 GREGORY, J. W. *The Dead Heart of Australia*. London, 1906. *Australia and New Zealand* (in Stanford's Compendium of Geography and Travel). London, 1907.  
 GREGORY, J. W. *Australasia*. Stanford's Geography. London.  
 GREY, J. G. *Australasia, Old and New*. London, 1901.  
 HARRIS, WALTER K. *Out back in Australia*. Second Edition, London, 1913; Berlin, 1914.  
 HENDERSON, G. C. *Sir George Grey*. London, 1907.  
 HOWITT, A. W. *The Native Tribes of South East Australia*. London, 1904.  
 JENKS, E. *History of the Australian Colonies*. 3rd Edition, London, 1912.  
 JOHNS, FRED. *Fred. Johns's Annual* (first publ. 1912). Empire Edition. London, 1914.  
 JOHNS, FRED. *Notable Australians*. 1906. 2nd Edition, Adelaide and London, 1908.  
 JOSE, A. W. *History of Australasia*. Sydney, 1909 and 1911.  
 KEENAN, J. J. *Commonwealth of Australia Inaugural Celebrations*. Sydney, 1907.  
 LONG, C. R. *Stories of Australian Exploration*. Melbourne. Editions 1903, 1906, and 1913.  
 MAIDEN, J. H. *Sir Joseph Banks, the Father of Australia*. Sydney, 1909.  
 MANES, ALFRED. *Der Soziale Erdteil: Studienfahrt eines National-Ökonomen durch Australasien*. Berlin, E. S. Mittler and Sohn.  
 METIN, A. *Le Socialisme sans doctrines: la question ouvrière et la question agraire en Australie et Nouvelle Zélande*. Paris, 1901.  
 MOORE, W. H. *The Constitution of the Commonwealth of Australia*. London, 1902. Second Edition. Melbourne, 1910.  
 MORGAN, B. H. *The Trade and Industry of Australia*. London, 1909.  
 MURDOCH, WALTER. *The Australian Citizen*. Melbourne, 1912.  
 NELSON, W. *Foster Fraser's Fallacies*. Sydney, 1910.  
 PHILLIPS, MARION. *A Colonial Autocracy*. London, 1909.  
 PRATT, E. A. *The State Railway Muddle in Australia*. London, 1912.  
 PULSFORD, E. *Commerce and the Empire*. London, 1903.  
 QUICK, HON. SIR J., AND GARRAN, R. R. *The Annotated Constitution of the Australian Commonwealth*. Sydney, 1901.  
 QUICK, HON. SIR J., AND GROOM, HON. L. E. *The Judicial Power of the Commonwealth*. Melbourne, 1904.  
 REEVES, W. P. *State Experiments in Australia and New Zealand*. 2 vols. London, 1902.  
 ROGERS, J. D. *Australia* (in Lucas's Historical Geography of the British Colonies). Oxford, 1907.  
 ROWLAND, P. F. *The New Nation*. London, 1903.  
 RUSDEN, G. W. *History of Australia*. 3 vols. Melbourne, 1908.  
 SARGENT, A. J. *Australasia: Eight Lectures* (Great Britain—Colonial Office). London, 1913.  
 SCHACHNER, R. *Australien in Politik, Wirtschaft, Kultur*. Bd. I. Jena, 1909; do. Bd. II. Jena, 1911.  
 SCOTT, ERNEST. *Terre Napoléon: A History of French Explorations and Projects in Australia*. London, 1910. *La Pérouse*. Sydney, 1912. *Life of Matthew Flinders, R.N.*, Sydney, 1914.  
 SCOTT, R. F. *The Voyage of the Discovery*. 2 vols. London, 1905.  
 SCOTTISH AGRICULTURAL COMMISSION'S REPORT. *Australia: Its Land, Conditions, and Prospects*. Edinburgh, 1911.  
 SEARCY, A. *In Australian Tropics*. London, 1907. By Flood and Field. Melbourne, 1911.  
 SPENCE, W. G. *Australia's Awakening*. Sydney, 1909.  
 SPENCER, W. B., AND GILLEN, F. J. *The Northern Tribes of Central Australia*. London, 1904. *Across Australia*. 2 vols. London, 1912.

- ST. LEDGER, A. *Australian Socialism*. London, 1909.  
 TAYLOR, T. G. *Australia. Physiographic and Economic*. Oxford, 1911.  
 TURNER, H. G. *First Decade of the Australian Commonwealth*. London, 1911.  
 VOSSION, L. *L'Australie Nouvelle et son avenir*. Paris, 1902.  
 WALTHAM, E. *Life and Labour in Australia*. London, 1909.  
 WATSON, DR. F. *Historical Records of Australia*, vol. 1. Sydney, 1913. *Beginnings of Government in Australia*, vol. 1. Sydney, 1913.  
 WILKINSON, H. L. *The History of the Trust Movement in Australia*. Melbourne, 1914.  
 WISE, HON. B. R. *Commonwealth of Australia*. London, 1909. 2nd Edition, London, 1913.  
     *The Making of the Australian Commonwealth*. London, 1913.  
 YEAR BOOK OF AUSTRALIA. Annual. Sydney.

2. *Works on Special Subjects*.—In addition to the works set out in the above bibliography dealing generally with the historical, industrial and personal aspects of the Australian people, there are a number of recent works upon special subjects, of which the following are amongst the more important:—

- BAKER, RICHARD T., AND SMITH, H. G. *A Research on the Eucalypts*. Sydney, 1902. A Research on the Pines of Australia. Sydney, 1910.  
 BAKER, RICHARD T. *Cabinet Timbers of Australia*. Sydney, 1913.  
 CLARK, DONALD. *Australian Mining and Metallurgy*. Melbourne, 1904. *Gold Refining* (with plates). London, 1909.  
 COLLIER, JAMES. *The Pastoral Age in Australasia*. London, 1911.  
 COLLINS, J. T., AND MEADEN, C. H. *Local Government Law and Taxation*. Melbourne, 1905.  
 GILLIES, WM. *First Studies in Insect Life in Australasia*. Melbourne, 1904.  
 GUILFOYLE, W. R. *Australian Plants*. Melbourne, 1910.  
 HALL, ROBERT, AND GILLIES, W. *Nature Studies in Australia*. Melbourne, 1903. Revised Edition. Melbourne, 1910.  
 HALL, ROBERT. *Useful Birds of Southern Australia*. Melbourne, 1907.  
 HAWKESWORTH, A. *Australasian Sheep and Wool*. 3rd Edition. Sydney, 1911.  
 HUNT, H. A., TAYLOR, T. G., AND QUAYLE, E. T. *Text Book on the Climate and Weather of Australia*. Melbourne, 1914.  
 INGLIS, GORDON. *Sport and Pastime in Australia*. London, 1912.  
 LEACH, J. A. *An Australian Bird Book*. Melbourne, 1911.  
 LE SOUEF, W. H. D. *Wild Life in Australia*. Melbourne, 1907.  
 LUCAS, A. H. S., AND LE SOUEF, W. H. D. *Animals of Australia*. Melbourne, 1909. *The Birds of Australia*. Melbourne, 1911.  
 MCALPINE, D. *The Rusts of Australia: their Structure, Nature and Classification*. Melbourne, 1910.  
 POWER, F. DANVERS. *Coalfields and Collieries of Australia*. Melbourne, 1912.  
 STEAD, D. G. *Fishes of Australia*. Sydney, 1906.  
 SUTHERLAND, A. *The Australasian Live Stock Manual*. 2nd Edition. Melbourne and Sydney, 1908.  
 "WANDANDIAN." *Travels in Australasia*. Birmingham, 1912.  
 WATERHOUSE, G. A., AND LYELL, G. *Butterflies of Australia*. Sydney, 1912.  
 WHITE, CHARLES. *History of Australian Bushranging*. 2 vols. Sydney, 1906.

## SECTION II.

# DISCOVERY, COLONISATION, AND FEDERATION OF AUSTRALIA.

### § 1. Early Knowledge of Australia.

A brief, though fairly comprehensive, account of the discovery and early knowledge of Australia was given in Year Book No. 1 (pp. 44 to 51). This account appeared in a condensed form in Year Books Nos. 2, 3, and 4. Bibliographical references to the subject were also given in Year Book No. 1 (p. 49). Exigencies of space prevent the inclusion of any further reference to this subject in the present issue.

### § 2. The Taking Possession of Australia.

Reference was made to the more important facts relating to the taking possession and annexation of Australia in each of the first four issues of this book: see preferably Year Book No. 4 (pp. 15 and 16). In so far as the annexation of the eastern parts is concerned, a full historical account of the period may be found in the "Historical Records of New South Wales," Vol. I., parts 1 and 2. For an account of the annexation of Western Australia, reference may be made to the West Australian Year Book 1905, Part 1.

### § 3. The Creation of the Several Colonies.

**1. Introduction.**—A historical summary of the facts relating to the creation of the several colonies, the separation of Victoria and Queensland, and the changes in the boundaries of certain of the colonies has appeared in previous issues of this book: see Year Book No. 4 (pp. 16 to 23). The main facts in this connection may be traced by reference to the maps on pages 17 and 18.

**2. No further Creation of Colonies after 1859.**—Since the separation of Queensland in 1859 no other creation of colonies has taken place in Australia, though the boundaries of New South Wales, Queensland, and South Australia were altered later, and the control of the Northern Territory was transferred from South Australia to the Commonwealth in 1911. The dates of foundation of the Australasian colonies, and their areas at the close of 1859, were as shewn in the following table:—

**DATES OF FOUNDATION OF AUSTRALASIAN COLONIES AND AREAS AS AT  
END OF 1859.**

Colony.	Date of Annexation.	Date of Creation.	Date of First Permanent Settlement.	Area. Square Miles.
New South Wales ... ..	1770	1786	1788	1,020,412
Tasmania ... ..	1788	1825	1803	26,215
South Australia ... ..	1788	1834	1836	309,850
Victoria ... ..	1770	1851	1834	87,884
Queensland ... ..	1770	1859	1824	554,300
Western Australia ... ..	1829	1829	1829	975,920
New Zealand ... ..	1840	1841	1814	104,471 <sup>1</sup>

1. By proclamation dated 10th June, 1901, the area of the Dominion was increased by 280 square miles, making it now 104,751 square miles, by the inclusion of the Cook Group and other islands.

3. **Australasia, 1863 to 1900.**—The immense area generally known as Australasia had, by 1863, been divided into seven distinct colonies, the areas of which are shewn below. The areas of the Northern Territory and the Federal Capital Territory, which are now under the exclusive jurisdiction of the Commonwealth, are given separately.

On the 1st January, 1901, the colonies mentioned above, with the exception of New Zealand, were federated under the name of the "Commonwealth of Australia," the designation of "Colonies" being at the same time changed into that of "States." The total area of the Commonwealth is, therefore, 2,974,581 square miles; the dates of creation and the areas of the separate colonies and territories, as determined on the final adjustment of their boundaries, are shewn in the following table:—

**DATES OF CREATION AND AREAS OF THE SEVERAL COLONIES AND  
TERRITORIES.**

Colony.	Year of For- mation into Separate Colony.	Present Area in Square Miles.	Colony.	Year of For- mation into Separate Colony.	Present Area in Square Miles.
New South Wales ...	1786	309,460 <sup>1</sup>	New Zealand ...	1841	104,751
Tasmania ... ..	1825	26,215	Victoria ... ..	1851	87,884
Western Australia ...	1829	975,920	Queensland ... ..	1859	670,500
South Australia (proper) ... ..	1834	380,070	Northern Territory	1863	523,620
			Fed. Capital Ter't'y	1911	912 <sup>2</sup>
Commonwealth ... ..			2,974,581 square miles.		
Australasia ... ..			3,079,332 square miles.		

1. Exclusive of Federal Capital Territory.

2. Prior to 1911 included with New South Wales.

4. **British New Guinea or Papua.**—Under the administration of the Commonwealth, but not included in it, is British New Guinea or *Papua*, finally annexed by the British Government in 1884. This territory was for a number of years administered by the Queensland Government, but was transferred to the Commonwealth by proclamation on the 1st September, 1906, under the authority of the Papua Act (Commonwealth) of 16th November, 1905. The area of Papua is about 90,540 square miles. More extended reference to this dependency of the Commonwealth will be found in Section xxix.

5. **Transfer of the Northern Territory to the Commonwealth.**—On the 7th December, 1907, the Commonwealth and the State of South Australia entered into an agreement for the surrender to and acceptance by the Commonwealth of the Northern Territory, subject to approval by the Parliaments of the Commonwealth and the State. This approval was given by the South Australian Parliament under the Northern Territory

## 16 TRANSFER OF THE FEDERAL CAPITAL TERRITORY TO THE COMMONWEALTH.

Surrender Act 1907 (assented to on the 14th May, 1908), and by the Commonwealth Parliament under the Northern Territory Acceptance Act 1910 (assented to on the 16th November, 1910). The Territory accordingly was transferred by Proclamation to the Commonwealth on the 1st January, 1911. Further information may be found in the section of this book on "*The Northern Territory.*"

6. **Norfolk Island.**—Although administered for many years by the Government of New South Wales, this island was, until July 1st, 1914, a separate Crown colony. On that date it was taken over by the Federal Parliament as a territory of the Commonwealth. Further reference to the island will be found in the latter part of Section xxxiv.

### § 4 Transfer of the Federal Capital Territory to the Commonwealth.

On the 18th October, 1909, the Commonwealth and the State of New South Wales entered into an agreement for the surrender to and acceptance by the Commonwealth of an area of 912 square miles as the seat of Government of the Commonwealth. In December, 1909, Acts were passed by the Commonwealth and New South Wales Parliaments, approving the agreement, and on the 5th December, 1910, a proclamation was issued vesting the Territory in the Commonwealth on and from the 1st January, 1911.

### § 5. The Exploration of Australia.

A fairly complete, though brief, account of the Exploration of Australia was given in Year Book No. 2 (pp. 20 to 39). A brief summary of the more important facts relating to the subject was given in Year Books Nos. 3 and 4. Maps shewing the progress of Australian exploration may be found on page 35 hereof.

### § 6. The Constitutions of the States.

A brief and condensed statement of the constitutional history of the several States, shewing how their present Constitutions have been built up, may be found in Section II. of the second, third, and fourth issues of the Year Book. See No. 4, pp. 27-32.

### § 7. The Federal Movement in Australia.

A summary was given in Year Book No. 1 (pp. 17 to 21) of the "Federal Movement in Australia" from its inception to its consummation; a synopsis thereof was given in Year Books Nos. 2, 3, and 4. See No. 4, pp. 32 to 37.

### § 8. Creation of the Commonwealth.

1. **The Act.**—The Commonwealth of Australia Constitution Act, 63 and 64 Vic., Chapter 12, namely, an Act to constitute the Commonwealth of Australia, was shewn *in extenso* in Year Book No. 1. In the Year Books Nos. 2, 3 and 4, a summary of the Act was given. As two amending Acts, namely, the Constitution Alteration (Senate Elections) Act 1906, and the Constitution Alteration (State Debts) Act 1909, have been passed, it was thought desirable to insert the Act, as amended, in full in Year Book No. 5 and subsequent issues.

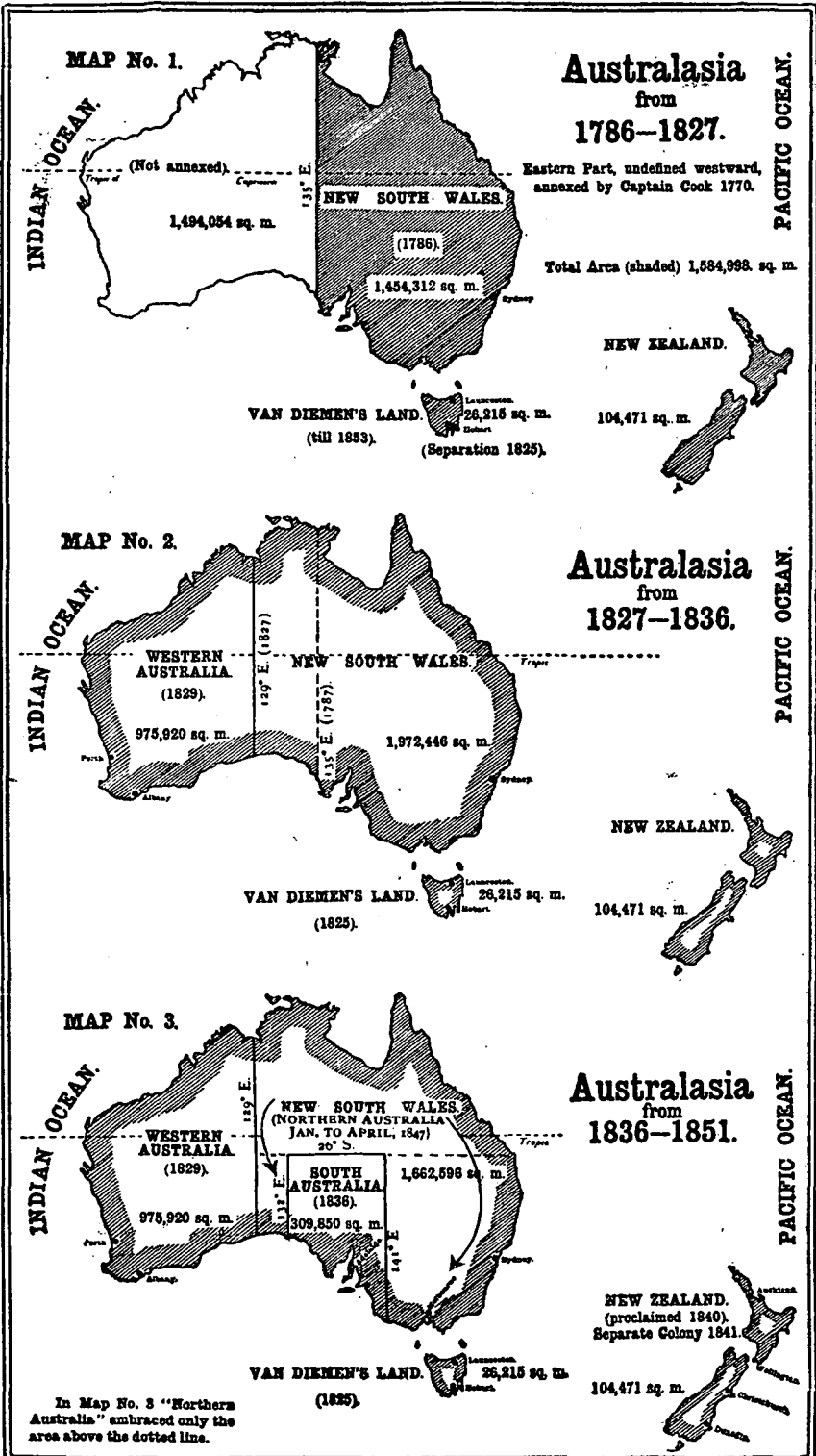
#### THE COMMONWEALTH OF AUSTRALIA CONSTITUTION ACT.

63 & 64 VICT., CHAPTER 12.

*An Act to constitute the Commonwealth of Australia. [9th July, 1900.]*

**WHEREAS** the people of New South Wales, Victoria, South Australia, Queensland, and Tasmania, humbly relying on the blessing of Almighty God, have agreed to unite in one indissoluble Federal Commonwealth under the Crown of the United Kingdom of Great Britain and Ireland, and under the Constitution hereby established :

And whereas it is expedient to provide for the admission into the Commonwealth of other Australasian Colonies and possessions of the Queen :

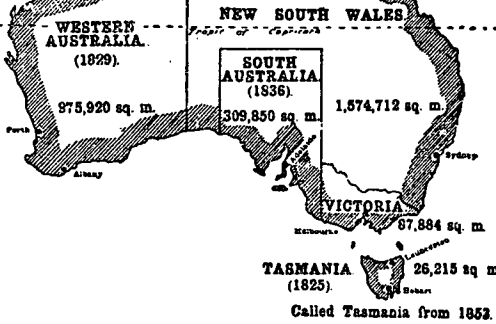


MAP No. 4.

# Australasia 1851-1859

INDIAN OCEAN.

PACIFIC OCEAN.



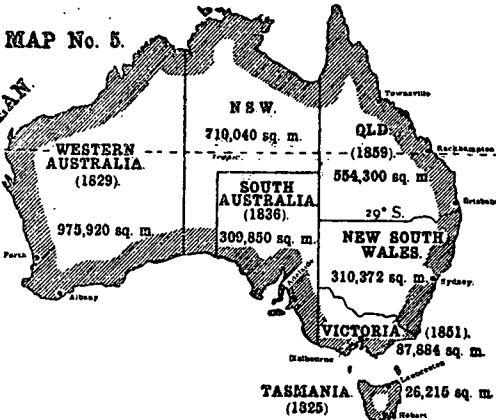
NEW ZEALAND.  
(proclaimed 1840).  
Separate Colony 1841.  
104,471 sq. m.

MAP No. 5.

# Australasia 1859-1861.

INDIAN OCEAN.

PACIFIC OCEAN.



NEW ZEALAND.

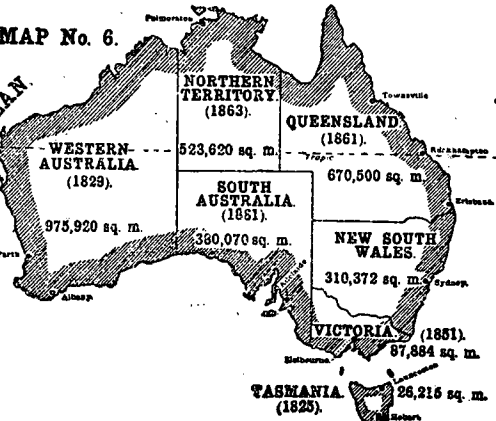
104,471 sq. m.

MAP No. 6.

# Australasia since 1861.

INDIAN OCEAN.

PACIFIC OCEAN.



NEW ZEALAND.

104,471 sq. m.

Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. This act may be cited as the Commonwealth of Australia Constitution Act.  
2. The provisions of this Act referring to the Queen shall extend to Her Majesty's heirs and successors in the sovereignty of the United Kingdom.

3. It shall be lawful for the Queen, with the advice of the Privy Council, to declare by proclamation that, on and after a day therein appointed, not being later than one year after the passing of this Act, the people of New South Wales, Victoria, South Australia, Queensland, and Tasmania, and also, if Her Majesty is satisfied that the people of Western Australia have agreed thereto, of Western Australia, shall be united in a Federal Commonwealth under the name of the Commonwealth of Australia. But the Queen may, at any time after the proclamation, appoint a Governor-General for the Commonwealth.

4. The Commonwealth shall be established, and the Constitution of the Commonwealth shall take effect, on and after the day so appointed. But the Parliaments of the several colonies may at any time after the passing of this Act make any such laws, to come into operation on the day so appointed, as they might have made if the Constitution had taken effect at the passing of this Act.

5. This Act, and all laws made by the Parliament of the Commonwealth under the Constitution, shall be binding on the courts, judges, and people of every State and of every part of the Commonwealth, notwithstanding anything in the laws of any State; and the laws of the Commonwealth shall be in force on all British Ships, the Queen's ships of war excepted, whose first port of clearance and whose port of destination are in the Commonwealth.

6. "The Commonwealth" shall mean the Commonwealth of Australia as established under this Act.

"The States" shall mean such of the colonies of New South Wales, New Zealand, Queensland, Tasmania, Victoria, Western Australia and South Australia, including the northern territory of South Australia, as for the time being are parts of the Commonwealth, and such colonies or territories as may be admitted into or established by the Commonwealth as States: and each of such parts of the Commonwealth shall be called "a State."

"Original States" shall mean such States as are part of the Commonwealth at its establishment.

7. The Federal Council of Australasia Act 1885 is hereby repealed, but so as not to affect any laws passed by the Federal Council of Australasia and in force at the establishment of the Commonwealth.

Any such law may be repealed as to any State by the Parliament of the Commonwealth, or as to any colony not being a State by the Parliament thereof.

8. After the passing of this Act the Colonial Boundaries Act 1895 shall not apply to any colony which becomes a State of the Commonwealth: but the Commonwealth shall be taken to be a self-governing colony for the purposes of that Act.

9. The Constitution of the Commonwealth shall be as follows:—

### THE CONSTITUTION.

This Constitution is divided as follows:—

Chapter I.—The Parliament:—

Part I.—General.

Part II.—The Senate.

Part III.—The House of Representatives.

Part IV.—Both Houses of Parliament.

Part V.—Powers of the Parliament.

Chapter II.—The Executive Government.

Chapter III.—The Judicature.

Chapter IV.—Finance and Trade.

Chapter V.—The States.

Chapter VI.—New States.

Chapter VII.—Miscellaneous.

Chapter VIII.—Alteration of the Constitution.

The Schedule.



## CHAPTER I.—THE PARLIAMENT.

## PART I.—GENERAL.

1. The legislative power of the Commonwealth shall be vested in a Federal Parliament, which shall consist of the Queen, a Senate, and a House of Representatives, and which is hereinafter called "The Parliament," or "The Parliament of the Commonwealth."

2. A Governor-General appointed by the Queen shall be Her Majesty's representative in the Commonwealth, and shall have and may exercise in the Commonwealth during the Queen's pleasure, but subject to this Constitution, such powers and functions of the Queen as Her Majesty may be pleased to assign to him.

3. There shall be payable to the Queen out of the Consolidated Revenue fund of the Commonwealth, for the salary of the Governor-General, an annual sum which, until the Parliament otherwise provides, shall be ten thousand pounds.

The salary of a Governor-General shall not be altered during his continuance in office.

4. The provisions of this Constitution relating to the Governor-General extend and apply to the Governor-General for the time being, or such persons as the Queen may appoint to administer the Government of the Commonwealth; but no such person shall be entitled to receive any salary from the Commonwealth in respect of any other office during his administration of the Government of the Commonwealth.

5. The Governor-General may appoint such times for holding the sessions of the Parliament as he thinks fit, and may also from time to time, by Proclamation or otherwise, prorogue the Parliament, and may in like manner dissolve the House of Representatives.

After any General election the Parliament shall be summoned to meet not later than thirty days after the day appointed for the return of the writs.

The Parliament shall be summoned to meet not later than six months after the establishment of the Commonwealth.

6. There shall be a session of the Parliament once at least in every year, so that twelve months shall not intervene between the last sitting of the Parliament in one session and its first sitting in the next session.

## PART II.—THE SENATE.

7. The Senate shall be composed of senators for each State, directly chosen by the people of the State, voting, until the Parliament otherwise provides, as one electorate.

But until the Parliament of the Commonwealth otherwise provides, the Parliament of the State of Queensland, if that State be an original State, may make laws dividing the State into divisions and determining the number of senators to be chosen for each division, and in the absence of such provision the State shall be one electorate.

Until the Parliament otherwise provides there shall be six senators for each Original State. The Parliament may make laws increasing or diminishing the number of senators for each State, but so that equal representation of the several Original States shall be maintained and that no Original State shall have less than six senators.

The senators shall be chosen for a term of six years, and the names of the senators chosen for each State shall be certified by the Governor to the Governor-General.

8. The qualification of electors of senators shall be in each State that which is prescribed by the Constitution, or by the Parliament, as the qualification for electors of members of the House of Representatives; but in the choosing of senators each elector shall vote only once.

9. The Parliament of the Commonwealth may make laws prescribing the method of choosing senators, but so that the method shall be uniform for all the States. Subject.

to any such law, the Parliament of each State may make laws prescribing the method of choosing the senators for that State.

The Parliament of a State may make laws for determining the times and places of elections of senators for that State.

10. Until the Parliament otherwise provides, but subject to this Constitution, the laws in force in each State, for the time being, relating to elections for the more numerous House of the Parliament of the State shall, as nearly as practicable, apply to elections of senators for the State.

11. The Senate may proceed to the despatch of business, notwithstanding the failure of any State to provide for its representation in the Senate.

12. The Governor of any State may cause writs to be issued for elections of senators for the State. In case of the dissolution of the Senate the writs shall be issued within ten days from the proclamation of such dissolution.

13. As soon as may be after the Senate first meets, and after each first meeting of the Senate following a dissolution thereof, the Senate shall divide the senators chosen for each State into two classes, as nearly equal in number as practicable; and the places of the senators of the first class shall become vacant at the expiration of [the third year] *three years*<sup>1</sup>, and the places of those of the second class at the expiration of [the sixth year] *six years*<sup>1</sup> from the beginning of their term of service; and afterwards the places of senators shall become vacant at the expiration of six years from the beginning of their term of service.

The election to fill vacant places shall be made [in the year at the expiration of which] *within one year before*<sup>1</sup> the places are to become vacant.

For the purpose of this section the term of service of a senator shall be taken to begin on the first day of [January] *July*<sup>1</sup> following the day of his election, except in the cases of the first election and of the election next after any dissolution of the Senate, when it shall be taken to begin on the first day of [January] *July*<sup>1</sup> preceding the day of his election.<sup>2</sup>

14. Whenever the number of senators for a State is increased or diminished, the Parliament of the Commonwealth may make such provision for the vacating of the places of senators for the State as it deems necessary to maintain regularity in the rotation.

15. If the place of a senator becomes vacant before the expiration of his term of service, the Houses of Parliament of the State for which he was chosen shall, sitting and voting together, choose a person to hold the place until the expiration of the term, or until the election of a successor as hereinafter provided, whichever first happens. But if the Houses of Parliament of the State are not in session at the time when the vacancy is notified, the Governor of the State, with the advice of the Executive Council thereof, may appoint a person to hold the place until the expiration of fourteen days after the beginning of the next session of the Parliament of the State, or until the election of a successor, whichever first happens.

At the next general election of members of the House of Representatives, or at the next election of senators for the State, whichever first happens, a successor shall, if the term has not then expired, be chosen to hold the place from the date of his election until the expiration of the term.

The name of any senator so chosen or appointed shall be certified by the Governor of the State to the Governor-General.

1. As amended by section 2 of the Constitution Alteration (Senate Elections) 1906. The words in square brackets have been repealed; amendments are shown in italics.

2. Under sections 3 and 4, the Constitution Alteration (Senate Elections) 1906, it was also provided that—

(a) The terms of service of the senators whose places would, but for this Act, become vacant at the expiration of the year One thousand nine hundred and nine are extended until the thirtieth day of June One thousand nine hundred and ten.

(b) The terms of service of the senators whose places would, but for this Act, become vacant at the expiration of the year One thousand nine hundred and twelve are extended until the thirtieth day of June One thousand nine hundred and thirteen.

(c) This Act shall not be taken to alter the time of beginning of the term of service of any senator elected in the year One thousand nine hundred and six.

16. The qualifications of a senator shall be the same as those of a member of the House of Representatives.

17. The Senate shall, before proceeding to the despatch of any other business, choose a senator to be the President of the senate; and as often as the office of President becomes vacant the Senate shall again choose a senator to be the President.

The President shall cease to hold his office if he ceases to be a senator. He may be removed from office by a vote of the Senate, or he may resign his office or his seat by writing addressed to the Governor-General.

18. Before or during any absence of the President, the Senate may choose a senator to perform his duties in his absence.

19. A Senator may, by writing addressed to the President, or to the Governor-General if there is no President or if the President is absent from the Commonwealth, resign his place, which thereupon shall become vacant.

20. The place of a senator shall become vacant if for two consecutive months of any session of the Parliament he, without the permission of the Senate, fails to attend the Senate.

21. Whenever a vacancy happens in the Senate, the President, or if there is no President or if the President is absent from the Commonwealth the Governor-General, shall notify the same to the Governor of the State in the representation of which the vacancy has happened.

22. Until the Parliament otherwise provides, the presence of at least one-third of the whole number of the senators shall be necessary to constitute a meeting of the Senate for the exercise of its powers.

23. Questions arising in the Senate shall be determined by a majority of votes, and each senator shall have one vote. The President shall in all cases be entitled to a vote; and when the votes are equal the question shall pass in the negative.

### PART III.—THE HOUSE OF REPRESENTATIVES.

24. The House of Representatives shall be composed of members directly chosen by the people of the Commonwealth, and the number of such members shall be, as nearly as practicable, twice the number of the senators.

The number of members chosen in the several States shall be in proportion to the respective numbers of their people, and shall, until the Parliament otherwise provides, be determined, whenever necessary, in the following manner:—

- (i.) A quota shall be ascertained by dividing the number of the people of the Commonwealth, as shewn by the latest statistics of the Commonwealth, by twice the number of the senators:
- (ii.) The number of members to be chosen in each State shall be determined by dividing the number of the people of the State, as shewn by the latest statistics of the Commonwealth, by the quota; and if on such division there is a remainder greater than one-half of the quota, one more member shall be chosen in the State.

But notwithstanding anything in this section, five members at least shall be chosen in each Original State.

25. For the purposes of the last section, if by the law of any State all persons of any race are disqualified from voting at elections for the more numerous House of the Parliament of the State, then, in reckoning the number of the people of the State or of the Commonwealth, persons of that race resident in that State shall not be counted.

26. Notwithstanding anything in section twenty-four, the number of members to be chosen in each State at the first election shall be as follows:—

New South Wales	...	23	South Australia...	...	6
Victoria	...	20	Tasmania	...	5
Queensland	...	8			

Provided that if Western Australia is an Original State, the Number shall be as follows :—

New South Wales	..	26	South Australia	..	7
Victoria	..	23	Western Australia	..	5
Queensland	..	9	Tasmania	..	5

27. Subject to this Constitution the Parliament may make laws for increasing or diminishing the number of the members of the House of Representatives.

28. Every House of Representatives shall continue for three years from the first meeting of the House, and no longer, but may be sooner dissolved by the Governor-General.

29. Until the Parliament of the Commonwealth otherwise provides, the Parliament of any State may make laws for determining the divisions in each State for which members of the House of Representatives may be chosen, and the number of members to be chosen for each division. A division shall not be formed out of parts of different States.

In the absence of other provisions, each State shall be one electorate.

30. Until the Parliament otherwise provides, the qualification of electors of members of the House of Representatives shall be in each State that which is prescribed by the law of the State as the qualification of electors of the more numerous House of Parliament of the State; but in the choosing of members each elector shall vote only once.<sup>1</sup>

31. Until the Parliament otherwise provides, but subject to this Constitution, the laws in force in each State for the time being relating to elections for the more numerous House of the Parliament of the State shall, as nearly as practicable, apply to elections in the State of members of the House of Representatives.

32. The Governor-General in Council may cause writs to be issued for general elections of members of the House of Representatives.

After the first general election, the writs shall be issued within ten days from the expiry of a House of Representatives or from the proclamation of a dissolution thereof.

33. Whenever a vacancy happens in the House of Representatives, the Speaker shall issue his writ for the election of a new member, or if there is no speaker, or if he is absent from the Commonwealth, the Governor-General in Council may issue the writ.

34. Until the Parliament otherwise provides, the qualifications of a member of the House of Representatives shall be as follows :—

(i.) He must be of the full age of twenty-one years, and must be an elector entitled to vote at the election of members of the House of Representatives, or a person qualified to become such elector, and must have been for three years at the least a resident within the limits of the Commonwealth as existing at the time when he is chosen :

(ii.) He must be a subject of the Queen, either natural-born or for at least five years naturalised under a law of the United Kingdom, or of a colony which has become or becomes a State, or of the Commonwealth, or of a State.

35. The House of Representatives shall, before proceeding to the despatch of any other business, choose a member to be the Speaker of the House, and as often as the office of Speaker becomes vacant the House shall again choose a member to be the Speaker.

The Speaker shall cease to hold his office if he ceases to be a member. He may be removed from office by a vote of the House, or he may resign his office or his seat by writing addressed to the Governor-General.

36. Before or during any absence of the Speaker, the House of Representatives may choose a member to perform his duties in his absence.

37. A member may by writing addressed to the Speaker, or to the Governor-General if there is no Speaker or if the Speaker is absent from the Commonwealth, resign his place, which thereupon shall become vacant.

1. The franchise qualification was determined by the Commonwealth Franchise Act 1902.

38. The place of a member shall become vacant if for two consecutive months of any session of the Parliament he, without the permission of the House, fails to attend the House.

39. Until the Parliament otherwise provides, the presence of at least one-third of the whole number of the members of the House of Representatives shall be necessary to constitute a meeting of the House for the exercise of its powers.

40. Questions arising in the House of Representatives shall be determined by a majority of votes other than that of the Speaker. The Speaker shall not vote unless the numbers are equal, and then he shall have a casting vote.

#### PART IV.—BOTH HOUSES OF THE PARLIAMENT.

41. No adult person who has or acquires a right to vote at elections for the more numerous House of the Parliament of a State shall, while the right continues, be prevented by any law of the Commonwealth from voting at elections for either House of the Parliament of the Commonwealth.

42. Every Senator and every member of the House of Representatives shall before taking his seat make and subscribe before the Governor-General, or some person authorised by him, an oath or affirmation of allegiance in the form set forth in the schedule to this Constitution.

43. A member of either House of the Parliament shall be incapable of being chosen or of sitting as a member of the other House.

44. Any person who—

- (i.) Is under any acknowledgment of allegiance, obedience, or adherence to a foreign power, or is a subject or a citizen or entitled to the rights or privileges of a subject or a citizen of a foreign power : or
- (ii.) Is attainted of treason, or has been convicted and is under sentence, or subject to be sentenced, for any offence punishable under the law of the Commonwealth or of the State by imprisonment for one year or longer : or
- (iii.) Is an undischarged bankrupt or insolvent : or
- (iv.) Holds any office of profit under the Crown, or any pension payable during the pleasure of the Crown out of any of the revenues of the Commonwealth : or
- (v.) Has any direct or indirect pecuniary interest in any agreement with the Public Service of the Commonwealth otherwise than as a member and in common with the other members of an incorporated company consisting of more than twenty-five persons :

shall be incapable of being chosen or of sitting as a senator or a member of the House of Representatives.

But sub-section iv. does not apply to the office of any of the Queen's Ministers of State for the Commonwealth, or of any of the Queen's Ministers for a State, or to the receipt of pay, half-pay, or a pension by any person as an officer or member of the Queen's navy or army, or to the receipt of pay as an officer or member of the naval or military forces of the Commonwealth by any person whose services are not wholly employed by the Commonwealth.

45. If a senator or member of the House of Representatives—

- (i.) Becomes subject to any of the disabilities mentioned in the last preceding section : or
- (ii.) Takes the benefit, whether by assignment, composition, or otherwise, of any law relating to the bankrupt or insolvent debtors : or
- (iii.) Directly or indirectly takes or agrees to take any fee or honorarium for services rendered to the Commonwealth, or for services rendered in the Parliament to any person or State :

his place shall thereupon become vacant.

46. Until the Parliament otherwise provides, any person declared by this Constitution to be incapable of sitting as a senator or as a member of the House of Representatives shall, for every day on which he so sits, be liable to pay the sum of one hundred pounds to any person who sues for it in any court of competent jurisdiction.

47. Until the Parliament otherwise provides, any question respecting the qualification of a senator or of a member of the House of Representatives, or respecting a vacancy in either House of the Parliament, and any question of a disputed election to either House, shall be determined by the House in which the question arises.

48. Until the Parliament otherwise provides, each senator and each member of the House of Representatives shall receive an allowance of four hundred pounds a year to be reckoned from the day on which he takes his seat<sup>1</sup>.

49. The powers, privileges, and immunities of the Senate and of the House of Representatives, and of the members and the committees of each House, shall be such as are declared by the Parliament, and until declared shall be those of the Commons House of Parliament of the United Kingdom, and of its members and committees, at the establishment of the Commonwealth.

50. Each House of the Parliament may make rules and orders with respect to—

- (i.) The mode in which its powers, privileges, and immunities may be exercised and upheld;
- (ii.) The order and conduct of its business and proceedings either separately or jointly with the other House.

#### PART V.—POWERS OF THE PARLIAMENT.<sup>2</sup>

51. The Parliament shall, subject to this Constitution, have power to make laws for the peace, order, and good government of the Commonwealth with respect to—

- (i.) Trade and commerce with other countries, and among the States;<sup>2</sup>
- (ii.) Taxation; but so as not to discriminate between States or parts of States;
- (iii.) Bounties on the production or export of goods, but so that such bounties shall be uniform throughout the Commonwealth:

1. By the Parliamentary Allowances Act 1907, assented to on the 28th August, the amount of the allowance was increased to £600 a year.

2. Two proposed laws for the alteration of the Constitution were submitted to the people for acceptance or rejection on the 26th April, 1911. They were (A) The Constitution Alteration (Legislative Powers) 1910, and (B) the Constitution Alteration (Monopolies) 1910.

(A) *Constitution Alteration (Legislative Powers) 1910*. The object of this proposed law was to extend the powers of the Commonwealth Government (under section 51 of the Constitution) in four directions, viz.—(a) Trade and Commerce, (b) Corporations, (c) Industrial matters, and (d) Trusts and monopolies.

(a) *Trade and Commerce*. In Section 51, para. (i.) of the Constitution, it was proposed to omit the words "with other countries, and among the States," so as to give the Commonwealth Parliament power to legislate with respect to trade and commerce, without limitation.

(b) *Corporations*. It was proposed to omit the words (para. xx.) "Foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth," and to insert in lieu thereof the words—"Corporations including (a) the creation, dissolution, regulation, and control of corporations; (b) corporations formed under the law of a State (except any corporation formed solely for religious, charitable, scientific or artistic purposes, and not for the acquisition of gain by the corporation or its members), including their dissolution, regulation, and control; and (c) foreign corporations, including their regulation and control."

(c) *Industrial Matters*. In para. xxxv. it was proposed to omit the words "Conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one State," and to insert in lieu thereof the words "Labour and employment, including (a) the wages and conditions of labour and employment in any trade, industry, or calling; and (b) the prevention and settlement of industrial disputes, including disputes in relation to employment on or about railways, the property of any State."

(d) *Trusts and Monopolies*. It was proposed to amend Section 51 of the Constitution by adding at the end thereof the following paragraph:—"(xl.) Combinations and monopolies in relation to the production, manufacture, or supply of goods or services."

(B) *Constitution Alteration (Monopolies) 1910*. The object of this proposed law was to alter the Constitution by inserting, after Section 51 thereof, the following section:—"51A. When each House of Parliament, in the same session, has by resolution declared that the industry or business of producing, manufacturing, or supplying goods, or of supplying any specified services, is the subject of any monopoly, the Parliament shall have power to make laws for carrying on the industry or business by or under the control of the Commonwealth, and acquiring for that purpose on just terms any property used in connection with the industry or business."

Neither of the proposed laws was approved by the people.

On the 31st May, 1913, the date of the Parliamentary elections, the same proposed alterations were again submitted to the people as five distinct laws, with an additional one whereby the conditions of employment and the settlement of disputes relating thereto in the several State railway services might be brought within the jurisdiction of the Commonwealth. All six proposed laws were negatived by the people.—See section XXV. § 2.

- (iv.) Borrowing money on the public credit of the Commonwealth :
- (v.) Postal, telegraphic, telephonic, and other like services :
- (vi.) The naval and military defence of the Commonwealth and of the several States, and the control of the forces to execute and maintain the laws of the Commonwealth :
- (vii.) Lighthouses, lightships, beacons and buoys :
- (viii.) Astronomical and meteorological observations :
- (ix.) Quarantine :
- (x.) Fisheries in Australian waters beyond territorial limits :
- (xi.) Census and statistics :
- (xii.) Currency, coinage, and legal tender :
- (xiii.) Banking, other than State banking ; also State banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money :
- (xiv.) Insurance, other than State insurance ; also State insurance extending beyond the limits of the State concerned :
- (xv.) Weights and measures :
- (xvi.) Bills of exchange and promissory notes :
- (xvii.) Bankruptcy and insolvency :
- (xviii.) Copyrights, patents of inventions and designs, and trade marks :
- (xix.) Naturalisation and aliens :
- (xx.) Foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth :<sup>1</sup>
- (xxi.) Marriage :
- (xxii.) Divorce and matrimonial causes ; and in relation thereto, parental rights, and the custody and guardianship of infants :
- (xxiii.) Invalid and old-age pensions :
- (xxiv.) The service and execution throughout the Commonwealth of the civil and criminal process and the judgments of the Courts of the States :
- (xxv.) The recognition throughout the Commonwealth of the laws, the public Acts and records, and the judicial proceedings of the States :
- (xxvi.) The people of any race, other than the aboriginal race in any State, for whom it is deemed necessary to make special laws :
- (xxvii.) Immigration and emigration :
- (xxviii.) The influx of criminals :
- (xxix.) External affairs :
- (xxx.) The relations of the Commonwealth with the islands of the Pacific :
- (xxxi.) The acquisition of property on just terms from any State or person for any purpose in respect of which the Parliament has power to make laws :
- (xxxii.) The control of railways with respect to transport for the naval and military purposes of the Commonwealth :
- (xxxiii.) The acquisition, with the consent of a State, of any railways of the State on terms arranged between the Commonwealth and the State :
- (xxxiv.) Railway construction and extension in any State with the consent of that State :
- (xxxv.) Conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one State :<sup>1</sup>
- (xxxvi.) Matters in respect of which this Constitution makes provision until the Parliament otherwise provides :
- (xxxvii.) Matters referred to the Parliament of the Commonwealth by the Parliament or Parliaments of any State or States, but so that the law shall extend only to States by whose Parliaments the matter is referred, or which afterwards adopt the law :

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1. See footnote 2 on previous page.

(xxxviii.) The exercise within the Commonwealth, at the request or with the concurrence of the Parliaments of all the States directly concerned, of any power which can at the establishment of this Constitution be exercised only by the Parliament of the United Kingdom or by the Federal Council of Australasia :

(xxxix.) Matters incidental to the execution of any power vested by this Constitution in the Parliament or in either House thereof, or in the Government of the Commonwealth, or in the Federal Judicature, or in any department or officer of the Commonwealth.

52. The Parliament shall, subject to this Constitution, have exclusive power to make laws for the peace, order and good government of the Commonwealth with respect to—

- (i.) The seat of Government of the Commonwealth, and all places acquired by the Commonwealth for public purposes :
- (ii.) Matters relating to any department of the public service the control of which is by this Constitution transferred to the Executive Government of the Commonwealth :
- (iii.) Other matters declared by this Constitution to be within the exclusive power of the Parliament.

53. Proposed laws appropriating revenue or moneys, or imposing taxation, shall not originate in the Senate. But a proposed law shall not be taken to appropriate revenue or moneys, or to impose taxation, by reason only of its containing provisions for the imposition or appropriation of fines or other pecuniary penalties, or for the demand or payment or appropriation of fees for licenses, or fees for services under the proposed law.

The Senate may not amend proposed laws imposing taxation, or proposed laws appropriating revenue or moneys for the ordinary annual services of the Government.

The Senate may not amend any proposed law so as to increase any proposed charge or burden on the people.

The Senate may at any stage return to the House of Representatives any proposed law which the Senate may not amend, requesting, by message, the omission or amendment of any items or provisions therein. And the House of Representatives may, if it thinks fit, make any of such omissions or amendments, with or without modifications.

Except as provided in this section, the Senate shall have equal power with the House of Representatives in respect of all proposed laws.

54. The proposed law which appropriates revenue or moneys for the ordinary annual services of the Government shall deal only with such appropriations.

55. Laws imposing taxation shall deal only with the imposition of taxation, and any provisions therein dealing with any other matter shall be of no effect.

Laws imposing taxation, except laws imposing duties of customs or of excise, shall deal with one subject of taxation only ; but laws imposing duties of customs shall deal with duties of customs only, and laws imposing duties of excise shall deal with duties of excise only.

56. A vote, resolution, or proposed law for the appropriation of revenue or moneys shall not be passed unless the purpose of the appropriation has in the same session been recommended by message of the Governor-General to the House in which the proposal originated.

57. If the House of Representatives passes any proposed law, and the Senate rejects or fails to pass it, or passes it with amendments to which the House of Representatives will not agree, and if after an interval of three months the House of Representatives, in the same or the next session, again passes the proposed law with or without any amendments which have been made, suggested, or agreed to by the Senate, and the Senate rejects or fails to pass it, or passes it with amendments to which the House of Representatives will not agree, the Governor-General may dissolve the Senate and the House of Representatives simultaneously. But such dissolution shall not take place within six months before the date of the expiry of the House of Representatives by effluxion of time.

If after such dissolution the House of Representatives again passes the proposed law, with or without any amendments which have been made, suggested, or agreed to by



the Senate, and the Senate rejects or fails to pass it, or passes it with amendments to which the House of Representatives will not agree, the Governor-General may convene a joint sitting of the members of the Senate and the House of Representatives.

The members present at the joint sitting may deliberate and shall vote together upon the proposed law as last proposed by the House or Representatives, and upon amendments, if any, which have been made therein by one House and not agreed to by the other, and any such amendments which are affirmed by an absolute majority of the total number of the members of the Senate and House of Representatives shall be taken to have been carried, and if the proposed law, with the amendments, if any, so carried is affirmed by an absolute majority of the total number of members of the Senate and House of Representatives, it shall be taken to have been duly passed by both Houses of the Parliament, and shall be presented to the Governor-General for the Queen's assent.

58. When a proposed law passed by both Houses of the Parliament is presented to the Governor-General for the Queen's assent, he shall declare, according to his discretion, but subject to this Constitution, that he assents in the Queen's name, or that he withholds assent, or that he reserves the law for the Queen's pleasure.

The Governor-General may return to the House in which it originated any proposed law so presented to him, and may transmit therewith any amendments which he may recommend, and the Houses may deal with the recommendation.

59. The Queen may disallow any law within one year from the Governor-General's assent, and such disallowance on being made known by the Governor-General by speech or message to each of the Houses of the Parliament, or by Proclamation, shall annul the law from the day when the disallowance is so made known.

60. A proposed law reserved for the Queen's pleasure shall not have any force unless and until within two years from the day on which it was presented to the Governor-General for the Queen's assent the Governor-General makes known, by speech or message to each of the Houses of Parliament, or by Proclamation, that it has received the Queen's assent.

## CHAPTER II.—THE EXECUTIVE GOVERNMENT.

61. The executive power of the Commonwealth is vested in the Queen and is exercisable by the Governor-General as the Queen's representative, and extends to the execution and maintenance of this Constitution, and of the laws of the Commonwealth.

62. There shall be a Federal Executive Council to advise the Governor-General in the government of the Commonwealth, and the members of the Council shall be chosen and summoned by the Governor-General and sworn as Executive Councillors, and shall hold office during his pleasure.

63. The provisions of this Constitution referring to the Governor-General in Council shall be construed as referring to the Governor-General acting with the advice of the Federal Executive Council.

64. The Governor-General may appoint officers to administer such departments of State of the Commonwealth as the Governor-General in Council may establish.

Such officers shall hold office during the pleasure of the Governor-General. They shall be members of the Federal Executive Council, and shall be the Queen's Ministers of State for the Commonwealth.

After the first general election no Minister of State shall hold office for a longer period than three months unless he is or becomes a senator or a member of the House of Representatives.

65. Until the Parliament otherwise provides, the Ministers of State shall not exceed seven in number, and shall hold such offices as the Parliament prescribes, or, in the absence of provision, as the Governor-General directs.

66. There shall be payable to the Queen, out of the Consolidated Revenue Fund of the Commonwealth, for the salaries of the Ministers of State, an annual sum which, until the Parliament otherwise provides, shall not exceed twelve thousand pounds a year.

67. Until the Parliament otherwise provides, the appointment and removal of all other officers of the Executive Government of the Commonwealth shall be vested in the Governor-General in Council, unless the appointment is delegated by the Governor-General in Council or by a law of the Commonwealth to some other authority.

68. The command in chief of the naval and military forces of the Commonwealth is vested in the Governor-General as the Queen's representative.

69. On a date or dates to be proclaimed by the Governor-General after the establishment of the Commonwealth the following departments of the public service in each State shall be transferred to the Commonwealth:—<sup>1</sup>

Posts, telegraphs, and telephones :	Lighthouses, lightships, beacons, and buoys :
Naval and military defence :	Quarantine.

But the departments of customs and of excise in each State shall become transferred to the Commonwealth on its establishment.

70. In respect of matters which, under this Constitution, pass to the Executive Government of the Commonwealth, all powers and functions which at the establishment of the Commonwealth are vested in the Governor of a Colony, or in the Governor of a Colony with the advice of his Executive Council, or in any authority of a Colony, shall vest in the Governor-General, or in the Governor-General in Council, or in the authority exercising similar powers under the Commonwealth, as the case requires.

### CHAPTER III.—THE JUDICATURE.

71. The Judicial power of the Commonwealth shall be vested in a Federal Supreme Court, to be called the High Court of Australia, and in such other federal courts as the Parliament creates, and in such other courts as it invests with federal jurisdiction. The High Court shall consist of a Chief Justice, and so many other Justices, not less than two, as the Parliament prescribes.

72. The Justices of the High Court and of the other courts created by the Parliament—

- (i.) Shall be appointed by the Governor-General in Council :
- (ii.) Shall not be removed except by the Governor-General in Council, on an address from both Houses of the Parliament in the same session, praying for such removal on the ground of proved misbehaviour or incapacity :
- (iii.) Shall receive such remuneration as the Parliament may fix : but the remuneration shall not be diminished during their continuance in office.

73. The High Court shall have jurisdiction, with such exceptions and subject to such regulations as the Parliament prescribes, to hear and determine appeals from all judgments, decrees, orders, and sentences—

- (i.) Of any justice or justices exercising the original jurisdiction of the High Court ;
- (ii.) Of any other federal court, or court exercising federal jurisdiction ; or of the Supreme Court of any State, or of any other court of any State from which at the establishment of the Commonwealth an appeal lies to the Queen in Council :
- (iii.) Of the Inter-State Commission, but as to questions of law only :

and the judgment of the High Court in all such cases shall be final and conclusive.

But no exception or regulation prescribed by the Parliament shall prevent the High Court from hearing and determining any appeal from the Supreme Court of a State in any matter in which at the establishment of the Commonwealth an appeal lies from such Supreme Court to the Queen in Council.

Until the Parliament otherwise provides, the conditions of and restrictions on appeals to the Queen in Council from the Supreme Courts of the several States are applicable to appeals from them to the High Court.

1. As to departments and dates of transfer see Section XIX.—COMMONWEALTH FINANCE, § 1, hereinafter.

74. No appeal shall be permitted to the Queen in Council from a decision of the High Court upon any question, howsoever arising, as to the limits *inter se* of the Constitutional powers of the Commonwealth and those of any State or States, or as to the limits *inter se* of the Constitutional powers of any two or more States, unless the High Court shall certify that the question is one which ought to be determined by Her Majesty in Council.

The High Court may so certify if satisfied that for any special reason the certificate should be granted, and thereupon an appeal shall lie to Her Majesty in Council on the question without further leave.

Except as provided in this section, this Constitution shall not impair any right which the Queen may be pleased to exercise by virtue of Her Royal prerogative to grant special leave of appeal from the High Court to Her Majesty in Council. The Parliament may make laws limiting the matters in which such leave may be asked, but proposed laws containing any such limitation shall be reserved by the Governor-General for Her Majesty's pleasure.

75. In all matters—

- (i.) Arising under any treaty ;
- (ii.) Affecting consuls or other representatives of other countries ;
- (iii.) In which the Commonwealth, or a person suing or being sued on behalf of the Commonwealth, is a party ;
- (iv.) Between States, or between residents of different States, or between a State and a resident of another State ;
- (v.) In which a writ of Mandamus or prohibition or an injunction is sought against an officer of the Commonwealth ;

the High Court shall have original jurisdiction.

76. The Parliament may make laws conferring original jurisdiction on the High Court in any matter—

- (i.) Arising under this Constitution, or involving its interpretation ;
- (ii.) Arising under any laws made by the Parliament ;
- (iii.) Of Admiralty and maritime jurisdiction ;
- (iv.) Relating to the same subject-matter claimed under the laws of different States.

77. With respect to any of the matters mentioned in the last two sections the Parliament may make laws—

- (i.) Defining the jurisdiction of any federal court other than the High Court ;
- (ii.) Defining the extent to which the jurisdiction of any federal court shall be exclusive of that which belongs to or is invested in the courts of the States ;
- (iii.) Investing any court of a State with federal jurisdiction.

78. The Parliament may make laws conferring rights to proceed against the Commonwealth or a State in respect of matters within the limits of the judicial power.

79. The federal jurisdiction of any court may be exercised by such number of judges as the Parliament prescribes.

80. The trial on indictment of any offence against any law of the Commonwealth shall be by jury, and every such trial shall be held in the State where the offence was committed, and if the offence was not committed within any State the trial shall be held at such place or places as the Parliament prescribes.

#### CHAPTER IV.—FINANCE AND TRADE.

81. All revenues or moneys raised or received by the Executive Government of the Commonwealth shall form one Consolidated Revenue Fund, to be appropriated for the purposes of the Commonwealth in the manner and subject to the charges and liabilities imposed by this Constitution.

82. The costs, charges and expenses incident to the collection, management, and receipt of the Consolidated Revenue Fund shall form the first charge thereon ; and the revenue of the Commonwealth shall in the first instance be applied to the payment of the expenditure of the Commonwealth.

83. No money shall be drawn from the Treasury of the Commonwealth except under appropriation made by law.

But until the expiration of one month after the first meeting of the Parliament the Governor-General in Council may draw from the Treasury and expend such moneys as may be necessary for the maintenance of any department transferred to the Commonwealth and for the holding of the first elections for the Parliament.

84. When any department of the public service of a State becomes transferred to the Commonwealth, all officers of the department shall become subject to the control of the Executive Government of the Commonwealth.

Any such officer who is not retained in the service of the Commonwealth shall, unless he is appointed to some other office of equal emolument in the public service of the State, be entitled to receive from the State any pension, gratuity, or other compensation, payable under the law of the State on the abolition of his office.

Any such officer who is retained in the service of the Commonwealth shall preserve all his existing and accruing rights, and shall be entitled to retire from office at the time, and on the pension or retiring allowance, which would be permitted by the law of the State if his service with the Commonwealth were a continuation of his service with the State. Such pension or retiring allowance shall be paid to him by the Commonwealth ; but the State shall pay to the Commonwealth a part thereof, to be calculated on the proportion which his term of service with the State bears to his whole term of service, and for the purpose of the calculation his salary shall be taken to be that paid to him by the State at the time of transfer.

Any officer who is, at the establishment of the Commonwealth, in the public service of a State, and who is, by consent of the Governor of the State with the advice of the Executive Council thereof, transferred to the public service of the Commonwealth, shall have the same rights as if he had been an officer of a department transferred to the Commonwealth and were retained in the service of the Commonwealth.

85. When any department of the public service of a State is transferred to the Commonwealth—

- (i.) All property of the State of any kind, used exclusively in connexion with the department, shall become vested in the Commonwealth ; but, in the case of the departments controlling customs and excise and bounties, for such time only as the Governor-General in Council may declare to be necessary ;
- (ii.) The Commonwealth may acquire any property of the State, of any kind used, but not exclusively used in connexion with the department ; the value thereof shall, if no agreement can be made, be ascertained in, as nearly as may be, the manner in which the value of land, or of an interest in land, taken by the State for public purposes is ascertained under the law of the State in force at the establishment of the Commonwealth ;
- (iii.) The Commonwealth shall compensate the State for the value of any property passing to the Commonwealth under this section ; if no agreement can be made as to the mode of compensation, it shall be determined under laws to be made by the Parliament ;
- (iv.) The Commonwealth shall, at the date of the transfer, assume the current obligations of the State in respect of the department transferred.

86. On the establishment of the Commonwealth, the collection and control of duties of customs and of excise, and the control of the payment of bounties, shall pass to the Executive Government of the Commonwealth.

87. During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, of the net revenue of the Commonwealth from duties of customs and of excise not more than one-fourth shall be applied annually by the Commonwealth towards its expenditure.

The balance shall, in accordance with this Constitution, be paid to the several States, or applied to the payment of interest on debts of the several States taken over by the Commonwealth.<sup>1</sup>

88. Uniform duties of customs shall be imposed within two years after the establishment of the Commonwealth.<sup>2</sup>

89. Until the imposition of uniform duties of customs—

(i.) The Commonwealth shall credit to each State the revenues collected therein by the Commonwealth.

(ii.) The Commonwealth shall debit to each State—

(a) The expenditure therein of the Commonwealth incurred solely for the maintenance or continuance as at the time of transfer, of any department transferred from the State to the Commonwealth;

(b) The proportion of the State, according to the number of its people, in other expenditure of the Commonwealth.

(iii.) The Commonwealth shall pay to each State month by month the balance (if any) in favour of the State.

90. On the imposition of uniform duties of customs the power of the Parliament to impose duties of customs and of excise, and to grant bounties on the production or export of goods, shall become exclusive.

On the imposition of uniform duties of customs all laws of the several States imposing duties of customs or of excise, or offering bounties on the production or export of goods, shall cease to have effect, but any grant of or agreement for any such bounty lawfully made by or under the authority of the Government of any State shall be taken to be good if made before the thirtieth day of June, one thousand eight hundred and ninety-eight, and not otherwise.

91. Nothing in this Constitution prohibits a State from granting any aid to or bounty on mining for gold, silver, or other metals, nor from granting, with the consent of both Houses of the Parliament of the Commonwealth expressed by resolution, any aid to or bounty on the production or export of goods.

92. On the imposition of uniform duties of customs, trade, commerce, and intercourse among the States, whether by means of internal carriage or ocean navigation, shall be absolutely free.

But notwithstanding anything in this Constitution, goods imported before the imposition of uniform duties of customs into any State, or into any Colony which, whilst the goods remain therein, becomes a State, shall, on thence passing into another State, within two years after the imposition of such duties, be liable to any duty chargeable on the importation of such goods into the Commonwealth, less any duty paid in respect of the goods on their importation.

93. During the first five years after the imposition of uniform duties of customs and thereafter until the Parliament otherwise provides—

(i.) The duties of customs chargeable on goods imported into a State and afterwards passing into another State for consumption, and the duties of excise paid on goods produced or manufactured in a State and afterwards passing into another State for consumption, shall be taken to have been collected not in the former but in the latter State:

1. This has been known as the Braddon clause. The Surplus Revenue Act 1910 provides for the termination of this clause as from the 31st December, 1910, and for the payment to the States of twenty-five shillings per head of population until the 30th June, 1920, or thereafter, until Parliament otherwise provides, subject to certain adjustments for the year ended 30th June, 1911. For further information see Section XIX hereinafter.

2. Uniform customs duties were imposed by the Customs Tariff 1902, as from 8th October, 1901.

- (ii.) Subject to the last sub-section, the Commonwealth shall credit revenue, debit expenditure, and pay balances to the several States as prescribed by the period preceding the imposition of uniform duties of customs.<sup>1</sup>

94. After five years from the imposition of uniform duties of customs, the Parliament may provide, on such basis as it deems fair, for the monthly payment to the several States of all surplus revenue of the Commonwealth.

95. Notwithstanding anything in this Constitution, the Parliament of the State of Western Australia, if that State be an original State, may, during the first five years after the imposition of uniform duties of customs, impose duties of customs on goods passing into that State and not originally imported from beyond the limits of the Commonwealth; and such duties shall be collected by the Commonwealth.

But any duty so imposed on any goods shall not exceed during the first of such years the duty chargeable on the goods under the law of Western Australia in force at the imposition of uniform duties, and shall not exceed during the second, third, fourth, and fifth of such years respectively, four-fifths, three-fifths, two-fifths, and one-fifth of such latter duty, and all duties imposed under this section shall cease at the expiration of the fifth year after the imposition of uniform duties.

If at any time during the five years the duty on any goods under this section is higher than the duty imposed by the Commonwealth on the importation of the like goods, then such higher duty shall be collected on the goods when imported into Western Australia from beyond the limits of the Commonwealth.

96. During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, the Parliament may grant financial assistance to any State on such terms and conditions as the Parliament thinks fit.

97. Until the Parliament otherwise provides, the laws in force in any Colony which has become or becomes a State with respect to the receipt of revenue and the expenditure of money on account of the Government of the Colony, and the review and audit of such receipt and expenditure, shall apply to the receipt of revenue and the expenditure of money on account of the Commonwealth in the State in the same manner as if the Commonwealth, or the Government or an officer of the Commonwealth, were mentioned, whenever the Colony, or the Government or an officer of the Colony, is mentioned.

98. The power of the Parliament to make laws with respect to trade and commerce extends to navigation and shipping, and to railways the property of any State.

99. The Commonwealth shall not, by any law or regulation of trade, commerce, or revenue, give preference to one State or any part thereof over another State or any part thereof.

100. The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the right of a State or of the residents therein to the reasonable use of the waters of rivers for conservation or irrigation.

101. There shall be an Inter-State Commission, with such powers of adjudication and administration as the Parliament deems necessary for the execution and maintenance, within the Commonwealth, of the provisions of this Constitution relating to trade and commerce, and of all laws made thereunder.<sup>2</sup>

102. The Parliament may by any law with respect to trade or commerce forbid, as to railways, any preference or discrimination by any State, or by any authority constituted under a State, if such preference or discrimination is undue and unreasonable, or unjust to any State, due regard being had to the financial responsibilities incurred by any State in connexion with the construction and maintenance of its railways. But no preference or discrimination shall, within the meaning of this section, be taken to be undue and unreasonable, or unjust to any State, unless so adjudged by the Inter-State Commission.

1. The Surplus Revenue Act 1908, which was amended by the Surplus Revenue Act 1910, states that the provisions of Section 93 of the Constitution shall expire on the date of the commencement of the Surplus Revenue Act 1908, that is, on 13th June, 1908, and also makes provisions in lieu of the expired provisions. The Surplus Revenue Act 1910 repeals the greater part of the provisions of the Act of 1908. See footnote to Section 87 of this Act.

2. The Commission was brought into existence in 1913, under Act No. 33 of 1912.

## 103. The members of the Inter-State Commission—

- (i.) Shall be appointed by the Governor-General in Council :
- (ii.) Shall hold office for seven years, but may be removed within that time by the Governor-General in Council, on an address from both Houses of Parliament in the same session praying for such removal on the ground of proved misbehaviour or incapacity :
- (iii.) Shall receive such remuneration as the Parliament may fix ; but such remuneration shall not be diminished during their continuance in office.

104. Nothing in this Constitution shall render unlawful any rate for carriage of goods upon a railway, the property of a State, if the rate is deemed by the Inter-State Commission to be necessary for the development of the territory of the State, and if the rate applies equally to goods within the State and to goods passing into the State from other States.

105. The Parliament may take over from the States their public debts [as existing at the establishment of the Commonwealth],<sup>1</sup> or a proportion thereof according to the respective numbers of their people as shewn by the latest statistics of the Commonwealth, and may convert, renew, or consolidate such debts, or any part thereof ; and the States shall indemnify the Commonwealth in respect of the debts taken over, and thereafter the interest payable in respect of the debts shall be deducted and retained from the portions of the surplus revenue of the Commonwealth payable to the several States, or if such surplus is insufficient, or if there is no surplus, then the deficiency or the whole amount shall be paid by the several States.

## CHAPTER V.—THE STATES.

106. The Constitution of each State of the Commonwealth shall, subject to this Constitution, continue as at the establishment of the Commonwealth, or as at the admission or establishment of the State, as the case may be, until altered in accordance with the Constitution of the State.

107. Every power of the Parliament of a Colony which has become or becomes a State, shall, unless it is by this Constitution exclusively vested in the Parliament of the Commonwealth or withdrawn from the Parliament of the State, continue as at the establishment of the Commonwealth, or as at the admission or establishment of the State, as the case may be.

108. Every law in force in a Colony which has become or becomes a State, and relating to any matter within the powers of the Parliament of the Commonwealth, shall, subject to this Constitution, continue in force in the State ; and, until provision is made in that behalf by the Parliament of the Commonwealth, the Parliament of the State shall have such powers of alteration and of repeal in respect of any such law as the Parliament of the Colony had until the Colony became a State.

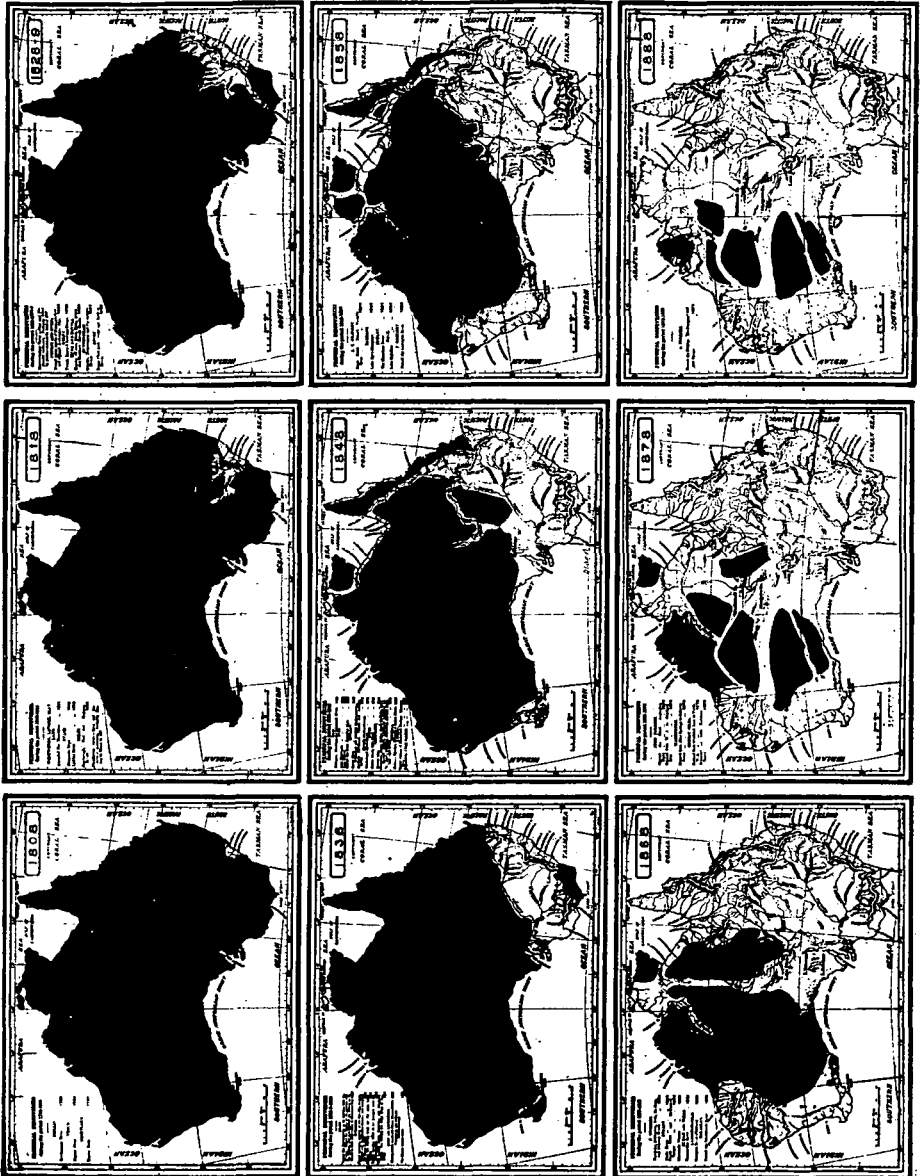
109. When a law of a State is inconsistent with a law of the Commonwealth, the latter shall prevail, and the former shall, to the extent of the inconsistency, be invalid.

110. The provisions of this Constitution relating to the Governor of a State extend and apply to the Governor for the time being of the State, or other chief executive officer or administrator of the Government of the State.

111. The Parliament of a State may surrender any part of the State to the Commonwealth ; and upon such surrender, and the acceptance thereof by the Commonwealth, such part of the State shall become subject to the exclusive jurisdiction of the Commonwealth.

112. After uniform duties of customs have been imposed, a State may levy on imports or exports, or on goods passing into or out of the State, such charges as may be necessary for executing the inspection of laws of the State ; but the net produce of all charges so levied shall be for the use of the Commonwealth ; and any such inspection laws may be annulled by the Parliament of the Commonwealth.

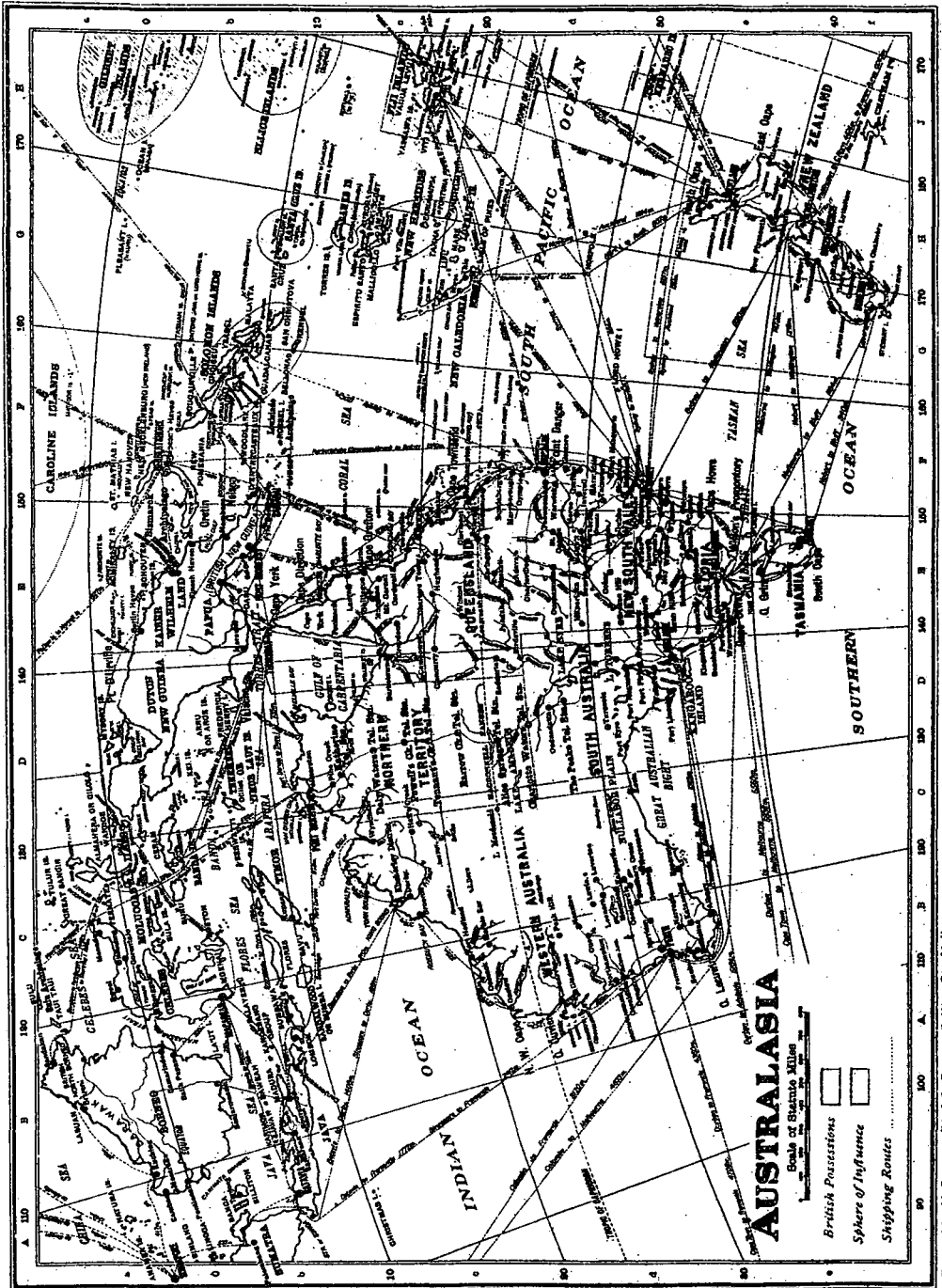
1. Under Section 2 of the Constitution Alteration (State Debts) 1909, the words in square brackets are omitted.



#### PROGRESS OF AUSTRALIAN EXPLORATION.

The above maps compiled by Mr. E. Favenc shew decennially the progress of discovery from 1808 to 1888. The dark shade shews the area of unexplored territory.





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113. All fermented, distilled, or other intoxicating liquids passing into any State or remaining therein for use, consumption, sale, or storage, shall be subject to the laws of the State as if such liquids had been produced in the State.

114. A State shall not, without the consent of the Parliament of the Commonwealth, raise or maintain any naval or military force, or impose any tax on property of any kind belonging to the Commonwealth, nor shall the Commonwealth impose any tax on property of any kind belonging to a State.

115. A State shall not coin money, nor make anything but gold and silver coin a legal tender in payment of debts.

116. The Commonwealth shall not make any law for establishing any religion, or for imposing any religious observance, or for prohibiting the free exercise of any religion, and no religious test shall be required as a qualification for any office or public trust under the Commonwealth.

117. A subject of the Queen, resident in any State, shall not be subject in any other State to any disability or discrimination which would not be equally applicable to him if he were a subject of the Queen resident in such other State.

118. Full faith and credit shall be given, throughout the Commonwealth, to the laws, the public Acts and records, and the judicial proceedings of every State.

119. The Commonwealth shall protect every State against invasion, and, on the application of the Executive Government of the State, against domestic violence.

120. Every State shall make provision for the detention in its prisons of persons accused or convicted of offences against the laws of the Commonwealth, and for the punishment of persons convicted of such offences, and the Parliament of the Commonwealth may make laws to give effect to this provision.

#### CHAPTER VI.—NEW STATES.

121. The Parliament may admit to the Commonwealth or establish new States, and may upon such admission or establishment make or impose such terms and conditions, including the extent of representation in either House of the Parliament, as it thinks fit.

122. The Parliament may make laws for the government of any territory surrendered by any State to and accepted by the Commonwealth, or of any territory placed by the Queen under the authority of and accepted by the Commonwealth, or otherwise acquired by the Commonwealth, and may allow the representation of such territory in either House of the Parliament to the extent and on the terms which it thinks fit.

123. The Parliament of the Commonwealth may, with the consent of the Parliament of a State, and the approval of the majority of the electors of the State voting upon the question, increase, diminish, or otherwise alter the limits of the State, upon such terms and conditions as may be agreed on, and may, with the like consent, make provision respecting the effect and operation of any increase or diminution or alteration of territory in relation to any State affected.

124. A new State may be formed by separation of territory from a State, but only with consent of the Parliament thereof, and a new State may be formed by the union of two or more States or parts of States, but only with the consent of the Parliaments of the States affected.

#### CHAPTER VII.—MISCELLANEOUS.

125. The seat of Government of the Commonwealth shall be determined by the Parliament, and shall be within territory which shall have been granted to or acquired by the Commonwealth, and shall be vested in and belong to the Commonwealth, and shall be in the State of New South Wales, and be distant not less than one hundred miles from Sydney.

Such territory shall contain an area of not less than one hundred square miles, and such portion thereof as shall consist of Crown lands shall be granted to the Commonwealth without any payment therefor.

The Parliament shall sit at Melbourne until it meet at the seat of Government.

126. The Queen may authorise the Governor-General to appoint any person, or any persons jointly or severally, to be his deputy or deputies within any part of the Commonwealth, and in that capacity to exercise during the pleasure of the Governor-General such powers and functions of the Governor-General as he thinks fit to assign to such deputy or deputies, subject to any limitations expressed or directions given by the Queen; but the appointment of such deputy or deputies shall not affect the exercise by the Governor-General himself of any power or function.

127. In reckoning the numbers of the people of the Commonwealth, or of a State or other part of the Commonwealth, aboriginal natives shall not be counted.

#### CHAPTER VIII.—ALTERATION OF THE CONSTITUTION.<sup>1</sup>

128. This constitution shall not be altered except in the following manner:—

The proposed law for the alteration thereof must be passed by an absolute majority of each House of the Parliament, and not less than two nor more than six months after its passage through both Houses the proposed law shall be submitted in each State to the electors qualified to vote for the election of members of the House of Representatives.<sup>2</sup>

But if either House passes any such proposed law by an absolute majority, and the other House rejects or fails to pass it or passes it with any amendment to which the first-mentioned House will not agree, and if after an interval of three months the first-mentioned House in the same or the next session again passes the proposed law by an absolute majority with or without any amendment which has been made or agreed to by the other House, and such other House rejects or fails to pass it or passes it with any amendment to which the first-mentioned House will not agree, the Governor-General may submit the proposed law as last proposed by the first-mentioned House, and either with or without any amendments subsequently agreed to by both Houses, to the electors in each State qualified to vote for the election of the House of Representatives.

When a proposed law is submitted to the electors the vote shall be taken in such manner as the Parliament prescribes. But until the qualification of electors of members of the House of Representatives becomes uniform throughout the Commonwealth, only one-half the electors voting for and against the proposed law shall be counted in any State in which adult suffrage prevails.

And if in a majority of the States a majority of the electors voting approve the proposed law, and if a majority of all the electors voting also approve the proposed law, it shall be presented to the Governor-General for the Queen's assent.

No alteration diminishing the proportionate representation of any State in either House of the Parliament, or the minimum number of representatives of a State in the House of Representatives, or increasing, diminishing, or otherwise altering the limits of the State, or in any manner affecting the provisions of the Constitution in relation thereto, shall become law unless the majority of the electors voting in that State approve the proposed law.

#### SCHEDULE.

##### OATH.

I, A.B., do swear that I will be faithful and bear true allegiance to Her Majesty Queen Victoria, Her heirs and successors according to law. SO HELP ME GOD!

##### AFFIRMATION.

I, A.B., do solemnly and sincerely affirm and declare that I will be faithful and bear true allegiance to Her Majesty Queen Victoria, Her heirs and successors according to law.

(NOTE.—The name of the King or Queen of the United Kingdom of Great Britain and Ireland for the time being is to be substituted from time to time.)

1. The Constitution has been altered by the following Acts:—The Constitution Alteration (Senate Elections) 1906 (No. 1 of 1907); and the Constitution Alteration (State Debts) 1909 (No. 3 of 1910).

2. The Referendum (Constitution Alteration) Act, 1906-1910, provides the necessary machinery for the submission to the electors of any proposed law for the alteration of the Constitution.

2. **The Royal Proclamation.**—The preceding Act received the Royal assent on the 9th July, 1900. This made it lawful (see Sec. 3) to declare that the people of Australia should be united in a Federal Commonwealth. This proclamation, made on the 17th September, 1900, constituted the Commonwealth as from the 1st January, 1901: it reads as follows :—

BY THE QUEEN.

A PROCLAMATION.

(Signed) VICTORIA R.

WHEREAS by an Act of Parliament passed in the Sixty-third and Sixty-fourth Years of Our Reign, intituled "An Act to constitute the Commonwealth of *Australia*," it is enacted that it shall be lawful for the Queen, with the advice of the Privy Council, to declare by Proclamation, that, on and after a day therein appointed, not being later than One Year after the passing of this Act, the people of *New South Wales, Victoria, South Australia, Queensland, and Tasmania*, and also, if Her Majesty is satisfied that the people of *Western Australia* have agreed thereto, of *Western Australia*, shall be united in a Federal Commonwealth under the name of the Commonwealth of Australia.

And whereas We are satisfied that the people of *Western Australia* have agreed thereto accordingly.

We therefore, by and with the advice of Our Privy Council, have thought fit to issue this Our Royal Proclamation, and We do hereby declare that on and after the First day of *January* One thousand nine hundred and one, the people of *New South Wales, Victoria, South Australia, Queensland, Tasmania, and Western Australia* shall be united in a Federal Commonwealth under the name of the Commonwealth of *Australia*.

Given at Our Court at *Balmoral* this Seventeenth day of *September*, in the Year of Our Lord One thousand nine hundred, and in the Sixty-fourth Year of Our Reign.

GOD SAVE THE QUEEN.

## § 9. Commonwealth Legislation.

1. **The Commonwealth Parliaments.**—The first Parliament of the Commonwealth was convened by proclamation dated 29th April, 1901, by His Excellency the late Marquis of Linlithgow, then Earl of Hopetoun, Governor-General. It was opened on the 9th May by H.R.H. the Duke of Cornwall and York, who had been sent to Australia for that purpose by His Majesty the King; the Rt. Hon. Sir Edmund Barton, P.C., G.C.M.G., K.C., being Prime Minister.

The following table gives the number and duration of Parliaments since Federation :—

COMMONWEALTH PARLIAMENTS, 1901 to 1914.

			Date of Opening.		Date of Dissolution.
First Parliament	...	...	29th April, 1901	...	23rd November, 1903.
Second	"	...	2nd March, 1904	...	12th October, 1906.
Third	"	...	20th February, 1907	...	19th February, 1910.
Fourth	"	...	1st July, 1910	...	23rd April, 1913.
Fifth	"	...	9th July, 1913	...	27th June, 1914.*
Sixth	"	...	8th October, 1914	...	—

\* On this occasion, the Governor-General, acting on the advice of the Ministry, and under section 57 of the Constitution, granted a dissolution of both the Senate and the House of Representatives, this being the first occasion since Federation on which a dissolution of both Houses had occurred.

The Debates of these Parliaments will be found in Volumes I. to LXXIV. of the Parliamentary Debates, as follows:—

First Parliament,	1st Session	Vols.	I. to	XII., pp. 1 to 16,744
" "	2nd "	"	XIII. "	XVII., " 1 " 6,440
Second Parliament,	1st "	"	XVIII. "	XXIV., " 1 " 8,618
" "	2nd "	"	XXV. "	XXX., " 1 " 7,461
" "	3rd "	"	XXXI. "	XXXV., " 1 " 6,491
Third Parliament,	1st "	"	XXXVI.	" 1 " 141
" "	2nd "	"	XXXVI. "	XLVI., " 1 " 12,203
" "	3rd "	"	XLVII. "	XLVIII., " 1 " 3,180
" "	4th "	"	XLIX. "	LIV., " 1 " 7,296
Fourth Parliament,	1st "	"	LV. "	LIX., " 1 " 6,893
" "	2nd "	"	LX. "	LXIII., " 1 " 4,983
" "	3rd "	"	LXIV. "	LXIX., " 1 " 7,568
Fifth Parliament,	1st "	"	LXX. "	LXXII., " 1 " 4,798
" "	2nd "	"	LXXIII. "	LXXIV., " 1 " 2,658

2. The Several Administrations.—The following tabular statements shew the names of the several Governors-General, and the constitution of the Ministries which have directed the administration of the affairs of the Commonwealth since its creation:—

(a) GOVERNORS-GENERAL.

- Rt. Hon. EARL OF HOPETOUN (afterwards MARQUIS OF LINLITHGOW), P.C., K.T., G.C.M.G., G.C.V.O. Sworn 1st January, 1901; recalled 9th May, 1902, left Melbourne 2nd July, 1902.
- Rt. Hon. HALLAM BARON TENNYSON, G.C.M.G (Act. Governor-General). Sworn 17th July, 1902.
- Rt. Hon. HALLAM BARON TENNYSON, G.C.M.G. (Governor-General). Sworn 9th January, 1903; recalled 21st January, 1904.
- Rt. Hon. HENRY STAFFORD NORTHCOTE, P.C., G.C.M.G., G.C.I.E., C.B. Sworn 21st January, 1904; recalled 8th September, 1908.
- Rt. Hon. WILLIAM HUMBLE EARL OF DUDLEY, P.C., G.C.M.G., G.C.V.O., etc. Sworn 9th September, 1908; recalled 31st July, 1911.
- Rt. Hon. THOMAS BARON DENMAN, P.C., G.C.M.G., K.C.V.O. Sworn 31st July, 1911; recalled 16th May, 1914.
- Rt. Hon. SIR RONALD CRAUFURD MUNRO FERGUSON, P.C., G.C.M.G. Sworn 18th May, 1914.

(b) BARTON ADMINISTRATION, 1st January, 1901, to 23rd September, 1903.

DEPARTMENTS.	MINISTERS.
External Affairs ... ..	Rt. Hon. SIR EDMUND BARTON, P.C., G.C.M.G., K.C.
Attorney-General ... ..	Hon. ALFRED DEAKIN.
Home Affairs ... ..	Hon. SIR WILLIAM JOHN LYNE, K.C.M.G. (to 7/8/03).
Treasury ... ..	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G. (from 7/8/03).
Trade and Customs ... ..	Rt. Hon. SIR GEORGE TURNER, P.C., K.C.M.G.
Defence ... ..	Rt. Hon. CHARLES CAMERON KINGSTON, P.C., K.C. (resigned 24/7/03)
	Hon. SIR WILLIAM JOHN LYNE, K.C.M.G. (from 7/8/03).
	The Hon. SIR JAMES ROBERT DICKSON, K.C.M.G. (died 10/1/01).
	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G. (17/1/01 to 7/8/03).
	Hon. JAMES GEORGE DRAKE (from 7/8/03).
Postmaster-General ... ..	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G. (to 17/1/01).
	Hon. JAMES GEORGE DRAKE (5/2/01 to 7/8/03).
	Hon. SIR PHILIP OAKLEY FYSH, K.C.M.G. (from 7/8/03).
Vice-President Executive Council	Hon. RICHARD EDWARD O'CONNOR, K.C.
Without Portfolio ... ..	Hon. N. E. LEWIS (to 23/4/01).*
	Hon. SIR PHILIP OAKLEY FYSH, K.C.M.G. (26/4/01 to 7/8/03).

\* K.C.M.G., 1902.

## (c) DEAKIN ADMINISTRATION, 23rd September, 1903, to 26th April, 1904.

DEPARTMENTS.	MINISTERS.
External Affairs ... ..	Hon. ALFRED DEAKIN.
Trade and Customs ... ..	Hon. SIR WILLIAM JOHN LYNE, K.C.M.G.
Treasury ... ..	Rt. Hon. SIR GEORGE TURNER, P.C., K.C.M.G.
Home Affairs ... ..	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G.
Attorney-General ... ..	Hon. JAMES GEORGE DRAKE.
Postmaster-General ... ..	Hon. SIR PHILIP OAKLEY FYSH, K.C.M.G.
Defence ... ..	Hon. AUSTIN CHAPMAN.
Vice-President Executive Council	Hon. THOMAS PLAYFORD

## (d) WATSON ADMINISTRATION, 26th April to 17th August, 1904.

DEPARTMENTS	MINISTERS.
Treasurer ... ..	Hon. JOHN CHRISTIAN WATSON
External Affairs ... ..	Hon. WILLIAM MORRIS HUGHES.
Attorney-General ... ..	Hon. HENRY BOURNES HIGGINS, K.C.
Home Affairs ... ..	Hon. EGERTON LEE BATCHELOR.
Trade and Customs ... ..	Hon. ANDREW FISHER.*
Defence ... ..	Hon. ANDERSON DAWSON.
Postmaster-General ... ..	Hon. HUGH MAHON.
Vice-President Executive Council	Hon. GREGOR MCGREGOR.

## (e) REID-MCLEAN ADMINISTRATION, 17th August, 1904, to 4th July, 1905.

DEPARTMENTS.	MINISTERS.
External Affairs ... ..	Rt. Hon. GEORGE HOUSTOUN REID, P.C. K.C.
Trade and Customs ... ..	Hon. ALLAN MCLEAN.
Attorney-General ... ..	Hon. SIR JOSIAH HENRY SYMON, K.C.M.G., K.C.
Treasury ... ..	Rt. Hon. SIR GEORGE TURNER, P.C., K.C.M.G.
Home Affairs ... ..	Hon. DUGALD THOMSON.
Defence ... ..	Hon. JAMES WHITESIDE MCCAY.
Postmaster-General ... ..	Hon. SYDNEY SMITH.
Vice-President Executive Council	Hon. JAMES GEORGE DRAKE.

## (f) SECOND DEAKIN ADMINISTRATION, 4th July, 1905, to 12th November, 1908.

DEPARTMENTS.	MINISTERS.
External Affairs ... ..	Hon. ALFRED DEAKIN.
Attorney-General ... ..	{ Hon. ISAAC ALFRED ISAACS, K.C. (to 12/10/06). Hon. LITTLETON ERNEST GROOM (from 12/10/06).
Trade and Customs ... ..	{ Hon. SIR WILLIAM JOHN LYNE, K.C.M.G. (to 30/7/07). Hon. AUSTIN CHAPMAN (from 30/7/07).
Treasurer ... ..	{ Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G. (to 30/7/07) Hon. SIR WILLIAM JOHN LYNE (from 30/7/07).
Postmaster-General ... ..	{ Hon. AUSTIN CHAPMAN (to 30/7/07). Hon. SAMUEL MAUGER (from 30/7/07).
Defence ... ..	{ Hon. THOMAS PLAYFORD (to 24/1/07). Hon. THOMAS THOMSON EWING (from 24/1/07).†
Home Affairs ... ..	{ Hon. LITTLETON ERNEST GROOM (to 12/10/06). Hon. THOMAS THOMSON EWING (from 12/10/06 to 24/1/07).† Hon. JOHN HENRY KEATING (from 24/1/07).
Vice-President Executive Council	{ Hon. THOMAS THOMSON EWING (to 12/10/06).† Hon. JOHN HENRY KEATING (from 12/10/06 to 20/2/07). Hon. ROBERT WALLACE BEST (from 20/2/07) †
Honorary Ministers ... ..	{ Hon. J. H. KEATING (from 5/7/05 to 12/10/06). Hon. S. MAUGER (from 12/10/06 to 30/7/07). Hon. J. HUME COOK (from 28/1/08).

## (g) FISHER ADMINISTRATION, 12th November, 1908, to 2nd June, 1909.

DEPARTMENTS.	MINISTERS.
Treasurer ... ..	Hon. ANDREW FISHER.*
Attorney-General ... ..	Hon. WILLIAM MORRIS HUGHES.
External Affairs ... ..	Hon. EGERTON LEE BATCHELOR.
Home Affairs ... ..	Hon. HUGH MAHON.
Postmaster-General ... ..	Hon. JOSIAH THOMAS.
Defence ... ..	Hon. GEORGE FOSTER PEARCE.
Trade and Customs ... ..	Hon. FRANK GWYNNE TUDOR.
Vice-President Executive Council	Hon. GREGOR MCGREGOR.
Honorary Minister ... ..	Hon. JAMES HUTCHISON

\* P.C., 1911.

† K.C.M.G., 1903.

## (h) THIRD DEAKIN ADMINISTRATION, 2nd June, 1909, to 29th April, 1910.

DEPARTMENTS.	MINISTERS.
Prime Minister (without P'tfolio)	Hon. ALFRED DEAKIN.
Defence ... ..	Hon. JOSEPH COOK.*
Treasurer ... ..	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G.
Trade and Customs ... ..	Hon. SIR ROBERT WALLACE BEST, K.C.M.G.
External Affairs ... ..	Hon. LITTLETON ERNEST GROOM.
Attorney-General ... ..	Hon. PATRICK McMAHON GLYNN.
Postmaster-General ... ..	Hon. SIR JOHN QUICK.
Home Affairs ... ..	Hon. GEORGE WARBURTON FULLER.
Vice-President Executive C'ncil	Hon. EDWARD DAVIS MILLEN.
Honorary Minister ... ..	Colonel The Hon. JUSTIN FOX GREENLAW FOXTON, C.M.G.

## (i) SECOND FISHER ADMINISTRATION, 29th April, 1910, to 20th June, 1913.

DEPARTMENTS.	MINISTERS.
Treasurer ... ..	Rt. Hon. ANDREW FISHER, P.C.
Attorney-General ... ..	Hon. WILLIAM MORRIS HUGHES.
External Affairs ... ..	{ Hon. EGERTON LEE BATCHELOR (died Oct., 1911). Hon. JOSIAH THOMAS (from 14/10/11).
Postmaster-General ... ..	{ Hon. JOSIAH THOMAS (to 14/10/11). Hon. CHARLES EDWARD FRAZER (from 14/10/11).
Defence ... ..	Hon. GEORGE FOSTER PEARCE.
Trade and Customs ... ..	Hon. FRANK GWYNNE TUDOR.
Home Affairs ... ..	Hon. KING O'MALLEY.
Vice-President Executive C'ncil	Hon. GREGOR MCGREGOR.
Honorary Ministers ... ..	{ Hon. EDWARD FINDLEY. Hon. CHARLES EDWARD FRAZER (to 14/10/11). Hon. ERNEST ALFRED ROBERTS (from 23/10/11).

## (j) COOK ADMINISTRATION, 20th June, 1913, to 17th September, 1914.

DEPARTMENTS.	MINISTERS.
Home Affairs ... ..	Hon. JOSEPH COOK.*
Treasurer ... ..	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G.
Attorney-General ... ..	Hon. WILLIAM HILL IRVINE, K.C.†
Defence ... ..	Hon. EDWARD DAVIS MILLEN.
External Affairs ... ..	Hon. PATRICK McMAHON GLYNN, K.C.
Customs ... ..	Hon. LITTLETON ERNEST GROOM.
Postmaster-General ... ..	Hon. AGAR WYNNE
Vice-President Executive C'ncil	Hon. JAMES HIRS M'COLL.
Honorary Ministers ... ..	{ Hon. JOHN SINGLETON CLEMONS. Hon. WILLIAM HENRY KELLY.

## (k) THIRD FISHER ADMINISTRATION, 17th September, 1914.

DEPARTMENTS.	MINISTERS.
Treasurer ... ..	Rt. Hon. ANDREW FISHER, P.C.
Attorney-General ... ..	Hon. WILLIAM MORRIS HUGHES.
Home Affairs ... ..	Hon. WILLIAM OLIVER ARCHIBALD.
External Affairs ... ..	{ Hon. JOHN ANDREW ARTHUR (died December, 1914). Hon. HUGH MAHON (from 14/12/14).
Postmaster-General ... ..	Hon. WILLIAM GUTHRIE SPENCE.
Defence ... ..	Hon. GEORGE FOSTER PEARCE.
Trade and Customs ... ..	Hon. FRANK GWYNNE TUDOR.
Vice-President Executive C'ncil	Hon. ALBERT GARDINER.
Honorary Ministers ... ..	{ Hon. HUGH MAHON (to 14/12/14). Hon. JENS AUGUST JENSEN. Hon. EDWARD JOHN RUSSELL.

\* P.C., 1914. † K.C.M.G., 1914.

A further list of the Ministers of State for the Commonwealth, arranged according to the respective offices occupied, is given in the section of this book dealing with the subject of *General Government* (see Section XXV.).

3. **The Course of Legislation.**—The actual legislation by the Commonwealth Parliament up to the end of the 1911 session is indicated in alphabetical order in "Vol. 10 of the Acts of the Parliament of the Commonwealth of Australia, passed in the session of 1911, with Tables, Appendices and Indexes." A "Chronological Table of Acts passed from 1901 to 1911, shewing how they are affected by subsequent legislation or lapse of time" is also given, and further "A Table of Commonwealth Legislation," for the same period, "in relation to the several provisions of the Constitution," is furnished. Reference may be made to these for complete information. The nature of Commonwealth legislation, up to October, 1914, and its relation to the several provisions of the Constitution, are set forth in the following tabular statement:—

**ANALYTIC TABLE OF COMMONWEALTH LEGISLATION  
FROM 1901 to OCTOBER, 1914, IN RELATION TO THE SEVERAL PROVISIONS  
OF THE CONSTITUTION.<sup>1</sup>**

Section of Constitution.	Short Title of Commonwealth Act.*
	<p align="center"><b>AMENDMENT OF THE CONSTITUTION.</b></p> <p>Constitution Alteration (Senate Elections) 1906. Constitution Alteration (State Debts) 1909.</p> <p align="center"><b>PARLIAMENTARY AND ELECTORAL LAW.</b></p> <p>8—30 PARLIAMENTARY FRANCHISE— Commonwealth Franchise Act 1902.</p> <p>9—34 ELECTIONS— Commonwealth Electoral Act 1902-1911. Senate Elections Act 1903.</p> <p>24 DETERMINATION OF NUMBER OF MEMBERS OF HOUSE OF REPRESENTATIVES— Representation Act 1905.</p> <p>47 DISPUTED ELECTIONS AND QUALIFICATIONS— Commonwealth Electoral Act 1902-1911, Part XVI. Disputed Elections and Qualifications Act 1907.</p> <p>48 ALLOWANCES TO MEMBERS— <i>Parliamentary Allowances Act 1902.*</i> Parliamentary Allowances Act 1907.</p> <p>49 PRIVILEGES OF PARLIAMENT— Parliamentary Papers Act 1908.</p> <p align="center"><b>GENERAL LEGISLATION.</b></p> <p>51—(i.) TRADE AND COMMERCE—EXTERNAL AND INTERSTATE— Sea Carriage of Goods Act 1904 [<i>Bills of Lading</i>]. Secret Commissions Act 1905. Commerce (Trade Descriptions) Act 1905 [<i>Merchandise Marks</i>]. Australian Industries Preservation Act 1906-1910 [<i>Trusts and Dumping</i>]. Spirits Act 1906. <i>Seamen's Compensation Act 1909.*</i> Customs (Inter-State Accounts) Act 1910. Northern Territory Acceptance Act 1910 (s. 13). Seamen's Compensation Act 1911. Navigation Act 1912. Norfolk Island Act 1912 (s. 15).</p> <p>(ii.) TAXATION— <i>Machinery Acts—</i> Customs Act 1901-1910. Beer Excise Act 1901-1912. Distillation Act 1901. Excise Act 1901. Spirits Act 1906. Excise Procedure Act 1907. Australian Notes Act 1910 (s. 12). Land Tax Assessment Act 1910-1912. <i>Taxing Acts—</i> <i>Customs Tariff 1902.*</i> <i>Customs Tariff 1906 [Agricultural Machinery].*</i> Customs Tariff (South African Preference) 1906; <i>amended by Customs Tariff 1908 (s. 9).</i> Customs Tariff 1908; <i>amended by Customs Tariff Amendment 1908, and Customs Tariff 1910, and Customs Tariff 1911.</i></p>

1. This Table has been prepared by the Secretary of the Attorney-General's Department Robert Randolph Garran, Esquire, M.A., C.M.G., Barrister-at-Law, etc.

\* Acts whose short titles are printed in italics with a \* have been repealed or have expired.



Section of Constitution.	Short Title of Commonwealth Act.*
51—(iii.)	<p><b>TAXATION—Continued.</b>  <i>Excise Tariff 1902; amended by Sugar Rebate Abolition Act 1903, Excise Tariff 1905;* Excise Tariff (Amendment) 1906,* Excise Tariff 1908; and Excise (Sugar) Act 1910.*</i>  <i>Excise Tariff 1906 [Agricultural Machinery]; 1906 [Spirits].</i>  <i>Excise Tariff 1908; amended by Excise Tariff (Starch) 1908.</i>  <i>Bank Notes Tax Act 1910.</i>  <i>Land Tax Act 1910.</i>  <i>Sugar Excise Repeal Act 1912.</i>  <i>Excise Tariff 1913.*</i></p> <p><b>BOUNTIES ON PRODUCTION OR EXPORT—</b>  <i>Sugar Bounty Acts 1903, 1905*, 1910*, 1912.*</i>  <i>Bounties Act 1907-1912.</i>  <i>Manufactures Encouragement Act 1908-1914.</i>  <i>Shale Oils Bounties Act 1910.</i>  <i>Sugar Bounty Abolition Act 1912.</i>  <i>Wood Pulp and Rock Phosphates Bounties Act 1912.</i>  <i>Sugar Bounty Act 1913.*</i></p>
(iv.)	<p><b>BORROWING MONEY ON THE PUBLIC CREDIT OF THE COMMONWEALTH—</b>  <i>Commonwealth Inscribed Stock Act 1911-1913. Loan Act 1911, 1912, 1913.</i></p>
(v.)	<p><b>POSTAL, TELEGRAPHIC, AND TELEPHONIC SERVICES—</b>  <i>Post and Telegraph Act 1901-1913.</i>  <i>Post and Telegraph Rates Act 1902-1913.</i>  <i>Wireless Telegraphy Act 1905.</i>  <i>Tasmanian Cable Rates Act 1906.</i>  <i>Telegraph Act 1909.</i>  <i>Postal Rates Act 1910.</i>  <i>Purchase Telephone Lines Acquisition Act 1911.</i>  <i>Pacific Cable Act 1911.</i></p>
(vi.)	<p><b>NAVAL AND MILITARY DEFENCE—</b>  <i>Naval Agreement Act 1903-1912.</i>  <i>Defence Act 1903-1912.</i>  <i>Telegraph Act 1909.</i>  <i>Naval Defence Act 1910-1912.</i>  <i>Defence Lands Purchase Act 1913.</i></p>
(vii.)	<p><b>LIGHTHOUSES, LIGHTSHIPS, BEACONS AND BUOYS—</b>  <i>Lighthouses Act 1911.</i></p>
(viii.)	<p><b>ASTRONOMICAL AND METEOROLOGICAL OBSERVATIONS—</b>  <i>Meteorology Act 1906.</i></p>
(ix.)	<p><b>QUARANTINE—</b>  <i>Quarantine Act 1908-1912.</i></p>
(xi.)	<p><b>CENSUS AND STATISTICS—</b>  <i>Census and Statistics Act 1905.</i></p>
(xii.)	<p><b>CURRENCY, COINAGE, AND LEGAL TENDER—</b>  <i>Coinage Act 1909.</i>  <i>Australian Notes Act 1910-1911.</i></p>
(xiii.)	<p><b>BANKING, OTHER THAN STATE BANKING, ETC.—</b>  <i>Commonwealth Bank Act 1911.</i></p>
(xiv.)	<p><b>INSURANCE—</b>  <i>Life Assurance Companies Act 1905.</i>  <i>Marine Insurance Act 1909.</i></p>
(xvi.)	<p><b>BILLS OF EXCHANGE AND PROMISSORY NOTES—</b>  <i>Bills of Exchange Act 1909-1912.</i></p>
(xviii.)	<p><b>COPYRIGHT, PATENTS, DESIGNS, AND TRADE MARKS—</b>  <i>Customs Act 1901-1910 (s. 52 (a), 57).</i>  <i>Patents Act 1903-1909.</i>  <i>Trade Marks Act 1905-1912.</i>  <i>Copyright Act 1905.*</i>  <i>Copyright Act 1912.</i>  <i>Designs Act 1906-1912.</i>  <i>Patents, Trade Marks and Designs Act 1910.</i></p>

\* Acts whose short titles are printed in italics with a \* have been repealed or have expired.

Section of Constitution.	Short Title of Commonwealth Act.*
(xix.)	NATURALIZATION AND ALIENS— Naturalization Act 1903.
(xxiii.)	INVALID AND OLD-AGE PENSIONS— Invalid and Old-age Pensions Act 1903-1912.
(xxiv.)	SERVICE AND EXECUTION THROUGHOUT COMMONWEALTH OF PROCESS AND JUDGMENTS OF STATE COURTS— <i>Service and Execution of Process Act 1905.*</i> Service and Execution of Process Act 1901-1912.
(xxv.)	RECOGNITION OF STATE LAWS, RECORDS, ETC.— State Laws and Records Recognition Act 1901.
(xxvi.)	PEOPLE OF ANY RACE, OTHER THAN ABORIGINAL—SPECIAL LAWS— Pacific Island Labourers Act 1901-1906. Commonwealth Franchise Act 1902 (s. 4). Naturalization Act 1903 (s. 5).
(xxvii.)	IMMIGRATION AND EMIGRATION— Immigration Act 1901-1912. Pacific Island Labourers Act 1901-1906. Contract Immigrants Act 1905. Emigration Act 1910.
(xxviii.)	INFLUX OF CRIMINALS— Immigration Act 1901-1912 (s. 3 (ga), gb).
(xxix.)	EXTERNAL AFFAIRS— Extradition Act 1903. High Commissioner Act 1909.
51—(xxx.)	RELATIONS WITH PACIFIC ISLANDS— Pacific Island Labourers Act 1901-1906.
(xxxi.)	ACQUISITION OF PROPERTY FOR PUBLIC PURPOSES— <i>Property for Public Purposes Acquisition Act 1901.</i> <i>Seat of Government Act 1904.*</i> Lands Acquisition Act 1906. Lands Acquisition Act 1912. Seat of Government Act 1908. Seat of Government Acceptance Act 1909. Seat of Government (Administration) Act 1910 (s. 10). Northern Territory (Administration) Act 1910. Defence Lands Purchase Act 1913
(xxxii.)	CONTROL OF RAILWAYS FOR DEFENCE PURPOSES— Defence Act 1903-1912 (ss. 64-66, 80, 124).
(xxxiv.)	RAILWAY CONSTRUCTION AND EXTENSION IN ANY STATE WITH THE CONSENT OF THAT STATE— Kalgoorlie to Port Augusta Railway Act 1911-1912.
(xxxv.)	CONCILIATION AND ARBITRATION FOR THE PREVENTION AND SETTLEMENT OF INDUSTRIAL DISPUTES EXTENDING BEYOND THE LIMITS OF ANY ONE STATE— Commonwealth Conciliation and Arbitration Act 1904-1911.
(xxxix.)	MATTERS INCIDENTAL TO THE EXECUTION OF POWERS— Acts Interpretation Act 1901. <i>Punishment of Offences Act 1901.*</i> Acts Interpretation Act 1904. Amendments Incorporation Act 1905. Rules Publication Act 1903. Commonwealth Public Service Act 1902-1913. Jury Exemption Act 1905. Royal Commissions Act 1902-1912. Evidence Act 1905. Commonwealth Salaries Act 1907. Excise Procedure Act 1907. Statutory Declarations Act 1911. Arbitration (Public Service) Act 1911. Commonwealth Inscribed Stock Act 1911-1913. Maternity Allowance Act 1912. Commonwealth Workmen's Compensation Act 1912. Officers' Compensation Act 1912. Committee of Public Accounts Act 1913. Commonwealth Public Works Committee Act 1913. Meat Export Trade Commission Act 1914.

\* Acts whose short titles are printed in italics with a \* have been repealed or have expired.

Section of Constitution.	Short Title of Commonwealth Act.*
	<b>EXECUTIVE GOVERNMENT.</b>
67	<b>APPOINTMENT AND REMOVAL OF OFFICERS—</b> Commonwealth Public Service Act 1902-1913. Papua Act 1905 (s. 19). Defence Act 1909 (s. 13). High Commissioner Act 1909 (ss. 8, 9). Northern Territory Acceptance Act 1910 (ss. 11, 12). Norfolk Island Act 1913 (ss. 7, 9).
	<b>THE JUDICATURE.</b>
71—80	<b>CONSTITUTION AND PROCEDURE OF THE HIGH COURT—</b> Judiciary Act 1903-1912. High Court Procedure Act 1903, <i>amended by High Court Procedure Amendment Act 1903.</i>
73	<b>APPELLATE JURISDICTION OF THE HIGH COURT—</b> Judiciary Act 1903-1910. Papua Act 1905 (s. 43). Inter-State Commission Act 1912 (s. 42). Land Tax Assessment Act 1910-1912 (s. 46). Norfolk Island Act 1913 (s. 11).
76 (i.) (ii.)	<b>ORIGINAL JURISDICTION OF HIGH COURT—</b> (1) <i>In matters arising under the Constitution or involving its interpretation</i> Judiciary Act 1903-1912 (ss. 23, 30). (2) <i>In matters arising under Laws made by the Parliament—</i> Customs Act 1901-1910 (ss. 221, 227, 245). Excise Act 1901 (ss. 109, 115, 134). Post and Telegraph Act 1901-1913 (ss. 29, 43). <i>Property for Public Purposes Acquisition Act 1901*</i> (ss. 12-17, 25, 52, 55b, 58). Commonwealth Electoral Act 1902-1911 (ss. 193, 206aa). Judiciary Act 1903-12. Defence Act 1903-1912 (s. 91). Patents Act 1903-1909 (ss. 47, 58, 67, 75-77, 84-87a, 111). Commonwealth Conciliation and Arbitration Act 1904-1911 (s. 31). Trade Marks Act 1905-1912 (ss. 34, 35, 44, 45, 70-72, 95). <i>Copyright Act 1905*</i> (s. 73 (2)). Copyright Act 1912 (s. 37 (2)). Australian Industries Preservation Act 1906-1910 (ss. 10, 11, 13, 21, 22, 26). Referendum (Constitution Alteration) Act 1906 (ss. 27, 31). Lands Acquisition Act 1906 (ss. 10, 11, 24, 36-39, 45, 46, 50, 54, 56, 59). Disputed Elections and Qualifications Act 1907 (ss. 2, 6). Navigation Act 1912 (ss. 383, 385)
77—(ii.)	<b>EXCLUDING JURISDICTION OF STATE COURTS—</b> Judiciary Act 1903-1912 (ss. 38, 38A, 39, 57, 59).
(iii.)	<b>INVESTING STATE COURTS WITH FEDERAL JURISDICTION—</b> Customs Act 1901-1910 (ss. 221, 227, 245). Excise Act 1901 (ss. 109, 115, 134). Post and Telegraph Act 1901-1913 (ss. 29, 43). <i>Punishment of Offences Act 1901.*</i> Commonwealth Electoral Act 1902-1911 (s. 193). <i>Claims against the Commonwealth Act 1902.*</i> Defence Act 1903-1912 (s. 91). Judiciary Act 1903-1912 (ss. 17, 39, 68). Patents Act 1903-1909 (ss. 30, 47, 58, 67, 75-77, 84-87a, 111). Trade Marks Act 1905 (ss. 34, 35, 44, 45). <i>Copyright Act 1905</i> (s. 60, 73). Designs Act 1906 (s. 25, 39). Copyright Act 1912 (ss. 14-17). Land Tax Assessment Act 1910-1912 (s. 44). Navigation Act 1912 (ss. 91, 92, 318-20, 380-3, 385, 395)

\* Acts whose short titles are printed in italics with a \* have been repealed or have expired.

Section of Constitution.	Short Title of Commonwealth Act.*
78	RIGHT TO PROCEED AGAINST COMMONWEALTH OR STATE— Judiciary Act 1903-1912 (ss. 56-67).
	FINANCE.
81	APPROPRIATION OF MONEYS— Appropriation and Supply Acts 1901-1914. Audit Act 1901-1912 (ss. 36-37, 62a).
83	PAYMENT OF MONEYS— Audit Act 1901-1912 (ss. 31-37, 62a).
93	CREDITING OF REVENUE AND DEBITING OF EXPENDITURE— Surplus Revenue Acts 1908, 1909.
94	DISTRIBUTION OF SURPLUS REVENUE— Surplus Revenue Acts 1908, 1909, 1910.
96	ASSISTANCE TO STATES— Tasmania Grant Act 1912. Tasmania Grant Act 1913.
97	AUDIT OF PUBLIC ACCOUNTS— Audit Act 1901-1912.
98	NAVIGATION AND SHIPPING— Sea-Carriage of Goods Act 1904. Navigation Act 1912.
101-104	INTER-STATE COMMISSION— Inter-State Commission Act 1912.
	THE STATES.
118	RECOGNITION OF STATE LAWS, RECORDS, ETC.— State Laws and Records Recognition Act 1901.
119	PROTECTION OF STATES FROM INVASION AND VIOLENCE— Defence Act 1903-1912 (s. 51).
	TERRITORIES.
122	GOVERNMENT OF TERRITORIES— Papua Act 1905. Wireless Telegraphy Act 1905. Seat of Government Acceptance Act 1909. Patents Act 1903-1909 (s. 4a). Northern Territory Acceptance Act 1910. Seat of Government (Administration) Act 1910. Northern Territory (Administration) Act 1910. Pine Creek to Katherine River Railway Survey Act 1912. Pine Creek to Katherine River Railway Act 1913. Norfolk Island Act 1913.
	MISCELLANEOUS.
125	SEAT OF GOVERNMENT— <i>Seat of Government Act 1904.*</i> Seat of Government Act 1908. Seat of Government Acceptance Act 1909. Seat of Government (Administration) Act 1910.
128	ALTERATION OF CONSTITUTION— Referendum (Constitution Alteration) Act 1906-1912. Constitution Alteration (Senate Elections) Act 1906. Constitution Alteration (State Debts) Act 1909.

\* Acts whose short titles are printed in italics with a \* have been repealed or have expired.

SECTION III.

PHYSIOGRAPHY.

§ 1. General Description of Australia.

1. **Geographical Position.**—The Australian Commonwealth, which includes the island continent of Australia proper and the island of Tasmania, is situated in the Southern Hemisphere, and comprises in all an area of about 2,974,581 square miles, the mainland alone containing about 2,948,366 square miles. Bounded on the west and east by the Indian and Pacific Oceans respectively, it lies between longitudes 113° 9' E. and 153° 39' E., while its northern and southern limits are the parallels of latitude 10° 41' S. and 39° 8' S., or, including Tasmania, 43° 39' S. On its north are the Timor and Arafura Seas and Torres Strait, on its south the Southern Ocean and Bass Strait.<sup>1</sup>

(i.) *Tropical and Temperate Regions.* Of the total area of Australia the lesser portion lies within the tropics. Assuming, as is usual, that the latitude of the Tropic of Capricorn is 23° 30' S.<sup>2</sup>, the areas within the tropical and temperate zones are approximately as follows :—

AREAS OF TROPICAL AND TEMPERATE REGIONS  
OF STATES WITHIN TROPICS.

Areas.	Queensland.	Western Australia.	Northern Territory.	Total.
	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.
Within Tropical Zone ...	359,000	364,000	426,320	1,149,320
Within Temperate Zone ...	311,500	611,920	97,300	1,020,720
Ratio of Tropical part to whole State ...	0.535	0.373	0.814	0.530
Ratio of Temperate part to whole State ...	0.465	0.627	0.186	0.470

Thus the tropical part is roughly about one-half (0.530) of the three territories mentioned above, or about five-thirteenthths of the whole Commonwealth (0.386). See hereafter Meteorology 3.

2. **Area of Australia compared with that of other Countries.**—That the area of Australia is greater than that of the United States of America, that it is four-fifths of that of Canada, that it is more than one-fourth of the area of the whole of the British Empire, that it is nearly three-fourths of the whole area of Europe, that it is more than 25 times as large as any one of the following, viz., the United Kingdom, Hungary, Italy, the Transvaal, and Ecuador, are facts which are not always adequately realised. It is this great size, taken together with the fact of the limited population, that gives to the problems of Australian development their unique character, and its clear comprehension is essential in any attempt to understand those problems.

1. The extreme points are "Steep Point" on the west, "Cape Byron" on the east, "Cape York" on the north, "Wilson's Promontory" on the south, or, if Tasmania be included, "South East Cape." The limits, according to the 1903-4 edition of "A Statistical Account of Australia and New Zealand," p. 2, and, according to Volume XXV. of the "Encyclopædia Britannica," tenth edition, p. 787, are respectively 113° 5' E., 153° 16' E., 10° 39' S., and 39° 11½' S., but these figures are obviously defective. A similar inaccuracy appears in the XI. edition of the Encyclopædia.  
2. Its correct value for 1914 is 23° 27' 1".70, and it decreases about 0".47 per annum.

The relative magnitudes may be appreciated by a reference to the following table, which shews how large Australia is compared with the countries referred to, or *vice versa*. Thus, to take line 1, we see that Europe is about  $1\frac{2}{3}$  times (1.29554) as large as Australia, or that Australia is about three-quarters (more accurately 0.77) of the area of Europe. The various countries and the areas thereof are given as at 30th June, 1914.

### SIZE OF AUSTRALIA IN COMPARISON WITH THAT OF OTHER COUNTRIES.

Commonwealth of Australia				...	2,974,581 square miles.		
Country.				Area.	Australian Commonwealth in comparison with—	In comparison with Australian C'wealth.	
<b>Continents—</b>				Sq. miles.			
Europe ... ..				3,853,393	0.77	1.29554	
Asia ... ..				16,769,843	0.18	5.63974	
Africa ... ..				12,350,160	0.24	4.15188	
North and Central America and West Indies ...				8,562,234	0.35	2.87846	
South America ... ..				7,556,371	0.39	2.54031	
Australasia and Polynesia ... ..				3,462,528	0.85	1.16403	
Total, exclusive of Arctic and Antarctic Conts				52,554,529	0.06	17.66759	
<b>Europe—</b>							
Russia (inclusive of Poland, Ciscaucasia & Finland)				2,122,999	1.40	0.71371	
Austria-Hungary (incl. of Bosnia & Herzegovina)				261,319	11.38	0.08785	
Germany ... ..				208,780	14.25	0.07018	
France ... ..				207,054	14.37	0.06969	
Spain ... ..				194,783	15.27	0.06548	
Sweden ... ..				172,963	17.20	0.05814	
Norway ... ..				124,130	23.96	0.04173	
United Kingdom ... ..				121,633	24.45	0.04089	
Italy ... ..				110,659	26.88	0.03720	
Denmark (inclusive of Iceland)				55,338	53.73	0.01861	
Rumania ... ..				53,689	55.40	0.01805	
Greece ... ..				41,933	70.94	0.01409	
Bulgaria ... ..				39,529	68.65	0.01329	
Portugal ... ..				35,490	83.82	0.01193	
Servia ... ..				33,891	87.76	0.01139	
Switzerland ... ..				15,976	186.22	0.00537	
Netherlands ... ..				12,648	235.29	0.00425	
Belgium ... ..				11,373	261.78	0.00382	
Albania ... ..				11,317	262.84	0.00380	
Turkey ... ..				10,882	273.34	0.00366	
Montenegro ... ..				5,603	530.88	0.00188	
Luxemburg ... ..				998	2941.18	0.00034	
Andorra ... ..				175	16997.61	0.00006	
Malta ... ..				118	25423.76	0.00004	
Liechtenstein ... ..				65	45793.55	0.00002	
San Marino ... ..				38	78278.45	0.00001	
Monaco ... ..				8	371822.63	...	
Gibraltar ... ..				2	1487290.50	...	
Total, Europe ... ..				3,853,393	0.77	1.29544	
<b>Asia—</b>							
Russia (inclus. of Transcaucasia, Siberia, Steppes, Transcaspia, Turkestan and inland waters) ...				6,641,587	0.45	2.23278	
China and Dependencies...				3,913,560	0.76	1.31567	
British India...				1,093,074	2.72	0.36747	
Independent Arabia ... ..				966,700	3.08	0.32499	
Turkey (including Samos) ... ..				699,522	4.25	0.23516	
Feudatory Indian States...				709,583	4.19	0.23855	
Persia ... ..				628,000	4.74	0.21112	
Dutch East Indies ... ..				584,611	5.09	0.19654	
Japan (and Dependencies) ... ..				263,046	11.31	0.08843	

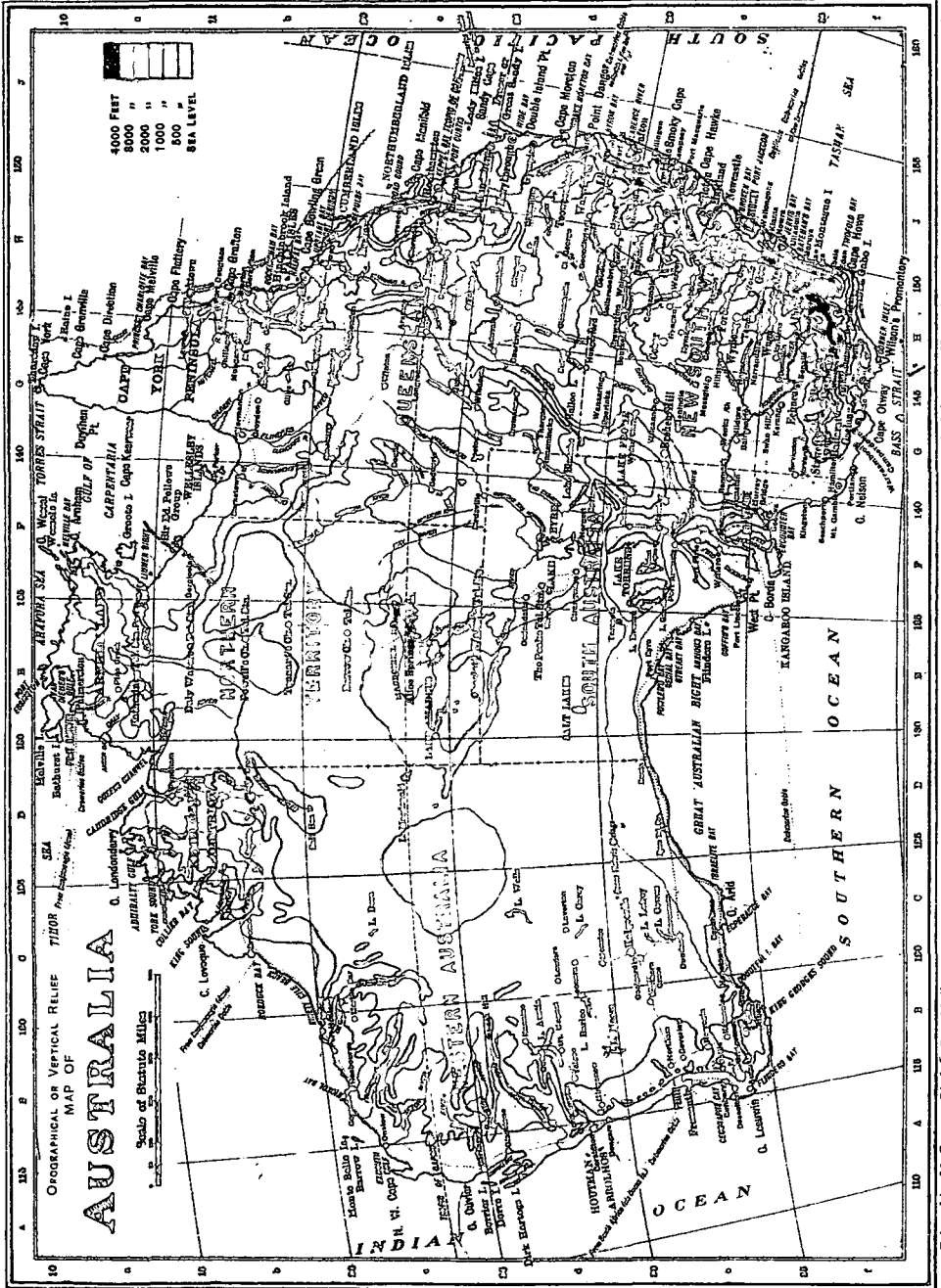
Country.	Area.	Australian Commonwe'lth in comparison with—	In com- parison with Australian C'wealth.
ASIA (continued)—	Sq. Miles.		
Afghanistan ... ..	250,000	11.90	0.08405
Siam ... ..	195,000	15.25	0.06555
Philippine Islands (inclusive of Sulu Archipelago)	120,000	23.60	0.04236
Laos ... ..	98,000	30.35	0.03295
Bokhara ... ..	83,000	35.83	0.02790
Omán ... ..	82,000	36.27	0.02757
British Borneo and Sarawak ... ..	73,106	40.68	0.02457
Nepál ... ..	54,000	55.10	0.01815
Annam ... ..	52,100	57.08	0.01752
Tonking ... ..	46,400	64.10	0.01560
Cambodia ... ..	45,000	66.10	0.01513
Federated Malay States ... ..	27,506	108.14	0.00925
Ceylon ... ..	25,331	117.37	0.00852
Malay Protectorate ... ..	24,600	120.91	0.00827
Khiva ... ..	24,000	123.94	0.00807
Cochin China... ..	20,000	148.73	0.00672
Bhután ... ..	20,000	148.73	0.00672
Aden and Dependencies ... ..	9,005	330.32	0.00303
Timor, etc. (Portuguese Indian Archipelago)	7,330	406.50	0.00246
Brunei ... ..	4,000	743.64	0.00134
Cyprus ... ..	3,584	833.33	0.00120
Goa, Damao, and Diu ... ..	1,638	1818.18	0.00055
Straits Settlements ... ..	1,600	1851.85	0.00054
Sokotra and Kuria Muria Islands ... ..	1,382	2152.22	0.00046
Hong Kong and Dependencies ... ..	405	7344.64	0.00013
Wei-hai-wei ... ..	285	10623.50	0.00009
Bahrein Islands ... ..	250	11898.32	0.00008
Kiauchau ... ..	200	14872.90	0.00007
French India (Pondicherry, etc.) ... ..	196	15176.43	0.00007
Kwang Chan Wan ... ..	190	15655.69	0.00006
Labuan ... ..	30	99152.70	0.00001
Italian Concession, Tientsin ... ..	18	165254.50	0.00001
Macao, etc. ... ..	4	743643.25	...
Total, Asia ... ..	16,769,843	0.18	5.63974
Africa—			
French Sahara ... ..	1,544,000	1.93	0.51907
Turkey (inclusive of Egypt and Soudan)	1,384,520	2.14	0.46545
French Equatorial Africa ... ..	1,003,600	2.96	0.33739
Belgian Congo ... ..	909,654	3.27	0.30582
French Military District of the Niger	534,124	5.57	0.17956
Angola ... ..	484,800	6.14	0.16298
Union of South Africa ... ..	473,100	6.28	0.15905
Rhodesia ... ..	438,575	6.78	0.14744
Abyssinia ... ..	432,432	6.88	0.14538
Tripoli and Benghezi ... ..	406,000	7.33	0.13649
German East Africa ... ..	384,180	7.74	0.12915
Mauretania ... ..	344,967	8.62	0.11597
Algeria (including Algerian Sahara) ... ..	343,500	8.66	0.11548
Nigeria and Protectorate ... ..	336,080	8.85	0.11298
German South-west Africa ... ..	322,450	9.23	0.10840
Senegambia and Niger ... ..	302,136	9.84	0.10157
Portuguese East Africa ... ..	293,400	10.14	0.09864
Bechuanaland Protectorate ... ..	275,000	10.82	0.09245
British East Africa Protectorate ... ..	246,882	12.05	0.08298
Madagascar ... ..	226,016	13.16	0.07598
Uganda Protectorate ... ..	223,500	13.31	0.07514
Morocco ... ..	219,000	13.58	0.07362
Kamerun ... ..	191,130	15.56	0.06425
Italian Somaliland ... ..	189,430	21.34	0.04687

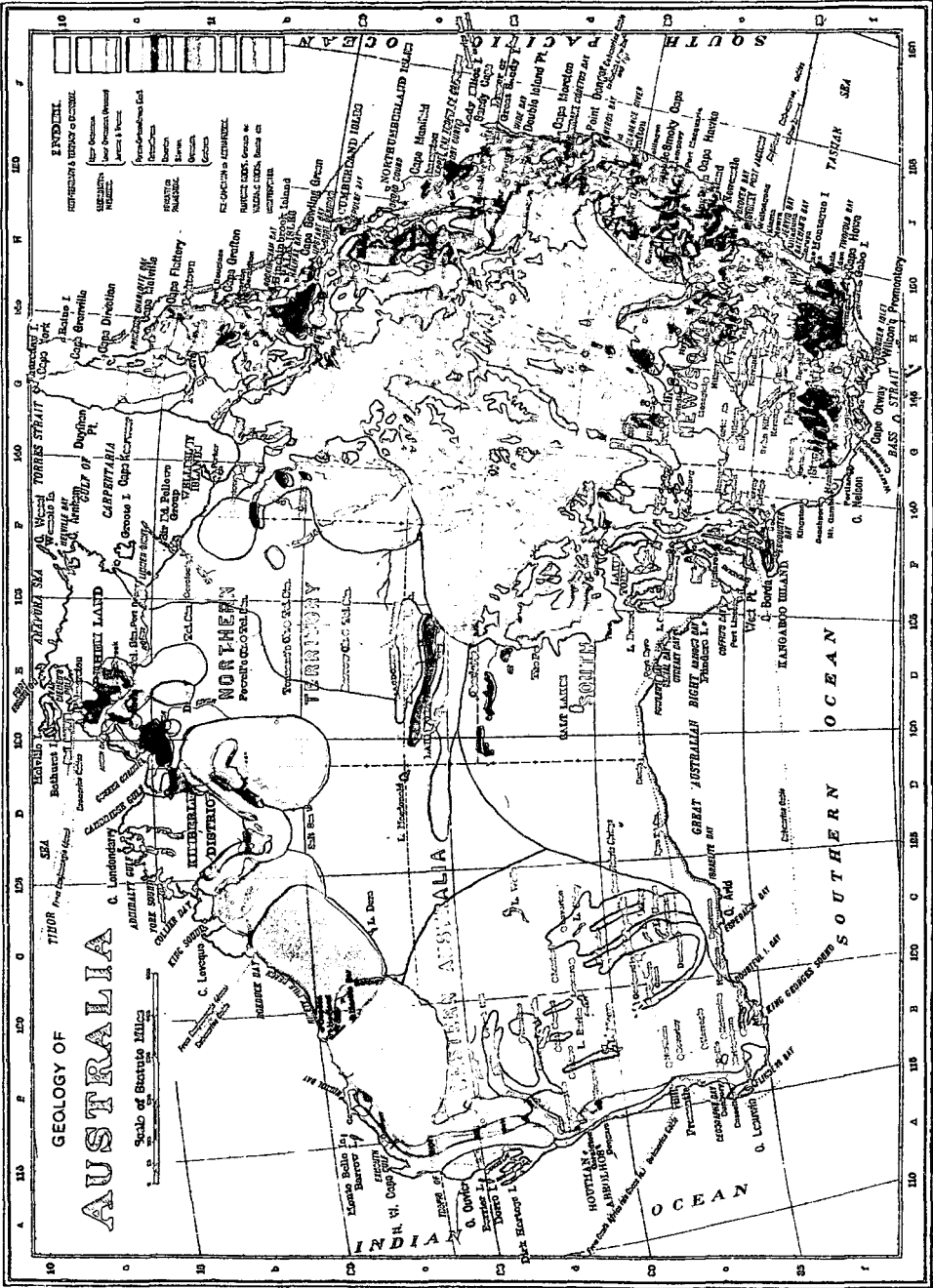
Country.	Area.	Australian Commonw'lth in comparison with—	In com- parison with Australian C'wealth.
	Sq. miles.		
<b>AFRICA (continued)—</b>			
Ivory Coast ... ..	125,538	23.69	0.04220
French Guinea ... ..	92,257	32.24	0.03101
Gold Coast Protectorate (with North. Territories)	80,000	37.18	0.02689
Senegal ... ..	73,973	40.21	0.02487
Rio de Oro, etc. ... ..	73,000	40.75	0.02454
British Somaliland ... ..	68,000	43.74	0.02286
Tunis ... ..	50,000	59.49	0.01681
French Somali Coast ... ..	46,320	64.21	0.01557
Eritrea ... ..	45,800	64.95	0.01540
Liberia ... ..	40,000	74.36	0.01345
Nyasaland Protectorate ... ..	39,315	75.66	0.01322
Dahomey ... ..	37,527	79.26	0.01261
Togoland ... ..	33,700	88.26	0.01133
Sierra Leone and Protectorate ... ..	31,000	95.95	0.01042
Portuguese Guinea ... ..	13,940	213.22	0.00469
Spanish Guinea (Rio Muni, etc.) ... ..	12,000	247.88	0.00403
Basutoland ... ..	11,716	253.89	0.00393
Swaziland ... ..	6,536	455.10	0.00219
Gambia and Protectorate ... ..	4,500	661.02	0.00151
Cape Verde Islands ... ..	1,480	2000.00	0.00050
Zanzibar ... ..	1,020	2941.18	0.00034
Réunion ... ..	970	3066.57	0.00032
Fernando Po, etc. ... ..	814	3654.28	0.00027
Mauritius and Dependencies ... ..	809	3499.51	0.00027
Comoro Islands ... ..	650	4576.27	0.00022
St. Thomas and Prince Islands ... ..	360	8262.73	0.00012
Seychelles ... ..	156	19067.82	0.00005
Mayotte, etc. ... ..	140	21247.01	0.00005
Spanish North and West Africa ... ..	82	36275.37	0.00003
St. Helena ... ..	47	63288.95	0.00002
Ascension ... ..	34	87487.65	0.00001
<b>Total, Africa ... ..</b>	<b>12,350,160</b>	<b>0.24</b>	<b>4.15200</b>
<b>North and Central America and West Indies—</b>			
Canada ... ..	3,729,665	0.80	1.25385
United States (exclusive of Alaska, &c.) ... ..	2,973,890	1.00	0.99976
Mexico ... ..	785,881	3.78	0.26420
Alaska ... ..	590,884	5.03	0.19864
Newfoundland and Labrador ... ..	162,734	18.28	0.05471
Nicaragua ... ..	49,200	60.46	0.01654
Guatemala ... ..	48,290	61.61	0.01623
* Greenland ... ..	46,740	63.65	0.01571
Honduras ... ..	46,250	64.31	0.01555
Cuba ... ..	44,164	67.35	0.01484
Costa Rica ... ..	23,000	129.32	0.00773
San Domingo ... ..	18,045	164.74	0.00607
Haiti ... ..	10,204	291.55	0.00343
British Honduras ... ..	8,598	345.96	0.00289
Salvador ... ..	7,225	411.52	0.00243
Bahamas ... ..	4,404	675.43	0.00148
Jamaica ... ..	4,207	707.05	0.00141
Porto Rico ... ..	3,606	824.90	0.00121
Trinidad and Tobago ... ..	1,868	1592.39	0.00063
Leeward Islands ... ..	715	4160.25	0.00024
Guadeloupe and Dependencies ... ..	688	4323.52	0.00023
Windward Islands ... ..	517	5753.54	0.00017

\* Danish colony only.



Country.	Area.	Australian Commonwealth in comparison with—	In comparison Australian C'wealth.
<b>N. &amp; C. AMERICA &amp; W. INDIES (continued)—</b>	<b>Sq. miles.</b>		
Curaçao and Dependencies ...	403	7381.09	0.00014
Martinique ...	385	7807.30	0.00013
Turks and Caicos Islands ...	166	17925.18	0.00005
Barbados ...	166	17925.18	0.00005
Danish West Indies ...	138	21554.94	0.00005
St. Pierre and Miquelon ...	93	31984.74	0.00003
Cayman Islands ...	89	33422.26	0.00003
Bermudas ...	19	156556.89	...
<b>Total, N. and C. America and W. Indies ...</b>	<b>8,562,234</b>	<b>0.35</b>	<b>2.87846</b>
<b>South America—</b>			
Brazil (inclusive of Acre)...	3,364,564	0.88	1.13110
Argentine Republic ...	1,153,119	2.58	0.38766
Peru ...	722,461	4.12	0.24288
Bolivia ...	608,195	4.89	0.20446
Colombia ...	461,606	6.44	0.15518
Venezuela ...	393,976	7.55	0.13244
Chile ...	292,580	10.17	0.09836
Paraguay ...	165,000	18.03	0.05546
Ecuador ...	116,000	25.64	0.03900
British Guiana ...	90,277	32.95	0.03035
Uruguay ...	72,153	41.22	0.02426
Dutch Guiana ...	46,060	64.60	0.01548
Panamá ...	32,380	91.86	0.01088
French Guiana ...	30,500	97.56	0.01025
Falkland Islands ...	6,500	456.62	0.00219
South Georgia ...	1,000	2974.58	0.00034
<b>Total, South America ...</b>	<b>7,556,371</b>	<b>0.39</b>	<b>2.54031</b>
<b>Australasia and Polynesia—</b>			
Commonwealth of Australia ...	2,974,581	1.00	1.00000
Dutch New Guinea ...	151,789	19.60	0.05103
New Zealand and Dependencies ...	104,751	28.39	0.03522
Papua ...	90,540	32.85	0.03044
Kaiser Wilhelm Land ...	70,000	42.50	0.02353
Bismarck Archipelago ...	20,000	148.73	0.00672
British Solomon Islands ...	14,800	204.36	0.00497
New Caledonia and Dependencies ...	8,548	347.99	0.00287
Fiji ...	7,435	400.08	0.00250
Hawaii ...	6,449	460.83	0.00217
German Solomon Islands, etc. ...	5,160	576.46	0.00173
New Hebrides ...	5,100	583.25	0.00171
French Establishments in Oceania ...	1,520	1960.78	0.00051
German Samoa ...	1,000	2974.58	0.00034
Tonga ...	390	7627.13	0.00013
Guam ...	210	14164.67	0.00007
Gilbert Islands ...	166	17919.16	0.00006
Samoa (U.S.A. part) ...	79	37652.92	0.00003
Norfolk Island ...	10	297458.10	...
<b>Total, Australasia and Polynesia ...</b>	<b>3,462,528</b>	<b>0.85</b>	<b>1.16403</b>
<b>British Empire...</b>	<b>11,531,141</b>	<b>0.26</b>	<b>3.84765</b>





**3. Relative Size of Political Subdivisions.**—As already stated, Australia consists of six States and the Northern and Federal Territories. The areas of these, in relation to one another and to the total of Australia, are shewn in the following table :—

RELATIVE SIZES OF STATES AND COMMONWEALTH.

State.	Area.	Ratio which the Area of each State and Territory bears to that of other States, Territories and Commonwealth.							
		N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N. Ter.	C'wlth.
	Sq. miles.								
New South Wales	309,460	1.000	3.522	0.462	0.814	0.317	11.806	0.591	0.104
Victoria ...	87,884	0.284	1.000	0.131	0.231	0.090	3.352	0.168	0.030
Queensland ...	670,500	2.166	7.629	1.000	1.764	0.687	25.577	1.280	0.225
South Australia	380,070	1.228	4.325	0.567	1.000	0.389	14.498	0.726	0.128
West. Australia	975,920	3.153	11.105	1.455	2.568	1.000	37.228	1.864	0.328
Tasmania ...	26,215	0.085	0.298	0.039	0.069	0.027	1.000	0.050	0.009
North. Territory	523,620	1.691	5.958	0.781	1.378	0.537	19.974	1.000	0.176
Federal Territory	912	0.003	0.010	0.001	0.003	0.001	0.034	0.002	0.000 <sup>1</sup>
Commonwealth	2,974,581	9.610	33.847	4.436	7.827	3.048	113.469	5.681	1.000

1. The correct decimal is 0.0003.

Thus, looking at the top line, New South Wales is seen to be over three-and-a-half times as large as Victoria (3.522) and less than one-half the size of Queensland (0.462); or again, looking at the bottom line, the Commonwealth is shewn to be more than nine-and-a-half times as large as New South Wales (9.610), and nearly thirty-four times as large as Victoria (33.847).

These relative magnitudes are shewn in the small diagram below. It may be added that Papua (or British New Guinea), with its area of 90,540 square miles, is 0.030 of the area of the Commonwealth. The comparatively small size of the Federal Territory prevents its being shewn in this diagram.

N.S.W.	V.	Qld.	S.A.	N.T.	W.A.	Tas.	
% of total 10	3	22	13	18	33	1	

**4. Coastal Configuration.**—There are no striking features in the configuration of the coast; the most remarkable indentations are the Gulf of Carpentaria on the north and the Great Australian Bight on the south. The York Peninsula on the extreme north is the only other remarkable feature in the outline. In Year Book No. 1, an enumeration of the features of the coast-line of Australia was given (see pp. 60 to 68).

(i.) *Coast-line.* The lengths of coast-line, exclusive of minor indentations, both of each State and of the whole continent, are shewn in the following table :—

## SQUARE MILES OF TERRITORY PER MILE OF COAST LINE.

## STATES AND CONTINENT.

State.	Coast-line.	Area ÷ Coast-line.	State.	Coast-line.	Area ÷ Coast-line.
	Miles.	Sq. miles.		Miles.	Sq. miles.
New South Wales <sup>1</sup>	700	443	South Australia ...	1,540	247
Victoria ...	680	129	Western Australia	4,350	224
Queensland ...	3,000	223	Continent <sup>2</sup> ...	11,310	261
Northern Territory	1,040	503	Tasmania ...	900	29

1. Including Federal Territory.

2. Area 2,948,366 square miles.

For the entire Commonwealth this gives a coast-line of 12,210 miles, and an average of 244 square miles for one mile of coast line. According to Strelbitski, Europe has only 75 square miles of area to each mile of coast line, and, according to recent figures, England and Wales have only one-third of this, viz., 25 square miles.

(ii.) *Historical Significance of Coastal Names.* It is interesting to trace the voyages of some of the early navigators by the names bestowed by them on various coastal features—thus Dutch names are found on various points of the Western Australian coast, in Nuyt's Archipelago, in the Northern Territory and in the Gulf of Carpentaria; Captain Cook can be followed along the coasts of New South Wales and Queensland; Flinders' track is easily recognised from Sydney southwards, as far as Cape Catastrophe, by the numerous Lincolnshire names bestowed by him; and the French navigators of the end of the eighteenth and the beginning of the nineteenth century have left their names all along the Western Australian, South Australian, and Tasmanian coasts.

5. *Geographical Features of Australia.*—In each preceding issue of this Year Book, fairly complete information has been given concerning some special geographical element. Thus No. 1 Year Book, pp. 60-68, contains an enumeration of Coastal features. No. 2, pp. 66-67, deals with Hydrology, No. 3, pp. 59-72, with Orography, No. 4, pp. 59-82, with the Lakes of Australia, No. 5, pp. 51-80, with the Islands of Australia, No. 6, pp. 55-66, with the Mineral Springs of Australia, and No. 7, pp. 56-58, with the Salient Features in the Geological History of Australia, with special reference to changes of climate. This practically completes the description of the ordinary physical features. An orographical or vertical relief map of Australia will be found on p. 53.

## § 2. The Fauna of Australia.

An authoritative article describing in some detail the principal features of the Fauna of Australia was given in Year Books No. 1 (see pp. 103 to 109) and No. 2 (see pp. 111 to 117), while a synoptical statement appeared in No. 3 (see pp. 73 to 76). Considerations of space will, however, preclude the inclusion in this issue of more than a passing reference to the subject.

## § 3. The Flora of Australia.

In Year Books No. 1 (see pp. 109 to 114) and No. 2 (see pp. 117 to 122) a fairly complete though brief account was given of the Flora of Australia, and in Year Book No. 3 similar information in a greatly condensed form will be found on pp. 76 to 78. Space in this issue will not permit of more than a mere reference to preceding volumes.

A special article dealing with Australian fodder plants, contributed by J. H. Maiden, Esq., F.L.S., Government Botanist of New South Wales, and Director of the Botanic Gardens, Sydney, appeared in Official Year Book No. VI., pp. 1190-6.

#### § 4. Seismology in Australia.

A brief statement regarding the position of seismology and seismological record in Australia appears in Year Book No. 4, pp. 82 and 83.

*Barisal Guns.* Reference may be made here to an interesting pamphlet published by Dr. J. Burton Cleland, in which the author sums up the available information regarding the peculiar explosive or booming noises heard at times in Australia as well as in other parts of the world. As far as inland Australia, at all events, is concerned, it seems clear that the explosions are of earth origin, and are probably due to the sudden sundering of immense rock masses, either as a result of climatic influences, or through folding movements in the earth's crust.

#### § 5. The Geology of Australia.

1. **General.**—Independent and authoritative sketches of the geology of each State were given in Year Books No. 1 (see pp. 73 to 103) and No. 2 (see pp. 78 to 111). Want of space has precluded the insertion of these sketches in the present issue of the Year Book, and it has not been considered possible to give anything like a sufficient account of the geology of Australia by presenting here a mere condensation of these sketches. Reference must, therefore, be made to either Year Book No. 1 or No. 2, *ut supra*.

2. **Geological Map of Australia.**—The map of the Geology of Australia on page 54, shows the geographical distribution of the more important geological systems and formations.

#### § 6. Climate and Meteorology of Australia.<sup>1</sup>

1. **Introductory.**—In preceding Year Books some account was given of the history of Australian meteorology, including reference to the development of magnetic observations and the equipment for the determination of various climatological records. (See Year Book No. 3, pp. 79, 80.) In Year Book No. 4, pp. 84 and 87, will be found a short sketch of the creation and organisation of the Commonwealth Bureau of Meteorology and a resumé of the subjects dealt with at the Meteorological Conference of 1907. Space will not permit of the inclusion of this matter in the present issue.

2. **Meteorological Publications.**—The following publications are issued daily from the Meteorological Bureau, viz.:—(i.) Weather charts. (ii.) Rainfall maps. (iii.) Bulletins, Interstate, shewing pressure, temperature, wind, rain, cloud extent, and weather.

The Bulletins of Climatology are as follows:—No. 1.—A general discussion of the climate and meteorology of Australia, illustrated by one map and diagrams. No. 2.—A discussion of the rainfall over Australia during the ten years (1897-1906) compared with the normal, illustrated by one map. No. 3.—Notes and statistics of the remarkable flood rains over south-eastern Australia during the winter of 1909, illustrated

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1. Prepared from data supplied by the Commonwealth Meteorologist H. A. Hunt, Esquire, F.R.Met.Soc.

by five maps and diagrams. No. 4.—A discussion of the monthly and seasonal rainfall over Australia, illustrated by one map and diagram. No. 5.—An investigation into the possibility of forecasting the approximate winter rainfall for Northern Victoria, illustrated by two diagrams. No. 6.—The physiography of the proposed Federal Territory at Canberra, illustrated by a relief map and 21 plates. No. 7.—On the climate of the Yass-Canberra district, illustrated by one map. No. 8.—Physiography of Eastern Australia, with 28 text illustrations. No. 9.—The climate of Australia, with charts and diagrams, prepared for the Federal Handbook of Australia.

Commencing with January 1910, the "Australian Monthly Weather Report," containing statistical records from representative selected stations, with rain maps and diagrams, etc., is being published. Complete rainfall and other climatological data are published in annual volumes of meteorological statistics for each State separately.

**3. General Description of Australia.**—In the general description of Australia, page 48, it is pointed out that a considerable portion (0.530) of three divisions of the Australian Commonwealth is north of the tropic of Capricorn, that is to say, within the States of Queensland and Western Australia, and the Northern Territory, no less than 1,149,320<sup>1</sup> square miles belong to the tropical zone, and 1,020,720 to the temperate zone. The whole area of the Commonwealth within the temperate zone, however, is 1,825,261<sup>2</sup> square miles, thus the tropical part is about 0.386, or about five-thirteenthths of the whole, or the "temperate" region is half as large again as the "tropical" (more accurately 1.591). By reason of its insular geographical position, and the absence of striking physical features, Australia is, on the whole, less subject to extremes of weather than are regions of similar area in other parts of the globe; and latitude for latitude Australia is, on the whole, more temperate.

The altitudes of the surface of Australia range up to a little over 7300 feet, hence its climate embraces a great many features, from the characteristically tropical to what is essentially alpine, a fact indicated in some measure by the name Australian Alps given to the southern portion of the great Dividing Range.

While on the coast the rainfall is often abundant and the atmosphere moist, in some portions of the interior the rainfall is very limited, and the atmosphere dry. The distribution of forest, as might be expected, and its climatic influence, is consequently very variable. In the interior there are on the one hand fine belts of trees, on the other there are large areas which are treeless, and where the air is hot and parched in summer. Again, on the coast, even as far south as latitude 35°, the vegetation is tropical in its luxuriance, and also somewhat so in character. Climatologically, therefore, Australia may be said to present a great variety of features. The various climatological characteristics will be referred to in detail.

**4. Meteorological Divisions.**—The Commonwealth Meteorologist has divided Australia, for climatological and meteorological purposes, into five divisions. The boundaries between these may be thus defined:—(a) Between divisions I. and II., the boundary between South and Western Australia, viz., the 129th meridian of east longitude; (b) between divisions II. and III., starting at the Gulf of Carpentaria, along the Norman River to Normanton, thence a straight line to Wilcannia on the Darling River, New South Wales; (c) between divisions II. and IV., from Wilcannia along the Darling River to its junction with the Murray; (d) between divisions II. and V., from the junction of the Darling and Murray Rivers, along the latter to Encounter Bay; (e) between divisions III. and IV., starting at Wilcannia, along the Darling, Barwon, and Dumaresq Rivers to the Great Dividing Range, and along that range and along the

1. In the article "Australia" in the Encyclopædia Britannica, Vol. XXX., p. 796, this area is given as 1,145,000 square miles.

2. Given as 1,801,700 square miles in the work above quoted, where, however, the statistics are said "to refer only to the continental States of the Federation, not to Tasmania."

watershed between the Clarence and Richmond Rivers to Evans Head on the east coast of Australia ; (f) between divisions IV. and V., from the junction of the Darling and Murray Rivers along the latter to its junction with the Murrumbidgee, along the Murrumbidgee to the Tumut River, and along the Tumut River to Tumut, thence a straight line to Cape Howe ; (g) division V. includes Tasmania.

The population included within these boundaries at the Census of the 3rd April, 1911, was approximately as follows :—

Division	I.	II.	III.	IV.	V.
Population	282,000	429,000	607,000	1,540,000	1,597,000

In these divisions the order in which the capitals occur is as follows :—(i.) Perth, (ii.) Adelaide, (iii.) Brisbane, (iv.) Sydney, (v.) Melbourne, (vi.) Hobart, and for that reason the climatological and meteorological statistics will be set forth in the indicated order in this publication.

(i.) *Special Climatological Stations.* The latitudes, longitudes, and altitudes of special stations, the climatological features of which are graphically represented herein—after, are as follows :—

### SPECIAL CLIMATOLOGICAL STATIONS.

Locality.	Height above Sea Level.	Latitude.		Longitude.		Locality.	Height above Sea Level.	Latitude.		Longitude.	
	Fect.	deg.	min.	deg.	min.		Fect.	deg.	min.	deg.	min.
Perth ...	197	31	57	115	51	Darwin ...	97	12	28	130	51
Adelaide ...	140	34	56	138	35	Daly Waters ...	700	16	16	133	23
Brisbane ...	137	27	28	153	2	Alice Springs ...	1926	23	38	133	37
Sydney ...	146	33	52	151	12	Dubbo ...	870	32	18	148	35
Melbourne ...	115	37	50	144	59	Laverton ...	1530	28	40	122	23
Hobart ...	160	42	53	147	20	Coolgardie ...	1402	30	57	121	10

5. **Temperatures.**—In respect of Australian temperatures generally it may be pointed out that the isotherm for 70° Fahrenheit extends in South America and South Africa as far south as latitude 33°, while in Australia it reaches only as far south as latitude 30°, thus shewing that, on the whole, Australia has a more temperate climate when compared latitude for latitude with places in the Southern Hemisphere.

The comparison is even more favourable when the Northern Hemisphere is included in the comparison, for in the United States the 70° isotherm extends in several of the western States as far north as latitude 41°. In Europe the same isotherm reaches almost to the southern shores of Spain, passing, however, afterwards along the northern shores of Africa till it reaches the Red Sea, when it bends northward along the eastern shore of the Mediterranean till it reaches Syria. In Asia nearly the whole of the land area south of latitude 40° N. has a higher isothermal value than 70°.

The extreme range of shade temperatures in summer and winter in a very large part of Australia amounts to probably only 81°. In Siberia, in Asia, the similar range is no less than 171°, and in North America 153°, or approximately double the Australian range.

Along the northern shores of the Australian continent the temperatures are very equable. At Darwin, for example, the difference in the means for the hottest and coldest months is only 8.7°, and the extreme readings for the year, that is, the highest maximum in the hottest month and the lowest reading in the coldest month, shew a difference of under 50°.

Coming southward the extreme range of temperature increases gradually on the coast, and in a more pronounced way inland.

The detailed temperature results for the several capitals of the States of Australia are shewn in the Climatological Tables hereinafter.



(i.) *Hottest and Coldest Parts.* A comparison of the temperatures recorded at coast and inland stations shews that, in Australia as in other continents, the range increases with increasing distance from the coast.

In the interior of Australia, and during exceptionally dry summers, the temperature occasionally reaches or exceeds  $120^{\circ}$  in the shade, and during the dry winters the major portion of the country to the south of the tropics is subject to ground frosts. An exact knowledge of temperature disposition cannot be determined until the interior becomes more settled, but from data procurable, it would appear that the hottest area of the continent is situated in the northern part of Western Australia about the Marble Bar and Nullagine goldfields, where the maximum shade temperature during the summer sometimes exceeds  $100^{\circ}$  for days, and even weeks' continuously. The coldest part of the Commonwealth is the extreme south-east of New South Wales and extreme east of Victoria, namely, the region of the Australian Alps. Here, the temperature seldom, if ever, reaches  $100^{\circ}$  even in the hottest of seasons.

In Tasmania also, although occasionally hot winds may cross the Straits and cause the temperature to rise to  $100^{\circ}$  in the low-lying parts, yet the island as a whole enjoys a most moderate and equable range of temperature throughout the year.

(ii.) *Monthly Maximum and Minimum Temperatures.* The mean monthly maximum and minimum temperatures can be best shewn by means of graphs, which exhibit the nature of the fluctuation of each for the entire year. In the diagram (on page 71) for nine representative places in Australia, the upper heavy curves shew the mean maximum, the lower heavy curves the mean minimum temperatures based upon daily observations. On the same diagram the thin curves shew the relative humidities (see next paragraph).

**6. Relative Humidity.**—Next after temperature the degree of humidity may be regarded as of great importance as an element of climate; and the characteristic differences of relative humidity between the various capitals of Australia call for special remark. For six representative places the variations of humidity are shewn on the graph on page 71, which gives results based upon daily observations of the dry and wet bulb thermometers. Hitherto difficulties have been experienced in many parts of Australia in obtaining satisfactory observations for a continuous period of any length. For this reason it has been thought expedient to refer to the record of humidity at first order stations only, where the results are thoroughly reliable. Throughout, the degree of humidity given will be what is known as *relative humidity*, that is, the percentage of aqueous vapour actually existing to the total possible if the atmosphere were saturated.

The detailed humidity results for the several State capitals are given in the Climatological Tables hereinafter. From these, it is seen that, in respect of relative humidity, Sydney has the first place, while Melbourne, Hobart, Brisbane, Perth, and Adelaide follow in the order stated, Adelaide being the driest. The graphs on page 71 shew the annual variations in humidity. It will be observed that the *relative* humidity is ordinarily but not invariably great when the temperature is low.

**7. Evaporation.**—The rate and quantity of evaporation in any territory is influenced by the prevailing temperature, and by atmospheric humidity, pressure and movement. In Australia the question is of perhaps more than ordinary importance; since in its drier regions water has often to be conserved in "tanks"<sup>1</sup> and dams. The magnitude of the economic loss by evaporation will be appreciated from the records on pages 72 and 80 to 85, which show that the yearly amount varies from about  $32\frac{1}{2}$  inches at Hobart to 97 inches at Alice Springs in the centre of the Continent.

(i.) *Monthly Evaporation Curves.* The curves showing the mean monthly evaporation in various parts of the Commonwealth will disclose how characteristically different are the amounts for the several months in different localities. The evaporation for characteristic places is shewn on diagram shewing also rainfalls (see page 72).

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1. In Australia artificial storage ponds or reservoirs are called "tanks."

(ii.) *Loss by Evaporation.* In the interior of Australia the possible evaporation is greater than the actual rainfall. Since, therefore, the loss by evaporation depends largely on the exposed area, tanks and dams so designed that the surface shall be a minimum, are advantageous. Similarly, the more protected from the direct rays of the sun and from winds, by means of suitable tree planting, the less will be the loss by evaporation: these matters are of more than ordinary concern in the drier districts of Australia.

8. *Rainfall.*—As even a casual reference to climatological maps, indicating the distribution of rainfall and prevailing direction of wind, would clearly shew, the rainfall of any region is determined mainly by the direction and route of the prevailing winds, by the varying temperatures of the earth's surface over which they blow, and by the physiographical features generally.

Australia lies within the zone of the south-east trade and prevailing westerly winds. The southern limit of the south-east trade strikes the eastern shores at about 30° south latitude. Hence, we find that, with very few exceptions, the heaviest rains of the Australian continent are precipitated along the Pacific slopes to the north of that latitude, the varying quantities being more or less regulated by the differences in elevation of the shores and of the chain of mountains, upon which the rain-laden winds blow, from the New South Wales northern border to Thursday Island. The converse effect is exemplified on the north-west coast of Western Australia from the summer south-east trade winds. Here the prevailing winds, blowing from the interior of the continent instead of from the ocean, result in the lightest coastal rain in Australia.

The westerly winds, which skirt the southern shores, are responsible for the very reliable, although generally light, rains enjoyed by the south-western portion of Western Australia, by the south-eastern agricultural areas of South Australia, by a great part of Victoria, and by the whole of Tasmania.

(i.) *Factors determining Distribution and Intensity of Rainfall.*

(ii.) *Time of Rainfall.*

In preceding Year Books (see No. 6, pp. 72, 73, 74) some notes were given of the various factors governing the distribution, intensity and period of Australian rainfall.

(iii.) *Wettest and Driest Regions.* The wettest known part of Australia is on the north-east coast of Queensland, between Port Douglas and Cardwell, where three stations situated on, or adjacent to, the Johnstone and Russell Rivers have an average annual rainfall of between 150 and 166 inches. The maximum and minimum falls there are:—Goondi, 241.53 in 1894 and 76.24 inches in 1902, or a range of 165.29 inches; Innisfail, 211.24 in 1894 and 69.87 inches in 1902, or a range of 141.37 inches; Harvey's Creek, 238.45 in 1901 and 80.47 inches in 1902, or a range of 157.98 inches.

On three occasions more than 200 inches have been recorded at Goondi, the last of these being in 1910, when 204.82 inches were registered. The record at this station covers a period of 21 years.

Harvey's Creek in the shorter period of 17 years has twice exceeded 200 inches, the total for 1910 being 201.28 inches.

The driest known part of the continent is about the Lake Eyre district in South Australia (the only part of the continent below sea level), where the annual average is but 5 inches, and where it rarely exceeds 10 inches for the twelve months.

The inland districts of Western Australia have until recent years been regarded as the driest part of Australia, but authentic observations taken during the past decade at settled districts in the east of that State shew that the annual average is from 10 to 12 inches.

(iv.) *Quantities and Distribution of Rainfall generally.* The departure from the normal rainfall increases greatly and progressively from the southern to the northern shores of the continent, and similarly also at all parts of the continent, subject to

capricious monsoonal rains, as the comparisons hereunder will shew. The general distribution is best seen from the map on page 77, shewing the areas subject to average annual rainfalls lying between certain limits. The areas enjoying varying quantities of rainfall determined from the latest available information are shewn in the following table:—

#### DISTRIBUTION OF AVERAGE RAINFALL.

Average Annual Rainfall.	N.S.W.	Victoria.	Queensland.	South Aust.	Northern Territ'y.	Western Aust.	Tasmania.	Commonwealth.
	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.
Under 10 inches	44,997	nil	62,805	317,600	138,190	513,653	nil	1,077,245
10—15 „	77,268	19,912	97,722	33,405	141,570	232,815	nil	602,692
15—20 „	57,639	12,626	116,790	14,190	62,920	89,922	937	355,024
20—30 „	77,202	29,317	218,528	13,827	93,470	95,404	7,559	535,307
30—40 „	30,700	14,029	80,556	984	40,690	40,750	4,588	212,297
Over 40 „	22,566	12,000	94,099	64	46,780	3,376	10,101	188,986
Total area ...	310,372	87,884	670,500	380,070	523,620	975,920	26,215	2,974,581

\* Over 3030 sqr. miles no records available.

Referring first to the capital cities, the complete records of which are given on the following page, it is seen that Sydney with a normal rainfall of 48.40 inches occupies the chief place, Brisbane, Perth, Melbourne, Hobart and Adelaide following in that order, Adelaide with 21.00 inches being the driest. The extreme range from the wettest to the driest year is greatest at Brisbane (72.09 inches) and least at Adelaide (17.44 inches).

In order to shew how the rainfall is distributed throughout the year in various parts of the continent, the figures of representative towns have been selected. (See map on page 78.) Darwin, typical of the Northern Territory, shews that in that region nearly the whole of the rainfall occurs in the summer months, while little or nothing falls in the middle of the year. The figures of Perth, as representing the south-western part of the continent, are the reverse, for while the summer months are dry, the winter ones are very wet. In Melbourne and Hobart the rain is fairly well distributed throughout the twelve months, with a maximum in October in the former, and in November in the latter. The records at Alice Springs and Daly Waters indicate that in the central parts of Australia the wettest months are in the summer and autumn. In Queensland, as in the Northern Territory, the heaviest rains fall in the summer months, but good averages are also maintained during the other seasons.

On the coast of New South Wales, the first six months of the year are the wettest, with slight excesses in April and July; the averages during the last six months are fair and moderately uniform. In general it may be said that one-fourth of the area of the continent, principally in the eastern and northern parts, enjoys an annual average rainfall of from 20 to 50 inches, the remaining three-fourths receiving generally from about 10 to 15 inches.

(v.) *Curves of Rainfall and Evaporation.* The relative amounts of rainfall and evaporation at different times through the year are best seen by referring to the graphs for a number of characteristic places. (See page 72.) It will be recognised at once how large is the evaporation when water is fully exposed to the direct rays of the sun, and to wind, etc.

(vi.) *Tables of Rainfall.* The table of rainfall for a long period of years for each of the various Australian capitals affords information as to the variability of the fall in successive years, and the list of the more remarkable falls furnishes information as to what may be expected on particular occasions.



**9. Remarkable Falls of Rain.**—The following are the more remarkable falls of rain in the States of New South Wales, Queensland, Western Australia, and South Australia, which have occurred within a period of twenty-four hours :—

**HEAVY RAINFALLS, NEW SOUTH WALES, UP TO 1913 INCLUSIVE.**

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Anthony ...	28 Mar., 1887	17.14	Leconfield ...	9 Mar., 1893	14.53
" ...	15 Jan., 1890	13.13	Madden's Creek ...	13 Jan., 1911	18.68
Araluen ...	15 Feb., 1898	13.36	Maitland W. ...	9 Mar., 1893	14.79
Berry ...	13 Jan., 1911	12.05	Major's Creek ...	14 Feb., 1898	12.32
Billambil ...	14 Mar., 1894	12.94	Marrickville ...	9 Mar., 1913	10.40
Bomaderry...	13 Jan., 1911	13.03	Morpeth ...	9 " 1893	21.52
Broger's Creek	14 Feb., 1898	20.05	Mount Kembla ...	13 Jan., 1911	18.25
" "	19 July, 1910	12.22	Nepean Tunnel ...	14 Feb., 1898	12.30
" "	13 Jan., 1911	20.83	Nowra ...	13 Jan., 1911	13.00
Bulli Mountain	13 Feb., 1898	17.14	Padstow Park ...	9 Mar., 1913	10.64
Camden Haven	22 Jan., 1895	12.23	Prospect ...	28 May, 1889	12.37
Castle Hill...	28 May, 1889	13.49	Richmond ...	28 " "	12.18
Colombo Lyttleton	5 Mar., 1893	12.17	Rooty Hill ...	27 " "	11.85
Condong ...	27 " 1887	18.66	Taree ...	28 Feb., 1892	12.24
Cordeaux River	14 Feb., 1898	22.58	Terara ...	26 " 1873	12.57
" "	13 Jan., 1911	14.52	Tomago ...	9 Mar., 1893	13.76
Dapto West "	14 Feb., 1898	12.05	Tongarra Farm ...	14 Feb., 1898	15.12
Dunheved ...	28 May, 1889	12.40	Towamba ...	5 Mar., 1893	20.00
Holy Flat ...	12 Mar., 1887	12.00	South Head		
" " ...	28 Feb., 1892	12.24	(near Sydney)...	29 Apr., 1841	20.12
Kotoomba ...	7 Apr., 1913	10.50	" "	16 Oct., 1844	20.41
Kembla Heights	13 Jan., 1911	17.46			

**HEAVY RAINFALLS, QUEENSLAND, UP TO 1913 INCLUSIVE.**

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Aloomba ...	30 Jan., 1913	13.50	Cairns ...	31 Jan., 1913	13.94
Anglesey ...	26 Dec., 1909	18.20	Cape Grafton ...	5 Mar., 1896	13.37
Atherton ...	31 Jan., 1913	16.69	Cardwell ...	30 Dec., 1889	12.00
Avondale ...	17 " 1913	12.27	" ...	23 Mar., 1890	12.00
Ayr ...	20 Sep., 1890	14.58	" ...	18 " 1904	18.24
Babinda ...	31 Jan., 1913	12.79	" ...	3 Apr., 1911	12.84
" ...	1 Feb., 1913	20.51	Clare ...	26 Jan., 1896	15.30
Banyan ...	31 Jan., 1913	13.79	Collaroy ...	30 " 1896	14.25
Barrine ...	31 " 1913	13.34	Colton ...	16 " 1913	10.60
Bloomsbury	14 Feb., 1893	17.40	Cooktown ...	22 " 1903	12.49
" "	10 Jan., 1901	16.62	Cooran ...	1 Feb., 1893	13.62
Bowen ...	13 Feb., 1893	14.65	" ...	26 Dec., 1908	14.08
Brisbane ...	21 Jan., 1887	18.31	Cooroy ...	9 June, 1893	13.60
Bromby Park (Bowen)	14 Feb., 1893	13.28	" ...	10 Jan., 1898	13.50
Brookfield ...	14 Mar., 1908	14.95	Crohamhurst		
Buderim Mountain	11 Jan., 1898	26.20	(Blackall Range)	2 Feb., 1893	35.71
Bundaburg ...	16 " 1913	16.94	" "	9 June, " "	13.31
Burketown ...	15 " 1891	13.58	" "	9 Jan., 1898	19.55
" ...	12 Mar., 1903	14.52	" "	6 Mar. "	16.01
Burnett Head	16 Jan., 1913	15.22	" "	26 Dec., 1909	13.85
Buslard "	17 " 1913	14.93	Croydon ...	29 Jan., 1908	15.00
Cairns ...	11 Feb., 1889	14.74	Cryna (Beaudesert)...	21 " 1887	14.00
" ...	21 Apr., " "	12.40	Donaldson		
" ...	5 " 1891	14.08	(now Granada)	8 " 1911	13.50
" ...	11 Feb., 1911	15.17	" "	9 " "	14.30
" ...	2 Apr., " "	20.16	Dungeness	16 Mar., 1893	22.17

## HEAVY RAINFALLS, QUEENSLAND—Continued.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Dungeness ...	17 Apr., 1894	14.00	Harvey Creek ...	8 Mar., 1899	17.72
Dunira ...	9 Jan., 1898	18.45	" "	25 Jan., 1900	12.53
" "	6 Mar., "	15.95	" "	25 May, 1901	14.00
Dunk Island ...	31 Jan., 1913	11.15	" "	14 Mar., 1903	12.10
Emu Park ...	18 " 1913	12.75	" "	11 Jan., 1905	16.96
Enoggera Railway	14 " 1908	12.14	" "	28 " 1906	12.29
Ernest Junction ...	" "	13.00	" "	14 " 1909	14.40
Eton ...	27 Feb., 1913	11.00	" "	3 " 1911	17.75
Fairymead ...	16 Jan., 1913	15.32	" "	11 Feb., "	12.88
Flat Top Island ...	22 Dec., 1909	12.96	" "	1 Apr., "	13.61
Floraville ...	11 Mar., 1903	12.86	" "	2 " "	16.46
Flying Fish Point	7 Apr., 1912	16.06	" "	31 Jan., 1913	24.72
" "	31 Jan., 1913	16.10	" "	1 Feb., 1913	13.55
Gatecombe Head ...	18 Jan., 1913	12.88	Haughton Valley	26 Jan., 1896	18.10
Geraldton			Herberton ...	31 Jan., 1913	14.00
(now Innisfail)	11 Feb., 1889	17.13	Hillcrest (Mooloolah)	26 Dec., 1909	13.35
" "	31 Dec., "	12.45	Holmwood (Woodf'd)	2 Feb., 1893	16.19
" "	6 Apr., 1894	16.02	" "	10 Jan., 1898	12.40
" "	18 " 1899	13.20	Homebush ...	3 Feb., "	12.04
" "	24 Jan., 1900	15.22	Howard ...	15 Jan., 1905	19.55
" "	29 Dec., 1903	21.22	" "	16 " 1913	11.33
" "	11 Feb., 1911	14.48	Ingham ...	18 " 1894	12.60
" "	1 Apr., 1911	12.35	" "	6 " 1901	13.59
" "	2 " "	15.00	" "	25 Dec., 1903	12.30
" "	7 " 1912	20.50	Inkerman ...	21 Sep., 1890	12.93
" "	8 " "	12.15	Inneshowen		
" "	31 Jan., 1913	20.91	(Johnstone River)	30 Dec., 1889	14.01
Gin Gin ...	16 " 1905	13.61	Invicta ...	16 Jan., 1913	14.58
" "	16 " 1913	12.27	Isis Junction ...	6 Mar., 1898	13.60
Gladstone ...	18 Feb., 1888	12.37	" "	16 Jan., 1913	10.93
" "	31 Jan., 1893	14.62	Kamerunga (Cairns)	20 Jan., 1892	13.61
" "	4 Feb., 1911	18.83	" "	6 Apr., 1894	14.04
Glen Boughton	5 Apr., 1894	18.50	" "	5 " 1895	12.31
" "	31 Jan., 1913	14.92	" "	11 Feb., 1911	13.07
Glen Prairie ...	18 Apr., 1904	12.18	" "	1 Apr., "	14.20
Gold Creek Reservoir	14 Mar., 1908	12.50	" "	2 " "	21.00
Goldsborough ...	31 Jan., 1913	19.92	" "	31 Jan., 1913	16.00
" "	1 Feb., 1913	12.22	Kulara ...	31 " "	12.69
Goodwood ...	16 Jan., 1913	13.07	Kuranda ...	6 Mar., 1899	14.12
Goondi Mill			" "	20 Apr., 1903	14.16
(Gerald'n)	6 Apr., 1894	15.69	" "	14 Jan., 1909	12.37
" "	18 Apr., 1899	14.78	" "	11 Feb., 1911	16.30
" "	24 Jan., 1900	13.30	" "	17 Mar., "	15.10
" "	29 Dec., 1903	17.83	" "	31 " "	18.60
" "	10 Feb., 1911	17.68	" "	1 Apr., "	24.30
" "	31 Mar., "	12.38	" "	2 " "	28.80
" "	1 Apr., "	13.60	" "	31 Jan., 1913	16.34
" "	6 Apr., 1912	15.55	" "	1 Feb., 1913	15.18
" "	30 Jan., 1913	24.10	" "	2 " 1893	15.15
Halifax ...	5 Feb., 1899	15.37	Landsborough	9 June, "	12.80
" "	6 Jan., 1901	15.68	" "	26 Dec., 1909	14.00
" "	8 Apr., 1912	12.75	Low Island	10 Mar., 1904	15.07
Hambleton Mill	13 Jan., 1909	13.80	" "	31 " 1911	14.70
" "	2 " 1911	18.61	" "	1 Apr., "	23.43
" "	10 Feb., "	13.97	Lucinda ...	17 Feb., 1906	13.35
" "	30 Mar., "	13.04	" "	10 Mar., 1906	14.60
" "	31 " "	14.95	Lytton ...	21 Jan., 1887	12.85
" "	1 Apr., "	19.62	Mackay ...	23 Dec., 1909	13.96
" "	30 Jan., 1913	17.32	" "	21 Dec., 1913	10.03

## HEAVY RAINFALLS, QUEENSLAND—Continued.

Name of Town or Locality.	Date.	Amnt	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Sugar Experimental Farm, Mackay ...	23 Dec., 1909	12.00	Pialba ...	16 Jan., 1913	17.22
Macnade Mill (Townsville) ...	18 Jan., 1894	12.56	Pittsworth ...	11 Mar., 1890	14.68
" ...	17 Apr., "	14.26	Port Douglas ...	5 Mar., 1887	13.00
" ...	5 Feb., 1899	15.20	" "	10 " 1904	16.34
" ...	6 Jan., 1901	23.33	" "	11 Jan., 1905	14.68
Maleny ...	26 Dec., 1909	14.76	" "	17 Mar., 1911	16.10
Mapleton ...	14 Mar., 1908	14.29	" "	1 Apr., "	31.53
" ...	26 Dec., 1909	15.72	Ravenswood ...	24 Mar., 1890	17.00
Mareeba ...	31 Jan., 1913	10.32	Redcliffe ...	21 Jan., 1887	14.00
Marlborough ...	17 Dec., 1888	14.24	" ...	16 Feb., 1893	17.35
Milton ...	14 Mar., 1908	12.24	Rosedale ...	6 Mar., 1898	12.60
Mirani ...	12 Jan., 1901	16.59	" ...	16 Jan., 1913	18.90
Miriam Vale ...	17 " 1913	15.80	Sandgate ...	16 Feb., 1893	14.03
Molloy ...	31 Mar., 1911	20.02	Somerset ...	28 Jan., 1903	12.02
" ...	1 Apr., "	20.00	St. Helens (Mackay) ...	17 Mar., 1888	12.00
" ...	2 " "	20.00	St. Lawrence ...	17 Feb., 1888	12.10
Mooloolah ...	13 Mar., 1892	21.53	" "	30 Jan., 1896	15.00
" ...	2 Feb., 1893	19.11	Tewantin ...	30 Mar., 1904	12.30
" ...	6 Mar., 1898	14.43	The Hollow (Mackay) ...	23 Feb., 1888	15.12
Mount Crosby ...	14 Mar., 1908	14.00	Thornborough ...	20 Apr., 1903	18.07
Mount Cuthbert ...	8 Jan., 1911	18.00	Townsville ...	24 Jan., 1892	19.20
Mourilyan ...	14 Jan., 1909	13.00	" ...	28 Dec., 1903	15.00
" ...	3 " 1911	12.70	Victoria Mill ...	6 Jan., 1901	16.67
" ...	11 Feb., "	17.40	Walsh River ...	1 Apr., 1911	13.70
" ...	1 Apr., "	13.20	Woodford ...	2 Feb., 1893	14.93
" ...	7 " 1912	18.97	Woodlands (Yeppoon) ...	25 Mar., 1890	14.25
" ...	31 Jan., 1913	15.05	" "	31 Jan., 1893	23.07
Mundoolun ...	21 Jan., 1887	17.95	" "	9 Feb., 1896	13.97
Musgrave ...	6 Apr., 1894	13.71	" "	7 Jan., 1898	14.50
Nambour ...	9 Jan., 1898	21.00	Woody Island ...	16 " 1913	12.66
" ...	7 Mar., "	13.28	Woombye ...	26 Dec., 1909	13.42
" ...	27 Dec., 1909	16.80	Yandina ...	1 Feb., 1893	20.08
Nerang ...	15 June 1892	12.35	" ...	9 June, "	12.70
North Kolan ...	16 Jan., 1913	12.90	" ...	9 Jan., 1898	19.25
North Pine ...	16 Feb., 1893	14.97	" ...	7 Mar., "	13.52
Nundah ...	14 Mar., 1908	12.00	" ...	28 Dec., 1909	15.80
Oxenford ...	14 Mar., 1908	15.65	Yarrabah ...	11 Feb., 1911	12.00
Palmwoods ...	4 Feb., 1893	12.30	" ...	2 Apr., "	30.65
" ...	10 Jan., 1898	15.85	" ...	4 Feb., 1913	13.40
" ...	7 Mar., "	13.02	Yeppoon ...	31 Jan., 1893	20.05
" ...	25 Dec., 1909	17.75	" ...	8 " 1898	18.05
Peachester ...	26 " "	14.91	" ...	3 Feb., 1906	14.90
			" ...	" 1911	14.92
			" ...	18 Jan., 1913	13.00

## HEAVY RAINFALLS, WESTERN AUSTRALIA, UP TO 1913, INCLUSIVE.

Balla Balla ...	21 Mar., 1899	ins.	Whim Creek ...	2 Apr., 1898	ins.
Boodarie ...	21 " "	14.40	" ...	3 " "	7.08
Cossack ...	3 Apr., 1898	12.82	" ...	20 Mar., 1899	8.89
" ...	16 " 1900	13.23	" ...	21 " "	18.17
Croydon ...	3 Mar., 1903	12.00	Woodstock ...	21 " 1912	13.00
Cocos Island ...	29 Nov., "	14.38	Wyndham ...	27 Jan., 1890	11.60
Derby ...	29 Dec., 1898	13.09	" ...	11 " 1903	9.98
" ...	30 " "	7.14	" ...	12 " "	6.64
Fortescue ...	3 May, 1890	23.36	" ...	13 " "	4.20
Kerdiadary ...	7 Feb., 1901	12.00	Yeeda ...	28 Dec., 1898	8.42
Obagama ...	28 " 1910	12.00	" ...	29 " "	6.88
Point Torment ...	17 Dec., 1906	11.86	" ...	30 " "	6.12
Thangoo ...	17-19 Feb. '96	24.18			

## HEAVY RAINFALLS, NORTHERN TERRITORY, UP TO 1913, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Borrooloola ...	14 Mar., 1899	14.00	Pine Creek ...	8 Jan., 1897	10.35
Lake Nash...	21 „ 1901	10.25	Darwin ...	7 Jan., 1897	11.67

10. **Snowfall.**—Light snow has been known to fall even as far north, occasionally, as latitude  $31^{\circ}$  S., and from the western to the eastern shores of the continent. During exceptional seasons it has fallen simultaneously over two-thirds of the State of New South Wales, and has extended at times along the whole of the Great Dividing Range, from its southern extremity in Victoria as far north as Toowoomba in Queensland. During the winter snow covers the ground to a great extent on the Australian Alps for several months, where also the temperature falls below zero Fahrenheit during the night, and in the ravines around Kosciusko and similar localities the snow never entirely disappears.

The antarctic “V”-shaped disturbances are always associated with our most pronounced and extensive snowfalls. The depressions on such occasions are very steep in the vertical area, and the apexes are unusually sharp-pointed and protrude into very low latitudes, sometimes even to the tropics.

11. **Hail.**—Hail falls throughout Australia most frequently along the southern shores of the continent in the winter, and over south-eastern Australia during the summer months. The size of the hailstones generally increases with distance from the coast, a fact which lends strong support to the theory that hail is brought about by ascending currents. Rarely does a summer pass without some station experiencing a fall of stones exceeding in size an ordinary hen-egg, and many riddled sheets of light-gauge galvanised iron bear evidence of the weight and penetrating power of the stones.

Hail storms occur most frequently in Australia when the barometric readings indicate a flat and unstable condition of pressure. They are almost invariably associated with tornadoes or tornadic tendencies, and on the east coast the clouds from which the stones fall are generally of a remarkable sepia-coloured tint.

12. **Barometric Pressures.**—The mean annual barometric pressure (corrected to sea-level and standard gravity) in Australia varies from 29.80 inches on the north coast to 29.92 inches over the central and 30.03 inches in the southern parts of the continent. In January the mean pressure ranges from 29.70 inches in the northern and central areas to 29.91 inches in the southern. The July mean pressure ranges from 29.90 inches at Darwin to 30.12 inches at Alice Springs. Barometer readings, corrected to mean sea-level, have, under anticyclonic conditions in the interior of the continent, ranged from 30.81 inches to as low as 28.44 inches. This lowest record was registered at Townsville during a hurricane on the 9th March, 1903. The mean annual fluctuations of barometric pressure for the capitals of Australia are shewn on page 73.

13. **Wind.**—Notes on the distinctive wind currents in Australia were given in preceding Year Books (see No. 6, page 83) and are here omitted to save space.



**14. Cyclones and Storms.**—The “elements” in Australia are ordinarily peaceful, and although severe cyclones have visited various parts, more especially coastal areas, such visitations are rare, and may be properly described as erratic.

During the winter months the southern shores of the continent are subject to cyclonic storms, evolved from the V-shaped depressions of the southern low-pressure belt. They are felt most severely over the south-western parts of Western Australia, to the south-east of South Australia, in Bass Straits, including the coast line of Victoria, and on the west coast of Tasmania. Apparently the more violent wind pressures from these cyclones are experienced in their northern half, that is, in that part of them which has a north-westerly to a south-westerly circulation.

Occasionally the north-east coast of Queensland is visited by hurricanes from the north-east tropics. During the first three months of the year these hurricanes appear to have their origin in the neighbourhood of the South Pacific Islands, their path being a parabolic curve of south-westerly direction. Only a small percentage, however, reach Australia, the majority recurving in their path to the east of New Caledonia.

Very severe cyclones, popularly known as “Willy Willies,” are peculiar to the north-west coast of Western Australia from the months of December to March inclusive. They apparently originate in the ocean, in the vicinity of Cambridge Gulf, and travel in a south-westerly direction with continually increasing force, displaying their greatest energy near Cossack and Onslow, between latitudes 20° and 22° South. The winds in these storms, like those from the north-east tropics, are very violent and destructive, causing great havoc amongst the pearl-fishers. The greatest velocities are usually to be found in the south-eastern quadrant of the cyclones, with north-east to east winds. After leaving the north-west coast, these storms either travel southwards, following the coast-line, or cross the continent to the Great Australian Bight. When they take the latter course their track is marked by torrential rains, as much as 29.41 inches, for example, being recorded in 24 hours at Whim Creek from one such occurrence. Falls of 10 inches and over have frequently been recorded in the northern interior of Western Australia from similar storms.

Some further notes on severe cyclones and on “Southerly Bursters,” a characteristic feature of the eastern part of Australia, will be found in previous issues of the Year Book (see No. 6, pp. 84, 85, 86).

**15. Influences affecting Australian Climate.**—Australian history does not cover a sufficient period, nor is the country sufficiently occupied, to ascertain whether or not the advance of settlement has materially affected the climate as a whole. Local changes therein, however, have taken place, a fact which suggests that settlement and the treatment of the land have a distinct effect on local conditions. For example, the mean temperature of Sydney shews a rise of two-tenths of a degree during the last twenty years, a change probably brought about by the great growth of residential and manufacturing buildings within the city and in the surrounding suburbs during that period. Again, low-lying lands on the north coast of New South Wales, that originally were seldom subject to frosts, have, with the denudation of the surrounding hills from forests, experienced annual visitations, the probable explanation being that, through the absence of trees, the cold air of the high lands now flows, unchecked and untempered, down the sides of the hills to the valleys and lower lands.

(i.) *Influences of Forests on Climate.* As already indicated, forests doubtless exercise a great influence on local climate, and hence, to the extent that forestal undertakings will allow, the weather can be controlled by human agency. The direct action of forests is an equalising one; thus, especially in equatorial regions and during the warmest portion of the year, they considerably reduce the mean temperature of the air. They also reduce the diurnal extremes of their shade temperatures, by altering the extent of radiating surface, by evaporation, and by checking the movement of air. While decreasing evaporation from the ground, they increase the relative humidity. Vegetation greatly diminishes the rate of flow-off of rain, and the washing away of surface soil. Thus, when a region is protected by trees, steadier water supply is ensured, and the rainfall is better conserved. In regions of snowfall the supply of water to rivers is similarly regulated, and without this and the sheltering influence of ravines and "gullies," watercourses supplied mainly by melting snow would be subject to alternate periods of flooding and dryness. This is borne out in the inland rivers. Thus, the River Murray, which has never been known to run dry, derives its steadiness of flow mainly through the causes above indicated.

(ii.) *Direct Influences of Forest on Rainfall.* Whether forests have a direct influence on rainfall is a debatable question, some authorities alleging that precipitation is undoubtedly induced by forests, while others contend the opposite.

Sufficient evidence exists, however, to establish that, even if the rainfall has not increased, the beneficial effect of forest lands in tempering the effects of the climate is more than sufficient to disclose the importance of their protection and extension.

It is the rapid rate of evaporation, induced by both hot and cold winds, which injures crops and makes life uncomfortable on the plains. Whether the forest aids in increasing precipitation there may be doubt, but nobody can say that it does not check the winds and the rapid evaporation due to them.

Trees as wind-breaks have been successfully planted in central parts of the United States, and there is no reason why similar experiments should not be successful in many parts of our treeless interior. The belts should be planted at right angles to the direction of the prevailing parching winds, and if not more than half a mile apart will afford shelter to the enclosed areas.

In previous issues some notes on observations made in other countries were added (see Year Book No. 6, pp. 86 and 95).

**16. Comparison of Rainfalls and Temperatures.**—For the purpose of comparison the following lists of rainfalls and temperatures are given for various important cities throughout the world, for the site of the Federal capital, and for the capitals of the Australian States:—

**COMPARISONS OF RAINFALLS AND TEMPERATURES  
OF CITIES OF THE WORLD WITH THOSE OF AUSTRALIA.**

Place.	Height above M.S.L.	Annual Rainfall.			Temperature.					
		Average.	Highest.	Lowest.	*Mean Summer.	Mean Winter.	Highest on Record.	Lowest on Record.	Average Hottest Month.	Average Coldest Month.
	Ft.	Ins.	Ins.	Ins.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.
Amsterdam	6	27.29	40.59	17.60	63.2	36.8	90.0	4.1	64.4	35.4
Auckland	125	43.31	63.72	26.32	66.1	52.5	91.0	31.9	67.2	51.8
Athens	351	15.48	33.32	4.55	79.2	49.1	106.5	19.6	81.1	47.5
Bergen	146	89.10	102.80	73.50	56.8	34.5	88.5	4.8	57.9	33.6
Berlin	115	22.95	50.04	14.25	64.7	32.2	98.6	-13.0	66.0	30.0
Berne	1,877	36.30	55.23	24.69	62.2	30.1	91.4	-3.6	64.4	28.0
Bombay	37	71.15	114.89	33.41	83.5	75.1	100.0	55.9	84.8	74.2
Breslau	482	22.00	28.01	16.45	63.9	35.0	95.0	-23.4	65.5	29.3
Brussels	328	28.35	41.18	17.73	62.6	36.0	100.5	-4.4	63.7	34.5
Budapest	500	25.20	35.28	16.79	68.6	30.2	98.6	-5.1	70.4	28.8
Buenos Ayres	72	36.82	80.73	21.53	73.2	51.5	103.1	25.9	74.2	50.5
Calcutta	21	61.98	89.32	39.35	84.9	67.1	102.0	44.2	85.1	65.5
Capetown	40	25.50	36.72	17.71	68.1	54.7	108.0	34.0	68.8	53.9
Caracas	3,420	30.03	47.36	23.70	68.3	65.3	97.7	-23.0	72.4	24.0
Chicago	823	33.54	45.86	24.52	69.2	25.4	103.0	21.3	61.6	42.4
Christchurch	25	25.45	35.30	13.54	61.1	43.4	95.0	-21.1	62.6	23.9
Christiania	62	22.52	31.73	16.26	61.0	24.4	95.0	-21.1	62.6	23.9
Colombo	40	83.83	139.70	51.60	81.5	79.9	95.8	65.0	82.6	79.1
Constantinople	245	28.75	42.74	14.78	74.0	43.5	103.6	-13.0	75.7	42.0
Copenhagen	46	26.33	28.78	13.94	69.7	32.1	90.5	-13.0	69.2	31.4
Dresden	115	26.80	35.56	16.60	59.4	42.0	87.2	-15.3	64.4	31.6
Dublin	47	27.66	35.56	16.60	59.4	42.0	87.2	-15.3	64.4	31.6
Dunedin	300	37.06	53.90	22.15	57.3	43.1	94.0	23.0	57.9	42.0
Durban	260	40.79	71.27	27.24	75.8	64.4	110.6	41.1	76.7	63.8
Edinburgh	441	25.21	32.05	16.44	55.6	38.8	85.3	16.6	57.2	38.3
Geneva	1,328	33.48	46.89	21.14	64.4	33.7	94.5	-6.2	62.2	32.2
Genoa	157	51.29	108.22	28.21	73.8	46.8	94.5	-1.7	75.4	45.5
Glasgow	184	38.49	56.18	29.05	59.7	41.0	84.9	6.6	58.0	38.4
Greenwich	159	24.12	35.54	16.38	61.3	39.3	100.0	4.0	62.7	38.6
Hong Kong	110	84.10	119.72	45.83	81.3	60.3	97.0	32.0	81.8	58.1
Johannesburg	5,750	31.63	50.00	21.66	65.4	54.4	94.0	23.3	68.2	48.9
Leipzig	384	24.69	31.37	17.10	63.1	31.5	97.3	-14.8	64.8	30.6
Lisbon	312	28.18	52.79	17.32	69.6	51.3	94.1	32.5	70.2	49.3
London	16	24.04	38.20	18.23	61.2	39.3	94.0	9.4	62.8	38.7
Madras	92	49.06	88.41	18.45	86.7	76.0	113.0	57.5	87.6	75.3
Madrid	2,149	18.23	27.48	9.13	73.0	41.2	107.1	10.5	75.7	39.7
Marseilles	246	21.88	43.04	12.28	70.3	45.3	100.4	-4.5	72.1	43.3
Moscow	526	18.94	29.28	12.07	63.4	14.7	99.5	-44.5	66.1	11.9
Naples	489	34.00	56.58	21.75	73.6	48.0	99.1	23.9	75.4	46.8
New York	314	42.47	59.68	28.78	72.1	31.7	100.0	-6.0	74.5	30.3
Ottawa	294	33.40	44.44	26.36	67.2	31.1	98.5	-33.0	69.7	12.0
Paris	165	21.92	29.56	16.44	63.5	37.1	101.1	-14.1	65.8	36.1
Pekin	143	24.40	36.00	18.00	77.7	26.6	114.0	-5.0	79.2	23.6
Quebec	296	40.46	47.57	32.12	63.5	12.4	95.5	34.3	66.3	10.1
Rome	166	32.57	57.89	12.72	74.3	46.0	104.2	17.2	76.1	44.6
San Francisco	155	22.83	38.82	9.31	59.0	51.0	101.0	29.0	61.0	50.0
Shanghai	14	44.13	62.52	27.91	77.4	39.4	102.9	10.2	79.7	37.4
Singapore	8	91.99	158.68	32.71	81.2	76.6	94.2	63.4	81.5	78.3
Stockholm	146	18.31	25.46	11.78	59.7	27.0	91.8	-22.0	69.1	25.7
St. Petersburg	16	21.30	29.52	13.75	61.1	17.4	97.0	-38.2	63.7	15.2
Tokio	70	59.17	77.10	45.72	73.9	38.9	97.9	15.4	77.7	37.1
Trieste	85	42.94	63.14	26.57	73.9	41.3	99.5	14.0	76.3	39.9
Vienna	663	24.50	33.90	16.50	65.7	30.4	97.7	-8.0	67.1	28.0
Vladivostok	55	19.54	33.60	9.39	63.9	11.0	95.7	-21.8	69.4	6.1
Washington	75	49.80	61.33	18.79	74.7	34.5	104.0	-15.0	76.8	32.9
Wellington (N.Z.)	110	49.70	67.68	30.02	61.7	48.4	98.0	30.0	62.4	47.5
Zurich	1,542	45.15	78.27	29.02	63.3	31.3	94.1	-0.8	65.1	29.5

**FEDERAL CAPITAL SITE.**

Canberra (Dist.)	(2,000 to 2,900)	22.25	41.29	10.45	* 67.6	† 43.9	101.0	20.0	69.2	43.0
Queanbeyan										

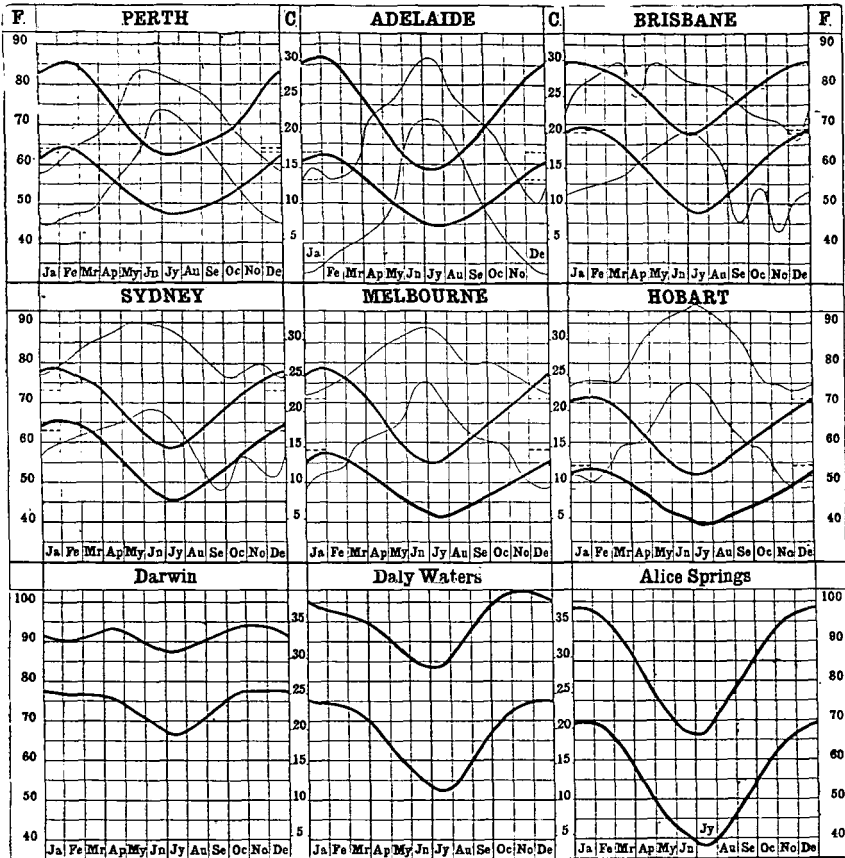
**THE STATE CAPITALS.**

Perth	197	33.25	46.73	20.48	* 73.0	† 55.8	107.9	35.3	74.2	55.0
Adelaide	140	21.00	30.87	13.43	73.1	52.9	116.3	32.0	74.1	51.5
Brisbane	137	46.61	88.26	16.17	75.8	59.6	108.9	36.1	77.2	58.1
Sydney	146	48.16	82.81	21.49	70.9	53.8	108.5	35.9	71.6	52.3
Melbourne	115	25.44	36.61	15.61	66.4	49.9	111.2	27.0	67.4	48.5
Hobart	160	23.51	40.67	13.43	61.7	46.6	105.2	27.0	62.4	45.3

\* Mean of the three hottest months. † Mean of the three coldest months.

**17. Climatological Tables.**—The means, averages, extremes, totals, etc., for a number of climatological elements have been determined from long series of observations at the Australian capitals. These are given in the following tables:—

GRAPHS SHEWING ANNUAL FLUCTUATIONS OF MEAN MAXIMUM AND MINIMUM TEMPERATURE AND HUMIDITY IN SEVERAL PARTS OF THE COMMONWEALTH OF AUSTRALIA.



**EXPLANATION OF THE GRAPHS OF TEMPERATURE AND HUMIDITY.**—In the above graphs, in which the heavy lines denote 'temperature' and the thin lines 'humidity,' the fluctuations of mean temperature and mean humidity are shewn throughout the year. These curves are plotted from the data given in the Climatological Tables hereinafter. The temperatures are shewn in degrees Fahrenheit, the inner columns giving the corresponding values in Centigrade degrees. Humidities have not been obtained for Darwin, Daly Waters, and Alice Springs.

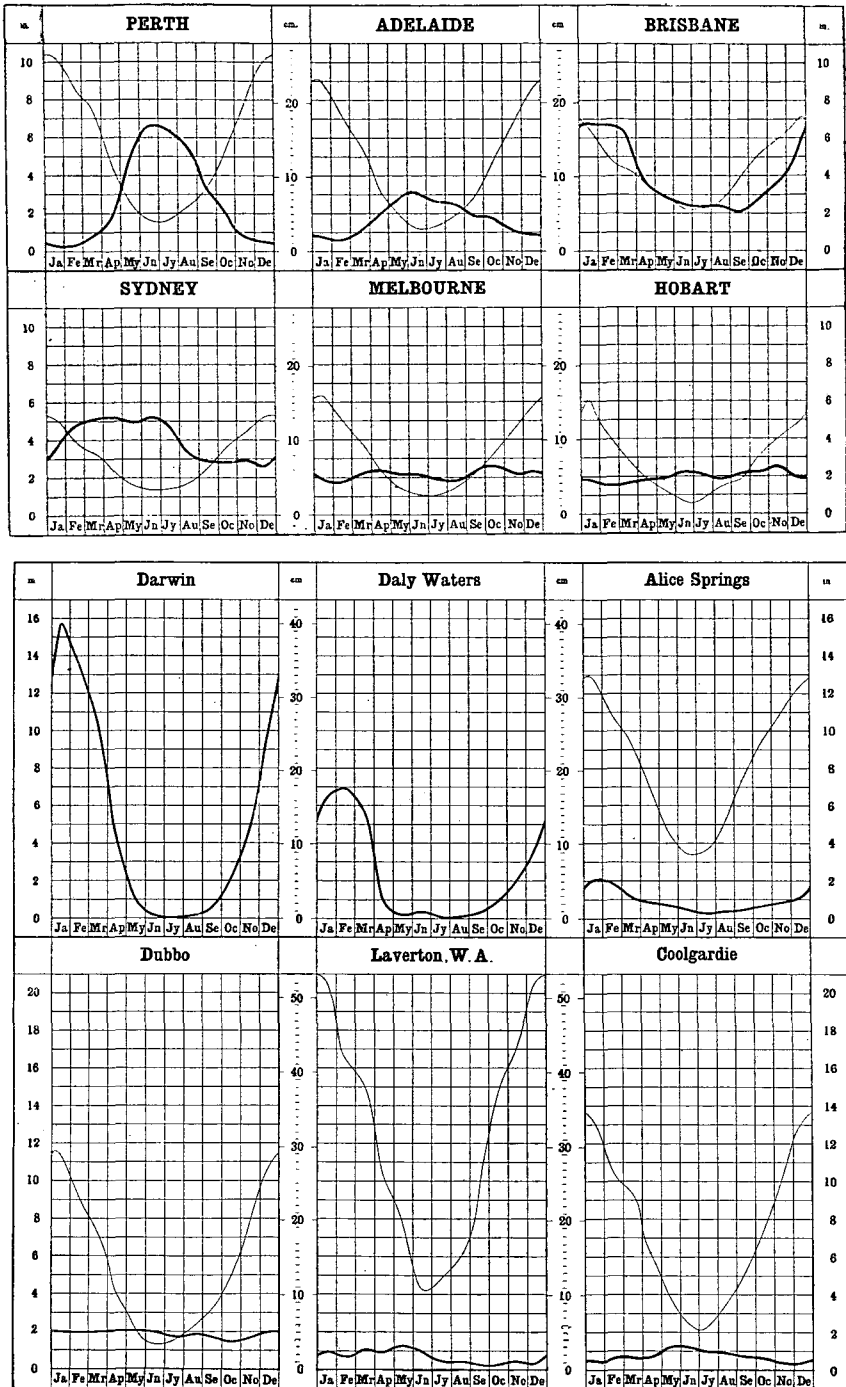
For the thin lines the degree numbers represent relative humidities, or the percentages of actual saturation on the total for the respective temperatures.

The upper temperature line represents the mean of the maximum, and the lower line the mean of the minimum results; thus the curves also shew the progression of the range between maximum and minimum temperatures throughout the year. The humidity curves shew the highest and lowest values of the mean monthly humidity at 9 a.m. recorded during a series of years.

**INTERPRETATION OF THE GRAPHS.**—The curves denote mean monthly values. Thus, taking for example, the temperature graphs for Perth, the mean readings of the maximum and minimum temperatures for a number of years on 1st January would give respectively about 83° Fahr. and 62° Fahr. Thus the mean range of temperature on that date is the difference, viz., 21°. Similarly, observations about 1st June would give respectively about 66° Fahr. and 51° Fahr., or a range of 15°.

In a similar manner it will be seen that the greatest mean humidity, say for March, is about 66° and the least mean humidity for the month 48°; in other words, at Perth, the degree of saturation of the atmosphere by aqueous vapour for the month of March ranges between 66 % and 48 %.

GRAPHS SHEWING ANNUAL FLUCTUATIONS OF MEAN RAINFALL AND MEAN EVAPORATION IN SEVERAL PARTS OF THE COMMONWEALTH OF AUSTRALIA.



(For Explanation see next page.)

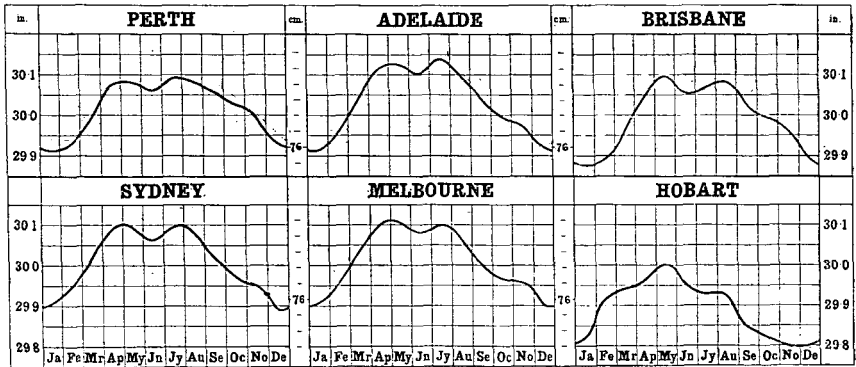
**EXPLANATION OF THE GRAPHS OF RAINFALL AND EVAPORATION.**—On the preceding graphs thick lines denote rainfall and thin lines evaporation, and shew the fluctuation of the mean rate of fall *per month* throughout the year. The results, plotted from the Climatological Tables hereinafter, are shewn in inches (see the outer columns), and the corresponding metric scale (centimetres) is shewn in the two inner columns. The evaporation is not given for Darwin and Daly Waters.

**INTERPRETATION OF THE GRAPHS.**—The distance for any date from the zero line to the curve, represents the average number of inches, reckoned as per month, of rainfall at that date. Thus, taking the curves for Adelaide, on the 1st January the rain falls on the average at the rate of about four-fifths of an inch per month, or, say, at the rate of about 9½ inches per year. In the middle of June it falls at the rate of nearly 3 inches per month, or, say, at the rate of about 36 inches per year. At Dubbo the evaporation is at the rate of nearly 11½ inches per month about the middle of January, and only about 1½ inches at the middle of June.

TABLE SHEWING MEAN ANNUAL RAINFALL AND EVAPORATION IN INCHES OF THE PLACES SHEWN ON PRECEDING PAGE, AND REPRESENTED BY THE GRAPHS.

—	Rainfall.	Evapora- tion.	—	Rainfall.	Evapora- tion.
Perth ...	33.25	65.99	Darwin... ..	61.30	—
Adelaide ...	21.00	54.16	Daly Waters ...	26.69	—
Brisbane ...	46.61	51.33	Alice Springs...	10.87	97.74
Sydney ...	47.40	37.10	Dubbo ...	22.26	66.37
Melbourne ...	25.12	38.43	Laverton, W.A.	9.13	146.90
Hobart ...	23.51	32.79	Coolgardie ...	9.17	97.72

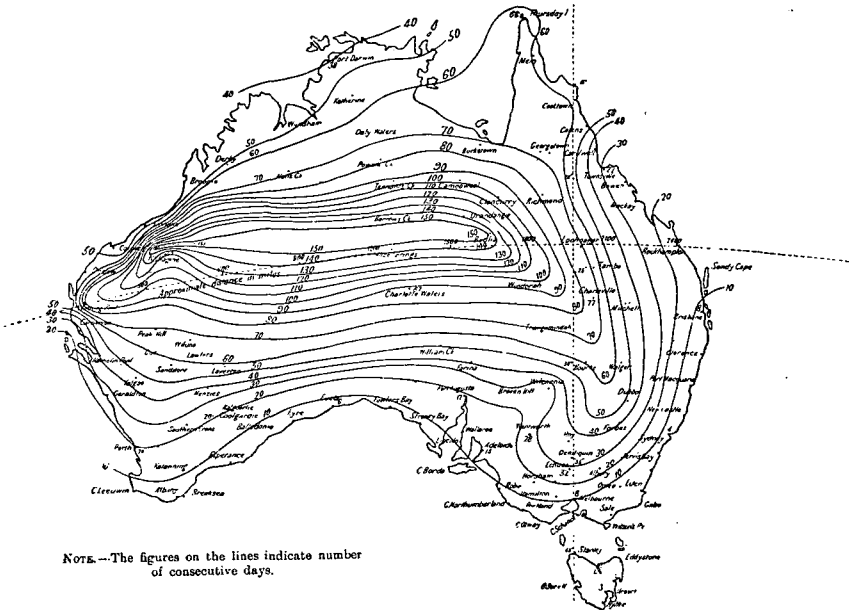
GRAPHS SHEWING ANNUAL FLUCTUATIONS OF MEAN BAROMETRIC PRESSURE FOR THE CAPITALS OF THE SEVERAL STATES OF THE COMMONWEALTH OF AUSTRALIA.



**EXPLANATION OF THE GRAPHS OF BAROMETRIC PRESSURE.**—On the above graphs the lines representing the yearly fluctuation of barometric pressure at the State capital cities are means for long periods, and are plotted from the Climatological Tables given hereinafter. The pressures are shewn in inches on about 2½ times the natural scale, and the corresponding pressures in centimetres are also shewn in the two inner columns, in which each division represents one millimetre.

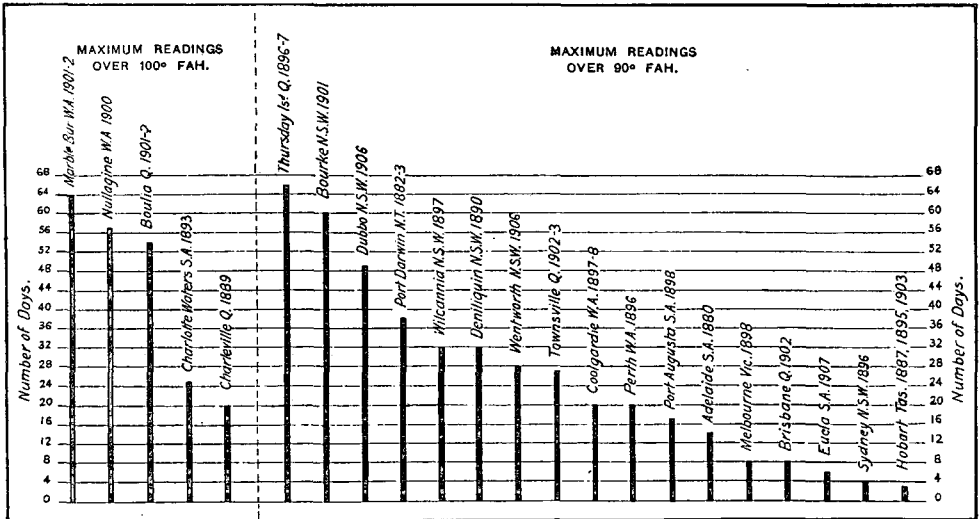
**INTERPRETATION OF THE BAROMETRIC GRAPHS.**—Taking the Brisbane graph for purposes of illustration, it will be seen that the mean pressure on 1st January is about 29.87 inches, and there are maxima in the middle of May and August of about 30.10 and 30.08 respectively. The double maxima appear clearly on each graph.

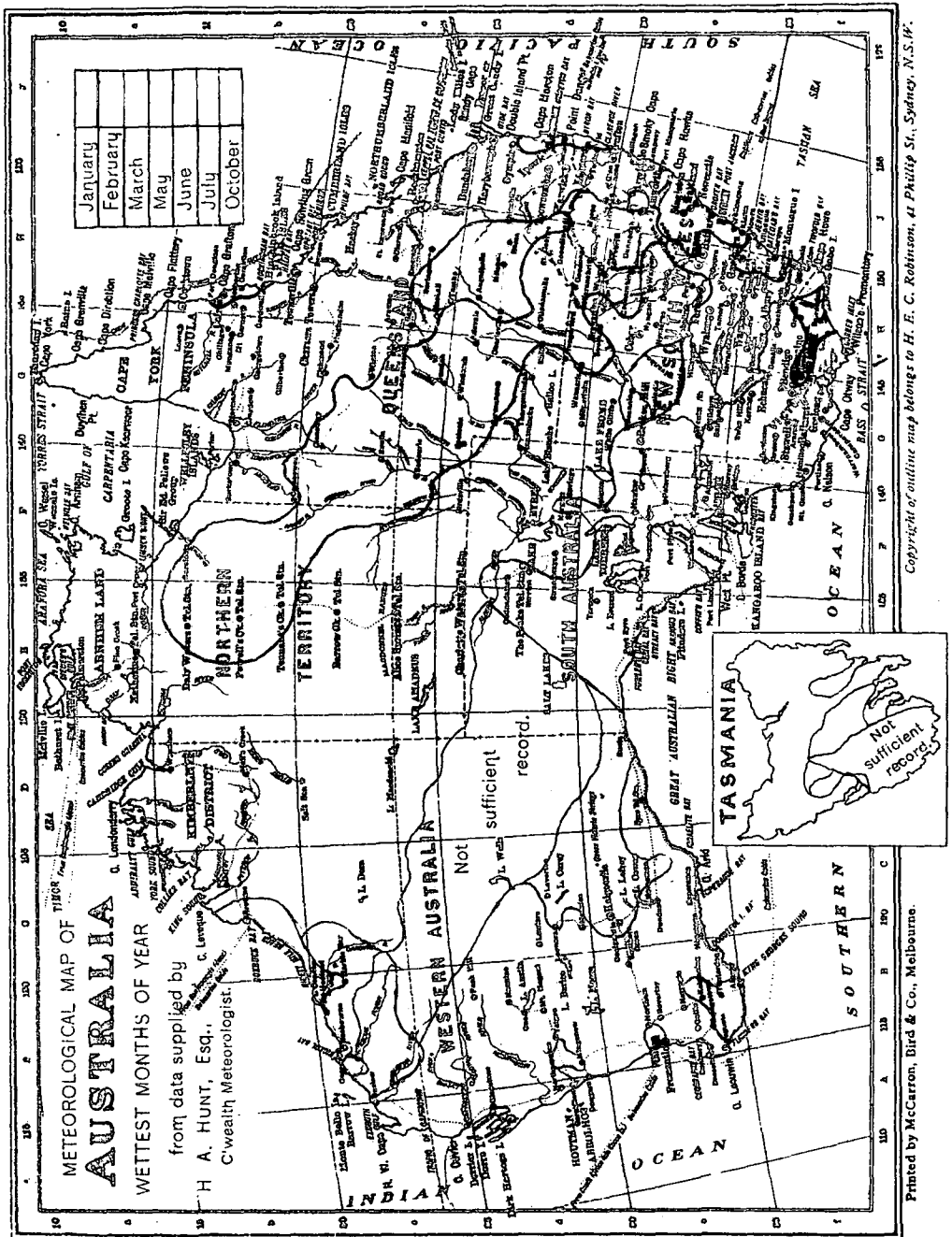
Chart indicating the area affected and period of duration of the Longest Heat Waves when the Maximum Temperature for consecutive 24 hours reached or exceeded 90° Fah.



NOTE.—The figures on the lines indicate number of consecutive days.

Diagram showing the greatest number of consecutive days on which the Temperature in the shade was over 100° and also over 90° at the places indicated.





### METEOROLOGICAL SUB-DIVISIONS.

#### WEST AUSTRALIA.

- No. 1. East Kimberley.
2. West Kimberley.
3. North-West.
4. Gascoyne.
5. South-West.
6. Eucla.
7. Eastern.

#### SOUTH AUSTRALIA.

8. Northern Territory.
9. Far North and N.W.
10. West.

#### No.

11. Upper North.
12. North-East.
13. Lower North.
14. Central.
15. Murray Valley.
16. South-East.

#### QUEENSLAND.

17. Peninsular.
18. Gulf.
19. Far West.
20. Central.
21. Nth-East Coast.

#### No.

22. Central Coast.
23. South-East Coast.
24. Darling Downs.
25. Maranoa.
26. South-West.

#### NEW SOUTH WALES.

27. Western.
28. North-West Plain.
29. North-West Slope.
30. Northern Tableland.
31. North Coast.
32. Hunter & Manning.

#### No.

33. Central Tableland.
- 33a. Metropolitan.
34. Cent. Westn. Slope.
35. Cent. Westn. Plain.
36. Riverina.
37. South-West Slope.
38. Southern Tableland.
39. South Coast.

#### VICTORIA.

40. Gippsland.
41. North-East.
42. Central.

#### No.

43. North Central.
44. Northern Country.
45. Mallee.
46. Wimmera.
47. Western.

#### TASMANIA.

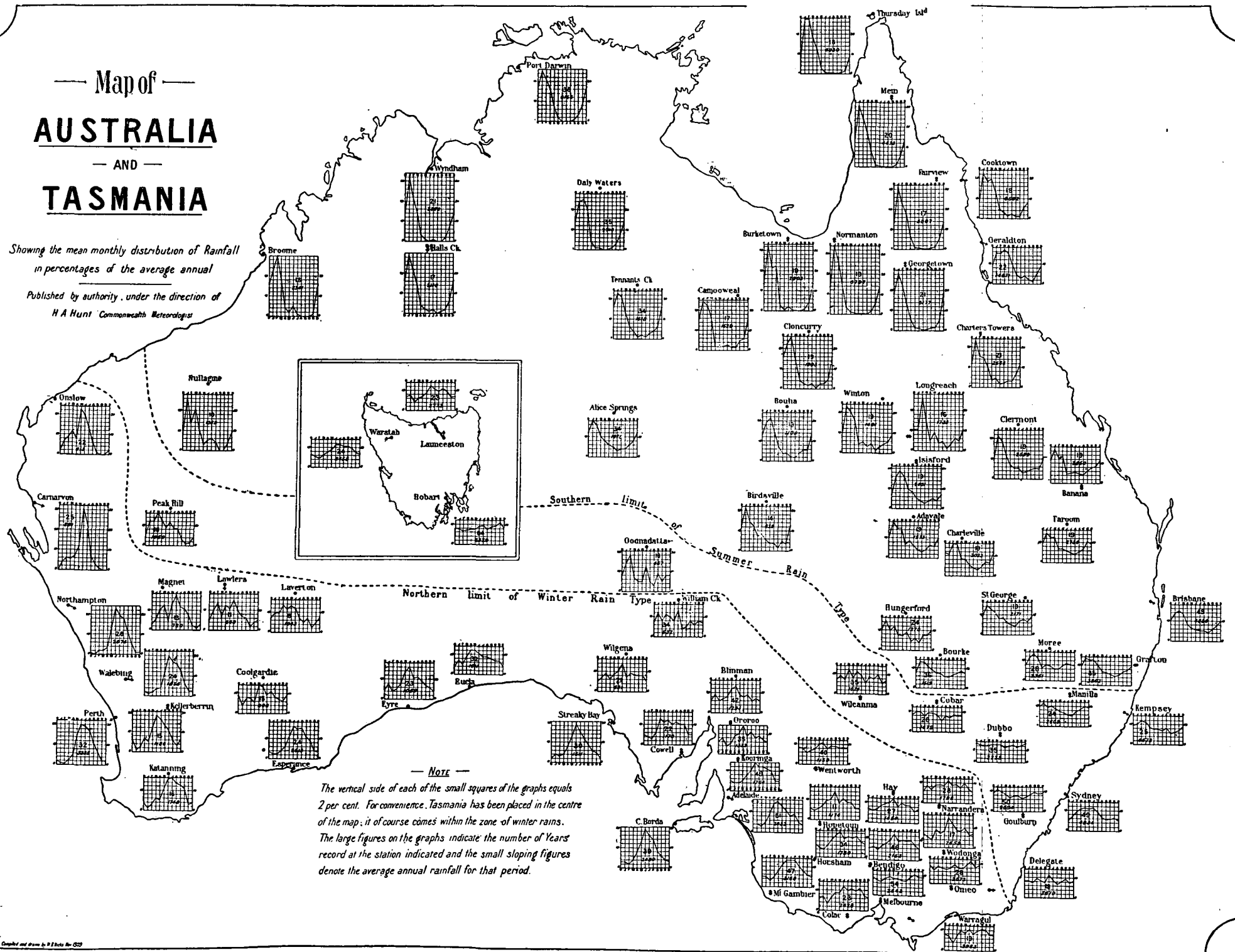
48. Northern.
49. W. Coast Mt. Region.
50. Central Plateau.
51. Midland.
52. East Coast.
53. Derwent.
54. South-Eastern.

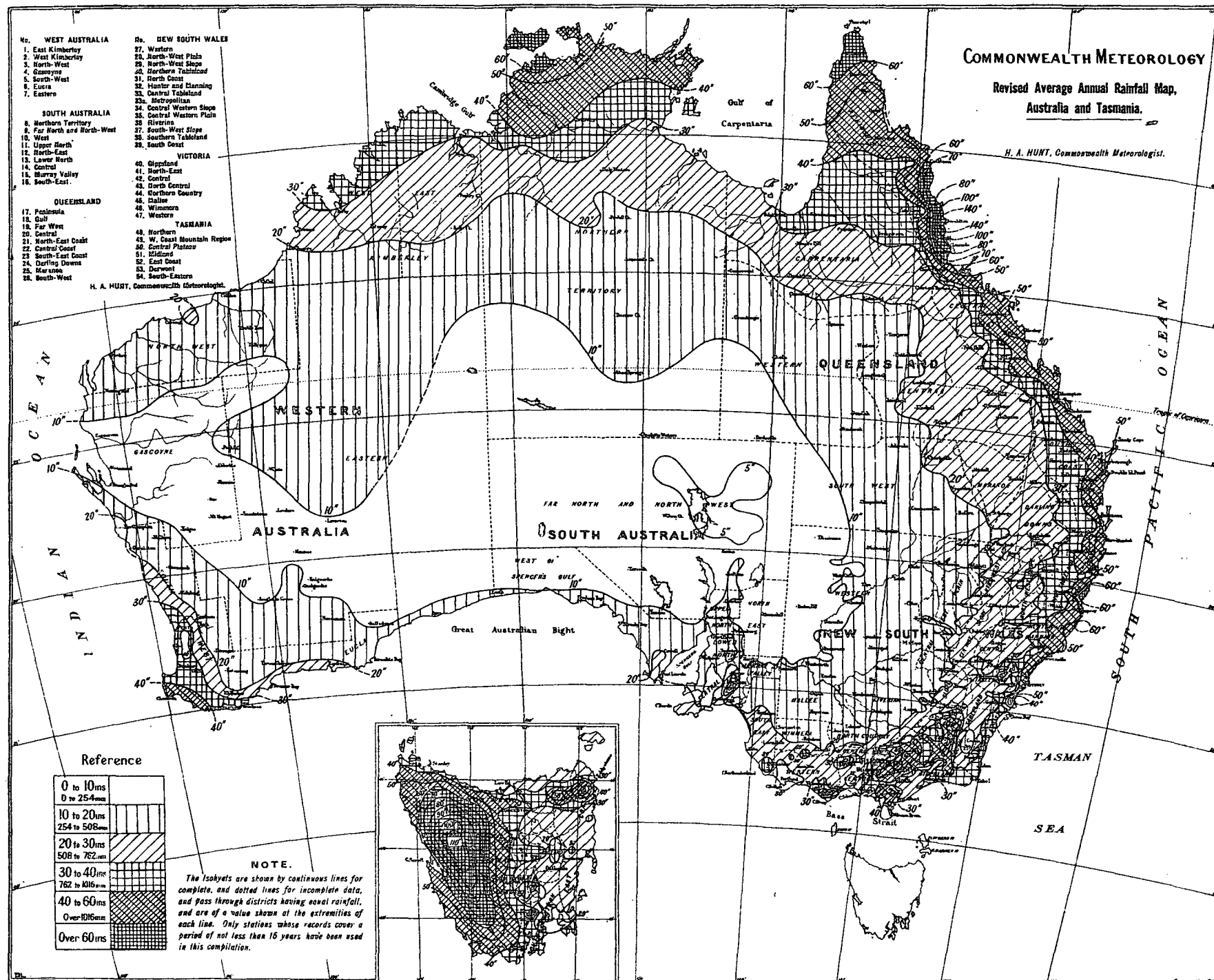
The above are the meteorological sub-divisions adopted by H. A. HUNT, Esq., C'wealth Meteorologist.





Published by authority, under the direction of  
H A HUNT Commonwealth Meteorologist





## CLIMATOLOGICAL DATA FOR PERTH, W.A.

LAT. 31° 57' S., LONG. 115° 51' E. HEIGHT ABOVE M.S.L. 197 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. Mm. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation.	No. of Days Lightning.	Mean Amount of Clouds. 9 a.m. & 3 p.m.	No. of Clear Days.
		Greatest Number of Miles in one day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing Direction.				
No. of yrs. over which observation extends	29	16	16	16	16	15	16	17	17
January ...	29.911	797 27/98	0.71	11,458	S	10.38	1.3	2.7	16.7
February ...	29.928	650 6/08	0.67	10,124	SSE	8.76	1.1	2.8	14.5
March ...	29.988	651 6/13	0.57	10,252	SSE	7.71	0.9	3.4	14.8
April ...	30.073	955 25/00	0.44	8,833	SE	4.79	0.8	4.5	9.7
May ...	30.084	768 5/12	0.36	8,106	ENE	2.72	1.9	5.4	7.4
June ...	30.066	861 27/10	0.39	8,119	NNE	1.68	1.8	6.0	5.2
July ...	30.096	949 11/99	0.41	8,638	NNE	1.66	2.4	5.6	7.2
August ...	30.086	966 15/03	0.43	8,952	WSW	2.32	1.4	5.4	7.6
September ...	30.059	864 11/05	0.48	9,223	SSW	3.30	1.6	5.3	7.4
October ...	30.034	686 15/98	0.55	10,026	SSW	5.27	0.9	5.2	8.0
November ...	29.994	777 18/97	0.60	10,190	S	7.67	0.9	4.0	10.7
December ...	29.932	672 31/98	0.66	11,000	S	9.73	1.6	3.2	14.9
Year { Totals ...	—	—	—	—	—	65.90	16.6	—	124.1
Averages ...	30.021	—	0.51	9,574	S	—	—	4.4	—
Extremes ...	—	966 15/8/03	—	—	—	—	—	—	—

## TEMPERATURE.

Month.	Mean Temperature.			Extreme Shade Temperature.		Greatest Range.	Extreme Temperature.		Sea water, 3 ft. below surface
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of yrs. over which observation extends	17	17	17	17	17	17	16	15	—
January ...	84.2	63.0	73.6	107.0 16/97	50.6 25/01	56.4	171.1 4/04	42.4 25/02	—
February ...	85.1	63.4	74.2	106.8 6/98	47.7 1/02	59.1	169.0 4/99	39.8 1/13	—
March ...	81.5	60.8	71.2	104.3 6/7/08	45.8 8/03	58.5	161.6 †	36.7 8/03	—
April ...	76.0	56.9	66.4	99.7 9/10	42.4 2/01	57.3	156.8 2/13	34.6 25/13	—
May ...	68.7	52.4	60.6	90.4 2/07	39.9 *	50.5	138.8 15/02	31.0 28/12	—
June ...	63.7	49.0	56.4	77.1 9/09	36.9 14/98	40.2	134.8 8/13	30.2 14/98	—
July ...	62.5	47.5	55.0	73.8 24/99	36.4 19/06	37.4	132.9 25/13	27.6 21/11	—
August ...	63.8	48.0	55.9	80.4 30/02	35.3 31/08	45.1	139.1 21/18	27.9 10/11	—
September ...	65.8	50.1	58.0	86.7 30/13	38.9 17/13	47.4	147.2 30/13	30.2 25/13	—
October ...	69.1	52.6	60.8	93.4 17/06	41.2 10/03	52.2	152.6 30/01	33.4 1/10	—
November ...	74.8	56.0	65.4	104.6 24/13	42.0 1/04	58.9	164.5 24/13	35.5 †	—
December ...	80.6	60.5	70.5	107.9 20/04	48.0 2/10	59.9	168.3 20/04	39.1 2/10	—
Year { Averages ...	73.0	55.0	64.0	—	—	—	—	—	—
Extremes ...	—	—	—	107.9 20/12/04	35.3 31/8/08	72.6	171.1 4/1/04	27.6 21/7/11	—

\* 17 and 18, 1899.

† 1/99 and 1/09.

‡ 6/10 and 14/12.

## HUMIDITY, RAINFALL, AND DEW.

Month.	Humidity.			Rainfall.				Dew.	
	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days of Rain.	Greatest Monthly.	Least Monthly.	Greatest in One Day.	Mean Amount of Dew.
No. of yrs. over which observation extends	17	17	17	38	38	38	38	38	17
January ...	62	69	45	0.32	3	2.17 1879	nil *	1.74 28/79	2.7
February ...	54	64	47	0.31	2	2.30 1883	nil †	0.90 10/83	2.0
March ...	57	66	48	0.70	4	4.50 1896	nil ‡	1.53 17/76	4.1
April ...	64	70	54	1.66	7	4.97 1882	0.05 §	2.62 30/04	8.3
May ...	73	81	60	4.78	14	12.13 1879	0.98 1903	2.80 20/79	12.0
June ...	78	83	72	6.57	16	12.11 1890	2.16 1877	2.65 16/00	12.2
July ...	78	81	72	6.46	16	10.90 1902	2.42 1876	3.00 4/91	13.4
August ...	74	79	68	5.66	18	10.33 1882	0.46 1902	2.79 7/03	11.0
September ...	68	76	64	3.36	14	7.72 1903	0.69 1877	1.73 23/03	9.3
October ...	63	75	56	2.09	11	7.87 1890	0.49 1892	1.38 15/10	6.2
November ...	55	62	49	0.76	6	2.12 1880	nil 1891	1.11 30/03	5.0
December ...	52	62	46	0.58	4	3.05 1888	nil 1886	1.72 1/88	3.4
Year { Totals ...	—	—	—	33.25	115	—	—	—	88.6
Averages ...	62	—	—	—	—	—	—	—	—
Extremes ...	—	83	45	—	—	12.13 5/79	nil §	3.00 4/7/91	—

\* 1888, 1894, 1897, and 1911.

† 1885, 1891, 1896, 1903, and 1913.

‡ 1877, 1884, and 1886.

§ 1890 and 1894.

‡ January, February, March, November, and December, various years.

## CLIMATOLOGICAL DATA FOR ADELAIDE, S.A.

LAT. 34° 56' S., LONG. 138° 35' E. HEIGHT ABOVE M.S.L. 140 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. Mm. Sea Level and Stan- dard Gravity from 9 a.m. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation.	No. of Days Lightning.	Mean Amount of Clouds, 9 a.m. 3 p.m., & 9 p.m.	No. of Clear Days.
		Greatest Number of Miles in one day.	Mean Hourly Pres- sure. (lbs.)	Total Miles.	Prevailing Direction.				
No. of yrs. over which observation extends	57	36	36	36	36	41	42	46	32
January ... ..	29.915	758 19/99	0.36	8,119	S W & S	8.95	2.3	3.5	7.8
February ... ..	29.952	691 22/96	0.31	6,874	S W & S	7.27	2.0	3.4	7.0
March ... ..	30.037	628 9/12	0.26	6,870	S W to S E	5.75	2.2	4.0	6.6
April ... ..	30.118	773 10/96	0.23	6,276	S W & S†	3.39	1.7	5.0	3.9
May ... ..	30.127	760 9/80	0.21	6,220	N E to N	1.99	1.8	5.7	1.6
June ... ..	30.102	750 12/78	0.26	6,655	N E to N	1.23	2.0	6.2	1.4
July ... ..	30.133	674 25/82	0.25	6,847	N E to N	1.29	1.6	5.8	1.4
August ... ..	30.098	773 31/97	0.29	7,276	N E to N†	1.85	2.3	5.7	1.9
September ... ..	30.039	720 2/87	0.32	7,414	N E & S W‡	2.81	2.4	5.2	2.6
October ... ..	29.997	768 28/98	0.35	8,028	S W & N E‡	4.72	3.6	4.9	3.9
November ... ..	29.974	677 2/04	0.34	7,729	W S W to S	6.53	3.9	4.5	5.3
December ... ..	29.919	675 12/91	0.36	8,098	W S W to S	8.39	2.8	3.8	6.9
Year { Totals ... ..	—	—	—	—	—	54.16	28.6	—	50.3
Year { Averages ... ..	30.034	—	0.30	7,200	S W	—	—	4.8	—
Year { Extremes ... ..	—	773*	—	—	—	—	—	—	—

\* 10/4/96 and 31/8/97.

† With tendency N.E.

‡ With tendency S.W.

§ Equal.

## TEMPERATURE.

Month.	Mean Temperature.			Extreme Shade Temperature.		Greatest Range.	Extreme Temperature.		Sea water min. 3 ft. below surface
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of yrs. over which observation extends	57	57	57	57	57	57	36	53	38
January ...	86.6	61.7	74.1	116.3 26/58	45.1 21/84	71.2	180.0 18/82	36.5 14/79	70.8
February ...	86.1	62.0	74.0	113.6 12/99	46.4 13/05	67.2	170.5 10/00	36.7 24/78	70.9
March ...	80.8	59.8	69.9	108.0 12/61	44.8 —/57	63.2	174.0 17/83	33.8 27/80	68.2
April ...	73.3	54.6	63.9	98.0 10/66	39.6 15/59	58.4	155.0 1/83	30.3 27/08	64.0
May ...	65.4	50.0	57.7	88.3 5/66	36.9 —/41	51.4	148.2 12/79	25.9 10/91	59.1
June ...	60.2	46.6	53.4	76.0 23/65	32.5 27/76	43.5	138.8 18/79	22.9 12/13	54.7
July ...	58.7	44.4	51.5	74.0 11/06	32.0 24/08	43.0	134.5 26/80	23.3 25/11	52.2
August ...	61.9	45.8	53.9	85.0 31/11	32.3 17/59	52.7	140.0 31/92	23.5 12/88	53.3
September ...	65.2	47.8	57.0	90.7 23/82	32.7 4/58	53.0	160.5 23/82	26.2 15/08	56.5
October ...	72.5	51.3	61.9	100.5 30/59	36.0 —/57	64.5	158.8 19/82	29.5 7/06	60.7
November ...	78.8	55.3	67.0	113.5 21/65	40.8 2/09	72.7	168.9 20/78	31.5 2/09	65.2
December ...	83.4	58.9	71.1	114.2 14/76	43.0 —/79	71.2	175.7 7/99	32.5 4/84	68.6
Year { Averages ...	72.8	53.1	62.9	—	—	84.3	180.0	22.9	62.0
Year { Extremes ...	—	—	—	116.3 26/11/58	32.0 24/7/08	—	—	—	—

\* Taken at Lighthouse at entrance to Port River.

† 26/1895 and 24/1904.

‡ 16/61 and 4/06.

## HUMIDITY, RAINFALL, AND DEW.

Month.	Humidity.			Rainfall.				Dew.	
	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.	Greatest in One Day.	Mean Amount of Dew.
No. of yrs. over which observation extends	46	46	46	75	75	75	75	75	42
January ...	38	59	33	0.72	4	4.00 1850	nil	2.30 9/89	—
February ...	42	56	37	0.63	4	2.67 1858	nil	2.24 14/13	—
March ...	47	53	40	1.06	6	4.60 1878	nil	3.50 5/78	—
April ...	56	72	44	1.86	9	6.78 1853	0.06 1910	3.15 5/60	—
May ...	68	76	49	2.72	14	7.75 1875	0.20 1891	2.47 5/75	—
June ...	77	84	69	3.06	16	7.80 1847	0.42 1886	1.45 2/49‡	—
July ...	76	87	71	2.64	16	5.38 1865	0.36 1859	1.75 10/65	—
August ...	70	77	64	2.50	16	6.24 1852	0.76 1911	2.23 19/51	—
September ...	63	72	54	1.96	14	4.64 1840	0.45 1896	1.42 25/93	—
October ...	52	67	44	1.75	11	3.83 1870	0.31 1888	2.24 16/08	—
November ...	44	57	38	1.15	8	3.55 1851	0.04 1/85	1.88 28/58	—
December ...	39	50	33	0.96	6	3.98 1861	nil 1904	2.42 23/13	—
Year { Totals ...	—	—	—	21.01	124	—	—	—	136
Year { Averages ...	54	—	—	—	—	7.80	—	—	—
Year { Extremes ...	—	87	33	—	—	6/47	nil	3.50 5/3/78	—

\* 1848, 1849, 1878 and 1906.

† 1848, 1860, etc.

‡ 1859, etc.

§ January, February, March and December, various years.

|| and 25/84.

## CLIMATOLOGICAL DATA FOR BRISBANE, QUEENSLAND.

LAT. 27° 28' S., LONG. 153° 2' E. HEIGHT ABOVE M.S.L. 137 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. Mm. Sea Level and Standard Gravity from 9 a.m. & 3 p.m. readings.	Wind.				Mean Amount of Evaporation.	No. of Days Lightning.	Mean Amount of Clouds. 9 a.m. & 3 p.m.	No. of Clear Days.
		Greatest Number of Miles in one day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing Direction.				
No. of yrs. over which observation extends	27	3	3	3	27	5	27	27	5
January ...	29.866	267 12/11	0.06	3,312	E	6.492	4.4	6.2	2.6
February ...	29.895	194 13/11	0.04	2,663	S E	4.729	4.8	6.3	1.8
March ...	29.951	161 25/11	0.03	2,387	S E	4.467	3.4	6.0	3.2
April ...	30.042	209 10/13	0.03	2,249	S S E	3.691	2.7	5.1	9.2
May ...	30.091	149 15/13	0.02	2,161	S W	2.909	2.5	4.9	8.4
June ...	30.061	170 20/11	0.03	2,198	S W	2.058	1.8	4.9	6.8
July ...	30.065	165 1/13	0.02	2,016	S W	2.382	2.1	3.9	13.0
August ...	30.085	147 10/11	0.02	2,034	S W	2.666	3.6	3.9	10.4
September ...	30.024	158 16/11	0.02	1,983	S E	3.907	5.6	3.8	11.8
October ...	29.997	173 23/13	0.04	2,850	E N E	5.116	6.5	4.4	9.0
November ...	29.956	199 19/13	0.05	2,877	N E	5.888	7.7	5.2	6.4
December ...	29.885	295 21/13	0.06	3,192	E N E	6.828	8.3	5.6	4.2
Year { Totals ...	—	—	—	—	—	51.133	53.4	—	86.8
Averages ...	29.993	—	0.04	2,493	S'ly to E'ly	—	—	5.0	—
Extremes ...	—	295 21/12/13	—	—	—	—	—	—	—

## TEMPERATURE.

Month.	Mean Temperature.			Extreme Shade Temperature.		Greatest Range.	Extreme Temperature.		Sea water 3 ft. below surface
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of yrs. over which observation extends	27	27	27	27	27	27	27	27	—
January ...	85.4	68.9	77.2	108.9	4/92	50.1	164.4	2/13	4/93
February ...	84.5	68.5	76.5	101.9	11/04	58.7	165.2	6/10	49.3 9/89
March ...	82.3	66.5	74.4	96.8	16/83	52.4	160.0	1/87	45.4 23/13
April ...	79.0	61.6	70.3	95.2	†	48.6	150.1	‡	37.0 17/00
May ...	73.5	55.4	64.4	88.8	18/97	41.3	147.0	1/10	29.3 8/97
June ...	69.2	50.7	60.0	81.5	6/06	36.3	133.9	6/06	25.4 23/88
July ...	68.2	48.0	58.1	83.4	23/98	36.1	134.4	29/89	23.9 11/90
August ...	71.3	49.8	60.6	87.5	28/07	37.4	140.7	30/88	27.1 9/99
September ...	75.8	54.6	65.3	95.2	16/12	40.7	155.5	26/03	30.4 1/89
October ...	79.9	50.8	69.8	101.4	18/93	43.3	156.5	31/89	34.9 8/89
November ...	82.9	64.0	73.5	106.1	18/13	48.5	162.3	7/89	38.8 1/05
December ...	85.5	67.5	76.5	105.9	26/93	56.4	159.5	23/89	49.1 3/94
Year { Averages ...	78.1	59.6	68.9	—	—	—	—	—	—
Extremes ...	—	—	—	108.9	36.1	72.8	165.2	23.9	—
				14/1/02	11		6/2/10	11/7/90	

\* 10.11/04. † 9/96 and 5/03. ‡ 12/94 and 2/96. § 12/7/94 and 2/7/96. ¶ 1/08 and 6/13.

## HUMIDITY, RAINFALL, AND DEW.

Month.	Humidity.				Rainfall.				Dew.	
	Mean 9 a.m.	Highest Mean	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.	Greatest in One Day.	Mean Amount of Dew.	Mean No. of days Dew
No. of yrs. over which observation extends	27	27	27	62	54	62	62	—	—	27
January ...	65	79	53	6.63	14	27.72 1895	0.61 1882	18.31	21/87	2.7
February ...	69	82	55	6.60	14	40.39 1893	0.77 1904	8.36	16/93	2.8
March ...	72	85	56	6.16	16	34.04 1870	0.58 1868	11.18	14/08	5.0
April ...	72	79	60	3.69	13	15.28 1887	0.05 1897	3.93	20/92	8.7
May ...	74	85	64	2.97	10	13.85 1876	0.00 1846	5.62	9/79	9.5
June ...	74	82	67	2.66	8	14.03 1873	0.02 1895	6.01	9/93	7.3
July ...	73	80	67	2.33	8	8.46 1889	0.00 1841	3.54	†	8.0
August ...	71	80	62	2.32	7	14.67 1879	0.00	4.89	12/87	6.4
September ...	65	76	47	2.05	9	5.43 1886	0.10 1907	2.46	2/94	6.2
October ...	61	72	52	2.75	10	9.99 1882	0.14 1900	1.95	20/89	4.6
November ...	59	71	45	3.62	10	10.43 1846	0.00 1842	44.6	16/86	1.7
December ...	61	67	52	5.07	12	13.99 1910	0.35 1865	6.60	28/71	1.6
Year { Totals ...	—	—	—	46.85	131	—	—	—	—	64.5
Averages ...	68	—	—	—	—	40.39	0.00	18.31	—	—
Extremes ...	—	85	45	—	—	2/1893	†	21/1/87	—	—

— signifies no record kept.

\* 1862, 1869, 1880.

† 5/1846, 7/1841, 8/1862, 1869, 1880, 11/1842.

‡ 15/76, 16/89.

\*\* Means and Extremes to end 1913.

## CLIMATOLOGICAL DATA FOR SYDNEY, N.S.W.

LAT. 33° 52' S., LONG. 151° 12' E. HEIGHT ABOVE M.S.L. 146 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 33° F. M.S. Level and Standard Gravity from 24 hourly readings.	Wind.				Mean Amount of Evaporation.	No. of Days Lightning.	Mean Amount of Clouds.	No. of Clear Days.
		Greatest Number of Miles in one day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing Direction.				
No. of yrs. over which observation extends	55	47	47	47	55	34	54	52	50
January ...	30.905	721 1/71	0.38	8,313	NE	5.12	4.7	5.8	1.8
February ...	30.950	871 12/69	0.34	7,187	NE	3.98	4.3	6.1	1.1
March ...	30.021	943 20/70	0.25	6,881	NE	3.39	4.2	5.6	1.7
April ...	30.077	803 6/82	0.23	6,316	NE	2.44	3.9	5.1	2.5
May ...	30.086	758 6/98	0.23	6,452	W	1.62	3.6	4.9	3.0
June ...	30.067	712 7/00	0.30	7,193	W	1.36	3.2	4.8	3.2
July ...	30.083	930 17/79	0.29	7,309	W	1.42	2.6	4.4	4.0
August ...	30.076	756 22/72	0.27	7,050	W	1.75	3.4	4.1	4.4
September ...	30.011	964 6/74	0.31	7,296	W	2.57	4.1	4.4	3.4
October ...	29.972	926 4/72	0.34	7,923	NE	3.71	5.0	5.0	2.1
November ...	29.951	790 13/68	0.35	7,784	NE	4.46	5.5	5.5	1.4
December ...	29.886	938 3/84	0.36	8,204	NE	5.28	5.6	5.6	1.8
Year { Totals ...	—	—	—	—	—	37.10	49.1	—	30.4
Averages ...	30.007	—	0.30	7,326	NE	—	—	5.1	—
Extremes ...	—	964 6/9/74	—	—	—	—	—	—	—

## TEMPERATURE.

Month.	Mean Temperature.			Extreme Shade Temperature.		Greatest Range.	Extreme Temperature.		* Sea water min. 3 ft. below surface.		
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.			
No. of yrs. over which observation extends	55	55	55	55	55	55	54	54	53		
January	78.3	64.9	71.6	108.5	13/96	57.3	160.9	13/96	44.2 18/97	71.5	
February	77.3	64.8	71.0	101.0	19/66	49.3	28/63	16/98	43.4 25/91	72.0	
March	75.4	63.0	69.2	102.6	3/69	48.8	14/86	4/89	39.9 17/13	71.1	
April	70.9	58.1	64.5	89.0	4/09	44.6	27/64	144.1	10/77	68.4	
May	65.0	52.0	58.5	83.5	1/59	40.2	22/59	43.3	129.7	5/09	64.2
June	60.4	48.2	54.3	74.7	24/72	36.6	123.0	14/78	28.1 24/11	59.9	
July	58.9	45.7	52.3	74.9	17/71	35.9	129/90	39.0	144.3	15/98	57.7
August	62.3	47.5	54.9	82.0	31/84	36.8	3/72	45.2	149.0	30/78	64.2
September	66.4	51.4	58.9	91.1	24/07	40.8	18/64	50.3	142.2	12/78	60.3
October	71.1	55.8	63.5	99.7	19/98	43.3	2/99	56.4	149.9	13/96†	63.4
November	74.3	59.6	67.0	102.7	21/78	45.8	1/05	56.9	158.5	28/99	67.0
December	77.3	62.8	70.1	107.5	31/04	49.3	2/59	58.2	171.5	4/88	69.7
Year { Averages	69.8	56.2	63.0	—	—	—	—	—	—	—	65.2
Extremes	—	—	—	108.5	35.9	72.6	172.3	24.0	—	—	—
				13/1/96	12/7/90		4/3/89	4/7/93			

\* Taken at Fort Denison. † and 25/1910.

## HUMIDITY, RAINFALL, AND DEW.

Month.	Humidity.			Rainfall.					Dew.		
	Mean 9 a.m.	Highest Mean	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.		Least Monthly.	Greatest in One Day.	Mean Amount of Dew.	Mean No. of days Dew
No. of yrs. over which observation extends	55	55	55	55	55	55		55	55	54	54
January ... ..	70	78	59	3.57	14.3	15.26	1911	0.42 1888	7.08 13/11	0.002	1.4
February ... ..	72	81	60	4.67	14.2	18.56	1873	0.34 1902	8.90 25/73	0.004	2.1
March ... ..	75	85	63	5.21	15.2	18.70	1870	0.42 1876	6.52 9/13	0.008	3.4
April ... ..	77	87	64	5.32	13.3	24.49	1861	0.06 1868	7.52 29/60	0.017	5.9
May ... ..	77	90	66	4.91	15.6	20.87	1889	0.21 1885	8.36 28/89	0.032	6.5
June ... ..	79	89	68	5.25	13.1	16.30	1885	0.19 1904	5.17 16/84	0.018	5.4
July ... ..	77	88	66	4.84	12.5	13.21	1900	0.12 1862	5.72 28/08	0.016	5.5
August ... ..	74	84	56	3.21	11.4	14.89	1889	0.04 1885	5.33 2/60	0.014	5.0
September ... ..	69	79	49	2.82	12.2	14.05	1879	0.08 1862	5.69 10/79	0.008	3.7
October ... ..	67	77	55	2.76	12.6	10.81	1902	0.21 1867	6.37 13/02	0.007	3.2
November ... ..	67	79	54	2.57	12.5	9.88	1865	0.19 1910	4.23 19/00	0.004	2.3
December ... ..	67	77	52	2.55	12.8	8.47	1910	0.45 1876	4.75 13/10	0.003	1.6
Year { Totals ... ..	—	—	—	47.98	159.7	—		—	—	0.123	46.0
Averages ... ..	73	—	—	—	—	—		—	—	—	—
Extremes ... ..	—	90	49	—	—	24.49	—	0.04	8.90	—	—
						4/1861		8/1885	25/2/73		

## CLIMATOLOGICAL DATA FOR MELBOURNE, VICTORIA.

LAT. 37° 49' S., LONG. 144° 59' E. HEIGHT ABOVE M.S.L. 115 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. M. Sea Level and Standard Gravity from 9 a.m., 3 & 9 p.m. readings.	Wind.				Mean Amount of Evaporation.	No. of Days Lightning.	Mean Amount of Clouds. 9 a.m. & 3 p.m.	No. of Clear Days.
		Greatest Number of Miles in one day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing Direction.				
No. of yrs. over which observation extends	56	48	48	48	48	41	6	56	6
January ...	29.913	583 10/97	0.29	7,301	S W, S E	6.36	1.7	5.1	8.2
February ...	29.962	566 8/68	0.27	6,347	S W, S E	5.01	2.3	5.1	7.8
March ...	30.035	677 9/81	0.22	6,313	S W, S E	3.87	1.2	5.5	4.7
April ...	30.102	597 7/68	0.19	5,697	S W, N W	2.34	0.8	5.9	4.3
May ...	30.107	693 12/65	0.19	5,594	N W, N E	1.45	0.0	6.5	2.8
June ...	30.081	761 13/76	0.24	6,387	N W, N E	1.10	1.0	6.7	1.7
July ...	30.098	755 8/74	0.22	6,250	N W, N E	1.05	1.2	6.3	4.0
August ...	30.065	637 14/75	0.25	6,813	N W, N E	1.47	1.2	6.3	1.2
September ...	29.996	617 11/72	0.28	6,993	N W, S W	2.25	1.7	6.1	1.8
October ...	29.965	899 5/66	0.29	7,277	S W, N W	3.28	2.0	6.0	4.2
November ...	29.851	734 13/68	0.28	7,000	S W, S E	4.50	3.5	5.8	4.0
December ...	29.897	655 1/75	0.30	7,439	S W, S E	5.75	2.2	5.5	4.3
Year { Totals ...	—	—	—	—	—	38.43	18.1	—	49.0
Year { Averages ...	—	—	0.25	6,651	S W, N W	—	—	5.9	—
Year { Extremes ...	30.015	899 5/10/66	—	—	—	—	—	—	—

## TEMPERATURE.

Month.	Mean Temperature.			Extreme Shade Temperature.		Greatest Range.	Extreme Temperature.		Sea water 3 ft. below surface
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of yrs. over which observation extends	58	58	58	58	58	58	54	53	—
January ...	78.2	56.7	67.4	111.2 14/62	42.0 28/85	69.2	178.5 14/62	30.2 28/85	—
February ...	77.8	56.8	67.3	109.5 7/01	40.3 9/65	69.2	167.5 15/70	30.9 6/91	—
March ...	74.5	54.6	64.5	105.5 2/93	37.1 17/84	68.4	164.5 1/68	28.9 *	—
April ...	68.5	50.7	59.6	94.0 6/65	34.8 24/88	59.2	152.0 8/61	25.0 23/97	—
May ...	61.4	46.6	54.0	83.7 7/05	31.3 26/95	52.4	142.6 2/59	23.2 21/97	—
June ...	56.8	43.9	50.3	73.2 1/07	28.0 11/66	44.2	129.0 11/61	20.4 17/95	—
July ...	55.4	41.5	48.5	68.4 24/78	27.0 21/69	41.4	125.8 27/80	20.5 12/03	—
August ...	58.8	43.3	51.0	77.0 20/85	28.3 11/63	48.7	137.4 29/69	21.3 14/02	—
September ...	62.5	45.5	54.0	82.3 30/07	31.1 16/08	51.2	142.1 20/67	24.7 13/07	—
October ...	66.9	48.1	57.5	96.1 30/85	32.1 3/71	64.0	154.3 28/68	25.9 3/71	—
November ...	71.5	51.0	61.2	105.7 27/94	36.5 2/96	69.2	159.6 29/65	24.6 2/96	—
December ...	75.3	53.9	64.6	110.7 15/76	40.0 4/70	70.7	170.3 20/69	33.2 10/4	—
Year { Averages ...	67.3	49.4	58.3	—	—	—	—	—	—
Year { Extremes ...	—	—	—	111.2 14/1/62	27.0 21/7/69	84.2	178.5 14/1/62	20.4 17/6/95	—

\* 17/1884 and 20/1897.

## HUMIDITY, RAINFALL, AND DEW.

Month.	Humidity.			Rainfall.				Dew.	
	Mean 9a. 3p. 9p.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.	Greatest in One Day.	Mean Amount of Dew. Mean No. days Dew
No. of yrs. over which observation extends	56	56	56	58	58	58	58	55	6
January ...	64	73	52	1.82	7	5.62 1904	0.04 1878	2.97 9/97	1.7
February ...	65	75	53	1.73	7	6.24 1904	0.03 1870	2.14 7/04	2.3
March ...	67	78	59	2.23	9	7.50 1911	0.18 1859	3.05 15/78	5.6
April ...	72	83	62	3.31	10	6.71 1901	0.33 1908	2.28 22/01	5.8
May ...	78	86	64	2.16	13	4.31 1862	0.45 1901	1.85 7/91	7.0
June ...	80	88	73	2.10	14	4.51 1859	0.73 1877	1.74 21/04	8.4
July ...	80	88	72	1.84	13	7.02 1891	0.57 1902	2.71 12/81	10.8
August ...	75	81	65	1.81	14	3.59 1909	0.48 1903	1.87 17/81	8.0
September ...	72	81	61	2.34	14	5.87 1870	0.52 1907	2.62 12/80	7.3
October ...	70	79	60	2.62	13	7.61 1869	0.57 1895	3.00 17/69	7.8
November ...	66	75	53	2.19	10	5.05 1881	0.25 1895	2.57 16/76	1.8
December ...	64	75	49	2.29	9	7.18 1863	0.11 1904	2.62 28/07	0.8
Year { Totals ...	—	—	—	25.44	133	—	—	—	67.1
Year { Averages ...	71	—	—	—	—	—	—	—	—
Year { Extremes ...	—	88	49	—	—	7.61 20/10/69	0.03 1/2/70	3.05 15/3/78	—

— signifies no record kept.



## CLIMATOLOGICAL DATA FOR HOBART, TASMANIA.

LAT. 42° 53' S., LONG. 147° 20' E. HEIGHT ABOVE M.S.L. 160 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. Mean Sea Level and Gravity from 9 a.m. readings.	Wind.				Mean Amount of Evaporation.	No. of Days. Lightning.	Mean Amount of Clouds.	No. of Clear Days.
		Greatest Number of Miles in one day.	Mean Hourly Pres- sure. (lbs.)	Total Miles.	Prevailing Direction.				
No. of yrs. over which observation extends	29	3	3	3	9	4	6	51	7
January ...	29.828	370 29/13	0.18	5,716	N W & S E	5.87	0.5	5.9	4.4
February ...	29.918	393 19/13	0.12	4,238	S E & N	4.20	1.0	5.9	3.0
March ...	29.938	315 28/11	0.11	4,465	N & S E	3.01	1.1	6.1	2.1
April ...	29.950	413 9/11	0.12	4,578	N to N W	1.96	0.0	5.9	2.3
May ...	29.996	327 19/13	0.10	4,248	N to N W	1.22	0.3	5.9	2.3
June ...	29.963	415 —/12	0.10	4,079	N to N W	0.67	1.3	6.0	2.3
July ...	29.932	396 17/11	0.10	4,212	N to N W	0.84	0.5	5.7	3.3
August ...	29.926	459 30/11	0.14	5,094	N to N W	1.29	1.3	5.8	2.6
September ...	29.838	435 4/13	0.16	5,182	N to N W	1.77	1.0	6.7	1.6
October ...	29.833	461 8/12	0.17	5,576	N	3.06	1.0	6.2	1.3
November ...	29.794	418 16/11	0.17	5,489	N & S E	4.02	0.8	6.2	1.8
December ...	29.802	359 9/12	0.16	5,405	N W & S E	4.88	2.0	5.9	1.3
Year { Totals ...	—	—	—	58,282	—	32.79	10.8	—	28.3
Averages ...	29.893	—	0.13	—	N	—	—	5.9	—
Extremes ...	—	461 8/10/12	—	—	—	—	—	—	—

## TEMPERATURE.

Month.	Mean Temperature.			Extreme Shade Temperature.		Greatest Range.	Extreme Temperature.		Sea water mm. 3 ft. be- low surface				
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.					
No. of yrs. over which observation extends	43	43	43	67	67	67	26	47	—				
January ...	71.7	53.0	62.4	105.0	1/00	40.3	2/06	64.7	160.0	*	30.6	19/97	—
February ...	71.6	53.1	62.4	104.4	12/99	39.0	20/87	65.4	165.0	24/98	23.3	1887	—
March ...	68.1	50.7	59.4	99.0	1861	36.0	31/05	63.0	150.0	3/05	27.5	30/02	—
April ...	62.8	47.6	55.2	90.0	2/56	30.0	25/56	60.0	142.0	1893	25.0	1886	—
May ...	57.3	43.5	50.4	77.5	1/41	29.2	20/02	48.3	128.0	†	20.0	19/02	—
June ...	52.6	40.9	46.8	75.0	7/74	28.0	22/79	47.0	122.0	12/94	21.0	6/87	—
July ...	51.7	39.0	45.3	72.0	22/77	27.0	1865	45.0	118.7	19/96	18.7	16/86	—
August ...	54.8	40.8	47.8	82.0	1862	30.0	10/73	52.0	129.0	1887	20.1	7/00	—
September ...	58.6	42.9	50.8	80.0	9/72	30.0	12/41	50.0	138.0	23/93	22.7	1886	—
October ...	62.7	45.3	54.0	91.5	28/45	32.0	12/89	59.5	156.0	9/93	23.8	†	—
November ...	66.4	48.2	57.3	98.0	20/88	35.2	5/13	62.8	154.0	19/92	26.0	1/05	—
December ...	69.7	51.1	60.4	105.2	30/97	38.0	3/06	67.2	156.0	18/05	27.2	1886	—
Year { Averages ...	62.3	46.3	54.3	—	—	—	—	—	—	—	—	—	—
Extremes ...	—	—	—	105.2	27.0	78.2	165.0	—	—	—	18.7	—	—
				30/12/97	—/7/66		24/2/98				16/7/86		

\* 5/86 and 13/05.

† 1889 and 1893.

‡ 1886 and 1899.

## HUMIDITY, RAINFALL, AND DEW.

Month.	Humidity.			Rainfall.					Dew.	
	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.	Greatest in One Day.	Mean Amount of Dew.	Mean No. days Dew
No. of yrs. over which observation extends	34	34	34	71	70	71	71	47	—	4
January ...	62	75	51	1.80	9	5.91 1893	0.03 1841	2.59 30/05	—	0.0
February ...	64	76	51	1.44	8	9.15 1854	0.07 1847	4.50* 25/54	—	1.2
March ...	68	76	59	1.66	9	7.60 1854	0.02 1843	2.06 14/11	—	3.8
April ...	75	85	60	1.81	11	6.50 1909	0.07 1904	5.02 20/09	—	9.3
May ...	80	90	68	1.85	12	6.37 1905	0.10 1843	3.22 14/58	—	11.5
June ...	83	94	75	2.20	13	8.15 1889	0.22 1852	4.11 14/39	—	5.0
July ...	83	97	74	2.09	14	5.98 1849	0.30 1850	2.00 27/78	—	8.0
August ...	80	92	67	1.82	13	10.16 1858	0.23 1854	4.35 12/58	—	7.5
September ...	73	87	61	2.14	14	7.14 1844	0.39 1847	3.50 29/44	—	3.5
October ...	67	75	58	2.23	15	6.67 1906	0.26 1850	2.58 4/06	—	3.2
November ...	63	74	50	2.52	14	8.92 1849	0.16 1868	3.97 6/49	—	1.5
December ...	60	73	51	1.92	11	9.00 1875	0.11 1842	2.27 27/07	—	2.0
Year {	Totals ...	—	—	23.48	—	—	—	—	—	56.5
	Averages ...	71	—	—	143	—	—	—	—	—
	Extremes ...	—	97	50	—	—	10.16	0.02	5.02	—
						8/1858	3/1843	20/4/09		

— Signifies no record kept.

\* 4.18, 26.54 also.

## SECTION IV.

## POPULATION.

## § 1. Commonwealth Population—Its Distribution and Fluctuation.

1. **Present Population.**—The estimated population of the several States of the Commonwealth at the end of 1901 and of each of the five years 1909-13 is shewn in the following table. These estimates, in so far as they relate to points of time between the Censuses of 1901 and 1911, have been amended on the basis of the results disclosed by the last mentioned Census as described on pp. 112-118 of Year Book No. 6.

## POPULATION OF COMMONWEALTH, on 31st DECEMBER 1901 and 1909-13.

Year.	States.						Territories.		Commonwealth.
	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	North-ern.	Federal. (a)	
MALES.									
1901	720,840	608,436	282,291	180,440	117,885	90,945	3,999	...	2,004,836
1909	845,228	631,021	314,481	198,719	151,325	98,514	2,927	...	2,242,215
1910	858,181	646,482	325,513	206,557	157,971	98,866	2,738	...	2,296,308
1911	888,138	668,759	337,955	212,650	168,094	98,594	2,662	1,068 <i>a</i>	2,377,920
1912	934,846	689,825	344,139	218,613	174,056	101,561	2,854	1,074	2,466,968
1913	962,053	706,948	356,613	221,605	180,747	104,476	2,995	1,093	2,536,530
FEMALES.									
1901	654,615	601,464	224,430	178,890	75,716	84,288	674	...	1,820,077
1909	768,671	646,001	263,364	194,178	114,350	94,605	576	...	2,081,745
1910	785,674	654,926	273,503	200,311	118,861	94,937	563	...	2,128,775
1911	808,337	670,343	284,174	205,522	126,087	94,885	586	853 <i>a</i>	2,190,787
1912	842,688	690,736	292,286	211,477	132,073	95,644	621	866	2,266,391
1913	869,663	705,171	303,545	218,442	139,937	97,199	677	895	2,335,529
TOTAL.									
1901	1,375,455	1,209,900	506,721	359,330	193,601	175,233	4,673	...	3,824,913
1909	1,613,899	1,277,022	577,845	392,897	265,675	193,119	3,503	...	4,323,960
1910	1,643,855	1,301,408	599,016	406,868	276,832	193,803	3,301	...	4,425,083
1911	1,696,475	1,339,102	622,129	418,172	294,181	193,479	3,248	1,921 <i>a</i>	4,568,707
1912	1,777,534	1,380,561	636,425	430,090	306,129	197,205	3,475	1,940	4,733,359
1913	1,831,716	1,412,119	660,158	440,047	320,684	201,675	3,672	1,988	4,872,059

<sup>a</sup> Part of New South Wales prior to 1911.

2. **Growth of Population.**—(i.) 1788 to 1824. From 1788, when settlement first took place in Australia, until December 1825, when Van Diemen's Land (now Tasmania) became a separate colony, the whole of the British Possessions in Australia were regarded as one colony, viz., that of New South Wales. The population during this period increased very slowly, and at the end of 1824 had reached only 48,072.

# 86 COMMONWEALTH POPULATION—ITS DISTRIBUTION AND FLUCTUATION.

The population with which settlement in Australia was inaugurated, and that at the end of each year until 1824, are as follows:—

## POPULATION OF COMMONWEALTH ON 31st DECEMBER, 1788 to 1824.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1788 <sup>a</sup>	...	...	1,035	1806	5,889	2,521	7,910
1788	...	...	859	1807	5,939	2,855	8,794
1789	...	...	645	1808	6,822	3,441	10,263
1790	...	...	2,056	1809	7,618	3,942	11,560
1791	...	...	2,873	1810	7,585	3,981	11,566
1792	...	...	3,264	1811	7,697	4,178	11,875
1793	...	...	3,514	1812	8,132	4,498	12,630
1794	...	...	3,579	1813	9,102	4,855	13,957
1795	...	...	3,466	1814	9,295	4,791	14,086
1796	2,953	1,147	4,100	1815	9,848	5,215	15,063
1797	3,160	1,184	4,344	1816	11,690	5,863	17,553
1798	3,367	1,221	4,588	1817	14,178	7,014	21,192
1799	3,804	1,284	5,088	1818	17,286	8,573	25,859
1800	3,780	1,437	5,217	1819	21,366	10,106	31,472
1801	4,372	1,573	5,945	1820	23,784	9,759	33,543
1802	5,208	1,806	7,014	1821	26,179	9,313	35,492
1803	5,185	2,053	7,238	1822	27,915	9,449	37,364
1804	5,313	2,285	7,598	1823	30,206	10,426	40,632
1805	5,395	2,312	7,707	1824	36,871	11,201	48,072

(a) On 26th January. Recent research by Dr. J. F. Watson, now Editor of the Historical Records of Australia, goes to shew that the original nucleus was 1024 persons.

(ii.) 1825 to 1858. The period extending from 1825 to 1859 witnessed the birth of the colonies of Tasmania (then known as Van Diemen's Land), Western Australia, South Australia, Victoria, and Queensland. The years in which these came into existence as separate colonies were as follows:—Tasmania, 1825; Western Australia, 1829; South Australia, 1834; Victoria, 1851; Queensland, 1859.

The estimated population of the Commonwealth at the end of each year of this transition period is as follows:—

## POPULATION OF COMMONWEALTH ON 31st DECEMBER, 1825 to 1858.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1825	40,288	12,217	52,505	1842	153,758	87,226	240,984
1826	41,289	12,593	53,882	1843	158,846	92,002	250,848
1827	43,053	13,247	56,300	1844	165,034	99,253	264,287
1828	44,778	13,419	58,197	1845	173,159	105,989	279,148
1829	46,946	14,988	61,934	1846	181,342	111,907	293,249
1830	52,885	17,154	70,039	1847	190,265	118,532	308,797
1831	57,037	18,944	75,981	1848	201,612	130,716	332,328
1832	62,254	21,683	83,937	1849	221,978	151,384	373,362
1833	71,669	26,426	98,095	1850	238,683	166,673	405,356
1834	76,259	29,297	105,556	1851	256,975	180,690	437,665
1835	81,929	31,425	113,354	1852	304,126	209,670	513,796
1836	89,417	35,703	125,120	1853	358,203	242,789	600,992
1837	94,881	39,607	134,488	1854	414,337	280,580	694,917
1838	105,271	46,597	151,868	1855	470,118	323,142	793,260
1839	115,480	54,459	169,939	1856	522,144	354,585	876,729
1840	127,806	63,102	190,408	1857	574,800	395,487	970,287
1841	144,114	76,854	220,968	1858	624,380	426,448	1,050,828

(iii.) 1859 to 1913. From 1859, the year in which Queensland came into existence as a separate colony, until the beginning of 1901, when the Commonwealth of Australia was inaugurated under the provisions of the Commonwealth Constitution Act, Australia consisted of six States, practically independent of each other in all matters of government. During this period, the population of the Commonwealth increased from 1,050,828 at the end of 1858 to 3,765,339 on the 31st December, 1900. The particulars for this period are given in the table hereunder.

During the thirteen years that have elapsed since the federation of the States was effected the population of the Commonwealth has increased by 1,106,720, from 3,765,339 on 31st December, 1900, to 4,872,059 on 31st December, 1913. See table hereunder:—

## POPULATION OF COMMONWEALTH ON 31st DECEMBER, 1859 to 1913.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1859	644,376	452,929	1,097,305	1887	1,559,118	1,322,244	2,881,362
1860	668,560	477,025	1,145,585	1888	1,610,548	1,371,129	2,981,677
1861	669,373	498,776	1,168,149	1889	1,649,094	1,413,383	3,062,477
1862	683,650	523,268	1,206,918	1890	1,692,831	1,458,524	3,151,355
1863	704,259	555,033	1,259,292	1891	1,736,617	1,504,368	3,240,985
1864	740,433	584,750	1,325,183	1892	1,766,772	1,538,981	3,305,753
1865	773,278	616,765	1,390,043	1893	1,791,815	1,570,080	3,361,895
1866	800,648	643,307	1,443,955	1894	1,824,217	1,602,543	3,426,760
1867	819,127	664,721	1,483,848	1895	1,855,539	1,636,082	3,491,621
1868	849,272	690,280	1,539,552	1896	1,887,174	1,665,924	3,553,098
1869	875,139	717,018	1,592,157	1897	1,917,460	1,700,323	3,617,783
1870	902,494	745,262	1,647,756	1898	1,937,629	1,727,086	3,664,715
1871	928,918	771,970	1,700,888	1899	1,959,074	1,756,914	3,715,988
1872	947,422	795,425	1,742,847	1900	1,976,992	1,788,347	3,765,339
1873	972,907	821,613	1,794,520	1901	2,004,836	1,820,077	3,824,913
1874	1,001,096	848,296	1,849,392	1902	2,028,008	1,847,310	3,875,318
1875	1,028,489	869,734	1,898,223	1903	2,045,144	1,871,448	3,916,592
1876	1,061,477	897,202	1,958,679	1904	2,072,788	1,901,367	3,974,150
1877	1,102,340	928,790	2,031,130	1905	2,100,118	1,932,859	4,032,977
1878	1,132,573	959,591	2,092,164	1906	2,126,730	1,964,755	4,091,485
1879	1,168,781	993,562	2,162,343	1907	2,160,213	2,001,509	4,161,722
1880	1,204,514	1,027,017	2,231,531	1908	2,193,981	2,038,297	4,232,278
1881	1,247,059	1,059,677	2,306,736	1909	2,242,215	2,081,745	4,323,960
1882	1,289,892	1,098,190	2,388,082	1910	2,296,308	2,128,775	4,425,083
1883	1,357,423	1,148,313	2,505,736	1911	2,377,920	2,190,787	4,568,707
1884	1,411,996	1,193,729	2,605,725	1912	2,466,968	2,266,391	4,733,359
1885	1,460,394	1,234,124	2,694,518	1913	2,536,530	2,335,529	4,872,059
1886	1,510,954	1,277,096	2,788,050				

It will be seen from the foregoing tables that the population of Australia attained its first million in 1858, seventy years after settlement was first effected; its second million nineteen years later, in 1877; its third million twelve years later, in 1889; and its fourth million sixteen years later, in 1905, while it appears probable that its fifth million will be reached early in 1915.

The growth of the total population of the Commonwealth generally, and of each State therein, is graphically shewn on page 127, and of each sex considered separately on pages 128 and 129.

## § 2. Influences affecting Growth and Distribution of Population.

**1. Mineral Discoveries.**—The discovery of gold in Australia in 1851 was undoubtedly one of the most influential factors in bringing about a rapid settlement of the country. Its effect may be gauged by a comparison of the increase during the ten years preceding, with that during the ten years succeeding the discovery. From 31st December, 1840, to 31st December, 1850, the increase was only 214,948 (viz., from 190,408 to 405,356). The rush of people to the newly-discovered goldfields during the succeeding decennium caused an increase of no less than 740,229, the population advancing to 1,145,585 on 31st December, 1860. In 1861, owing to the opening up in that year of the New Zealand goldfields, a rush of population from Australia set in, the result being that the net increase of population of the Commonwealth, which in 1855 amounted to 98,343, and even in 1860 was as much as 48,280, fell in 1861 to 22,564. In fact, during the year 1861 the departures from Australia exceeded the arrivals by 5958, the gain of 22,564 being due to the births exceeding the deaths by 28,522.

In more recent years the gold discoveries of Western Australia in 1886 and subsequent years, led to such extensive migration to that State, that its population, which on 31st December, 1885, amounted to only 35,959, increased in 28 years by no less than 284,725, totalling 320,684 on 31st December, 1913. In this case, however, the additions to the population of the western State were largely drawn for some years from those of the eastern States, so that the actual gain of population to the Commonwealth was relatively slight.

**2. Pastoral Development.**—Very early in the colonisation of Australia it was recognised that many portions were well adapted for pastoral pursuits, and pastoral developments have led to a considerable distribution of population in various directions. As the numbers engaged in connection therewith, compared with the value of the interests involved, are relatively small, and as pastoral occupancy tends to segregation rather than aggregation of population, the growth of the pastoral industry is but slightly reflected in the population statistics of the Commonwealth.

**3. Agricultural Expansion.**—At the present time the area annually devoted to crops in the Commonwealth is over 14½ millions of acres. Although considerable in itself, this area, viewed in relation to the total area of the Commonwealth, is relatively small, and represents considerably less than 1 per cent. of the total area. Per head of population of the Commonwealth the area under crop, however, is nearly 3 acres, a fairly high amount when allowance is made for the recency of Australian settlement. Over 80 per cent. of the area under crop is devoted to the production of wheat and hay, which require for the profitable production in Australia a considerable area in the one holding. Thus on the whole the agricultural districts of Australia are somewhat sparsely populated, though in a less marked degree than is the case in the pastoral areas.

**4. Progress of Manufacturing Industries.**—One direct effect of the development of manufacturing industries is the concentration of population in places offering the greatest facilities for the production of the particular commodities. In Australia, where manufacturing industries are as yet in their infancy, the tendency throughout has been to concentrate the manufacturing establishments in each metropolis. This has accentuated the growth of the capital cities, which growth, when compared with that of the rest of the country, appears somewhat abnormal.

**5. Influence of Droughts.**—The droughts, which at times so seriously affect the agricultural and pastoral prospects of Australia, have a marked influence on the distribution of population. Districts, which in favourable seasons were fairly populous, have

in times of drought, temporarily become more or less depopulated until the return of better conditions. This movement, however, ordinarily affects only the internal distribution of the population and not the total, but severe drought may even make its influence felt in the statistics of the total population of Australia. Thus in the case of the drought of 1902-3, the departures from the Commonwealth exceeded the arrivals for the two years 1903 and 1904 by 12,859. It may be noted also, that for the former of these years, the natural increase of population by excess of births over deaths was abnormally low, being only 51,150, as compared with 54,698 in the preceding and 60,541 in the succeeding year. As the solution of the problem of dealing with droughts is advanced, their influence will be less marked.

6. **Other Influences.**—(i.) *Commercial Crises.* The effect on population of a commercial crisis, such as that which occurred in Australia in the early years of the final decade of the last century, is clearly indicated on comparing the migration statistics of the Commonwealth for the five years 1887-91 with those for the five years 1892-96. During the former period, the arrivals in the Commonwealth exceeded the departures by no less than 146,872. In the latter period, the corresponding excess amounted to only 2064.

(ii.) *War.* The war in South Africa has left its impress on the population statistics of the Commonwealth, the departures during 1899 and 1900 exceeding the arrivals for the same period by no less than 10,546, and a similar result will probably be shewn in connexion with the European war, which, at the time of writing, is in its initial stages.

A reference to the graphs of population on pages 127 to 132 will illustrate the preceding observations.

### § 3. Special Characteristics of Commonwealth Population.

1. **Sex Distribution.**—In respect of the relative proportions of the sexes in its population, Australia has, since the first settlement of the continent in 1788, differed materially from the older countries of the world. In the latter, the populations have, in general, grown by natural increase, and their composition usually reflects that fact, the numbers of males and females being in most countries approximately equal, with a more or less marked tendency, however, for the females to slightly exceed the males. The excess of females arises from a variety of causes, amongst which may be mentioned—(a) higher rate of mortality amongst males; (b) greater propensity on the part of males to travel; (c) the effects of war; (d) employment of males in the army, navy, and mercantile marine; (e) preponderance of males amongst emigrants. On the other hand, the last-mentioned cause has tended naturally to produce an excess of males in Australia, since the majority of those emigrating to Australia have been males. The circumstances under which the colonisation of Australia was first undertaken, and the remoteness of this country from Europe, have combined to accentuate this feature.

There is little doubt that the continent presented few attractions to the explorers who visited its shores, mainly on the west and north, during the sixteenth, seventeenth, and early part of the eighteenth centuries, and it was only when the Declaration of Independence of the United States, in 1776, closed to the British prison authorities the North American plantations, which had previously been used as receptacles for the deportation of convicts, that the overcrowding of the gaols caused them to consider the advisability of converting the great southern continent into a convict settlement. This idea was put into practice in 1787, when the first consignment left England, arriving in Sydney Cove on the 26th January, 1788. Reports concerning the number of persons

actually landed are conflicting, but it appears that the total may be set down approximately at 1035, including the military. Details as to the sexes are not available, but the males must have largely preponderated. Indeed, nearly nine years later, on the 31st December, 1796, in a total population of 4100, there was an excess of 44 males in every 100 of the population.

The subsequent progress of Australia resulting from extensive mineral discoveries and the development of its great natural resources, pastoral, agricultural, forestal, etc., have tended to attract male rather than female immigrants, particularly in view of the distance from the principal centres of European population. Even at the Census of 3rd April, 1911, after more than 123 years of settlement, there was an excess of 3.84 males in every 100 of the population, and this notwithstanding the equalising tendency due to additions to the population by means of births and to deductions therefrom by the deaths of immigrants.

In the second issue of this publication, on pages 163 to 165, an extended table was published shewing the masculinity of the population of each of the States for each year from 1796 to 1907. In the fifth issue, on page 123, the figures in this table for the years 1901-7 were modified to agree with the corrected estimates of the population, consequent on the Census of 3rd April, 1911. The figures given in the tables mentioned represent the number of males to each 100 females. The following table gives similar particulars for every fifth year from 1800 to 1910 and for the years 1911, 1912, and 1913:—

### MASCULINITY OF COMMONWEALTH POPULATION, 1800 to 1913.

(NUMBER OF MALES TO EACH 100 FEMALES.)

Year.	States.						Territories.		C'wealth.
	N.S.W.(a)	Victoria.	Q'land.	S. A. (b)	W. Aust.	Tasmania	North'n. (c)	Federal. (d)	
1800	263.05	...	...	...	...	...	...	...	263.05.
1805	233.35	...	...	...	...	...	...	...	233.35.
1810	190.53	...	...	...	...	...	...	...	190.53.
1815	188.84	...	...	...	...	...	...	...	188.84
1820	243.71	...	...	...	...	...	...	...	243.71
1825	325.51	...	...	...	...	341.71	...	...	329.77
1830	317.18	...	...	...	297.29	293.44	...	...	308.30.
1835	268.40	...	...	...	190.26	251.68	...	...	260.71
1840	204.16	...	...	130.10	163.51	229.53	...	...	201.75.
1845	153.33	...	...	132.75	150.22	215.62	...	...	163.37
1850	138.47	...	...	129.15	154.81	179.49	...	...	143.20.
1855	125.08	187.40	...	100.62	193.55	123.65	...	...	145.48
1860	131.29	158.85	149.63	105.06	166.93	123.61	...	...	140.15.
1865	120.08	129.60	158.47	109.11	173.90	116.42	...	...	125.38
1870	120.48	121.59	150.31	105.85	161.17	112.98	...	...	121.10.
1875	119.09	114.46	152.61	107.24	148.61	111.45	...	...	118.25
1880	120.45	110.42	142.50	114.33	135.06	111.70	...	...	117.28.
1885	121.95	110.61	143.95	110.58	135.47	110.73	...	...	118.33.
1890	118.05	110.65	132.21	108.60	146.85	111.88	...	...	116.06.
1895	113.78	105.23	128.15	105.05	126.54	108.16	...	...	113.41
1900	111.14	101.23	125.33	104.04	157.54	107.97	753.60	...	110.55.
1905	111.05	97.69	121.75	100.17	141.35	106.09	496.76	...	108.65.
1910	109.23	98.71	119.02	103.12	132.90	104.14	486.32	...	107.87
1911	109.87	99.78	118.93	103.47	133.32	103.91	454.27	125.21	108.54
1912	110.94	99.87	117.74	103.37	131.79	106.19	459.58	124.02	108.85.
1913	110.62	100.25	117.48	101.45	129.16	107.49	442.39	122.12	108.61

(a) Including Federal Territory prior to 1911.

(c) Included in South Australia prior to 1900.

(b) Including Northern Territory prior to 1900.

(d) Part of New South Wales prior to 1911.

The ratios shewn in the preceding table are those which are frequently given as the "masculinity" of the population. A more scientific determination of masculinity, however, may be obtained by computing the ratio of the excess of males over females to the total population. This ratio expressed as a percentage has now been adopted by the Commonwealth Bureau of Census and Statistics as the "masculinity" of the population, and the ratio so computed are given hereunder for intervals of 5 years from 1800 onwards for the Commonwealth and each of its component States and Territories :—

### MASCULINITY OF THE POPULATION, 1800 to 1913.

(EXCESS OF MALES OVER FEMALES PER 100 OF POPULATION.)

Year.	States.						Territories.		C'wealth.
	N.S.W. (a)	Victoria.	Q'land.	S. A. (b)	W. Aust.	Tasmania	North'n (c)	Federal. (d)	
1800	44.91	...	...	...	...	...	...	...	44.91
1805	40.00	...	...	...	...	...	...	...	40.00
1810	31.16	...	...	...	...	...	...	...	31.16
1815	30.76	...	...	...	...	...	...	...	30.76
1820	41.81	...	...	...	...	...	...	...	41.81
1825	53.00	...	...	...	...	54.72	...	...	53.46
1830	52.06	...	...	...	49.66	49.17	...	...	51.02
1835	45.71	...	...	...	31.10	43.13	...	...	44.55
1840	34.25	...	...	13.08	24.10	39.31	...	...	33.72
1845	21.05	...	...	14.07	20.07	36.63	...	...	24.06
1850	16.13	...	...	12.72	21.51	28.44	...	...	17.76
1855	11.14	30.41	...	0.31	31.87	10.57	...	...	18.53
1860	13.53	22.74	19.88	2.47	25.07	10.56	...	...	16.72
1865	9.12	12.89	22.62	4.36	26.98	7.59	...	...	11.26
1870	9.29	9.74	20.10	2.84	23.42	6.09	...	...	9.54
1875	8.71	6.74	20.83	3.49	19.55	5.41	...	...	8.36
1880	9.28	4.95	17.53	6.69	14.92	5.53	...	...	7.95
1885	9.89	5.04	18.02	5.02	15.06	5.09	...	...	8.40
1890	8.28	5.06	13.87	4.12	18.98	5.61	...	...	7.43
1895	6.45	2.55	12.34	2.46	11.72	3.92	...	...	6.28
1900	5.28	0.61	11.24	1.98	22.34	3.83	76.57	...	5.01
1905	5.24	—1.17	9.81	0.08	17.13	2.96	66.49	...	4.15
1910	4.41	—0.65	8.68	1.54	14.13	2.03	65.89	...	3.79
1911	4.70	—0.11	8.65	1.71	14.28	1.92	63.92	11.19	4.10
1912	5.19	—0.07	8.15	1.66	13.72	3.00	64.26	10.72	4.24
1913	5.04	0.12	8.04	0.72	12.72	3.61	63.13	9.96	4.13

The curious inequalities of the increases in the number of males and in the number of females for the Commonwealth as a whole, and for the individual States respectively, will be seen by referring to the graphs on pages 128 and 129.

The significance of the rates of masculinity shewn in the above table will perhaps be better understood by a comparison with the corresponding information for other countries. This has been made in the next table, which shows, for some of the principal countries of the world for which such particulars are available, the masculinity of the population according to the most recent statistics :—



## MASCULINITY OF THE POPULATION OF VARIOUS COUNTRIES.

Country.	Year.	Excess of Males over Females in each 100 of population.	Country.	Year.	Excess of Males over Females in each 100 of population.
Canada ...	1911	6.07	Netherlands ...	1912	—0.87
New Zealand ...	1913	4.94	Hungary ...	1910	—0.94
<b>Australia</b> ...	<b>1913</b>	<b>4.13</b>	Russia (European) ...	1912	—1.07
Servia ...	1910	3.27	Prussia ...	1910	—1.17
United States of America	1910	2.93	German Empire ...	1910	—1.30
India (Feudatory States)	1901	2.92	France ...	1906	—1.66
British India ...	1911	2.24	Austria ...	1910	—1.76
Bulgaria ...	1910	1.75	Switzerland ...	1900	—1.85
Rumania ...	1899	1.62	Sweden ...	1912	—2.19
Japan ...	1913	1.08	Spain ...	1900	—2.36
Poland (Russian)	1912	0.69	Denmark ...	1911	—2.95
Greece ...	1907	0.68	Scotland ...	1911	—3.01
Ireland ...	1911	—0.14	England and Wales ...	1911	—3.27
Italy ...	1901	—0.51	Norway ...	1910	—3.36
Belgium ...	1912	—0.76	Portugal ...	1911	—5.08

NOTE.— — denotes excess of females.

2. **Age Distribution.**—The causes which operated to bring about an excess of males in the population of the Commonwealth were equally effective in rendering the age distribution essentially different from that of older countries. The majority of the immigrants, whether male or female, were in the prime of life, and as the Australian birth-rate in earlier years was a comparatively high one, the effect produced was a population in which the proportion of young and middle-aged persons was somewhat above, and the proportion for advanced ages somewhat below the normal. With the progress of time, however, the age distribution for Australia has fallen more and more into line with that for the older countries, and now, except in shewing a lower proportion at old age and a slightly higher at young ages, does not differ essentially therefrom.

Thus in the Commonwealth at the Census of 3rd April, 1911, the age distribution of the population was as shewn in the table hereunder; that for England and Wales for the same Census, is given also for the sake of comparison :—

## AGE DISTRIBUTION OF POPULATION.

## COMMONWEALTH, AND ENGLAND AND WALES.

Age Group.	Population of COMMONWEALTH, 3rd April, 1911.	Percentage on Total Population.	Population of ENGLAND and WALES, 3rd April, 1911.	Percentage on Total Population.
Under 15 ...	1,409,823	31.65	11,050,867	30.63
15 and under 65 ...	2,854,753	64.08	23,141,109	64.16
65 and upwards ...	190,429	4.27	1,878,516	5.21
Total ...	4,455,005	100.00	36,070,492	100.00

During the past 50 years, the age distribution of the Australian population has varied considerably, as will be seen from the following table, which gives for each sex the proportion per cent. of the total population in the age groups "under 15," "15 and under 65," and "65 and over." The figures upon which these percentages have been computed are those furnished by the Censuses of the several States and the Commonwealth Census of 1911. Those for 1861 include the results of the Western Australian Census of 1859, while those for 1871 include the results of the Western Australian and Tasmanian Censuses of 1870 :—

## AGE DISTRIBUTION OF COMMONWEALTH POPULATION, 1861 to 1911.

Census Year.	Males.				Females.				Persons.			
	Under 15 Years.	15 and under 65.	65 and over.	Total.	Under 15 Years.	15 and under 65.	65 and over.	Total.	Under 15 Years.	15 and under 65.	65 and over.	Total.
	%	%	%	%	%	%	%	%	%	%	%	%
1861	31.41	67.42	1.17	100	43.03	56.20	0.77	100	36.28	62.72	1.00	100
1871	38.84	59.11	2.05	100	46.02	52.60	1.38	100	42.09	56.17	1.74	100
1881	36.37	60.85	2.78	100	41.89	56.07	2.04	100	38.91	58.65	2.44	100
1891	34.77	62.02	3.21	100	39.36	58.08	2.56	100	36.90	60.20	2.90	100
1901	33.87	61.82	4.31	100	36.50	59.85	3.65	100	35.12	60.88	4.00	100
1911	30.84	64.82	4.34	100	32.52	63.28	4.20	100	31.65	64.08	4.27	100

The excess of males over females, previously referred to, is found mainly in ages of 21 and upwards. In the total population under the age of 21 there was, at the date of the last Census, an excess of males over females amounting to less than 1.5 in each 100 of population, while in that aged 21 and upwards the excess of males over females was about 5.7 in each 100 of population. In the absence of a large immigration of males in excess of females, therefore, the disparity between the sexes in Australia would soon be eliminated.

3. *Race and Nationality.*—(i.) *Constitution of Australia's Population.* As regards race, the population of the Commonwealth may be conveniently divided into two main groups, one comprising the aboriginal natives of Australia, and the other the various immigrant races which, since the foundation of settlement in 1788, have made the Commonwealth their home. Under the head of "immigrant races" would, of course, be included not only those residents of Australia who had been born in other countries, but also their descendants born in Australia.

(a) *The Aborigines.* It would appear that the aboriginal population of Australia was never large, and that the life led by them was, in many parts of the country, a most precarious one. With the continued advance of settlement the numbers have shrunk to such an extent that in the more densely populated States they are practically negligible. Thus, at the Census of 1911 the number of full-blooded aboriginals who were employed by whites or were living in proximity to settlements of whites was stated to be only 19,939. In some of the States, however, more particularly in Queensland, South Australia, Western Australia, and the Northern Territory, there are, in addition, considerable numbers of natives still in the "savage" state, numerical information concerning whom is of a most unreliable nature, and can be regarded as little more than the result of mere guessing.

Ethnologically interesting as is this remarkable and rapidly-disappearing race, practically all that has been done to increase our knowledge of them, their laws, habits, customs, and languages, has been the result of more or less spasmodic and intermittent effort on the part of enthusiasts either in private life or the public service. An enumeration of them has never been seriously undertaken in connection with any Australian Census, though a record of the numbers who were in the employ of whites, or living in contiguity to the settlements of whites, has on the occasion of the recent Censuses usually been made. As stated above, various guesses at the number of aboriginal natives at present in Australia have been made, and the general opinion appears to have prevailed that 150,000 might be taken as a rough approximation to the total. More recent estimates, however, have given results considerably below this figure. Thus, in his report of May 31, 1913, the Queensland Chief Protector of Aborigines estimates the total at 80,866, distributed as follows:—New

South Wales, 4761; Victoria, 269; Queensland, 20,000; South Australia (including the Northern Territory), 29,836; Western Australia, 26,000. A somewhat similar estimate made at an earlier date by Dr. Roth, formerly Chief Protector of Aborigines in Queensland, gave Queensland at least 18,000; Western Australia at least 24,000, and the Northern Territory from 20,000 to 22,000. In view of these figures it would appear that the number of aboriginal natives in Australia may be said to be not more than 100,000. The whole matter, however, is involved in considerable doubt.

The number of aboriginal natives enumerated in the several States and Territories of the Commonwealth at the Census of 1911 was as shewn hereunder, the figures given relating as before stated only to those in a civilised or semi-civilised condition.

**ABORIGINAL NATIVES ENUMERATED AT CENSUS OF 1911.**

Persons, etc.	N.S.W.	Victoria.	Queens- land.	South Australia.	Western Australia.	Tas- mania.	Northern Territory.	Federal Territory	C'wth.
Males ...	1,152	103	5,145	802	3,433	2	743	5	11,385
Females ...	860	93	3,542	637	2,936	1	480	5	8,554
Total	2,012	196	8,687	1,439	6,369	3	1,223	10	19,939
Masculinity (a)	14.51	5.10	18.45	11.47	7.80	66.67	21.50	50.00	14.20

(a) Excess of males over females per 100 of the sexes combined.

These figures, as noted above, refer only to those natives who were, at the date of the Census, in the employ of whites or were living in contiguity to the settlements of whites.

In the Commonwealth Constitution Act provision is made for aboriginal natives to be excluded for all purposes for which statistics of population are made use of under the Act, but the opinion has been given by the Commonwealth Attorney-General that, "in reckoning the population of the Commonwealth, half-castes are not aboriginal natives within the meaning of section 127 of the Commonwealth of Australia Constitution Act, and should therefore be included." It may be added, however, that as "half-castes," living in the nomadic state, are practically indistinguishable from aborigines, it has not always been found practicable to make the distinction, and further, that no authoritative definition of "half-caste" has yet been given.<sup>1</sup>

(b) *Immigrant Races.* As regards the immigrant races, it may be said that they consist mainly of natives of the three divisions of the United Kingdom and their descendants. The proportion of Australian-born contained in the population of the Commonwealth has, in recent years, increased rapidly, and at the Census of 3rd April, 1911, out of a total population of 4,424,535 persons whose birthplaces were specified, no fewer than 3,667,670, or 82.90 per cent., were Australian born, while of the remainder, 590,722, or 13.35 per cent., were natives of the United Kingdom, and 31,863, or 0.72 per cent., were natives of New Zealand, that is, 96.97 per cent. of the total population at the date of the Census had been born in either Australasia or the United Kingdom. The other birthplaces most largely represented in the Commonwealth were Germany, 32,990 (0.75 per cent.); China, 20,775 (0.47 per cent.); Scandinavia (comprising Sweden, Norway and Denmark), 14,700 (0.33 per cent.); Polynesia, 3410 (0.08 per cent.); British India, 6644 (0.15 per cent.); United States of America, 6642 (0.15 per cent.); and Italy, 6719 (0.15 per cent.). The total population of Asiatic birth was 36,442 (0.82 per cent.), of whom 3474 were born in Japan.

(c) *Non-European Races.* The Census taken on the 3rd April, 1911, was the first occasion on which a systematic attempt had been made to ascertain the number of persons of non-European races in Australia. On former occasions the inquiry did not usually

1. An article on the Aborigines of Australia, specially written for the Year Book by W. Ramsay Smith, D.Sc., M.B., C.M., F.R.S.E., Permanent Head of the Department of Public Health of South Australia, will be found in Year Book No. 3, Section IV., § 12, page 158.

extend further than a request that in all cases in which the person enumerated was an Aboriginal or a Chinese, whether of the full-blood or of the half-blood, the fact should be specially noted in the column on the Census schedule relating to birthplace. At the recent Census the inquiry as to race was made one of the leading items, and all persons of non-European race were required to have their race specified. From the figures so obtained the following table has been compiled:—

**PERSONS OF NON-EUROPEAN RACE IN THE COMMONWEALTH, 3rd APRIL, 1911**  
(EXCLUSIVE OF FULL-BLOODED ABORIGINALS.)

States and Territories.	Aust- ralian	Asiatic.		African.		American.		Polynesian.		Indefinite.		Total.	
	Half- caste Aborigi- nals	Full- blood.	Half- caste	Full- blood	Half- caste	Full- blood	Half- caste	Full- blood	Half- caste	Full- blood	Half- caste	Full- blood.	Half- caste
<b>States—</b>													
N. S. Wales ...	4,512	10,983	1,390	169	166	10	7	343	70	2	...	11,507	6,145
Victoria ...	447	5,972	1,056	58	63	6	9	12	5	1	2	6,049	1,582
Queensland ...	2,508	9,123	940	53	65	37	5	2,123	142	...	...	11,336	3,660
S. Australia ...	692	1,049	175	18	21	5	1	5	4	2	...	1,079	893
W. Australia ...	1,475	5,578	129	48	15	7	2	25	3	...	...	5,658	1,624
Tasmania ...	227	532	127	4	6	...	...	5	2	...	...	541	362
<b>Territories—</b>													
Northern ...	244	1,594	35	7	...	...	...	11	1	...	...	1,612	280
Federal ...	8	7	...	...	...	...	...	...	...	...	...	7	8
<b>Total</b> ...	10,113	34,838	3,852	357	336	65	24	2,524	227	5	2	37,789	14,554

The proportion of population of non-European race (exclusive of full-blooded aborigines) in each State is shewn in the following table, full-blood and half-caste non-Europeans being shewn separately:—

**PROPORTION OF NON-EUROPEAN RACES IN THE COMMONWEALTH, 3rd APRIL, 1911**  
(EXCLUSIVE OF FULL-BLOODED ABORIGINALS.)

States and Territories.	Total Population.	Non-European Races.					
		Full-blood.		Half-caste.		Total.	
		Number.	Number per 1000 of Total Populat'n.	Number.	Number per 1000 of Total Populat'n.	Number.	Number per 1000 of Total Populat'n.
<b>States—</b>							
N. S. Wales	1,646,734	11,507	6.99	6,145	3.73	17,652	10.72
Victoria ...	1,315,551	6,049	4.60	1,582	1.20	7,631	5.80
Queensland ...	605,813	11,336	18.71	3,660	6.04	14,996	24.75
S. Australia ...	408,558	1,079	2.64	893	2.19	1,972	4.83
W. Australia	282,114	5,658	20.05	1,624	5.76	7,282	25.81
Tasmania ...	191,211	541	2.83	362	1.89	903	4.72
<b>Territories—</b>							
Northern ...	3,310	1,612	487.01	280	84.59	1,892	571.60
Federal ...	1,714	7	4.08	8	4.67	15	8.75
<b>Total C'wealth</b>	4,455,005	37,789	8.48	14,554	3.27	52,343	11.75

(ii.) *Biological and Sociological Significance.* As regards race and nationality, therefore, the population of Australia is fundamentally British, and thus furnishes an example of the transplanting of a race into conditions greatly differing from those in which it had been developed. The biological and sociological significance of this will ultimately appear in the effects on the physical and moral constitution produced by the

complete change of climatic and social environment, for the new conditions are likely to considerably modify both the physical characteristics and the social instincts of the constituents of the population. At present the characteristics of the Australian population, whether physical, mental, moral, or social, are only in the making, and probably it will not be possible to point to a distinct Australian type until three or four generations more have passed. Even then it is hardly likely that with the great extent of territory and varying conditions presented by the Commonwealth there will be but one type; on the contrary, a variety of types may be expected. The Australian at present is little other than a transplanted Briton, with the essential characteristics of his British forbears, the desire for freedom from restraint, however, being perhaps somewhat accentuated. The greater opportunity for an open-air existence, and the absence of the restrictions of older civilisations, may be held to be in the main responsible for this.

**4. Differences among the States and Territories.**—(i.) *Sex Distribution.* The varying circumstances under which the settlement of the several States has been effected, and the essentially different conditions experienced in the due development of their respective resources, have naturally led to somewhat marked differences in the constitution of their populations. In the matter of sex distribution the States in which the normal condition of older countries is most nearly represented are those of Victoria, South Australia, and Tasmania, in the first-mentioned of which the females have, for some years until recently, exceeded the males. In Western Australia and Queensland, on the other hand, the position of affairs is somewhat abnormal, excess of males over females in each 100 of population being respectively 12.72 and 8.04.

In the Northern Territory, owing to lack of settlement, the masculinity has always been largely predominant, the figures for 1913 giving an excess of males over females in each 100 of population of no less than 63.

The variation in the masculinity of the estimated population of the several States and Territories and of the Commonwealth as a whole for the year 1901 and for the past five years will be seen from the following table:—

**MASCULINITY (a) OF THE POPULATION, 31st DECEMBER, 1901 AND 1909-13.**  
(COMMONWEALTH.)

Year.	Masculinity of the Population on 31st December. (a.)								
	States.						Territories.		Cwltl.
	N.S.W.	Vict.	Qld.	S. Aust.	W. Aust.	Tas.	North- ern.	Federal (b)	
1901	4.82	0.58	11.42	0.43	21.78	3.80	71.15	...	4.83
1909	4.74	—1.17	8.85	1.16	13.92	2.02	67.11	...	3.71
1910	4.41	—0.65	8.68	1.54	14.13	2.03	65.89	...	3.79
1911	4.70	—0.11	8.65	1.71	14.28	1.92	63.92	11.19	4.10
1912	5.19	—0.07	8.15	1.66	13.72	3.00	64.26	10.72	4.24
1913	5.04	0.12	8.04	0.72	12.72	3.61	63.13	9.96	4.13

(a) Excess of males over females in each 100 of population, prior to 1911. (b) Part of New South Wales

(ii.) *Age Distribution.* The disparity in sex distribution exhibited by the several States is accompanied by a corresponding inequality in the matter of age distribution. The number of persons in each State at the Census of 3rd April, 1911, at what are commonly known as the "dependent," "supporting," and "old" ages, and the proportion of same to total of each State and Commonwealth, were as follows:—

**NUMBER AND PROPORTION OF PERSONS IN THE COMMONWEALTH OF  
DEPENDENT, SUPPORTING, AND OLD AGE, ON 3rd APRIL, 1911.**

State or Territory.	Number of Persons of				Proportion of Population of		
	Dependent age (under 15).	Supporting age (15 and under 65).	Old age (65 and upwards).	All ages.	Dependent age (under 15).	Supporting age (15 and under 65).	Old age (65 and upwards).
States—					%	%	%
New South Wales ...	526,625	1,053,400	66,709	1,646,734	31.98	63.97	4.05
Victoria ...	400,260	847,700	67,591	1,315,551	30.42	64.44	5.14
Queensland ...	200,020	383,330	22,463	605,813	33.01	63.28	3.71
South Australia ...	127,290	262,356	18,912	408,558	31.15	64.22	4.63
Western Australia...	87,884	187,574	6,656	282,114	31.15	66.49	2.36
Tasmania ...	66,708	116,604	7,899	191,211	34.89	60.98	4.13
Territories—							
Northern ...	485	2,708	117	3,310	14.65	81.81	3.54
Federal ...	551	1,081	82	1,714	32.15	63.07	4.78
Commonwealth ...	1,409,823	2,854,753	190,429	4,455,005	31.65	64.03	4.27

In Western Australia a larger proportion of its population was of supporting age than in any other State, whilst in Tasmania the proportion was the lowest. On the other hand, in Tasmania the proportion of dependent age was the highest for the Commonwealth, while the Victorian proportion was the lowest. Victoria had the highest and Western Australia the lowest proportion of persons aged 65 years and upwards.

In the Northern Territory the proportions are quite exceptional, the percentage of those of dependent age being much lower, and that of those of supporting age being much higher, than in any other part of the Commonwealth.

(iii.) *Birthplaces.* The following table exhibits, in a very condensed form, the distribution of the population of the several States and Territories according to birthplace:—

**BIRTHPLACE OF POPULATION AT CENSUS OF 3rd APRIL, 1911.**  
(COMMONWEALTH.)

Birthplace.	Total Population of Commonwealth at Census.								
	States.						Territories.		C'wealth.
	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tas.	North-ern.	Fede-ral.	
Australia...	1,377,219	1,108,945	446,695	350,261	209,050	172,497	1,505	1,498	3,667,670
New Zealand	13,963	10,067	2,576	986	3,054	1,200	18	4	31,868
United Kingdom	204,394	157,436	120,015	44,431	50,552	13,472	262	160	590,722
Other European Countries	19,771	15,346	20,227	7,989	9,428	1,134	49	5	73,949
Asia ...	11,463	6,676	8,867	1,244	5,996	778	1,413	5	36,442
Africa ...	1,999	1,498	527	357	423	145	9	...	4,958
America ...	4,424	2,983	1,688	764	1,123	279	12	5	11,278
Polynesia	1,204	279	1,728	55	88	44	12	...	3,410
At Sea ...	1,479	1,303	629	422	281	122	2	...	4,238
Unspecified	10,818	11,018	2,861	2,049	2,119	1,540	28	37	30,470
Total ...	1,646,734	1,315,551	605,813	408,558	282,114	191,211	3,310	1,714	4,455,005

The proportions for the several States and Territories for each of the birthplaces shewn in the foregoing table expressed as percentages of the total population, the birthplaces of which were specified, are as follows:—

**PERCENTAGE OF COMMONWEALTH POPULATION ACCORDING TO BIRTHPLACE,  
3RD APRIL, 1911.**

Birthplace.	Percentage of Total Population.								
	States.						Territories.		C'with.
	New South Wales.	Victoria.	Queensland.	South Australia	Western Aust.	Tasmania.	Northern	Federal	
	%	%	%	%	%	%	%	%	%
Australia ...	84.19	85.01	74.09	86.16	74.66	90.95	45.86	89.32	82.90
New Zealand	0.86	0.77	0.43	0.24	1.10	0.63	0.55	0.24	0.72
U. Kingdom	12.49	12.07	19.90	10.93	18.05	7.10	7.98	9.54	13.35
Other European Countries	1.21	1.18	3.35	1.97	3.37	0.60	1.49	0.30	1.67
Asia ...	0.70	0.51	1.47	0.31	2.14	0.41	43.05	0.30	0.82
Africa ...	0.12	0.11	0.09	0.09	0.15	0.08	0.27	...	0.11
America ...	0.27	0.23	0.28	0.19	0.40	0.15	0.37	0.30	0.25
Polynesia ...	0.07	0.02	0.29	0.01	0.03	0.02	0.37	...	0.08
At Sea ...	0.09	0.10	0.10	0.10	0.10	0.06	0.06	...	0.10
Total ...	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

As regards distribution in the States according to birthplace, the population of New South Wales is very similar to that of Victoria, the proportions born in the United Kingdom and Asia being slightly higher, and that born in Australia slightly lower, in the case of New South Wales. There is also a rough similarity between the population distributions of Queensland and Western Australia. In both, the Australian-born represent a much smaller, and those born in the United Kingdom, in "Other European Countries" and in Asia, a much larger proportion than is the case with the remaining States. Polynesians were, however, more numerously represented in Queensland at the date of the Census than in any other State. Natives of New Zealand were, proportionately, most numerous in Western Australia. Tasmania had the largest proportion of Australian-born population, viz., 91 per cent., while Queensland, with 74 per cent., had the smallest. On the other hand, nearly 20 per cent. of Queensland's population consisted of natives of the United Kingdom, while only 7 per cent. of the population of Tasmania had been born there. For the Commonwealth as a whole, over 98½ per cent. of the population were from Australasian or European birthplaces.

In the case of the Northern Territory, about 46 per cent. of the population were Australian born, while 43 per cent. were of Asiatic birth.

#### 4. Elements of Growth of Population.

1. **Natural Increase.**—The two factors which contribute to the growth of a population are the "natural increase" by excess of births over deaths, and the "net immigration," i.e., the excess of arrivals over departures. While the relative potency of these factors depends upon a variety of causes, it may be said that, in general, in the case of a new country "net immigration" occupies an important position as a source of increase of population, while in an old country "natural increase," modified more or less by "net emigration," or excess of departures over arrivals, is the principal element causing growth of population. The table hereunder gives the total natural increase, as well as that of males and females:—

**NATURAL INCREASE (a) OF THE POPULATION**  
**OF STATES, TERRITORIES, AND COMMONWEALTH, FROM 1861 TO 1913.**  
**MALES.**

Period.	States.						Territories.		C'wealth.
	N.S.W.	Victoria.	Q'land.	S. Aust. (b)	W. Aus.	Tas.	North- ern. (c)	Fed- eral. (d)	
1861 to 1865 ...	22,055	34,286	2,444	9,645	765	3,893	...	...	73,088
1866 to 1870 ...	25,850	34,997	5,739	10,881	754	3,281	...	...	81,502
1871 to 1875 ...	30,067	35,132	6,704	9,979	710	3,077	...	...	85,669
1876 to 1880 ...	34,040	31,985	7,960	13,676	1,023	3,472	...	...	92,156
1881 to 1885 ...	42,658	33,614	7,986	16,969	1,002	5,284	...	...	107,513
1886 to 1890 ...	54,753	39,528	17,872	16,519	1,755	6,093	...	...	136,520
1891 to 1895 ...	56,834	45,606	20,525	15,758	1,436	6,889	...	...	147,048
1896 to 1900 ...	48,692	33,645	17,724	12,562	3,402	6,373	...	...	122,398
1901 to 1905 ...	51,179	34,332	16,628	12,149	8,283	7,955	—223	...	130,303
1906 to 1910 ...	64,127	38,948	21,415	14,500	10,762	8,703	—264	...	158,191
1911 to 1913 ...	44,956	27,672	15,760	11,137	7,318	5,447	—107	46	112,229
1861 to 1913 ...	475,211	389,745	140,757	143,775	37,210	60,467	—594	46	1,246,617

## FEMALES.

1861 to 1865 ...	26,343	39,615	3,566	9,987	1,105	4,608	...	...	85,224
1866 to 1870 ...	30,327	40,919	7,571	11,223	1,301	4,451	...	...	95,792
1871 to 1875 ...	35,567	41,472	9,706	10,944	1,255	4,192	...	...	103,136
1876 to 1880 ...	40,276	37,551	12,291	14,608	1,535	4,699	...	...	111,010
1881 to 1885 ...	50,204	39,833	15,262	18,033	1,738	6,364	...	...	131,434
1886 to 1890 ...	62,090	48,131	24,238	17,320	2,609	7,228	...	...	161,616
1891 to 1895 ...	63,930	53,190	25,757	16,792	3,376	7,781	...	...	170,826
1896 to 1900 ...	57,107	40,474	24,037	13,443	7,054	6,718	...	...	148,833
1901 to 1905 ...	59,163	39,831	22,910	12,701	11,468	8,027	28	...	154,128
1906 to 1910 ...	71,297	42,629	26,048	14,754	13,354	8,522	33	...	176,637
1911 to 1913 ...	50,921	29,841	19,445	11,559	9,488	5,614	27	36	126,931
1861 to 1913 ...	547,225	453,486	190,831	151,364	54,333	68,204	88	36	1,465,567

## PERSONS.

1861 to 1865 ...	48,398	73,901	6,010	19,632	1,870	8,501	...	...	158,312
1866 to 1870 ...	56,177	75,916	13,310	22,104	2,055	7,732	...	...	177,294
1871 to 1875 ...	65,634	76,604	16,410	20,923	1,965	7,269	...	...	188,805
1876 to 1880 ...	74,316	69,536	20,251	28,284	2,608	8,171	...	...	203,166
1881 to 1885 ...	92,862	73,447	23,248	35,002	2,740	11,648	...	...	238,947
1886 to 1890 ...	116,843	87,659	42,110	33,839	4,364	13,321	...	...	298,136
1891 to 1895 ...	120,764	98,796	46,282	32,550	4,812	14,670	...	...	317,874
1896 to 1900 ...	105,799	74,119	41,761	26,005	10,456	13,091	...	...	271,331
1901 to 1905 ...	110,342	74,163	39,538	24,850	19,751	15,982	—195	...	284,431
1906 to 1910 ...	135,424	81,577	47,463	29,254	24,116	17,225	—231	...	334,828
1911 to 1913 ...	95,877	57,513	35,205	22,696	16,806	11,061	—80	82	239,160
1861 to 1913 ...	1,022,436	843,231	331,588	295,199	91,543	128,671	—506	82	2,712,184

(a) Excess of Births over Deaths. (b) Including Northern Territory prior to 1901. (c) Included in South Australia prior to 1901. (d) Part of New South Wales prior to 1911.

NOTE.—Minus sign (—) denotes excess of Deaths over Births.

With one exception, viz., Tasmania, for the period 1906 to 1910, the natural increase of females exceeded that of males throughout the years referred to in the foregoing table. The quinquennial period in which the largest natural increase of population took place was that of 1906-10 with a total for the Commonwealth of 334,828. For the individual States the quinquennia of maximum natural increase were as follows:—New South Wales, Queensland, Western Australia and Tasmania, 1906-10; Victoria, 1891-5, and South Australia, 1881-5.



2. **Comparison with other Countries.**—Notwithstanding its comparatively low birth-rate, Australia has a high rate of natural increase, owing to the fact that its death-rate is a very low one. The following table furnishes a comparison between the average rates of natural increase for some of the principal countries of the world for which such information is available, and those for the several States of the Commonwealth and the Dominion of New Zealand :—

**NATURAL INCREASE PER 1000 OF MEAN POPULATION (VARIOUS COUNTRIES).**

Country.	Increase.	Country.	Increase.	Country.	Increase.
Australasia(1909-13)		Europe— <i>continued.</i>		Europe— <i>continued.</i>	
Tasmania ...	18.80	Denmark ...	14.08	Belgium ... (a)	8.18
Western Australia	18.05	Prussia ...	13.93	Ireland ...	6.30
New South Wales	18.04	German Empire (a)	13.39	France ...	0.80
Queensland ...	17.89	Finland ...	13.17		
New Zealand ...	17.07	Norway ...	12.41	Asia (1907-11)—	
South Australia...	16.77	Italy ...	11.96	Japan... (b)	11.84
Commonwealth	16.65	Hungary ...	11.77	Ceylon ...	6.58
Victoria ...	13.64	England & Wales	11.00		
Europe (1908-12)—		Scotland ...	11.00	America(1907-11)—	
Rumania ...	15.78	Sweden ...	10.75	Jamaica ...	15.46
Netherlands ...	14.85	Austria ...	10.64	Canada (Province	
Servia ...	14.12	Spain ...	9.65	of Ontario) ...	10.25
		Switzerland ... (a)	9.60	Chile ...	7.71

(a) 1907-11. (b) 1906-10.

The graphs of natural increase for each of the States, as well as for the Commonwealth, are shewn on page 132.

3. **Net Immigration.**—The other factor of increase in the population, viz., the excess of arrivals over departures, known as "net immigration," is, from its nature, much more subject to marked and extensive variation than is the factor of "natural increase." These variations are due to numerous causes, many of which have already been referred to in dealing with the influences which affect the growth of population. An important cause not yet referred to, is that of assisted immigration. The number of persons so introduced varies considerably in different years.

**NET IMMIGRATION, OR EXCESS OF ARRIVALS OVER DEPARTURES**

(STATES, TERRITORIES AND COMMONWEALTH), FROM 1861 TO 1913 INCLUSIVE.

States.							Territories.		Cwlth.
Period.	N.S.W.	Victoria.	Q'land.	S. Aust. (a)	W. Aust.	Tas.	North'n. (b)	Fed. (c)	
MALES.									
1861 to 1865	2,984	—15,871	34,031	10,270	3,213	—2,997	...	...	31,630
1866 to 1870	23,381	13,516	10,190	—242	1,182	—313	...	...	47,714
1871 to 1875	20,346	—8,093	26,236	3,833	—80	—1,916	...	...	40,326
1876 to 1880	48,378	—5,696	13,892	25,056	—179	2,418	...	...	83,869
1881 to 1885	70,996	19,925	54,867	—1,982	2,701	1,860	...	...	148,367
1886 to 1890	29,345	51,894	18,514	—12,895	6,411	2,648	...	...	95,917
1891 to 1895	8,671	—33,192	5,088	—1,493	39,443	—2,857	...	...	15,660
1896 to 1900	—854	—39,805	8,095	—8,239	36,953	2,905	... <sup>c</sup>	...	—945
1901 to 1905	15,671	—37,971	495	—11,031	28,127	—1,771	—697	...	—7,177
1906 to 1910	11,157	9,400	12,291	10,590	711	—5,784	—366	...	37,999
1911 to 1913	59,885	32,794	15,340	3,911	15,458	163	364	78	127,993
1861 to 1913	289,960	—13,099	199,039	17,778	133,940	—5,644	—699	78	621,353

Throughout the minus sign (—) signifies that the number of departures was in excess of arrivals.  
(a) Including Northern Territory up to 1900. (b) Included in South Australia up to 1900. (c) Part of New South Wales prior to 1911.

NET IMMIGRATION, OR EXCESS OF ARRIVALS OVER DEPARTURES  
(STATES, TERRITORIES AND COMMONWEALTH), FROM 1861  
TO 1913 INCLUSIVE—Continued.

Period.	States.						Territories.		C'wealth.
	N.S.W.	Victoria.	Q'land.	S. Aust. (a)	W. Aust.	Tas.	North'n (b)	Federal. (c)	
FEMALES.									
1861 to 1865	8,578	21,527	18,824	5,993	952	— 1,358	...	...	54,516
1866 to 1870	9,928	16,702	4,851	1,207	517	— 500	...	...	32,705
1871 to 1875	9,395	2,498	11,187	774	— 18	— 2,500	...	...	21,336
1876 to 1880	25,081	— 169	7,792	12,977	130	462	...	...	46,273
1881 to 1885	38,867	7,861	27,526	— 100	957	562	...	...	75,673
1886 to 1890	23,220	34,337	14,811	— 11,310	1,768	— 42	...	...	62,784
1891 to 1895	12,793	— 13,656	— 422	1,964	7,758	— 1,705	...	...	6,732
1896 to 1900	— 143	— 23,777	927	— 7,627	32,043	2,009	...	...	3,432
1901 to 1905	1,566	— 21,984	— 2,398	8,448	22,293	— 726	81	...	— 9,616
1906 to 1910	9,390	10	7,780	4,403	1,867	— 4,023	— 148	...	19,279
1911 to 1913	33,744	20,404	10,597	6,572	11,588	— 3,352	87	183	79,823
1861 to 1913	172,419	43,753	101,475	6,405	79,855	— 11,173	20	183	392,937
PERSONS.									
1861 to 1865	11,562	5,656	52,855	16,263	4,165	— 4,355	...	...	86,146
1866 to 1870	33,309	30,218	15,041	965	1,699	— 813	...	...	80,419
1871 to 1875	29,741	— 5,595	37,423	4,607	— 98	— 4,416	...	...	61,662
1876 to 1880	73,459	— 5,865	21,684	38,033	— 49	2,880	...	...	130,142
1881 to 1885	109,863	27,786	82,393	— 2,082	3,658	2,422	...	...	224,040
1886 to 1890	52,565	86,231	33,325	— 24,205	8,179	2,606	...	...	158,701
1891 to 1895	21,464	— 46,848	4,666	471	47,201	— 4,562	...	...	22,392
1896 to 1900	— 997	— 63,582	9,022	— 15,866	68,996	4,914	...	...	2,487
1901 to 1905	17,237	— 59,955	— 1,903	— 19,479	50,420	— 2,497	— 616	...	— 16,793
1906 to 1910	20,547	9,410	20,071	14,993	2,578	— 9,807	— 514	...	57,278
1911 to 1913	93,629	53,198	25,937	10,483	27,046	— 3,189	451	261	207,816
1861 to 1913	462,379	30,654	300,514	24,183	213,795	— 16,817	— 679	261	1,014,290

Throughout, the minus sign (—) signifies that the number of departures was in excess of arrivals.  
(a) Including Northern Territory up to 1900. (b) Included in South Australia up to 1900.  
(c) Part of New South Wales prior to 1911.

During the period 1861-1913, viz., 53 years, the gain to the Commonwealth population by excess of arrivals over departures was 1,014,290 persons, while the gain by excess of births over deaths for the same period was 2,712,184. That is, 27.22 per cent. of the increase for the Commonwealth during the past 53 years has been due to "net immigration" and 72.78 per cent. to "natural increase." In regard to the contribution by individual States to the total net immigration of 1,014,290, all shewed a gain with the exception of Tasmania, which in the period under review had an excess of departures over arrivals of 16,817. In the case of Victoria and South Australia, the gain was small, viz., 30,654 and 24,183 respectively. In New South Wales, Queensland, and Western Australia, on the other hand, the additions due to net immigration during the 53 years were respectively 462,379; 300,514, and 213,795.

The quinquennial period in which the greatest net immigration to the Commonwealth occurred was that of 1881-5 with a total of 224,040, whilst in the period 1901-5, the departures exceeded the arrivals by 16,793. The quinquennial periods

in which maximum net immigration occurred in the several States were as follows:—New South Wales and Queensland 1881-5, Victoria 1886-90, South Australia 1876-80, Western Australia and Tasmania 1896-1900. In all the States quinquennial periods have occurred in which the departures for the five years have exceeded the arrivals. The periods in which such net emigration from the several States was greatest were as follows:—New South Wales and Victoria 1896-1900, Queensland 1901-5, South Australia 1886-90, Western Australia 1871-5 and Tasmania 1906-10. For the first three years (1911, 1912, and 1913) of the current quinquennium the gain by immigration has been heavy, the net immigration for the three years being 207,816, which is not far short of the migration gain for the whole of the quinquennium 1881-5 before referred to.

4. **Net Increase.**—The net increase of the population is found by the combination of the natural increase with the net immigration.

In the following table are set out the figures shewing the net increase in each quinquennium from 1861 onwards, and for the triennium 1911-13:—

### NET INCREASE OF THE POPULATION OF THE STATES, TERRITORIES AND COMMONWEALTH FROM 1861 to 1913.

#### MALES.

Period.	States.						Territories.		Commonwealth.
	N.S.W.	Vict.	Q'land.	S. Aust. (a)	W. Aust.	Tas.	North'n (b)	Fed'l. (c)	
1861 to 1865	25,039	18,415	36,475	19,915	3,978	896	...	...	104,718
1866 to 1870	49,231	48,513	15,929	10,639	1,936	2,968	...	...	129,216
1871 to 1875	50,413	27,039	32,940	13,812	630	1,161	...	...	125,995
1876 to 1880	82,418	26,289	21,852	38,732	844	5,890	...	...	176,025
1881 to 1885	113,654	53,539	62,853	14,987	3,703	7,144	...	...	255,880
1886 to 1890	84,098	91,422	36,386	3,624	8,166	8,741	...	...	232,437
1891 to 1895	65,505	12,414	25,613	14,265	40,879	4,032	...	...	162,708
1896 to 1900	47,838	6,160	25,819	4,323	40,355	9,278	...	...	121,453
1901 to 1905	66,850	3,639	17,123	1,118	36,410	6,184	920	...	123,126
1906 to 1910	75,284	48,348	33,706	25,090	11,473	2,919	630	...	196,190
1911 to 1913	104,841	60,466	31,100	15,048	22,776	5,610	257	124	240,222
1861 to 1913	765,171	376,646	339,796	161,553	171,150	54,823	1,293	124	1,867,970

#### FEMALES.

1861 to 1865	34,921	61,142	22,390	15,980	2,057	3,250	...	...	139,740
1866 to 1870	40,255	57,621	12,422	12,430	1,818	3,951	...	...	128,497
1871 to 1875	44,962	43,970	20,893	11,718	1,237	1,692	...	...	124,472
1876 to 1880	65,357	37,382	20,083	27,585	1,715	5,161	...	...	157,283
1881 to 1885	89,071	47,694	42,788	17,933	2,695	6,926	...	...	207,107
1886 to 1890	85,310	82,468	39,049	6,010	4,377	7,186	...	...	224,400
1891 to 1895	76,723	39,534	25,335	18,756	11,134	6,076	...	...	177,558
1896 to 1900	56,964	16,697	24,964	5,816	39,097	8,727	...	...	152,265
1901 to 1905	60,729	17,847	20,512	4,253	33,761	7,301	109	...	144,512
1906 to 1910	80,687	42,639	33,828	19,157	15,221	4,499	115	...	195,916
1911 to 1913	84,665	50,245	30,042	18,131	21,076	2,262	114	219	206,754
1861 to 1913	719,644	497,239	292,306	157,769	134,188	57,031	108	219	1,858,504

(a) Including Northern Territory up to 1900. (b) Included in South Australia up to 1900.

(c) Part of New South Wales prior to 1911.

Note.—The minus sign (—) denotes decrease.

**NET INCREASE OF THE POPULATION OF THE STATES, TERRITORIES  
AND COMMONWEALTH FROM 1861 TO 1913.—Continued.**

**PERSONS.**

Period.	States.						Territories.		Commonwealth.
	N.S.W.	Vic.	Q'land.	S. Aust. (a)	W. Aust.	Tas.	North- ern. (b)	Federal. (c)	
1861 to 1865	59,960	79,557	58,865	35,895	6,035	4,146	...	...	244,458
1865 to 1870	89,486	106,134	28,351	23,069	3,754	6,919	...	...	257,713
1871 to 1875	95,375	71,009	53,833	25,530	1,867	2,853	...	...	250,467
1876 to 1880	147,775	63,671	41,935	66,317	2,559	11,051	...	...	333,308
1881 to 1885	202,725	101,233	105,641	32,920	6,398	14,070	...	...	462,987
1886 to 1890	169,408	173,890	75,435	9,634	12,543	15,927	...	...	456,837
1891 to 1895	142,228	51,948	50,948	33,021	52,013	10,108	...	...	340,266
1896 to 1900	104,802	10,537	50,783	10,139	79,452	18,005	...	...	273,718
1901 to 1905	127,579	14,208	37,635	5,371	70,171	13,485	811	...	267,638
1906 to 1910	155,971	90,987	67,534	44,247	26,694	7,418	745	...	392,106
1911 to 1913	189,506	110,711	61,142	33,179	43,852	7,872	371	343	446,976
1861 to 1913	1,484,815	873,885	632,102	319,322	305,338	111,854	-1,185	343	3,726,474

(a) Including Northern Territory up to 1900. (b) Included in South Australia up to 1900.  
(c) Part of New South Wales prior to 1911.

Note.—The minus sign (—) denotes decrease.

As regards the Commonwealth as a whole, the greatest increase in any quinquennium was that for the period 1881-5, viz., 462,987. These figures were, however, closely approached in the succeeding quinquennium, viz., 456,837. The rate of increase fell off in subsequent quinquennia, the increase for the years 1901-5 being 267,638. Since then an improvement has set in, and the increases for the years 1911 and 1912, viz., 143,624 in the former year and 164,652 in the latter, are the best yet experienced by the Commonwealth. In 1913 the increase though good fell off somewhat, the total being 138,700. The previous best for any single year, viz., 117,654, was experienced in the year 1883.

As regards the individual States the maximum increases in any quinquennium are as follows:—New South Wales, 202,725, in 1881-5; Victoria, 173,890, in 1886-90; Queensland, 105,641, in 1881-5; South Australia (including the Northern Territory), 66,317, in 1876-80; Western Australia, 79,452, in 1896-1900; Tasmania, 18,005, in 1896-1900.

As regards the minimum increases, it will be seen that they have occurred as under:—New South Wales, 59,960, in 1861-5; Victoria, 10,537, in 1896-1900; Queensland, 28,351, in 1866-70; South Australia, 5371, in 1901-5; Western Australia, 1867, in 1871-5; Tasmania, 2853, in 1871-5.

For the years 1911, 1912, and 1913, all the States show a satisfactory rate of increase. As regards the Northern Territory, the figures show a gain of population for that period, being the first time since federation.

The graphs shewing net increase, both for the Commonwealth as a whole and for each of the States, will be found on pages 130 and 131.

**5. Total Increase.**—(i.) *Rates for various Countries.* The table hereunder furnishes particulars concerning rates of increase in population for the Commonwealth, its component States, and other countries:—

## RATES OF INCREASE IN POPULATION, 1881 to 1913 (VARIOUS COUNTRIES).

Countries.	Mean Annual Rate of Increase in Population during period—						
	1881 to 1886.	1886 to 1891.	1891 to 1896.	1896 to 1901.	1901 to 1906.	1906 to 1911.	1911 to 1913.
	%	%	%	%	%	%	%
<b>AUSTRALASIA—</b>							
Commonwealth ...	3.86	3.06	1.86	1.49	1.38	2.03	3.26
New South Wales ...	4.83	3.23	1.99	1.57	1.99	2.03	3.71
Victoria ...	2.60	3.12	0.37	0.52	0.18	2.17	2.76
Queensland ...	8.42	3.80	2.49	2.25	1.35	2.76	3.29
South Australia ...	1.41	1.15	1.63	0.77	0.27	2.46	2.65
Western Australia ...	6.13	5.54	20.81	7.25	6.22	2.43	4.94
Tasmania ...	2.18	2.87	1.06	1.83	1.33	0.65	1.34
New Zealand ...	3.31	1.47	2.41	1.98	2.86	2.56	2.60
<b>EUROPE—</b>							
England and Wales	1.11	1.11	1.15	1.15	1.04	1.04	1911 to 1912. 1.04
Scotland ...	0.75	0.75	1.06	1.06	0.55	0.56	—0.27
Ireland ...	—0.95	—0.94	—0.60	—0.43	—0.22	—0.06	0.03
Austria ...	0.73	0.83	0.79	1.05	0.87	0.86	0.80
Belgium ...	1.13	0.75	1.15	0.92	1.26	0.69	1.08
Denmark ...	1.05	0.87	0.99	1.32	1.12	1.26	1.05
Finland ...	1.42	1.51	1.20	1.41	1.36	1.43	1.30
France ...	0.34	0.06	0.09	0.24	0.15	0.16	0.15
German Empire	0.74	1.09	1.17	1.51	1.46	1.36	...
Hungary ...	1.09	1.01	0.92	1.03	0.77	0.84	0.80
Italy ...	0.66	0.71	0.68	0.61	0.52	0.80	1.03
Netherlands	1.32	1.03	1.28	1.30	1.53	1.22	1.41
Norway ...	0.36	0.54	0.96	1.31	0.52	0.66	0.95
Prussia ...	0.79	1.15	1.29	1.59	1.57	1.48	1.42
Rumania ...	1.77	1.34	1.15	1.41	1.46	1.48	2.03
Servia ...	2.30	2.08	1.37	1.57	1.52	1.55	1.72
Spain ...	0.54	0.48	0.45	0.45	0.52	0.87	—2.16
Sweden ...	0.57	0.40	0.61	0.86	0.61	0.84	0.74
Switzerland	0.38	0.40	1.22	1.10	1.28	1.17	...
<b>ASIA—</b>							
Ceylon ...	0.54	1.35	1.41	2.03	1.62	1.20	0.74
Japan ...	0.96	1.12	0.96	1.25	1.29	1.08	1.23
<b>AMERICA—</b>							
Canada ...	1.10	1.08	0.97	1.19	2.99	2.99	(a) 3.78
Chile ...	2.97	0.72	2.66	0.90	1.53	1.56	1.31
Jamaica ...	—0.77	1.37	1.66	1.72	1.63	0.28	1.77
United States	2.27	2.15	1.93	2.02	2.00	1.82	1.72

— Decrease. (a) 1911 to 1913.

(ii.) *Variations in the Commonwealth Rate.* During the twenty-five years 1881-1906 the annual rate of increase in the population of the Commonwealth exhibited a marked decline, falling from an average of 3.86 per cent. for the five years 1881-6 to an average of 1.38 for 1901-6. During the succeeding quinquennium, however, an improvement took place, the rate of increase being 2.03 per cent. In the quinquennium in progress this improvement is being continued at an increasing rate. As regards the separate States of the Commonwealth, the rates of increase in all cases except that of South Australia were lower, and in most instances considerably lower, for the period 1906-11 than for 1881-6.

(iii.) *Comparison of Rates of Increase.* It may be noted that the highest rates of increase for the period 1906-11 are those for Canada, New Zealand, and the Commonwealth of Australia in the order named. The United States, Chile and Servia rank next in order.

6. *Density of Population.*—From one aspect population may be less significant in respect of its absolute amount than in respect of the density of its distribution. The Commonwealth of Australia, with an area of 2,974,581 square miles, and a population on

31st December, 1913, of 4,972,059 including aboriginals, has a density of only 1.67 persons to the square mile, and is therefore the most sparsely populated of the civilised countries of the world. For the other continents the densities are approximately as follows:—Europe, 120; Asia, 51; Africa, 11; North and Central America, 16; and South America, 7. The population of the Commonwealth has thus about  $10\frac{3}{4}$  per cent. of the density of that of North and Central America, about 23 per cent. of South America, about  $15\frac{1}{2}$  per cent. of that of Africa, about  $3\frac{1}{4}$  per cent. of that of Asia, and about  $1\frac{1}{2}$  per cent. of that of Europe.

Particulars concerning the number and density of the population of the various countries of the world for the latest dates for which such information is available are given in the following table. These figures have in the main been derived from the 1914 issue of the "Statesman's Year Book," and in some instances, more particularly in the case of Africa, must be considered as rough approximations only, complete data not being obtainable:—

### NUMBER AND DENSITY OF THE POPULATION OF THE VARIOUS COUNTRIES OF THE WORLD.

Country.	Population.		Country.	Population.	
	Number.	Density (a)		Number.	Density (a)
<b>Continents—</b>			<b>Asia—</b>		
Europe ... ..	460,686,310	119.56	China & Dependencies ...	320,650,000	81.93
Asia ... ..	861,571,364	51.38	British India ... ..	244,267,542	223.47
Africa ... ..	131,228,127	10.63	Japan & Dep.(incl. Korea)	71,921,775	273.42
North & Central America and the West Indies ...	132,911,536	15.52	Feudatory Indian States	70,888,854	99.90
South America ... ..	54,691,867	7.24	Dutch East Indies ...	37,800,000	64.66
Australasia & Polynesia	8,118,152	2.34	Russia in Asia ... ..	27,236,800	4.10
			Turkey in Asia ... ..	19,436,324	27.79
			Persia ... ..	9,500,000	15.13
			Philippine Islands ...	8,831,618	73.60
			Siam ... ..	8,149,487	41.79
			Tonking ... ..	6,119,720	131.89
			Afghanistan ... ..	6,000,000	24.00
			Annam ... ..	5,554,822	106.62
			Nepal ... ..	5,000,000	92.59
			Ceylon ... ..	4,189,246	165.38
			Cochin China ... ..	3,050,785	152.54
			Arabia (Independent) ...	2,000,000	2.07
			Cambodia ... ..	1,634,252	36.32
			Bokhara ... ..	1,250,000	15.06
			Federated Malay States	1,036,999	37.70
			Malay Protectorate ...	950,000	38.62
			Straits Settlements ...	738,728	461.71
			Borneo and Sarawak ...	708,183	9.69
			Khiva ... ..	645,000	26.92
			Laos ... ..	640,877	6.54
			Oman ... ..	500,000	6.10
			Goa ... ..	475,513	323.70
			Hong Kong & Territory	463,715	1,144.96
			Timor, etc. ... ..	300,000	40.93
			Cyprus ... ..	282,388	78.79
			French India ... ..	276,484	1,410.63
			Bhutan ... ..	250,000	12.50
			Kiauchau ... ..	192,000	960.00
			Kwang Chau Wan ...	150,000	789.47
			Wei-hai-wei ... ..	147,177	516.41
			Bahrein Islands ... ..	100,000	400.00
			Macao, etc. ... ..	63,991	15,997.75
			Damao and Diu ... ..	56,285	333.05
			Aden & Dependencies ...	46,165	5.13
			Brunei ... ..	30,000	7.50
			Tientsin ... ..	17,000	944.44
			Socotra & Kuria Muria Is.	12,000	8.68
			Labuan ... ..	6,634	221.13
<b>Total ... ..</b>	<b>460,686,310</b>	<b>119.56</b>	<b>Total ... ..</b>	<b>861,571,364</b>	<b>51.38</b>

(a) Number of Persons per square mile.

**NUMBER AND DENSITY OF THE POPULATION OF THE VARIOUS  
COUNTRIES OF THE WORLD.—Continued.**

Country.	Population.		Country.	Population	
	Number.	Density (a)		Number.	Density (a)
<b>Africa—</b>					
Northern and Southern			Porto Rico ... ..	1,151,579	319.35
Nigeria Prot. ... ..	17,100,000	50.88	Jamaica ... ..	855,682	203.39
Belgian Congo ... ..	15,000,000	16.49	San Domingo ... ..	708,000	59.24
Turkish Dependencies			Nicaragua ... ..	600,000	12.20
(incl. Egypt & Sudan)	14,975,000	10.82	Honduras ... ..	566,017	12.24
Abyssinia ... ..	8,000,000	18.50	Costa Rica ... ..	399,424	17.37
German East Africa ... ..	7,651,106	19.92	Trinidad and Tobago	345,397	184.90
Union of South Africa ... ..	5,973,394	12.63	Newfoundl'd & Labrador	245,137	1.51
Algeria ... ..	5,563,828	16.20	Guadeloupe and Depend.	212,430	308.76
Upper Senegal and Niger	5,096,340	16.87	Marinique ... ..	194,000	503.90
Morocco ... ..	5,000,000	22.83	Barbados ... ..	172,203	1,037.36
Angola ... ..	4,119,000	8.50	Windward Islands	169,555	327.96
French Equat. Africa ... ..	4,104,076	4.10	Leeward Islands	127,193	177.69
British East Africa Prot.	4,038,000	16.36	Alaska ... ..	64,520	0.11
Madagascar & adjacent			Bahamas ... ..	56,318	12.78
Islands ... ..	3,153,511	13.95	Curaçao ... ..	55,153	136.86
Portuguese East Africa	3,120,000	10.63	British Honduras	41,000	4.77
Uganda Protectorate ... ..	2,893,494	12.95	Danish West Indies	27,086	196.26
Kamerun ... ..	2,650,591	13.87	Bermudas ... ..	19,152	1,007.10
French Guinea ... ..	1,827,462	20.89	Greenland ... ..	13,517	0.29
Liberia ... ..	1,500,000	45.00	Turks & Caicos Islands	5,615	33.83
Tunis ... ..	1,780,527	33.61	Cayman Islands	5,564	62.52
Rhodesia ... ..	1,772,311	4.04	St. Pierre & Miquelon	4,652	50.02
Gold Coast and Protect.	1,503,986	18.39			
Sierra Leone and Protect.	1,403,132	45.26			
Ivory Coast ... ..	1,366,521	10.89			
Senegal ... ..	1,247,301	16.86			
Military Territory of the					
Niger (French) ... ..	1,074,121	2.01	<b>Total ... ..</b>	<b>132,901,536</b>	<b>15.52</b>
Togoland ... ..	1,032,346	30.63			
Nyassaland Protectorate	1,001,114	25.46	<b>South America—</b>		
Dahomey ... ..	902,155	24.04	Brazil ... ..	24,378,219	7.25
Portuguese Guinea ... ..	820,000	58.82	Argentine Republic	7,467,878	6.48
French Sahara ... ..	800,000	0.52	Colombia ... ..	5,472,604	11.86
Tripoli and Benghazi	528,676	1.30	Peru ... ..	4,500,000	6.23
Eritrea ... ..	450,000	9.83	Chile ... ..	3,459,951	11.83
Basutoland ... ..	405,903	34.65	Venezuela ... ..	2,755,685	6.99
Italian Somaliland ... ..	400,000	2.87	Bolivia ... ..	2,267,935	3.73
Mauritius and Depend.	378,427	467.77	Ecuador ... ..	1,500,000	12.93
British Somaliland ... ..	310,000	4.56	Uruguay ... ..	1,225,914	16.99
Mauretania ... ..	250,144	0.73	Paraguay ... ..	800,000	4.85
French Somali Coast, etc.	208,000	4.49	Panama ... ..	426,928	13.18
Rio Muni & C. San Juan	200,000	16.67	British Guiana ... ..	299,044	3.31
Zanzibar ... ..	197,199	193.33	Dutch Guiana ... ..	85,402	1.85
Réunion ... ..	173,822	179.20	French Guiana ... ..	49,009	1.61
Cape Verde Islands	142,552	96.32	Falkland Islands and		
Gambia & Protectorate	138,400	30.76	South Georgia ... ..	3,298	0.44
Bechuanaland Protect.	125,350	0.46			
Swaziland ... ..	99,959	15.29			
Comoro Islands ... ..	95,100	146.31	<b>Total ... ..</b>	<b>54,691,867</b>	<b>7.24</b>
German S. W. Africa ... ..	94,386	0.29			
Spanish N. & W. Africa	44,134	538.22	<b>Australasia &amp; Polynesia—</b>		
Prince's & St. Thomas Is.	42,103	116.95	C'wealth of Australia	(b) 4,972,059	1.67
Fernando Po, etc. ... ..	23,844	29.29	New Zealand ... ..	(c) 1,128,160	10.77
Seychelles ... ..	23,507	150.69	Kaiser Wilhelm Land &		
Rio de Oro and Adrar	12,000	0.16	Bismarck Archipelago	719,000	7.99
Mayotte ... ..	12,000	85.71	Papua ... ..	271,420	3.00
St. Helena ... ..	3,519	74.87	Dutch New Guinea ... ..	200,000	1.32
Ascension ... ..	186	5.47	Hawaii ... ..	191,909	29.76
			Solomon Islands (British)	150,500	10.17
			Fiji ... ..	149,179	20.06
			New Hebrides ... ..	70,000	13.73
			New Caledonia & Depend.	57,208	6.69
			German Solomon Is., etc.	55,264	11.30
			Samoa (German) ... ..	35,000	35.00
			French Estab. in Oceania	31,477	20.71
			Gilbert Islands ... ..	26,863	161.83
			Tonga ... ..	23,737	60.86
			Marshall Islands ... ..	15,179	101.19
			Guam ... ..	12,963	61.73
			Samoa (American) ... ..	7,249	91.76
			Norfolk Island ... ..	985	98.50
			<b>Total ... ..</b>	<b>8,118,152</b>	<b>2.34</b>
<b>North &amp; Central America</b>					
<b>&amp; West Indies—</b>					
United States ... ..	95,410,503	32.08			
Mexico ... ..	15,501,684	19.73			
Canada ... ..	7,758,000	2.08			
Haiti ... ..	2,500,000	245.00			
Cuba ... ..	2,382,990	53.96			
Guatemala ... ..	2,119,165	43.88			
Salvador ... ..	1,200,000	166.09			

(a) Number of persons per square mile. (b) Inclusive of an allowance of 100,000 for Aboriginal Natives. (c) Inclusive of Macris and population of Cook and other Pacific Islands.

### § 5. Seasonal Variations of Population.

1. **Natural Increase.**—For the Commonwealth as a whole the natural increase of the population was greatest in the quarter ending 30th September, and least in that ending 31st March. The birth rate is usually at its highest, and the death rate at its lowest, in the September quarter, and *vice versa* in the March quarter. The average natural increase in population of the several States for each of the quarters, based upon the experience of the ten years 1904 to 1913, is given in the following table, from which it will be seen that the quarter in which the rate of natural increase was highest is that ended 30th June for Victoria and Queensland, that ended 30th September for New South Wales and Western Australia, that ended 31st December for Tasmania, while for South Australia the rate for the quarters ending 30th June and 30th September was almost identical. The rate of natural increase was lowest in the quarter ended 31st March in all the States except Western Australia, in which the lowest rate occurred in the quarter ended 31st December.

#### AVERAGE QUARTERLY NATURAL INCREASE, STATES AND COMMONWEALTH, 1904 to 1913.

State.	(a) Average Natural Increase for Quarter ended on last day of—								Average Natural Increase per annum, 1904-13.	
	March.		June.		September.		December.			
	Persons	‰	Persons	‰	Persons	‰	Persons	‰	Persons	‰
New S. Wales (b)	6,693	4.24	8,818	4.29	7,231	4.53	7,179	4.46	27,921	17.70
Victoria ...	3,946	3.13	4,396	3.47	4,304	3.39	4,343	3.41	16,989	13.46
Queensland ...	2,321	4.11	2,587	4.55	2,570	4.46	2,485	4.28	9,963	17.63
S. Australia (c)	1,389	3.57	1,643	4.22	1,665	4.26	1,509	3.84	6,206	15.95
W. Australia ...	1,168	4.45	1,237	4.66	1,431	5.32	1,179	4.34	5,015	19.10
Tasmania ...	813	4.28	834	4.42	853	4.56	1,002	5.34	3,502	18.44
Commonwealth	16,330	3.85	17,515	4.11	18,054	4.21	17,697	4.10	69,596	16.39

(a) The symbol ‰ denotes "per thousand." (b) Including Federal Territory.

(c) Including Northern Territory.

2. **Net Immigration.**—For the Commonwealth as a whole the excess of arrivals over departures for the years 1904 to 1913 was greatest in the December quarter. In New South Wales the September quarter gave the greatest excess of arrivals over departures. In Western Australia the largest excess was in the June quarter. In Tasmania the arrivals largely exceeded the departures in the December quarter, but in all the other quarters the departures were in excess. In Queensland, the December quarter shewed an excess of departures over arrivals. In Victoria and South Australia the arrivals were greatest in the December quarter, and the departures exceeded the arrivals in the first two quarters. Particulars concerning the average net immigration of the several States are as follows:—

#### AVERAGE QUARTERLY NET IMMIGRATION, STATES AND COMMONWEALTH, 1904 to 1913.

State.	Quarter ended on last day of—								Average Net Immigration per annum, 1904-13.	
	March.		June.		September.		December.			
	Persons	‰	Persons	‰	Persons	‰	Persons	‰	Persons	‰
N.S.W. <i>a</i>	3,948	2.50	2,235	1.41	4,112	2.57	2,636	1.64	12,931	8.20
Victoria	— 198	—0.16	—1,895	—1.50	1,438	1.13	4,403	3.46	3,748	2.97
Q'land	1,240	2.19	5,054	8.89	1,068	1.85	—3,082	—5.31	4,280	7.57
S. Aust. <i>b</i>	688	—1.77	— 461	—1.18	281	0.72	2,908	7.40	2,040	5.24
W. Aust.	1,727	6.57	2,297	8.65	1,145	4.26	— 591	—2.18	4,578	17.43
Tas. ...	—2,105	—11.08	—2,405	—12.75	— 426	—2.28	3,310	17.66	—1,626	—8.57
C'wealth	3,924	0.92	4,825	1.13	7,618	1.78	9,584	2.22	25,951	6.11

Throughout, the minus sign (—) denotes that the departures were in excess of arrivals, and ‰ denotes per thousand of population.

(a) Including Federal Territory. (b) Including Northern Territory.



## § 6. Urban Population.

1. **The Metropolitan Towns.**—A feature of the distribution of population in Australia is the tendency to accumulate in the capital cities. To such an extent is this metropolitan aggregation carried, that in every State the population of the capital far outnumbers that of any other town therein, and ranges between 20 and 46 per cent. of the entire population of the State. The estimated populations of the several capitals on 31st December, 1913, and the percentages of such populations on the totals for the respective States, are shewn in the table hereunder. That this metropolitan concentration is phenomenal, may be readily seen by comparing the percentage on the total population with the similar figures for the principal countries of Europe, also given in the table hereunder:—

### METROPOLITAN POPULATION.

(VARIOUS COUNTRIES.)

State or Country.	Metropolis.	Year.	Population.	Percentage on total of State or Country.
				%
New South Wales ...	Sydney ...	31st Dec., 1913.	725,400	39.60
Victoria ...	Melbourne ...		651,000	46.10
Queensland ...	Brisbane ...		151,300	22.92
South Australia ...	Adelaide ...		201,000	45.58
Western Australia ...	Perth ...		121,700	37.95
Tasmania ...	Hobart ...		40,000	19.83
Commonwealth ...	(6 Cities) ...		1,890,400	38.80
New Zealand ...	Wellington ...	1911	70,729	6.90
Denmark ...	Copenhagen ...	1911	559,398	20.29
England ...	London (a) ...	1911	4,521,685	12.54
Saxony ...	Dresden ...	1913	548,308	11.41
Norway ...	Christiania ...	1910	241,834	10.11
Ireland ...	Dublin ...	1911	403,030	9.18
Bavaria ...	Munich ...	1910	596,467	8.66
Belgium ...	Brussels ...	1912	663,647	8.77
France ...	Paris ...	1911	2,888,110	7.29
Austria ...	Vienna ...	1910	2,031,498	7.11
Scotland ...	Edinburgh ...	1911	320,318	6.73
Portugal ...	Lisbon ...	1911	435,359	7.31
Greece ...	Athens ...	1907	167,479	6.36
Sweden ...	Stockholm ...	1912	350,955	6.26
Prussia ...	Berlin ...	1910	2,071,257	5.16
Netherlands ...	The Hague ...	1912	294,693	4.82
Hungary ...	Budapest ...	1910	880,371	4.22
Spain ...	Madrid ...	1910	571,539	2.92
Switzerland ...	Berne ...	1910	85,264	2.28
Russia (European) ...	Petrograd ...	1912	2,018,596	1.65
Italy ...	Rome ...	1911	542,123	1.56

(a) Population of Greater London in 1911 was 7,251,358.

2. **Urban Population Generally.**—In connection with the particulars shewing the tendency in Australia to concentrate population in the metropolis, it should be borne in mind that in most of the European States the capital is but one of many populous cities, and in some instances is by no means the most populous. In Australia, on the other hand, the metropolis is in every instance the most populous city, and, in some of the States, is also the only town of considerable magnitude.

In the following table will be found particulars of all localities in the Commonwealth returned at the date of the Census, on 3rd April, 1911, as having a population of over 3000. From this it will be seen that there were, in all, 29 localities in the Commonwealth returned as having a population upwards of 20,000. Of these 11 were in New South Wales, 18 in Victoria, 1 in Queensland, 1 in South Australia, 1 in Western Australia and 2 in Tasmania.

The figures given in this table relate to the localities specified as defined by the residents therein. It must be understood that no clearly defined boundaries exist in these cases, and the population given for any locality represents the number of persons who returned themselves as belonging to that locality. For the population within the boundaries of the principal Local Government Areas in the States, reference should be made to paragraph 3 below.

POPULATION OF PRINCIPAL TOWNS IN THE COMMONWEALTH, 3rd APRIL, 1911.

Town.	State in which Situated.	Approx. Population.	Town.	State in which Situated.	Approx. Population.
<b>100,000 and over—</b>			<b>10,000 and under 20,000—cont.</b>		
Sydney ... ..	N.S.W.	107,133	Toowoomba ... ..	Qld.	16,160
<b>20,000 and under 100,000—</b>			Townsville ... ..	N.S.W.	13,678
Adelaide ... ..	S.A.	32,981	Waverley ... ..	Vic.	18,961
Ballarat ... ..	Vic.	38,686	Williamstown ... ..	Vic.	12,114
Balmain ... ..	N.S.W.	31,961	Woolahra ... ..	N.S.W.	12,816
Brisbane South ... ..	Qld.	21,332	<b>5000 and under 10,000—</b>		
Broken Hill ... ..	N.S.W.	30,953	Abbotsford ... ..	Vic.	9,308
Brunswick ... ..	Vic.	32,201	Adelaide North ... ..	S.A.	9,300
Carlton ... ..	"	27,476	Albury ... ..	N.S.W.	5,862
Collingwood ... ..	"	20,254	Alexandria ... ..	"	9,491
Fitzroy ... ..	"	34,141	Ararat ... ..	Vic.	5,402
Footscray ... ..	"	21,933	Armidale ... ..	N.S.W.	6,530
Geelong ... ..	"	21,630	Arncliffe ... ..	"	5,034
Glebe ... ..	N.S.W.	21,444	Ascot Vale ... ..	Vic.	5,655
Hawthorn ... ..	Vic.	24,353	Auburn ... ..	N.S.W.	5,602
Hobart ... ..	Tas.	27,505	Bathurst ... ..	"	9,219
Launceston ... ..	"	20,937	Bexley ... ..	"	6,241
Leichhardt ... ..	N.S.W.	24,139	Bundaberg ... ..	Qld.	8,727
Marrickville ... ..	"	25,993	Burwood ... ..	N.S.W.	8,281
Melbourne ... ..	Vic.	38,293	Cairns ... ..	Qld.	5,193
Melbourne South ... ..	"	46,016	Camberwell ... ..	Vic.	8,547
Newtown ... ..	N.S.W.	26,427	Castlemaine ... ..	"	5,219
Paddington ... ..	"	24,150	Caulfield ... ..	"	7,669
Perth ... ..	W.A.	31,300	Chatswood ... ..	N.S.W.	5,482
Petersham ... ..	N.S.W.	20,407	Claremont ... ..	W.A.	6,252
Prahran ... ..	Vic.	25,489	Coburg ... ..	Vic.	9,454
Redfern ... ..	N.S.W.	24,275	Cottesloe ... ..	W.A.	5,142
Richmond ... ..	Vic.	38,559	Drummoyne ... ..	N.S.W.	5,947
St. Kilda ... ..	"	25,449	Dubbo ... ..	"	5,368
Sydney North ... ..	N.S.W.	32,764	Eaglehawk ... ..	Vic.	6,998
<b>10,000 and under 20,000—</b>			Elsternwick ... ..	"	6,790
Annandale ... ..	N.S.W.	11,250	Ersleville ... ..	N.S.W.	7,234
Ashfield ... ..	"	12,096	Flemington ... ..	Vic.	6,109
Bendigo ... ..	Vic.	17,883	Fortitude Valley ... ..	Qld.	7,090
Botany ... ..	N.S.W.	10,228	Fremantle ... ..	W.A.	6,406
Boulder ... ..	W.A.	12,833	Fremantle South ... ..	"	6,253
Brighton ... ..	Vic.	11,096	Glennelg ... ..	S.A.	5,003
Brisbane ... ..	Qld.	17,715	Grafton and Grafton South ... ..	N.S.W.	6,123
Charters Towers ... ..	"	15,037	Granville ... ..	"	6,938
Essendon ... ..	Vic.	10,087	Hamilton ... ..	"	6,944
Goulburn ... ..	N.S.W.	10,187	" ... ..	Vic.	5,551
Gympie ... ..	Qld.	11,718	Hurstville ... ..	N.S.W.	5,112
Ipswich ... ..	"	10,445	Inverell ... ..	"	5,131
Kalgoorlie ... ..	W.A.	13,488	Kensington ... ..	Vic.	7,341
Kew ... ..	Vic.	11,143	Kogarah ... ..	N.S.W.	6,300
Malvern ... ..	"	15,319	Leederville ... ..	W.A.	5,499
Manly ... ..	N.S.W.	10,687	Lismore ... ..	N.S.W.	7,609
Melbourne North ... ..	Vic.	17,750	Lithgow ... ..	"	6,991
Mosman ... ..	N.S.W.	13,189	Mackay ... ..	Qld.	6,135
Newcastle ... ..	"	12,816	Maitland West ... ..	N.S.W.	7,395
Northcote ... ..	Vic.	17,491	Maryborough ... ..	Qld.	9,410
Parramatta ... ..	N.S.W.	12,520	" ... ..	Vic.	5,804
Port Melbourne ... ..	Vic.	13,471	Moonee Ponds ... ..	"	8,065
Randwick ... ..	N.S.W.	15,793	Mount Morgan ... ..	Qld.	9,772
Rockhampton ... ..	Qld.	15,451	New Farm ... ..	"	5,394
South Yarra ... ..	Vic.	10,060	Newtown ... ..	Vic.	5,863
			Norwood ... ..	S.A.	9,454

POPULATION OF PRINCIPAL TOWNS IN THE COMMONWEALTH,  
3RD APRIL, 1911—Continued.

Town.	State in which Situated.	Approx. Population.	Town.	State in which Situated.	Approx. Population.
5000 and under 10,000— <i>cont.</i>			3000 and under 5000— <i>cont.</i>		
Orange ...	N.S.W.	5,263	Gunnedah ...	N.S.W.	4,100
Paddington ...	Qld.	5,273	Hamilton ...	Qld.	3,229
Parkside ...	S.A.	7,774	Hindmarsh ...	S.A.	3,556
Port Pirie ...	Vic.	7,968	Horsham ...	Vic.	3,554
Preston ...	Vic.	5,025	Ithaca ...	Qld.	3,378
Rockdale ...	N.S.W.	7,453	June ...	N.S.W.	3,606
Rookwood ...	"	5,374	Kangaroo Point ...	Qld.	4,417
St. Peters ...	"	7,037	Katoomba ...	N.S.W.	3,950
Subiaco ...	W.A.	8,701	Kensington ...	S.A.	4,175
Tamworth ...	N.S.W.	7,607	Kurri-Kurri ...	N.S.W.	4,154
Toowong ...	Qld.	5,645	Kyneton ...	Vic.	3,174
Wagga Wagga ...	N.S.W.	7,446	Liverpool ...	N.S.W.	3,081
Wallerawang ...	S.A.	5,282	Maldon ...	Vic.	3,077
Warrnambool ...	Vic.	7,543	Merewether ...	N.S.W.	4,135
Warwick ...	Qld.	5,562	Midland Junction ...	W.A.	3,881
Waterloo ...	N.S.W.	9,471	Mildura ...	Vic.	4,608
Woolloongabba ...	Qld.	8,326	Moonta ...	S.A.	3,772
3000 and under 5000—			Moree ...	N.S.W.	3,161
Albany ...	W.A.	3,699	Mount Gambier ...	S.A.	4,531
Armada ...	Vic.	4,238	Mudgee ...	N.S.W.	3,621
Bairnsdale ...	"	3,412	Narrabri ...	"	4,686
Beechworth ...	"	3,409	Newtown ...	Tas.	3,382
Benalla ...	"	3,172	Northam ...	W.A.	4,205
Bunbury ...	W.A.	3,920	Oakleigh ...	Vic.	3,341
Camperdown ...	N.S.W.	4,768	Parkes ...	N.S.W.	3,411
"	Vic.	3,473	Perth North ...	W.A.	4,895
Campsie ...	N.S.W.	3,987	Perth West ...	"	3,291
Canterbury ...	"	4,190	Port Adelaide ...	S.A.	3,386
Casino ...	"	3,635	Prospect ...	"	3,998
Cessnock ...	"	3,957	Queenstown ...	Tas.	3,659
Clifton Hill ...	Vic.	4,023	Roma ...	Qld.	3,157
Cobar ...	N.S.W.	4,619	Ryde ...	N.S.W.	3,247
Colac ...	Vic.	3,992	St. Arnaud ...	Vic.	4,086
Concord ...	N.S.W.	3,789	Sale ...	"	3,491
Coonamble ...	"	3,280	Semaphore ...	S.A.	3,495
Cootamundra ...	"	3,352	Shepparton ...	Vic.	4,049
Cowra ...	"	3,981	Singleton ...	N.S.W.	3,655
Darlington ...	"	3,815	Stawell ...	Vic.	4,843
Daylesford ...	Vic.	3,928	Strathfield ...	N.S.W.	3,093
Devonport ...	Tas.	3,620	Summer Hill ...	"	3,854
Dulwich Hill ...	N.S.W.	3,578	Temora ...	"	3,561
Echuca ...	Vic.	4,137	Toorak ...	Vic.	3,630
Enfield ...	N.S.W.	3,475	Unley ...	S.A.	4,397
Forbes ...	"	4,664	Wangaratta ...	Vic.	4,136
Fremantle East ...	W.A.	3,856	Waratah ...	N.S.W.	3,597
Gawler ...	S.A.	3,315	Wellington ...	"	4,409
Geraldton ...	W.A.	4,037	Willoughby ...	"	4,693
Glen Innes ...	N.S.W.	3,494	Windsor ...	Vic.	3,953
Goodwood ...	S.A.	4,030	Wollongong ...	N.S.W.	4,725
Grenfell ...	N.S.W.	3,443	Wonthaggi ...	Vic.	3,223
Guildford ...	W.A.	3,007	Wyalong ...	N.S.W.	3,301
		3,924	Young ...	"	3,619
			Zeehan ...	Tas.	3,951

3. **Municipal Population.**—In the following table the population of the Local Government Areas in the several States will be found set out. It includes only those areas having upwards of 5000 in population.

By the term "Local Government Areas" is meant those districts which have been incorporated for Municipal purposes, and are variously known in the several States as Cities, Towns, Boroughs, Shires, Municipalities, Corporations, District Councils and Road Districts.

POPULATION OF PRINCIPAL LOCAL GOVERNMENT AREAS IN THE  
COMMONWEALTH, 3rd APRIL, 1911.

Local Government Area.	State in which Situated.	Approx. Population.	Local Government Area.	State in which Situated.	Approx. Population.
<b>100,000 and upwards—</b>			<b>5000 and under 10,000—</b>		
Sydney ... ..	N.S.W.	112,921	Albionton ... ..	Vic.	5,479
Melbourne ... ..	Vic.	103,593	Albury ... ..	N.S.W.	6,309
<b>20,000 and under 100,000—</b>			Ararat (Shire) ... ..	Vic.	6,335
Adelaide ... ..	S.A.	42,294	Auburn ... ..	N.S.W.	5,559
Ashfield ... ..	N.S.W.	20,431	Bairnsdale ... ..	Vic.	8,190
Ballarat (City) ... ..	Vic.	22,017	Bathurst ... ..	N.S.W.	8,575
Balmain ... ..	N.S.W.	32,038	Beechworth ... ..	Vic.	5,978
Bendigo ... ..	Vic.	28,539	Bellingen ... ..	N.S.W.	9,124
Brisbane ... ..	Qld.	39,917	Benalla ... ..	Vic.	7,688
Brisbane, South ... ..	Qld.	30,051	Berwick ... ..	Vic.	6,632
Broken Hill ... ..	N.S.W.	30,972	Bexley ... ..	N.S.W.	6,517
Brunswick ... ..	Vic.	32,215	Bland ... ..	"	5,522
Cessnock ... ..	N.S.W.	21,018	Blaxland ... ..	"	9,661
Collingwood ... ..	Vic.	34,190	Blue Mountains ... ..	"	6,902
Essendon ... ..	"	23,749	Boree ... ..	"	5,111
Fitzroy ... ..	"	34,283	Borong ... ..	Vic.	5,412
Footscray ... ..	"	23,643	Botany, North ... ..	N.S.W.	5,836
Glebe ... ..	N.S.W.	21,943	Bright ... ..	Vic.	5,943
Hawthorn ... ..	Vic.	24,450	Bundaberg ... ..	Qld.	5,516
Hobart ... ..	Tas.	27,526	Buninyong (Shire) ... ..	Vic.	5,594
Launceston ... ..	"	20,754	Burnside ... ..	S.A.	9,416
Leichhardt ... ..	N.S.W.	24,254	Burwood ... ..	N.S.W.	9,380
Marrickville ... ..	"	30,653	Byron ... ..	"	6,553
Melbourne, South ... ..	Vic.	46,190	Caboollure ... ..	Qld.	5,759
Newtown ... ..	N.S.W.	26,498	Cairns (Town) ... ..	"	5,164
Paddington ... ..	"	24,317	Canoblas ... ..	N.S.W.	5,140
Perth (Municipality) ... ..	W.A.	35,767	Castlemaine ... ..	Vic.	5,228
Petersham ... ..	N.S.W.	21,712	Clifton ... ..	Qld.	7,099
Port Adelaide ... ..	S.A.	24,015	Coburg ... ..	Vic.	9,505
Prahran ... ..	Vic.	45,367	Coolamon ... ..	N.S.W.	5,600
Redfern ... ..	N.S.W.	24,427	Crookwell ... ..	"	6,223
Richmond ... ..	Vic.	40,442	Dandenong ... ..	Vic.	5,134
St. Kilda ... ..	"	25,334	Deloraine ... ..	Tas.	5,779
Sydney, North ... ..	N.S.W.	34,646	Dimboola ... ..	Vic.	5,796
Unley ... ..	S.A.	23,773	Dorrigo ... ..	N.S.W.	7,984
<b>10,000 and under 20,000—</b>			Drummoyne ... ..	"	8,673
Alexandria ... ..	N.S.W.	10,123	Eaglehawk ... ..	Vic.	7,588
Annandale ... ..	"	11,240	Erina ... ..	N.S.W.	9,176
Ballarat, East ... ..	Vic.	15,962	Erskineville ... ..	"	7,299
Boulder ... ..	W.A.	10,824	Esk ... ..	Qld.	5,575
Brighton ... ..	Vic.	12,063	Euroa ... ..	Vic.	5,130
Bulli ... ..	N.S.W.	10,123	Glengallan ... ..	Qld.	5,962
Camberwell ... ..	Vic.	12,551	Gobang ... ..	N.S.W.	5,326
Canterbury ... ..	N.S.W.	11,335	Goolman ... ..	Qld.	5,289
Caullfield ... ..	Vic.	15,919	Granville ... ..	N.S.W.	7,231
Coisac ... ..	"	14,212	Guyra ... ..	"	6,534
Fremantle (Municipality) ... ..	W.A.	14,499	Gympie ... ..	Qld.	8,923
Geelong ... ..	Vic.	13,618	Hamilton ... ..	N.S.W.	7,908
Goulburn ... ..	N.S.W.	10,023	Hampden ... ..	Vic.	9,829
Hindmarsh ... ..	S.A.	11,335	Hastings ... ..	N.S.W.	5,746
Ithaca ... ..	Qld.	15,756	Heidelberg ... ..	Vic.	8,610
Kalgoorlie (Road District) ... ..	W.A.	12,061	Highfields ... ..	Qld.	5,656
Kensington and Norwood ... ..	S.A.	13,892	Hornsby ... ..	N.S.W.	8,901
Kew ... ..	Vic.	11,152	Hunter's Hill ... ..	"	5,013
Lake Macquarie ... ..	N.S.W.	14,610	Hurstville ... ..	"	6,533
Malvern ... ..	Vic.	15,969	Illawarra, Central ... ..	"	5,000
Manly ... ..	N.S.W.	10,465	Illawarra, North ... ..	"	5,157
Manning ... ..	"	11,137	Imlay ... ..	"	5,564
Moorabbin ... ..	Vic.	12,757	Ipswich ... ..	Qld.	9,528
Mosman ... ..	N.S.W.	13,243	Jondaryan ... ..	"	7,469
Newcastle ... ..	"	11,610	Kadina (District Council) ... ..	S.A.	8,096
Northcote ... ..	Vic.	17,519	Kalgoorlie (Municipality) ... ..	W.A.	8,781
Parramatta ... ..	N.S.W.	12,465	Karkaroc ... ..	Vic.	5,743
Port Melbourne ... ..	Vic.	13,515	Kentish ... ..	Tas.	5,571
Queenton ... ..	Qld.	14,277	Kerang ... ..	Vic.	8,969
Randwick ... ..	N.S.W.	19,463	Kogarah ... ..	N.S.W.	6,953
Rockdale ... ..	"	14,095	Korong ... ..	Vic.	5,517
Rockhampton ... ..	Qld.	15,456	Ku-ring-gai ... ..	N.S.W.	9,458
Toowoomba ... ..	"	13,119	Kyneton ... ..	Vic.	6,904
Townsville ... ..	"	10,636	Leederville ... ..	W.A.	5,457
Waterloo ... ..	N.S.W.	10,072	Leven ... ..	Tas.	5,450
Waverley ... ..	"	19,831	Lillydale ... ..	Vic.	6,329
Williamstown ... ..	Vic.	15,275	Lismore ... ..	N.S.W.	7,361
Willoughby ... ..	N.S.W.	13,036	Lithgow ... ..	"	8,196
Woolahra ... ..	"	16,989	Liverpool Plains ... ..	"	5,651

**POPULATION OF PRINCIPAL LOCAL GOVERNMENT AREAS IN THE  
COMMONWEALTH, 3rd APRIL, 1911.—Continued.**

Local Government Area.	State in which Situated.	Approx. Population.	Local Government Area.	State in which Situated.	Approx. Population.
<b>5000 and under 10,000—cont.</b>			<b>5000 and under 10,000—cont.</b>		
Livingstone ...	Qld.	5,656	St. Peters ...	N.S.W.	8,410
Lyndhurst ...	N.S.W.	6,740	" ...	S.A.	9,073
Mackay ...	Qld.	5,141	Severn ...	N.S.W.	6,885
Macleay ...	N.S.W.	6,679	Shepparton ...	Vic.	6,099
Maitland, West ...	"	8,210	Stephens ...	Qld.	5,415
Marong ...	Qld.	6,646	Stroud ...	N.S.W.	5,117
Maroochy ...	Vic.	5,288	Subiaco ...	W.A.	8,926
Maryborough ...	Qld.	5,675	Swan Hill ...	Vic.	6,795
" ...	"	6,119	Tamworth ...	N.S.W.	7,145
Mildura ...	Vic.	5,035	Tarampa ...	Qld.	6,699
Mitcham ...	S.A.	5,504	Tarro ...	N.S.W.	6,492
Mount Morgan ...	Qld.	8,504	Tenterfield (Shire) ...	"	5,153
Mulwaree ...	N.S.W.	7,009	Terania ...	"	5,621
Namoi ...	"	8,062	Thebarton ...	S.A.	8,720
Nanango ...	Qld.	6,433	Thuringowa ...	Qld.	5,095
Narracan ...	Vic.	5,408	Tintenbar ...	N.S.W.	5,865
New Norfolk ...	Tas.	6,124	Toombul ...	Qld.	6,791
Newtown and Chilwell ...	Vic.	5,831	Toowong ...	"	6,286
Nunurkah ...	"	6,844	Towong ...	Vic.	6,418
Nunawading ...	"	7,120	Tungamah ...	"	5,376
Patrick's Plains ...	N.S.W.	6,894	Tweed ...	N.S.W.	7,308
Perth (Road District) ...	W.A.	5,066	Wagga Wagga ...	"	6,419
Phillip Island & Woolamai ...	Vic.	7,067	Wallarobba ...	"	5,619
Pioneer ...	Qld.	9,752	Wambo ...	Qld.	6,749
Poowong and Jeetho ...	Vic.	7,449	Waranga ...	Vic.	5,291
Port Germein ...	S.A.	5,210	Warranbool (Shire) ...	"	8,653
Portland (Shire) ...	Vic.	5,291	Warranbool (Town) ...	"	7,010
Port Pirie ...	S.A.	9,385	Warwick ...	Qld.	5,248
Preston ...	Vic.	5,049	Waugoola ...	N.S.W.	5,262
Prospect ...	S.A.	6,813	Wickham ...	"	8,434
Rodney ...	Vic.	6,718	Windsor ...	Qld.	8,970
Rookwood ...	N.S.W.	5,418	Woodville ...	S.A.	7,787
Rosalie ...	Qld.	7,982	Zeehan ...	Tas.	5,726
Ryde ...	N.S.W.	5,281			

### § 7. Assisted Immigration.

In the earlier days of settlement in Australia, State-assisted immigration played an important part. Such assistance ceased for the time being in Victoria in 1873, in South Australia in 1886, and in Tasmania in 1891. In New South Wales general State-aided immigration was discontinued in the year 1887, but those who arrived under that system and were still residing in New South Wales might, under special regulations, send for their wives and families. A certain amount of passage money, graduated according to the age of the immigrant, was required to be paid in each case. Under the provisions of these regulations, immigrants to the number of 1994 received State assistance during the years 1888 to 1899 inclusive. From 1900 to 1905 no assistance of any kind was given, but from 1906 onwards assistance has again been afforded. In Queensland and Western Australia, such assistance, although varying considerably in volume from year to year, has been accorded for many years past. Assistance to immigrants, which in the case of Victoria, had practically ceased in 1873, has recently been again afforded. In South Australia the principle of State assistance was again introduced in 1911, and in Tasmania in 1912.

The number of assisted immigrants for the years 1911, 1912 and 1913, and the total from the earliest times up to the end of 1913, are given in following table:—

#### **ASSISTED IMMIGRANTS DURING 1911, 1912 AND 1913, AND UP TO THE END OF 1913. STATES AND COMMONWEALTH.**

State ...	N.S.W.	Victoria.	Qld.	S. Aust.	W.A.	Tas.	C'wlth.
No. Assisted during 1911	9,922	6,772	12,875	665	9,562	...	39,796
" " " 1912	14,956	15,112	6,462	3,212	6,970	(a)	46,712
" " " 1913	9,860	12,146	4,757	2,759	7,708	215	37,445
Total to end of 1913 ...	262,497	176,961	207,961	101,984	39,302	21,914	810,619

(a) Figures not available.

## § 8. Enumerations and Estimates.

1. **Musters.**—Actual enumerations of Australia's population, of varying accuracy, have been made from the earliest times onward. Originally known as "Musters," these were first undertaken with a view to estimating the food and other requirements of the settlements. These musters, the results of which are said to have been very unreliable, appear to have been carried out at least annually from 1788 to 1825, when they were discontinued.

2. **Census-taking.**—The first regular Census in Australia was that of New South Wales, in November, 1828. The dates on which Censuses have been taken in the several States, and the populations enumerated thereat, are as shewn in the table on the next page.

3. **The Census of 1901.**—A conference of the Government Statisticians of Australia and New Zealand, held in Sydney in February and March, 1900, aimed at securing uniformity in the collection and compilation of the Census of 1901. The householder's schedule which it drafted made provision for the collection of information in all the States under the following heads, viz.:—Name, Sex, Age, Conjugal Condition, Relation to Head of Household, Occupation, Sickness and Infirmary, Birthplace, Length of Residence in Colony, Religion, Education, Materials of Houses and Number of Rooms. In addition to these, it was agreed that States so desiring might include further inquiries relating to Land, Live Stock, Crops, and certain other matters.

Provision was made for uniformity in the classification and compilation of the data by formulating rules for dealing with cases in which differences of opinion as to methods of treatment might exist. Thus, although conducted by six different States, the Census of the Commonwealth, as taken in 1901, was carried out on a fairly uniform plan, and consequently furnished data in many ways suitable for purposes of aggregation or comparison. A detailed examination of the results, however, gives many indications of departure from a common line of action, which, in the absence of a central authority, can hardly be avoided in an undertaking of this nature.

4. **The Census of 1911.**—Under Section 51, sub-section (xi.) of the Constitution Act, power is given to the Parliament of the Commonwealth to make laws with respect to "Census and Statistics." This power was brought into requisition in 1905, when the Census and Statistics Act of 1905 became law, being assented to on 8th December, 1905. Under this Act provision is made for the appointment of a Commonwealth Statistician, and amongst other duties that officer is charged with the taking of a Census in the year 1911 and in every tenth year thereafter.

The particulars which the Act requires to be included in the Census schedule are almost identical with those which were contained in the 1901 schedule, the principal alterations being that "Length of Residence in Australia" is specified instead of "Length of Residence in the Colony of Enumeration," that "Duration of Marriage" was to be asked in all cases, and that nationality was to be ascertained in addition to birthplace. As already stated in § 1 of the present section, the Census was taken as at 3rd April, 1911.

In each State a Census supervisor was appointed to control the collection within that State under the direction of the Commonwealth Statistician. Each State was then divided into Census districts, each of which was placed in the charge of an enumerator, and each Census district was further subdivided into collectors' districts, one collector for each district.

It should be noted, in connection with the Census of 1911, that a slight change in defining the date of reference has been made in order to accord with the English practice. In previous Australian censuses the date of the Census has been taken to be that of the day preceding the midnight which is adopted as the determining point. Thus, at the Census of 1901, where the figures given relate approximately to midnight between the 31st March and the 1st April, the Australian Census was stated to be that of the 31st March, while in a precisely similar case in England it was stated to be that of 1st April.

At the Census of 1911, taken as at midnight between the 2nd and 3rd April, the date of the Census has, in accordance with the English practice, been stated to be the 3rd April, and that day was gazetted as the day of the Census.

The total populations enumerated at the several Australian Censuses are shewn in the following table:—

### AUSTRALIAN CENSUSES.

Census Year.	Population Enumerated (exclusive of Aborigines).						
	New South Wales.	Victoria.	Queensland	South Australia.	Western Australia.	Tasmania.	Commonwealth. (Total)
1828	(Nov.) 36,598	...	...	...	...	...	...
1833	(2nd Sept.) 60,794	...	...	...	...	...	...
1836	(2nd Sept.) 77,096	...	...	...	...	...	...
1841	(2nd March) 130,856	...	...	...	...	(27th Sept.) 50,216	...
1844	...	...	...	(26th Feb.) 17,366	...	...	...
1846	(2nd March) 189,609	...	...	(26th Feb.) 22,390	...	...	...
1847	...	...	...	...	...	(31st Dec.) 70,164	...
1848	...	...	...	...	(10th Oct.) 4,622	...	...
1851	(1st Mar.) (a) 268,344	...	...	(1st Jan.) 63,700	...	(1st Mar.) 70,130	...
1854	...	(26th Apr.) (b) 234,298	...	...	(30th Sept.) 11,743	...	...
1855	...	...	...	(31st Mar.) 85,821	...	...	...
1856	(1st March) 269,722	...	...	...	...	...	...
1857	...	(29th Mar.) 408,998	...	...	...	(31st Mar.) 81,492	...
1859	...	...	...	...	(31st Dec.) 14,837	...	...
1861	(7th April) 350,860	(7th April) 538,628	(7th April) (b) 30,059	(7th April) 126,830	...	(7th April) 89,977	...
1864	...	...	(1st Jan.) 61,467	...	...	...	...
1866	...	...	...	(26th Mar.) 163,452	...	...	...
1868	...	...	(2nd Mar.) 99,901	...	...	...	...
1870	...	...	...	...	(31st Mar.) 24,785	(7th Feb.) 99,328	...
1871	(2nd April) 502,998	(2nd April) 730,198	(1st Sept.) 120,104	(2nd April) 185,626	...	...	...
1876	...	...	(1st May) 173,283	(26th Mar.) 213,271	...	...	...
1881 (c)	749,825	861,566	213,525	279,865	29,708	115,705	2,250,194
1886	...	...	(1st May) 322,853	...	...	...	...
1891 (d)	1,123,954	1,139,840	393,718	320,431	49,782	146,667	3,174,392
1901 (e)	1,354,846	1,201,070	498,129	363,157	184,124	172,475	3,773,801
1911 (f)	1,646,734	1,315,551	605,813	408,558	282,114	191,211	4,455,005
	(g) 1,714			(h) 3,310			

(a) Including Port Phillip District, which afterwards became the Colony of Victoria. (b) Previously included with New South Wales. (c) 3rd April. (d) 5th April. (e) 31st March. (f) 3rd April. (g) Federal Territory, previously included with New South Wales. (h) Northern Territory, previously included with South Australia.

**5. Estimates of Population.**—In the absence of an annual enumeration of the population, it becomes necessary to adopt some method of estimating it for intercensal periods, basing such estimates on the results of the most recent Censuses. The manner in which

this is effected varies, however, in different parts of the world. In England, for example, the assumption made is that the rate of increase of the preceding intercensal period will continue unchanged during the current period. Again, in the United States, it has been assumed, in certain cases, that the numerical increase per annum ascertained for the preceding intercensal period will hold good for the current period. From the earliest times in Australia, "statistics of fluctuation" have been obtained from the records of births, deaths, arrivals and departures. With reasonable thoroughness in the collection of such statistics, the deduced estimates possess much greater weight than those based on the mere assumption of a continuation of the increase experienced in the preceding period. In most cases, however, estimates of population, based on statistics of fluctuation, are found to be in excess at the Census, thus indicating a uniform tendency to over-estimation, and the necessity for a correction. In the population figures given in the earlier portion of the present section, the estimates of the population of the several States have been carefully revised, the results of the various Censuses being taken in conjunction with the records of births, deaths, arrivals and departures. It is believed that by this means the population of the Commonwealth from the date of settlement onwards has been obtained with a high degree of accuracy, and that the figures supplied represent a reasonably close approximation to the actual numbers. A detailed account of the adjustment for the decennium 1901-10 will be found on pp. 112-118 of Year Book No. 6. Particulars for the several States from the date of settlement onwards are given in the following tables, and are shewn by graphs on pages 127 to 129 :—

COMMONWEALTH POPULATION FROM EARLIEST DATE.

MALES.

Year.	Estimated Population at end of Year.								Common-wealth.
	States.						Territories.		
	New S. Wales.	Victoria.	Queens-land.	South Australia.	Western Australia.	Tas-mania.	North-ern.	Federal	
1788	...	...	...	...	...	...	...	...	*
1790	...	...	...	...	...	...	...	...	*
1795	...	...	...	...	...	...	...	...	*
1800	3,780	...	...	...	...	...	...	...	3,780
1805	5,395	...	...	...	...	...	...	...	5,395
1810	7,585	...	...	...	...	...	...	...	7,585
1815	9,848	...	...	...	...	...	...	...	9,848
1820	23,784	...	...	...	...	...	...	...	23,784
1825	29,309	...	...	...	...	10,979†	...	...	40,288
1830	33,900	...	...	...	877	18,108	...	...	52,885
1835	51,949	...	...	...	1,231	28,749	...	...	81,929
1840	85,560	...	...	8,272	1,434	32,040	...	...	127,306
1845	113,739	...	...	12,810	2,689	43,921	...	...	173,159
1850	154,976	...	...	35,902	3,576	44,229	...	...	238,683
1855	147,822	226,462†	...	48,843	8,311	38,680	...	...	470,118
1860	197,851	330,302	16,817†	64,340	9,597	49,653	...	...	668,560
1865	222,890	348,717	53,292	84,255	13,575	50,549	...	...	773,278
1870	272,121	397,230	69,221	94,894	15,511	53,517	...	...	902,494
1875	322,534	424,269	102,161	108,706	16,141	54,678	...	...	1,028,489
1880	404,952	450,558	124,013	147,438	16,985	60,568	...	...	1,204,514
1885	518,606	504,097	186,866	162,425	20,688	67,712	...	...	1,460,394
1890	602,704	595,519	223,252	166,049	28,854	76,453	...	...	1,692,831
1895	668,209	607,933	248,865	180,314	69,733	80,485	...	...	1,855,539
1900	716,047	601,773	274,684	180,349	110,088	89,763	4,288†	...	1,976,992
1905	782,897	598,134	291,807	181,467	146,498	95,947	3,368	...	2,100,118
1910	858,181	646,482	325,513	206,557	157,971	98,866	2,738	...	2,296,308
1913	962,053	706,948	356,613	221,605	180,747	104,476	2,995	1,093†	2,536,530

\* Details not available. † Previously included with New South Wales. ‡ Previously included with South Australia.



COMMONWEALTH POPULATION FROM EARLIEST DATE.—Continued.  
FEMALES.

Year.	Estimated Population at end of Year.								C'wealth.
	STATES.						TERRITORIES.		
	N.S.W.	Victoria.	Q'nsland.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed-eral.	
1788	...	...	...	...	...	...	...	...	*
1790	...	...	...	...	...	...	...	...	*
1795	...	...	...	...	...	...	...	...	*
1800	1,437	...	...	...	...	...	...	...	1,437
1805	2,312	...	...	...	...	...	...	...	2,312
1810	3,981	...	...	...	...	...	...	...	3,981
1815	5,215	...	...	...	...	...	...	...	5,215
1820	9,759	...	...	...	...	...	...	...	9,759
1825	9,004	...	...	...	...	3,213†	...	...	12,217
1830	10,688	...	...	...	295	6,171	...	...	17,154
1835	19,355	...	...	...	647	11,423	...	...	31,425
1840	41,908	...	...	6,358	877	13,959	...	...	63,102
1845	74,179	...	...	9,650	1,790	20,370	...	...	105,989
1850	111,924	...	...	27,798	2,310	24,641	...	...	166,673
1855	118,179	120,843†	...	48,544	4,294	31,282	...	...	323,142
1860	150,695	207,932	11,239†	61,242	5,749	40,168	...	...	477,025
1865	185,616	269,074	33,629	77,222	7,806	43,418	...	...	616,765
1870	225,871	326,695	46,051	89,652	9,624	47,369	...	...	745,262
1875	270,833	370,665	66,944	101,370	10,861	49,061	...	...	869,734
1880	336,190	408,047	87,027	128,955	12,576	54,222	...	...	1,027,017
1885	425,261	455,741	129,815	146,888	15,271	61,148	...	...	1,234,124
1890	510,571	538,209	168,864	152,898	19,648	68,334	...	...	1,458,524
1895	587,294	577,743	194,199	171,654	30,782	74,410	...	...	1,636,082
1900	644,258	594,440	219,163	176,901	69,879	83,137	569‡	...	1,788,347
1905	704,987	612,287	239,675	181,154	103,640	90,438	678	...	1,932,859
1910	785,674	654,926	273,503	200,311	118,861	94,937	563	...	2,128,775
1913	869,663	705,171	303,545	218,442	139,937	97,199	677	895†	2,335,529

## PERSONS.

1788	859	...	...	...	...	...	...	...	859
1790	2,056	...	...	...	...	...	...	...	2,056
1795	3,466	...	...	...	...	...	...	...	3,466
1800	5,217	...	...	...	...	...	...	...	5,217
1805	7,707	...	...	...	...	...	...	...	7,707
1810	11,566	...	...	...	...	...	...	...	11,566
1815	15,063	...	...	...	...	...	...	...	15,063
1820	33,543	...	...	...	...	...	...	...	33,543
1825	38,313	...	...	...	...	14,192†	...	...	52,505
1830	44,588	...	...	...	1,172	24,279	...	...	70,039
1835	71,304	...	...	...	1,878	40,172	...	...	113,354
1840	127,468	...	...	14,630	2,311	45,999	...	...	190,408
1845	187,918	...	...	22,460	4,479	64,291	...	...	279,148
1850	266,900	...	...	63,700	5,886	68,870	...	...	405,356
1855	266,001	347,305†	...	97,387	12,605	69,962	...	...	793,260
1860	348,546	538,234	28,056†	125,582	15,346	89,821	...	...	1,145,585
1865	408,506	617,791	86,921	161,477	21,381	93,967	...	...	1,390,043
1870	497,992	723,925	115,272	184,546	25,135	100,886	...	...	1,647,756
1875	593,367	794,934	169,105	210,076	27,002	103,739	...	...	1,898,223
1880	741,142	858,605	211,040	276,393	29,561	114,790	...	...	2,231,531
1885	943,867	959,838	316,681	309,313	35,959	128,860	...	...	2,694,518
1890	1,113,275	1,133,728	392,116	318,947	48,502	144,787	...	...	3,151,355
1895	1,255,508	1,185,676	443,064	351,968	100,515	154,895	...	...	3,491,621
1900	1,360,305	1,196,213	493,847	357,250	179,967	172,900	4,857‡	...	3,765,339
1905	1,487,884	1,210,421	531,482	362,621	250,138	186,385	4,046	...	4,032,977
1910	1,643,855	1,301,408	599,016	406,868	276,832	193,803	3,301	...	4,425,083
1913	1,831,716	1,412,119	660,158	440,047	320,684	201,675	3,672	1,988†	4,872,059

\* Details not available.

† Previously included with New South Wales.

‡ Previously included with South Australia.

The tables on the two preceding pages, shewing the quinquennial and other figures for the male, female, and total population of each State and the Commonwealth, give sufficient indication, for general purposes, of its progress. A reference to the diagrams given hereinafter (pp. 127 to 129), on which the graphs shew the particulars for *each year*, is also desirable. The characteristics of the fluctuations of each element, or of the totals, will be more readily perceived by reference to the graphs than they possibly can by reference to these numerical tables. The earliest date for which particulars as to sex were available is 1796. The figures from 1788 to 1825 inclusive are based upon the results of the musters taken in those years; those for subsequent years are founded upon estimates made on the basis of the Census results and the annual returns of births and deaths and immigration and emigration.

The following table furnishes particulars relative to the increase of population of the Commonwealth during each decade, and the percentage of such increase on the population to the commencement of the decade:—

#### INCREASE OF COMMONWEALTH POPULATION.

Decade ended 31st December.	Increase during Decade—					
	Numerical.			Percentage.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
1790 ...	*	*	2,056	%	%	%
1800 ...	*	*	3,161	*	*	153.75
1810 ...	3,805	2,544	6,349	100.66	177.04	121.70
1820 ...	16,199	5,778	21,977	213.57	145.14	190.01
1830 ...	29,101	7,395	36,496	122.36	75.78	108.80
1840 ...	74,421	45,948	120,369	140.72	267.86	171.86
1850 ...	111,377	103,571	214,948	87.49	164.13	112.89
1860 ...	429,877	310,352	740,229	180.10	186.20	182.61
1870 ...	233,934	268,237	502,171	34.99	56.23	43.84
1880 ...	302,020	281,755	583,775	33.47	37.81	35.43
1890 ...	488,317	431,507	919,824	40.54	42.02	41.22
1900 ...	284,161	329,823	613,984	16.79	22.61	19.48
1910 ...	319,316	340,428	659,744	16.15	19.04	17.52

\* Not available.

### § 9. Census of 3rd April, 1911.

1. **Numbers Enumerated.**—As already mentioned, the Census for the whole of the Australian Commonwealth was taken as for the night between the 2nd and the 3rd of April, 1911, and was the first Census under the provisions of the Commonwealth Census and Statistics Act 1905, which provides for the enumeration of the whole of Australia being dealt with from one centre instead of each State being responsible for its own count as on previous occasions. The numbers recorded in the several States and Territories of the Commonwealth were as follows:—

#### POPULATION OF THE COMMONWEALTH, 3rd APRIL, 1911.

(EXCLUSIVE OF FULL-BLOODED ABORIGINALS).

States and Territories.	Males.	Females.	Persons.
<b>States—</b>			
New South Wales ...	857,698	789,036	1,646,734
Victoria ...	655,591	659,960	1,315,551
Queensland ...	329,506	276,307	605,813
South Australia ...	207,358	201,200	408,558
Western Australia ...	161,565	120,549	282,114
Tasmania ...	97,591	93,620	191,211
<b>Territories—</b>			
Northern ...	2,734	576	3,310
Federal ...	992	722	1,714
<b>Total Commonwealth</b> ...	<b>2,313,035</b>	<b>2,141,970</b>	<b>4,455,005</b>

2. **Growth during last Three Decennia.**—The total increase of population of the Commonwealth between the Census of 31st March, 1901, and that of 3rd April, 1911, was 681,204, of which 335,107 were males and 346,097 were females, as compared with a total increase of 599,409, comprising 273,889 males and 325,520 females, for the preceding ten years. The population of each sex enumerated at the Censuses of 3rd April, 1881, 5th April, 1891, 31st March, 1901, and 3rd April, 1911, was as follows:—

### POPULATION OF COMMONWEALTH AT LAST FOUR CENSUSES

(EXCLUSIVE OF FULL-BLOODED ABORIGINALS).

Date of Census.	Males.	Females.	Persons.	(a) Masculinity
3rd April, 1881 ... ..	1,214,913	1,035,281	2,250,194	7.98
5th April, 1891 ... ..	1,704,039	1,470,353	3,174,392	7.36
31st March, 1901 ... ..	1,977,928	1,795,873	3,773,801	4.83
3rd April, 1911 ... ..	2,313,035	2,141,970	4,455,005	3.84

(a) Excess of males over females per 100 of population.

The increases in the populations of the several States during the past three decennia have been as follow:—

### DECENNIAL INCREASES IN THE TOTAL POPULATION.

State.	1881-1891.		1891-1901.		1901-1911.	
	Numerical.	Per cent.	Numerical.	Per cent.	Numerical.	Per cent.
N.S. Wales (a) ...	374,129	49.90	230,892	20.54	293,602	21.67
Victoria ...	278,274	32.30	61,230	5.37	114,481	9.53
Queensland ...	180,193	84.39	104,411	26.52	107,684	21.62
South Australia ...	39,119	14.15	42,813	13.57	50,212	14.01
West. Australia ...	20,074	67.57	134,342	269.86	97,990	53.22
Tasmania ...	30,962	26.76	25,808	17.60	18,736	10.86
N. Territory ...	1,447	41.93	(b) — 87	(b) — 1.78	(b) — 1,501	(b) — 31.20
Commonwealth ...	924,198	41.07	599,409	18.88	681,204	18.05

(a) Including Federal Territory. (b) Decrease.

For the Commonwealth as a whole the increase in population during the decennium 1901-11 was greater by 81,795 than that for the decennium 1891-1901. The rate of increase per cent. was, however, not so great, being 18.05 per cent. for 1901-11, as against 18.88 for 1891-1901. The former corresponds to an increase of 1.67 per cent. per annum, the latter to an increase of 1.74 per cent. per annum.

As regards the separate States, the numerical increases in the case of New South Wales, Victoria, Queensland and South Australia were greater for 1901-11 than for 1891-1901. On the other hand, Western Australia and Tasmania experienced greater numerical increases in the earlier than in the later decennium, while the Northern Territory, which exhibited an actual loss of population in both decennia, experienced a much heavier loss in 1901-11 than in 1891-1901. In the matter of rates of increase per cent. New South Wales, Victoria and South Australia were higher in 1901-11 than in 1891-1901, while Queensland, Western Australia and Tasmania were lower, and the rate of decrease in the Northern Territory was much heavier.

# § 10. Principal Results of Census of 1911.

1. **Census Results.**—In the first issue of the Official Year Book tables are given shewing in some detail particulars concerning the Census of 1901 for the several States under the headings of Ages, Birthplaces, Occupations, Religions, and Conjugal Condition. (See Year Book No. 1, pp. 164 to 179.) In the official Year Book No. 6, pp. 143 to 171, similar and a few additional particulars appeared as to the Census of 3rd April, 1911. In the following tables this information is given in a condensed form.

2. **Ages.**—The numbers of persons of each sex at each age enumerated in the several States of the Commonwealth at the Census of 3rd April, 1911, are as follows:—

## AUSTRALIAN POPULATION AT 3rd APRIL, 1911, CLASSIFIED ACCORDING TO AGE (EXCLUSIVE OF FULL-BLOODED ABORIGINALS).

Age Group.	States.						Territories.		Total C'with.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North'n.	Federal.	
MALES.									
Under 5 years	102,003	73,061	37,724	24,109	17,709	12,636	84	85	267,411
5 & under 15	164,273	129,201	63,532	40,059	26,596	21,393	158	188	445,390
15 .. " 21	100,551	81,223	39,532	25,861	14,533	11,744	107	119	273,670
21 .. " 45	316,463	229,179	121,711	75,059	72,569	32,779	1,002	358	849,120
45 .. " 65	133,550	106,201	51,716	32,067	25,090	14,659	1,221	181	364,685
65 .. upwards	36,368	33,467	13,319	9,285	3,916	3,848	102	53	100,358
Unspecified ...	4,490	3,259	1,982	918	1,152	532	60	8	12,401
Total	857,698	655,591	329,506	207,358	161,565	97,591	2,734	992	2,313,035
FEMALES.									
Under 5 years	98,863	70,417	35,980	23,421	17,215	12,144	87	95	258,222
5 & under 15	161,118	126,427	62,413	39,262	26,014	20,455	148	180	436,017
15 .. " 21	97,950	81,564	37,160	25,605	12,974	11,751	83	106	267,193
21 .. " 45	292,364	242,746	97,277	73,022	47,268	32,018	201	213	785,109
45 .. " 65	104,804	100,670	33,039	29,206	13,638	12,729	47	88	294,221
65 .. upwards	30,134	34,356	9,254	9,730	2,720	3,993	6	32	90,225
Unspecified ...	3,803	3,780	1,184	954	720	530	4	8	10,983
Total	789,036	659,960	276,307	201,200	120,549	93,620	576	722	2,141,970
PERSONS.									
Under 5 years	200,866	143,478	73,704	47,530	34,924	24,780	171	180	525,633
5 & under 15	325,391	255,628	125,935	79,321	52,610	41,848	306	368	881,407
15 .. " 21	198,501	152,787	76,692	51,466	27,507	23,495	190	225	540,863
21 .. " 45	608,627	471,925	218,988	145,081	119,837	64,797	1,203	571	1,634,229
45 .. " 65	238,354	206,871	84,755	61,273	38,728	27,388	1,268	269	658,906
65 .. upwards	66,502	67,833	22,573	19,015	6,636	7,841	108	85	190,583
Unspecified ...	8,293	7,039	3,166	1,672	1,872	1,062	64	16	23,384
Total	1,646,734	1,315,551	605,813	408,558	282,114	191,211	3,310	1,714	4,455,005

3. **Birthplaces.**—In the next table particulars are given of the populations of the several States of the Commonwealth on 3rd April, 1911, classified according to sex and birthplace, the birthplaces being grouped under the five continental divisions of the globe, with two additional headings for those born in Polynesia, and those born at sea. Of the total population of 4,455,005, those of unspecified birthplace numbered 30,470, or slightly less than 7 per thousand:—

### AUSTRALIAN POPULATION at 3rd APRIL, 1911, CLASSIFIED ACCORDING TO BIRTHPLACE

(EXCLUSIVE OF FULL-BLOODED ABORIGINALS).

Birthplace.	States.						Territories.		Total C'with
	N.S.W.	Vic.	Q'land	S.A.	W.A.	Tas.	North- ern.	Fede- ral.	
MALES.									
Australia ... ..	691,736	541,659	232,757	173,811	111,269	86,948	1,029	844	1,840,053
New Zealand ... ..	7,296	4,968	1,632	554	1,819	574	17	2	16,862
United Kingdom ... ..	121,046	82,927	68,406	24,283	32,191	7,577	224	113	336,767
Other European Countries...	15,507	11,501	12,997	5,636	8,080	776	45	4	54,546
Asia... ..	10,386	5,939	8,378	1,033	5,605	579	1,359	5	33,284
Africa ... ..	1,087	747	332	193	244	70	9	...	2,682
America ... ..	3,111	1,874	1,218	523	813	183	12	4	7,738
Polynesia ... ..	676	121	1,567	23	57	21	11	...	2,476
At Sea ... ..	817	630	342	211	146	62	1	...	2,209
Unspecified ... ..	6,036	5,225	1,877	1,091	1,341	801	27	20	16,418
Total ... ..	857,698	655,591	329,506	207,358	161,565	97,591	2,734	992	2,313,035

FEMALES.									
Australia ... ..	685,483	567,286	213,938	176,450	97,781	85,549	476	654	1,827,617
New Zealand ... ..	6,667	5,099	944	432	1,235	626	1	2	15,006
United Kingdom ... ..	83,348	74,509	51,609	20,148	18,361	5,895	38	47	253,955
Other European Countries...	4,264	3,845	7,230	2,353	1,348	358	4	1	19,403
Asia... ..	1,077	737	489	211	391	199	54	...	3,158
Africa ... ..	912	751	195	164	179	75	...	...	2,276
America ... ..	1,313	1,109	470	241	310	96	...	1	3,540
Polynesia ... ..	523	158	161	32	31	23	1	...	934
At Sea ... ..	662	673	287	211	135	60	1	...	2,029
Unspecified ... ..	4,782	5,793	984	958	778	739	1	17	14,052
Total ... ..	789,036	659,960	276,307	201,200	120,549	93,620	576	722	2,141,970

PERSONS.									
Australia ... ..	1,377,219	1,108,945	446,695	350,261	209,050	172,497	1,505	1,498	3,667,670
New Zealand ... ..	13,963	10,067	2,576	986	3,054	1,200	18	4	31,868
United Kingdom ... ..	204,394	157,436	120,015	44,431	50,552	13,472	262	160	590,722
Other European Countries...	19,771	15,346	20,227	7,989	9,428	1,134	49	5	73,949
Asia... ..	11,463	6,676	8,867	1,244	5,996	778	1,413	5	36,442
Africa ... ..	1,999	1,498	527	357	423	145	9	...	4,958
America ... ..	4,424	2,983	1,688	764	1,123	279	12	5	11,278
Polynesia ... ..	1,204	279	1,728	35	88	44	12	...	3,410
At Sea ... ..	1,479	1,303	629	422	261	122	2	...	4,238
Unspecified ... ..	10,818	11,018	2,861	2,049	2,119	1,540	28	37	30,470
Total ... ..	1,646,734	1,315,551	605,813	408,558	282,114	191,211	3,310	1,714	4,455,005

4. **Occupations.**—In the compilation of the results of the Census of 3rd April, 1911, the populations of the several States and Territories were tabulated according to occupation in the following classes:—

(i.) *Professional.* Embracing all persons not otherwise classed, mainly engaged in the government and defence of the country, and in satisfying the moral, intellectual, and social wants of its inhabitants.

(ii.) *Domestic.* Embracing all persons engaged in the supply of board and lodging, and in rendering personal services for which remuneration is usually paid.

(iii.) *Commercial.* Embracing all persons directly connected with the hire, sale, transfer, distribution, storage, and security of property and materials.

(iv.) *Transport and Communication.* Embracing all persons engaged in the transport of persons or goods, or in effecting communication.

(v.) *Industrial.* Embracing all persons not otherwise classed who are principally engaged in various works of utility, or in specialities connected with the manufacture, construction, modification, or alteration of materials so as to render them more available

for the various uses of man, but excluding, as far as possible, all who are mainly or solely engaged in the service of commercial interchange.

(vi.) *Agricultural, Pastoral, Mineral, and other Primary Producers.* Embracing all persons mainly engaged in the cultivation or acquisition of food products, and in obtaining other raw materials from natural sources.

(vii.) *Independent.* Embracing all persons of independent means having no specific occupation.

(viii.) *Dependents.* Embracing all persons dependent upon relatives or natural guardians, including wives, children, and others, not otherwise engaged in pursuits for which remuneration is paid, and all persons depending upon private charity, or whose support is a burthen on the public revenue.

Particulars concerning the number contained in each of these classes are given in the table hereunder:—

**AUSTRALIAN POPULATION AT 3rd APRIL, 1911, CLASSIFIED ACCORDING TO OCCUPATION**

(EXCLUSIVE OF FULL-BLOODED ABORIGINALS).

Occupation.	States.						Territories.		Cwealth
	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	North-ern.	Fede-ral.	
MALES.									
Class									
I. Professional ...	36,763	26,607	11,403	6,644	6,746	3,350	73	52	91,638
II. Domestic ...	18,898	13,619	6,354	3,418	4,319	1,489	127	11	48,235
III. Commercial ...	88,208	74,448	28,905	22,304	15,378	7,041	196	19	236,499
IV. Transport and Communication ...	60,367	37,629	22,521	15,523	11,900	4,407	194	13	152,554
V. Industrial ...	171,921	141,317	56,949	44,385	24,043	14,710	208	210	453,743
VI. Primary Producers	199,143	139,221	98,721	47,642	53,059	30,413	1,673	396	570,268
VII. Independent ...	5,507	4,546	2,027	931	478	436	9	5	13,939
VIII. Dependents ...	265,731	202,357	98,359	62,275	43,913	33,630	236	272	706,773
Unspecified ...	11,160	15,847	4,267	4,236	1,729	2,115	18	14	39,886
Total ...	857,698	655,591	329,506	207,358	161,565	97,591	2,734	992	2,313,035
FEMALES.									
Class									
I. Professional ...	19,377	17,212	6,250	4,529	3,453	2,131	13	8	52,973
II. Domestic ...	54,483	48,556	20,216	14,060	9,303	6,375	74	64	153,131
III. Commercial ...	18,112	17,163	5,659	4,674	2,906	1,671	...	3	50,188
IV. Transport and Communication ...	1,597	1,609	621	347	326	331	...	6	4,837
V. Industrial ...	36,093	46,456	11,313	8,181	3,985	2,558	4	4	108,594
VI. Primary Producers	4,950	5,163	3,183	1,406	528	614	12	24	15,880
VII. Independent ...	3,401	3,507	731	761	272	443	...	1	9,116
VIII. Dependents ...	650,480	518,780	227,711	166,432	99,554	79,171	473	612	1,743,213
Unspecified ...	543	1,514	623	810	222	326	...	...	4,038
Total ...	789,036	659,960	276,307	201,200	120,549	93,620	576	722	2,141,970
PERSONS.									
Class									
I. Professional ...	56,140	43,819	17,653	11,173	10,199	5,481	86	60	144,611
II. Domestic ...	73,381	62,175	26,570	17,478	13,622	7,864	201	75	201,366
III. Commercial ...	106,320	91,611	34,564	26,978	18,284	8,712	196	22	286,687
IV. Transport and Communication ...	61,964	39,238	23,142	15,870	12,226	4,738	194	19	157,391
V. Industrial ...	208,014	187,773	68,262	52,566	28,028	17,268	212	214	562,337
VI. Primary Producers	204,093	144,384	101,904	49,048	53,587	31,027	1,685	420	586,148
VII. Independent ...	8,908	8,053	2,758	1,692	750	879	9	6	23,055
VIII. Dependents ...	916,211	721,137	326,070	228,707	143,467	112,301	709	884	2,449,986
Unspecified ...	11,703	17,361	4,890	5,046	1,951	2,441	18	14	43,424
Total ...	1,646,734	1,315,551	605,813	408,558	282,114	191,211	3,310	1,714	4,455,005

5. **Religions.**—In the Act under which the Census of 1911 was taken in the several States, persons enumerated were required under penalty to furnish replies to all the inquiries contained in the schedule, with the exception of that relating to religion. In this case, any person objecting to give such particulars was allowed to insert the words "Object to state" in the space provided for religion. Of the total population of 4,455,005 there were 83,003, or 1.86 per cent., who availed themselves of this option. There were also 36,114, or 0.81 per cent., concerning whom no particulars as to religion were obtained.

Of the remainder, 4,274,414, or 95.95 per cent., were members of the various Christian denominations, 36,785 were members of non-Christian religions, 14,673 were of indefinite religious belief, and 10,016 stated that they were of no religion.

Amongst the Christian denominations, that most numerous represented was the Church of England, with 1,710,443 adherents, the next in order being the Roman Catholic (921,425), the Presbyterian (558,336), the Methodist (547,806), the Baptist (97,074), the Congregational (74,046), the Lutheran (72,395), the Church of Christ (38,748), and the Salvation Army (26,665).

The principal non-Christian religions represented in Australia were the Hebrew, Confucian, Mohammedan and Buddhist, the members of the Hebrew congregation totalling 17,287.

Those included under the head of "Indefinite" in the attached table consist mainly of persons who stated that they were "Freethinkers" or "Agnostics," or returned themselves as being of "No Denomination," while under the head of "No Religion" are given those who were so returned on the schedules as well as a small number who stated that they were "Atheists."

**AUSTRALIAN POPULATION AT 3rd APRIL, 1911, CLASSIFIED ACCORDING TO RELIGION.**  
(EXCLUSIVE OF FULL-BLOODED ABORIGINALS).

Religion.	States.						Territories.		Total C'with.
	N.S.W.	Vic.	Q'land	S.A.	W.A.	Tas.	North- ern.	Feder- al.	
MALES.									
Christian ... ..	820,484	623,789	305,929	192,825	147,116	92,902	1,050	961	2,185,056.
Non-Christian ... ..	8,965	5,618	5,627	989	4,913	265	1,256	1	27,634
Indefinite ... ..	3,068	3,347	1,662	791	1,223	284	20	3	10,398
No Religion ... ..	2,471	2,110	1,595	787	1,074	169	31	2	8,239
Object to State ... ..	14,989	14,212	8,981	9,930	4,547	3,006	86	13	55,766
Unspecified ... ..	7,721	6,515	5,712	2,036	2,692	963	291	12	25,942
Total ... ..	857,698	655,591	329,506	207,358	161,565	97,591	2,734	992	2,313,035.
FEMALES.									
Christian ... ..	773,845	643,264	269,895	193,718	116,644	90,938	349	705	2,089,358
Non-Christian ... ..	3,808	3,224	563	442	937	71	106	...	9,151
Indefinite ... ..	1,143	1,877	435	344	332	142	2	...	4,275.
No Religion ... ..	481	531	311	231	186	41	6	...	1,777
Object to State ... ..	6,997	7,758	3,611	5,331	1,598	1,921	12	9	27,237
Unspecified ... ..	2,762	3,306	1,492	1,144	852	507	101	8	10,172
Total ... ..	789,036	659,960	276,307	201,200	120,549	93,620	576	722	2,141,970.
PERSONS.									
Christian ... ..	1,594,329	1,267,053	575,824	386,543	263,760	183,840	1,399	1,666	4,274,414
Non-Christian ... ..	12,773	8,842	6,190	1,431	5,850	336	1,362	1	36,785
Indefinite ... ..	4,211	5,224	2,097	1,135	1,555	426	22	3	14,673
No Religion ... ..	2,952	2,641	1,906	1,008	1,260	210	37	2	10,016.
Object to State ... ..	21,986	21,970	12,592	15,261	6,145	4,929	98	22	83,003
Unspecified ... ..	10,483	9,821	7,204	3,180	3,544	1,470	392	20	36,114
Total ... ..	1,646,734	1,315,551	605,813	408,558	282,114	191,211	3,310	1,714	4,455,005.

6. **Conjugal Condition.**—In the following tables particulars are given concerning the population of the several States and Territories on 3rd April, 1911, classified according to age and conjugal condition :—

**AUSTRALIAN POPULATION AT 3rd APRIL, 1911, CLASSIFIED ACCORDING TO CONJUGAL CONDITION AND AGE.**

**MALES.**

Age Group.	States.						Territories.		C'wealth
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas	North-ern.	Fed-eral.	
NEVER MARRIED.									
Under 15 ...	266,274	202,261	101,246	64,168	44,305	34,029	242	273	712,798
15 & under 21	99,446	80,655	39,270	25,648	14,432	11,630	106	119	271,306
21     "     45	153,938	113,648	65,276	36,380	38,446	14,707	733	225	423,353
45     "     65	27,381	18,713	13,684	4,749	7,294	2,158	862	52	74,893
65 & upwards	7,222	5,527	2,954	938	942	413	63	10	18,069
Unspecified	2,089	1,800	1,148	459	641	263	54	4	6,458
Total	556,350	422,604	223,578	132,342	106,060	63,200	2,060	683	1,506,877
MARRIED.									
Under 15 ...	2	1	...	...	...	...	...	...	3
15 & under 21	1,097	566	260	210	99	114	1	...	2,347
21     "     45	157,224	111,942	54,549	37,708	32,725	17,488	236	125	411,997
45     "     65	95,496	79,536	34,056	24,987	15,630	11,291	304	114	261,414
65 & upwards	20,086	18,594	7,159	5,879	1,997	2,389	32	33	56,169
Unspecified	1,523	1,111	522	318	251	188	2	4	3,919
Total	275,428	211,750	96,546	69,102	50,702	31,470	575	276	735,849
WIDOWED.									
Under 15 ...	...	...	...	...	...	...	...	...	...
15 & under 21	8	2	2	2	1	...	...	...	15
21     "     45	3,951	2,956	1,540	865	1,153	402	12	6	10,885
45     "     65	9,855	7,496	3,740	2,268	2,029	1,102	46	15	26,551
65 & upwards	8,903	9,220	3,169	2,457	962	1,021	6	9	25,747
Unspecified	170	146	62	35	35	28	1	...	477
Total	22,887	19,820	8,513	5,627	4,180	2,553	65	30	63,675
DIVORCED.									
Under 15 ...	...	...	...	...	...	...	...	...	...
15 & under 21	...	...	...	1	1	...	...	...	2
21     "     45	569	258	115	45	99	24	...	...	1,110
45     "     65	566	267	81	39	77	31	1	...	1,062
65 & upwards	81	41	9	7	6	3	...	1	148
Unspecified	14	9	9	1	4	1	...	...	38
Total	1,230	575	214	93	187	59	1	1	2,360



AUSTRALIAN POPULATION AT 3RD APRIL, 1911.—Continued.  
MALES—Continued.

Age Group.	States.						Territories.		C'wealth.
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed-eral.	
NOT STATED.									
Under 15 ...	...	...	...	...	...	...	...	...	...
15 & under 21	...	...	...	...	...	...	...	...	...
21 „ 45	781	375	231	61	146	158	21	2	1,775
45 „ 65	252	189	155	24	60	77	8	...	765
65 & upwards	76	85	28	4	9	22	1	...	225
Unspecified	694	193	241	105	221	52	3	...	1,509
Total	1,803	842	655	194	436	309	33	2	4,274

## FEMALES.

## NEVER MARRIED.

Under 15 ...	259,975	196,838	98,389	62,681	43,229	32,598	235	275	694,220
15 & under 21	90,844	78,170	34,851	24,409	11,969	10,919	63	104	251,329
21 " 45	103,042	101,293	32,510	28,098	12,199	11,209	43	66	288,460
45 " 65	10,689	15,274	2,030	3,288	1,048	1,563	2	1	33,895
65 & upwards	1,868	2,027	322	543	110	330	...	1	5,201
Unspecified	1,185	1,255	377	311	252	174	3	4	3,561
Total	467,608	394,857	168,479	119,330	68,807	56,793	346	451	1,276,666

## MARRIED.

Under 15 ...	6	6	4	2	...	1	...	...	19
15 & under 21	6,977	3,303	2,280	1,166	988	818	18	2	15,552
21 " 45	181,426	184,801	62,181	43,392	33,554	20,063	147	141	475,705
45 " 65	74,473	65,795	24,769	20,798	9,945	9,048	39	70	204,937
65 & upwards	11,245	10,748	3,998	3,521	917	1,338	2	16	31,785
Unspecified	2,089	1,812	682	506	376	305	1	4	5,775
Total	276,216	216,465	93,914	69,385	45,780	31,573	207	233	733,773

## WIDOWED.

Under 15 ...	...	...	...	...	...	...	...	...	...
15 & under 21	29	25	9	6	7	5	...	...	81
21 " 45	6,936	6,143	2,487	1,469	1,407	666	9	5	19,122
45 " 65	19,234	19,329	6,200	5,090	2,617	2,060	6	17	54,553
65 & upwards	16,959	21,515	4,924	5,657	1,692	2,306	4	15	53,072
Unspecified	413	504	100	112	62	49	...	...	1,240
Total	43,571	47,516	13,720	12,334	5,785	5,086	19	37	128,068

**AUSTRALIAN POPULATION AT 3RD APRIL, 1911—Continued.**  
**FEMALES—Continued.**

Age Group.	States.						Territories.		C'wealth.
	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	North- ern.	Fed- eral.	
DIVORCED.									
Under 15 ...	...	...	...	...	...	...	...	...	...
15 & under 21	4	4	...	...	...	...	...	...	8
21 " 45	774	396	57	34	76	21	...	1	1,359
45 " 65	360	231	24	24	26	12	...	...	677
65 & upwards	36	27	4	3	...	1	...	...	71
Unspecified	16	7	...	1	1	...	...	...	25
Total	1,190	665	85	62	103	34	...	1	2,140

**NOT STATED.**

Under 15 ...	...	...	...	...	...	...	...	...	...
15 & under 21	96	62	20	24	10	9	2	...	223
21 " 45	186	113	42	29	32	59	2	...	463
45 " 65	48	41	16	6	2	46	...	...	159
65 & upwards	26	39	6	6	1	18	...	...	96
Unspecified...	100	202	25	24	29	2	...	...	382
<b>Total ...</b>	<b>456</b>	<b>457</b>	<b>109</b>	<b>89</b>	<b>74</b>	<b>134</b>	<b>4</b>	<b>...</b>	<b>1,323</b>

**SUMMARY OF PERSONS RECORDED IN EACH STATE AND TERRITORY OF  
 THE COMMONWEALTH AT THE CENSUS OF 3RD APRIL, 1911, CLASSIFIED  
 ACCORDING TO CONJUGAL CONDITION AND SEX**  
 (EXCLUSIVE OF FULL-BLOODED ABORIGINALS).

Conjugal Condition.	States.						Territories.		C'wlth.
	N.S.W.	Victoria	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Federal.	
MALES.									
Never married ...	556,350	422,604	223,578	132,342	106,060	63,200	2,060	683	1,506,877
Married ...	275,428	211,750	96,546	69,102	50,702	31,470	575	276	735,849
Widowed ...	22,887	19,820	8,513	5,627	4,180	2,553	65	30	63,675
Divorced...	1,230	575	214	93	187	59	1	1	2,360
Not stated	1,803	842	655	194	436	309	33	2	4,274
Total	857,698	655,591	329,506	207,358	161,565	97,591	2,734	992	2,313,035

**FEMALES.**

Never married ...	467,603	394,857	168,479	119,330	68,807	56,793	346	451	1,276,666
Married ...	276,216	216,465	93,914	69,385	45,780	31,573	207	233	733,773
Widowed ...	43,571	47,516	13,720	12,334	5,785	5,086	19	37	128,068
Divorced...	1,190	665	85	62	103	34	...	1	2,140
Not stated	456	457	109	89	74	134	4	...	1,323
<b>Total</b>	<b>789,036</b>	<b>659,960</b>	<b>276,307</b>	<b>201,200</b>	<b>120,549</b>	<b>93,620</b>	<b>576</b>	<b>722</b>	<b>2,141,970</b>

**PERSONS.**

Never married ...	1,023,953	817,461	392,057	251,672	174,867	119,993	2,406	1,134	2,783,543
Married ...	551,644	428,215	190,460	138,487	96,482	63,043	782	509	1,469,622
Widowed	66,458	67,336	22,233	17,961	9,965	7,639	84	67	191,743
Divorced	2,420	1,240	299	155	290	93	1	2	4,500
Not stated	2,259	1,299	764	283	510	443	37	2	5,597
<b>Total</b>	<b>1,646,734</b>	<b>1,315,551</b>	<b>605,813</b>	<b>408,558</b>	<b>282,114</b>	<b>191,211</b>	<b>3,310</b>	<b>1,714</b>	<b>4,455,005</b>

7. **Education.**—In the following table are contained particulars of the education of the population of the States and Territories of the Commonwealth as at the date of the Census of 3rd April, 1911. Of the total population of 4,455,005 there were 3,650,030, or 81.93 per cent., who were able to read and write in the English language, and 26,210, or 0.59 per cent., who were able to read and write in a foreign language, though unable to read or write English.

**EDUCATION OF THE POPULATION OF THE STATES AND TERRITORIES OF  
THE COMMONWEALTH OF AUSTRALIA**

AT THE CENSUS OF 3RD OF APRIL, 1911 (EXCLUSIVE OF FULL-BLOODED  
ABORIGINALS).

**MALES.**

States and Territories.	English Language.		Foreign Language only.		Cannot Read.	Not Stated.	Total.
	Read and Write.	Read only.	Read and Write.	Read Only.			
<b>STATES—</b>							
New South Wales ...	696,258	2,565	5,889	497	134,215	18,274	857,698
Victoria ...	547,753	1,271	3,572	532	88,995	13,468	655,591
Queensland ...	265,896	1,136	6,185	678	49,406	6,205	329,506
South Australia ...	169,508	556	1,156	102	31,891	4,145	207,358
Western Australia ...	128,648	311	4,371	303	22,524	5,408	161,565
Tasmania ...	76,247	456	181	20	18,244	2,443	97,591
<b>TERRITORIES—</b>							
Northern ...	1,126	4	852	29	642	81	2,734
Federal... ..	820	9	2	...	140	21	992
<b>Total Commonwealth ...</b>	<b>1,886,256</b>	<b>6,308</b>	<b>22,208</b>	<b>2,161</b>	<b>346,057</b>	<b>50,045</b>	<b>2,313,035</b>

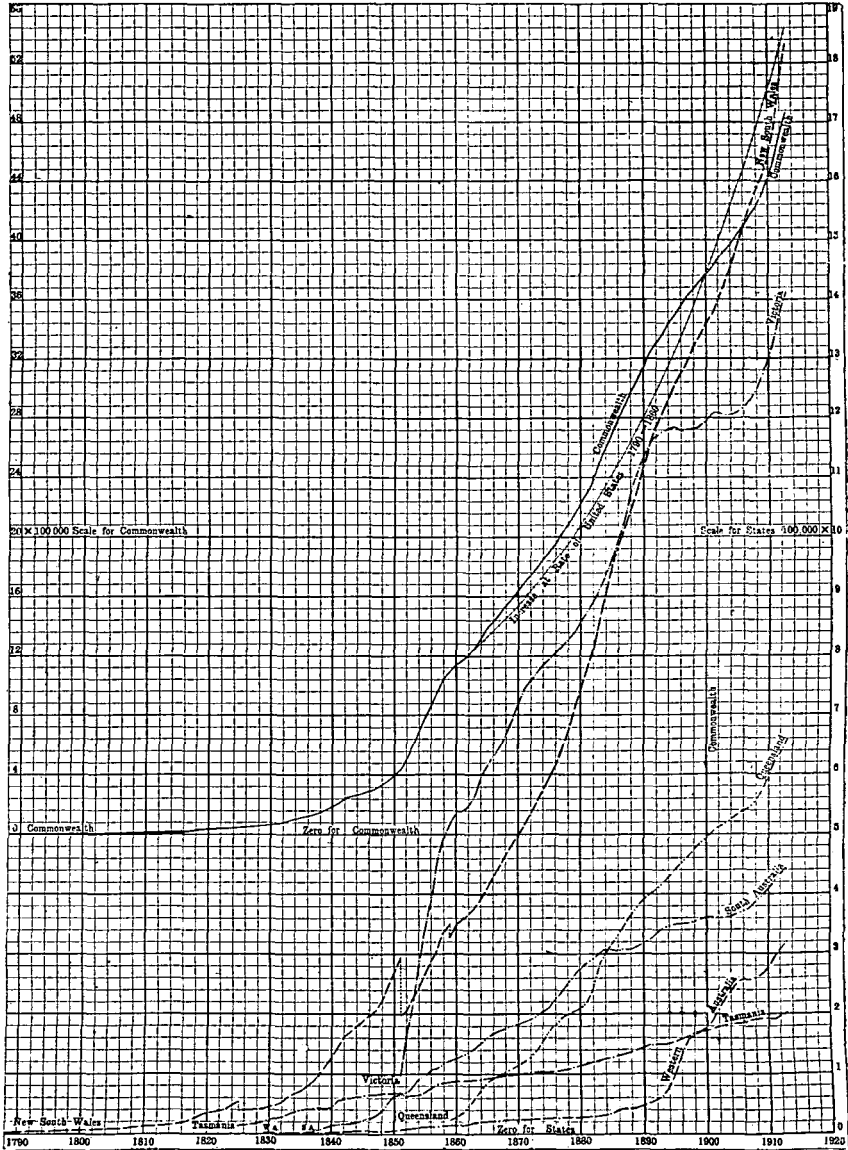
**FEMALES.**

<b>STATES—</b>							
New South Wales ...	645,022	3,140	650	61	123,808	16,355	789,036
Victoria ...	555,675	2,626	665	66	84,449	16,479	659,960
Queensland ...	225,086	1,272	1,772	252	43,787	4,138	276,307
South Australia ...	165,634	993	531	88	29,987	3,967	201,200
Western Australia ...	96,702	256	317	15	20,724	2,535	120,549
Tasmania ...	74,795	409	30	4	16,235	2,147	93,620
<b>TERRITORIES—</b>							
Northern ...	292	...	37	...	203	44	576
Federal... ..	568	5	...	...	132	17	722
<b>Total Commonwealth ...</b>	<b>1,763,774</b>	<b>8,701</b>	<b>4,002</b>	<b>486</b>	<b>319,325</b>	<b>45,682</b>	<b>2,141,970</b>

**PERSONS.**

<b>STATES—</b>							
New South Wales ...	1,341,280	5,705	6,539	558	258,023	34,629	1,646,734
Victoria ...	1,103,423	3,897	4,237	598	173,444	29,947	1,315,551
Queensland ...	490,982	2,408	7,957	930	93,193	10,343	605,813
South Australia ...	335,142	1,549	1,687	190	61,878	8,112	408,558
Western Australia ...	225,350	567	4,688	318	43,248	7,943	282,114
Tasmania ...	151,042	865	211	24	34,479	4,590	191,211
<b>TERRITORIES—</b>							
Northern ...	1,418	4	889	29	845	125	3,310
Federal... ..	1,388	14	2	...	272	38	1,714
<b>Total Commonwealth ...</b>	<b>3,650,030</b>	<b>15,009</b>	<b>26,210</b>	<b>2,647</b>	<b>665,382</b>	<b>95,727</b>	<b>4,455,005</b>

GRAPHS OF TOTAL POPULATION OF THE COMMONWEALTH OF AUSTRALIA  
AND EACH STATE THEREIN, 1788-1913.



(See Tables pages 85 to 87.)

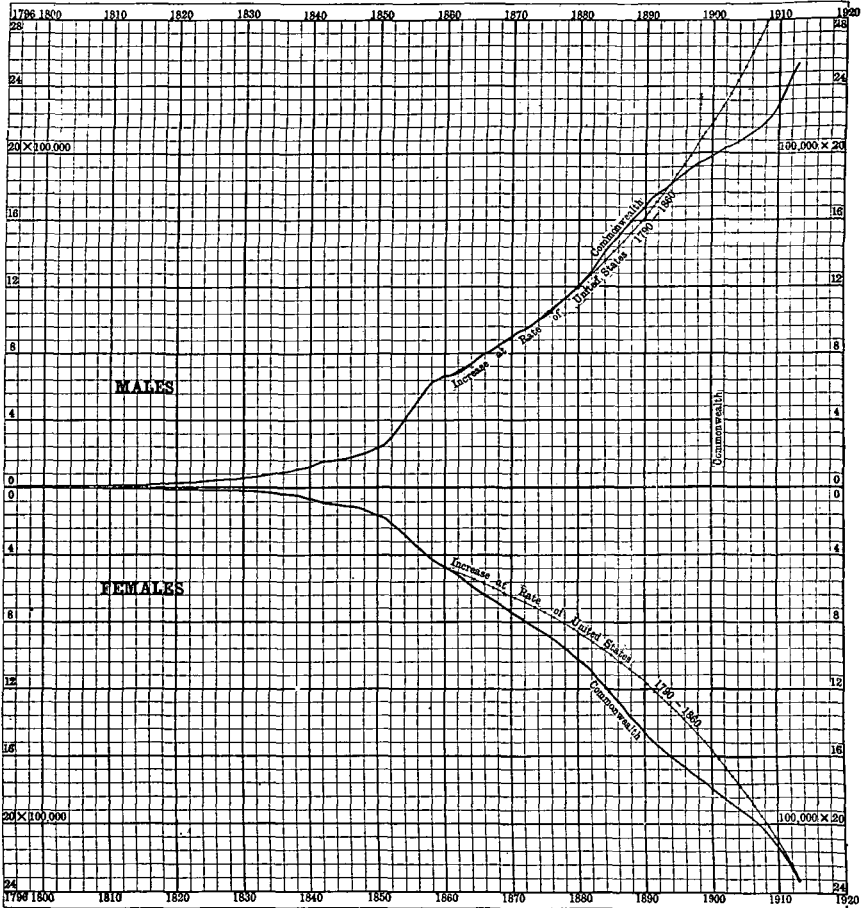
**EXPLANATION OF GRAPHS.**—The base of each small square represents two years' interval for both States and Commonwealth; and the vertical height 80,000 persons for Commonwealth or 20,000 for States. The zero line for the States is the bottom line; for the Commonwealth it is the line marked "Commonwealth." The scale on the left above the Commonwealth zero line relates to the Commonwealth, and that on the right relates to the States.

Where the population falls suddenly the fall denotes the creation of a new colony, e.g., New South Wales 1825, loses the whole population of Tasmania, then erected into a separate colony.

The curves are as follows:—Commonwealth, an unbroken line; New South Wales, — — — — —; Victoria, - - - - -; Queensland, - - - - -; South Australia, - - - - -; Western Australia, - - - - -; Tasmania, - - - - -; the names on the curves also shew which State each represents.

The manner in which the population of the Commonwealth would have grown from 1860 to 1913 if, during that period, there had been in operation the rate of increase actually experienced in the United States from 1790 to 1860, is shewn for purposes of comparison.

GRAPHS OF MALE AND FEMALE POPULATIONS, COMMONWEALTH OF  
AUSTRALIA, 1796-1913.

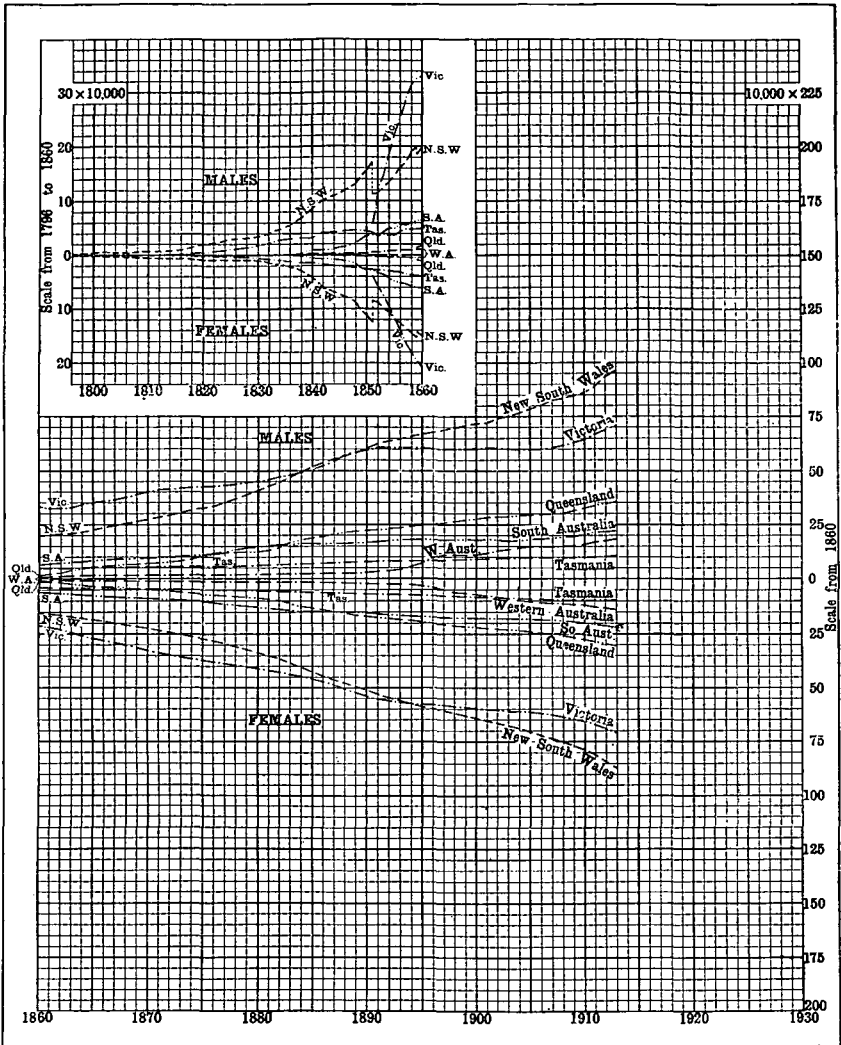


(See Tables pages 85 to 87.)

EXPLANATION OF GRAPHS.—The base of each small square represents two years' interval, and the vertical height 80,000 persons. The distances upward from the heavy zero line denote the number of males, and downward the number of females. From 1860 onward is shown, for purposes of comparison, the manner in which the numbers of each sex in the Commonwealth would have grown from 1860 to 1908 (1913 for females), if, during that period, there had been in operation the rate of increase actually experienced in the United States from 1790 to 1860.

The asymmetry of the two graphs reveals the want of uniformity in the increase of the two sexes.

GRAPHS OF MALE AND FEMALE POPULATION OF THE STATES OF  
AUSTRALIA 1796-1913.



(See Tables pages 85 to 87.)

EXPLANATION OF GRAPHS.

1796-1860.—The base of each small square represents two years' interval, and the vertical height 20,000 persons. The distances upward from the zero line represent the number of males, and downward the number of females.

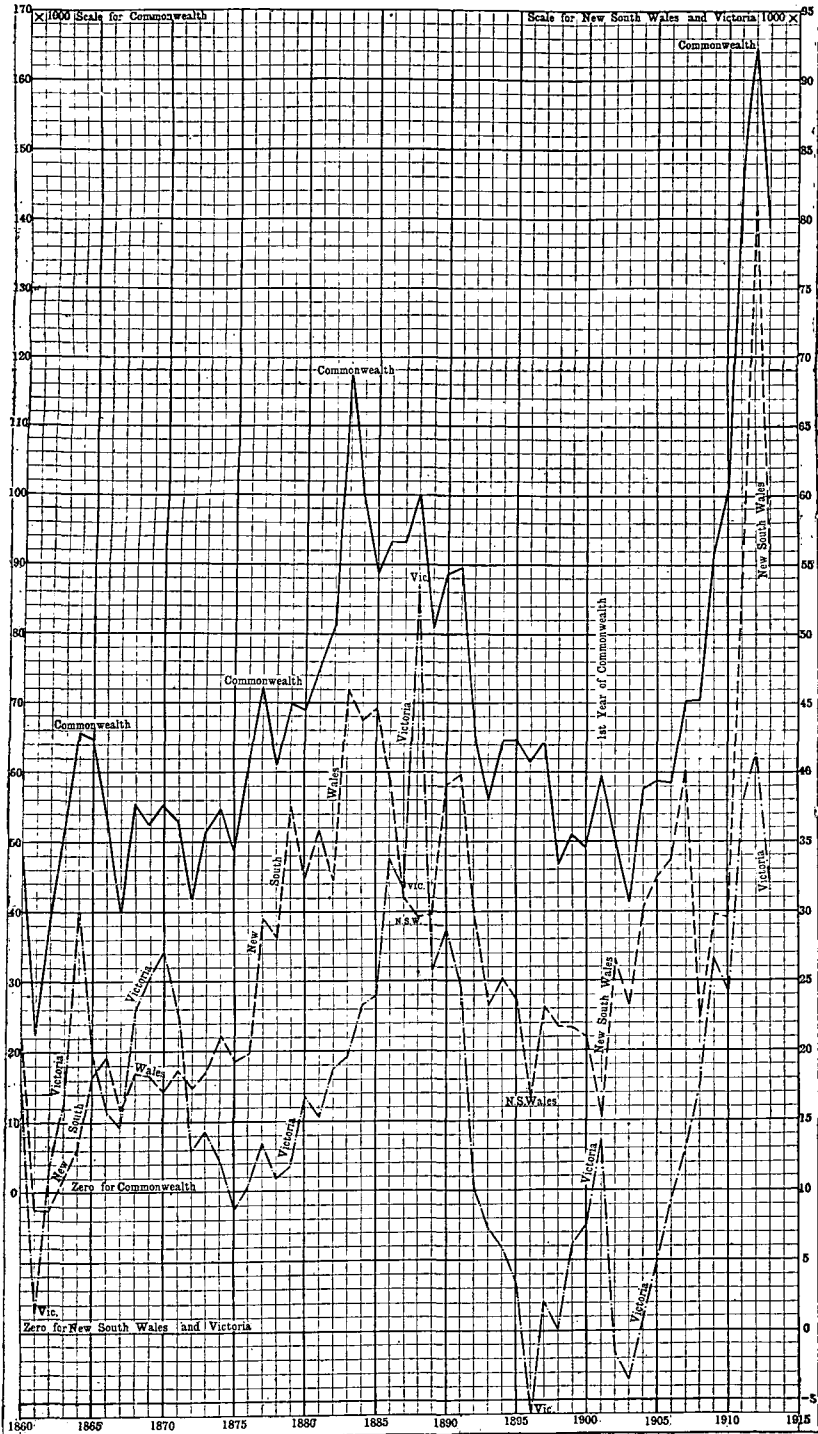
The sudden falls denote the creation of new colonies.

1860-1913.—The base of each small square represents one year's interval, and the vertical height 50,000 persons.

The names on the curves denote the States to which they refer, and the curves are as follows:—New South Wales, — — —; Victoria, — — — —; Queensland, — — — — —; South Australia, — — — — —; Western Australia, — — — — —; Tasmania, — — — — —.

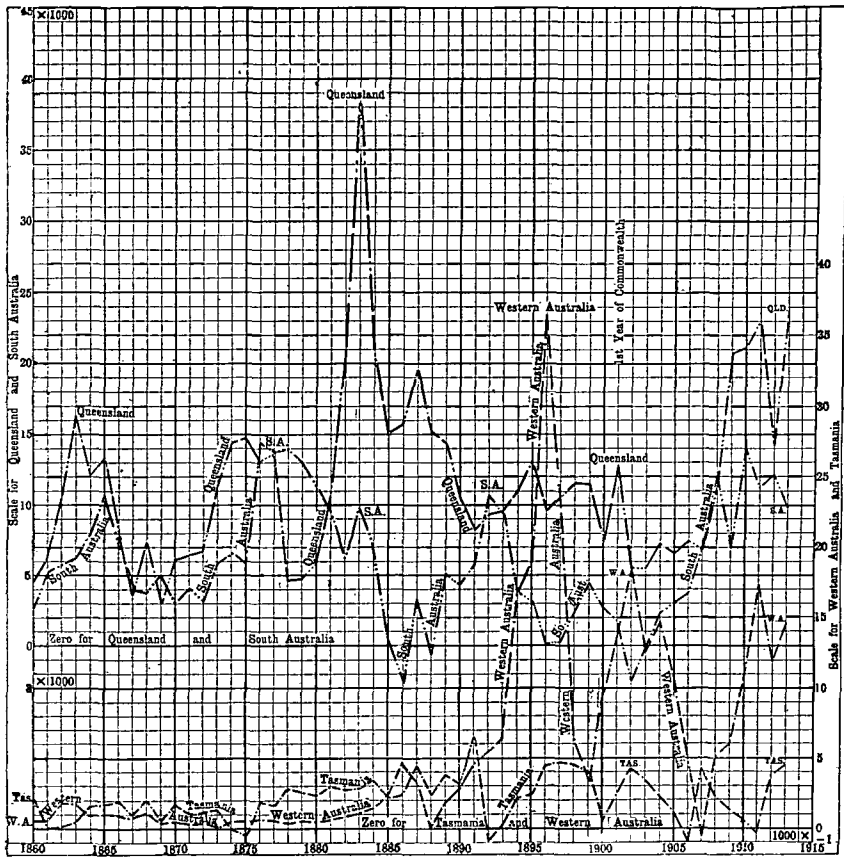
The asymmetry of the two series of graphs reveals the want of uniformity in the increase of the two sexes.

GRAPHS SHEWING NET INCREASE OF POPULATION OF THE COMMONWEALTH OF AUSTRALIA AND THE STATES OF NEW SOUTH WALES AND VICTORIA, 1860-1913.



(For explanation see foot of next page.)

GRAPHS SHEWING NET INCREASE OF POPULATION OF THE STATES OF QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA, AND TASMANIA, 1860-1913.



EXPLANATION OF GRAPHS SHEWING NET INCREASE.—The base of each small square represents an interval of a year for both States and Commonwealth; the vertical height represents 2000 for the Commonwealth and 1000 for the States. In the first graph (on page 130) two zero lines are taken (i.) for the Commonwealth and (ii.) for New South Wales and Victoria. The scale on the left relates to the Commonwealth and that on the right relates to New South Wales and Victoria. In the second graph two zero lines are taken (i.) for Queensland and South Australia, and (ii.) for Tasmania and Western Australia. The scale on the left relates to Queensland and South Australia, and that on the right relates to Western Australia and Tasmania.

NET DECREASES in population are shown by carrying the graph in such cases below the zero line, the distance of the graph below the zero line indicating the extent of the decrease.

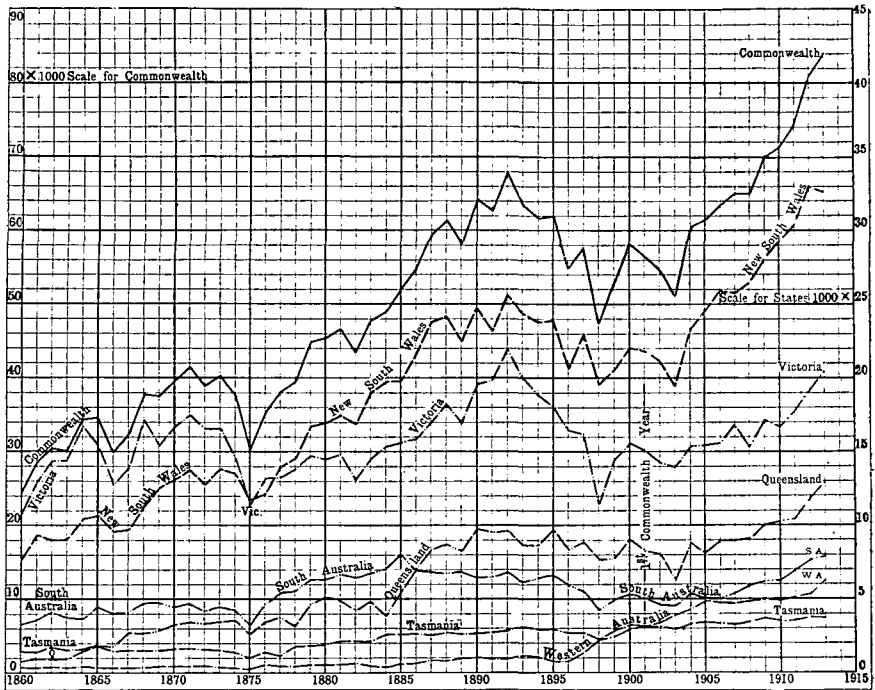
The lines used are as follows:—Commonwealth, an unbroken line; New South Wales, — — —; Victoria, — — —; Queensland, — — —; South Australia, — — —; Western Australia, — — —; Tasmania, — — —.

The names on the curves denote the States to which they refer.

(See Tables pages 102 and 103.)



GRAPHS OF NATURAL INCREASE OF THE POPULATION OF THE COMMONWEALTH  
AND STATES OF AUSTRALIA, 1860-1913.

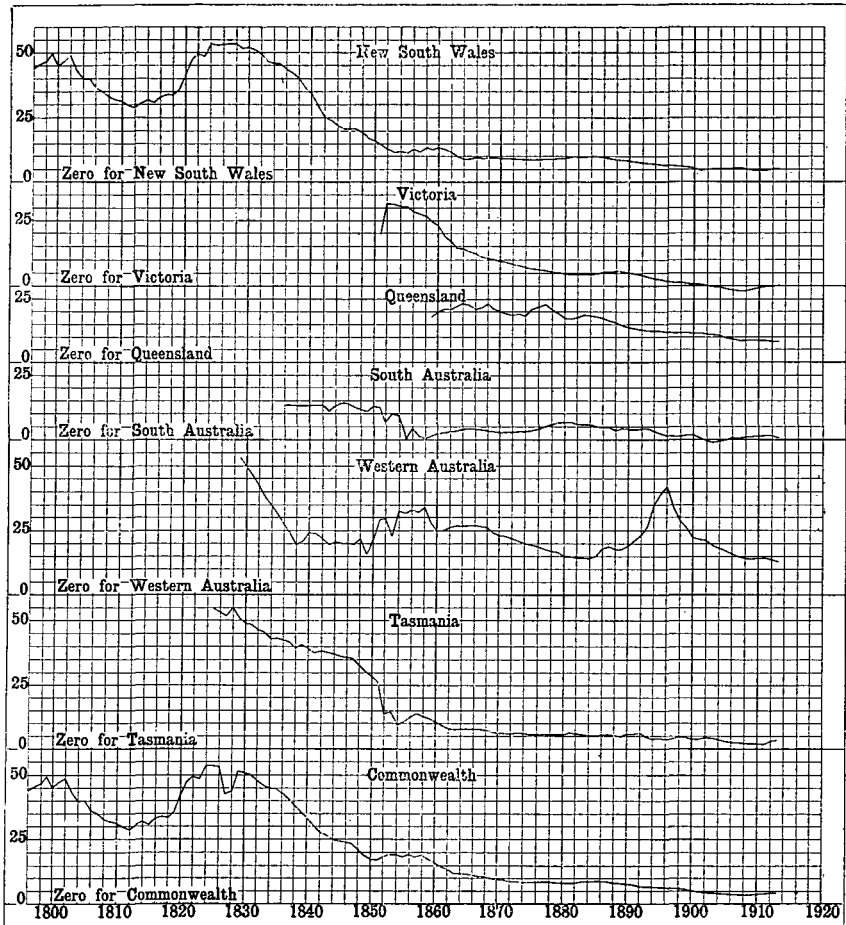


EXPLANATION OF GRAPHS.—The base of each small square represents one year for both States and Commonwealth, and the vertical height 1000 persons for the States and 2000 persons for the Commonwealth.

The distances upward from the zero line, marked 0 for both Commonwealth and States, denote the excess of births over deaths. The scale on the left relates to the Commonwealth, and that on the right to the States. The names shew the States to which the curves refer, they are as follows:—Commonwealth —; New South Wales, —; Victoria, —; Queensland, —; South Australia, —; Western Australia, —; Tasmania, —.

(See Table page 99.)

GRAPHS SHEWING MASCULINITY OF THE POPULATION OF THE  
COMMONWEALTH AND STATES OF AUSTRALIA, 1796-1913.



(See Tables pages 91 and 96.)

EXPLANATION OF GRAPHS.—The base of each small square represents an interval of two years and the vertical height an excess of five males per 100 of population. The basic lines (shewn thickened) for Commonwealth and all the States are at zero, equivalent to a numerical equality of the sexes.

# DISTRIBUTION OF POPULATION THROUGHOUT THE COMMONWEALTH OF AUSTRALIA, ACCORDING TO CENSUS OF 1911.

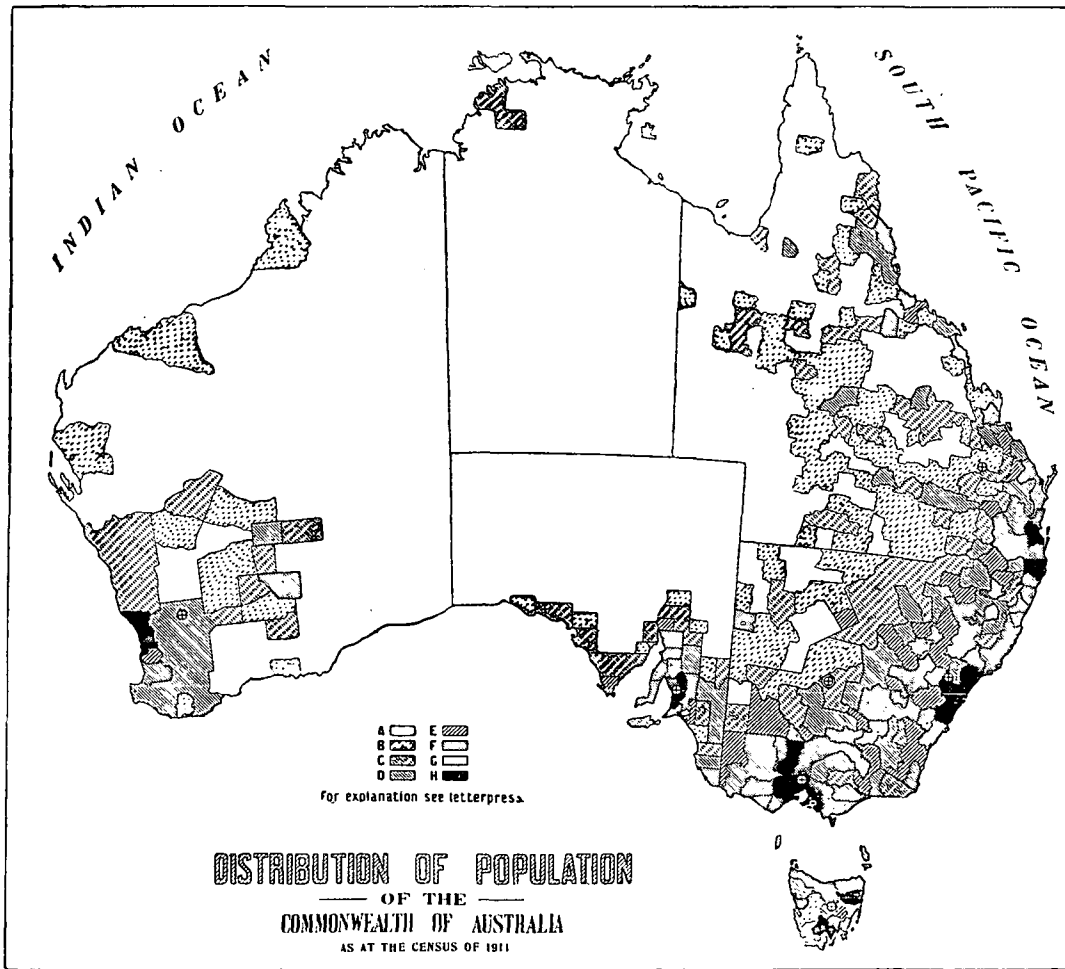
The map on page 135 furnishes a graphic representation of the distribution of the population of the Commonwealth at the date of the census of 1911. For this purpose the density of the population has been computed for the counties of each State, and the areas representing these counties have been shaded in accordance with the following scale of density:—

A—	Less than 1 inhabitant to 16 sq. miles	
B—	From 1 inhabitant in 16 sq. miles to less than 1 in 4 sq. miles	
C—	1 " " 4 " "	1 in 1 sq. mile
D—	1 " " 1 sq. mile "	2 in 1 "
E—	2 inhabitants in 1 " "	4 in 1 "
F—	4 " " 1 " "	8 in 1 "
G—	8 " " 1 " "	16 in 1 "
H—	16 inhabitants and upwards in 1 square mile	

A map drawn upon such a small scale must, of course, be considered as furnishing only a rough approximation as to the true distribution of the population, owing to the fact that a small densely-populated area may exist in certain cases within a comparatively large district, the balance of which is but sparsely populated. Thus, in such a case, owing to the density of the whole district being alone taken into account, the fact of a concentration of population within a small area is lost for purposes of representation. It is evident that the larger the district is for which the density has been calculated, the less will the map represent the true facts. It is, however, believed that by the calculations being made in each State for counties this feature has been minimised, as the areas of the counties of New South Wales, Victoria, Queensland, South Australia, and Tasmania are fairly equal in area, and do not average much more than 2000 square miles. The areas of counties in the Northern Territory and in Western Australia average 4000 and 8000 square miles respectively. So far as the States of Queensland, Western Australia, and Tasmania are concerned, the map now published cannot be compared with the map contained in previous issues of this Year Book, as the density had been computed for that map for Registration Districts in Queensland, Magisterial Districts in Western Australia, and Electoral Districts in Tasmania.

An area of about 1,136,000 square miles, equal to 38 per cent. of the total area of the Commonwealth, and belonging to South Australia, Western Australia, and the Northern Territory, is not subdivided into counties. As the total population of that area is under 5000, it appears white on the map, together with a considerable number of adjoining counties, in which the population is less than one inhabitant to 16 square miles.

The concentration of population about the capitals, and, to a lesser extent, about some mining and agricultural centres, is obvious on reference to the map. The centres of gravity of the population of the several States and of the Commonwealth as a whole have been ascertained, and are shewn in the map by crosses surrounded by circles. It is evident that the greater percentage of the population of a State concentrated in the immediate neighbourhood of its capital, the closer to the capital the centre of gravity will be located, and the map shews this plainly. The centre of gravity of the population of the whole Commonwealth lies within the State of New South Wales, in county Nicholson, practically on the parallel of Sydney and the meridian of Melbourne, and almost in the centre of a straight line joining Sydney and Adelaide.





From the following table, which gives for the Commonwealth as a whole, particulars of education in conjunction with age, it will be seen that the major portion of those who were unable to read were under the age of 9. Of persons aged 20 and upwards only about 2½ per cent. were unable to read.

**POPULATION OF THE COMMONWEALTH OF AUSTRALIA AT THE CENSUS OF  
3rd APRIL, 1911, CLASSIFIED ACCORDING TO EDUCATION AND AGE**

(EXCLUSIVE OF FULL-BLOODED ABORIGINALS).

**MALES.**

Age.	English Language.		Foreign Language only.		Cannot Read.	Not Stated.	Total.
	Read and Write.	Read only.	Read and Write.	Read only.			
0-4 ... ..	...	...	...	...	267,411	...	267,411
5-9 ... ..	177,463	1,131	53	24	39,764	11,151	229,586
10-14 ... ..	212,935	89	146	9	1,444	1,181	215,804
15-19 ... ..	221,279	109	800	46	1,813	2,784	226,881
20 and upwards	1,266,625	4,911	20,813	2,062	34,307	32,284	1,361,002
Unspecified ...	7,954	68	396	20	1,318	2,645	12,401
Total ... ..	1,886,256	6,308	22,208	2,161	346,057	50,045	2,313,035

**FEMALES.**

0-4 ... ..	...	...	...	...	258,222	...	258,222
5-9 ... ..	173,567	1,116	46	8	36,536	12,387	223,660
10-14 ... ..	209,904	75	95	6	1,062	1,215	212,357
15-19 ... ..	218,273	50	101	5	847	2,429	221,705
20 and upwards	1,153,611	7,375	3,735	462	21,819	28,041	1,215,043
Unspecified ...	8,419	85	25	5	839	1,610	10,983
Total ... ..	1,763,774	8,701	4,002	486	319,325	45,682	2,141,970

**PERSONS.**

0-4 ... ..	...	...	...	...	525,633	...	525,633
5-9 ... ..	351,030	2,247	99	32	76,300	23,538	453,246
10-14 ... ..	422,839	164	241	15	2,506	2,396	428,161
15-19 ... ..	439,552	159	901	51	2,660	5,213	448,536
20 and upwards	2,420,236	12,286	24,548	2,524	56,126	60,325	2,576,045
Unspecified ...	16,373	153	421	25	2,157	4,255	23,384
Total ... ..	3,650,030	15,009	26,210	2,647	665,382	95,727	4,455,005

**8. School Attendances.**—In the following table are set out particulars of school attendances of children aged last birthday from 6 to 13 years at the Census of 3rd April, 1911:—

**SCHOOL ATTENDANCES OF CHILDREN AGED LAST BIRTHDAY FROM 6 to 13 YEARS  
IN THE STATES AND TERRITORIES OF THE COMMONWEALTH OF AUSTRALIA**

AT THE CENSUS OF 3RD APRIL, 1911 (EXCLUSIVE OF FULL-BLOODED  
ABORIGINALS).

NOTE —In this table the term "State School" comprises all schools, whether primary or  
secondary, which are under the direct control of the State.

States and Territories	Number being educated at			Number recorded as "scholar," but class of school not stated	Number not indicated as receiving instruction.	Total.
	State School.	Private School.	Home.			

<b>MALES.</b>						
<b>STATES—</b>						
New South Wales ...	91,979	19,107	3,436	3,809	11,574	129,905
Victoria ...	78,185	15,367	1,198	1,826	6,031	102,607
Queensland ...	38,167	5,184	1,517	904	5,089	50,861
South Australia ...	22,817	3,548	521	380	4,409	31,675
Western Australia ...	15,289	3,239	558	508	1,653	21,247
Tasmania ...	11,042	2,113	459	485	2,832	16,931
<b>TERRITORIES—</b>						
Northern ...	32	25	9	1	56	123
Federal ...	98	...	22	4	25	149
<b>Total Commonwealth</b> ...	<b>257,609</b>	<b>48,583</b>	<b>7,720</b>	<b>7,917</b>	<b>31,669</b>	<b>353,498</b>

<b>FEMALES.</b>						
<b>STATES—</b>						
New South Wales ...	84,129	23,329	4,191	3,279	12,802	127,730
Victoria ...	73,136	17,447	1,602	1,832	6,493	100,510
Queensland ...	35,656	6,765	1,713	1,032	4,759	49,925
South Australia ...	21,343	4,005	631	762	4,293	31,034
Western Australia ...	13,906	4,015	681	404	1,813	20,819
Tasmania ...	10,267	2,496	594	477	2,501	16,335
<b>TERRITORIES—</b>						
Northern ...	32	20	6	...	69	127
Federal ...	85	3	13	5	27	133
<b>Total Commonwealth</b> ...	<b>238,554</b>	<b>58,080</b>	<b>9,431</b>	<b>7,791</b>	<b>32,757</b>	<b>346,613</b>

<b>PERSONS.</b>						
<b>STATES—</b>						
New South Wales ...	176,108	42,436	7,627	7,088	24,376	257,635
Victoria ...	151,321	32,814	2,800	3,658	12,524	203,117
Queensland ...	73,823	11,949	3,230	1,936	9,848	100,786
South Australia ...	44,160	7,553	1,152	1,142	8,702	62,709
Western Australia ...	29,195	7,254	1,239	912	3,466	42,066
Tasmania ...	21,309	4,609	1,053	962	5,333	33,266
<b>TERRITORIES—</b>						
Northern ...	64	45	15	1	125	250
Federal ...	183	3	35	9	52	282
<b>Total Commonwealth</b> ...	<b>496,163</b>	<b>106,663</b>	<b>17,151</b>	<b>15,708</b>	<b>64,426</b>	<b>700,111</b>

9. **Blind Persons and Deaf Mutes.**—The following table contains particulars of the number of blind persons and deaf mutes as recorded at the date of the Census of 1911:—

**NUMBER OF BLIND PERSONS AND DEAF MUTES IN THE SEVERAL STATES OF THE COMMONWEALTH**

AT THE CENSUS OF 3RD APRIL, 1911 (EXCLUSIVE OF FULL-BLOODED ABORIGINALS).

States.	Blind.			Deaf and Dumb.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
New South Wales ... ..	591	420	1,011	330	310	640
Victoria ... ..	595	507	1,102	280	255	535
Queensland ... ..	213	170	383	160	97	257
South Australia ... ..	192	166	358	134	112	246
Western Australia ... ..	85	57	142	40	36	76
Tasmania ... ..	78	68	146	54	44	98
Total Commonwealth ...	1,754	1,388	3,142(a)	998	854	1,852(a)

(a) Including 21 blind deaf mutes.

## § 11. Naturalisation.

1. **The Commonwealth Act.**—The Commonwealth Constitution empowers the Commonwealth Parliament to make laws with respect to "Naturalisation and Aliens," a power which was exercised when the "Naturalisation Act of 1903" was passed. This Act was assented to on 13th October of that year, and came into force on 1st January, 1904, in accordance with a proclamation by *Gazette* of 14th November, 1903.

Prior to the passing of this Act the issue of certificates of naturalisation had been a function of the State Governments, carried out under Acts of the several State Legislatures, which, however, did not differ materially from each other, and furnished the basis on which the Commonwealth Act was drafted. From 1st January, 1904, when the Commonwealth Act became operative, the right to issue certificates of naturalisation in the Commonwealth has been vested exclusively in the Federal Government, but all certificates or letters of naturalisation issued under the several State Acts prior to that date entitle the recipients to be deemed to be naturalised under the Commonwealth Act.

The grant of a certificate of naturalisation entitles the recipient within the limits of the Commonwealth to all the rights and privileges, and renders him subject to all the obligations, of a natural-born British subject, with the exception that where, by any Commonwealth or State Constitution or Act, a distinction is made between natural-born British subjects and naturalised persons, such distinction shall hold good in the case of all persons naturalised under the Commonwealth Act.

Applications for certificate of naturalisation must be made to the Governor-General, the qualifications required in an applicant being:—

(i.) That he is not a British subject.

(ii.) That he is not an aboriginal native of Asia, Africa, or the Islands of the Pacific, excepting New Zealand.



- (iii.) That he intends to settle in the Commonwealth.
- (iv.) (a) That he has resided in Australia continuously for two years immediately preceding naturalisation ; or
- (b) That he has obtained in the United Kingdom a certificate or letters of naturalisation.

An applicant who has already obtained a certificate or letters of naturalisation in the United Kingdom is required to furnish, in support of his application—

- (i.) His certificate or letters of naturalisation.
- (ii.) His statutory declaration—
  - (a) That he is the person named therein.
  - (b) That he obtained the certificate or letters without fraud or intentional false statement.
  - (c) That the signature and seal thereto are, to the best of his knowledge and belief, genuine.
  - (d) That he intends to settle in the Commonwealth.

If the applicant is not already naturalised in the United Kingdom the particulars which he is required to furnish in support of his application are as follows:—

- (i.) His own statutory declaration stating—
  - (a) Name ; (b) Date of birth ; (c) Birthplace ; (d) Occupation ; (e) Residence ; (f) Length of residence in Australia ; (g) Intention to settle in the Commonwealth.
- (ii.) A certificate signed by a Justice of the Peace, a postmaster, a teacher of a State school, or an officer of police, that the applicant is known to him and is of good repute.

In connection with any application for naturalisation, the Governor-General in Council is authorised to grant or withhold a certificate as he thinks most conducive to the public good, but the issue of a certificate to any person who is not already naturalised in the United Kingdom is not admissible until the applicant has taken an oath or affirmation of allegiance. The grant of a certificate is made free of charge.

In addition to naturalisation by grant of certificate, the Act makes provision for—

- (i.) Naturalisation by marriage.
- (ii.) Naturalisation by residence with naturalised parent.

The former relates to the case of a woman who is not herself a British subject, but is married to a British subject ; the latter to that of an infant who is not a natural-born British subject, but who has resided at any time in Australia with a father or mother who is a naturalised British subject. In each instance the person concerned is deemed to be naturalised under the Commonwealth Act.

The administration of the Act is carried out by the Department of External Affairs, and the Governor-General is authorised to make such regulations as are necessary or convenient for giving effect to the Act.

**2. Statistics of Naturalisation.**—Particulars relative to the nationalities of the recipients of certificates of naturalisation issued under the Act during each of the five-years 1909 to 1913, and to the countries from which such recipients had come, are shewn in the following table:—

## COMMONWEALTH NATURALISATION CERTIFICATES GRANTED, 1909 to 1913.

Nationalities of Recipients.	No. of Certificates Granted.					Countries from which Recipients of Commonwealth Certificates had come.	No. of Certificates Granted.				
	1909.	1910.	1911.	1912.	1913.		1909.	1910.	1911.	1912.	1913.
German ...	1,091	694	813	757	789	Germany ...	948	567	676	614	661
Swedish ...	259	181	210	204	227	Great Britain ...	449	346	367	352	382
Italian ...	167	174	210	174	223	Italy ...	146	161	200	160	220
Russian ...	132	135	159	182	246	America (North)...	147	107	140	108	133
Danish ...	182	132	156	123	163	Denmark ...	106	76	100	67	86
Norwegian ...	138	107	103	86	122	Sweden ...	108	71	82	73	95
Greek ...	71	77	87	89	79	Norway ...	62	50	54	43	71
Austrian ...	63	56	76	95	131	South Africa ...	39	57	53	33	53
French ...	81	91	69	59	66	New Zealand ...	55	32	42	33	39
American (Nth.)	76	55	61	43	47	Greece ...	28	28	38	45	36
Swiss ...	70	51	42	39	47	Russia ...	35	40	37	36	53
Dutch ...	28	18	27	36	65	France ...	40	55	36	36	39
Spanish ...	24	24	26	25	26	Austria ...	24	28	29	40	56
Belgian ...	7	14	8	6	14	Switzerland ...	51	43	37	28	36
Portuguese ...	15	13	8	4	9	Egypt ...	31	22	26	55	49
Rumanian ...	3	3	7	4	7	Spain ...	15	18	25	24	25
Turkish ...	10	13	6	10	8	America (South)	...	...	24	19	28
Brazilian ...	5	...	2	1	...	Belgium ...	15	18	18	21	33
Bulgarian ...	1	3	2	3	7	India ...	...	...	13	9	6
Montenegrin ...	...	...	1	1	1	Pacific Islands ...	...	...	13	...	...
Chilian ...	4	2	1	1	1	Turkey ...	6	7	11	6	...
Mexican ...	1	...	1	...	1	New Caledonia ...	...	...	10	7	11
South Sea Islands	...	...	1	...	...	Hong Kong ...	...	...	7	...	...
Syrian ...	...	...	1	...	...	Holland ...	19	...	6	20	41
Chinese ...	1	1	...	1	3	China ...	...	10	...	10	34
Servian ...	...	...	...	1	4	Mauritius ...	13	...	...	7	...
American (Sth.)	...	3	...	1	5	Other Countries...	94	113	43	99	100
Peruvian ...	...	1	...	...	...						
Uruguayan ...	...	...	...	...	...						
Icelandic ...	2	1	...	...	...						
Total ...	2,431	1,849	2,077	1,945	2,291	Total ...	2,431	1,849	2,077	1,945	2,291

\* By marriage.

The following table furnishes particulars concerning the States in which the recipients of Commonwealth certificates of naturalisation during the years 1904 to 1913 were resident :—

## NATURALISATION CERTIFICATES GRANTED BY COMMONWEALTH, 1904 to 1913.

Year.	N.S.W.	Victoria.	Qld.	S. Aust.	W.A.	Tas.	Nor. Ter.	C'wlth.
1904 ...	1,379	319	115	25	248	21	...	2,107
1905 ...	544	213	150	34	166	11	...	1,118
1906 ...	475	301	177	45	150	39	...	1,187
1907 ...	458	214	193	27	134	16	...	1,042
1908 ...	396	243	377	45	152	28	...	1,241
1909 ...	644	507	378	600	221	81	...	2,431
1910 ...	665	329	333	299	187	36	...	1,849
1911 ...	565	491	469	282	248	22	...	2,077
1912 ...	565	295	464	343	243	35	...	1,945
1913 ...	603	434	525	355	342	30	2	2,291

3. Census Particulars.—On the Personal Card used at the Census of 3rd April, 1911, an inquiry as to naturalisation was made, all persons who were British subjects by naturalisation being required to indicate the fact by inserting the letter N in the place provided for the purpose on the card. In addition, in checking the cards in the Census Bureau, instructions were given that cases of women naturalised by marriage to British subjects, and of children naturalised by residence with parents who have become British subjects, should be duly taken into account by the insertion of the letter N if originally omitted. The results of the tabulation will be found in the following table :—

**NUMBER OF NATURALISED BRITISH SUBJECTS**  
**RECORDED AT THE AUSTRALIAN CENSUS OF 1911.**  
**STATES.**

Particulars.	N. S. W.	Victoria	Qld.	S. Aust.	W. Aus.	Tas.	Territories.		C'wlth.
							North- ern.	Federal	
Males ...	11,333	8,445	11,025	4,141	3,544	734	457	4	39,683
Females ...	2,808	2,182	5,562	1,763	646	293	13	1	13,268
Persons ...	14,141	10,627	16,587	5,904	4,190	1,027	470	5	52,951

## § 12. Graphical Representation of Growth of Population.

1. **General.**—The nature of the fluctuations of the numbers representing (a) total population, or those representing (b) births and deaths from year to year, or (c) the natural increase, *i.e.*, the difference of births and deaths, or (d) the net immigration, all of which taken together make up the element of increase of total population, cannot be readily discerned from mere numerical tables. It has been deemed desirable therefore to furnish a series of graphical representations, shewing in some cases the characteristics of these elements from 1788 to 1913, and in others from 1860 to 1913. The graphs furnish at a glance a clear indication of the changes taking place, and of their significance from year to year. The great importance of such representations is that only by their means can the most recent changes be justly apprehended, either in their relation to the past, or their meaning for the future.

2. **Graphs of Total Population** (page 127).—These graphs furnish interesting evidence of the comparatively slow rate of growth of the several States and of the Commonwealth as a whole, during the period from the foundation of settlement in 1788 until 1832. From that year onwards to 1851, a moderately increased rate of progress was experienced. In 1851 gold was discovered in Australia, and the effect of this discovery on the population of the Commonwealth is shewn by the steepness of the curves for New South Wales and Victoria, and also for the Commonwealth, from this point onwards for a series of years. The sudden breaks in the continuity of the curves for New South Wales indicate the creation of new colonies, and their separation from the mother colony. Thus, Tasmania came into existence in 1825, Victoria in 1851, and Queensland in 1859. Owing to the extensive gold discoveries in Victoria, its population increased so rapidly that in 1854 its total passed that of New South Wales, and remained in excess until 1892, when the mother State again assumed the lead, which it has since maintained. The rate of increase in New South Wales is large, but the State is still only sparsely populated. A feature of the New South Wales curve is its comparative regularity as compared with that of Victoria, the population of which State increased with great rapidity from 1851 to 1860, less rapidly from 1861 to 1878, with a further period of increased rapidity from 1878 to 1891, and a period of very slow and fluctuating growth from the latter year to 1913. Victoria, however, has a population density more than double that of Tasmania, and nearly three times that of New South Wales.

In the case of Queensland, the curve indicates a rate of growth which, though varying somewhat, has on the whole been satisfactory, and at times very rapid. Periods of particularly rapid increase occurred from 1862 to 1865, from 1873 to 1877, and from 1881 to 1889. The population of Queensland passed that of Tasmania in 1867, and that of South Australia in 1885. The population density of Queensland is less than one-sixteenth of that of Victoria.

The curve for South Australia indicates that with fluctuations more or less marked, the population increased at a moderate rate from the date of the foundation of the colony in 1834 until 1884, and that from that point onwards a diminished rate of increase

was experienced. The population of South Australia passed that of Tasmania in 1852. Its density is nearly one and one-fifth of that of Queensland, about one-fifth of that of New South Wales, and about one-fourteenth of that of Victoria.

The curve for Western Australia indicates that the population increased regularly but very slowly until 1886, when the discovery of gold in the Kimberley division caused an influx of population. The effects of the further rich discoveries of gold in the Murchison and Coolgardie districts in 1891 and 1892, are clearly shewn in the rapid increase of population in those and subsequent years to 1897. Two years of retarded progress then occurred, followed by a satisfactorily rapid rate of increase from 1899 to 1906, a slight decline in 1907 and a further advance in 1908 and subsequent years. The population of Western Australia became greater than that of Tasmania in 1899. Its density is little more than one-fourth of that of South Australia, one-third of that of Queensland, one-nineteenth of that of New South Wales, and about one-fiftieth of that of Victoria.

The Tasmanian population curve indicates a comparatively slow rate of growth throughout. Its most noticeable feature is a retardation in increase in 1852 and subsequent years, brought about by the discovery of gold on the mainland. The population density of Tasmania is about 30 per cent. greater than that of New South Wales, and a little less than half of that of Victoria.

**3. Graphs for Commonwealth of Male and Female Population** (page 128).—These curves shew the relative growth of male and female population of the Commonwealth, and it will be seen that the former are far more liable to marked fluctuations than the latter. The curves representing an increase of population on the basis of the United States rate for 1790 to 1860, indicate that on the whole the female rate of increase in the Commonwealth has been a fairly satisfactory one, and that from 1860 to 1893 the same might be said of the male population. From 1893 onwards, however, the male population of the Commonwealth has fallen considerably below this rate, and it may be added that the rapid lowering of the rate of increase of the male population must be regarded as unsatisfactory from a national standpoint.

Although the rate of increase of the female population from 1860 onwards is on the whole very satisfactory, it should be noted that the total number at the beginning of this period was relatively very small, and that from 1894 there is an unsatisfactory falling off in the rate of increase, similar to that experienced in the case of males.

**4. Graphs for each State of Male and Female Population** (page 129).—These graphs, shewing the relative progress in male and female population for each of the States, disclose the fact that in all cases the female population is much less liable to marked fluctuations than the male, and further, that in cases where rapid increases have taken place in the latter, a similar, but much more gradual, increase is in evidence in the former, commencing usually, however, somewhat later than in the case of the males. A comparison of the graphs of each of the States with that of the Commonwealth shews that the fluctuations in the latter case are smaller than in the former. This is largely due to internal migrations of the male element of the population, brought about by various causes, amongst which mining developments figure prominently.

**5. Graphs for Natural Increase of Population, Commonwealth and States** (page 132).—The graphs indicate that, with the exception of certain marked variations, the natural increase of the population of the Commonwealth, i.e., the excess of births over deaths, advanced with fair rapidity from 1860 to 1892, in which year it attained its maximum, and then fell rapidly till 1898. A subsequent rise to 1900 was followed by a continuous fall for the three years succeeding, viz., to 1903. The recovery shews a fairly rapid rise to 1909, during which year the natural increase was 16.35 per 1000 of mean population. In succeeding years a correspondingly high rate was maintained with minor fluctuations until 1913, when a record of 17.47 was obtained. In 1912 a record of 17.42 was obtained, but this is, however, an over-statement of the true natural increase, owing to the fact that the introduction of "Maternity Allowances" in 1912 resulted in expediting the registration of births. The years in which the natural increase of the Commonwealth was at its highest were 1865, 1871, 1881, 1892, 1900, 1909, and 1913, and the years

of extraordinarily low rates of natural increase were 1866, 1875, 1882, 1898, and 1903. The low rate of 1898 was due in large measure to a phenomenally high death rate experienced in practically all the States in that year, when an epidemic of measles was prevalent throughout the Commonwealth. The low rate of 1903 was brought about by the low birth rates and the high death rates which accompanied the drought of 1902-3, while the advance in the rate of natural increase since 1903 has been collateral with the marked improvement in material conditions experienced throughout the Commonwealth during that period.

**6. Graphs shewing Net Increase of Population** (pages 130 and 131).—The graphs disclose the fact that the most notable years of large net increases of population of the Commonwealth as a whole were 1864, 1877, 1883, 1888, 1909, 1910, 1911 and 1912. The highest increase was attained in 1912. The net increase for 1910 was higher than for any year since 1883, while that for 1912 was the highest on record. The years in which low net increases were noticeable were 1861, 1867, 1872, 1878, 1889, 1893, 1898, and 1903.

The graph for New South Wales indicates a high net increase of population between 1876 and 1894, advancing to a maximum in 1883, and then declining to 1901. From the latter year onwards to 1907 an advance in the net increase was in evidence, followed by a decline in 1908, and a recovery in 1909, which was maintained in subsequent years to 1912. In 1913 the figures fell off somewhat.

Some features of the graph shewing the Victorian net increase are the height attained in 1864, 1870, 1888, 1901, and 1912, the smallness of the increase for the years 1861 and 1875, and the decreases for 1896, 1902, and 1903.

For Queensland it will be seen that the years of high net increases were 1863, 1875, 1883, 1895, 1901, 1909, 1910, 1911, and 1913, the latter being the highest on record, while the years in which these were at very low level were 1869, 1878, 1891, and 1903.

In South Australia the net increases were exceptionally high in 1865, 1876, 1877, 1878, 1883, 1892, 1908, 1910, 1911, and 1912, and correspondingly low in 1870, 1885, 1896, and 1903, while actual decreases took place in 1886, 1888, and 1902.

In Western Australia the net increase graph indicates no very marked advance until about 1884, from which it rises somewhat rapidly to 1886, and then declines to 1888. This is followed by an exceedingly rapid rise to 1896, and a subsequent fall to 1899, succeeded by a further rise to 1902, and a fall thereafter to 1907, followed by a rise to 1911 a further fall in 1912, and a rise in 1913. Decreases took place in 1888 and 1907.

In the case of the Tasmanian graph, indications of a very varied net increase are in evidence, the principal high points being those for the years 1887, 1891, 1897, 1902, 1907, 1912, and 1913, while actual decreases were experienced in 1874, 1875, 1892, 1906, and 1911.

**7. Graphs shewing Masculinity of Population, Commonwealth and States** (page 133).—These graphs furnish information concerning the variations which have taken place in the relative numbers of males and females in the populations of the Commonwealth and the several States during the years 1796 to 1913, and incidentally serve to indicate special features of growth in the respective populations. In general it will be noted that in recent years there has been a marked tendency towards a masculinity of zero, that is, to a condition in which the numbers of males and females in the population were equal, but that with the exception of Victoria and South Australia the masculinity has never fallen below zero. The early experience of the Commonwealth exhibits a fairly rapid decline in masculinity to 1812, followed by an even more rapid rise to 1828 and a subsequent fall with more gentle slope to 1850. From 1850 onwards the decline in masculinity has been fairly continuous though subject to fluctuations. It should be noted that the marked variations of the earlier as compared with the later years have been due to a considerable extent to the fact that, owing to the smallness of the population, any considerable influx of male immigrants had a marked effect in increasing the masculinity of the population, while an influx of female immigrants tended to considerably reduce it. Two points of special interest in the graphs of the separate States are the maxima attained in 1852 in Victoria and 1896 in Western Australia, as the result of extensive male immigration consequent on the gold discoveries in the respective States.

## SECTION V.

### VITAL STATISTICS.

**NOTE.**—The rates quoted throughout this Section for the years 1903 to 1913 have been calculated in accordance with the corrected populations as determined by the results of the Census of 1911.

#### § 1. Births.

**1. Male and Female Births, 1903 to 1913.**—The total number of male and female births registered in the Commonwealth during the years 1903 to 1913 is as shewn in the two tables hereunder :—

##### TOTAL MALE BIRTHS, COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Federal Territory.	C'wealth.
1903	18,377	15,115	6,427	4,464	3,433	2,570	20	...	50,406
1904	19,857	15,313	7,134	4,665	3,666	2,702	21	...	53,358
1905	20,206	15,523	6,978	4,491	3,862	2,812	23	...	53,895
1906	21,066	15,716	7,280	4,605	4,043	2,792	12	...	55,514
1907	21,604	15,986	7,451	4,675	3,962	2,797	14	...	56,489
1908	21,605	16,071	7,677	4,924	3,993	2,818	25	...	57,113
1909	22,464	16,096	7,954	5,224	3,884	2,849	11	...	58,482
1910	23,368	16,412	8,260	5,395	3,855	2,888	28	...	60,206
1911	24,383	16,934	8,703	5,615	4,124	2,716	16	(a) 17	62,508
1912	26,524	18,226	9,576	6,168	4,469	3,016	23	20	68,022
1913	26,624	18,434	10,041	6,505	4,710	3,071	27	22	69,434

(a) Part of New South Wales prior to 1911.

##### TOTAL FEMALE BIRTHS, COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Federal Territory.	C'wealth.
1903	17,589	14,454	6,194	4,011	3,266	2,510	13	...	48,037
1904	18,810	14,450	6,948	4,435	3,510	2,590	12	...	50,755
1905	19,295	14,584	6,648	4,341	3,720	2,445	13	...	51,046
1906	19,882	15,128	6,739	4,316	3,757	2,541	13	...	52,376
1907	20,597	15,379	7,089	4,536	3,750	2,494	13	...	53,858
1908	20,853	15,026	7,153	4,832	3,762	2,797	9	...	54,432
1909	21,318	15,448	7,598	4,840	3,718	2,651	16	...	55,589
1910	22,076	15,025	7,909	5,145	3,730	2,698	12	...	56,595
1911	23,154	16,092	8,281	5,442	3,967	2,721	15	(a) 13	59,685
1912	25,337	17,570	9,162	5,911	4,220	2,837	10	19	65,066
1913	25,562	17,536	9,690	6,122	4,508	2,815	25	22	66,280

(a) Part of New South Wales prior to 1911.

**2. Total Births, 1903 to 1913.**—While the total number of births for the Commonwealth was higher in 1913 than in any of the preceding ten years, the following table of particulars discloses also the fact that the excess of births in 1913 over those in 1903 was very unequally distributed between the States :—

## TOTAL BIRTHS, COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Fed'l Terr.	C'wealth.
1903 ...	35,966	29,569	12,621	8,475	6,699	5,080	33	...	98,443
1904 ...	38,667	29,763	14,082	9,100	7,176	5,292	33	...	104,113
1905 ...	39,501	30,107	13,626	8,832	7,582	5,257	36	...	104,941
1906 ...	40,948	30,844	14,019	8,921	7,800	5,333	25	...	107,890
1907 ...	42,201	31,365	14,540	9,211	7,712	5,291	27	...	110,347
1908 ...	42,458	31,097	14,830	9,756	7,755	5,615	34	...	111,545
1909 ...	43,782	31,544	15,552	10,064	7,602	5,500	27	...	114,071
1910 ...	45,444	31,437	16,169	10,540	7,585	5,586	40	...	116,801
1911 ...	47,537	33,026	16,984	11,057	8,091	5,437	31	(a) 30	122,193
1912 ...	51,861	35,796	18,738	12,079	8,689	5,853	33	39	133,088
1913 ...	52,186	35,970	19,731	12,627	9,218	5,886	52	44	135,714

(a) Part of New South Wales prior to 1911.

3. *Birth Rates, 1903 to 1913.*—(i.) *Crude Birth Rate.* The law relating to Maternity Allowances which came into force on 10th October, 1912, had the effect of materially diminishing the period between the dates of birth and the dates of registration, so that probably 6000 births were registered during the last three months of the year which, under ordinary circumstances, would not have been registered before the beginning of 1913. The increase shewn by the 1912 birth rate over the rate for 1911 is, therefore, to some extent fictitious, and the true birth rate for the whole Commonwealth in 1912 was more probably about 27.42 per thousand than 28.65 as shewn in the subjoined table. If due allowance be made for this fact it may be stated that the birth rate for the Commonwealth was not only higher in 1913 than in any of the preceding ten years, but that the increase which began with the year 1909, has been maintained ever since. The very high masculinity of the population accounts for the low birth rate experienced in the Northern Territory:—

## CRUDE BIRTH RATE (a), COMMONWEALTH, 1903 to 1913 (b).

Year.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	North Terr.	Federal.	Cwlt.
1903 ...	25.44	24.53	24.53	23.84	30.50	28.16	7.58	...	25.29
1904 ...	26.85	24.74	26.99	25.49	30.67	28.92	7.82	...	26.41
1905 ...	26.85	24.96	25.76	24.54	30.74	28.50	8.72	...	26.23
1906 ...	27.21	25.41	26.15	24.57	30.66	28.94	6.29	...	26.57
1907 ...	27.34	25.59	26.79	25.05	30.18	28.63	7.06	...	26.76
1908 ...	26.99	25.07	26.79	25.81	30.08	29.95	9.30	...	26.59
1909 ...	27.40	25.01	27.29	25.91	28.87	28.91	7.63	...	26.69
1910 ...	27.83	24.51	27.33	26.50	27.99	29.25	11.75	...	26.73
1911 ...	28.60	25.01	27.65	26.89	28.21	28.57	9.34	(c) 16.85	27.21
1912 ...	29.86	26.39	29.67	28.65	28.83	30.53	9.82	19.15	28.65
1913 ...	28.86	25.82	30.24	29.12	29.36	30.03	14.21	17.97	28.25
Density (b) (No. per square mile) ...	5.92	16.07	0.98	1.16	0.33	7.69	0.007	2.18	1.61

(a) Number of births per 1,000 of the mean annual population. (b) On 31st December, 1913.  
(c) Part of New South Wales prior to 1911.

The population density of each State and of the Commonwealth has been given for the purpose of considering the influence, if any, of concentration of population on birth rate, in connection with the disparities of the rate in different parts of Australia.

(ii.) *Objections to Crude Birth Rate.* The figures just given represent the "crude birth rate," i.e., the number of births per thousand of mean annual population. The number of births per thousand of the female population of child-bearing ages, i.e., from 15 to 45, furnishes a more significant rate. This calculation has been made for the four last Census periods, and covers in each case the Census year together with the year immediately preceding and the year immediately following. The following results have

been obtained for the four Census periods:—Total births per 1000 women (married and unmarried) of ages 15 to 45:—Years 1880-82, 169.69; years 1890-92, 158.81; years 1900-02, 117.26; years 1910-12, 117.22. Nuptial births per 1000 married women of ages 15 to 45:—Years 1880-82, 320.96; years 1890-92, 332.03; years 1900-02, 235.84; years 1910-12, 236.06.

4. **Birth Rates of Various Countries.**—A comparison with other countries shews that the Australian States occupy a very low position, which is, however, fortunately counterbalanced by a still lower position in regard to their death rates, as will be seen from the table hereinafter in the section dealing with "Deaths."

#### CRUDE BIRTH RATE (a) OF VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
Russia, European ...	1909	44.0	Prussia ...	1912	28.9
Rumania ...	1912	43.4	German Empire ...	1912	28.3
Bulgaria ...	1909	40.7	Commonwealth ...	1913	28.3
Jamaica ...	1912	38.8	Netherlands... ..	1912	28.1
Chile ...	1912	38.7	Denmark ...	1912	26.7
Servia ...	1912	38.0	New Zealand ...	1913	26.1
Hungary ...	1912	36.3	Scotland ...	1912	25.9
Japan ...	1910	33.9	Victoria ...	1913	25.8
Spain ...	1912	33.6	Norway ...	1912	25.4
Ceylon ...	1912	33.3	Switzerland ...	1911	24.1
Italy ...	1912	32.4	United Kingdom ...	1912	23.9
Austria ...	1912	31.3	England and Wales ...	1912	23.8
Queensland ...	1913	30.2	Sweden ...	1912	23.7
Tasmania ...	1913	30.0	Ireland ...	1912	23.0
Western Australia ...	1913	29.4	Belgium ...	1911	22.9
South Australia ...	1913	29.1	Canada (Ontario) ...	1912	22.4
Finland ...	1912	29.1	France ...	1912	19.0
New South Wales ...	1913	28.9			

(a) Number of births per 1000 of the mean population.

5. **Masculinity at Birth.**—The masculinity of births, i.e., the number of males per 100 females, registered during the last eleven years in the several States of the Commonwealth has, apart from the Northern Territory and the Federal Territory, the figures for which are useless for comparative purposes on account of the smallness of the returns on which they are based, varied from 99.82 in Tasmania in 1911 to 115.01 in Tasmania in 1905. The following table, which gives the values for the States and Commonwealth for 1903 to 1913, shews the remarkable fact that for the Commonwealth there was a steady increase of masculinity from 1902 to 1906, with a sharp decrease in 1907, a further increase in 1908, 1909, 1910, a rapid decrease in 1911 and 1912, with a slight increase in 1913:—

#### MASCUILITY (a) OF BIRTHS REGISTERED, COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Territory.	C'wealth.
1903 ...	104.48	104.57	103.76	111.29	105.11	102.39	153.85	...	104.93
1904 ...	105.57	105.97	102.68	105.19	104.44	104.32	175.00	...	105.13
1905 ...	104.72	106.44	104.96	103.46	103.82	115.01	176.92	...	105.58
1906 ...	105.96	103.89	108.03	106.70	107.61	109.88	92.31	...	105.99
1907 ...	104.89	103.95	105.11	103.06	105.65	112.15	107.69	...	104.89
1908 ...	103.61	106.95	107.33	101.90	106.14	100.75	277.78	...	104.93
1909 ...	105.38	104.19	104.69	107.93	104.46	107.47	68.75	...	105.20
1910 ...	105.85	109.23	104.44	104.86	103.35	107.04	233.33	...	106.38
1911 ...	105.31	105.23	105.10	103.18	103.96	99.82	106.67	(b) 130.77	104.73
1912 ...	104.68	103.73	104.52	104.35	105.90	106.31	230.00	105.26	104.54
1913 ...	104.15	105.12	103.62	106.26	104.48	109.09	108.00	100.00	104.76

(a) Number of males to each 100 females.

(b) Part of New South Wales prior to 1911.



There is ordinarily a very small difference between the masculinity of nuptial and ex-nuptial births. Thus, according to Bodio, whose figures are quoted in the following table, for the period about 1887-1891, the masculinity ranged from 108.3 to 108.6, and from 107.9 to 101.6 for total and ex-nuptial births respectively.

#### MASCULINITY OF BIRTHS IN VARIOUS COUNTRIES.

Country.	Masculinity of Births. (a)		Country.	Masculinity of Births. (a)	
	All Live Births.	Ex-nuptial Live Births.		All Live Births.	Ex-nuptial Live Births.
Spain ...	108.3	107.9	German Empire ...	105.2	104.7
Rumania ...	107.7	103.4	Finland ...	105.0	105.2
Portugal ...	107.5	106.4	Hungary ...	105.0	102.9
Austria ...	105.8	105.5	Sweden ...	105.0	104.3
Italy ...	105.8	104.4	Denmark ...	104.8	105.0
Norway ...	105.8	105.9	Servia ...	104.7	103.5
Ireland ...	105.5	104.8	France ...	104.6	102.9
Netherlands ...	105.5	104.7	Belgium ...	104.5	102.2
Scotland ...	105.5	105.9	Switzerland ...	104.5	101.6
Russia, European ...	105.4	104.5	England ...	103.6	104.4

(a) Number of males to each 100 females.

The masculinity of ex-nuptial births in the Commonwealth was as follows:—

#### MASCULINITY (a) OF EX-NUPTIAL BIRTHS REGISTERED, COMMONWEALTH, 1903 TO 1913.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Territ'y.	Federal Territ'y.	C'wlth.
1903 ...	97.79	114.83	95.22	100.00	114.29	122.66	...	...	104.10
1904 ...	100.80	108.68	95.77	83.50	107.28	93.71	200.00	...	100.98
1905 ...	102.50	102.52	105.63	96.94	98.75	102.80	...	...	102.44
1906 ...	103.10	102.23	104.17	116.97	118.13	124.82	100.00	...	105.44
1907 ...	104.91	105.59	100.90	113.56	115.94	100.00	...	...	105.11
1908 ...	108.60	105.38	96.83	96.82	89.33	103.51	150.00	...	104.00
1909 ...	105.46	102.16	103.90	105.37	129.14	129.01	66.67	...	106.25
1910 ...	104.96	103.59	100.39	101.33	89.70	106.94	200.00	...	103.05
1911 ...	101.73	106.61	97.94	106.19	108.05	105.67	28.57	(b) ...	103.10
1912 ...	109.83	95.98	97.30	120.85	124.40	82.69	200.00	...	104.05
1913 ...	101.52	105.79	106.39	110.36	110.36	145.97	133.33	100.00	106.21

(a) Number of males to each 100 females.

(b) Part of New South Wales prior to 1911.

It is curious to note that while, so far as the total births are concerned, there has always been an excess of male births over female births (excepting Tasmania in 1911), this has not been the case in regard to ex-nuptial births, where in South Australia in 1904 the masculinity was only 83.50. On the other hand it rose as high as 145.97 in Tasmania in 1913. Little weight, however, can be attached to those results on account of the small totals on which they are based, and for the same reason the figures for the Northern Territory are not taken into consideration.

**6. Ex-nuptiality of Births.**—The total ex-nuptial births rose rapidly from 1903 to 1908 and remained almost stationary till 1909, when the number again decreased, so that total for 1910 was the lowest number recorded since 1906. During the last three years the number shews a considerable increase. (See the table on the following page).

It is, of course, possible that the number of ex-nuptial births is somewhat understated, owing to diffidence in proclaiming the fact of ex-nuptiality, and it is not unlikely that the majority of unregistered births are ex-nuptial.

## TOTAL EX-NUPTIAL BIRTHS REGISTERED IN THE COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed'l Terr.	C'wealth.
1903 ...	2,413	1,695	857	354	315	285	...	...	5,919
1904 ...	2,755	1,707	971	364	313	308	3	...	6,421
1905 ...	2,912	1,689	950	381	318	290	1	...	6,545
1906 ...	2,882	1,721	1,076	356	373	308	2	...	6,718
1907 ...	2,920	1,764	1,117	378	298	306	...	...	6,783
1908 ...	2,887	1,793	1,118	435	337	294	5	...	6,867
1909 ...	2,821	1,870	1,097	421	346	300	5	...	6,860
1910 ...	2,853	1,759	1,034	455	313	298	9	...	6,721
1911 ...	2,921	1,969	1,057	466	362	290	9	(a)...	7,074
1912 ...	2,904	2,046	1,170	572	377	285	3	1	7,358
1913 ...	2,793	2,169	1,228	528	406	305	7	2	7,438

(a) Part of New South Wales prior to 1911.

(i.) *Rate of Ex-nuptiality, 1903 to 1913.* The rate of ex-nuptiality, i.e., the percentage of ex-nuptial to total births, shews on the whole a slight increase from 1903 to 1905, with a decrease during the last eight years, as the subjoined table shews :—

## PERCENTAGE OF EX-NUPTIAL ON TOTAL BIRTHS, COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed'l Terr.	C'wealth.
	%	%	%	%	%	%	%		%
1903 ...	6.71	5.73	6.79	4.18	4.70	5.61	...	...	6.01
1904 ...	7.12	5.74	6.90	4.00	4.36	5.82	9.09	...	6.17
1905 ...	7.37	5.61	6.97	4.36	4.19	5.52	2.78	...	6.24
1906 ...	7.04	5.58	7.68	3.99	4.78	5.78	8.00	...	6.23
1907 ...	6.92	5.62	7.68	4.10	3.86	5.78	...	...	6.15
1908 ...	6.80	5.77	7.54	4.44	4.35	5.24	14.71	...	6.16
1909 ...	6.44	5.94	7.05	4.18	3.95	5.45	18.52	...	6.01
1910 ...	6.28	5.60	6.39	4.32	4.13	5.33	22.50	...	5.75
1911 ...	6.14	5.96	6.22	4.21	4.47	5.33	29.03	(a)...	5.79
1912 ...	5.60	5.72	6.24	4.74	4.34	4.87	9.09	2.56	5.53
1913 ...	5.35	6.03	6.22	4.18	4.40	5.18	13.46	4.55	5.48

(a) Part of New South Wales prior to 1911.

A comparison of greater significance is obtained by calculating the number of ex-nuptial births per thousand of the single and widowed female population between the ages of 15 and 45. The calculation has been made for the last four Census periods, and covers in each case the Census year, together with the year immediately preceding and the year immediately following. The number of ex-nuptial births per 1000 unmarried women of ages 15 to 45 has been found to be as follows:—Years 1880-82, 14.49; years 1890-92, 15.93; years 1900-02, 13.30; years 1910-12, 12.53.

(ii.) *Comparison of Rates.* Since the rate of ex-nuptiality might appear to increase by the mere decrease in the general birth rate, the following table has been prepared :—

## CRUDE EX-NUPTIAL, NUPTIAL AND TOTAL BIRTH RATES (a), COMMONWEALTH, 1903 TO 1913.

Births.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Ex-nuptial	1.52	1.63	1.64	1.65	1.64	1.64	1.60	1.54	1.57	1.58	1.55
Nuptial ...	23.77	24.78	24.59	24.92	25.12	24.95	25.09	25.19	25.64	27.07	26.70
Total ...	25.29	26.41	26.23	26.57	26.76	26.59	26.69	26.73	27.21	28.65	28.25

(a) Number of births per 1000 of mean population.

(iii.) *Ex-nuptiality*—*Rates of Various Countries.* The rate for the Commonwealth is higher than that for England and Wales, slightly lower than that for Scotland, and considerably below the rates for many of the countries for which returns are available, as the table hereunder shews. The rates shewn below refer to three triennial periods, 1880-2, 1890-2, and 1900-2, and are given per thousand of the unmarried and widowed female population:—

**EX-NUPTIAL BIRTHS PER THOUSAND OF UNMARRIED AND WIDOWED FEMALE POPULATION IN VARIOUS COUNTRIES.**

Country.	Rate.			Country.	Rate.		
	1880-2.	1890-2.	1900-2.		1880-2.	1890-2.	1900-2.
	%	%	%		%	%	%
Ireland ...	4.4	3.9	3.8	Belgium ...	20.0	20.6	17.8
Netherlands ...	9.7	9.0	6.8	France ...	17.6	17.7	19.1
England and Wales ...	14.1	10.5	8.5	Italy ...	25.4	...	19.4
New Zealand ...	13.4	9.0	8.9	Russia ...	25.8	25.1	23.7
Switzerland ...	10.8	10.0	9.8	Denmark ...	26.9	24.5	24.2
Commonwealth ...	14.5	15.9	13.3	Sweden ...	22.6	22.9	24.3
Scotland ...	21.4	17.1	13.4	German Empire ...	29.6	28.7	27.4
Spain ...	16.0	17.5	15.5	Austria ...	43.4	42.7	40.1
Norway ...	19.7	16.9	17.2				

It may be added that the general circumstances in Australia with regard to opportunity for marriage are probably relatively easy as compared with those in older established countries.

**7. Multiple Births.**—Among the total number of 135,714 births registered in the Commonwealth in 1913 there were 132,974 single births, 2716 twins, and 24 triplets. The number of cases of twins was 1361, six children being still-born, and the number of cases of triplets 8. The total number of mothers was, therefore, 134,343, the proportion of mothers of twins being one in every 99, and of mothers of triplets one in every 16,793 of total mothers. The proportion of multiple births is a fairly constant one. In 1907 they numbered 1043 out of a total of 109,306, or one in 105; in 1908, 1065, or one in 104; in 1909, 1142, or one in 99; in 1910, 1189, or one in 99, in 1911, 1236, or one in 98, in 1912, 1350, or one in 98; and in 1913, 1369, or one in 99. The number of cases of triplets is so small that a slight alteration in the total will completely change the proportion. Thus, there were 14 cases in 1907, or one in 7872 of total mothers, as compared with one in 18,415 in 1908; one in 8066 in 1909, one in 8893 in 1910, one in 8639 in 1911, one in 8233 in 1912, and one in 16,793 in 1913.

**8. Ages of Parents.**—The relative ages of the parents of children registered in 1913 have been tabulated, twins and triplets being distinguished from single births, and are shewn for single ages and for every State in "Bulletin of Population and Vital Statistics, No. 31; Commonwealth Demography, 1913 and previous years." In the present work the exigencies of space allow only the insertion of corresponding tables shewing the relative ages of parents in groups of five years. It will be seen from the tables that the largest number of both single and twin births occurred where the ages of both father and mother were between 25 and 29. The largest number of mothers was found at ages 25 to 29.

## (a) AGES OF PARENTS IN CASES OF SINGLE BIRTHS, COMMONWEALTH, 1913.

Age.	Total Fathers.	Ages of Mothers.								Not Stated.
		Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and Upwds.	
Ages of Fathers.										
Under 20 ...	475	...	309	150	13	3	...	...	...	...
20 to 24 ...	13,808	3	2,612	8,922	1,998	231	34	7	1	...
25 to 29 ...	33,199	...	1,385	13,185	15,414	2,776	395	31	2	11
30 to 34 ...	30,924	...	390	5,212	12,900	10,500	1,739	174	1	8
35 to 39 ...	22,061	...	94	1,491	5,344	8,449	6,057	617	23	7
40 to 44 ...	14,272	...	34	464	1,813	4,069	5,267	2,561	61	3
45 to 49 ...	7,290	1	20	185	645	1,375	2,641	2,137	284	2
50 to 54 ...	2,600	...	8	52	214	436	811	906	173	...
55 to 59 ...	712	...	...	22	65	110	237	220	58	...
60 to 64 ...	185	...	...	5	16	43	54	54	13	...
65 & upwards ...	88	...	...	7	16	24	19	12	10	...
Not stated ...	18	...	1	3	1	5	1	3	1	4
Mothers of nuptial children ...	125,652	4	4,853	29,698	38,439	28,021	17,255	6,721	626	35
Mothers of ex-nuptial children	7,322	15	1,937	2,830	1,292	693	377	132	18	28
Total mothers	132,974	19	6,790	32,528	39,731	28,714	17,632	6,853	644	63

## (b) AGES OF PARENTS OF TWINS, COMMONWEALTH, 1913.

Age.		Total Fathers.	Ages of Mothers.						
			Under 20.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 & upwards.
Ages of Fathers.	Under 20	...	...	...	...	...	...	...	...
	20 to 24	...	...	...	...	...	...	...	...
	25 to 29	...	...	...	...	...	...	...	...
	30 to 34	...	...	...	...	...	...	...	...
	35 to 39	...	...	...	...	...	...	...	...
	40 to 44	...	...	...	...	...	...	...	...
	45 to 49	...	...	...	...	...	...	...	...
	50 to 54	...	...	...	...	...	...	...	...
	55 to 59	...	...	...	...	...	...	...	...
	60 to 64	...	...	...	...	...	...	...	...
65 and upwards	...	...	...	...	...	...	...	...	
Mothers of nuptial twins	...	1,303	15	177	379	360	277	92	3
Mothers of ex-nuptial ..	...	58	8	26	10	8	4	2	...
Total mothers	...	1,361	23	203	389	368	281	94	3

## (c) AGES OF PARENTS OF TRIPLETS, COMMONWEALTH, 1913.

Age.	Total Fathers.	Ages of Mothers.					
		Under 20.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.
Ages of Fathers.							
20 to 24 ...	1	...	...	...	1	...	...
25 to 29 ...	2	...	...	...	2	...	...
30 to 34 ...	2	...	...	...	...	2	...
35 to 39 ...	1	...	...	...	...	1	...
40 to 44 ...	1	...	...	...	...	1	...
45 to 49 ...	1	...	...	...	...	...	1
Mothers of nuptial triplets ...	8	...	...	...	3	4	1
Mothers of ex-nuptial triplets	...	...	...	...	...	...	...
Total mothers	8	...	...	...	3	4	1

9. Birthplaces of Parents.—The relative birthplaces of the parents of children whose births were registered during the year 1913 will be found tabulated in the Bulletin before-mentioned. A summary of the results of the tabulation is here given:—

### BIRTHPLACES OF PARENTS OF CHILDREN, COMMONWEALTH, 1913.

Birthplaces.	Fathers.			Mothers of Nuptial Children.			Mothers of Ex-nuptial Children.		
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.
AUSTRALASIA—									
Commonwealth of									
Australia—									
N. South Wales	37,894	378	1	41,295	431	1	2,517	14	...
Victoria ...	33,522	368	1	32,706	361	2	2,060	20	...
Queensland ...	11,109	103	1	13,692	114	2	1,021	10	...
South Australia	13,022	146	1	13,290	149	2	547	4	...
Western Australia	1,535	12	...	2,044	21	...	132	...	...
Tasmania ...	5,638	48	1	5,873	44	...	405	3	...
North. Territory	13	...	...	23	1	...	6	...	...
New Zealand ...	1,398	20	...	1,259	18	...	69	...	...
EUROPE—									
England...	12,473	115	...	8,814	102	...	314	3	...
Wales ...	320	3	1	243	2	...	7	...	...
Scotland...	2,936	39	...	2,227	26	...	94	1	...
Ireland ...	2,028	27	1	1,283	19	1	58	2	...
Isle of Man	20	...	...	13	...	...	...	...	...
Other European Bri-									
tish Possessions...	43	...	...	16	...	...	2	...	...
Austria-Hungary ...	129	...	...	73	...	...	1	...	...
Belgium...	10	1	...	4	...	...	...	...	...
Denmark ...	208	4	...	71	2	...	1	...	...
France ...	50	13	...	30	...	...	3	...	...
Germany ...	994	...	1	460	4	...	14	...	...
Greece ...	56	2	...	30	...	...	...	...	...
Italy ...	322	...	...	214	1	...	2	...	...
Netherlands ...	53	...	...	22	...	...	1	...	...
Norway ...	100	...	...	33	...	...	1	...	...
Portugal...	5	...	...	...	...	...	...	...	...
Russia ...	252	2	...	163	2	...	2	...	...
Spain ...	21	2	...	12	...	...	...	...	...
Sweden ...	179	1	...	28	...	...	1	...	...
Switzerland ...	45	...	...	18	...	...	2	...	...
Other European									
Countries ...	37	...	...	21	...	...	...	...	...
ASIA—									
British India ...	174	1	...	89	1	...	5	...	...
Ceylon ...	27	1	...	6	...	...	...	...	...
Hong Kong ...	...	...	...	2	...	...	...	...	...
Straits Settlements	11	...	...	3	...	...	1	...	...
Other Asiatic British									
Possessions ...	2	...	...	1	...	...	...	...	...
Afghanistan ...	3	...	...	...	...	...	...	...	...
Arabia ...	3	...	...	2	...	...	...	...	...
China ...	160	3	...	53	...	...	5	...	...
Japan ...	14	...	...	11	...	...	3	...	...
Java ...	...	...	...	3	...	...	...	...	...
Philippine Islands	7	1	...	1	...	...	...	...	...
Syria ...	93	2	...	84	2	...	1	...	...
Other Asiatic Coun-									
tries ...	5	...	...	3	...	...	...	...	...

## BIRTHPLACES OF PARENTS OF CHILDREN—Continued.

Birthplace.	Fathers.			Mothers of Nuptial Children.			Mothers of Ex-nuptial Children.		
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.
<b>AFRICA—</b>									
Cape of Good Hope	7	...	...	14	...	...	2	...	...
Mauritius	18	1	...	4	...	...	...	...	...
Natal	8	...	...	3	...	...	...	...	...
Orange River	...	...	...	1	...	...	...	...	...
Transvaal	2	...	...	3	...	...	...	...	...
S. Africa (undefined)	85	2	...	84	1	...	2	...	...
Other African British Possessions	...	...	...	1	...	...	...	...	...
Egypt	7	...	...	7	...	...	...	...	...
Other African Countries	4	...	...	6	...	...	...	...	...
<b>AMERICA—</b>									
Barbados	1	...	...	...	...	...	...	...	...
Canada	92	...	...	32	...	...	1	...	...
Jamaica	4	...	...	1	...	...	...	...	...
Newfoundland	1	...	...	1	...	...	...	...	...
Other American British Pos.	6	...	...	2	...	...	...	...	...
Argentine Republic	1	...	...	4	...	...	...	...	...
Brazil	2	...	...	...	...	...	...	...	...
Chile	1	...	...	1	...	...	...	...	...
Mexico	...	...	...	1	...	...	...	...	...
United States of America	229	5	...	89	...	...	10	...	...
Other American Countries	30	...	...	13	...	...	...	...	...
<b>POLYNESIA—</b>									
Fiji	27	...	...	33	...	...	1	...	...
Friendly Islands	4	1	...	...	...	...	...	...	...
Papua	1	...	...	1	...	...	...	...	...
Other Polynesian British Pos.	1	...	...	1	...	...	...	...	...
New Caledonia	20	...	...	13	...	...	2	...	...
New Hebrides	10	...	...	2	...	...	...	...	...
Samoa	1	...	...	...	...	...	...	...	...
Other Polynesian Islands	3	...	...	1	...	...	...	...	...
South Sea Islands (so described)	13	...	...	2	...	...	1	...	...
At Sea	129	2	...	80	1	...	6	1	...
Unspecified	34	...	...	37	1	...	22	...	...
Total	125,652	1,303	8	125,652	1,303	8	7,322	58	...

10. **Occupations of Fathers.**—A summary of the occupations of the fathers of all nuptial children, whose births were registered in 1913, will be found in the following table. The figures include all the States and Territories of the Commonwealth :—

## OCCUPATIONS OF FATHERS OF ALL NUPTIAL CHILDREN, COMMONWEALTH, 1913.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
<b>CLASS I.—PROFESSIONAL.</b>			
General Government ... ..	690	Wool and Tallow ... ..	100
Local Government ... ..	161	Hay, Corn, etc. ... ..	243
Defence ... ..	262	Other Vegetable Matter, n.e.i. ...	159
Law and Order ... ..	1,217	Wood and Coal ... ..	260
Religion ... ..	408	Stone, Clay, and Glass ... ..	18
Charities ... ..	5	Gold, Silver, and Precious Stones	8
Health ... ..	912	Ironmongery ... ..	239
Literature ... ..	169	Merchants, Importers ... ..	591
Science ... ..	96	Shopkeepers and Assistants ...	1,245
Civil Engineering, Architecture, and Surveying ... ..	377	Dealers and Hawkers ... ..	379
Education ... ..	826	Agents and Brokers ... ..	591
Fine Arts ... ..	135	Clerks, Bookkeepers, etc. ...	3,406
Music ... ..	166	Commercial Travellers, Salesmen	1,562
Amusements ... ..	560	Others engaged in Commercial Pursuits ... ..	1,089
Total Professional ... ..	5,984	Speculators on Chance Events ...	41
		Storage ... ..	9
		Total Commercial ... ..	17,189
<b>CLASS II.—DOMESTIC.</b>		<b>CLASS IV.—TRANSPORT AND COMMUNICATION.</b>	
Hotelkeepers and Assistants ...	902	Railway Traffic ... ..	4,487
Others engaged in providing board and lodging ... ..	311	Tramway Traffic ... ..	1,243
House Servants ... ..	198	Road Traffic ... ..	5,918
Coachmen and Grooms... ..	289	Sea and River Traffic ... ..	1,763
Hairdressers ... ..	660	Postal Service ... ..	523
Laundrymen ... ..	50	Telegraph and Telephone Service	609
Others engaged in domestic occupations ... ..	281	Messengers, etc. ... ..	38
Total Domestic ... ..	2,691	Total Transport & Communication	14,581
<b>CLASS III.—COMMERCIAL.</b>		<b>CLASS V.—INDUSTRIAL.</b>	
Banking and Finance ... ..	432	Books and Publications ... ..	963
Insurance and Valuation ... ..	551	Musical Instruments ... ..	70
Landed and House Property ...	166	Prints, Pictures and Art Materials	84
Property Rights not elsewhere clsd.	1	Ornaments and Small Wares ...	96
Books, Publications, Advertising	167	Equipment for Sports and Games	6
Musical Instruments ... ..	17	Medals, Type, and Dies ... ..	31
Prints, Pictures and Art Materials	5	Watches, Clocks, and Scientific Instruments ... ..	131
Ornaments and Small Wares ...	3	Surgical Instruments ... ..	4
Sports and Games ... ..	2	Arms and Ammunition ... ..	17
Watches, Clocks, Jewellery ...	2	Engines, Machines, Tools, and Implements ... ..	1,418
Surgical Instruments ... ..	1	Carriages and Vehicles ... ..	1,030
Arms and Ammunition ... ..	1	Harness, Saddlery & Leatherware	456
Machinery ... ..	66	Ships, Boats, etc. ... ..	122
Carriages and Vehicles ... ..	38	Furniture ... ..	730
Harness, Saddlery & Leatherware	5	Building Materials ... ..	800
Ships, Boats, Marine Stores ...	5	Chemicals and By-Products ...	36
Building Materials ... ..	15	Textile Fabrics ... ..	68
Furniture ... ..	54	Dress ... ..	2,124
Chemicals and By-products ...	8	Fibrous Materials ... ..	66
Paper and Stationery ... ..	47	Animal Food... ..	358
Textile Fabrics ... ..	652	Vegetable Food ... ..	1,757
Dress ... ..	147	Groceries, Drinks, Narcotics, and Stimulants ... ..	517
Fibrous Materials ... ..	12	Animal Matter, not elsewhere clsd.	380
Animal Food ... ..	2,594	Workers in wood, not elsewhere clsd	112
Vegetable Food ... ..	654	Vegetable Produce for Fodder ...	5
Groceries, Drinks, Narcotics, and Stimulants... ..	1,413		
Living Animals ... ..	152		
Leather, Raw Materials ... ..	39		

## OCCUPATIONS OF FATHERS OF ALL NUPTIAL CHILDREN—Continued.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
Paper ... ..	23	CLASS VI.—AGRICULTURAL, PASTORAL, MINING, ETC.	
Stone, Clay, Glass, etc. ...	748	Agricultural ... ..	20,036
Jewellery and Precious Stones ...	269	Pastoral ... ..	3,764
Metals, other than Gold & Silver	3,602	Dairy Farming ... ..	1,022
Gas, Electric Lighting, etc. ...	796	Bees, Fisheries, and Wild Animals	393
Building—		Forestry ... ..	972
Builders ... ..	568	Water Conservation and Supply	144
Stonemasons ... ..	301	Mines and Quarries ... ..	7,094
Bricklayers ... ..	768	Total Primary Producers ...	33,425
Carpenters ... ..	3,598	CLASS VII.—INDEFINITE.	
Slaters ... ..	46	Independent Means, having no specific occupation ...	99
Plasterers ... ..	384	Occupation not stated ...	43
Painters ... ..	1,457	Total Indefinite ... ..	142
Plumbers ... ..	891	CLASS VIII.—DEPENDENTS.	
Signwriters ... ..	66	Dependent Relatives ... ..	4
Others ... ..	14	Total Dependents ... ..	4
Roads, Railways, Earthworks	244	Total all Occupations ...	126,963
Disposal of the Dead ... ..	45		
Disposal of Refuse ... ..	204		
Other Industrial Workers—			
Manufacturers, etc. ... ..	362		
Engineers, Firemen... ..	3,376		
Contractors ... ..	1,395		
Labourers, undefined ... ..	22,091		
Others ... ..	318		
Total Industrial ... ..	52,947		

11. **Mothers' Age, Duration of Marriage, and Issue.**—A tabulation has been made shewing, in age-groups, the duration of marriage and issue of mothers. The total number of nuptial confinements in 1913 was 126,963, viz., 125,652 single births, 1303 cases of twins, and 8 cases of triplets. From this number 285 mothers must be deducted, in whose case the necessary particulars either as to date of marriage or as to previous issue were not stated. The tables refer, therefore, to a total of 126,678 mothers. They exclude children by former marriages and still-born children, but include ex-nuptial children, previous issue by the same father. The tables cannot be given *in extenso*, but the following are their most salient features. The complete tabulations are shewn in "Commonwealth Bulletin of Population and Vital Statistics, No. 31; Commonwealth Demography, 1913, and previous years."

## DURATION OF MARRIAGE AND ISSUE OF MOTHERS OF ALL AGES.

## COMMONWEALTH, 1913.

Duration of Marriage.	Total Mothers.	Total Issue.	Average Number of Children.	Duration of Marriage.	Total Mothers.	Total Issue.	Average Number of Children.
Years.				Years.			
0-1 ...	21,888	22,174	1.01	18-19 ...	1,356	10,282	7.58
1-2 ...	10,816	11,632	1.13	19-20 ...	1,123	8,763	7.80
2-3 ...	10,834	19,354	1.79	20-21 ...	945	7,856	8.31
3-4 ...	11,178	23,634	2.11	21-22 ...	799	6,872	8.60
4-5 ...	9,174	23,206	2.53	22-23 ...	654	5,973	9.13
5-6 ...	8,483	24,713	2.91	23-24 ...	512	4,814	9.40
6-7 ...	7,701	25,433	3.30	24-25 ...	345	3,315	9.61
7-8 ...	6,708	24,626	3.67	25-26 ...	232	2,365	10.19
8-9 ...	5,742	23,047	4.21	26-27 ...	141	1,480	10.50
9-10 ...	4,821	21,066	4.37	27-28 ...	73	832	11.40
10-11 ...	4,213	19,834	4.71	28-29 ...	47	543	11.55
11-12 ...	3,884	19,714	5.08	29-30 ...	24	282	11.75
12-13 ...	3,530	19,187	5.44	30-31 ...	9	103	11.44
13-14 ...	3,284	18,888	5.75	31-32 ...	10	125	12.50
14-15 ...	2,733	16,681	6.10	32-33 ...	2	25	12.50
15-16 ...	2,238	14,519	6.49	33-34 ...	2	35	17.50
16-17 ...	1,993	13,426	6.74				
17-18 ...	1,684	12,143	7.21	Total	126,678	406,942	3.21



## AGES AND ISSUE OF MOTHERS, COMMONWEALTH, 1913.

Ages of Mothers.	Total Mothers.	Total Issue.	Average Number of Children.	Ages of Mothers.	Total Mothers.	Total Issue.	Average Number of Children.
Under 20 years	4,851	5,874	1.21	40-44 years ...	6,802	46,144	6.78
20-24 years ...	29,805	51,934	1.74	45 yrs. and over	630	5,147	8.17
25-29 " ...	38,749	101,220	2.61				
30-34 " ...	28,334	106,284	3.75				
35-39 " ...	17,507	90,339	5.16	All ages ...	126,678	406,942	3.21

## PREVIOUS ISSUE OF MOTHERS OF VARIOUS AGES, COMMONWEALTH, 1913.

Previous Issue.	Mothers' Ages.							Total.
	Under 20 Years.	20-24 Years.	25-29 Years.	30-34 Years.	35-39 Years.	40-44 Years.	45 Years and Over.	
0	3,932	15,351	11,133	4,203	1,443	326	27	36,415
1	833	8,991	9,882	4,914	1,611	371	22	26,624
2	83	3,851	7,904	5,192	2,153	462	26	19,671
3	3	1,268	5,415	4,565	2,429	605	29	14,314
4	...	277	2,730	3,812	2,408	702	41	9,970
5	...	56	1,103	2,716	2,190	749	52	6,866
6	...	10	417	1,611	1,879	779	69	4,765
7	...	1	118	772	1,461	771	57	3,180
8	...	...	36	352	924	612	75	1,999
9	...	...	6	127	542	522	64	1,261
10	...	...	2	46	263	412	54	777
11	...	...	3	15	121	256	42	437
12	...	...	...	5	58	136	32	231
13	...	...	...	4	17	59	23	103
14	...	...	...	...	7	24	11	42
15	...	...	...	...	...	9	3	12
16	...	...	...	...	1	5	1	7
17	...	...	...	...	...	1	...	1
18	...	...	...	...	...	1	...	1
19	...	...	...	...	...	...	1	1
21	...	...	...	...	...	...	1	1
Total Mothers	4,851	29,805	38,749	28,334	17,507	6,802	630	126,678

The tables shew a fairly regular increase in the number of children up to the period where the marriage has lasted twenty years, and it appears that the average interval between successive confinements up to that period was rather more than two years and eight months. The average number of children of all marriages was 3.21, the corresponding figure for 1912 having been 3.29, for 1911, 3.34, and for 1910, 3.41.

A similar table has been prepared shewing the previous issue of mothers of twins and triplets, from which it appears that 283 mothers had twins at their first confinement; 212 at their second; 197 at their third; 185 at their fourth; 132 at their fifth; 91 at their sixth; 67 at their seventh; 52 at their eighth; 30 at their ninth; 24 at their tenth; 11 at their eleventh; 6 at their twelfth; 3 at their thirteenth; 2 at their fourteenth; 1 at her sixteenth; and one at her twenty-first.

Of the eight cases of triplets 1 occurred at the second confinement; 1 at the fourth; 1 at the fifth; 1 at the sixth; 1 at the seventh; 2 at the ninth; and 1 at the seventeenth.

12. **Interval between Marriage and First Birth.**—The following table shews the interval between marriage and first birth. Twins and triplets are included, the eldest born only being enumerated.

**INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH, COMMONWEALTH, 1913.**

Interval.	Number of First Children.	Interval.	Number of First Children.	Interval.	Number of First Children.
Under 1 month	524	1 year	9,142	13 years	21
1 month	628	2 years	2,772	14 "	14
2 months	955	3 "	1,041	15 "	10
3 "	1,201	4 "	578	16 "	10
4 "	1,453	5 "	296	17 "	6
5 "	1,848	6 "	218	18 "	3
6 "	2,304	7 "	152	19 "	3
7 "	1,926	8 "	106	20 "	6
8 "	1,686	9 "	71	21 "	3
9 "	3,921	10 "	43	22 "	4
10 "	3,225	11 "	49	23 "	1
11 "	2,155	12 "	39	25 "	1
				Total	36,415

Of these 36,415 children 18,671 were males and 17,744 were females; the masculinity of first births was therefore 105.22 as compared with 104.76 for total births.

The previous issue of mothers of ex-nuptial children is not recorded, but for the purposes of the following table all ex-nuptial births have been assumed to be first births. The table shews the ages of mothers of ex-nuptial births, of nuptial births occurring less than nine months after marriage, and of nuptial births occurring nine months or more after marriage. A comparison of the combined total of the first two columns with the total of nuptial children born nine months or more after marriage, reveals the fact that for all ages the ratio of the two was as 5 is to 6. At all ages up to and including 21, however, there was a great preponderance of ex-nuptial births and of births following on ante-nuptial conception. It must, of course, be understood that a certain number of premature births are necessarily included among the births which occurred less than nine months after marriage, but there is no means of arriving at the proportion of those births.

**AGES OF MOTHERS AND INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH, etc. COMMONWEALTH, 1913.**

Age of Mother at Birth of Child.	Ex-nuptial Births.	Nuptial Births less than nine months after Marriage.	Total of two preceding columns.	Nuptial Births nine months after Marriage and later.	Total Nuptial First Births.	Nuptial First Births and Ex-nuptial Births.
Years.						
13 ...	3	...	3	...	...	3
14 ...	12	3	15	1	4	16
15 ...	60	19	79	2	21	81
16 ...	197	132	329	16	148	345
17 ...	402	457	859	75	532	934
18 ...	600	913	1,513	294	1,207	1,807
19 ...	686	1,353	2,039	667	2,020	2,706
20 ...	691	1,378	2,069	945	2,233	3,014
21 ...	655	1,583	2,238	1,512	3,095	3,750
22 ...	563	1,331	1,894	2,013	3,344	3,907
23 ...	539	1,178	1,717	2,218	3,396	3,935
24 ...	408	902	1,310	2,291	3,193	3,601
25 ...	369	702	1,071	2,152	2,854	3,223
26 ...	266	629	895	2,038	2,667	2,933
27 ...	237	426	663	1,756	2,182	2,419
28 ...	236	361	597	1,559	1,920	2,156

**AGES OF MOTHERS AND INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH—Continued.**

Age of Mother at Birth of Child.	Ex-nuptial Births.	Nuptial Births less than nine months after Marriage.	Total of two preceding columns.	Nuptial Births nine months after Marriage and later.	Total Nuptial First Births.	Nuptial First Births and Ex-nuptial Births.
Years.						
29 ...	194	267	461	1,243	1,510	1,704
30 ...	180	209	389	1,053	1,262	1,442
31 ...	133	142	275	820	962	1,095
32 ...	153	125	278	700	825	978
33 ...	123	104	227	554	658	781
34 ...	112	63	175	433	496	608
35 ...	84	72	156	364	436	520
36 ...	88	58	146	300	358	446
37 ...	73	35	108	234	269	342
38 ...	85	18	103	198	216	301
39 ...	51	22	73	142	164	215
40 ...	51	12	63	114	126	177
41 ...	22	9	31	64	73	95
42 ...	34	12	46	34	46	80
43 ...	18	7	25	48	55	73
44 ...	9	1	10	25	26	35
45 ...	8	1	9	11	12	20
46 ...	1	1	2	7	8	9
47 ...	5	...	5	3	3	8
48 ...	2	...	2	1	1	3
49 ...	1	...	1	2	2	3
50 ...	...	...	...	1	1	1
51 ...	1	...	1	...	...	1
Not stated	28	...	28	...	...	28
Total ...	7,380	12,525	19,905	23,890	36,415	43,795

**13. Interval between Birth and Registration of Birth.**—Information was obtained during 1913 as to the period elapsing between birth and registration. It has already been mentioned at the beginning of this section that one of the effects of the law relating to maternity allowances has been to accelerate the registration of births, as the certificate of registration must be produced when a claim under the Act is lodged. In 1912, during the last quarter of which year the Act was in force, about 6 per cent. of all births were registered within seven days; in 1913 this percentage had risen to 34.

**INTERVAL BETWEEN BIRTH AND REGISTRATION, COMMONWEALTH, 1913.**

Interval.	Nuptial Births.	Ex-Nuptial Births.	Total Births.	Interval.	Nuptial Births.	Ex-Nuptial Births.	Total Births.
Under 1 day ...	1,246	111	1,357	16 days ...	3,293	190	3,483
1 day ...	4,502	486	4,988	17 " ...	3,049	207	3,256
2 days ...	6,035	600	6,635	18 " ...	2,852	177	3,029
3 " ...	6,706	489	7,195	19 " ...	2,549	149	2,698
4 " ...	6,858	392	7,250	20 " ...	2,541	148	2,689
5 " ...	6,417	289	6,706	21 " ...	2,334	146	2,480
6 " ...	6,191	273	6,464	22 " ...	2,109	121	2,230
7 " ...	5,747	230	5,977	23 " ...	1,863	115	1,978
8 " ...	5,446	195	5,641	24 " ...	1,735	102	1,837
9 " ...	4,826	201	5,027	25 " ...	1,632	98	1,730
10 " ...	4,643	234	4,877	26 " ...	1,429	82	1,511
11 " ...	4,777	272	5,049	27 " ...	1,457	70	1,527
12 " ...	4,743	257	5,000	28 " ...	1,379	52	1,431
13 " ...	4,575	239	4,814	29 " ...	1,208	62	1,270
14 " ...	4,049	258	4,307	30 " ...	1,243	56	1,299
15 " ...	3,637	202	3,839	31 " ...	1,100	60	1,160

**INTERVAL BETWEEN BIRTH AND REGISTRATION, COMMONWEALTH,  
1913—Continued.**

Interval.	Nuptial Births.	Ex-Nuptial Births.	Total Births.	Interval.	Nuptial Births.	Ex-Nuptial Births.	Total Births.
32 days ...	993	35	1,028	55 days ...	273	16	289
33 " ...	967	42	1,009	56 " ...	273	12	285
34 " ...	944	42	986	57 " ...	262	20	282
35 " ...	895	23	918	58 " ...	255	23	278
36 " ...	826	40	866	59 " ...	283	24	307
37 " ...	790	38	828	60 " ...	187	21	208
38 " ...	809	40	849	61 to 69 days	372	24	396
39 " ...	760	42	802	70 " 79 "	162	25	187
40 " ...	818	39	857	80 " 89 "	90	16	106
41 " ...	738	38	776	90 " 99 "	49	10	59
42 " ...	609	42	651	100 " 109 "	75	7	82
43 " ...	528	25	553	110 " 119 "	39	3	42
44 " ...	484	25	509	120 " 129 "	34	2	36
45 " ...	420	25	445	130 " 139 "	29	3	32
46 " ...	403	17	420	140 " 149 "	13	10	23
47 " ...	328	17	345	150 " 159 "	24	4	28
48 " ...	376	13	389	160 " 169 "	15	1	16
49 " ...	368	19	387	170 " 179 "	18	1	19
50 " ...	310	18	328	180 " 365 "	101	18	119
51 " ...	316	13	329	Not stated	6	...	6
52 " ...	302	12	314				
53 " ...	304	19	323				
54 " ...	257	11	268				
				Total Births	128,276	7,438	135,714

## § 2. Marriages.

1. **Marriages, 1903 to 1913.**—The number of marriages registered in the Commonwealth in 1913 was 41,594, the highest number ever recorded with the exception of that for the year 1912. There has been a steady increase in the annual number of marriages in each State since 1903, and the crude marriage-rate increased similarly in all the States until 1907, with the exception of Western Australia. In 1908 all the States, with the exception of New South Wales and Tasmania, had a lower marriage rate than in 1907, but the rate recovered in 1909 and the three following years, and was considerably higher in 1912 than in 1907 in all the States. In 1913 the actual number of marriages was greater in Queensland, South Australia, Western Australia, and Tasmania than it had been in 1912, but the marriage rate shows a decrease in every State with the exception of Tasmania. The number of marriages in each State since 1903 is shewn below. The rate for 1912 was the highest ever experienced in the Commonwealth.

### TOTAL MARRIAGES, COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	C'wealth.
1903 ...	9,759	7,605	2,933	2,260	2,064	1,344	12	...	25,977
1904 ...	10,422	8,210	3,078	2,526	2,088	1,350	8	...	27,682
1905 ...	10,970	8,774	3,173	2,594	2,123	1,365	5	...	29,004
1906 ...	11,551	8,930	3,588	2,679	2,261	1,399	2	...	30,410
1907 ...	12,187	9,575	4,105	3,070	2,114	1,410	9	...	32,470
1908 ...	12,641	9,335	4,009	3,112	2,012	1,432	10	...	32,551
1909 ...	13,025	9,431	4,543	3,275	1,997	1,494	10	...	33,775
1910 ...	14,307	10,239	4,768	3,661	2,107	1,493	17	...	36,592
1911 ...	15,278	11,088	5,167	4,036	2,421	1,477	10	a) 5	39,482
1912 ...	16,666	11,738	5,627	4,056	2,524	1,506	24	6	42,147
1913 ...	16,307	11,324	5,655	4,094	2,572	1,620	16	6	41,594

(a) Part of New South Wales prior to 1911.

2. **Marriage Rates, 1903 to 1913.**—The number of marriages registered per thousand of mean population is shewn in the following table for the same period:—

## CRUDE MARRIAGE RATE (a), COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tas.	Nthn. Terr.	Federal Territory.	C'wealth.
1903 ...	6.90	6.31	5.70	6.36	9.40	7.45	2.76	...	6.67
1904 ...	7.24	6.83	5.90	7.08	8.92	7.38	1.90	...	7.02
1905 ...	7.46	7.28	6.00	7.21	8.61	7.40	1.21	...	7.25
1906 ...	7.68	7.36	6.69	7.38	8.89	7.59	0.50	...	7.49
1907 ...	7.89	7.81	7.56	8.35	8.27	7.63	2.35	...	7.87
1908 ...	8.03	7.53	7.24	8.23	7.80	7.64	2.74	...	7.76
1909 ...	8.15	7.48	7.97	8.43	7.59	7.85	2.83	...	7.90
1910 ...	8.76	7.98	8.06	9.21	7.77	7.82	5.00	...	8.37
1911 ...	9.19	8.40	8.41	9.81	8.44	7.76	3.01	(b) 2.81	8.79
1912 ...	9.60	8.65	8.91	9.62	8.37	7.86	7.14	2.95	9.07
1913 ...	9.02	8.13	8.67	9.44	8.19	8.27	4.37	2.45	8.66

(a) Number of marriages (not persons married) per 1000 of mean annual population. (b) Part of New South Wales prior to 1911.

As in some international tabulations the marriage rates are calculated per 1000 of the unmarried population of 15 years and over, the corresponding rates have been worked out for the Commonwealth for the four last Census periods. The figures comprise in each case the Census year with the year immediately preceding and the year immediately following, and are as follows:—Years 1880-82, 48.98; years 1890-92, 45.74; years 1900-02, 42.14; years 1910-12, 50.10. These rates refer, of course, to persons married and not to marriages, as do the rates in the preceding table.

3. *Marriage Rates in Various Countries.*—A comparison of the Australian marriage rate with that of European countries shows that during the last few years it has only been surpassed by the rate for Ontario, and equalled by the rate of some of the countries of the East of Europe, and that it has been higher than the rate of the countries of Central and Western Europe, and especially than the rate of countries of the North of Europe:—

## CRUDE MARRIAGE RATES.—VARIOUS COUNTRIES.

Country.	Year.	Crude Marriage Rate.	Country.	Year.	Crude Marriage Rate.
Canada (Ontario) ...	1912	11.1	England and Wales ...	1912	7.8
South Australia ...	1913	9.4	Italy ...	1912	7.6
Bulgaria ...	1909	9.2	Netherlands ...	1912	7.5
New South Wales ...	1913	9.0	Austria ...	1912	7.4
Japan ...	1910	8.8	Switzerland ...	1911	7.4
Commonwealth ...	1913	8.7	United Kingdom ...	1912	7.4
Queensland ...	1913	8.7	Denmark ...	1912	7.3
Hungary ...	1912	8.6	Spain ...	1912	7.3
Rumania ...	1912	8.6	Scotland ...	1912	6.9
New Zealand ...	1913	8.5	Norway ...	1912	6.2
Tasmania ...	1913	8.3	Chile ...	1912	6.0
Western Australia ...	1913	8.2	Finland ...	1912	5.9
Victoria ...	1913	8.1	Sweden ...	1912	5.9
Belgium ...	1911	8.0	Ceylon ...	1912	5.3
Prussia ...	1912	8.0	Ireland ...	1912	5.3
France ...	1912	7.9	Servia ...	1912	4.4
German Empire ...	1912	7.9	Jamaica ...	1912	3.8
Russia, European ...	1909	7.9			

4. *Age at Marriage.*—(a) The age at marriage of bridegrooms and brides will be found in the following table, the previous conjugal condition of the contracting parties being distinguished. It will be seen that no less than 1597 males were married during 1913 who were less than twenty-one years of age. The corresponding number of females was 8271, of whom four were widows, and one was divorced. At the other extreme there were thirty-three men of sixty-five years and upwards, who described themselves as bachelors, and seven spinsters of corresponding ages.

**AGES AND CONJUGAL CONDITION OF PERSONS MARRIED, 1913.**  
**COMMONWEALTH.**

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors	Widowers	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
14 years	...	...	...	...	7	...	...	7
15 "	2	...	...	2	62	...	...	62
16 "	1	...	...	1	334	...	...	334
17 "	37	...	...	37	955	...	...	955
18 "	154	...	...	154	1,845	1	...	1,846
19 "	485	...	...	485	2,396	...	...	2,396
20 "	918	...	...	918	2,667	3	1	2,671
21 "	2,396	3	...	2,399	4,464	14	3	4,481
22 "	2,770	1	...	2,771	3,893	16	...	3,909
23 "	3,390	8	...	3,398	3,577	23	9	3,609
24 "	3,475	15	1	3,491	3,162	27	8	3,197
25 "	3,576	14	3	3,593	2,879	32	8	2,919
26 "	3,232	28	3	3,263	2,486	54	11	2,551
27 "	2,986	31	5	3,022	1,903	38	12	1,953
28 "	2,653	31	3	2,687	1,702	57	16	1,775
29 "	2,079	52	5	2,136	1,320	57	15	1,392
30 "	1,767	56	8	1,831	1,064	81	22	1,167
31 "	1,342	45	5	1,392	743	58	13	814
32 "	1,239	69	14	1,322	709	69	19	797
33 "	1,017	61	24	1,102	549	75	24	648
34 "	826	72	9	907	434	79	21	534
35 "	742	74	12	828	386	71	14	471
36 "	615	88	8	711	323	70	16	409
37 "	457	74	7	538	239	58	13	310
38 "	472	82	16	570	209	88	9	306
39 "	364	69	8	461	181	84	11	276
40 "	317	68	10	395	132	87	13	232
41 "	213	70	6	289	100	44	13	157
42 "	209	87	8	304	109	70	8	187
43 "	190	63	9	262	73	64	...	137
44 "	143	68	6	217	73	51	3	127
45 "	140	73	7	220	66	64	10	140
46 "	129	65	7	201	45	53	7	105
47 "	94	63	9	166	40	42	2	84
48 "	98	68	7	173	38	49	4	91
49 "	83	63	5	151	20	41	6	67
50 "	76	78	8	162	13	48	3	64
51 "	36	49	4	89	9	26	...	35
52 "	48	66	2	116	17	41	4	62
53 "	42	38	4	84	8	18	...	26
54 "	24	49	2	75	3	18	1	22
55 "	22	44	3	69	4	21	...	25
56 "	18	47	2	67	8	17	1	26
57 "	12	44	...	56	5	23	...	28
58 "	14	45	...	59	9	14	...	23
59 "	15	28	...	43	1	14	...	15
60 "	6	30	3	39	2	19	...	21
61 "	9	24	1	34	3	12	...	15
62 "	6	17	...	23	4	11	...	15
63 "	4	29	1	34	2	13	...	15
64 "	8	25	...	33	2	10	...	12
65 "	7	28	...	35	...	9	...	9
66 "	3	21	...	24	...	6	...	6
67 "	4	24	...	28	3	5	...	8
68 "	4	9	...	13	1	7	...	8
69 "	1	23	...	24	1	6	...	7
70 "	4	12	...	16	...	3	...	3

**AGES AND CONJUGAL CONDITION OF PERSONS MARRIED, 1913—Continued.  
COMMONWEALTH.**

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors	Widowers	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
71 years ...	2	11	...	13	1	1	...	2
72 " ...	2	6	...	8	...	3	...	3
73 " ...	3	4	...	7	...	1	...	1
74 " ...	1	5	...	6	...	5	...	5
75 " ...	1	6	...	7	...	...	...	...
76 " ...	...	1	...	1	...	1	...	1
77 " ...	...	2	...	2	...	1	...	1
78 " ...	...	2	...	2	...	...	...	...
79 " ...	...	1	...	1	...	...	...	...
80 " ...	...	2	...	2	...	1	...	1
82 " ...	...	2	...	2	...	...	...	...
83 " ...	...	2	...	2	...	...	...	...
84 " ...	...	3	...	3	...	...	...	...
85 " ...	...	1	...	1	...	...	...	...
86 " ...	1	1	...	2	...	...	...	...
88 " ...	...	1	...	1	...	...	...	...
95 " ...	...	...	...	...	1	...	...	1
Not stated ...	13	1	...	14	16	2	...	18
Total ...	38,997	2,362	235	41,594	39,298	1,976	320	41,594

(b) The relative ages of bridegrooms and brides are shown for single years in "Bulletin of Population and Vital Statistics, No. 31"; a condensation into age-groups of five years is here given:—

**RELATIVE AGES OF PERSONS MARRIED, COMMONWEALTH, 1913.**

Ages.	Total Bridegrooms.	Ages of Brides.								Not Stated.
		Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and Upwds.	
Ages of Bridegrooms.										
Under 20 ...	679	...	456	194	25	3	1	...	...	...
20 to 24 ...	12,977	5	3,198	7,807	1,690	225	39	10	3	...
25 to 29 ...	14,701	2	1,407	6,931	5,080	1,011	211	44	14	1
30 to 34 ...	6,554	...	364	2,046	2,361	1,332	332	83	35	1
35 to 39 ...	3,108	...	110	620	902	768	505	140	61	2
40 to 44 ...	1,467	...	34	164	315	353	302	198	100	1
45 to 49 ...	911	...	18	66	135	155	208	169	160	...
50 to 54 ...	526	...	4	25	50	66	99	107	175	...
55 to 59 ...	294	...	...	11	18	26	35	56	148	...
60 to 64 ...	163	...	2	1	10	12	24	16	98	...
65 and upwards	200	...	...	2	4	8	16	17	153	...
Not stated ...	14	...	...	...	...	1	...	...	...	13
Total Brides ...	41,594	7	5,593	17,867	10,590	3,960	1,772	840	947	18

**5. Previous Conjugal Condition.**—In a previous table the total number of bachelors and spinsters, widowed and divorced persons, who were married during the year 1913, was shown. In the following table the relative conjugal condition of the contracting parties is given:—

**RELATIVE CONJUGAL CONDITION OF PERSONS MARRIED, COMMONWEALTH, 1913.**

Conjugal Condition.		Total Bridegrooms.	Brides.		
			Spinsters.	Widows.	Divorced.
Bridegrooms	Bachelors ...	38,997	37,483	1,260	254
	Widowers ...	2,362	1,637	674	51
	Divorced ...	235	178	42	15
Total Brides ...		41,594	39,298	1,976	320

6. **Birthplaces of Persons Married.**—Information as to the birthplaces of persons who were married in 1913 was not obtained in the State of Western Australia; the following figures refer, therefore, only to New South Wales, Victoria, Queensland, South Australia, Tasmania, the Northern Territory and Federal Territory. As might be expected, there were more brides than bridegrooms who were natives of the Commonwealth. In "Bulletin No. 31, Commonwealth Demography," the relative birthplaces of bridegrooms and brides will be found tabulated.

## BIRTHPLACES OF PERSONS MARRIED, 1913.

## COMMONWEALTH (a).

Birthplaces.	Bridegrooms.	Brides.	Birthplaces.	Bridegrooms.	Brides.
<b>AUSTRALASIA—</b>			<b>ASIA—cont.—</b>		
New South Wales ...	11,873	13,402	Java ...	1	3
Victoria ...	10,446	10,741	Philippine Islands ...	5	1
Queensland ...	3,805	4,540	Syria ...	17	1
South Australia ...	3,614	3,940	Other Asiatic Countries	1	10
Western Australia ...	46	48	<b>AFRICA—</b>		
Tasmania ...	1,646	1,815	Cape of Good Hope...	7	1
Northern Territory ...	5	8	Mauritius ...	5	5
New Zealand ...	547	283	Natal ...	1	...
<b>EUROPE—</b>			Transvaal ...	1	...
England ...	4,203	2,606	S. Africa (Undefined)	30	26
Wales ...	91	51	Egypt ...	2	3
Scotland ...	1,082	782	Other African Countries	4	...
Ireland ...	552	375	<b>AMERICA—</b>		
Isle of Man ...	3	...	Canada ...	42	5
Other European British Possessions ...	18	11	Jamaica ...	1	1
Austria-Hungary ...	33	10	Other American British Possessions ...	1	...
Belgium ...	5	1	Chile ...	1	...
Denmark ...	58	10	Mexico ...	1	...
France ...	37	16	Peru ...	1	...
Germany ...	261	87	United States ...	122	38
Greece ...	14	5	Other American Countries	20	6
Italy ...	49	25	<b>POLYNESIA—</b>		
Netherlands ...	28	7	Fiji ...	13	13
Norway ...	25	11	Friendly Islands ...	...	1
Portugal ...	6	...	Papua ...	1	...
Russia ...	56	21	Other Polynesian British Possessions ...	3	2
Spain ...	9	5	New Caledonia ...	6	11
Sweden ...	44	5	Other Polynesian Islands ...	2	1
Switzerland ...	13	5	South Sea Islands (so described) ...	10	1
Other European Countries ...	8	4	At sea ...	16	17
<b>ASIA—</b>			Not stated ...	13	19
British India ...	59	30	<b>Total</b>		
Ceylon ...	6	1		39,022	39,022
Hong Kong ...	1	...			
Straits Settlements ...	3	2			
Afghanistan ...	6	...			
China ...	35	2			
Japan ...	8	8			

(a) Exclusive of Western Australia.

7. **Occupations and Ages of Bridegrooms.**—A tabulation has been made of the occupations and ages of all males married in the Commonwealth in the years 1907 to 1913. In "Bulletin No. 31" the 1913 tabulation is shewn for orders of



occupations: here it is repeated for classes only, with a subdivision of the Industrial class and of the class of Primary Producers. The average ages of the persons falling under those twelve subdivisions were determined, and it appears that, apart from the Indefinite class, which consists chiefly of persons who have retired from business and who are living on their own means, and where a high average age may naturally be expected, the average age ranges from 27.95 in the Manufacturing class to 32.24 years in the Pastoral class. The averages for the five years 1907-1911 and the figures for 1912 have been added for the purposes of comparison. The results obtained are shewn in the following table:—

### OCCUPATIONS AND AGES OF BRIDEGROOMS, COMMONWEALTH, 1913.

Ages at Marriage.	Professional.	Domestic.	Mercantile.	Transport and Communication.	Industrial.			Primary Producers.				
					Manufacturing.	Building and Construction.	Indefinite Industrial Workers.	Agricultural.	Pastoral.	Mines and Quarries.	Other Primary Producers.	Indefinite.
15 years ...	1	...	...	...	...	...	1	...	...	...	...	...
16 " ...	...	...	...	...	...	...	...	...	...	1	...	...
17 " ...	1	2	7	1	10	3	7	2	...	3	1	...
18 " ...	2	4	28	29	24	10	41	7	...	7	...	...
19 " ...	9	12	60	65	98	32	142	22	5	35	5	...
20 " ...	20	19	139	104	172	69	268	61	13	45	7	1
21 " ...	56	72	320	326	435	174	650	163	48	139	11	5
22 " ...	105	66	388	345	530	226	680	240	47	121	20	3
23 " ...	150	93	542	481	547	238	778	331	59	148	26	5
24 " ...	180	78	596	423	613	286	744	364	56	123	24	4
25 " ...	223	81	608	398	535	295	762	426	96	144	22	3
26 " ...	223	81	543	353	444	281	678	411	90	129	21	9
27 " ...	227	78	537	309	423	231	628	372	74	109	30	4
28 " ...	223	62	475	278	348	185	543	367	70	107	25	4
29 " ...	155	60	379	231	266	145	429	310	85	62	7	7
30 " ...	122	58	311	166	225	124	381	291	70	69	9	5
31 " ...	114	35	234	145	154	77	303	184	69	56	18	3
32 " ...	95	38	240	130	160	65	245	206	59	75	9	...
33 " ...	78	38	197	105	123	64	214	181	54	38	9	1
34 " ...	82	21	163	93	102	60	146	157	37	37	7	2
35 to 39 years	245	85	543	271	347	126	580	570	155	128	38	20
40 " 44 "	105	54	245	117	138	79	285	257	80	82	14	11
45 " 49 "	72	37	134	69	105	62	173	148	55	45	5	6
50 years and upwards	79	33	182	83	123	119	195	183	66	47	11	62
Not stated	...	...	2	2	2	...	3	2	...	3	...	...
Total	2,567	1,107	6,873	4,524	5,924	2,951	8,876	5,255	1,289	1,753	319	156
Average age—years (1913)	30.54	29.82	29.33	28.07	27.95	28.81	28.45	30.79	32.24	29.08	30.02	42.38
" " (1912)	30.75	30.29	29.45	28.70	27.58	30.33	28.57	30.85	32.09	28.94	29.54	41.90
" " (1907-1911)	31.12	30.32	29.73	28.65	28.27	29.11	28.83	30.99	32.50	29.14	29.43	41.60

The average age at marriage of brides has slowly risen from 25.56 years in 1907 to 25.78 years in 1913. The figures for the seven years are:—1907, 25.56 years; 1908, 25.67 years; 1909, 25.74 years; 1910, 25.77 years; 1911, 25.74 years; 1912, 25.74 years; and 1913, 25.78 years. For the five years 1907-11 the average age was 25.70 years, compared with 25.74 years in 1912, and 25.78 years in 1913. As the average age of all bridegrooms during 1913 was 29.18 years, it follows that brides are on an average not quite three years and a half younger than bridegrooms.

**8. Fertility of Marriages.**—The quotient obtained by division of the nuptial births registered, say during the five years 1909 to 1913, by the number of marriages registered during the five years 1904 to 1908, *i.e.*, the period antecedent by five years to the period of the births, has been called the "fertility of marriages." This works out at 3.85, or in other words, the number of children to be expected from every marriage in the

Commonwealth is under four. This method, while not professing any claim to accuracy, generally furnishes results which agree fairly well with those found by more elaborate and careful investigation, but in this instance it is, owing chiefly to the fictitious increase in the number of births shewn in 1912, rather higher than for a number of years prior to 1912. For the period 1907-11 the result was 3.43, and for the year 1912, 3.87.

**9. Registration of Marriages.**—In all the States of the Commonwealth marriages may be celebrated either by ministers of religion, whose names are registered for that purpose with the Registrar-General, or by certain civil officers, in most cases district registrars. The percentage of marriages celebrated by ministers of religion has fluctuated during the last eleven years between 96.26 per cent. in 1903 and 97.55 per cent. in 1909. The figures for the individual States in 1913 were: New South Wales, 98.02 per cent.; Victoria, 97.17 per cent.; Queensland, 95.34 per cent.; South Australia, 95.24 per cent.; Western Australia, 86.55 per cent.; and Tasmania, 99.05 per cent., the percentage for the Commonwealth being 96.50. The registered ministers in 1913 belonged to more than forty different denominations, some of which, however, can hardly be regarded as having any valid existence. A number of these have been omitted from the tabulation, and are bracketed under the heading "Other Christians." The figures for 1913 are shewn in the following table:—

#### MARRIAGES IN EACH DENOMINATION, COMMONWEALTH, 1913.

Denomination.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N. Ter.	Fed. Ter.	Com'-wealth
Church of England ...	6,755	3,179	1,522	953	981	599	5	4	13,998
Roman Catholic Church ...	2,885	1,922	1,169	404	410	239	5	1	7,035
Presbyterian Church of Aust. ...	2,267	2,252	868	223	192	169	...	...	5,971
Methodist Church ...	2,398	1,634	991	1,292	412	315	5	1	7,048
Congregational Church ...	877	1,014	178	251	99	175	...	...	2,594
Baptist Church ...	299	449	289	320	68	84	...	...	1,509
Church of Christ ...	265	257	18	180	24	8	...	...	752
Lutheran Church ...	42	71	150	200	6	...	...	...	469
Greek Orthodox Church ...	5	4	...	...	...	...	...	...	9
Unitarian Church ...	26	1	...	4	...	...	...	...	31
Salvation Army ...	43	47	43	48	21	9	1	...	217
Seventh-Day Adventists ...	17	10	4	4	4	2	...	...	41
Other Christians ...	45	120	162	18	...	4	...	...	349
Hebrew ...	55	43	3	2	9	...	...	...	112
Registrar's Office ...	322	321	254	195	346	16	...	...	1,454
Unspecified ...	1	...	4	...	...	...	...	...	5
Total ...	16,307	11,324	5,655	4,094	2,572	1,620	16	6	41,594

**10. Mark Signatures.**—The marriage registers afford some clue, even if an imperfect one, to the illiteracy of the adult population, since a small and constantly diminishing percentage of bridegrooms and brides sign the registers with marks.

(i.) *Males and Females, 1903 to 1913.* For a number of years, with the exception of 1905, 1908, 1910, 1912, and 1913 mark signatures by males have been slightly more numerous than those by females, the percentages for the Commonwealth during the past eleven years having been as follows:—

**PERCENTAGE OF MARK SIGNATURES AT MARRIAGE, COMMONWEALTH, 1903 to 1913.**

Year. ...	1903.	1904.	1905.	1906.	1907	1908.	1909.	1910.	1911.	1912.	1913.
Male...	1.17	0.95	0.91	0.92	0.81	0.71	0.65	0.56	0.56	0.43	0.36
Female	1.02	0.91	0.93	0.86	0.70	0.73	0.62	0.59	0.54	0.45	0.38

(ii.) *Mark Signatures in Commonwealth States, 1903 to 1913.* The following table shews that while the Tasmanian percentage has been the highest, and the Victorian the lowest, in each of the eleven years under review, there has been a marked decrease in every State:—

**PERCENTAGE OF MARK SIGNATURES AT MARRIAGE, COMMONWEALTH, 1903 to 1913.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Terr.	C'wealth
1903 ...	1.10	0.60	1.86	1.22	0.75	2.38	20.83	...	1.10
1904 ...	0.90	0.54	1.72	0.65	0.53	2.85	...	...	0.93
1905 ...	1.12	0.44	1.39	0.83	0.57	2.12	...	...	0.92
1906 ...	0.94	0.43	1.67	0.65	0.66	2.18	25.00	...	0.89
1907 ...	0.87	0.36	1.14	0.55	0.64	2.02	...	...	0.76
1908 ...	0.79	0.33	1.20	0.56	0.82	1.57	...	...	0.72
1909 ...	0.60	0.22	1.16	0.55	0.68	2.07	30.00	...	0.64
1910 ...	0.61	0.29	0.92	0.44	0.52	1.17	29.41	...	0.58
1911 ...	0.54	0.22	0.84	0.46	0.78	1.96	15.00	(a)...	0.55
1912 ...	0.33	0.27	0.60	0.54	0.61	1.29	25.00	...	0.44
1913 ...	0.33	0.17	0.45	0.34	0.78	1.20	8.33	...	0.37

(a) Part of New South Wales prior to 1911.

A complete disappearance of mark signatures is hardly to be expected, for the available information tends to shew that two-thirds of those who sign with marks are natives of their respective States, who apparently have not made use of the advantages offered to them by the State schools.

**§ 3. Deaths.**

**1. Male and Female Deaths, 1903 to 1913.**—The total number of deaths registered in the Commonwealth from 1903 to 1913 inclusive, gives an annual average of 26,801 males and 19,748 females, the details being as follow:—

**MALE DEATHS, COMMONWEALTH, 1903 to 1913.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	Fed. Terr.	C'wealth.
1903 ...	9,428	8,626	3,951	2,171	1,829	1,136	71	...	27,212
1904 ...	8,733	7,992	3,259	2,019	1,823	1,061	52	...	24,939
1905 ...	8,709	8,273	3,499	2,003	1,728	1,061	38	...	25,311
1906 ...	8,715	8,342	3,212	2,053	1,878	1,118	56	...	25,374
1907 ...	9,444	7,977	3,482	1,998	1,866	1,083	89	...	25,939
1908 ...	9,298	8,816	3,500	2,029	1,800	1,112	77	...	26,632
1909 ...	9,184	8,070	3,419	2,080	1,671	1,030	60	...	25,514
1910 ...	9,339	8,128	3,594	2,163	1,760	1,098	72	...	26,154
1911 ...	9,973	8,355	4,060	2,179	1,923	1,037	59	(a) 5	27,591
1912 ...	11,094	9,072	4,305	2,409	2,210	1,130	61	4	30,285
1913 ...	11,508	8,495	4,195	2,563	1,852	1,189	53	4	29,859
Rate, (b) 1913	12.11	12.21	11.86	11.67	10.42	11.72	17.62	2.69	11.93

(a) Part of New South Wales prior to 1911.

(b) Number of deaths per 1000 of mean population

## FEMALE DEATHS, COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aus.	Tas.	North. Terr.	Fed. Terr.	C'wealth
1903 ...	7,069	6,969	2,395	1,702	959	980	7	...	20,081
1904 ...	6,627	6,401	1,991	1,700	994	913	7	...	18,633
1905 ...	6,269	6,403	2,004	1,758	981	783	5	...	18,203
1906 ...	6,260	6,895	1,883	1,819	1,206	893	3	...	18,959
1907 ...	6,967	6,562	2,116	1,738	1,065	915	3	...	19,366
1908 ...	6,757	6,950	2,180	1,805	1,079	1,017	6	...	19,794
1909 ...	6,626	6,366	2,111	1,702	1,033	812	8	...	18,658
1910 ...	6,819	6,604	2,150	1,851	980	1,022	10	...	19,436
1911 ...	7,173	6,861	2,434	1,859	1,000	890	6	(a) 5	20,278
1912 ...	7,768	7,517	2,616	1,927	1,125	927	6	6	21,892
1913 ...	8,191	6,979	2,588	2,130	1,082	942	11	7	21,990
Rate, (b) 1913	9.55	10.01	8.66	9.95	7.94	9.97	16.85	7.29	9.53

(a) Part of New South Wales prior to 1911. (b) Number of deaths per 1000 of mean population.

2. **Male and Female Death Rates, 1913.**—The crude male and female death rates for 1913 only are given, viz., in the last line of the preceding tables. Victoria has the highest rate both for males and for females, while Western Australia has the lowest male and the lowest female death rate. The rates for the two Territories are based on very small numbers, and comparisons with the States are misleading.

Owing to differences in the age constitution of the six States, the crude rates are not, however, strictly comparable, but for the purposes of calculating the "Index of Mortality" (see page 179) a distribution into five age-groups has, however, been made, and the death rates are shewn for males and females in each State in five-year age groups for the three years 1910-1912, that is, for the census year and for the year immediately preceding and following, on page 174.

3. **Death Rates of Various Countries.**—A comparison with foreign States is, for the same reason, apt to shew the Commonwealth in too favourable a light, but even if an allowance for the different age constitution were made, it would still be found occupying a very enviable position. The following table gives particulars of the death rates of various countries for the latest available years:—

## DEATH RATES (a) OF VARIOUS COUNTRIES.

Country.	Year.	Crude Death Rate.	Country.	Year.	Crude Death Rate.
Western Australia ...	1913	9.3	Switzerland ...	1911	15.8
New Zealand ...	1913	9.5	Finland ...	1912	16.3
Queensland ...	1913	10.4	Belgium ...	1911	16.4
South Australia ...	1913	10.8	Ireland ...	1912	16.5
Commonwealth ...	1913	10.8	France ...	1912	17.5
New South Wales ...	1913	10.9	Italy ...	1912	18.2
Tasmania ...	1913	10.9	Austria ...	1912	20.5
Victoria ...	1913	11.1	Japan ...	1910	21.1
Netherlands ...	1912	12.3	Servia ...	1912	21.1
Canada (Ontario) ...	1912	12.4	Spain ...	1912	21.8
Denmark ...	1912	13.0	Rumania ...	1912	22.9
England and Wales ...	1912	13.3	Hungary ...	1912	23.3
Norway ...	1912	13.4	Jamaica ...	1912	25.1
United Kingdom ...	1912	13.8	Bulgaria ...	1909	25.7
Sweden ...	1912	14.2	Russia, European ...	1909	28.9
Scotland ...	1912	15.3	Chile ...	1912	29.7
Prussia ...	1912	15.5	Ceylon ...	1912	32.4
German Empire ...	1912	15.6			

(a) Number of deaths per 1000 of mean population.

4. **Total Deaths, 1903 to 1913.**—The total number of deaths in each of the Commonwealth States during the eleven years 1903 to 1913, is shewn below

## TOTAL DEATHS, COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aus.	Tas.	North Terr.	Federal Terr.	C'wealth.
1903 ...	16,497	15,595	6,346	3,873	2,788	2,116	78	...	47,293
1904 ...	15,360	14,393	5,250	3,719	2,817	1,974	59	...	43,572
1905 ...	14,978	14,676	5,503	3,761	2,709	1,844	43	...	43,514
1906 ...	14,975	15,237	5,095	3,872	3,084	2,011	59	...	44,333
1907 ...	16,411	14,539	5,598	3,736	2,931	1,998	92	...	45,305
1908 ...	16,055	15,766	5,680	3,834	2,879	2,129	83	...	46,426
1909 ...	15,810	14,436	5,530	3,782	2,704	1,842	68	...	44,172
1910 ...	16,158	14,732	5,744	4,014	2,740	2,120	82	...	45,590
1911 ...	17,146	15,216	6,544	4,038	2,923	1,927	65	(a) 10	47,869
1912 ...	18,862	16,589	6,921	4,336	3,335	2,057	67	10	52,177
1913 ...	19,699	15,474	6,783	4,693	2,934	2,131	64	11	51,789

(a) Part of New South Wales prior to 1911.

5. **Crude Death Rates, 1903 to 1913.**—The death rate for 1913 shewed an increase on that for 1912 in New South Wales, South Australia, and Tasmania, and a decrease in Victoria, Queensland, Western Australia, and the Commonwealth as a whole. The rates for New South Wales and South Australia are the highest experienced for the whole period, except those for 1903; for Victoria and Western Australia they are the lowest of the whole period; and for Queensland and Tasmania they are approximately equal to the average of the period. The Commonwealth rate for 1913 was lower than in any of the other years of the period under review excepting the years 1909, 1910, and 1911.

## CRUDE DEATH RATE (a), COMMONWEALTH, 1903 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	C'wealth.
1903 ...	11.67	12.94	12.33	10.90	12.69	11.73	17.91	...	12.15
1904 ...	10.67	11.97	10.06	10.42	12.04	10.79	13.98	...	11.05
1905 ...	10.18	12.17	10.40	10.45	10.98	10.00	10.42	...	10.88
1906 ...	9.95	12.55	9.50	10.66	12.12	10.91	14.84	...	10.92
1907 ...	10.63	11.86	10.31	10.16	11.47	10.81	24.07	...	10.99
1908 ...	10.20	12.71	10.26	10.14	11.17	11.36	22.71	...	11.07
1909 ...	9.89	11.45	9.70	9.74	10.27	9.68	19.22	...	10.33
1910 ...	9.89	11.49	9.71	10.09	10.11	11.10	24.10	...	10.43
1911 ...	10.32	11.52	10.65	9.82	10.19	10.13	19.58	(b) 5.62	10.66
1912 ...	10.86	12.23	10.96	10.28	11.06	10.73	19.95	4.91	11.23
1913 ...	10.89	11.11	10.39	10.82	9.34	10.87	17.49	4.49	10.78

(a) Number of deaths per thousand of mean population for year. (b) Part of New South Wales prior to 1911.

6. **Male and Female Death Rates, 1903 to 1913.**—The rise in the Commonwealth rate from 1905 to 1907 was due to an increase in the female death rate, while the increase in 1908 was practically limited to the male death rate, as the subjoined table shews. The decrease from 1908 to 1909 was fairly equal for the male and female rates, and the increase in 1910 was due to a rise in the female rate. From 1910 to 1911, and again from 1911 to 1912 the increase in the male rate was about one and a half times as strong as that in the female rate, while the decrease from 1912 to 1913 was more than twice as great for the male rate than for the female rate.

## MALE AND FEMALE DEATH RATES (a), COMMONWEALTH, 1903 to 1913.

Year.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Male rate	13.37	12.12	12.14	12.01	12.11	12.24	11.51	11.54	11.82	12.51	11.93
F'male „	10.80	9.88	9.50	9.73	9.77	9.81	9.06	9.24	9.40	9.84	9.53
Crude total rate	12.15	11.05	10.88	10.92	10.99	11.07	10.33	10.43	10.66	11.23	10.78

(a) Number of deaths per thousand of mean population.

**7. Infantile Death Rate.**—(i.) *Deaths and Death Rates of Male and Female Infants, 1903 to 1913.* A marked improvement has taken place in the infantile death rate since 1903, in which year it stood at 111.36 per thousand births registered, while in 1913 it had fallen to 72.21 per thousand, a rate lower than that experienced in any previous year, 1909, 1911, and 1912 excepted. In the following table, which shews both the total number of deaths of children under one year and the rate per thousand births since 1903, males and females are distinguished. The universal experience that during the first few years of life the excess of male births tends to disappear, as a consequence of the higher death rate of male infants, is shewn by the fact that out of 645,427 male infants born from 1903 to 1913, 55,664 died during their first year of life, while of 613,719 female infants the number who died was only 43,614:—

**NUMBER OF INFANTILE DEATHS AND RATE OF INFANTILE MORTALITY,  
COMMONWEALTH, 1903 to 1913.**

Year.	Registered Deaths under one year.			Rate of Infantile Mortality (a).		
	Males.	Females.	Total.	Males.	Females.	Total.
1903 ...	6,004	4,959	10,963	119.11	103.23	111.36
1904 ...	4,713	3,800	8,513	88.33	74.87	81.77
1905 ...	4,884	3,696	8,580	90.62	72.41	81.76
1906 ...	5,002	3,981	8,983	90.10	76.01	83.26
1907 ...	4,993	3,952	8,945	88.39	73.38	81.06
1908 ...	4,885	3,791	8,676	85.53	69.65	77.78
1909 ...	4,604	3,559	8,163	78.73	64.02	71.56
1910 ...	4,916	3,822	8,738	81.65	67.53	74.81
1911 ...	4,745	3,624	8,369	75.91	60.72	68.49
1912 ...	5,446	4,102	9,548	80.06	63.04	71.74
1913 ...	5,472	4,328	9,800	78.81	65.30	72.21

(a) Number of deaths under 1 year per 1000 births registered.

(ii.) *Infantile Mortality, 1903 to 1913.* Divided among the States and Territories, the rate of infantile mortality during the last eleven years was as follows:—

**RATE (a) OF INFANTILE MORTALITY, COMMONWEALTH, 1903 to 1913.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	Federal Territory.	Com'wealth.
1903 ...	110.35	106.40	119.88	96.76	141.22	110.83	181.82	...	111.36
1904 ...	82.42	77.92	76.13	70.00	113.02	90.70	212.12	...	81.77
1905 ...	80.55	83.30	75.52	72.80	104.19	80.65	111.11	...	81.76
1906 ...	74.53	92.92	74.68	75.66	110.00	90.19	160.00	...	83.26
1907 ...	88.46	72.60	77.65	66.23	97.51	82.97	185.19	...	81.06
1908 ...	75.20	86.05	70.67	69.50	84.72	75.16	58.82	...	77.78
1909 ...	73.87	71.36	71.50	60.91	78.01	64.91	111.11	...	71.56
1910 ...	74.71	76.88	62.90	70.21	78.18	101.68	200.00	...	74.81
1911 ...	69.46	68.70	65.36	60.60	76.01	73.39	96.77	(b) 33.34	68.49
1912 ...	71.00	74.48	71.73	61.68	82.06	66.80	121.21	76.92	71.74
1913 ...	77.78	70.53	63.35	69.83	70.30	70.68	115.88	22.73	72.21

(a) Number of deaths under 1 year per 1000 births registered. (b) Part of New South Wales prior to 1911.

The movement has been a fairly regular one, shewing slight increases in the rate during 1906, 1910, and 1913. The 1911 rate was the lowest of the period in every State with the exception of Queensland, Western Australia, and Tasmania, where the minimum rates were experienced in 1913, 1913, and 1909 respectively. The regrettable increase in the Victorian rate for 1908 over that of 1907 was wholly due to the large mortality caused by the phenomenal heat of January, 1908. With the exception of Queensland, where the 1908 rate was exceptionally low, the 1909 rate was the lowest ever experienced up to that date in any of the States. A rise occurred in every State in 1910, with the exception of Queensland, which was counterbalanced by a considerable decrease during 1911 in every State but Queensland. In 1912 the rate shewed a rise in every State

except Tasmania, and this was followed by a decrease in 1913 in Victoria, Queensland, and Western Australia, and by a further rise in New South Wales, South Australia, and Tasmania. The Commonwealth rate in 1912 rose by more than 3 per 1000, and by less than  $\frac{1}{2}$  per 1000 in 1913.

(iii.) *Infantile Mortality in Various Countries and Cities.* Compared with European countries the cities and States of the Commonwealth occupy a very enviable position, and it may be pointed out that experience has shewn that a high birth rate is often, though not invariably, accompanied by a high infantile death rate. The figures in the subjoined tables relate to the latest years for which returns are available:—

#### RATE (a) OF INFANTILE MORTALITY IN VARIOUS COUNTRIES.

Country.	Year.	Rate of Infantile Mortality. (a)	Crude Birth Rate. (b)	Country.	Year.	Rate of Infantile Mortality. (a)	Crude Birth Rate. (b)
New Zealand ...	1912	51	26.5	Switzerland ...	1911	123	24.1
Queensland ...	1913	63	30.2	United Kingdom ...	1911	125	24.4
Norway ...	1911	65	25.9	Prussia ...	1912	146	28.9
South Australia ...	1913	70	29.1	Servia ...	1911	146	36.2
Western Australia ...	1913	70	29.4	German Empire ...	1912	147	28.3
Victoria ...	1913	71	25.8	Italy ...	1911	153	31.5
Tasmania ...	1913	71	30.0	Spain ...	1907	158	33.6
Commonwealth ...	1913	72	28.3	Japan ...	1910	160	33.9
Sweden ...	1911	72	24.0	Belgium ...	1911	167	22.9
France ...	1912	78	19.0	Bulgaria ...	1909	171	40.7
New South Wales ...	1913	78	28.9	Austria ...	1912	180	31.3
Ireland ...	1912	86	23.0	Hungary ...	1912	186	36.3
Netherlands ...	1912	87	28.1	Rumania ...	1912	186	43.4
Denmark ...	1912	93	26.7	Jamaica ...	1912	193	38.8
England and Wales ...	1912	95	23.8	Ceylon ...	1912	215	33.3
Finland ...	1912	109	29.1	Russia, European ...	1909	248	44.0
Canada (Ontario) ...	1912	110	22.4	Chile ...	1911	332	38.5
Scotland ...	1911	112	25.6				

(a) Number of deaths under 1 year per 1000 births registered. (b) Number of births per 1000 of mean population.

#### RATE (a) OF INFANTILE MORTALITY IN VARIOUS CITIES.

City.	Year.	Rate of Infantile Mortality. (a)	Crude Birth Rate. (b)	City.	Year.	Rate of Infantile Mortality. (a)	Crude Birth Rate. (b)
Amsterdam ...	1912	64	23.3	Belfast ...	1912	129	27.8
The Hague ...	"	66	23.6	Hamburg ...	"	130	21.8
Sydney ...	"	76	29.9	Leipzig ...	"	133	22.1
Rotterdam ...	"	79	29.0	Munich ...	"	134	21.9
Brisbane ...	"	82	32.8	Prague ...	"	139	19.9
Stockholm ...	"	82	21.0	Dublin (Registration area) ...	"	140	27.4
Melbourne ...	"	90	27.5	Budapest ...	"	141	25.5
London ...	"	91	24.5	Berlin ...	"	142	20.4
Buenos Aires ...	"	96	35.3	Vienna ...	"	149	19.1
Frankfort-on-Maine ...	"	102	20.9	Cologne ...	"	152	26.8
Milan ...	"	102	23.4	Breslau ...	"	163	26.3
Paris ...	"	103	16.8	Trieste ...	"	184	29.7
Christiania ...	"	107	22.7	Rio de Janeiro ...	"	185	28.2
Copenhagen ...	"	108	24.9	Montreal ...	1911	242	37.8
Edinburgh ...	"	113	20.9	St. Petersburg ...	1912	249	26.5
Toronto ...	1911	114	22.2	Moscow ...	"	333	28.9
Dresden ...	1912	116	20.2				
Glasgow ...	"	124	28.1				

(a) Number of deaths under 1 year per 1000 births registered. (b) Number of births per 1000 of mean population.

(iv.) *The Effect of Infantile Mortality on Birth Rate.* It has been contended by certain investigators that the birth-rate question is intimately related to that of infantile mortality, and that in many cases a declining birth rate may be to a large extent accounted for by a decline in the infantile death rate, since, in the case in which an infant has survived, the period elapsing before the birth of the next child is likely to be longer than in the case in which the infant has died. It may indeed be readily admitted that in any community the birth rate may be affected in a definite way by variations of infantile mortality, but careful investigation of the question serves to shew that, whether considered from the theoretical aspect with a view to determining the *maximum* and the *probable* effects which a given change in the rate of infantile mortality would produce in the birth rate, or from the practical point of view by observing the fluctuations in the birth rates of various countries which have been collateral with changes in their rates of infantile mortality, there is little ground for the contention that the rate of infantile mortality is an important factor in determining the variations in the birth rate. One calculation which has been made on the basis of normal Australian conditions indicates that the *maximum* effect of increasing the rate of infantile mortality 100 per cent. would, in the absence of other disturbing causes, be to increase the birth rate by only  $3\frac{1}{4}$  per cent., whilst the *probable* effect would be considerably less than this. In other words, the *maximum* effect of an increase in the rate of infantile mortality from 100 to 200 per 1000 births would be to increase the birth rate from say 30 to 31 per 1000 of population. It may be noted too, that although in some countries an increase in birth-rate accompanies an increase in the rate of infantile mortality, in others the birth rate would appear to be quite unaffected by such an increase, while in the case of England and Wales, Scotland, and Ireland, the tendency apparently exhibited is for an increase in the rate of infantile mortality to be associated with a decrease in the birth rate. The conclusion which these results appear to warrant is that although infantile mortality undoubtedly tends on the whole to increase the birth rate, the practical effect produced is so slight that the existence of such a relation may in any instance be quite masked by more important causes of variation.

8. **Deaths in Age-Groups, 1903 to 1913.**—A distribution into age-groups has been made of the 512,040 deaths which occurred in the Commonwealth from 1903 to 1913, and the results are tabulated for each State. It is, however, sufficient here to shew the results for the Commonwealth as a whole, which are as follows:—

**DEATHS IN AGE-GROUPS, COMMONWEALTH, 1903 to 1913.**

Ages.	Males.	Females.	Total.	Percentage of Total Males.	Percentage of Total Females.	Percentage of Total.
Under 1 year ...	55,664	43,614	99,278	18.88	20.08	19.39
1 year and under 5 ...	16,590	15,063	31,653	5.63	6.93	6.18
5 years and under 20 ...	16,486	14,790	31,276	5.59	6.81	6.11
20 years and under 40 ...	39,126	34,916	74,042	13.27	16.07	14.46
40 years and under 60 ...	60,731	35,394	96,125	20.60	16.29	18.77
60 years and under 65 ...	17,098	10,358	27,456	5.80	4.77	5.36
65 years and over ...	88,556	62,992	151,548	30.04	29.00	29.60
Age not stated ...	559	103	662	0.19	0.05	0.13
Total ...	294,810	217,230	512,040	100.00	100.00	100.00

9. **Deaths at Single Ages and in Age-Groups, 1913.**—The 51,789 deaths which were registered in the Commonwealth in the year 1913 will be found tabulated under single years, and in groups of five years for each State and Territory, in "Bulletin No.



31, Commonwealth Demography, 1913." It has been thought advisable to tabulate the deaths during the first two years of life in greater detail. The first month has, therefore, been shewn in weeks, and the twenty-three months up to the end of the second year in months. This tabulation shews a great number of children dying during the first week, the number gradually diminishing towards the end of the second year. The particulars relating to the Commonwealth are given in the following table:—

## DEATHS AT SINGLE AGES AND IN AGE-GROUPS, 1913.

## COMMONWEALTH.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
Under 1 week ...	1,676	1,312	2,988	10 years ...	88	74	162
1 week and under 2 ...	331	243	574	11 " ...	77	76	153
2 weeks " " 3 ...	235	177	412	12 " ...	76	64	140
3 " " " 4 ...	190	139	329	13 " ...	79	81	160
				14 " ...	86	70	156
Total under one month ...	2,432	1,871	4,303	Total 10 years and under 15	406	365	771
1 month and under 2 ...	491	357	848	15 years ...	91	88	179
2 months " " 3 ...	363	274	637	16 " ...	101	85	186
3 " " " 4 ...	360	289	649	17 " ...	126	105	231
4 " " " 5 ...	302	253	555	18 " ...	121	117	238
5 " " " 6 ...	300	233	533	19 " ...	150	123	273
6 " " " 7 ...	286	207	493	Total 15 years and under 20	589	518	1,107
7 " " " 8 ...	213	177	390	20 years ...	167	128	295
8 " " " 9 ...	211	169	380	21 " ...	185	148	333
9 " " " 10 ...	185	196	381	22 " ...	202	151	353
10 " " " 11 ...	162	157	319	23 " ...	217	187	404
11 " " " 12 ...	167	145	312	24 " ...	177	162	339
Total under 1 year	5,472	4,328	9,800	Total 20 years and under 25	948	776	1,724
12 months and under 13 ...	288	226	514	25 years ...	199	167	366
13 " " " 14 ...	86	74	160	26 " ...	182	181	363
14 " " " 15 ...	90	93	183	27 " ...	178	182	360
15 " " " 16 ...	99	75	174	28 " ...	189	203	392
16 " " " 17 ...	61	48	109	29 " ...	194	163	357
17 " " " 18 ...	40	52	92	Total 25 years and under 30	942	896	1,538
18 " " " 19 ...	62	69	131	30 years ...	207	160	367
19 " " " 20 ...	52	28	80	31 " ...	175	162	337
20 " " " 21 ...	34	48	82	32 " ...	190	181	371
21 " " " 22 ...	44	34	78	33 " ...	194	166	360
22 " " " 23 ...	35	32	67	34 " ...	193	150	343
23 " " " 24 ...	39	34	73	Total 30 years and under 35	959	819	1,778
Total under 2 years	6,402	5,141	11,543	35 years ...	207	172	379
2 years ...	388	333	721	36 " ...	189	163	352
3 " ...	231	219	450	37 " ...	227	172	399
4 " ...	162	142	304	38 " ...	255	173	428
Total under 5 years	7,183	5,835	13,018	39 " ...	199	160	359
5 years ...	122	127	249	Total 35 years and under 40	1,077	840	1,917
6 " ...	146	105	251				
7 " ...	103	106	209				
8 " ...	100	94	194				
9 " ...	87	73	160				
Total 5 years and under 10	558	505	1,063				

## DEATHS AT SINGLE AGES AND IN AGE-GROUPS, 1913—Continued.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
40 years ...	280	195	475	75 years ...	429	348	777
41 " ...	220	149	369	76 " ...	416	315	731
42 " ...	302	178	480	77 " ...	385	310	695
43 " ...	275	179	454	78 " ...	457	346	803
44 " ...	231	152	383	79 " ...	392	293	685
Total 40 years and under 45	1,308	853	2,161	Total 75 years and under 80	2,079	1,612	3,691
45 years ...	391	198	589	80 years ...	382	337	719
46 " ...	276	162	438	81 " ...	281	207	488
47 " ...	287	185	472	82 " ...	302	273	575
48 " ...	361	164	525	83 " ...	300	229	529
49 " ...	334	216	550	84 " ...	285	227	512
Total 45 years and under 50	1,649	925	2,574	Total 80 years and under 85	1,550	1,273	2,823
50 years ...	437	185	622	85 years ...	211	190	401
51 " ...	306	165	471	86 " ...	196	159	355
52 " ...	375	219	594	87 " ...	157	141	298
53 " ...	388	212	600	88 " ...	130	113	243
54 " ...	344	192	536	89 " ...	87	74	161
Total 50 years and under 55	1,850	973	2,823	Total 85 years and under 90	781	677	1,458
55 years ...	345	214	559	90 years ...	65	75	140
56 " ...	386	221	607	91 " ...	47	46	93
57 " ...	361	189	550	92 " ...	32	41	73
58 " ...	398	200	598	93 " ...	29	37	66
59 " ...	361	171	532	94 " ...	31	28	59
Total 55 years and under 60	1,851	995	2,846	Total 90 years and under 95	204	227	431
60 years ...	463	189	652	95 years ...	17	18	35
61 " ...	251	163	414	96 " ...	11	23	34
62 " ...	370	224	594	97 " ...	4	17	21
63 " ...	327	227	554	98 " ...	12	10	22
64 " ...	373	196	569	99 " ...	2	1	3
Total 60 years and under 65	1,784	999	2,783	Total 95 yrs. and under 100	46	69	115
65 years ...	449	265	714	100 years ...	5	5	10
66 " ...	334	230	564	101 " ...	3	...	3
67 " ...	350	229	579	102 " ...	2	1	3
68 " ...	409	295	704	103 " ...	1	...	1
69 " ...	394	273	667	104 " ...	1	...	1
Total 65 years and under 70	1,936	1,292	3,228	105 " ...	1	...	1
70 years ...	469	325	794	106 " ...	1	1	2
71 " ...	362	217	579	107 " ...	1	1	2
72 " ...	434	313	747	108 " ...	...	1	1
73 " ...	450	314	764	109 " ...	1	...	1
74 " ...	387	296	683	110 " ...	1	...	1
Total 70 years and under 75	2,102	1,465	3,567	111 " ...	1	...	1
				112 " ...	1	...	1
				Total 100 years and over...	15	8	23
				Age not stated ...	42	8	50
				Total all ages ...	29,859	21,930	51,789

The following tables shew the death rate per 1000 living at each age for the three years 1910, 1911 and 1912, viz., the Census year 1911, and the years immediately preceding and following. The Northern Territory is included with South Australia, and the Federal Territory with New South Wales :—

**AVERAGE ANNUAL DEATH RATES PER 1000 LIVING IN VARIOUS AGE-GROUPS, 1910 to 1912.**

**MALES.**

Age Group.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
0 to 4 years	25.40	24.71	23.30	21.30	28.44	24.65	24.71
5 " 9 "	2.11	2.39	2.39	1.85	2.61	2.53	2.26
10 " 14 "	1.75	1.69	1.74	1.40	2.16	1.70	1.72
15 " 19 "	2.42	2.41	2.92	2.43	2.86	2.59	2.52
20 " 24 "	3.37	3.27	4.83	3.00	5.17	3.57	3.65
25 " 29 "	3.91	4.13	5.57	3.57	5.86	4.49	4.35
30 " 34 "	4.90	4.83	5.96	5.40	6.75	3.77	5.20
35 " 39 "	6.08	6.31	7.54	7.15	8.41	6.28	6.68
40 " 44 "	8.25	8.26	9.65	8.31	10.37	6.17	8.58
45 " 49 "	10.91	11.05	13.83	10.27	14.96	9.25	11.58
50 " 54 "	14.78	15.33	17.77	13.02	17.66	14.08	15.36
55 " 59 "	21.93	21.41	23.01	19.99	24.65	16.24	21.67
60 " 64 "	30.99	31.52	31.25	31.94	35.06	23.39	31.38
65 " 69 "	45.80	50.53	51.53	45.94	45.96	38.29	47.69
70 " 74 "	71.49	74.28	70.94	58.38	78.74	58.79	70.88
75 " 79 "	117.05	115.68	112.40	99.49	110.54	108.60	114.04
80 " 84 "	181.34	174.56	190.89	165.68	185.23	148.67	176.32
85 " 89 "	252.58	270.76	202.56	225.42	328.21	313.87	257.73
90 and over	375.35	365.88	272.73	279.57	321.43	465.61	357.11

**FEMALES.**

0 to 4 years	20.96	19.79	20.07	16.96	21.76	21.27	20.22
5 " 9 "	1.78	2.27	2.29	1.71	2.58	1.88	2.04
10 " 14 "	1.41	1.81	1.45	1.25	1.77	2.51	1.59
15 " 19 "	1.96	2.42	2.20	2.19	2.01	3.47	2.22
20 " 24 "	3.22	3.74	3.76	3.44	3.82	4.09	3.53
25 " 29 "	4.02	4.31	4.68	4.79	4.42	4.66	4.31
30 " 34 "	4.51	4.98	4.46	4.92	4.88	4.93	4.73
35 " 39 "	5.84	6.02	5.79	5.71	6.15	7.68	5.97
40 " 44 "	6.24	6.63	7.11	5.80	6.73	5.67	6.44
45 " 49 "	7.63	8.05	9.07	7.91	8.40	7.02	7.98
50 " 54 "	11.22	11.30	11.73	9.72	11.82	8.76	11.07
55 " 59 "	14.93	15.55	14.13	12.63	14.18	15.80	14.60
60 " 64 "	21.69	22.27	21.64	20.54	20.44	19.50	21.60
65 " 69 "	37.81	36.48	34.69	35.01	34.59	35.09	36.47
70 " 74 "	55.75	58.36	57.82	48.28	54.52	55.11	56.13
75 " 79 "	97.62	98.27	86.11	91.32	92.45	93.80	95.91
80 " 84 "	154.31	157.19	138.33	137.97	144.14	150.77	151.89
85 " 89 "	184.60	225.65	200.82	202.17	186.67	254.45	208.59
90 and over	307.43	361.44	351.52	328.17	358.97	317.88	334.87

**PERSONS.**

0 to 4 years	23.21	22.29	21.72	19.16	25.15	23.00	22.50
5 " 9 "	1.95	2.33	2.34	1.78	2.60	2.21	2.15
10 " 14 "	1.58	1.75	1.60	1.33	1.97	2.10	1.66
15 " 19 "	2.19	2.42	2.57	2.31	2.45	3.03	2.37
20 " 24 "	3.30	3.51	4.33	3.22	4.60	3.84	3.59
25 " 29 "	3.96	4.22	5.17	4.17	5.29	4.58	4.33
30 " 34 "	4.71	4.92	5.29	5.16	6.00	4.34	4.97
35 " 39 "	5.97	6.16	6.78	6.44	7.51	6.94	6.34
40 " 44 "	7.31	7.44	8.58	7.09	9.06	5.94	7.59
45 " 49 "	9.45	9.59	11.95	9.14	12.73	8.20	9.96
50 " 54 "	13.25	13.40	15.48	11.49	15.64	11.63	13.48
55 " 59 "	18.63	18.52	19.59	16.67	20.87	16.04	18.52
60 " 64 "	26.79	26.86	27.44	26.48	29.25	24.08	26.87
65 " 69 "	42.18	43.26	44.44	40.58	41.22	36.66	42.37
70 " 74 "	64.41	65.98	65.87	53.36	68.67	56.91	63.91
75 " 79 "	108.56	107.11	101.89	95.17	103.30	100.66	105.58
80 " 84 "	169.10	171.29	166.15	150.82	170.12	149.75	164.97
85 " 89 "	217.51	248.40	201.72	211.72	266.67	284.83	232.64
90 and over	337.70	363.94	308.54	307.81	333.33	404.98	345.44

The tables shew a high death rate for children under five years of age, which rapidly diminishes until, at ages 10 to 14, a rate of 1.66 per 1000 is shewn, which is the lowest at any age. The rate then gradually rises with increasing age until, at the ages 90 and over, more than one-third die every year.

10. **Deaths of Centenarians, 1913.**—Particulars as to the twenty-three persons who died in 1913, aged 100 years and upwards, are given in the following table. It must, of course, be understood that while the Registrars-General of the various States take the greatest care to have statements as to abnormally high ages verified as far as possible, no absolute reliance can be placed on the accuracy of the ages shewn, owing to the well-known tendency of very old people to overstate their ages. The fact must not be lost sight of in connection with this question, that while parish registers in the United Kingdom often date very far back, compulsory registration of births dates practically only from 1874, the Act passed in 1836 having left many loop-holes open for those unwilling to register the births of their children.

#### DEATHS OF CENTENARIANS, 1913.—COMMONWEALTH.

##### MALES.

Age.	Locality where Death occurred.	State.	Cause of Death.	Occupation.	Birth-place.	Length of Residence in Commonwealth.
Yrs.						
112	Stroud ...	N.S.W. ...	Fall ...	Grazier ...	England ...	95 years
110	Portland ...	" ...	Senility ...	Labourer ...	N.S.W. ...	Native
107	Granville ...	" ...	" ...	Groom ...	At Sea ...	107 years
105	Adelong ...	" ...	" ...	Farmer ...	Germany ...	60
104	Granville ...	" ...	" ...	Labourer ...	Ireland ...	Not stated
102	Richmond ...	Tasmania ...	" ...	" ...	" ...	65 years
102	Beechworth ...	Victoria ...	Diarrhœa ...	" ...	N.S.W. ...	Native
101	Peak Hill ...	N.S.W. ...	Dysentery ...	Miner ...	Austria ...	61 years
101	Kempsey ...	" ...	Senility ...	Gardener ...	England ...	59
101	Gordon ...	Victoria ...	" ...	Farmer ...	Ireland ...	Not stated
100	Cheltenham ...	" ...	" ...	Dependent ...	Scotland ...	41 years
100	Devonport ...	Tasmania ...	Cerebral Softening ...	Labourer ...	Ireland ...	50
100	Tanunda ...	South Aust. ...	Senility ...	Farmer ...	Germany ...	36
100	Romsey ...	Victoria ...	" ...	Nil ...	England ...	73
100	Adelaide ...	South Aust. ...	" ...	Labourer ...	Ireland ...	47

##### FEMALES.

108	Lismore ...	N.S.W. ...	Burns ...	" ...	England ...	93 years
107	Bungaree ...	Victoria ...	Bronchitis ...	" ...	Ireland ...	47
102	Wollongong ...	N.S.W. ...	Burns ...	" ...	" ...	70
100	Norwood ...	S. Australia ...	Cerebral Apoplexy ...	" ...	Germany ...	64
100	Tamworth ...	N.S.W. ...	Senility ...	" ...	Ireland ...	73
100	Bendigo ...	Victoria ...	Diarrhœa ...	" ...	" ...	54
100	Fitzroy ...	" ...	Senility ...	" ...	England ...	70
100	WallSEND ...	N.S.W. ...	Gastro-Enteritis ...	" ...	Scotland ...	63

11. **Length of Residence in the Commonwealth of Persons who Died in 1913.**—The length of residence in the Commonwealth of all persons whose deaths were registered in the year 1913 has been tabulated for all the States, and a summary of the results is shewn below :—

#### LENGTH OF RESIDENCE IN COMMONWEALTH OF PERSONS WHO DIED IN 1913.

Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.	Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.
Born in the C'wealth...	16,696	13,851	30,547	Resident 25 to 29 years	889	525	1,414
Resident under 1 year	332	142	474	" 30 to 34 "	1,065	543	1,608
" 1 year	211	128	339	" 35 to 39 "	776	406	1,182
" 2 years	186	68	254	" 40 to 44 "	790	445	1,235
" 3 "	99	47	146	" 45 to 49 "	754	591	1,375
" 4 "	69	39	108	" 50 to 54 "	1,384	1,049	2,433
" 5 "	60	30	90	" 55 to 59 "	1,409	1,206	2,615
" 6 "	50	17	67	" 60 to 64 "	1,320	1,169	2,489
" 7 "	49	10	59	" 65 yrs. & over	588	586	1,174
" 8 "	47	8	55	Length of residence not stated...	2,112	598	2,710
" 9 "	26	13	39				
" 10 to 14 years	198	80	278				
" 15 to 19 "	225	94	319				
" 20 to 24 "	494	285	779				
				Total ...	29,859	21,930	51,789

12. Birthplaces of Persons who Died in 1913.—In the following table are shewn the birthplaces of persons whose deaths were registered in 1913:—

### BIRTHPLACES OF PERSONS WHO DIED IN 1913.

#### COMMONWEALTH.

Birthplaces.	Males.	Females.	Total.	Birthplaces.	Males.	Females.	Total.
AUSTRALASIA—				Java ... ..	11	1	12
Commonwealth of				Philippine Islands	6	1	7
Australia—				Syria ... ..	12	7	19
New South Wales ...	6,541	5,550	12,091	Other Asiatic			
Victoria ... ..	5,068	4,001	9,069	Countries ...	9	1	10
Queensland ... ..	1,716	1,418	3,134	AFRICA—			
South Australia ...	1,650	1,403	3,053	Cape of Good Hope	5	2	7
Western Australia...	628	532	1,160	Mauritius ... ..	8	4	12
Tasmania ... ..	1,084	938	2,022	S. Africa (undefined)	13	8	21
Northern Territory	9	9	18	Other African Brit.			
New Zealand ... ..	131	85	216	Possessions ...	2	2	4
EUROPE—				Other African			
England ... ..	5,647	3,550	9,197	Countries ...	3	1	4
Wales ... ..	167	59	226	AMERICA—			
Scotland ... ..	1,613	1,039	2,652	Canada ... ..	65	9	74
Ireland ... ..	2,727	2,595	5,322	Jamaica ... ..	13	...	13
Isle of Man ... ..	13	6	19	Newfoundland ...	5	2	7
Other European				Other American			
Brit'h Possessions	27	10	37	Brit. Possessions	1	2	3
Austria-Hungary ...	51	2	53	Argentine Republic	1	1	2
Belgium ... ..	10	...	10	Brazil ... ..	...	1	1
Denmark ... ..	101	26	127	Chili ... ..	3	...	3
France ... ..	70	21	91	Mexico ... ..	2	...	2
Germany ... ..	569	263	832	Peru ... ..	1	...	1
Greece ... ..	18	4	22	United States of			
Italy ... ..	76	14	90	America ... ..	92	32	124
Netherlands ... ..	20	2	22	Other American			
Norway ... ..	56	8	64	Countries ...	29	9	38
Portugal ... ..	6	...	6	POLYNESIA—			
Russia ... ..	70	21	91	Fiji ... ..	1	1	2
Spain ... ..	6	4	10	Papua ... ..	4	...	4
Sweden ... ..	116	6	122	Other Polynesian			
Switzerland ... ..	35	10	45	Brit. Possessions	1	...	1
Other European				New Caledonia ...	3	...	3
Countries ... ..	6	1	7	New Hebrides ...	4	...	4
ASIA—				Samoa ... ..	1	1	2
British India ... ..	76	32	108	Other Polynesian			
Ceylon ... ..	12	1	13	Islands ... ..	2	1	3
Hong Kong ... ..	2	...	2	South Sea Islands			
Straits Settlements	9	...	9	(so described) ...	34	...	34
Other Asiatic British				At Sea ... ..	57	42	99
Possessions ... ..	5	1	6	Not stated...	720	186	906
Afghanistan ... ..	2	...	2				
Arabia ... ..	2	...	2				
China ... ..	348	5	353				
Japan ... ..	64	...	64	Total Deaths ...	29,859	21,930	51,789

13. **Occupations of Male Persons who Died in 1913.**—Information as to the occupations of the 29,859 males who died in the Commonwealth in 1913, is contained in the following statement :—

### OCCUPATIONS OF DECEASED MALES, 1913.

#### COMMONWEALTH.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
<b>CLASS I.—PROFESSIONAL.</b>		Groceries and stimulants ...	138
General Government ...	134	Living animals... ..	21
Local Government ...	21	Manures and waste products ...	1
Defence ...	47	Leather, raw material ...	3
Law and order ...	190	Wool and tallow ...	12
Religion ...	74	Hay, corn, etc. ...	29
Health ...	154	Other vegetable matter ...	16
Literature ...	49	Wood and coal... ..	36
Science ...	10	Stone, clay, glass ...	4
Civil and mechanical engineering, architecture and surveying ...	92	Gold, silver, and precious stones ...	1
Education ...	115	Ironmongery ...	31
Fine arts ...	35	Merchants ...	87
Music ...	44	Shopkeepers and assistants. ...	169
Amusements ...	126	Dealers and hawkers ...	116
		Agents and brokers ...	104
		Clerks, bookkeepers, etc. ...	543
		Commercial travellers and salesmen	150
Total Professional ...	1,091	Others engaged in commercial pursuits ...	144
		Speculators on chance events ...	13
		Storage ...	4
<b>CLASS II.—DOMESTIC.</b>		Total Commercial ...	2,305
Hotelkeepers and assistants ...	311		
Others engaged in providing board and lodging... ..	82	<b>CLASS IV.—TRANSPORT AND COMMUNICATION.</b>	
House servants ...	178	Railway traffic ...	404
Coachmen and grooms ...	95	Tramway traffic ...	45
Hairdressers ...	76	Road traffic ...	566
Laundrymen ...	16	Sea and river traffic ...	567
Others engaged in domestic occupations ...	108	Postal service ...	70
		Telegraph and telephone service ...	32
Total Domestic ...	866	Messengers, etc. ...	10
<b>CLASS III.—COMMERCIAL.</b>		Total Transport & Communication	1,694
Banking and finance ...	75		
Insurance and valuation ...	68	<b>CLASS V.—INDUSTRIAL.</b>	
Land and household property ...	32	Books and publications ...	150
Books, publications and advertising	30	Musical instruments ...	12
Musical instruments ...	3	Prints, pictures, and art materials	12
Prints, pictures, and art materials	1	Ornaments and small wares ...	21
Watches, clocks, jewellery ...	3	Designs, medals, type ...	6
Arms and ammunition ...	1	Watches and clocks ...	20
Machines, tools, and implements ...	7	Arms and ammunition ...	4
Carriages and vehicles ...	2	Engines, machines, tools, etc. ...	148
Harness and saddlery ...	1	Carriages and vehicles ...	105
Ships and boats... ..	2	Harness, saddlery, and leatherware	85
Building materials ...	5	Ships, boats, and equipment ...	45
Furniture ...	7	Furniture ...	101
Chemicals ...	1	Building material ...	63
Paper and stationery ...	14	Chemicals and by-products ...	5
Textile fabrics ...	102		
Dress ...	23		
Animal food ...	236		
Vegetable food ...	70		

## OCCUPATIONS OF DECEASED MALES, 1913—Continued.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths
<b>INDUSTRIAL—Continued.</b>		<b>CLASS VI.—AGRICULTURAL, PASTORAL, MINING PURSUITS, ETC.</b>	
Textile fabrics ... ..	10	Agricultural ... ..	2,880
Dress ... ..	419	Pastoral ... ..	770
Fibrous materials ... ..	11	Dairy farming ... ..	82
Animal food ... ..	22	Bees, fisheries and wild animals ...	147
Vegetable food ... ..	203	Forestry ... ..	55
Groceries and stimulants ... ..	65	Water conservation and supply ...	26
Animal matter ... ..	82	Mines and quarries ... ..	1,756
Workers in wood not elsewhere classed ... ..	42		
Fodder ... ..	1	Total Primary Producers ... ..	5,716
Paper ... ..	2		
Stone, clay, glass ... ..	74	<b>CLASS VII.—INDEFINITE.</b>	
Jewellery and precious stones ...	42	Independent means, having no specific occupation ... ..	861
Metals, other than gold and silver	342	Occupation unspecified ... ..	516
Gas, electric lighting, etc. ... ..	51		
<b>Buildings—</b>		Total Indefinite ... ..	1,377
Builders ... ..	95		
Stonemasons... ..	99	<b>CLASS VIII.—DEPENDENTS.</b>	
Bricklayers ... ..	106	Dependent relatives (including persons under 20 years of age with no specified occupation) ...	8,394
Slaters ... ..	8	Supported by voluntary and State contributions ... ..	373
Carpenters ... ..	482		
Plasterers ... ..	47	Total Dependents ... ..	8,767
Painters and glaziers ... ..	201		
Plumbers ... ..	85		
Signwriters ... ..	5		
Others ... ..	13		
Roads, railways, and earthworks...	44		
Disposal of the dead ... ..	15		
Disposal of refuse ... ..	34		
<b>Other industrial workers—</b>			
Manufacturers ... ..	25		
Engineers, firemen ... ..	374		
Contractors ... ..	163		
Labourers, undefined ... ..	4,088		
Others ... ..	21		
Total Industrial ... ..	8,043	Total Male Deaths ... ..	29,859

14. **Index of Mortality.**—The death rates, those for age-groups on pages 171 and 174 excepted, so far shewn are crude rates, *i.e.*, they simply shew the number of deaths per thousand of mean population, without taking the age constitution of that population into consideration. It is, however, a well-known fact that the death rate and age constitution of a people are intimately related, thus, other conditions being equal, the death rate of a country will be lower if it contain a large percentage of young people (not infants). In order to have a comparison of the mortality of various countries on a uniform basis, so far as age constitution is concerned, the International Statistical Institute in its 1895 session recommended the universal adoption of the population of Sweden in five age-groups, as ascertained at the Census of 1890, as the standard population by which this "Index of Mortality," as distinguished from the crude death rate, should be ascertained. The calculation for 1913 is shewn below for each of the States and Territories and for the Commonwealth, the distribution of the mean population of 1913 into age-groups being in accordance with the distribution as found at the Census of 1911:—

## INDEX OF MORTALITY, 1913.—(STATES AND COMMONWEALTH).

Age-Group.	Mean Popu- lation, 1913, distributed according to Results of Census of 1911.	Number of Deaths, 1913.	No. of Deaths per 1000 of Mean Population, 1913, in each Age-Group.	Age Distribution per 1000 of Standard Population.	Index of Mortality.
<b>NEW SOUTH WALES.</b>					
Under 1 year ... ..	49,723	4,065	81.75	25.5	2.08
1 year and under 20 ... ..	712,064	2,453	3.44	398.0	1.37
20 years " 40 ... ..	605,826	2,747	4.53	269.6	1.22
40 " " 60 ... ..	327,069	3,787	11.58	192.3	2.23
60 " and upwards ... ..	113,539	6,647	58.54	114.6	6.71
Total ... ..	1,808,241	19,699	10.89	1,000.0	13.61
<b>VICTORIA.</b>					
Under 1 year ... ..	32,961	2,538	77.00	25.5	1.96
1 year and under 20 ... ..	536,261	1,619	3.02	398.0	1.20
20 years " 40 ... ..	440,998	1,917	4.35	269.6	1.17
40 " " 60 ... ..	280,777	3,138	11.18	192.3	2.15
60 " and upwards ... ..	102,183	6,262	61.28	114.6	7.02
Total ... ..	1,393,180	15,474	11.11	1,000.0	13.50
<b>QUEENSLAND.</b>					
Under 1 year ... ..	17,646	1,252	70.91	25.5	1.81
1 year and under 20 ... ..	267,324	893	3.34	398.0	1.33
20 years " 40 ... ..	213,803	1,083	5.07	269.6	1.37
40 " " 60 ... ..	115,922	1,481	12.78	192.3	2.46
60 " and upwards ... ..	37,860	2,074	54.78	114.6	6.28
Total ... ..	652,555	6,783	10.39	1,000.0	13.25
<b>SOUTH AUSTRALIA.</b>					
Under 1 year ... ..	11,166	883	79.08	25.5	2.02
1 year and under 20 ... ..	169,786	511	3.01	398.0	1.20
20 years " 40 ... ..	142,865	655	4.58	269.6	1.23
40 " " 60 ... ..	79,266	846	10.67	192.3	2.05
60 " and upwards ... ..	30,505	1,798	58.94	114.6	6.75
Total ... ..	433,588	4,693	10.82	1,000.0	13.25
<b>WESTERN AUSTRALIA.</b>					
Under 1 year ... ..	8,395	649	77.31	25.5	1.97
1 year and under 20 ... ..	114,999	390	3.39	398.0	1.35
20 years " 40 ... ..	115,301	553	4.80	269.6	1.29
40 " " 60 ... ..	62,711	703	11.21	192.3	2.16
60 " and upwards ... ..	12,596	639	50.73	114.6	5.81
Total ... ..	314,003	2,934	9.34	1,000.0	12.58
<b>TASMANIA.</b>					
Under 1 year ... ..	5,509	416	75.51	25.5	1.93
1 year and under 20 ... ..	83,448	288	3.45	398.0	1.37
20 years " 40 ... ..	59,945	297	4.95	269.6	1.33
40 " " 60 ... ..	34,836	433	12.43	192.3	2.39
60 " and upwards ... ..	12,248	697	56.91	114.6	6.52
Total ... ..	195,986	2,131	10.87	1,000.0	13.54
<b>NORTHERN TERRITORY.</b>					
Under 1 year ... ..	33	6	181.82	25.5	4.64
1 year and under 20 ... ..	673	9	13.37	398.0	5.32
20 years " 40 ... ..	976	11	11.27	269.6	3.04
40 " " 60 ... ..	1,645	26	15.80	192.3	3.04
60 " and upwards ... ..	333	12	36.04	114.6	4.13
Total ... ..	3,660	64	17.49	1,000.0	20.17
<b>FEDERAL TERRITORY.</b>					
Under 1 year ... ..	56	1	17.86	25.5	0.46
1 year and under 20 ... ..	1,004	2	1.99	398.0	0.79
20 years " 40 ... ..	753	...	...	269.6	...
40 " " 60 ... ..	456	1	2.19	192.3	0.42
60 " and upwards ... ..	180	7	33.89	114.6	4.46
Total ... ..	2,449	11	4.49	1,000.0	6.13



## INDEX OF MORTALITY, 1913.—(STATES AND COMMONWEALTH)—Continued.

Age-Group.	Mean Population, 1913, distributed according to Results of Census of 1911.	Number of Deaths, 1913.	No. of Deaths per 1000 of Mean Population, 1913, in each Age-Group.	Age Distribution per 1000 of Standard Population.	Index of Mortality
<b>COMMONWEALTH.</b>					
Under 1 year ... ..	125,489	9,810	78.17	25.5	1.99
1 year and under 20 ... ..	1,885,559	6,165	3.27	398.0	1.30
20 years " 40 ... ..	1,580,467	7,263	4.60	269.6	1.24
40 " 60 ... ..	902,702	10,415	11.54	192.3	2.22
60 " and upwards ... ..	309,444	18,136	58.61	114.6	6.72
Total ... ..	4,803,661	51,789	10.78	1,000.0	13.47

NOTE.—The small number of persons whose ages were not ascertained at the 1911 Census have been proportionately distributed among the various age-groups, and the same plan has been followed in regard to the 50 persons who died in 1913, and whose ages were not stated in the certificates of death.

It will be seen that while Victoria had in 1913, apart from the territories, the highest crude death rate, the index was highest in New South Wales; and that both the index and the crude rate were lowest in Western Australia. The range of the indexes was much below that of the crude rates, the latter varying from 9.34 per thousand in Western Australia to 11.11 per thousand in Victoria, a range of 1.77 per thousand, while the index varied from 12.58 per thousand in Western Australia to 13.61 per thousand in New South Wales, a range of 1.03 per thousand only.

For purposes of comparison with previous years the index of mortality is shewn in the following table for each of the eleven years 1903-1913 :—

## INDEX OF MORTALITY, 1903-1913 (STATES AND TERRITORIES).

Year.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Northern Territory.	Federal Territory.	Commonwealth.
1903 ... ..	14.89	15.38	15.72	13.99	16.11	14.73	...	...	15.21
1904 ... ..	13.90	14.46	12.89	13.45	15.49	14.13	...	...	14.11
1905 ... ..	13.23	14.80	13.72	13.49	14.17	12.95	...	...	13.94
1906 ... ..	12.91	15.26	12.44	13.78	15.84	14.10	...	...	13.94
1907 ... ..	13.66	14.55	13.52	13.12	14.94	14.10	...	...	13.97
1908 ... ..	13.13	15.58	13.37	12.89	14.81	14.46	...	...	14.10
1909 ... ..	12.61	14.11	12.57	12.27	13.91	12.32	...	...	13.15
1910 ... ..	12.48	14.15	12.60	12.50	13.48	13.62	...	...	13.17
1911 ... ..	13.23	14.23	13.57	12.18	13.47	12.97	(a) 17.91	(b) 6.53	13.55
1912 ... ..	13.63	14.94	13.91	12.76	14.55	13.69	17.23	6.36	14.08
1913 ... ..	13.61	13.50	13.25	13.25	12.58	13.54	20.17	6.13	13.47

(a) Included in South Australia prior to 1911. (b) Part of New South Wales prior to 1911.

A comparison of the above figures with the crude death rates given on a previous page shews that while the crude rate was highest in Victoria ten times in 11 years and once in Western Australia, the index was highest in Victoria six times, in Western Australia four times, and in New South Wales once in the same period. South Australia had the lowest index six times, Queensland twice, and New South Wales, Western Australia, and Tasmania once each, while the crude rate was lowest five times in South Australia, three times in Queensland, twice in Tasmania, and once in Western Australia. The high index in Victoria is due to the large proportion of persons over 60 years of age, and in Western Australia to the heavy mortality in the early period of life.

**15. Monthly Variations in Death Rates.**—(i.) *General Death Rates.* The annual death rates, corresponding to the number of deaths registered in each equalised month, have been calculated for the six years 1907-1912, and a series of diagrams shewing the results for each State and the Commonwealth as a whole appears on page 209 of this issue, distinguishing the rates for males, females, and persons. The curves shewing the male and female rate exhibit in each State a fairly parallel course,

irregularities being, however, more strongly marked in the case of the male curve. The minimum rates in New South Wales and Queensland fall within the autumn months, from March to May, while in Victoria, South Australia, Western Australia, and Tasmania they fall in the spring months, October and November. In no case is there, however, a very great difference between the rates in spring and in autumn, the figures for the Commonwealth being 10.19 per thousand in March, and 10.34 per thousand in October. The maximum rates in New South Wales, Victoria, and Tasmania are experienced in August, and in Queensland in September, with the rates for December and January as secondary maxima. In South Australia the maximum rate of 11.33 per thousand falls in January, the rate for August standing next with 10.80 per thousand. In Western Australia the maximum rate is found in May.

(ii.) *Infantile Death Rates.* A similar series of diagrams, shewing the monthly variations in the infantile death rates, appears on page 210. With the exception of Western Australia, where the maximum occurs in May, the maxima are found in the summer months in every State. The rates gradually decrease from January to March, shewing in several States a slight increase in April, with a further diminution until July. In July and August the rates rise to some extent, to fall again until October or November. From that time a rapid rise takes place, until the maximum is reached in December or January. Tasmania, where the seasons are rather later than in the continental States, shews two distinct minima in May and November, with a summer maximum in February, and a fairly high rate in September. In Western Australia the rates are moderately high in December and January, and drop until March, to rise rapidly in April and May when the maximum is reached. From May to September there is a gradual decrease, with a quick rise from the latter month until December.

**16. Causes of Death.**—(i.) Information regarding the changes in the classification of causes of death will be found in previous editions of this Year Book (*e.g.*, Year Book No. 5, pages 222 and 223). The statement will suffice, therefore, that the classification adopted by the Commonwealth Bureau of Census and Statistics is that of the International Institute of Statistics, as amended by the Committee of Revision which met in 1909. The detailed classification groups causes of death under 189 different headings in fourteen categories, as follows:—

- |   |   |
|---|---|
| i. General Diseases.  | viii. Diseases of the Skin and Cellular Tissue. |
| ii. Diseases of the Nervous System and Organs of Special Sense. | ix. Diseases of the Organs of Locomotion.       |
| iii. Diseases of the Circulatory System.                        | x. Malformations.                               |
| iv. Diseases of the Respiratory System.                         | xi. Infancy.                                    |
| v. Diseases of the Digestive System.                            | xii. Old Age.                                   |
| vi. Diseases of the Genito-urinary System and Adnexa.           | xiii. Violence.                                 |
| vii. Puerperal Condition.                                       | xiv. Ill-defined Diseases.                      |

(ii.) *Compilation of Vital Statistics for 1907 and Subsequent Years in Commonwealth Bureau.* The vital statistics of the Commonwealth from the year 1907 onward have been tabulated according to this classification in the Commonwealth Bureau, and the system is being employed in the majority of the State offices in the preparation of their monthly and quarterly bulletins of vital statistics.

(iii.) *Classification of Causes of Death, 1907 to 1913, according to Abridged International Classification.* An abridged classification, which enumerates thirty-eight diseases and groups of diseases according to the revised classification, is in use in many European and American States, while the Commonwealth Statistics have been compiled on the detailed classification of 189 headings. A table has been compiled shewing the causes of death according to the abridged classification, so that the results may be compared with those of countries which use the abridged index.

The compilations for the years 1907 to 1913 will be found in full in "Bulletins Nos. 8, 14, 20, 25, 29, 30, and 31 of Population and Vital Statistics"; here it will suffice to give the abridged classification under thirty-eight headings for the year 1913:—

## CAUSES OF DEATH—COMMONWEALTH, 1913.

(a) MALES.

Cause.	N.S.W.	Vic.	Q'land.	S.Aust.	W.Aus.	Tas.	Nor. Ter.	Ed. Ter.	C'with.
1 Typhoid Fever ...	149	63	91	32	45	13	...	...	393
2 Typhus ...	...	...	...	...	...	...	...	...	...
3 Malaria ...	6	2	9	1	2	...	1	...	21
4 Small-pox ...	...	...	...	...	...	...	...	...	...
5 Measles ...	22	26	27	9	8	5	...	...	95
6 Scarlet Fever ...	10	2	1	4	1	1	...	...	19
7 Whooping Cough ...	120	44	28	35	5	11	1	...	244
8 Diphtheria and Croup ...	146	136	43	42	16	26	...	...	409
9 Influenza ...	46	53	60	11	4	10	1	...	185
10 Asiatic Cholera ...	...	...	...	...	...	...	...	...	...
11 Cholera Nostras ...	1	1	...	...	...	...	...	...	2
12 Other Epidemic Diseases ...	32	16	31	11	10	4	...	...	104
13 Tuberculosis of the Lungs ...	727	533	220	171	143	57	10	...	1,861
14 Tuberculosis of the Men- inges ...	51	37	7	9	9	6	...	...	119
15 Other forms of Tubercu- losis ...	62	51	16	8	7	6	1	...	151
16 Cancer and other Malig- nant Tumours ...	746	574	251	183	92	69	1	...	1,916
17 Simple Meningitis ...	164	113	54	40	33	26	...	...	430
18 Congestion, Hæmorrhage and Softening of Brain ...	477	351	142	104	55	58	1	...	1,188
19 Organic Diseases of the Heart ...	1,016	890	427	269	136	109	3	3	2,853
20 Acute Bronchitis ...	101	50	21	23	4	11	...	...	210
21 Chronic Bronchitis ...	201	186	70	56	16	26	...	...	555
22 Pneumonia ...	457	370	131	106	76	83	1	...	1,224
23 Other Diseases of the Res- piratory System (Tuber- culosis excepted) ...	344	436	164	91	62	38	2	...	1,137
24 Diseases of the Stomach (Cancer excepted) ...	87	61	31	17	15	8	1	...	220
25 Diarrhœa & Enteritis (child- ren under 2 years only) ...	842	415	225	133	113	28	...	...	1,756
26 Appendicitis and Typhlitis ...	88	58	35	12	10	14	...	...	217
27 Hernia, Intestinal Ob- structions ...	97	58	40	20	24	9	...	...	248
28 Cirrhosis of the Liver ...	95	81	43	13	18	3	...	...	253
29 Nephritis and Bright's Disease ...	537	434	192	108	55	37	...	...	1,363
30 Non-cancerous Tumours and other Diseases of Female Genital Organs ...	...	...	...	...	...	...	...	...	...
31 Puerperal Septicæmia (Puerperal Fever, Puer- peral Peritonitis, Puer- peral Phlebitis) ...	...	...	...	...	...	...	...	...	...
32 Other Puerperal Accidents of Pregnancy and Con- finement ...	...	...	...	...	...	...	...	...	...
33 Congenital Debility and Malformations ...	845	581	274	208	149	104	3	...	2,164
34 Senile Debility ...	878	763	239	205	120	95	2	...	2,302
35 Violence ...	956	535	468	185	239	111	9	...	2,503
36 Suicide ...	210	104	106	35	49	12	...	...	516
37 Other Diseases ...	1,822	1,389	718	373	290	192	9	1	4,794
38 Unspecified or Ill-defined Diseases ...	173	82	31	49	48	17	7	...	407
Total—Males ...	11,508	8,495	4,195	2,563	1,852	1,189	53	4	29,859

## CAUSES OF DEATH—COMMONWEALTH, 1913.

## (b) FEMALES.

Cause.	N.S.W.	Vic.	Q'land.	S. A.	W.A.	Tas.	Nor. Ter.	Fed. Ter.	C'wlth.
1 Typhoid Fever ...	78	33	34	17	18	3	...	...	183
2 Typhus ...	...	...	...	...	...	...	...	...	...
3 Malaria ...	...	1	2	...	...	...	...	...	3
4 Small-pox ...	1	...	...	...	...	...	...	...	1
5 Measles ...	19	23	28	12	2	7	...	...	91
6 Scarlet Fever ...	12	3	...	3	...	2	...	...	20
7 Whooping Cough...	166	58	41	27	14	10	...	...	316
8 Diphtheria and Croup	174	106	41	34	30	12	2	...	399
9 Influenza ...	40	34	50	14	4	12	1	1	156
10 Asiatic Cholera ...	...	...	...	...	...	...	...	...	...
11 Cholera Nostras ...	...	1	...	...	...	...	...	...	1
12 Other Epidemic Diseases ...	30	17	14	8	9	3	...	...	81
13 Tuberculosis of the Lungs...	471	500	186	163	63	58	...	...	1,391
14 Tuberculosis of the Meninges	47	44	5	20	7	10	...	...	133
15 Other forms of Tuberculosis	59	52	5	18	3	8	...	...	145
16 Cancer and other Malignant Tumours ...	577	590	176	181	86	75	1	1	1,687
17 Simple Meningitis ...	123	97	42	31	16	14	...	...	323
18 Congestion, Hemorrhage, & Softening of the Brain ...	399	370	107	135	37	44	1	...	1,093
19 Organic Diseases of the Heart	702	792	260	210	70	101	...	1	2,136
20 Acute Bronchitis ...	88	42	18	23	9	7	...	...	187
21 Chronic Bronchitis ...	169	132	60	46	18	11	...	...	436
22 Pneumonia ...	260	245	80	63	39	54	1	...	742
23 Other Diseases of the Res- piratory System (Tuber- culosis excepted) ...	261	256	53	39	28	38	...	...	675
24 Diseases of the Stomach (Cancer excepted) ...	87	75	31	16	10	7	...	1	227
25 Diarrhœa and Enteritis (children under 2 yrs only)	644	329	183	107	123	34	...	...	1,420
26 Appendicitis and Typhlitis...	55	51	22	11	6	2	...	...	147
27 Hernia, Intestinal Obstruc- tions... ..	79	78	27	28	15	11	...	...	238
28 Cirrhosis of the Liver ...	37	40	19	9	5	2	...	...	112
29 Nephritis & Bright's Disease	290	313	128	59	39	19	...	...	848
30 Non-cancerous Tumours and other Diseases of the Female Genital Organs	63	39	20	10	12	9	...	...	153
31 Puerperal Septicæmia (Puer- peral Fever, Puerperal Peritonitis, Puerperal Phlebitis) ...	115	57	22	24	9	8	...	...	235
32 Other Puerperal Accidents of Pregnancy & Confinement	180	113	60	34	24	17	...	...	428
33 Congenital Debility and Mal- formations ...	644	460	209	156	97	91	2	...	1,659
34 Senile Debility ...	632	661	131	232	52	105	...	1	1,814
35 Violence... ..	267	180	102	46	50	19	1	...	665
36 Suicide ...	58	42	12	11	5	3	...	...	131
37 Other Diseases ...	1,271	1,083	464	318	173	135	1	2	3,447
38 Unspecified or Ill-defined Diseases ...	93	62	6	25	9	11	1	...	207
Total—Females ...	8,191	6,979	2,588	2,130	1,082	942	11	7	21,930

## CAUSES OF DEATH—COMMONWEALTH, 1913.

(c) TOTAL, MALES AND FEMALES.

Cause.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Nor. Ter.	Fed. Ter.	Com'- wealth
1 Typhoid Fever ...	227	96	125	49	63	16	...	...	576
2 Typhus ...	...	...	...	...	...	...	...	...	...
3 Malaria ...	6	3	11	1	2	...	1	...	24
4 Small-pox ...	1	...	...	...	...	...	...	...	1
5 Measles ...	41	49	55	21	8	12	...	...	186
6 Scarlet Fever ...	22	5	1	7	1	3	...	...	39
7 Whooping Cough ...	286	102	69	62	19	21	1	...	560
8 Diphtheria and Croup ...	320	242	84	76	46	38	2	...	808
9 Influenza ...	86	87	110	25	8	22	2	1	341
10 Asiatic Cholera ...	...	...	...	...	...	...	...	...	...
11 Cholera Nostras ...	1	2	...	...	...	...	...	...	3
12 Other Epidemic Diseases ...	62	33	45	19	19	7	...	...	185
13 Tuberculosis of the Lungs ...	1,198	1,033	356	334	206	115	10	...	3,252
14 Tuberculosis of the Meninges ...	98	81	12	29	16	16	...	...	252
15 Other forms of Tuberculosis ...	121	103	21	26	10	14	1	...	296
16 Cancer and other Malignant Tumours ...	1,323	1,164	427	364	178	144	2	1	3,603
17 Simple Meningitis ...	287	210	96	71	49	40	...	...	753
18 Congestion, Hæmorrhage, & Softening of the Brain ...	876	721	249	239	92	102	2	...	2,281
19 Organic Diseases of Heart ...	1,718	1,682	687	479	206	210	3	4	4,989
20 Acute Bronchitis ...	189	92	39	46	13	18	...	...	397
21 Chronic Bronchitis ...	370	318	130	102	34	37	...	...	991
22 Pneumonia ...	717	615	211	169	115	137	2	...	1,966
23 Other Diseases of the Respiratory System (Phthisis excepted) ...	605	692	217	130	90	76	2	...	1,812
24 Diseases of the Stomach (Cancer excepted) ...	174	136	62	33	25	15	1	1	447
25 Diarrhœa and Enteritis (children under 2 yrs. only) ...	1,486	744	408	240	236	62	...	...	3,176
26 Appendicitis and Typhlitis ...	143	109	57	23	16	16	...	...	364
27 Hernia, Intestinal Obstructions ...	176	136	67	48	39	20	...	...	486
28 Cirrhosis of the Liver ...	132	121	62	22	23	5	...	...	365
29 Nephritis & Bright's Disease ...	827	747	320	167	94	56	...	...	2,211
30 Non-cancerous Tumours & other Diseases of the Female Genital Organs ...	63	39	20	10	12	9	...	...	153
31 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis) ...	115	57	22	24	9	8	...	...	235
32 Other Puerperal Accidents of Pregnancy and Confinement ...	180	113	60	34	24	17	...	...	428
33 Congenital Debility and Malformations ...	1,489	1,041	483	364	246	195	5	...	3,823
34 Senile Debility ...	1,510	1,424	370	437	172	200	2	1	4,116
35 Violence ...	1,223	715	570	231	289	130	10	...	3,168
36 Suicide ...	268	146	118	46	54	15	...	...	647
37 Other Diseases ...	3,093	2,472	1,182	691	463	327	10	3	8,241
38 Unspecified or Ill-defined Diseases ...	266	144	37	74	57	28	8	...	614
Total—Males and Females	19,699	15,474	6,783	4,693	2,934	2,131	64	11	51,789

(d) The classification for the years 1908 to 1912 is shewn for the Commonwealth in the following table, and for purposes of comparison the figures for the year 1913 have

been repeated from the preceding table. Male and female deaths for 1905, 1906, and 1907 are shewn separately on page 237 of the second issue, those for 1908 on pages 211 and 212 of the third issue, for 1909 on pages 200 and 201 of the fourth issue, for 1910 on pages 202 and 203 of the fifth issue, for 1911 on pages 224 and 225 of the sixth issue, and for 1912 on pages 182 and 183 of the seventh issue of this Year Book; while the figures for 1913 are given on pages 182 and 183.

The figures for 1907, 1908, and 1909, which were compiled under thirty-five headings, have here been distributed among the corresponding headings of the revised classification.

## CAUSES OF DEATH—COMMONWEALTH, 1907 TO 1913.

## MALES AND FEMALES.

Cause.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
1 Typhoid Fever ...	564	736	661	648	488	619	576
2 Typhus ...	...	...	...	...	...	...	...
3 Malaria ...	42	52	59	55	19	17	24
4 Small-pox ...	...	...	1	4	1	...	1
5 Measles ...	147	125	31	124	206	519	186
6 Scarlet Fever ...	37	63	74	58	24	41	39
7 Whooping Cough ...	1,070	249	257	476	291	301	560
8 Diphtheria and Croup ...	403	421	435	555	696	754	808
9 Influenza ...	902	588	326	324	447	386	341
10 Asiatic Cholera ...	...	...	...	...	...	...	...
11 Cholera-Nostras ...	5	4	1	1	6	5	3
12 Other Epidemic Diseases ...	276	268	221	184	295	224	185
13 Tuberculosis of the Lungs ...	3,206	3,409	3,169	3,059	3,164	3,146	3,252
14 Tuberculosis of the Meninges ...	237	205	220	215	269	215	252
15 Other forms of Tuberculosis ...	415	352	332	343	303	327	296
16 Cancer and other Mal. Tumours ...	2,940	2,921	3,112	3,205	3,321	3,537	3,603
17 Simple Meningitis ...	648	676	616	567	636	749	753
18 Congestion, Hæmorrhage, and Softening of the Brain ...	1,901	1,867	1,665	1,704	2,178	2,176	2,281
19 Organic Diseases of the Heart ...	3,801	4,066	3,940	4,378	4,896	5,267	4,989
20 Acute Bronchitis ...	514	412	422	420	515	460	397
21 Chronic Bronchitis ...	844	818	897	859	1,046	1,053	991
22 Pneumonia ...	1,788	1,871	1,752	1,612	1,869	2,107	1,966
23 Other Diseases of the Respir. System (Tuberculosis except.) ...	1,689	1,569	1,565	1,544	1,872	1,863	1,812
24 Diseases of the Stomach (Cancer excepted) ...	334	308	272	297	370	457	447
25 Diarrhœa and Enteritis (Children under two years only) ...	2,733	3,236	2,803	3,145	2,462	3,248	3,176
26 Appendicitis and Typhlitis ...	305	293	344	315	320	347	364
27 Hernia, Intest. Obstructions... ..	411	389	396	398	439	463	486
28 Cirrhosis of the Liver ...	325	362	331	368	385	426	365
29 Nephritis and Bright's Disease ...	1,760	1,864	1,799	1,771	1,951	2,188	2,211
30 Non-cancerous Tumours and other Diseases of the Female Genital Organs ...	128	159	130	149	120	145	153
31 Puerperal Septicæmia (Puer. Fever, Peritonitis, Phlebitis) ...	179	202	201	218	209	231	235
32 Other Puerperal Accidents of Pregnancy and Confinement ...	435	404	376	373	406	413	428
33 Congenital Debility, etc. ...	3,038	2,973	2,905	3,221	3,142	3,611	3,823
34 Senile Debility ...	3,136	3,466	3,194	3,353	3,849	4,124	4,116
35 Violence ...	2,679	2,922	2,664	2,738	3,018	3,237	3,168
36 Suicide ...	461	497	495	516	544	631	647
37 Other Diseases ...	6,677	7,417	7,419	7,795	7,652	8,300	8,241
38 Unspecified or Ill-defined Dis. ...	1,275	1,262	1,087	598	460	590	614
Total ...	45,305	46,426	44,172	45,590	47,869	52,177	51,789

17. **Certification of Deaths.**—Information was obtained in 1913 as to the persons by whom the 51,789 deaths which occurred in the Commonwealth were certified. The result of the enquiry shews that approximately 88.7 per cent. (in 1910, 88.1 per cent., in 1911, 88.2 per cent., and in 1912, 88.1 per cent.) were certified by medical practitioners, and 10.8 per cent. (in 1910, 11.1 per cent., in 1911, 10.9 per cent., and in 1912, 10.9 per cent.) by coroners after inquests, or magisterial enquiries, while in 0.5 per cent. (in 1910, 0.8 per cent., in 1911, 0.9 per cent., and in 1912, 1.0 per cent.) of the cases there was either no certificate given, or particulars were not forthcoming. The results are shewn in detail in Bulletin No. 31; a short summary will therefore suffice here:—

#### CERTIFICATION OF DEATHS, COMMONWEALTH, 1913.

Death Certified by—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Fed. Ter.	C'with.
Medical practitioner	17,340	13,597	6,220	4,268	2,585	1,887	34	9	45,940
Coroner ...	2,351	1,877	404	414	298	225	30	2	5,601
Not certified or not stated ...	8	...	159	11	51	19	...	...	248
Total Deaths ...	19,699	15,474	6,783	4,693	2,934	2,131	64	11	51,789

Of the cases certified by coroners, violent deaths numbered 2387, ill-defined causes 296, organic heart disease 470, senile decay 464, congenital debility 175, diarrhœa and enteritis 82, Bright's disease 101, cerebral hæmorrhage and apoplexy 98, tuberculosis of lungs 83, pneumonia 115, infantile convulsions 60, broncho-pneumonia 43, diseases of arteries, aneurysms, etc. 29, acute and chronic alcoholism 49, other diseases peculiar to early infancy 40, epilepsy 30, general paralysis 29, diphtheria and croup 23, puerperal septicæmia, 18; a total of 5092 out of 5601.

Of uncertified causes of death, violent deaths numbered 64, senile debility 40, ill-defined causes 23, infantile convulsions 12, congenital debility 25, diarrhœa and enteritis 5, tuberculosis of the lungs 3, organic heart disease 8, pneumonia 5, influenza 4, beri beri 4, cerebral hæmorrhage and apoplexy 3, chronic bronchitis 5, and Bright's disease 3; a total of 204 out of 248.

18. **Deaths from Special Causes.**—The table on p. 185 furnishes comparisons for the last seven years only, and comparisons will, therefore, be restricted to that period.

(i.) *Typhoid Fever.* Deaths from typhoid fever were more numerous in 1908 than in 1907, numbering 736, against 564 in 1907. In 1909 the number fell to 661, in 1910, to 648, and to 488 in 1911. In 1912 the number increased to 619, and fell to 576 in 1913, of which 227 occurred in New South Wales, 96 in Victoria, 125 in Queensland, 49 in South Australia, 63 in Western Australia, and 16 in Tasmania.

(ii.) *Typhus.* No deaths from typhus have been registered from 1907 to 1913.

(iii.) *Malaria.* Deaths from malarial diseases are practically confined to the tropical districts of Northern Queensland and Western Australia, and to the Northern Territory, 11 out of 24 deaths registered in 1913 having occurred in Queensland, 2 in Western Australia, and one in the Northern Territory.

(iv.) *Small-pox.* No deaths from small-pox occurred during the two years 1907 and 1908, but in 1909 one death was registered in Western Australia. In 1910 one death was registered in New South Wales, and three in Victoria, and in 1911, only one death occurred in New South Wales. No deaths were registered in 1912, but in 1913 one death occurred in New South Wales.

(v.) *Measles*. No serious epidemic of measles has occurred for several years; the deaths in 1908 were less numerous than in 1907, numbering 125, against 147. In 1909 the deaths numbered 31, while 124 were registered in 1910, and 206 in 1911. In 1912 New South Wales experienced a slight epidemic, and was responsible for 352 deaths out of 519 registered. In 1913 the number of deaths fell to 186, which were fairly evenly distributed among the six States.

(vi.) *Scarlet Fever*. 39 deaths were registered in 1913, distributed over all six States, with a maximum of 22 in New South Wales.

(vii.) *Whooping Cough*. A rather severe epidemic of whooping cough visited New South Wales in the early part of 1907, causing 592 deaths out of a total of 1070 registered in the Commonwealth. The deaths in 1908 fell to 249, with a slight increase to 257 in 1909, and a much greater increase to 476 in 1910. During 1911, however, only 291 deaths, and in 1912, 301 deaths were registered. In 1913 the number of deaths increased to 560, of which 286 occurred in New South Wales, and 102 in Victoria.

(viii.) *Diphtheria and Group*. Deaths in 1907, 403; in 1908, 421; in 1909, 435; in 1910, 555; in 1911, 696, in 1912, 754, and in 1913, 808, of which 320 occurred in New South Wales, 242 in Victoria, 84 in Queensland, 76 in South Australia, 46 in Western Australia, 38 in Tasmania, and two in the Northern Territory.

(ix.) *Influenza*. This disease was rather more prevalent in 1907 than in the two previous years, the deaths numbering 902, against 428 and 539. The deaths in 1908 were 588; in 1909, 326; 324 in 1910; in 1911, 447; in 1912, 386; and in 1913, 341, of which 86 occurred in New South Wales, 87 in Victoria, 110 in Queensland, 25 in South Australia, 8 in Western Australia, 22 in Tasmania, 2 in the Northern Territory, and 1 in the Federal Territory.

(x.) *Asiatic Cholera*. No cases of Asiatic cholera have ever occurred in the Commonwealth.

(xi.) *Cholera Nostras*. Isolated cases only of choleric form diarrhoea occurred in each of the seven years. Three deaths from this cause occurred during 1913.

(xii.) *Other Epidemic Diseases*. The number of deaths registered under this heading was 276 in 1907, 268 in 1908, 221 in 1909, 184 in 1910, 295 in 1911, 224 in 1912, and 185 in 1913. The list in 1913 includes the following diseases:—Dysentery 74, erysipelas 90, leprosy 9, of which 8 occurred in Queensland, other epidemic diseases, 12. Prior to 1910 beri-beri was included in other epidemic diseases, but is now included in No. 37 of the revised classification. Of the 74 deaths from leprosy in the years 1907 to 1913, 58 occurred in Queensland. There were no deaths from plague in the Commonwealth during 1910, 1911, and 1913. In 1907, 48 deaths were registered; in 1908, 14 deaths; in 1909, 13 deaths, and in 1912, 1 death.

(xiii.) *Tuberculosis of the Lungs and Acute Miliary Tuberculosis*. The deaths in 1913 numbered 3252, viz., 1861 males and 1391 females. The figures for the years 1907 to 1912 were 3206, 3409, 3169, 3059, 3164, and 3146 respectively. Of the deaths in 1913, 1198 occurred in New South Wales, 1033 in Victoria, 356 in Queensland, 334 in South Australia, 206 in Western Australia, 115 in Tasmania, and 10 in the Northern Territory. In accordance with the revised classification, deaths from tuberculosis of the larynx are now included with tuberculosis of the lungs, instead of in class 15 as in years prior to 1910. In the table on page 185, deaths from tuberculosis of the larynx have been included with tuberculosis of the lungs, so that the figures allow of correct comparison.



(xiiia.) *Tuberculosis of the Respiratory System.* Of the various forms of tuberculosis prevalent in the Commonwealth, that which has probably attracted the most attention and has been the subject of the widest comment is phthisis, or tuberculosis of the lungs. The intimate relation, however, between tuberculosis of the lungs and that of other parts of the respiratory system renders it desirable that all forms of tuberculosis of the respiratory system should be brought under one head for various investigations concerning the age incidence and duration of this disease.

In the matter of the age incidence of death from tuberculosis of the respiratory system, diagrams were given in Year Books 2, 3, and 4, pp. 239, 217, and 206 respectively, shewing the frequency of deaths at successive ages in England and Wales during 1906 (Fig. 1), and in the Commonwealth during 1907 (Fig. 2). These were superseded by a fuller reference based on later results in Year Book No. 5, pp. 230, etc. The results given depended upon intercensal estimates of population, and these having now been adjusted to agree with the Census of 3rd April, 1911, some slight amendments of the figures in previous issues were made in Year Book No. 5. The figures are not now repeated.

(xiv.) *Tuberculosis of the Meninges.* The number of deaths registered in 1907 was 237; in 1908, 205; in 1909, 220; in 1910, 215; in 1911, 269; in 1912, 215, and in 1913, 252.

(xv.) *Other Forms of Tuberculosis.* Deaths numbered in 1907, 415; in 1908, 352; in 1909, 332; in 1910, 343; in 1911, 303; in 1912, 327, and in 1913, 296. The deaths in 1913 include the following forms of tuberculosis:—Abdominal tuberculosis, 114; Pott's disease, 60; white swellings, 18; tuberculosis of other organs, 52; and disseminated tuberculosis, 52. Tuberculosis of the larynx (see paragraph xiii.)

(xva.) *All Forms of Tuberculosis.* A complete tabulation of all the different tubercular diseases from which deaths occurred in 1913, will be found in Bulletin No. 31 of Population and Vital Statistics. Here it will suffice to show a few of the features of the tabulation mentioned. The total number of deaths due to tubercular diseases was 3800, viz., 2131 males and 1669 females. The following table shews the ages of these 3800 persons:—

#### AGES OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1913.

##### COMMONWEALTH.

Ages.	Male.	Female	Total.	Ages.	Male.	Female	Total.
Under 5 years ...	137	123	260	55 years and under 60	152	51	203
5 years and under 10	25	26	51	60 " " 65	88	38	126
10 " " 15	25	41	66	65 " " 70	75	33	108
15 " " 20	74	158	232	70 " " 75	35	22	57
20 " " 25	179	237	416	75 " " 80	11	6	17
25 " " 30	216	270	486	80 " " over ...	3	4	7
30 " " 35	246	201	447	Unspecified ...	4	...	4
35 " " 40	222	153	375				
40 " " 45	218	132	350				
45 " " 50	196	101	297				
50 " " 55	225	73	298	Total Deaths ...	2,131	1,669	3,800

A tabulation has been made of the occupations of males dying from tubercular diseases during 1913. A summary is here given:—

## OCCUPATION OF MALES WHO DIED FROM TUBERCULAR DISEASES, 1913.

## COMMONWEALTH.

Occupation.	No. of Deaths	Occupation.	No. of Deaths
Professional class ... ..	96	Agricultural class ... ..	121
Domestic class ... ..	90	Pastoral class ... ..	56
Mercantile class ... ..	306	Working in mines and quarries ...	208
Engaged in transport and communication ... ..	163	Other primary producers ... ..	9
Manufacturing class ... ..	249	Independent means ... ..	22
Engaged in building and construction ... ..	109	Dependents ... ..	255
Other industrial workers ... ..	395	Occupation not stated ... ..	42
		Total male deaths ... ..	2,131

The length of residence in the Commonwealth of persons who died from tubercular diseases has been tabulated for the year 1913 for all the Commonwealth States, with the following results :—

## LENGTH OF RESIDENCE IN COMMONWEALTH

## OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1913.

Length of Residence in Commonwealth.	Male.	Fem.	Total.	Length of Residence in Commonwealth.	Male.	Fem.	Total.
Born in Commonwealth ... ..	1,329	1,348	2,677	Resident 10 yrs. & under 15 ...	29	12	41
Resident under 1 year ... ..	55	19	74	"    15    "    "    20 ...	35	12	47
"    1 year ... ..	42	20	62	"    20    "    over ...	398	187	585
"    2 years ... ..	34	15	49	Length of residence not stated ...	128	35	163
"    3    "    ... ..	25	5	30				
"    4    "    ... ..	17	8	25				
"    5    "    & under 10 ...	39	8	47	Total Deaths ... ..	2,131	1,669	3,800

There would not appear, therefore, to be much ground for the statement sometimes heard that many persons arrive in Australia in the last stages of consumption.

In order to shew the prevalence of tuberculosis in the several States, the death rates from tubercular diseases are shewn in the following table, together with the percentage which deaths from tuberculosis bear on the total number of deaths registered :—

## DEATH RATES (a) FROM TUBERCULOSIS AND PERCENTAGE ON TOTAL DEATHS.

## COMMONWEALTH, 1913.

State.	Death Rates (a) from Tuberculosis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.88	0.67	0.78	7.30	7.04	7.19
Victoria ... ..	0.89	0.85	0.87	7.31	8.54	7.86
Queensland ... ..	0.69	0.49	0.60	5.79	5.64	5.73
South Australia ...	0.86	0.94	0.90	7.33	9.34	8.29
Western Australia	0.89	0.54	0.74	8.59	6.75	7.91
Tasmania ... ..	0.68	0.80	0.74	5.80	8.07	6.80
North. Territory	3.66	...	3.00	20.75	...	17.19
Federal Territory	...	...	...	...	...	...
Commonwealth	0.85	0.73	0.79	7.14	7.61	7.34

(a) Number of deaths from tuberculosis per 1000 of mean population.

It may be of interest to state that while deaths from tubercular diseases in the Commonwealth were 0.79 per thousand in 1913, they were 1.29 per thousand in Belgium in 1911; 1.44 per thousand in the Netherlands in 1912; 1.47 per thousand in England and Wales in 1911; 1.53 per thousand in Germany in 1912; 1.61 per thousand in Spain in 1911; 1.72 per thousand in Italy in 1911; 2.18 per thousand both in France and in Switzerland in 1911; 2.20 per thousand in Ireland in 1911; 2.21 per thousand in Norway in 1911; 3.56 per thousand in Austria in 1911; and 3.67 per thousand in Hungary in 1911. The Commonwealth occupies, therefore, a very enviable position in regard to tubercular diseases, when compared with European countries.

(xvi.) *Cancer and other Malignant Tumours.* Deaths from cancer shew a tendency to increase, the figures for 1907 being 2940 deaths; for 1908, 2921 deaths; for 1909, 3112 deaths; 1910, 3205 deaths; 1911, 3321 deaths; 1912, 3537 deaths; and 1913, 3603 deaths. Of the deaths registered in 1913, 1916 were those of males, viz., 746 in New South Wales, 574 in Victoria, 251 in Queensland, 183 in South Australia, 92 in Western Australia, 69 in Tasmania, and 1 in the Northern Territory; while 1687 were those of females, viz., 577 in New South Wales, 590 in Victoria, 176 in Queensland, 181 in South Australia, 86 in Western Australia, and 75 in Tasmania, 1 in the Northern Territory, and 1 in the Federal Territory. Bulletin No. 31 contains a complete tabulation of the various types of cancer and of the seat of the disease, of which the following is a summary:—

#### DEATHS FROM CANCER, COMMONWEALTH, 1913.

Seat of Disease.						Male.	Female	Total.
Cancer, etc., of the buccal cavity	...	...	...	...	...	248	24	272
" " the stomach and liver	...	...	...	...	...	816	528	1,344
" " the peritoneum, the intestines, and the rectum	...	...	...	...	...	232	219	451
" " the female genital organs	...	...	...	...	...	...	350	350
" " the breast	...	...	...	...	...	...	246	246
" " the skin	...	...	...	...	...	86	43	129
" " other organs	...	...	...	...	...	534	277	811
Total Deaths						1,916	1,687	3,603

Of these deaths 1021 were described as cancer, 1627 as carcinoma, 168 as epithelioma, 440 as "malignant disease," 34 as "malignant tumour," 22 as neoplasm, 35 as "rodent ulcer," 230 as sarcoma, and 26 as scirrhus.

The ages of the 3603 persons who died from cancer in 1913, are shewn in the following table, from which it will be seen that while the ages below 35 are not by any means immune from the disease, the great majority of deaths occurred at ages from 35 upwards, the maximum being found in the age group 65 to 70.

#### AGES OF PERSONS WHO DIED FROM CANCER, 1913.

##### COMMONWEALTH.

Ages.	Males.	Female	Total.	Ages.	Males.	Female	Total.
Under 15 years	22	15	37	55 years and under 60	250	204	454
15 years and under 20	8	3	11	60 " " 65	274	193	467
20 " " 25	25	9	17	65 " " 70	278	206	484
25 " " 30	21	21	42	70 " " 75	227	173	400
30 " " 35	23	32	55	75 " " 80	177	141	318
35 " " 40	50	75	125	80 " " 85	84	81	165
40 " " 45	87	116	203	85 years and over	39	40	79
45 " " 50	162	186	348				
50 " " 55	205	193	398	Total Deaths	1,916	1,687	3,603

A tabulation has been made of the occupations of the males who died from cancer, of which the following is a summary:—

### OCCUPATION OF PERSONS WHO DIED FROM CANCER, 1913.

#### COMMONWEALTH.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
Professional class ... ..	92	Pastoral class ... ..	85
Domestic class ... ..	71	Working in mines and quarries ...	136
Mercantile class ... ..	200	Other primary producers ... ..	11
Engaged in transport and communication ... ..	139	Independent means ... ..	72
Manufacturing class ... ..	204	Dependents ... ..	63
Engaged in building and construction ... ..	102	Occupation not stated ... ..	34
Other industrial workers ... ..	398		
Agricultural class ... ..	309	Total Male Deaths ... ..	1,916

As the following tables shew, the total death rates from cancer are below those for tubercular diseases in all the States with the exception of Queensland. The male death rate from cancer was, in 1913, in excess of that from tuberculosis in Queensland, and equal to it in Tasmania, while the female death rates were in excess of it in Queensland and Western Australia, and equal to it in New South Wales and Victoria. While the death rates from tuberculosis have a general tendency to decrease, the death rates from cancer have, on the contrary, shewn an increase in nearly every recent year. Thus for the whole Commonwealth in 1907 the death rate from tuberculosis was 0.22 per thousand greater than that from cancer, and in 1908 the excess amounted to 0.25 per thousand. In 1909 this decreased to 0.14; in 1910 to 0.10; in 1911 to 0.09; and in 1912 to 0.03 per thousand, while 1913 shews a slight increase in the excess to 0.04 per thousand.

### DEATH RATES (a) FROM CANCER AND PERCENTAGE ON TOTAL DEATHS, 1913.

#### COMMONWEALTH.

State.	Death Rates (a) from Cancer.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.79	0.67	0.73	6.48	7.04	6.72 °
Victoria ...	0.83	0.85	0.84	6.76	8.45	7.52
Queensland ...	0.71	0.59	0.65	5.98	6.80	6.29
South Australia ...	0.83	0.85	0.84	7.14	8.50	7.76
Western Australia	0.52	0.63	0.57	4.97	7.95	6.07
Tasmania ...	0.68	0.79	0.73	5.80	7.96	6.76
Northern Territ'y	0.33	1.53	0.55	1.89	9.09	3.13
Federal Territory	...	1.04	0.41	...	14.28	9.09
Commonwealth	0.77	0.73	0.75	6.42	7.69	6.96

(a) Number of deaths from Cancer per 1000 of mean population.

The following table shows the death rate of the Commonwealth in comparison with other countries:—

## CANCER—DEATH RATE IN VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
Hungary ...	1911	0.46	France ...	1911	0.80
Spain ...	1911	0.53	Prussia ...	1911	0.81
Denmark ...	1911	0.57	Ireland ...	1911	0.82
Western Australia ...	1913	0.57	Victoria ...	1913	0.84
Canada (Ontario) ...	1911	0.63	South Australia ...	1913	0.84
Queensland ...	1913	0.65	German Empire ...	1912	0.90
Italy ...	1911	0.67	Norway ...	1911	0.97
Belgium ...	1911	0.69	United Kingdom ...	1910	0.96
Tasmania ...	1913	0.73	England and Wales ...	1911	0.99
United States (Registration Area) ...	1911	0.74	Austria ...	1911	1.00
Commonwealth ...	1913	0.75	Scotland ...	1910	1.03
New Zealand ...	1912	0.78	Netherlands ...	1912	1.09
New South Wales ...	1913	0.79	Switzerland ...	1911	1.24

The fifth issue of this Year Book contains, on pages 230, etc., a paper dealing, *inter alia*, with the incidence of cancer in the Commonwealth. The paper is not reprinted in the present issue.

(xvii.) *Simple Meningitis*. The table shews 648 deaths in 1907, 676 deaths in 1908, 616 deaths in 1909, 567 in 1910, 636 in 1911, 749 in 1912, and 753 in 1913.

(xviii.) *Apoplexy, Hæmorrhage, and Softening of the Brain*. The deaths registered under this heading in 1907 were 1901, viz., 1038 males and 863 females; in 1908, 1867, viz., 991 males and 876 females; in 1909, 1665, viz., 869 males and 796 females; in 1910, 1704, viz., 864 males and 840 females; in 1911, 2178, viz., 1122 males and 1056 females; in 1912, 2176, viz., 1146 males and 1030 females, and in 1913, 2281, viz., 1188 males and 1093 females. The 1913 figures are made up of hæmorrhage of the brain and apoplexy—1128 males, 1031 females, total 2159; and softening of the brain—60 males, 62 females, total 122.

(xix.) *Organic Diseases of the Heart*. The number of deaths registered in 1913 was 4989, viz., 2853 males and 2136 females. Of these deaths, New South Wales was responsible for 1016 males and 702 females; Victoria for 890 males and 792 females; Queensland for 427 males and 260 females; South Australia for 269 males and 210 females; Western Australia for 136 males and 70 females; Tasmania for 109 males and 101 females; the Northern Territory for 3 males; and the Federal Territory for 3 males and 1 female. To the figures for 1913 correspond the following death rates and percentages to total deaths:—

## DEATH RATES (a) FROM ORGANIC HEART DISEASE AND PERCENTAGE ON TOTAL DEATHS, COMMONWEALTH, 1913.

State.	Death Rates (a) from Organic Heart Disease.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	1.07	0.82	0.95	8.83	8.57	8.72
Victoria ...	1.28	1.14	1.21	10.48	11.35	10.87
Queensland ...	1.21	0.87	1.05	10.18	10.05	10.13
South Australia ...	1.29	0.98	1.11	10.50	9.86	10.21
Western Australia	0.77	0.51	0.66	7.34	6.47	7.02
Tasmania ...	1.07	1.07	1.07	9.17	10.72	9.86
Northern Territory	1.00	...	0.82	5.66	...	4.69
Federal Territory	2.01	1.04	1.63	75.00	14.28	36.37
Commonwealth ...	1.14	0.93	1.04	9.56	9.74	9.63

(a) Number of deaths from Organic Heart Disease per 1000 of mean population.

(xx.) *Acute Bronchitis.* The classification of causes of deaths requires deaths of persons under five years of age, which are merely ascribed to "bronchitis," to be classified under "acute bronchitis," and similarly certified deaths of older persons under "chronic bronchitis." This rule has been followed throughout in compiling the tables for 1907-1913, with the result that acute bronchitis is credited with 514 deaths in 1907, 412 deaths in 1908, 422 deaths in 1909, 420 deaths in 1910, 515 deaths in 1911, 460 deaths in 1912, and 397 in 1913, viz., 210 males and 187 females.

(xxi.) *Chronic Bronchitis.* The adjustment mentioned in the preceding paragraph gives a total of 844 deaths in 1907, 818 deaths in 1908, 897 deaths in 1909, 859 in 1910, 1046 in 1911, 1053 in 1912, and 991 in 1913, viz., 555 males and 436 females.

(xxii.) *Pneumonia.* The 1913 figures were 1224 males and 742 females, a total of 1966 deaths.

(xxiii.) *Other Diseases of the Respiratory System.* This head was established in 1910, the figures previously being included in "Other Diseases" (paragraph xxxvii.). Deaths in 1907 numbered 1689; in 1908, 1569; in 1909, 1565; in 1910, 1544; in 1911, 1872; in 1912, 1863; and in 1913, 1812. The total for 1913 is made up as follows, viz.:—Diseases of the nasal fossæ, 4 deaths; diseases of the larynx, 97 deaths; diseases of the thyroid body, 16 deaths; broncho-pneumonia, 953 deaths; pleurisy, 192 deaths; pulmonary congestion and apoplexy, 149 deaths; gangrene of the lung, 30 deaths; asthma, 119 deaths; pulmonary emphysema, 9 deaths; fibroid phthisis, miners' complaint, 174 deaths; other diseases of the respiratory system (tuberculosis excepted), 59 deaths.

(xxiv.) *Diseases of the Stomach (Cancer excepted).* In 1913 this heading includes: Ulcer of the stomach, 65 males, 65 females; and other diseases of the stomach (cancer excepted), 155 males, 162 females; a total of 447 deaths. The corresponding figures for the years 1907 to 1912 were 334, 308, 272, 297, 370, and 457 respectively.

(xxv.) *Diarrhœa and Enteritis (Children under two years only).* In 1907, deaths numbered 2733, viz., 1513 boys and 1220 girls; in 1908, 3236, viz., 1814 boys and 1422 girls; in 1909, 2803, viz., 1544 boys and 1259 girls; in 1910, 3145, viz., 1713 boys and 1432 girls; in 1911, 2462, viz., 1388 boys and 1074 girls; in 1912, 3248, viz., 1794 boys and 1454 girls; and in 1913, 3176, viz., 1756 boys and 1420 girls. The 1913 deaths were distributed amongst the six States as follows:—New South Wales, 842 males, 641 females, total 1486; Victoria, 415 males, 329 females, total 744; Queensland, 225 males, 183 females, total 408; South Australia, 133 males, 107 females, total 240; Western Australia, 113 males, 123 females, total 236; and Tasmania, 28 males, 34 females, total 62.

The following are the death rates and percentages on total deaths due to infantile diarrhœa and enteritis in the States and Territories for the year 1913:—

**DEATH RATES (a) FROM INFANTILE DIARRHŒA AND ENTERITIS, AND PERCENTAGE ON TOTAL DEATHS, COMMONWEALTH, 1913.**

State.	Death Rate (a) from Infantile Diarrhœa and Enteritis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.89	0.75	0.82	7.31	7.86	7.54
Victoria ...	0.60	0.47	0.53	4.89	4.71	4.81
Queensland ...	0.64	0.61	0.63	5.36	7.07	6.01
South Australia ...	0.61	0.50	0.55	5.19	5.02	5.11
Western Australia	0.64	0.90	0.75	6.10	11.37	8.04
Tasmania ...	0.28	0.36	0.32	2.35	3.61	2.91
Northern Territory	...	...	...	...	...	...
Federal Territory	...	...	...	...	...	...
Commonwealth	0.70	0.62	0.66	5.88	6.48	6.13

(a) Number of deaths from these diseases per 1000 of mean population.

As a large number of these deaths is directly due to improper feeding, it would be interesting to know the percentage of infants who were bottle-fed, but, unfortunately, no provision exists for the registration of this information. The number of deaths was larger than usual in 1908, particularly in Victoria, and to a lesser degree in South Australia and in Tasmania, owing to the phenomenal heat experienced in the early part of that year. The death rates for the three States named were 0.83, 0.61, and 0.71 per 1000 respectively in 1908, compared with 0.55, 0.45 and 0.48 in 1907, and with 0.50, 0.36 and 0.51 in 1911. The rate in 1912 was higher in every State, Tasmania excepted, than that for 1911, the increase being particularly noticeable in New South Wales, Queensland, and Western Australia, where the 1911 rate had been 0.57, 0.58, and 0.87 respectively, compared with 0.80, 0.78, and 1.09 for 1912. In 1913 all the States, with the exception of New South Wales and South Australia, experienced lower rates than in 1912.

(xxvi.) *Appendicitis and Typhlitis*. Prior to 1910 deaths from these causes were included in Other Diseases, paragraph xxxvii. Deaths numbered 305 in 1907, 293 in 1908, 344 in 1909, 315 in 1910, 320 in 1911, 347 in 1912, and in 1913, 364, viz., 217 males and 147 females.

(xxvii.) *Hernia, Intestinal Obstructions*. The number of deaths has not varied much from year to year, the number registered in 1907 being 411; in 1908, 389; in 1909, 396; in 1910, 398; in 1911, 439; in 1912, 463; and in 1913, 486, viz., 248 males and 238 females.

(xxviii.) *Cirrhosis of the Liver*. The deaths in 1907 numbered 325; in 1908, 362; in 1909, 331; in 1910, 368; in 1911, 385; and in 1912, 426; and in 1913, 365, viz., 253 males and 112 females.

(xxix.) *Nephritis and Bright's Disease*. The number of deaths attributable to these diseases from year to year is a very large one. In 1907 there were registered the deaths of 1065 males and 695 females; in 1908, those of 1140 males and 724 females; in 1909 those of 1076 males and 723 females; in 1910, 1771, 1077 males and 694 females; in 1911, 1951, 1197 males and 754 females; in 1912, 2188, 1352 males and 836 females; and in 1913, 2211, 1363 males and 848 females. Of the deaths registered in 1913, those of 89 males and 43 females were ascribed to acute nephritis, and those of 1274 males and 805 females to Bright's disease. New South Wales was responsible for 827 deaths; Victoria for 747; Queensland for 320; South Australia for 167; Western Australia for 94; and Tasmania for 56; making a total of 2211.

(xxx.) *Non-cancerous Tumours and other Diseases of the Female Genital Organs*. Deaths in 1907 numbered 128; in 1908, 159; in 1909, 130; in 1910, 149; in 1911, 120; in 1912, 145; and in 1913, 153. Included in the 153 deaths registered in 1913 were the following:—Non-puerperal uterine hæmorrhage, 3; non-cancerous uterine tumours, 43; other diseases of the uterus, 27; cysts and other ovarian tumours, 33; salpingitis and other diseases of the female genital organs, 47.

(xxxi.) *Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)*. Deaths in 1907 were 179; in 1908, 202; in 1909, 201; in 1910, 218; in 1911, 209, in 1912, 231, and in 1913, 235.

(xxxii.) *Other Puerperal Accidents of Pregnancy and Confinement*. The deaths in 1907 numbered 435; in 1908, 404; in 1909, 376; in 1910, 373; in 1911, 406; in 1912, 413; and in 1913, 428. Included in the 428 deaths registered in 1913 were the following:—Accidents of pregnancy, 75; puerperal hæmorrhage, 83; other accidents of child-

birth, 107; puerperal albuminuria and convulsions, 122; puerperal phlegmasia alba dolens, embolus, sudden death, 32; death following childbirth, 8; puerperal diseases of the breast, 1.

(xxxii.) *All Puerperal Diseases.* The 663 deaths registered in 1913 under the two preceding headings will be found tabulated in "Bulletin No. 31; Commonwealth Demography" under various aspects. It will suffice to repeat here the following acts :—

Of the 663 mothers who died in childbirth during the year 1913, 605 were married and 58 were single. As the total number of nuptial confinements was 126,963, and of ex-nuptial confinements 7380, it follows that one in 210 of married mothers, and one in 127 of single mothers, died of puerperal disease, the general proportion being one in 203, as against one in 205 in 1912, one in 197 in 1911, one in 196 in 1910, one in 195 in 1909, one in 181 in 1908, and one in 178 in 1907.

The ages of the mothers who died varied from 17 to 48 years, and are shewn in the following table :—

#### AGES OF MOTHERS WHO DIED IN CHILDBIRTH, COMMONWEALTH, 1913.

Age at Death.	Married Women.	Single Women.	Total.	Age at Death.	Married Women.	Single Women.	Total.
17 years ...	3	2	5	34 years ...	25	...	25
18 " ...	4	5	9	35 " ...	30	1	31
19 " ...	5	2	7	36 " ...	29	2	31
20 " ...	14	4	18	37 " ...	25	1	26
21 " ...	19	4	23	38 " ...	21	1	22
22 " ...	13	7	20	39 " ...	19	...	19
23 " ...	31	4	35	40 " ...	18	...	18
24 " ...	24	1	25	41 " ...	15	...	15
25 " ...	26	5	31	42 " ...	12	...	12
26 " ...	21	6	27	43 " ...	8	...	8
27 " ...	39	...	39	44 " ...	7	...	7
28 " ...	42	2	44	45 " ...	3	...	3
29 " ...	28	...	28	46 " ...	2	...	2
30 " ...	28	2	30	47 " ...	1	...	1
31 " ...	22	6	28	48 " ...	1	...	1
32 " ...	35	2	37				
33 " ...	35	1	36	Total deaths	605	58	663

Of the 605 married women shewn in the above table, 231 died at their first confinement, 84 at their second, 83 at their third, 51 at their fourth, 62 at their fifth, 29 at their sixth, 23 at their seventh, 10 at their eighth, 11 at their ninth, 5 at their tenth, 5 at their eleventh, 5 at their twelfth, 2 at their thirteenth, 2 at their fourteenth, and 1 at her fifteenth. In one case no particulars are available. The total number of children of the 604 mothers was 1688.

Thirty-nine of the mothers who died had been married less than one year, 111 between one and two years, 51 between two and three years, the duration of marriage ranging up to 31 years, apart from 8 cases in which the date of marriage cannot be stated. This tabulation will be found in detail, and distinguishing the ages at marriage, in "Bulletin No. 31; Commonwealth Demography," as will a further tabulation shewing the duration



of marriage and previous issue in combination. These tables shew, for instance, that one mother, who had been married at the age of 17 years, died at the age of 48, in the 31st year of her marriage, at her twelfth confinement.

(xxxiii.) *Congenital Debility and Malformations.* The total deaths registered under these heads in 1913 were 3823, of whom 3777 were children under 1 year of age, inclusive of 3300 under three months. The figures include:—Malformations, 290 males, 226 females, total 516; and congenital debility, icterus, and sclerema of children under one year of age, 1874 males and 1433 females, total 3307; or a grand total of 3823. Of these deaths, 1489 were registered in New South Wales, viz., 845 males and 644 females; 1041 in Victoria, viz., 581 males and 460 females; 483 in Queensland, viz., 274 males and 209 females; 364 in South Australia, viz., 208 males and 156 females; 246 in Western Australia, viz., 149 males and 97 females; 195 in Tasmania, viz., 104 males and 91 females; and 5 in the Northern Territory, viz., 3 males and 2 females.

(xxxiv.) *Senile Debility.* The deaths ascribed to "old age" form a large group, and are slightly in excess of those due to infantile debility. In 1907 they numbered 3136, viz., 1721 males and 1415 females; in 1908, 3466, viz., 2027 males and 1439 females; in 1909, 3194, viz., 1829 males and 1365 females; in 1910, 3353, viz., 1905 males and 1448 females; in 1911, 3849, viz., 2225 males and 1624 females; in 1912, 4124, viz., 2362 males and 1762 females; and in 1913, 4116, viz., 2302 males and 1814 females. Of the deaths registered in 1913, 1510 occurred in New South Wales, viz., 878 males and 632 females; 1424 in Victoria, viz., 763 males and 661 females; 370 in Queensland, viz., 239 males and 131 females; 437 in South Australia, viz., 205 males and 232 females; 172 in Western Australia, viz., 120 males and 52 females; 200 in Tasmania, viz., 95 males and 105 females; 2 males in the Northern Territory and 1 female in the Federal Territory.

Of the males whose death was described as due to senility, 13 were aged between 55 and 59; 43 between 60 and 64; 146 between 65 and 69; 387 between 70 and 74; 567 between 75 and 79; 612 between 80 and 84; 377 between 85 and 89; 119 between 90 and 94; 25 between 95 and 99; while 11 were 100 years old and upwards; and of two the age was not stated.

Of the females, 3 were between 55 and 59; 23 were between 60 and 64; 90 between 65 and 69; 238 between 70 and 74; 422 between 75 and 79; 519 between 80 and 84; 323 between 85 and 89; 140 between 90 and 94; 53 between 95 and 99; while 2 were 100 years old and upwards; and of one the age was not stated.

(xxxv.) *Violence.* A very large number of deaths is every year due to external violence, and, as might be expected from the fact that their occupations expose them much more to accidents, males largely predominate. The figures quoted are exclusive of suicides, which have been treated as a separate group. Deaths ascribed to violence numbered in 1907, 2679, viz., 2038 males and 641 females; in 1908, 2922, viz., 2187 males and 735 females; in 1909, 2664, viz., 2050 males and 614 females; in 1910, 2738, viz., 2128 males and 610 females; in 1911, 3018, viz., 2323 males and 695 females; in 1912, 3237, viz., 2559 males and 678 females; and in 1913, 3168, viz., 2503 males and 665 females. Of the deaths registered in 1913, those of 956 males and 267 females occurred in New South Wales; those of 535 males and 180 females in Victoria; those of 468 males and 102 females in Queensland; those of 185 males and 46 females in South Australia; those of 239 males and 50 females in Western Australia; those of 111 males and 19 females in Tasmania; and those of 9 males and one female in the Northern Territory.

The following table shews the various kinds of accidental deaths which occurred in 1913, distinguishing males and females:—

## DEATHS FROM VIOLENCE, COMMONWEALTH, 1913.

Cause of Death.	Males.	Females.	Total
Poisoning by food ... ..	18	11	29
Venomous bites and stings ... ..	11	5	16
Other acute poisonings ... ..	50	30	80
Conflagration ... ..	4	6	10
Burns (conflagration excepted) ... ..	149	200	349
Absorption of deleterious gases (conflagration excepted) ... ..	73	26	99
Accidental drowning ... ..	512	94	606
Traumatism by firearms ... ..	94	12	106
Traumatism by cutting or piercing instruments ... ..	1	1	2
Traumatism by fall ... ..	306	48	354
Traumatism in mines or quarries ... ..	151	...	151
Traumatism by machines ... ..	25	...	25
Traumatism by other crushing (vehicles, railways, etc.) ... ..	454	58	512
Injuries by animals ... ..	61	8	69
Starvation, thirst, fatigue ... ..	51	5	56
Excessive cold ... ..	...	...	...
Effects of heat ... ..	70	30	100
Lightning ... ..	17	...	17
Electricity (lightning excepted) ... ..	5	...	5
Homicide by firearms ... ..	13	10	23
Homicide by cutting or piercing instruments... ..	5	5	10
Homicide by other means ... ..	40	20	60
Fractures (cause not specified) ... ..	116	56	172
Other external violence ... ..	277	40	317
Total Deaths ... ..	2,508	665	3,168

In every kind of violent death there was, therefore, an excess of males, with the exception of burning accidents, in which female deaths largely predominated.

The excessive heat of January, 1908, was responsible for an increase in the number of deaths caused by insolation, i.e., sunstroke and heat apoplexy, from 64 in 1907 to 246 in 1908, distributed as follows:—New South Wales, 46; Victoria, 180; Queensland, 14; South Australia, 39; Western Australia, 15; Tasmania, 2. In 1911 the deaths fell to 78, while in 1912 they numbered 127, and in 1913, 100.

(xxxvi.) *Suicide.* It may be said that suicides have shewn a tendency to decrease during recent years, the number in 1905 having been 520, viz., 431 males and 89 females; while in 1906 it was 499, viz., 403 males and 96 females; in 1907, 461, viz., 385 males and 76 females; in 1908, 497, viz., 413 males and 84 females; in 1909, 495, viz., 398 males and 97 females; in 1910, 516, viz., 432 males and 84 females; in 1911, 544, viz., 446 males and 98 females, in 1912, 631, viz., 514 males and 117 females; and in 1913, 647, viz., 516 males and 131 females. Of the suicides in 1913, a number considerably in excess of the number in previous years, those of 210 males and 58 females, happened in New South Wales; those of 104 males and 42 females in Victoria; those of 106 males and 12 females in Queensland; those of 35 males and 11 females in South Australia; those of 49 males and 5 females in Western Australia; and those of 12 males and 3 females in Tasmania.

The modes adopted by persons who committed suicide in the years 1907 to 1913 were as follows:—

## NUMBER OF MALE AND FEMALE SUICIDES, COMMONWEALTH, 1907 to 1913.

Mode of Death	Males.		Females.		Total.	
	Total of 6 years 1907-12.	1913.	Total of 6 years 1907-12.	1913.	Total of 6 years 1907-12.	1913.
Poisoning ... ..	515	127	277	76	792	203
Asphyxia ... ..	11	2	1	1	12	3
Hanging or Strangulation ... ..	426	79	68	22	494	101
Drowning ... ..	211	25	95	14	306	39
Firearms ... ..	848	163	41	9	889	172
Cutting instruments ...	409	88	46	4	455	92
Precipitation from a height ... ..	22	6	5	2	27	8
Crushing ... ..	36	10	6	1	42	11
Other modes ... ..	110	10	17	2	127	18
Total ... ..	2,588	516	556	131	3,144	647

The death rates from suicides and the percentage on total deaths borne by suicides are shewn in the following table :—

DEATH RATES (a) FROM SUICIDE AND PERCENTAGE ON TOTAL DEATHS, 1913.  
COMMONWEALTH.

State.	Death Rates (a) from Suicide.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.22	0.07	0.15	1.82	0.71	1.36
Victoria ...	0.15	0.06	0.10	1.22	0.60	0.94
Queensland ...	0.30	0.04	0.18	2.53	0.46	1.74
South Australia ...	0.16	0.05	0.11	1.64	0.51	0.98
Western Australia	0.28	0.04	0.17	2.65	0.46	1.84
Tasmania ...	0.12	0.03	0.08	1.01	0.32	0.70
Northern Territory	...	...	...	...	...	...
Federal Territory	...	...	...	...	...	...
Commonwealth	0.21	0.06	0.13	1.73	0.59	1.25

(a) Number of deaths from suicide per 1000 of mean population.

From the following table, which shews the ages of the persons who committed suicide in 1913, it will be seen that both extreme youth and extreme old age are represented :—

## AGES OF PERSONS WHO COMMITTED SUICIDE, COMMONWEALTH, 1913.

Ages.	M.	F.	Total.	Ages.	M.	F.	Total.
10 years and under 15	1	1	2	60 years and under 65	25	5	30
15 " " 20	8	6	14	65 " " 70	26	2	28
20 " " 25	36	20	56	70 " " 75	12	3	15
25 " " 30	47	20	67	75 " " 80	7	...	7
30 " " 35	51	17	68	80 " " 85	3	...	3
35 " " 40	66	12	78	85 " " 90	1	...	1
40 " " 45	51	14	65	Age not stated	6	...	6
45 " " 50	59	19	78				
50 " " 55	74	9	83				
55 " " 60	43	3	46	Total Deaths ...	516	131	647

The following table shews the occupations of the 516 males who committed suicide:—

### OCCUPATIONS OF MALE PERSONS WHO COMMITTED SUICIDE, 1913.

#### COMMONWEALTH.

Occupations.	Deaths.	Occupations.	Deaths.
Professional class ... ..	38	Pastoral class ... ..	19
Domestic class ... ..	25	Working in mines and quarries ...	31
Mercantile class ... ..	66	Other primary producers ... ..	7
Engaged in transport and communication ... ..	43	Independent means ... ..	4
Manufacturing class ... ..	52	Dependents ... ..	5
Engaged in building and construction ... ..	25	Occupation not stated ... ..	17
Indefinite industrial workers ...	133		
Agricultural class ... ..	51	Total Deaths ... ..	516

The assertion has been made that suicide has become more frequent during recent years, but an examination of the figures from the year 1871 onwards hardly bears this out. The absolute figures have certainly increased, but proportionately to the population the figures for 1906-10 were practically the same as those for 1886-90 and 1891-95. The figures for the three years 1911-13, which have been added to the table, shew, however, a regrettable increase, not only absolutely, but also in proportion to the population. No particulars are available for Western Australia prior to 1886, and from 1886 to 1895 the sexes are not distinguished. All figures for the first five periods are, therefore, exclusive of Western Australia:—

### SUICIDES, COMMONWEALTH, 1871-75 to 1911-13.

Period.	Number of Suicides.			Suicides per One Million.			Suicides of Females to 100 Suicides of Males. Based on	
	Males.	Females.	Total.	Males.	Females.	Total.	Absolute Figures.	Rates.
1871-75	715	150	865	150.94	37.56	99.07	20.98	24.88
1876-80	878	145	1,023	159.69	31.06	100.62	16.51	19.45
1881-85	999	183	1,182	152.58	32.90	97.61	18.32	21.56
1886-90	1,394	292	a1,686	179.20	43.97	c116.92	20.95	24.54
1891-95	1,574	337	b1,911	181.34	44.09	d117.07	21.41	24.31
1896-1900	1,838	410	2,248	191.11	47.88	123.65	22.31	25.05
1901-05	2,054	380	2,434	201.78	40.88	124.98	18.50	20.26
1906-10	2,031	437	2,468	186.11	43.22	117.39	21.51	23.22
1911-13	1,476	346	1,822	203.40	51.78	130.71	23.44	25.46

a. 1705 inclusive of Western Australian figures. b. 1984 inclusive of Western Australian figures  
c. 116.49 inclusive of Western Australian figures. d. 119.11 inclusive of Western Australian figures

In the fifth issue of this Year Book (pp. 240, etc.), the result of a series of investigations into the periodicity of suicide was published. The paper was partly reprinted in the sixth issue (pp. 241, etc.), but is not repeated in the present issue.

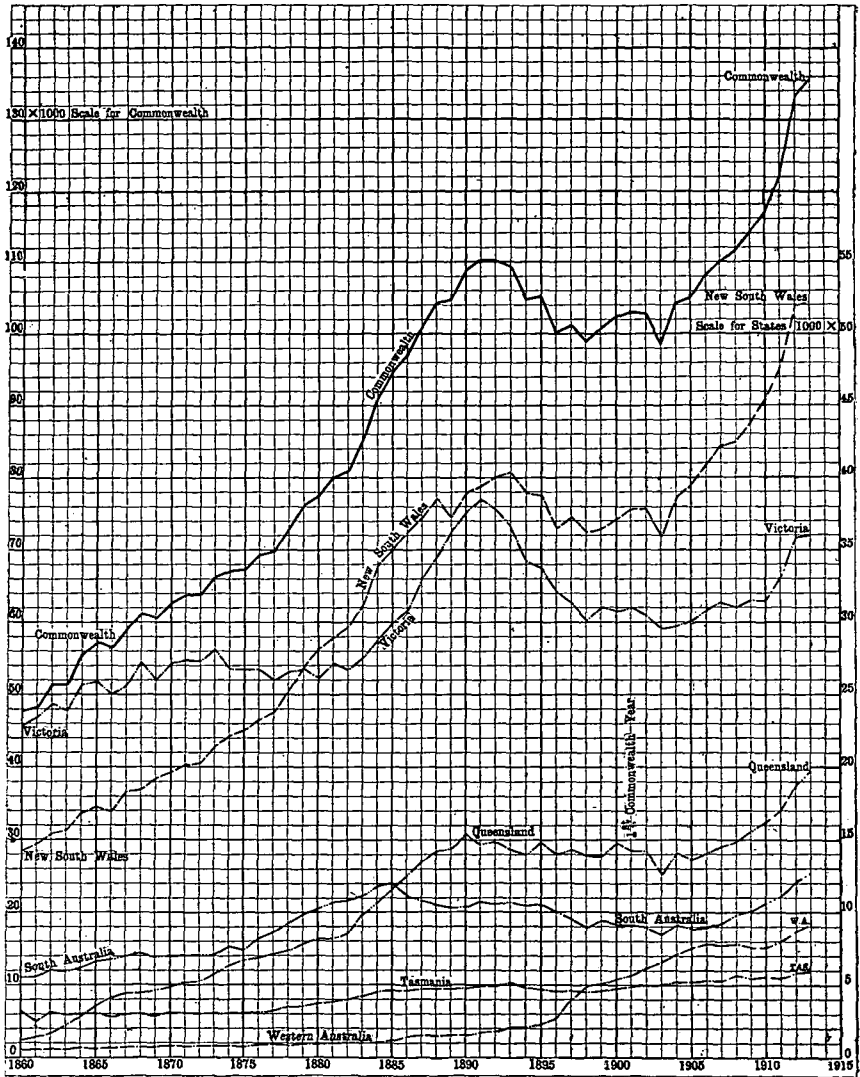
(xxxvii.) *Other Diseases.* The number of causes included under this heading is a very large one, amounting to no less than 79 of the items shewn in the detailed classification, and deaths were recorded under every one of these with the exception of the following four:—Glanders, rabies, pellagra, and non-puerperal diseases of the breast. The total number of deaths under "other diseases" in 1907 was 6677, viz., 3393 males and 2744

females; in 1908, 7417, viz., 4351 males and 3066 females; in 1909, 7419, viz., 4344 males and 3075 females; in 1910, 7794, viz., 4590 males and 3204 females; in 1911, 7652, viz., 4508 males, 3144 females; in 1912, 8300, viz., 4777 males and 3523 females; and in 1913, 8241, viz., 4794 males and 3447 females. Following the revised edition of the classification the following changes have been made in this heading during 1910: beri-beri is now included under this heading instead of under xii., "Other Epidemic Diseases." Other diseases of the respiratory system (1812 deaths) are now shewn under a new head (xxiii.), and appendicitis and typhlitis (364 deaths) under head xxvi. Some of the diseases included here account for very considerable numbers of deaths. Thus there were 791 deaths ascribed to diarrhoea and enteritis of children over two years of age and of adults; 486 to diabetes; 479 to diseases of the arteries, atheroma, and aneurysm; 401 to embolism and thrombosis; 369 to convulsions of children under five years of age; 310 to paralysis without indicated cause; 276 to acute endocarditis; and 263 to anæmia and chlorosis. Particulars of the deaths included in 1913 are shewn in the following table:—

### CAUSES OF DEATH INCLUDED UNDER "OTHER DISEASES," COMMONWEALTH, 1913.

Causes.	M.	F.	T'tal.	Causes.	M.	F.	T'tal.
Purulent Infection and Septicæmia ... ..	92	96	188	Diseases of the Lymphatic System ... ..	3	8	11
Anthrax ... ..	5	...	5	Hæmorrhages, Other Diseases of Circulatory System ...	25	20	45
Tetanus ... ..	77	34	111	Diseases of the Mouth and its Associated Organs ... ..	11	1	12
Mycoses ... ..	3	...	3	Diseases of the Pharynx ...	29	40	69
Beri-beri ... ..	20	...	20	Diseases of the Oesophagus ...	7	5	12
Rickets ... ..	4	3	7	Diarrhoea and Enteritis of Children over two years of age and Adults ... ..	411	380	791
Syphilis ... ..	105	69	174	Ankylostomiasis ... ..	2	2	4
Gonococcus Infection ...	3	1	4	Intestinal Parasites ... ..	1	1	2
Other Tumours (Tumours of the female genital organs excepted) ... ..	15	24	39	Other Diseases of the Intestine's Acute Yellow Atrophy of the Liver ... ..	32	30	62
Acute Articular Rheumatism ...	77	93	170	Hydatid Tumours of the Liver ...	5	5	10
Chronic Rheumatism & Gout ...	74	73	147	Biliary Calculi ... ..	28	19	47
Scurvy ... ..	10	8	18	Other Diseases of the Liver ...	27	54	81
Diabetes ... ..	238	248	486	Diseases of the Spleen ... ..	89	98	187
Exophthalmic Goitre ... ..	6	46	52	Simple Peritonitis (non-puerperal) ... ..	2	2	4
Addison's Disease ... ..	16	13	29	Other Diseases of the Digestive System ... ..	89	118	207
Leucæmia ... ..	44	40	84	Chyluria ... ..	17	22	39
Anæmia, Chlorosis ... ..	127	136	263	Other Diseases of the Kidneys and their Adnexa ... ..	2	2	4
Other General Diseases ... ..	62	42	104	Calculi of Urinary Passages ...	73	36	109
Acute and Chronic Alcoholism ...	142	24	166	Diseases of the Bladder ... ..	28	8	36
Chronic Lead Poisoning ... ..	9	1	10	Diseases of the Bladder ... ..	120	18	138
Other Chronic Poisonings due to occupations ... ..	2	...	2	Other Diseases of the Urethra, Urinary Abscess, etc. ... ..	13	...	13
Other Chronic Poisonings ... ..	5	...	5	Diseases of the Prostate ... ..	209	...	209
Encephalitis ... ..	43	26	69	Non-venereal Diseases of the Male Genital Organs ... ..	6	...	6
Progressive Locomotor Ataxia ...	62	15	77	Gangrene ... ..	65	62	127
Other Diseases of the Spinal Cord ... ..	128	64	192	Furuncle ... ..	12	4	16
Paralysis without indicated cause ... ..	202	108	310	Acute Abscess ... ..	42	37	79
General Paralysis ... ..	97	13	110	Other Diseases of the Skin and Adnexa ... ..	33	31	64
Other Forms of Mental Alienation ... ..	36	40	76	Non-tuberculous Diseases of the Bones ... ..	34	15	49
Epilepsy ... ..	135	78	213	Other Diseases of the Joints (Tuberculosis & Rheumatism excepted) ... ..	13	4	17
Convulsions (non-puerperal) ...	7	15	22	Amputations ... ..	2	...	2
Convulsions of Children under five years of age ... ..	209	160	369	Other Diseases of the Organs of Locomotion ... ..	1	...	1
Chorea ... ..	1	9	10	Other Diseases peculiar to Infancy ... ..	324	284	608
Neuralgia and Neuritis ... ..	13	10	23	Want of Care (Infants) ... ..	4	7	11
Other Diseases of the Nervous System ... ..	124	97	221				
Diseases of the Eye ... ..	1	1	2				
Diseases of the Ear ... ..	30	21	51				
Pericarditis ... ..	48	25	73				
Acute Endocarditis ... ..	160	116	276				
Angina Pectoris ... ..	59	33	92				
Diseases of the Arteries, Atheroma, Aneurysm ... ..	359	120	479				
Embolism and Thrombosis ... ..	181	220	401				
Diseases of the Veins (Varices, Varicose Ulcers, Hæmorrhoids) ... ..	4	12	16				
				Total Deaths ... ..	4,794	3,447	8,241

GRAPHS SHEWING TOTAL ANNUAL BIRTHS IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1913.



(See Table page 146.)

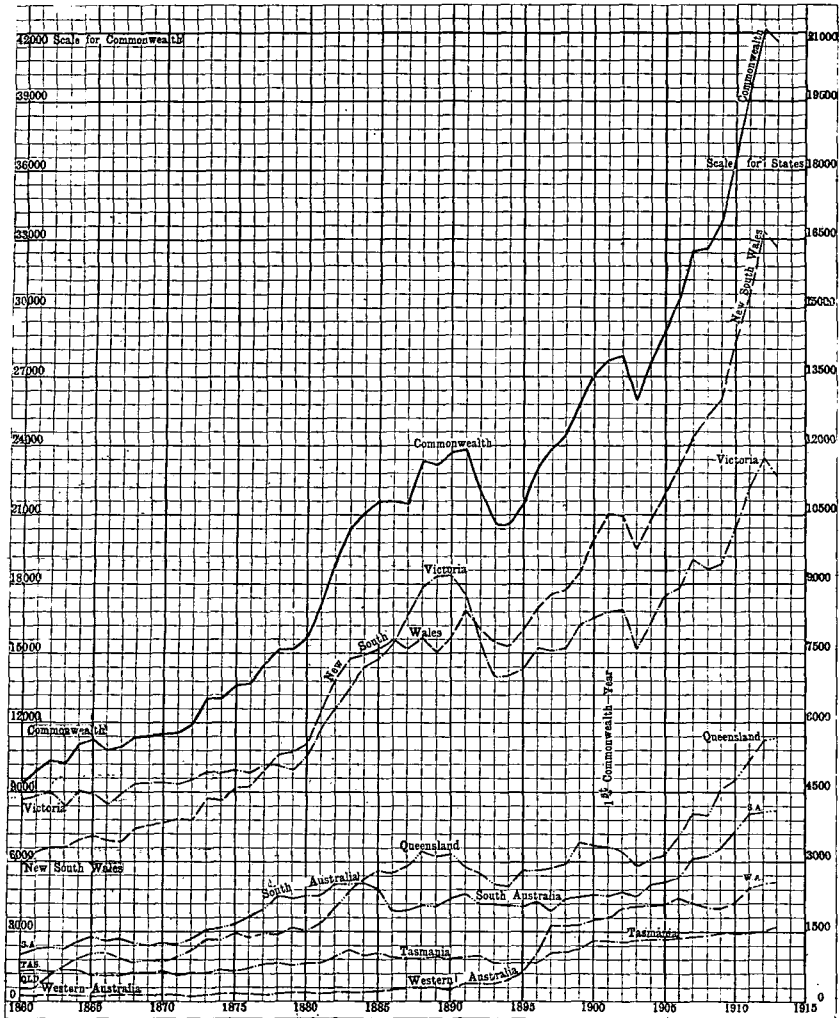
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 2000 persons for the Commonwealth, and 1000 for the States.

The scale on the left relates to the Commonwealth, and that on the right to the States.

The distances upwards from the common zero lines of the States and Commonwealth, marked 0, denote the total annual number of births in the States and Commonwealth, the scale of the latter being reduced one-half.

The names of the States to which the graphs refer are written thereon, and the characters of the lines used are as follows:—Commonwealth, —————; New South Wales, ————; Victoria, ————; Queensland, ————; South Australia, ————; Western Australia, ————; Tasmania, ————.

GRAPHS SHEWING TOTAL ANNUAL MARRIAGES IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1913.



(See Table page 159.)

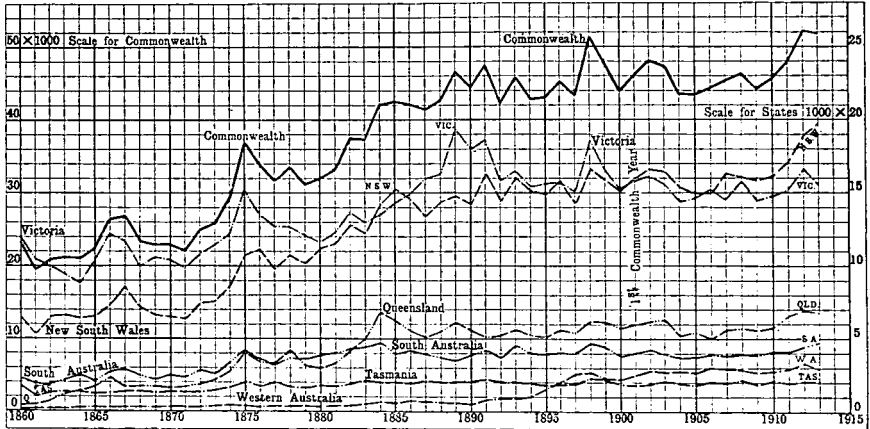
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 600 marriages for the Commonwealth and 300 for the States.

The scale on the left relates to the Commonwealth, and that on the right relates to the States.

The distances upwards from the zero line, marked 0, denote the total annual number of marriages in the States and Commonwealth, the scale of the latter being reduced one-half.

The names of the States to which the graphs refer are written thereon, and the lines used are similar to those for births on page 201.

GRAPHS SHEWING TOTAL ANNUAL DEATHS IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1913.



(See Table page 168.)

**EXPLANATION OF GRAPHS.**—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 2000 persons for the Commonwealth and 1000 for the States.

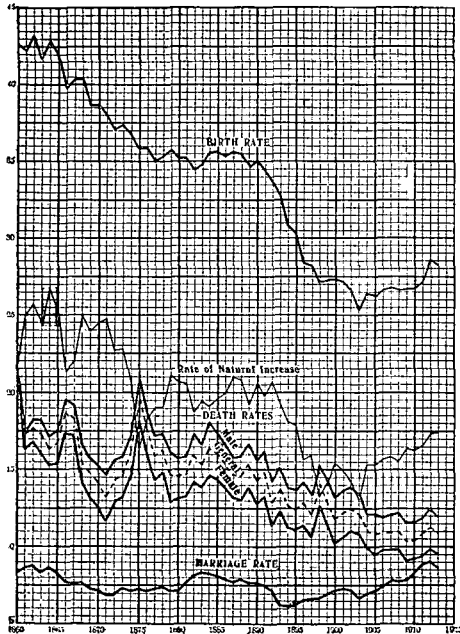
The scale on the left relates to the Commonwealth, and that on the right relates to the States.

The distances upwards from the common zero line for States and Commonwealth, marked 0, denote the total annual number of deaths in the States and Commonwealth, the scale of the latter being reduced one-half.

The names of the States to which the curves refer are written thereon, and the lines used are similar to those for births on page 201.



GRAPHS SHEWING GENERAL BIRTH, NATURAL INCREASE, DEATH (MALE, GENERAL, AND FEMALE), AND MARRIAGE RATES IN THE COMMONWEALTH OF AUSTRALIA, 1860-1913.



(See pages 99, 146, 160, 168 and 218.)

EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height, according to the character of the curve, one half per thousand of the population—the basic line being five per thousand of the population.

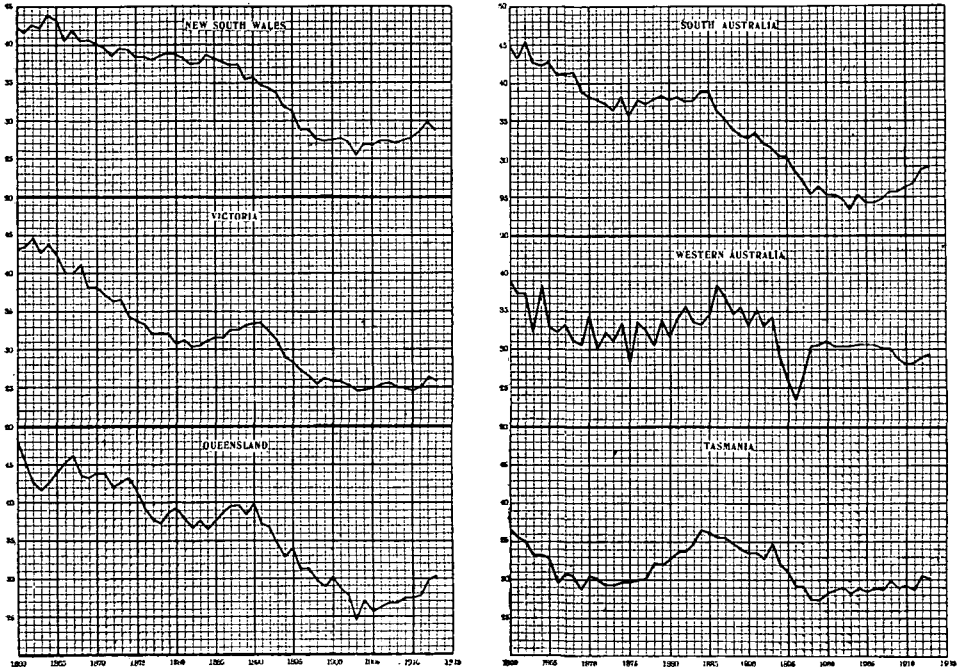
BIRTH RATE GRAPHS. (See nextpage.)

EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height one birth per thousand of the population—the basic line for each State being twenty per thousand of the population.

DEATH RATE GRAPHS. (See nextpage.)

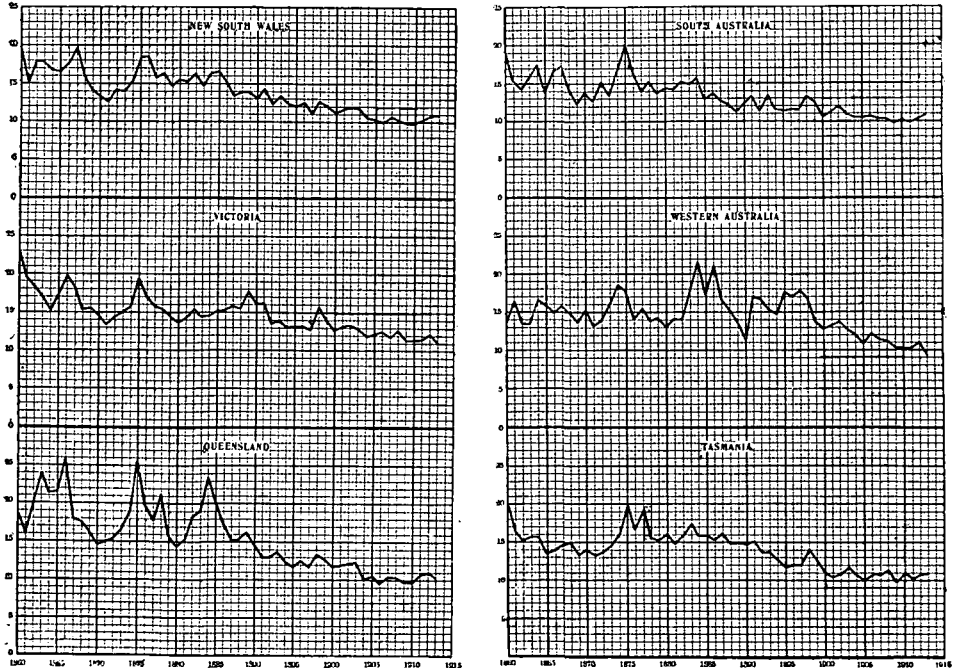
EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height one death per thousand of the population. The zero for each State is shewn by a thickened line.

GRAPHS SHEWING BIRTH RATES IN THE STATES OF NEW SOUTH WALES, VICTORIA, QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA, AND TASMANIA, 1860-1913.



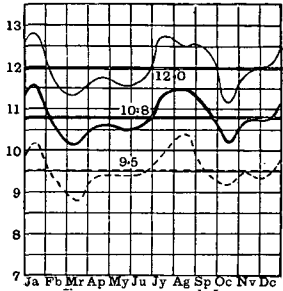
(See Table page 146.)

GRAPHS SHEWING DEATH RATES IN THE STATES OF NEW SOUTH WALES, VICTORIA, QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA, AND TASMANIA, 1860-1913

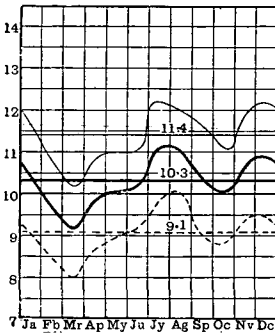


(See Table page 168.) For explanation of above graphs see page 204.

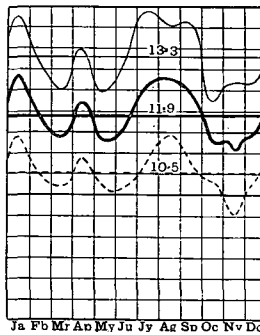
GRAPHS SHEWING GENERAL MONTHLY DEATH RATES, 1907-1912.



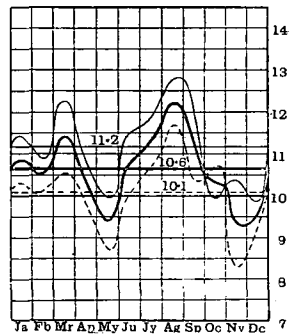
## COMMONWEALTH.



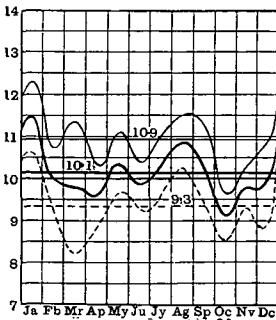
## NEW SOUTH WALES.



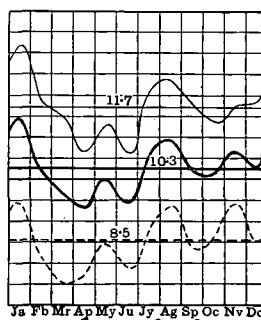
**VICTORIA.**



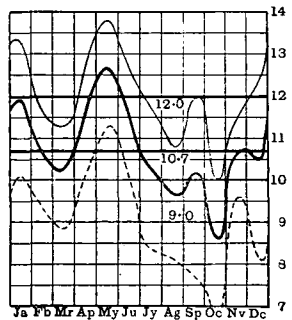
TASMANIA.



**SOUTH AUSTRALIA.**



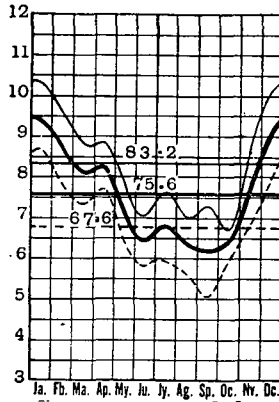
QUEENSLAND.



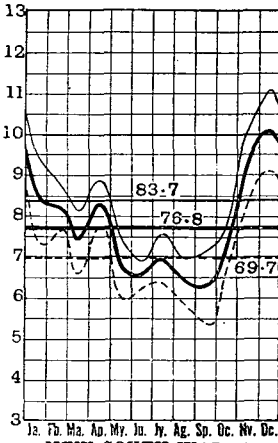
## WESTERN AUSTRALIA

Male Death Rates shewn: \_\_\_\_\_  
 Female    "       "       \_\_\_\_\_   
 General   "       "       \_\_\_\_\_

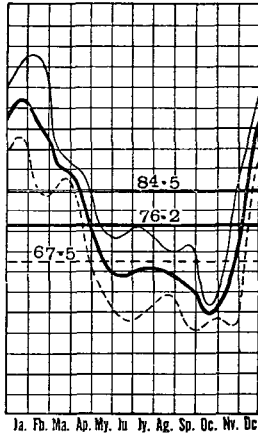
## GRAPHS SHEWING INFANTILE MONTHLY DEATH RATES, 1907-1912.



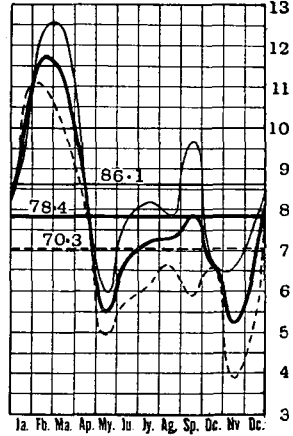
## COMMONWEALTH.



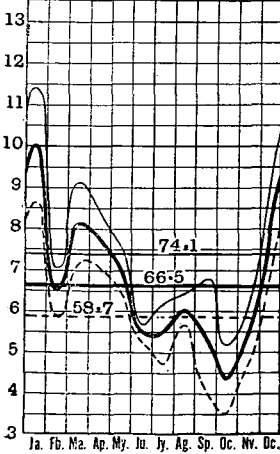
## NEW SOUTH WALES.



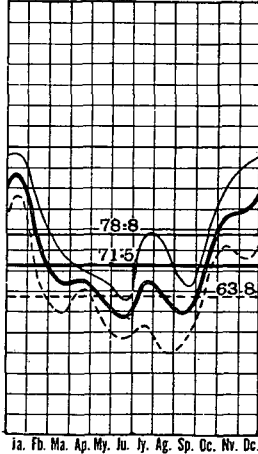
## VICTORIA.



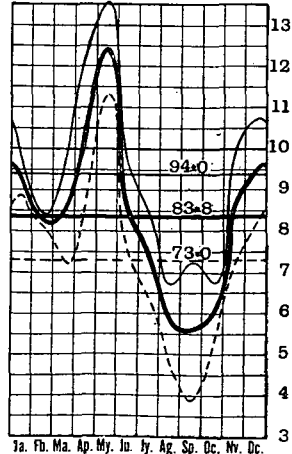
## TASMANIA.



## SOUTH AUSTRALIA.



## QUEENSLAND.



## WESTERN AUSTRALIA.

Male Death Rates shewn : —————  
 Female " " -----  
 General " " —————



(xxxviii.) *Unspecified or Ill-defined Diseases.* The number of cases which has to be included here is a considerable one from year to year, having numbered 1275 in 1907, 1262 in 1908, 1087 in 1909, 598 in 1910, 460 in 1911, 590 in 1912, and 614, viz., 407 males and 207 females in 1913. The detailed classification distinguishes these ill-defined diseases under three headings:—Ill-defined organic diseases, including such definitions as dropsy, anasarca, ascites, general oedema, etc.; sudden death, including syncope; and unspecified or ill-defined causes, of which the following are specimens:—Asthenia, coma, dentition, exhaustion, heart failure, etc. In 1913 the number of cases of death which would have to be classed under the first of these categories was 29; those belonging to the second, 19; and those belonging to the third, 566. It is, of course, true that there must always occur some cases where the disease is not well characterised, or where sufficient information is not procurable to allow of a clear definition being given in the certificate of death, but in the majority of cases included under this heading a more complete diagnosis and consequently a more satisfactory certificate would no doubt have been possible.

In the fifth issue of this Year Book, pp. 234, etc., some observations were published, dealing with the incidence of scarlet fever, measles, whooping cough, diphtheria and croup, typhoid, diarrhoea, enteritis, and dysentery. It has not been judged expedient to reprint the paper in the present issue.

**19. Causes of Death in Classes.**—The figures presented in the preceding paragraphs relate to certain definite causes of death. It is almost generally acknowledged that figures of this kind are of greater value in medical statistics than is a classification under general headings. The classification under fourteen general headings adopted by the compiler of The International Nomenclature is, however, shewn in the following table, together with the death rates and percentages on total deaths pertaining to those classes:

**DEATHS, DEATH RATES (a), AND PERCENTAGES ON TOTAL DEATHS IN CLASSES, 1913.—COMMONWEALTH.**

Class.	Total Deaths.			Death Rate. (a)			Percentage on Total Deaths.		
	M.	F.	Total.	M.	F.	Total	M.	F.	Total.
1. General diseases ...	6,655	5,558	12,213	2.66	2.40	2.54	22.29	25.34	23.58
2. Diseases of the Nervous System & of the Organs of Special Sense ...	2,706	2,073	4,779	1.08	0.90	0.99	9.06	9.45	9.23
3. Diseases of the Circulatory System ...	3,692	2,690	6,382	1.48	1.17	1.33	12.37	12.28	12.31
4. Diseases of the Respiratory System ...	3,126	2,040	5,166	1.25	0.89	1.08	10.47	9.30	9.98
5. Diseases of the Digestive Organs ...	3,444	2,921	6,365	1.38	1.27	1.33	11.52	13.32	12.29
6. Diseases of the Genito-Urinary System and Adnexa ...	1,814	1,065	2,879	0.72	0.46	0.60	6.03	4.86	5.56
7. Puerperal Condition ...	...	663	663	...	0.29	0.14	...	3.02	1.28
8. Diseases of the Skin and of the Cellular Tissue ...	152	134	286	0.06	0.06	0.06	0.51	0.61	0.55
9. Diseases of the Organs of Locomotion ...	50	19	69	0.02	0.01	0.01	0.17	0.09	0.13
10. Malformations ...	290	226	516	0.12	0.10	0.10	0.97	1.03	1.00
11. Infancy ...	2,303	1,724	3,925	0.88	0.75	0.82	7.38	7.86	7.58
12. Old Age ...	2,303	1,814	4,116	0.92	0.79	0.86	7.71	8.27	7.95
13. Violence ...	3,019	796	3,815	1.20	0.35	0.79	10.11	3.63	7.37
14. Ill-defined Diseases ...	407	207	614	0.16	0.09	0.13	1.36	0.94	1.19
Total ...	29,859	21,930	51,789	11.93	9.53	10.78	100.00	100.00	100.00

(a) Number of deaths per 1000 of mean population.

**20. Deaths of Children under 1 Year.**—"Bulletin No. 31; Commonwealth Demography" contains tables shewing the age at death of children dying during the first year of life from twenty-one causes. In the Bulletin mentioned the particulars are published for males and females separately for the States, Territories and Commonwealth, but the totals for the Commonwealth only are here shewn for both sexes combined:—

## DEATHS OF CHILDREN UNDER 1 YEAR, COMMONWEALTH, 1913.

Age at Death.		Whooping Cough.	Pulmonary Tuberculosis.	Acute Miliary Tuberculosis.	Tubercular Meningitis.	Abdominal Tuberculosis.	White Swellings.	Tuberculosis of other Organs.	Disseminated Tuberculosis.	Syphilis.	Meningitis.	Convulsions.	Acute Bronchitis.
Under 1 week	...	2	1	...	...	...	...	...	...	16	8	86	3
1 week and under 2	...	...	...	...	...	...	...	...	...	7	10	35	17
2 weeks	3	6	...	...	...	...	...	...	...	7	2	20	17
3 "	1 mth	16	...	...	...	1	...	...	...	10	1	14	18
1 month	2	74	...	...	...	...	...	...	...	29	13	23	48
2 months	3	47	...	1	1	3	...	...	...	10	8	15	33
3 "	4	44	2	...	5	3	...	...	1	10	22	13	20
4 "	5	38	...	...	1	6	...	...	...	9	22	7	8
5 "	6	14	3	1	3	4	...	1	...	4	27	11	11
6 "	7	19	1	...	3	1	...	...	...	9	29	9	10
7 "	8	17	1	1	4	...	1	...	1	4	20	9	12
8 "	9	25	2	...	4	1	...	...	...	3	27	7	9
9 "	10	19	...	...	12	2	...	...	1	1	20	12	7
10 "	11	24	1	...	3	2	...	...	1	2	22	8	7
11 "	12	20	2	...	4	...	...	...	...	3	28	11	7
Total under 1 year		365	13	3	40	23	1	1	4	124	259	280	227

Age at Death.		Broncho-Pneumonia.	Pneumonia.	Diarrhoea and Enteritis.	Hernia and Intestinal Obstruction.	Malformations.	Congenital Debility, Icterus and Sclerema.	Other Diseases peculiar to Early Infancy.	Lack of Care.	Other External Violence.	Other Causes.	Total.
Under 1 week	...	2	16	15	10	223	1,975	508	9	1	113	2,988
1 week & under 2	...	12	9	38	3	53	277	61	...	...	52	574
2 weeks	3	10	7	59	1	16	198	20	...	...	49	412
3 "	1 mth	15	8	53	2	19	128	5	...	...	38	329
1 month	2	47	29	205	5	40	222	10	1	1	101	848
2 months	3	43	25	240	2	21	128	4	...	...	56	637
3 "	4	29	21	291	6	26	106	...	1	...	49	649
4 "	5	22	16	285	8	20	72	...	...	...	41	555
5 "	6	23	14	305	18	10	58	...	...	...	26	533
6 "	7	21	22	244	12	10	46	...	...	...	57	493
7 "	8	25	18	214	8	6	21	...	...	...	28	390
8 "	9	11	19	193	6	7	24	...	...	1	41	380
9 "	10	20	20	184	5	8	24	...	...	...	46	381
10 "	11	22	13	149	3	2	17	...	...	...	43	319
11 "	12	28	16	128	...	9	11	...	...	...	45	312
Total under 1 year		330	253	2,603	89	470	3,307	608	11	4	785	9,800

It will be seen that the maximum number of deaths from syphilis, convulsions, pneumonia, acute bronchitis, malformations, congenital debility, icterus and sclerema, other diseases peculiar to early infancy, lack of care, and other external violence occurred during the first month of life, while broncho-pneumonia was most fatal during

the second month. Diarrhoea and enteritis carried off more children in the fourth month than in any other, the numbers gradually decreasing toward the end of the year. Whooping cough reached its maximum during the second and third month of life.

**21. Age at Death of Married Males and Females, and Issue.**—"Bulletin No. 31; Commonwealth Demography" contains a number of tables, for the Commonwealth, shewing the age at marriage, age at death, duration of life after marriage, birthplaces, and occupations, in combination with the issue, of married persons who died in 1913. A short summary of the tables mentioned is given hereunder. Deaths of married males in 1913 numbered 13,019, and of married females, 11,985. The ages at death of the males ranged from 19 to 112 years, and those of the females, from 16 to 108 years. The total number of children in the families of the 13,019 males was 68,072, the maximum in one family being 27; and of the 11,985 females, 62,213, with a maximum of 21. The average number of children is shewn for various age-groups in the following table:—

#### AGE AT DEATH OF MARRIED MALES AND FEMALES, AND AVERAGE ISSUE.

COMMONWEALTH, 1913.

Age at Death.	Average Family of Males.	Average Family of Females.	Age at Death.	Average Family of Males.	Average Family of Females.
Under 20 years ...	...	0.72	70 to 74 years ...	6.23	6.46
20 to 24 years ...	0.99	1.13	75 " 79 " ...	6.64	6.36
25 " 29 " ...	1.30	1.70	80 " 84 " ...	6.71	6.39
30 " 34 " ...	2.01	2.59	85 " 89 " ...	6.95	6.32
35 " 39 " ...	2.63	3.49	90 " 94 " ...	6.48	5.99
40 " 44 " ...	3.30	4.01	95 " 99 " ...	6.97	5.64
45 " 49 " ...	4.11	4.12	100 years and upwards	9.00	4.43
50 " 54 " ...	4.50	4.86	Age not stated ...	5.33	7.00
55 " 59 " ...	5.05	5.69			
60 " 64 " ...	5.55	5.84			
65 " 69 " ...	5.97	6.40	All ages ...	5.23	5.19

The figures shewn in the preceding table include the issue both living and dead; the proportion between the two, taking deceased males and females together, was about as 1000 to 306, or, roughly speaking, as ten to three. The totals are shewn in the following table:—

#### ISSUE OF MARRIED MALES AND FEMALES.

COMMONWEALTH, 1913.

Issue of Married Males.	Males.	Females.	Total.	Issue of Married Females.	Males.	Females.	Total.
Living ...	27,040	26,337	53,377	Living ...	23,486	22,956	46,442
Dead ...	7,839	6,856	14,695	Dead ...	8,394	7,377	15,771
Total ...	34,879	33,193	68,072	Total ...	31,880	30,333	62,213



These figures shew a masculinity in the births of 105.09, which agrees fairly well with the experience of the birth statistics, the masculinity of the births in the Commonwealth from 1903 to 1913 having ranged from 104.54 to 106.38.

**22. Age at Marriage of Males and Females, and Issue.**—While the table giving the average families of married males and females naturally shews an increase in the averages with advancing ages at death, the following table, which gives the average families of males and females according to the age at marriage of the deceased parents, shows a corresponding decrease in the averages as the age at marriage advances:—

### AGE AT MARRIAGE OF MALES AND FEMALES, AND AVERAGE ISSUE.

COMMONWEALTH, 1913.

Age at Marriage.	Average Family of Males.	Average Family of Females.	Age at Marriage.	Average Family of Males.	Average Family of Females.
Under 20 years ...	6.50	7.01	55 to 59 years ...	1.21	...
20 to 24 years ...	6.26	5.62	60 „ 64 „ ...	0.58	...
25 „ 29 „ ...	5.43	4.23	65 years and upwards ...	0.11	...
30 „ 34 „ ...	4.77	2.83	Age not stated ...	5.07	4.95
35 „ 39 „ ...	3.96	1.57			
40 „ 44 „ ...	3.21	0.37			
45 „ 49 „ ...	2.05	0.09			
50 „ 54 „ ...	1.92	...	All ages ...	5.23	5.19

It will be seen that of women who were married at ages from 40 to 44 years, one in every three gave birth to a child, while in the case of women who were married at ages from 45 to 49 years, the proportion fell to about one in every eleven.

**23. Duration of Life after Marriage of Males and Females.**—The duration of life after marriage has been tabulated for males and females both in combination with the age at marriage, and with the total and average issue. The tables shewing the result do not, however, lend themselves to condensation, and are, therefore, omitted here. They will be found in “Bulletin No. 31 of Commonwealth Demography,” pages 186 to 191.

**24. Birthplaces of Married Males and Females, and Issue.**—The following table shews the birthplaces of married males and females whose deaths were registered in 1913, together with their average issue. No generalisations can, of course, be made in those cases where the number of deaths is small, and where the average family had to be worked out on small figures. But where the figures are comparatively large, as in the case of natives of the Commonwealth, differences occur between the averages of the individual States which appear inexplicable on any other ground than that of inefficient registration in some of the States. It will be noted that the differences occur both in the male and female averages. Although the figures apply to the Commonwealth as a whole, it must be borne in mind that the vast majority of deaths of natives of any one State are registered in that particular State. The average family of all deceased males who were natives of the Commonwealth was 4.56, and that of deceased females who were natives of the Commonwealth, 4.48.

**BIRTHPLACES AT MARRIAGE OF MALES AND FEMALES, AND AVERAGE ISSUE.  
COMMONWEALTH, 1913.**

Birthplaces.	Married Males.		Married Females.		Birthplaces.	Married Males.		Married Females.	
	Deaths.	Average Family.	Deaths.	Average Family.		Deaths.	Average Family.	Deaths.	Average Family.
New South Wales ...	1,927	5.04	2,084	4.94	Japan ...	3	2.67	...	...
Victoria ...	1,580	3.96	1,527	3.94	Java ...	1	...	...	...
Queensland ...	268	3.77	322	3.58	Philippine Islands ...	2	2.50	1	1.00
South Australia ...	552	4.47	603	4.31	Syria ...	10	5.50	5	6.00
Western Australia ...	52	4.27	79	4.53	Other Asiatic Countries ...	2	4.00	1	10.00
Tasmania ...	432	5.32	448	5.06	Cape of Good Hope ...	2	3.50	2	0.50
New Zealand... ..	67	4.0	68	2.79	Mauritius ...	6	5.00	5	4.00
England ...	4,067	5.0	3,088	5.65	South Africa (so desc'd.)	7	3.86	2	5.50
Wales ...	119	.33	55	4.98	Other African British Possessions ...	1	4.00	5	4.40
Scotland ...	1,081	.63	926	5.91	Other African C'ntries ...	1	13.00	...	...
Ireland ...	1,773	5.87	2,241	5.84	Canada ...	40	5.28	7	7.29
Isle of Man ...	8	6.50	2	4.00	Jamaica ...	8	5.88	...	...
Other European Brit'h Possessions ...	20	3.95	13	6.38	Newfoundland ...	4	4.75	1	9.00
Austria-Hungary ...	16	4.44	...	...	Other American British Possessions ...	...	2.00	2	4.50
Belgium ...	3	5.33	...	...	Argentina ...	1	7.00	...	...
Denmark ...	47	4.89	25	6.64	Brazil ...	...	...	1	15.00
France ...	35	5.86	20	4.05	Chile ...	1	5.00	...	...
Germany ...	390	6.05	251	6.27	United States ...	56	4.38	26	3.77
Greece ...	10	2.00	4	2.50	Other American Countries ...	24	6.13	7	6.43
Italy ...	37	3.03	11	4.36	Fiji ...	...	...	1	1.00
Netherlands ...	14	3.21	2	3.00	New Caledonia ...	1	1.00	...	...
Norway ...	29	4.52	7	3.71	Samoa ...	1	3.00	...	5.00
Portugal ...	6	6.33	...	...	Other Polynesian Islands ...	1	1.00	...	...
Russia ...	39	5.10	19	4.53	S. Sea Islands (so desc'd.)	8	3.63	...	...
Spain ...	5	7.00	3	2.33	At Sea ...	41	5.63	35	6.34
Sweden ...	43	3.95	4	4.00	Not stated ...	49	3.86	49	3.79
Switzerland ...	19	5.26	7	5.29					
Other Europ. Countries	4	2.75	1	2.00					
British India ...	38	5.11	26	5.70					
Ceylon ...	5	4.60	1	4.00					
China ...	63	2.29	2	7.00					
					Total ...	13,019	5.23	11,985	5.19

25.—Occupations of Married Males, and Issue.—A final tabulation shews the average issue in combination with the occupation of deceased males. When these figures are available for a number of years they will afford some clue to the much debated question as to the decrease in the birth rate among various classes of the population.

**OCCUPATIONS OF MARRIED MALES, AND AVERAGE ISSUE.  
COMMONWEALTH, 1913.**

Occupations.	Deaths of Married Males.	Average Family.
Professional class ...	749	4.48
Domestic class ...	510	3.81
Mercantile class...	1,565	4.44
Engaged in transport and communication ...	1,078	4.66
Manufacturing class ...	1,442	5.09
Engaged in building and construction ...	841	5.30
Indefinite industrial workers ...	2,089	5.07
Agricultural class ...	2,158	6.47
Pastoral class ...	529	6.16
Working in mines and quarries ...	986	5.33
Other primary producers ...	89	4.82
Independent means ...	607	5.92
Dependents ...	78	3.94
Occupation not stated ...	298	5.40
Total ...	13,019	5.23

In the fifth issue of this Year Book (pp. 227 to 229), a series of observations was published dealing with the Commonwealth Rates of Infantile Mortality. These observations are not reprinted in the present issue.

### § 4. Graphical Representation of Vital Statistics.

1. **General.**—The progressive fluctuations of the numbers representing the total births and marriages are important indexes of the economic conditions and social ideals of a community. For this reason graphs have been prepared (see pages 201 and 202), shewing these fluctuations from 1860 to 1913, both for the States and the Commonwealth. The facts are very significant from the national point of view and call for serious consideration. To properly appreciate the situation it should be remembered that, normally, the increase of births and also of marriages will be similar to the increase of population. Although the marriage curve shows a falling off in marriages after 1891 (see page 202), it shows a recovery in 1894, and, with the exception of a small fall for 1903, it has continually advanced. The same characteristic is not seen in the curve of births, which discloses a recovering tendency only in 1904.

The table printed below shows the number of births, marriages and deaths which would have been experienced had the rate for 1890 continued, and reveals the significance of the facts disclosed by the curves. It may be remarked that the death rate has greatly improved, and among other countries Australia stands in a very favourable position in this respect. At the same time the decline in the marriage rate, overtaken once more in 1907, and the still more serious decline in the birth rate, in a country but sparsely populated, have an obvious and most important bearing on the national future, and on questions concerning the extent to which it is desirable to promote immigration.

#### ACTUAL BIRTHS, DEATHS, AND MARRIAGES

EXPERIENCED IN THE COMMONWEALTH DURING THE YEARS 1890 TO 1913,  
COMPARED WITH THE NUMBER THAT WOULD HAVE OCCURRED IF THE  
RATES OF 1890 HAD REMAINED IN OPERATION.

Year.	BIRTHS.		DEATHS.		MARRIAGES.	
	Actual.	Number of Births that would have been experienced if the 1890 birth rate had been in operation.	Actual.	Number of Deaths that would have been experienced if the 1890 death rate had been in operation.	Actual.	Number of Marriages that would have been experienced if the 1890 marriage rate had been in operation.
1890	108,683		44,449		23,725	
1891	110,187	111,802	47,430	45,737	23,862	24,419
1892	110,158	114,502	42,268	46,842	22,049	25,009
1893	109,322	116,617	45,801	47,707	20,631	25,470
1894	104,660	118,734	42,958	48,573	20,625	25,933
1895	105,084	121,002	43,080	49,501	21,564	26,428
1896	100,134	123,212	45,202	50,405	23,068	26,911
1897	101,137	125,419	43,447	51,308	23,939	27,393
1898	98,845	127,371	51,406	52,106	24,472	27,819
1899	100,638	129,088	47,629	52,809	25,958	28,194
1900	102,221	130,848	44,060	53,529	27,101	28,579
1901	102,945	132,599	46,330	54,245	27,753	28,961
1902	102,776	134,603	48,078	55,065	27,926	29,399
1903	98,443	136,189	47,293	55,714	25,977	29,745
1904	104,113	137,917	43,572	56,420	27,682	30,122
1905	104,941	139,959	43,514	57,256	29,004	30,569
1906	107,890	142,030	44,333	58,103	30,410	31,021
1907	110,347	144,248	45,305	59,011	32,470	31,505
1908	111,545	146,720	46,426	60,022	32,551	32,045
1909	114,071	149,526	44,172	61,170	33,775	32,658
1910	116,801	152,869	45,590	62,537	36,592	33,388
1911	122,193	157,072	47,869	64,257	39,482	34,306
1912	133,088	162,477	52,177	66,468	42,147	35,487
1913	135,714	168,032	51,789	68,740	41,594	36,700

**2. Graphs of Annual Births, Commonwealth and States** (page 201).—A striking feature of the graphs of births is the practically continuous increase in the number of births exhibited in the graph for the Commonwealth from 1860 to 1891, and the marked variations of subsequent years. As the curve clearly shews, a turning point in the number of births occurred in 1891, whilst, as regards the separate States, New South Wales and Tasmania date their decline in number from 1893, Victoria from 1891, and Queensland from 1890. In South Australia the corresponding decline took place as early as 1885, while in Western Australia the increase in number of births has been practically continuous throughout.

It is of special interest to note the decline in births associated with the commercial crisis of 1891-3, and also the decline occurring in 1903, an accompaniment of the severe drought of that period.

In the case of New South Wales the graph crosses that of Victoria in 1879, *i.e.*, the births for that year were sensibly identical in the two States. A fairly continuous increase was experienced in the former State from 1860 to 1893, the only marked fluctuation being a sudden decline in 1889 and an equally rapid recovery in 1890. From 1893 to 1898 a somewhat rapid decline again took place, succeeded by a rise, the continuity of which was broken only by a sharp decline in 1903 and recovery in 1904.

In the case of Victoria the graph shews the increase between 1860 and 1880 to have been comparatively slight, the curve being a gradual rise, with fluctuations more or less marked to 1873, with a subsequent decline. From 1880 to 1891 the increase in the number of births is seen to be very rapid and practically continuous, while from 1891 to 1898 an equally sharp and continuous decline was experienced. A further rise and fall took place between 1898 and 1903, succeeded by a continuous rise from the last-mentioned year to 1907, and a slight fall in 1908, followed by a recovery in 1909.

Starting in 1860 with a lower number of births than any State except Western Australia, the Queensland graph shews that the births increased somewhat rapidly until 1867. The equality in the number of births in Queensland and Tasmania in 1864 is shewn by the Queensland curve crossing the Tasmanian curve at the line for that year. From 1867 to 1882 a continuous though somewhat less rapid increase was experienced, followed by a very rapid rise to 1890, in which year Queensland's maximum number of births prior to 1909 and subsequent years was recorded. The South Australian graph is crossed by that of Queensland at the year 1885. From 1890 onwards the number of births has fluctuated somewhat, but has, on the whole, retained a practically stationary position at a height rather less than that of 1890. The most serious variation was a sudden fall in 1903, the drought year, and rapid recovery in 1904, with a further fall in 1905 and a continuous rise since 1906.

The South Australian graph, a slow but practically continuous rise from 1860 to 1885, exhibits the steady increase in the total number of births. This rise is followed by a slow but fluctuating decline to 1903, and a slight recovery to 1913.

The Tasmanian curve may be regarded as made up of five portions, of which the first, from 1860 to 1877, represents a period of very slight variation, with, on the whole, an increase; the second, from 1877 to 1884, a period of continuous and moderately rapid increase; the third, from 1884 to 1893, a period of rapid increase; the fourth, from 1893 to 1898, a period of continuous but slow decrease; and the fifth, from 1898 onwards, a period of steady recovery.

The Western Australian curve indicates that an increase, which was practically continuous but very slow, took place from 1860 to 1884, and that a somewhat quicker rate of increase, experienced from 1884 to 1896, was succeeded by a still more rapid and very satisfactory rate of increase from 1896 onwards.

It will be seen that the years in which the highest points were reached by the several curves are as follows :—

State ...	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
Year ...	1913	1891	1913	1913	1913	1913	1913

**3. Graphs of Annual Marriages, Commonwealth and States** (page 202).—The Commonwealth marriage graph from 1860 to 1885 reveals a moderate but somewhat fluctuating increase in the annual number of marriages between 1860 and 1871, a more rapid increase between 1871 and 1879, a still more rapid increase between 1879 and 1885. From 1885 to 1891 the numbers continued to increase, but with marked fluctuations in rate. The financial crisis associated with the period subsequent to the latter year was accompanied by a strongly-marked decline in the number of marriages, which reached its lowest point in 1894. From that year onwards a fairly rapid recovery was effected, the record for 1891 being exceeded by that of 1897. This progress was maintained until 1902, when the severe drought of that and the succeeding year were collateral with a rapid fall in the number of marriages. An equally rapid recovery, however, has since taken place, and the number of marriages in the Commonwealth during 1912 was greater than in any preceding year, while a slight decline is shewn in 1913.

**4. Graphs of Annual Deaths, Commonwealth and States** (page 203).—The curves shewing the progression of the annual number of deaths indicate clearly that the periods for which exceptionally large numbers of deaths occurred were:—(a) 1866-7, (b) 1875-6, (c) 1884-5, (d) 1889-1891, (e) 1893, (f) 1898, and (g) 1902-3. It is remarkable that in each of the periods specified the phenomenon of a relatively high number of deaths was experienced in the majority of the States. Thus, as regards 1866-7, all the States except Western Australia and Tasmania were so affected; in 1875-6 all except Western Australia; in 1884-5 all were affected; in 1889 all except Western Australia and South Australia; in 1891 all except Queensland; whilst in 1893 and 1898, and 1902-3 all were affected. The fact that the periods of high death rates have been practically identical in the several States furnishes an indication that the excessive mortality has been due to a considerable extent to some common cause operating throughout the Commonwealth.

It may be noted as curious that periods of heavy mortality have occurred at intervals of approximately nine years, viz.:—1866-7, 1875-6, 1884-5, 1893, and 1902-3. There are, however, two marked increases between the third and fourth dates, and one between the fourth and fifth. Thus there is no real indication of the periodicity of the death rate.

Periods in which the number of deaths was exceptionally low are far less clearly defined than those in which the number was high, and the agreement amongst the States is also less complete. The principal periods of low mortality may be said to be 1861, 1869-71, 1879, 1892, 1897, 1900, 1904-5, 1909.

**5. Graphs of Annual Birth, Death, and Marriage Rates and of Rate of Natural Increase—Commonwealth** (page 204).—(i.) *General*. These graphs represent the number of births, deaths, and marriages, and the excess of births over deaths (natural increase) per 1000 of the population of the Commonwealth, for each of the years 1860 to 1913.

(ii.) *Births*. In the case of births, the graph indicates a well marked decline in rate during the period, and represents a fall from 42.56 per 1000 of population in 1860 to 28.25 per 1000 in 1913. This enormous reduction has been subject to small fluctuations during the period under review, but may, on the whole, be said to have been in evidence throughout. There are, however, two periods of arrested decline noticeable, one from 1877 to 1890, and the other from 1898 to the present time. The course of the graph thus indicates a rapid fall from 42.56 in 1860 to 34.99 in 1877, succeeded by a fluctuating but, on the whole, fairly stationary period to 34.98 in 1890, then a fall even more rapid to 27.15 in 1898, and a further comparatively stationary period to 28.25 in 1913. The lowest point reached, viz., 25.29, was attained in 1903, the year in which the Commonwealth suffered severely from the worst drought it has ever experienced.

Since then a but small well defined advance in the birth rate has been in evidence. A declining birth rate is usually due to complex causes, amongst which the variations in the age constitution of the population, and the adoption of preventative measures, are generally considered the most potent.

(iii.) *Deaths.* The three graphs relating to deaths furnish particulars concerning the rates experienced during the period amongst males and females separately, and in the population as a whole, the latter occupying naturally a position between the other two. Throughout the period the rate for males has largely exceeded that for females, but the fluctuations in the two rates have synchronised remarkably, indicating that the conditions which have been responsible for the marked variations which have occurred from time to time have affected males and females alike. On the whole, the graphs furnish clear evidence of a satisfactory decline in the death rate of the Commonwealth, a fall having taken place from 20.86 in 1860 to 10.78 in 1913. The graphical representation of the death rates brings into prominence five years in which the rates were exceptionally high when compared with those of adjacent years. These years are 1860, 1866, 1875, 1884, and 1898. The principal cause of the excessive rate of 1860 was the prevalence in that year of measles, scarlatina, and diphtheria, while the high rates of 1866, 1875, and 1898 were also largely due to epidemics of measles. Prior to 1892, when a rate of 12.91 was experienced, the lowest general death rate for the Commonwealth was that of 1871, viz., 13.24. The highest male death rate for the period was 20.97 in 1860, and the lowest 11.51 in 1909. For females the highest was 20.71 in 1860, and the lowest 9.06 in 1909. The difference between the male and female rate has, since 1869, been fairly constant, and has ranged between 1.97 and 3.44, with a mean value of about 2.7.

(iv.) *Marriages.* In the case of the graph representing marriage rates, the fluctuations are less abrupt than in the case of the birth rate and death rate graphs, and the rate for 1913, the final year of the period, viz., 8.66, does not differ very considerably from that of 1860, which was 8.42. The lowest marriage rate for the period was that of 1894, viz., 6.08, marking the culmination of the commercial and financial depression indicated by the declining rates from 1888 onwards. From 1894 to the present time a satisfactory increase has been in evidence, disturbed only by the sharp decline which, in 1903, accompanied the severe drought experienced in the Commonwealth in that year.

(v.) *Natural Increase.* This graph, which represents the excess of births over deaths per 1000 of population, exhibits marked fluctuations arising from the combined fluctuations in birth and death rates. Thus, corresponding to the high death rates of 1860, 1866, 1875, and 1898, there are exceptionally low rates of natural increase, accentuated in the last-mentioned year by a comparatively low birth rate. A combination of low birth rate and comparatively high death rate was also responsible for a very low rate of natural increase in 1903. The highest rate of natural increase for the period was 26.58 in 1864, and the lowest 13.03 in 1898.

**6. Graphs of Annual Birth Rates—States** (pages 205 and 206).—These graphs furnish for the several States information similar to that supplied in the graph on page 204 for the Commonwealth as a whole. It will be seen that in every case the total effect has been an extensive decline in rate, subject to very marked fluctuations. In all the States the period from 1875 to 1885 was one of arrested decline, if not of actual advance, in the birth rate. With the exception of the very low rate accompanying the drought in 1903, the variations in any of the States since 1901 have not been very marked, and in some cases a slight tendency to increase is in evidence.

The highest birth rates during the period were as follows:—New South Wales (1864), 44.00; Victoria (1862), 44.71; Queensland (1860), 47.93; South Australia (1862),

45.44 ; Western Australia (1860), 38.96 ; and Tasmania (1884), 36.63. The following were the lowest rates for the period :—New South Wales (1903), 25.44 ; Victoria (1910), 24.51 ; Queensland (1903), 24.53 ; South Australia (1903), 23.84 ; Western Australia (1896), 23.44 ; Tasmania (1899), 27.43.

**7. Graphs of Annual Death Rates—States** (pages 207 and 208).—These graphs furnish for the several States similar information to that given for the Commonwealth as a whole in the diagram on page 204, and indicate in each case a satisfactory decline in death rate. It may be noted that an exceptionally high death rate was experienced in all the States in 1875, and that a similar uniformity, though on a smaller scale, is observable for the year 1898, the principal cause in each case having been an epidemic of measles. The highest death rates experienced during the period were as follows :—New South Wales (1867), 19.79 ; Victoria (1860), 22.77 ; Queensland (1866), 25.96 ; South Australia (1875) 19.97 ; Western Australia (1884), 21.54 ; and Tasmania (1875), 19.99. The following were the lowest death rates for the period :—New South Wales (1909 and 1910), 9.89 ; Victoria (1913), 11.11 ; Queensland (1906), 9.50 ; South Australia (1909), 9.74 ; Western Australia (1913), 9.34 ; and Tasmania (1909), 9.68.

**8. Graphs shewing Variations in Annual Death Rates from Month to Month.**—The graphs on pages 209 and 210 shew for the Commonwealth as a whole and for each of the six States the annual death rates for males, females, and persons calculated for equalised months, and the infantile death rate, calculated in the same way, and also distinguishing males, females, and persons. Further particulars in regard to these graphs will be found on pages 180 and 181.

## SECTION VI.

## LAND TENURE AND SETTLEMENT.

## § 1. Introduction and Early History.

1. **Introduction.**—A comprehensive description, in a classified form, of the land tenure systems of the several States has been given in preceding issues of this book; see especially Year Book No. 4 (pp. 235 to 333). The details of that description have been necessarily condensed in the present issue, and for more complete information for past years, reference may therefore be made to Year Book No. 4. The historical matter dealing with the development of land legislation in the individual States may be found in Year Book No. 2 (pp. 263 to 272), and in a more condensed form in Year Books No. 3 pp. 245 to 254), and No. 4 (pp. 235 to 244).

## § 2. Land Legislation in Individual States.

1. **New South Wales.**—(i.) *Acts now in Force.* The Crown Lands Act of 1884 and the supplementary Act of 1889 (now incorporated in the Crown Lands Consolidation Act 1913), were passed chiefly for the purpose of putting an end to speculative selection without *bonâ fide* intention of settlement. Pastoral leases were required to be surrendered to the Crown and divided into two equal parts, one of which was returned to the lessee under a lease with a fixity of tenure for a term of years, the other half the lessee was allowed to hold under an annual occupation license, but this half was always open for selection.

Nevertheless accumulation of land into large estates continued, and settlement proceeded slowly. Entirely new principles of agrarian legislation have been embodied in Crown Lands Acts passed in years 1895 to 1912, the Labour Settlements Act 1902, the Closer Settlement Acts 1904 to 1909, and the Closer Settlement Promotion Act 1910 which offer *bonâ fide* settlers special inducements by the introduction of new forms of tenure on easy terms and conditions.

(ii.) *The Western Lands Acts.* All Crown lands in the Western Division of New South Wales are now subject to the special provisions of the Western Lands Acts 1901 and 1905. All leases or occupation licenses could be brought within the provisions of the Western Lands Act by application before the 30th June, 1902. Otherwise the leases or licenses were dealt with by the Board as if the Act had not been passed. All leases issued or brought under the provisions of the Western Lands Acts expire on the 30th June, 1943, except in cases where part of the land leased is withdrawn for the purpose of sale by auction, or to provide small holdings, in which case an extension of the term of lease of the remainder may be granted as compensation for the part withdrawn.

2. **Victoria.**—(i.) *Acts now in Force.* The Consolidating Land Act of 1901, amended by the Acts of 1903, 1904, 1905, 1909, 1910, and 1911, deals with the whole system of land occupation and alienation in this State. Closer Settlement was provided for by the Land Acts of 1898 and 1901 and amendments, until the introduction of the Closer Settlement Act 1904, amended in 1906, 1907, 1909, 1910, 1911, and 1912. Other special forms of tenure have been provided for by the Settlement on Lands Act 1893, and the Small Improved Holdings Act 1906; these, however, are now embraced in the Land Acts and Closer Settlement Acts respectively.



The Land Act 1910 allows large tracts of land in the counties of Millewa, Croajingo-long, and Dargo hitherto reserved for public purposes to be dealt with as unalienated Crown Lands. It is proposed to pass an amending and consolidating Land Act at an early date.

(ii.) *Mallee Lands.* The lands in the Mallee territory, comprising an area of about 11,000,000 acres in the north-western district of the State, can be cleared at a moderate expenditure. An extension of railway facilities and of successful systems of water supply should bring this territory into greater prominence as a field for agricultural enterprise. More than one-half of this area is unalienated and available for occupation.

Alienation of Mallee lands is now dealt with by a special part of the Land Act of 1901 (see § 6, 3, iii.), as amended in 1904, by the Murray Settlements Act 1907, and by the Land Act 1911.

3. **Queensland.**—*Acts now in Force.* The Closer Settlement Acts 1906-1913 and the Land Act 191C control the alienation of Crown lands in this State. The latter Act consolidates, amends and simplifies the law relating to the occupation and alienation of Crown lands.

4. **South Australia.**—*Acts now in Force.* The Crown Lands Act 1903, amended in subsequent years, repealed and consolidated previous Land Acts, and also repealed the earlier Closer Settlement and Village Settlement Acts. Acts amending the provisions relating to Closer Settlement were passed in 1910, 1911, 1912, and 1914. The Pastoral Act 1904 controls the pastoral occupation of lands, and the Irrigation and Reclaimed Land Acts of 1908, 1909, 1910, and 1912 provide for leases of reclaimed and irrigable lands (these Acts were consolidated by the Act of 1914).

5. **Western Australia.**—*Acts now in Force.* The Land Act 1898, which consolidated previous legislation as to the management of Crown lands, has in turn been amended at various times, and, with such amendments, is now in force. The principle of repurchasing Crown lands for the purpose of Closer Settlement was introduced by the Agricultural Lands Purchase Acts 1896 to 1904; these Acts were repealed and consolidated by the Agricultural Lands Purchase Act 1909.

6. **Tasmania.**—*Acts now in Force.* The law relating to land tenure and settlement is now consolidated in the Crown Lands Act 1911; and in the Closer Settlement Act 1913.

7. **Northern Territory.**—Prior to the transfer of the Northern Territory to the Commonwealth on the 1st January, 1911, the sale and occupation of lands in the Territory were regulated by the Northern Territory Crown Lands Act 1890, the Northern Territory Land Act 1899, and the Northern Territory Tropical Products Act 1904, but from that date the further alienation and occupation of land in the Territory were suspended, pending a complete reorganisation of the system of land settlement by the Commonwealth Government. In December, 1912, an ordinance, cited as the Crown Lands Ordinance 1912, dealing with this question, was made, by which the conditions of land tenure and settlement in the Territory are now determined. Under this ordinance no further alienation of Crown lands is permitted, unless such alienation is in pursuance of existing agreements.

8. **Administration and Classification of Crown Lands.**—In each of the States of the Commonwealth there is now a Lands Department under the direction of a responsible Cabinet Minister, who is charged generally with the administration of the Acts relating to the alienation, occupation, and management of Crown lands. The administrative functions of most of the Lands Departments are to some extent decentralised by the division of the States into what are usually termed Land Districts, in each of which there is a Lands Office, under the management of a land officer, who deals with applications for selections and other matters generally appertaining to the administration of the Acts within the particular district. In some of the States there is also a Local Land Board or a Commissioner for each district or group of districts. In the Northern Territory the administration of the regulations relating to the occupation and management of Crown lands is in the hands of a Classification Board, consisting of the Director of Lands, the Director of Agriculture, and the Chief Surveyor.

In most of the States, Crown lands are classified according to their situation, the suitability of the soil for particular purposes, and the prevailing climatic and other conditions. The modes of tenure under the Acts, as well as the amount of purchase money or rent and the conditions as to improvements and residence, may vary in each State according to the classification of the land. The administration of certain special Acts relating to Crown lands has in some cases been placed in the hands of a Board under the general supervision of the Minister; for such purpose, for instance, are constituted the Western Lands Board in New South Wales, the Lands Purchase and Management Board in Victoria, and the Closer Settlement Board in Tasmania.

In each of the States and in the Northern Territory there is also a Mines Department, which is empowered under the several Acts relating to mining to grant leases and licenses of Crown lands for mining and auxiliary purposes. Such leases and licenses are more particularly referred to in a later part of this section. (See § 9.)

Full information respecting lands available for settlement or on any matter connected with the selection of holdings may be obtained from the Commonwealth representative in London, from the Lands Departments, or from the Agents-General of the respective States. The administration and classification of Crown lands in each State were more fully dealt with in Year Book No. 2, (pp. 273-6).

### § 3. Tenures under which Crown Lands may be Alienated or Occupied.

1. **Introduction.**—The freehold of Crown lands in the several States of the Commonwealth may now ordinarily be alienated either by free grant (in trust for certain specified purposes), by direct sale and purchase (which may be either by agreement or at auction), or by conditional sale and purchase. Crown lands may be occupied in the several States under a variety of forms of leases and licenses, issued both by the Lands and the Mines Departments.

2. **Classification of Tenures.**—The tabular statement given on pages 224 and 225 shows the several tenures under which Crown lands may be acquired or occupied in each State of the Commonwealth. The forms of tenure are dealt with individually in succeeding parts of this section. In the State of Victoria it is proposed to amend and consolidate the Land Acts at an early date, and to abolish some of the existing forms of tenure. Reference to any amending Acts which are passed up to the latest available date prior to the publication of this book may be found in the Appendix.

(i.) *Free Grants, Reservations, and Dedications.* The modes of alienation given in this category include all free grants either of the fee simple or of leases of Crown lands. "Free" homesteads in Queensland and Western Australia are not included in this class, these tenures being free in the sense that no purchase money is payable, but not free from residential and improvement conditions. Reservation and dedication, which are ordinarily conditions precedent to the issue of free grants, are also dealt with therein.

(ii.) *Sales by Auction and Special Sales.* This class of tenure includes all methods by which the freehold of Crown lands may be obtained (exclusive of sales under the Closer Settlement and kindred Acts) for cash or by deferred payments, and in which the only condition for the issue of the grant is the payment of the purchase-money.

(iii.) *Conditional Purchases.* In this class are included all tenures (except tenures under Closer Settlement and kindred Acts) in which the issue of the grant is governed by the fulfilment of certain conditions (as to residence or improvements) other than, or in addition to, that of the payment of purchase money.

(iv.) *Leases and Licenses.* This class includes all forms of occupation of Crown lands (other than under Closer Settlement and kindred Acts) for a term of years under leases and licenses issued by the Lands Departments. As the terms indicate, the freehold cannot be obtained under these forms of tenure.

# **CLASSIFICATION OF TENURES UNDER WHICH CROWN LANDS MAY BE ALIENATED OR OCCUPIED.**

New South Wales.	Victoria.	Queensland.
<b>FREE GRANTS, RESERVATIONS, AND DEDICATIONS.</b>		
Free grants in trust Volunteer land grants Reservations and dedications under Land Act 1884 and Mining Act 1906	Free grants in trust and re- servations under Land Act 1901	Free grants in trust Reservations under Land Act 1910 and under State Forests and National Parks Act 1906
<b>SALES BY AUCTION AND SPECIAL SALES.</b>		
Auction sales for cash or on credit After-auction sales Special sales Improvement purchases	Auction sales for cash or on credit Special sales	Auction sales for cash or on credit After-auction sales Special sales Unconditional selections
<b>CONDITIONAL PURCHASES.</b>		
Residential or non-residential conditional purchases Conversion of conditional pur- chase leases Homestead selections	Agricultural allotments, resi- dential or non-residential Grazing allotments, residen- tial or non-residential Selection from grazing area, perpetual or auriferous leases Selection from pastoral leases Mallee agricultural licenses Murray settlements leases Selection purchase leases	Agricultural farms Agricultural homesteads Prickly pear selections Free homesteads
<b>LEASES AND LICENSES.</b>		
Conditional leases Conditional purchase leases Settlement leases Improvement leases Annual leases Residential leases Special leases Snow leases Pastoral leases Scrub leases Inferior lands leases Occupation licenses Western lands leases Homestead farms Suburban holdings Crown leases	Grazing area leases Perpetual leases Mallee leases Licenses of auriferous lands Leases of swamp or reclaimed lands Grazing licenses Leases and licenses for other than pastoral or agricultural purposes State forest and timber re- serve licenses	Grazing homesteads Grazing farms Occupation licenses Special leases Perpetual lease selections Pastoral leases
<b>CLOSER SETTLEMENT SALES, LEASES AND LICENSES.</b>		
Sales by auction Closer settlement purchase Annual leases Labour settlements	Special sales	Sales by auction Agricultural farms Unconditional selections
<b>MINES DEPARTMENTS' LEASES AND LICENSES.</b>		
Miners' rights Business licenses Authorities to prospect Leases	Mining leases Special licenses Miners' rights Business & residence licenses	Miners' rights Mining leases and licenses Miners' homestead leases

# **CLASSIFICATION OF TENURES UNDER WHICH CROWN LANDS MAY BE ALIENATED OR OCCUPIED.**

South Australia.	Western Australia.	Tasmania.
<b>FREE GRANTS, RESERVATIONS, AND DEDICATIONS.</b>		
Free grants in trust Reservations and dedications under Crown Lands Act 1903 Artesian leases	Free grants in trust and free leases Reservations under Land Acts 1898 and 1906	Free leases Reservations under Crown Lands Act 1911
<b>SALES BY AUCTION AND SPECIAL SALES.</b>		
Auction sales for cash After-auction sales Sales for special purposes	Auction sales for cash (The right to lease town and suburban lots are sold by auction)	Auction sales for cash or on credit After-auction sales Special sales of residence or business allotments
<b>CONDITIONAL PURCHASES.</b>		
Agreements to purchase Special agreements under Pin- naroo Railway Act	Conditional purchase, resi- dential or non-residential Conditional purchase by direct payment Conditional purchase of small blocks Free homestead farms Conditional auction sales	Selection of rural lands Homestead areas Selection in mining areas Conditional auction sales
<b>LEASES AND LICENSES.</b>		
Perpetual leases Miscellaneous leases Miscellaneous grazing and cul- tivation leases Irrigation and reclaimed land leases Special licenses Pastoral leases Leases with right of purchase	Pastoral leases Timber licenses Special leases Quarrying licenses	Grazing leases Miscellaneous leases Timber licenses and leases Occupation licenses Temporary licenses
<b>CLOSER SETTLEMENT SALES, LEASES, AND LICENSES.</b>		
Sales by auction Agreements to purchase Miscellaneous leases Irrigation and reclaimed area leases Village settlements Homestead blocks	Sales by auction Conditional purchases Workingmen's blocks	Special sales Leases with right of purchase
<b>MINES DEPARTMENTS' LEASES AND LICENSES.</b>		
Miners' rights Mining leases Miscellaneous leases Business claims Occupation licenses	Miners' rights Mining leases Miners' homestead leases	Prospectors' licenses Miners' rights Mining leases Miscellaneous licenses

NOTE.—*Northern Territory*.—By the Crown Lands Ordinance of 1912, the only forms of tenure under which land may be held in the Northern Territory, exclusive of land held under pre-existing rights, is that of leasehold. See § 7 of this section.

(v.) *Closer Settlement Sales, Leases, and Licenses.* In this division are included all forms of tenure provided for under the various Closer Settlement Acts, and also under kindred Acts, such as the Village Settlements and Small Holdings Acts.

(vi.) *Mines Departments' Leases and Licenses.* The tenures specified include all methods in which Crown lands may be occupied for mining and auxiliary purposes under leases and licenses issued by the Mines Departments in the several States.

**3. Limitation of Tenures in New South Wales.**—In October, 1910, it was officially stated that it was the policy of the Government to discontinue the granting of the freehold of Crown Lands. Under the Crown Lands Act 1912 this policy was partially given effect to by the discontinuance of the disposal of Crown Lands by conditional purchase or as homestead selections, and by the institution of several new forms of tenure, viz., homestead farms, suburban holdings, irrigation farms, and Crown leases.

The first three are leases in perpetuity, while the term of a Crown lease is 45 years.

**4. Tenure of Lands by Aliens.**—In the States of New South Wales, Queensland, South Australia and Tasmania restrictions are imposed upon the tenure of lands by aliens (*i.e.*, persons other than natural-born or naturalised British subjects). In Victoria and Western Australia there are no such restrictions.

(i.) *New South Wales.* Under the Crown Lands Consolidation Act 1913, an alien is not qualified to apply for an original homestead selection, original conditional purchase lease, settlement lease, original homestead lease, or original conditional purchase, unless he has resided in New South Wales for one year, and at the time of making application he lodge a declaration of his intention to become naturalised within five years. If he fails to become naturalised within that period, the land is forfeited. This residential limit of twelve months does not, however, apply to applicants for homestead farms, Crown leases, suburban holdings, and leases within migration areas, but any alien who shall become the holder of any of these tenures shall become naturalised within three years after his becoming such holder. Failure to comply with this regulation involves forfeiture of such holding, together with all improvements thereon.

(ii.) *Victoria.* Under the Aliens Act 1890 (section 3), every alien friend resident in Victoria may acquire, either by grant from the Crown or otherwise, both real and personal property.

(iii.) *Queensland.* Under the Land Act 1910 (section 59 B and 62) an alien cannot apply for any land in Queensland unless he obtain a certificate that he is able to read and write from dictation, words in such language as the Minister for Lands may direct. If he acquire a selection he must within five years of such acquisition become a naturalised subject.

(iv.) *South Australia.* In South Australia, Asiatics are disqualified from holding perpetual leases of lands in irrigation areas under Section 18 of the Irrigation and Reclaimed Lands Act 1908.

(v.) *Western Australia.* In this State aliens are under no disability as regards the acquisition of the freehold of lands already alienated. Every application to acquire Crown lands, whether by a British subject or an alien, is subject to the approval of the Minister for Lands, with an appeal to the Governor-in-Council.

(vi.) *Tasmania.* Under the Aliens Act 1861 (section 2), aliens cannot hold real estate. An alien, if the subject of a friendly State, may, however, occupy lands for any term not exceeding twenty-one years.

(vii.) *Northern Territory.* No restrictions are imposed upon the tenure of lands by aliens, excepting that under the Mining Act 1903, Asiatic aliens are disqualified from holding gold or mineral leases.

## § 4. Free Grants, Reservations, and Dedications.

1. **Introduction.**—Although free grants of Crown lands were virtually abolished as far back as 1831, the Land Acts of all the States now contain provisions under which the free alienation or occupation of Crown lands for certain specified purposes—comprising generally charitable, educational, and public purposes—is allowed. In all the States, also, Crown lands may be excepted from sale and reserved to the Crown or dedicated for various public and special purposes. Generally, reservation and dedication are conditions precedent to the issue of a free grant. In addition to reservations of a permanent nature, temporary reservations are also made, but these are, as a rule, subject to considerable fluctuations in area by reason of withdrawals, renotifications, and fresh reservations.

The following table shews the area for which free grants were issued and the areas permanently reserved or dedicated in each State during 1901, and from 1909 to 1913 inclusive:—

### PARTICULARS OF FREE GRANTS, RESERVATIONS, AND DEDICATIONS,

1901 AND 1909-13.

Year.	N.S.W.	Victoria.*	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
FREE GRANTS.							
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901 ...	282	7	425	5	156	10†	835
1909 ...	1,334	165	281	28	299	270†	2,377
1910 ...	2,039	103	186	300	280	288†	3,196
1911 ...	2,186	38,830	287	211	309	109†	41,932
1912 ...	3,805	358	283	173	2,663	3,054	10,336
1913 ...	2,256	62	1,805	42	106	118	4,389
RESERVATIONS AND DEDICATIONS.							
1901 ...	1,595	19,278	811,200	†	189,856	4,231	1,026,160§
1909 ...	1,967	34,504	498,515	270,523	394,266	997,213	2,196,988
1910 ...	437	1,575	122,272	6,587	1,935,807	24,825	2,141,503
1911 ...	2,195	34,080	200,062	14,179	4,603,748	16,949	4,871,213
1912 ...	1,915	3,686	250,372	13,975	724,757	14,402	1,009,107
1913 ...	1,370	8,135	...	35,382	128,229	21,811	194,927

\* Including both permanent and temporary reservations and dedications. † Free leases.

† Not available. § Exclusive of South Australia. || Including Northern Territory.

2. **New South Wales.**—Crown lands may be reserved or dedicated for certain charitable, educational, and public purposes specified. No promises of dedication for religious purposes were made after the 11th May, 1880, on which date a resolution against any further such grants was passed by the Legislative Assembly. During 1913-14, four free grants comprising a total area of 200 acres were issued under the Volunteer Force Regulations Act 1867. No further grants will be issued under this Act.

(i.) **Reservations.** In addition to the reservations referred to above, Crown lands may also be temporarily reserved as sites for cities, towns, or villages, and may be reserved for mining purposes. Crown lands within one mile of any made or projected railway may be temporarily reserved from sale, and any Crown lands may be reserved from sale for the preservation and growth of timber. Further, Crown lands may be reserved by notification in the *Gazette* from being sold or let upon lease or license, in such particular manner as may be specified, or may be reserved from sale or lease generally.

(ii.) *Areas Granted and Reserved, 1913-14.* During the financial year 1913-14, the total area for which free grants were prepared was 1888 acres, including grants of 1454 acres of land resumed under the 12th clause of the Public Roads Act 1902. During the same period 1430 acres were dedicated and permanently reserved, the number of separate dedications being 147.

On the 30th June, 1914, the total area temporarily reserved was 27,342,452 acres, of which 6,194,483 acres were for travelling stock, 6,624,568 acres for forest reserves, 2,683,036 acres for water, 1,315,422 acres for mining, and the remainder for temporary commons, railways, recreation and parks, and miscellaneous purposes.

3. **Victoria.**—Under Section 10 of the Land Act 1901, the Governor is authorised to reserve Crown lands, either temporarily or permanently, from sale, lease or license, for any public purpose whatever.

During the year 1913 eight free grants, comprising an area of 62 acres, were issued. During the same year reservations of both a permanent and temporary nature, comprising an area of 8135 acres, were made; of this area 2737 acres were reserved for recreation grounds.

4. **Queensland.**—Under the Land Act 1910, the Governor-in-Council may grant in trust, or reserve from sale, or lease, temporarily or permanently, any Crown lands required for public purposes.

(i.) *Reservations.* Under Section 2 of the State Forests and National Parks Act 1906, the Governor-in-Council may permanently reserve any Crown lands and declare them to be a State Forest or a National Park.

(ii.) *Areas Granted and Reserved, 1913.* During the year 1913 there were 55 free grants issued for a total area of 1805 acres. During the same period the area of reserves cancelled exceeded the area reserved. The total area reserved up to the end of the year 1913 was 13,585,749 acres.

5. **South Australia.**—Under Section 7 (d) of the Crown Lands Act 1903, the Governor is empowered to dedicate by proclamation any Crown lands for various charitable, educational and public purposes, and may, at any time after dedication, grant the fee simple of such lands to secure the use thereof for the purpose for which they were dedicated.

(i.) *Reservations.* Under Section 7 (f) of the same Act the Governor may by proclamation reserve any Crown lands (a) for the use of aborigines, (b) for the purposes of military defence, (c) for forest or travelling stock reserves, (d) for public recreation grounds, (e) for railways or tramways, and (f) for park lands.

(ii.) *Artesian Leases.* Under special circumstances free leases of pastoral lands may be granted to discoverers of artesian wells.

(iii.) *Areas Granted and Reserved, 1913.* During the year 1913 there were 14 free grants issued for a total area of 42 acres. During the same year 132 reserves, comprising 35,382 acres, were proclaimed.

6. **Western Australia.**—Under Section 39 of the Land Act 1898, as amended by Section 27 of the Act of 1906, the Governor may reserve any Crown lands which may be required for religious, charitable, or public purposes. These reservations may be either temporary or permanent.

During the year 1913, 11 free grants totalling 106 acres were issued, while the area reserved was 128,229 acres. Further particulars are not available.

7. **Tasmania.**—Under Section 11 of the Crown Lands Act 1911, the Governor may reserve any Crown lands for the purposes therein specified. The lands are ordinarily leased for a period of ninety-nine years at a peppercorn rental.

During the year ending 30th June, 1913, there were 10 free leases, comprising an area of 118 acres issued. During the same period 21,811 acres were reserved, 37 acres being reserved for marine board purposes, 21,200 acres for re-afforestation purposes, 40 acres for recreation grounds, and 483 acres for other public reserves. The total area permanently reserved to the end of the year 1913 was 1,078,000 acres.

### § 5. Sales by Auction and Special Sales.

1. **Introduction.**—In all the States sales by auction of Crown lands are held from time to time. Notifications of such sales are given in the *Government Gazettes*, together with particulars as to the upset price and conditions of sale. Excepting in the case of South Australia, where land is sold at auction for cash only, the purchase may be either for cash or on credit by deferred payments. In most of the States land may also be purchased by private contract at the upset price, when it has been offered at auction and not sold. In the case of auction sales on credit in the States of Western Australia and Tasmania, certain improvement conditions are imposed, and such sales are therefore classed for the purposes of this article among *Conditional Purchases*. (See § 6.) In most of the States comparatively small areas of Crown lands may be sold without competition under special circumstances. Sales by auction and special sales under Closer Settlement Acts are referred to in a later part of this section. (See § 8.)

2. **New South Wales.**—Under the Crown Lands Act lands not exceeding in the aggregate 200,000 acres for the whole State may be sold by auction during any one year. The sales are notified in the *Gazette* not less than one month before the day of sale. The upset prices may not be less than £8 an acre for town lands; £2 10s. for suburban lands; and other lands fifteen shillings. Town lands may not be sold in areas exceeding half-an-acre; suburban lands in areas exceeding twenty acres; and country lands in areas exceeding 640 acres. A deposit of 25 per cent. on the purchase money must be paid at the sale, and the balance in ordinary circumstances within three months. In the case of town or suburban lands, or portions of less than 40 acres, the Minister may submit the land to sale on deferred payments, in which case the balance is spread over a fixed period (not exceeding 5 years) and is payable in annual instalments with 5 per cent. interest.

A fuller description of the conditions under which land may be purchased at auction may be found in the previous issues of the Year Book. (See Year Book No. 5, p. 273.)

*Alienation by Auction and Special Sales.* During the year ended the 30th June, 1914, the area of Crown lands sold by auction and special sales for which grants were prepared amounted to 6258 acres, of which 1935 acres were sold by auction in 974 lots; 1354 acres were sold by after-auction sales in 653 lots; 32 acres were sold as improvement purchases in 149 lots; and 2937 acres were sold as special purchases in 298 lots. The following table gives particulars of Crown lands alienated by auction and special sales during 1901 and for each year from 1909 to 1914:—

#### NEW SOUTH WALES—AUCTION AND SPECIAL SALES, 1901 and 1909-14.

Year.	Auction and After-auction Sales.	Improvement Purchases.	Special Sales.	Total.	
				Area.	Price.
	Acres.	Acres.	Acres.	Acres.	£
1901 <sup>1</sup> ...	49,074	43	445	49,562	116,562
1909 ...	11,745 <sup>2</sup>	48	1,229	13,022	98,763
1910 ...	7,980 <sup>3</sup>	86	1,109	9,175	91,374
1911 ...	6,732 <sup>3</sup>	47	1,348	8,127	86,601
1912 ...	4,530 <sup>3</sup>	32	2,063	6,625	77,274
1913 ...	3,764 <sup>3</sup>	53	2,739	6,556	58,552
1914 ...	748 <sup>3</sup>	51	2,801	3,600	32,222

1. Year ended 31st December. Subsequent years to 30th June. 2. Including land sold under the Centennial Park Sale Act. 3. Exclusive of seven frontages sold under the Centennial Park Sale Act.



Particulars of total areas alienated are given hereafter. (See § 11.)

3. **Victoria.**—Lands specially classed for sale by auction, and any land in any city, town, or borough, may be sold by auction in fee simple, not exceeding 100,000 acres in any one year, at an upset price of £1 an acre, or at any higher price determined. The purchaser must pay the survey charge at the time of the sale, together with a deposit of 12½ per cent. of the whole price; the residue is payable in equal half-yearly instalments, not exceeding forty in number, according to the amount, with interest at the rate of 4 per cent. per annum.

(i.) *Special Sales without Competition.* Detached strips of land not exceeding twenty acres may be sold at a valuation to the owner of the adjoining freehold in cases somewhat similar to those specified above in respect to Crown lands in New South Wales.

(ii.) *Areas Sold at Auction and by Special Sales.* The following table gives particulars of auction sales and special sales for the year 1901 and from 1909 to 1913:—

**VICTORIA.—AUCTION AND SPECIAL SALES, 1901 and 1909-13.**

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Country lands ... ..	4,079	2,729	2,469	1,096	1,178	1,196
Town and suburban lands ...	2,127	2,062	1,789	1,263	1,412	1,278
Special sales ... ..	846	2,602	1,537	1,709	1,530	1,731
Total ... ..	7,052	7,393	5,795	4,068	4,120	4,205

Particulars of total areas alienated are given hereafter. (See § 11.)

4. **Queensland.**—The Minister may, with the approval of the Governor-in-Council, cause any Crown lands to be offered for sale by auction. The notification must specify the amount of deposit, and the term for payment of the balance of the money, which term may not exceed ten years. The upset price may not be less than £8 per acre for town lands, £2 per acre for suburban lands, and 10s. per acre for country lands.

(i.) *After-auction Sales.* The notification of lands for sale by auction may declare that any lands therein mentioned, which have been offered at auction, but not sold or withdrawn, shall be open to purchase at the upset price by the first applicant. The price may be paid in the same instalments and at the same periods as if the land had been bought at the auction.

(ii.) *Special Sales without Competition.* Land may be sold without competition to the holder or holders of adjoining lands at a price to be determined by the Land Court, under circumstances similar to those specified above in the case of New South Wales. When the holder of any land proves that, owing to danger from floods or other reasons, it is unsafe to reside on his holding, he may be granted, on payment of a price determined by the Land Court, an area not exceeding ten acres out of the nearest convenient and available Crown lands.

(iii.) *Areas Sold at Auction, after Auction, and by Special Sales.* The following table shews the areas sold at or after auction, and by special sales, during the year 1901 and from 1909 to 1913:—

## QUEENSLAND.—AUCTION AND SPECIAL SALES, 1901 and 1909-13.

Particulars.			1901.	1909.	1910.	1911.	1912.	1913.
			Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Town	...	...	334	227	464	764	646	608
Suburban	...	...	798	340	1,175	1,462	1,015	741
Country—								
Ordinary sales	...	...	52,132	12,844	8,939	7,897	4,733	8,770
Total	...	...	53,259	13,411	10,578	10,123	6,394	10,119

Particulars of total areas alienated are given hereafter. (See § 11.)

(iv.) *Unconditional Selections.* This form of tenure is similar to that of a sale by auction with deferred payment. The minimum price for the land is 13s. 4d. an acre, payable in twenty annual instalments, and the maximum area granted to the applicant is 1280 acres. A deed of grant may be obtained upon payment of the purchase money.

The following table shews the number and area of unconditional selections for which applications were accepted during the year 1901 and from 1909 to 1913:—

## QUEENSLAND.—UNCONDITIONAL SELECTIONS, 1901 and 1909-1913.

Particulars.			1901.	1909.	1910.	1911.	1912.	1913.
Number	...	...	151	131	98	76	51	41
Area	...	Acres	24,322	27,395	15,930	12,968	14,578	6,603
Rent	...	£	1,180	1,111	685	525	565	266

5. *South Australia.*—The following lands may be sold by auction for cash:—(a) Special blocks. Any single section of Crown lands which may be surrounded by lands sold or contracted to be sold, and any section (not exceeding 100 acres in area) which may be required for the establishment of any industry. (b) Crown lands which have been offered for perpetual lease, and not taken up for two years. (c) Town lands. (d) Suburban lands. The upset price is determined by the Commissioner, and 20 per cent. of the purchase-money must be deposited at the time of sale, and the residue paid within such a time as the Commissioner may allow.

(i.) *After-auction Sales.* All Crown lands, except town or suburban lands, offered at auction and not sold remain open for leasing or sale under agreement or may be sold by private contract for cash at the upset price.

(ii.) *Sales for Special Purposes.* The Governor may, on the application of the purchaser or lessee under any of the Crown Lands Acts, grant two acres of the land comprised in such agreement or lease to trustees, to be used for any public or charitable purposes, or he may grant not over one acre of land, comprised in such agreement, as a site for a shop, mill, or post office. The purchase-money for such land must be paid at the time of application.

(iii.) *Areas Sold for Cash.* The following table shews the areas sold for cash during the year 1901 and from 1909 to 1913. The total areas sold under all types of sale are shewn in a later part of this section. (See § 11.)

**SOUTH AUSTRALIA.—AUCTION AND SPECIAL SALES, 1901 and 1909-1913.**

Year ... ..	1901.	1909.	1910.	1911.	1912.	1913.
Area in acres ... ..	11,314	128,529	386,977	470,003	277,665	106,432

6. **Western Australia.**—Surveyed town lots notified in the *Gazette* as open for sale, were sold by public auction at a prescribed upset price up to 18th October, 1911, since which date, however, all town lands have been withdrawn from sale and are now granted under lease only. In the case of suburban lands, the purchaser must carry out certain improvements, which are more particularly referred to below. (See § 6, *Conditional Purchases*.)

*Areas Sold by Auction.* The following table shews the areas of town and suburban lands sold at auction during the year 1901 and from 1909 to 1914 :—

**WESTERN AUSTRALIA.—AUCTION SALES, 1901 and 1909-1914.**

Year ... ..	1901.	1909. <sup>1</sup>	1910. <sup>1</sup>	1911. <sup>1</sup>	1912. <sup>1</sup>	1913. <sup>1</sup>	1914. <sup>1</sup>
Area sold ... Acres	856	2,160	1,643	1,848	1,359	1,087	890
Number of Allotments	1,866	879	783	778	705	530	263

1. For the year ended 30th June.

Particulars as to total areas alienated are given in a later part of this section. (See § 11.)

7. **Tasmania.**—Any town lands may be sold at auction or by private contract, either for cash or on credit, provided that no such lands may be sold on credit if the price is less than £15. Rural lands may also be sold at auction or by private contract, but lots of first-class land may not be sold on credit if less than fifteen acres in area. In the case of sales on credit both of town and rural lands, improvement conditions are imposed, and such sales are therefore classified for the purposes of this article as *Conditional Purchases*. (See § 6.)

(i.) *After-auction Sales.* All rural lands and town lands, not within five miles of any city, which have been offered at auction and not sold, may be purchased by private contract at the upset price, and subject to the conditions on which they were offered at auction.

(ii.) *Sale of Land in Mining Towns.* The holder of a residence or business license, who is in occupation and is the owner of buildings and improvements upon the area licensed of a value equal to the upset price of such area, is entitled to purchase not more than half an acre in area. The areas may be sold on credit.

(iii.) *Areas Sold for Cash.* The following table shews the areas sold for cash during the year 1901 and from 1909 to 1913 :—

**TASMANIA.—AUCTION AND SPECIAL SALES, 1901 and 1909-1913.**

Year ... ..	1901.	1909.	1910.	1911.	1912.	1913.
Area in acres ... ..	1,915	1,026	55	190	2,026	383

Particulars of total areas alienated are given in a later part of this section. (See § 11.)

## § 6. Conditional Purchases.

1. **Introduction.**—In all the States of the Commonwealth the freehold of the land may be acquired under what are known as systems of conditional purchase by deferred payments of half-yearly or yearly instalments. Certain conditions, generally as to residence and improvements, have to be complied with before the freehold is granted, but these conditions are usually of a light nature and are inserted chiefly with the object of guaranteeing that the occupier will become of benefit to the community by making a reasonable effort to render his holding wealth-producing. Though there is a considerable similarity between some of the forms of tenure in the several States, the terms and conditions vary greatly in detail. As a rule a lease or license for a certain period is first issued to the selector, and upon fulfilment of the prescribed conditions and payment of the full amount of purchase-money the freehold is conveyed to him. In Queensland and Western Australia "free" homesteads may be acquired. Although under these tenures no purchase-money is payable, the grant is conditional on the performance of residential and improvement conditions; these tenures are therefore included here with conditional purchases rather than with free grants.

2. **New South Wales.**—The following are the methods by which land may be alienated by conditional purchase:—(i.) Residential conditional purchase; (ii.) non-residential conditional purchase; (iii.) conversion of certain holdings into conditional purchase; and (iv.) homestead selections.

A description of the conditions under which land may be taken up under this form of tenure is given in previous issues of the Year Book. (See No. 6, p. 277.)

During the year ended the 30th June, 1914, deeds of grant were prepared on the completion of conditional purchases for 322,556 acres, making the total number of conditional purchases in existence at the end of the financial year 91,900 for a total area of 17,841,485 acres. The following table gives particulars of conditional purchases in 1901 and from 1909 to 1914 :—

### NEW SOUTH WALES.—CONDITIONAL PURCHASES, 1901 and 1909 to 1914.

Year.	Applications Made.		Applications Confirmed.		Areas for which Deeds have been Issued.	
	Number.	Area.	Number.	Area.	During the Year. <sup>1</sup>	To end of Year.
		Acres.		Acres.	Acres.	Acres.
1901	2,277	549,898	1,555	360,910	500,554	4,212,189
1909 <sup>1</sup>	4,541	1,105,307	3,325	803,354	1,188,297	12,848,166
1910 <sup>1</sup>	2,264	342,367	1,984	294,897	1,079,887	13,928,053
1911 <sup>1</sup>	1,602	221,537	1,613	227,520	632,738	15,614,036
1912 <sup>1</sup>	1,258	190,969	1,099	175,004	671,564	15,232,355
1913 <sup>1</sup>	783	103,844	839	105,167	406,019	15,638,374
1914 <sup>1</sup>	512	65,306	554	67,534	322,556	15,960,930

1. Year ended 30th June.

2. Exclusive of exchanges under the Crown Lands Act 1895.

Further particulars as to the total areas alienated and in process of alienation are given hereinafter. (See § 11.)

During the year ended 30th June, 1914, there were 7 original and 12 additional homestead selections applied for, comprising an area of 4941 acres. During the same period the total number of applications confirmed was 22, comprising 5707 acres, and 3868 homestead selections and grants, comprising an area of 1,206,911 acres, were in existence on the 30th June, 1914. This tenure is now practically superseded by the Homestead Farm tenure. Further particulars for previous years are given in a later part of this section. (See § 11.)

3. **Victoria.**—The freehold of agricultural and grazing lands may be acquired by conditional purchase under the following tenures:—(i.) Agricultural, grazing and selection purchase allotments; (ii.) Agricultural and grazing allotments by selection from grazing area or perpetual leases; (iii.) Mallee selection purchase leases; (iv.) Murray settlements leases; and (v.) swamp or reclaimed lands purchase leases.

A description of the conditions under which land may be taken up under this form of tenure may be found in previous issues of the Year Book. (See No. 6, p. 278.)

With reference to Murray settlement leases, two settlement areas have been laid out under the Act with due regard to irrigation conditions, viz., those at White Cliffs and Nyah, and at the former place a dry farm area has also been subdivided. At White Cliffs 6273 acres were subdivided as homestead allotments, and 50,345 acres as dry farm allotments, while at Nyah 1960 acres were subdivided as homestead allotments. No additional subdivision has been made during 1913.

The subjoined table gives particulars shewing the areas selected conditionally during the year 1901 and from 1909 to 1913. A large proportion of the areas shewn has reverted to the Crown in consequence of non-fulfilment of conditions.

#### VICTORIA.—AREAS PURCHASED CONDITIONALLY, 1901 and 1909 to 1913.

(Exclusive of selection in the Mallee country.)

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
	Acres	Acres.	Acres.	Acres.	Acres.	Acres
With residence ... ..	466,155	214,999	210,331	172,599	97,766	138,955
Without residence ... ..	50,257	42,180	38,363	33,109	16,864	30,392
Total ... ..	516,412	257,179	248,694	205,708	114,630	169,347
No. of selectors ... ..	2,979	1,736	1,740	1,608	1,072	1,548

Particulars as to total areas alienated] and in process of alienation are given in a later part of this section. (See § 11.)

4. **Queensland.**—The several types of selection under which the freehold may be acquired by conditional purchase are as follows:—(i.) Agricultural farms; (ii.) agricultural homesteads; (iii.) prickly pear selections; and (iv.) free homesteads.

In previous issues of this book may be found the conditions under which land may be selected under this form of tenure. (See No. 6, p. 280.)

*Number and Area of Conditional Purchases.* The following table shews the number and area of conditional purchases for which applications were accepted in 1901 and from 1909 to 1913:—

#### QUEENSLAND.—CONDITIONAL PURCHASES (APPLICATIONS ACCEPTED).

1901 AND 1909 TO 1913.

Year.	Agricultural Farms.		Agricultural Homesteads.		Prickly Pear Selections.		Total	
	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area
		Acres.		Acres.		Acres.		Acres.
1901 ...	661	160,804	669	155,512	19	48,450	1,349	364,766
1909 ...	1,433	541,293	162	39,654	496	665,614	2,091	1,246,561
1910 ...	1,733	628,222	67	14,778	920	1,308,170	2,720	1,951,170
1911 ...	2,046	714,733	30	5,814	806	1,020,615	2,882	1,741,162
1912 ...	1,717	614,269	18	3,771	544	628,614	2,279	1,246,654
1913 ...	1,477	527,461	24	3,934	548	546,749	2,049	1,078,144

During the year 1913, applications were accepted to select agricultural farms to the number of 1477 for 527,461 acres, an average area of 357 acres, at an average price of 19s. 1d. per acre. The number of selections and the total area selected were less than the corresponding figures for the previous year by 240 and 86,808 acres respectively. The average area is less by one acre, and the average price per acre is the same.

The average area of agricultural homesteads was 164 acres. The average price of the land selected as prickly pear selections during the year was 4s. 1d. per acre.

During the year 1913 the area of land opened for selection as free homesteads was 2554 acres, and 13 applications, totalling 2078 acres, were accepted.

Particulars as to total areas alienated and in process of alienation may be found hereinafter. (See § 11.)

**5. South Australia.**—The types of conditional purchases under which land may be alienated in this State are as follows :—(i.) Agreement to purchase, and (ii.) Agreement under the Pinnaroo Railway Act 1903.

(i.) *Agreement to Purchase.*—Surveyed Crown lands are available for agreement to purchase, as well as for perpetual lease under the Crown Lands Acts of 1903 to 1913, the purchase-money being fixed by the Land Board, and payable in sixty half-yearly payments, including interest at not less than 2 per cent. per annum. The condition as to payment of instalments for land offered under the provisions of Act of 1912 in newly surveyed mallee lands is that no payment is made for the first four years, for the fifth and sixth years interest only at the rate of 2 per cent. per annum on value of land is payable, the first instalment of purchase-money, including interest at the rate of 4 per cent. per annum, being payable at the commencement of the seventh year. All payments are made in advance, the term of agreement being thereby extended to thirty-six years. If the conditions relating to fencing, vermin destruction, and in some cases to residence, are fulfilled, the purchase may be completed after a term of six years from commencement of the agreement on payment of all principal and interest due. All minerals are reserved to the Crown, and the Crown may resume any part of the land for the purposes of roads, water conservation, mining, etc., compensation being payable to the purchaser for loss occasioned by resumption.

(ii.) *Pinnaroo Railway Lands.* Under the Pinnaroo Railway Act 1903 provision was made for opening up about 1,500,000 acres of good agricultural country in the vicinity of a line from Pinnaroo adjoining the Victorian border to Tailem Bend, a distance of eighty-seven miles. These lands are now offered on agreement with covenant to purchase or on perpetual lease under the Crown Lands Act 1903. The railway has been paid for from the proceeds of the land already selected. The conditions of purchase are similar to those stated in par. (i.) above.

The total area held on 30th June, 1914, was 936,768 acres; of this area purchase has been completed of 453,445 acres, and 16,984 acres are held on perpetual and right of purchase leases, allotted before the Pinnaroo Railway Act was passed.

(iii.) *Particulars of Conditional Purchases.* The subjoined table gives particulars of the areas alienated by conditional purchase, on fulfilment of the conditions, at the end of 1901 and from 1909 to 1913 :—

**SOUTH AUSTRALIA.—AREAS ALIENATED UNDER AGREEMENTS TO PURCHASE,  
1901 AND 1909 TO 1913.**

Year ... ..	1901.	1909.	1910.	1911.	1912.	1913.
Area in acres ... ..	57,460	128,656	160,668	153,594	51,702	59,670

Particulars as to the total areas alienated and in process of alienation are given in a later part of this section. (See § 11.)

6. **Western Australia.**—The various types of selection under which the freehold can be alienated by conditional purchase in this State are as follows:—(i.) Residential conditional purchase; (ii.) non-residential conditional purchase; (iii.) conditional purchase by direct payment; (iv.) conditional purchase of blocks for vineyards, orchards, or gardens; (v.) conditional purchase of grazing lands; and (vi.) free homestead farms.

A full description of the various conditions under which land may be held under this form of tenure may be found in the previous issues of the Year Book. (See Year Book No. 5, pp. 283 and 284.) The following table shews the area of the selections for which grants were issued, the prescribed conditions having been fulfilled, during the year 1901 and from 1909 to 1914.

**WESTERN AUSTRALIA.—AREAS SELECTED CONDITIONALLY FOR WHICH CROWN GRANTS WERE ISSUED, 1901 and 1909-14.**

Particulars.	1901.	1909. <sup>1</sup>	1910. <sup>1</sup>	1911. <sup>1</sup>	1912. <sup>1</sup>	1913. <sup>1</sup>	1914. <sup>1</sup>
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Free homestead farms	147	18,482	35,334	93,444	83,686	96,435	80,784
Conditional purchases	5,234	61,272	64,957	92,986	97,286	113,885	101,421
Poison land leases ...	...	2,668	3,284	...	2,593	6,232	5,357
Total ...	5,381	82,422	103,575	186,430	183,565	216,552	187,562
Number of holdings	48	475	564	1,073	998	1,232	994

1. For financial year ended 30th June.

Particulars as to the total areas alienated absolutely, and in process of alienation, are given in a later part of this section. (See § 11.)

*Area Conditionally Alienated.* The following table shews the areas conditionally alienated under various methods of selection during the year 1901 and from 1909-1914:—

**WESTERN AUSTRALIA.—AREAS CONDITIONALLY ALIENATED, 1901 and 1909-14.**

Particulars.	1901.	1909. <sup>1</sup>	1910. <sup>1</sup>	1911. <sup>1</sup>	1912. <sup>1</sup>	1913. <sup>1</sup>	1914. <sup>1</sup>
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
<i>Conditional Purchase—</i>							
Deferred payments (with residence)	161,302	595,115	910,953	899,816	791,844	510,195	338,804
" (without residence)	46,498	265,561	475,860	574,805	391,397	149,648	89,040
Direct payments (without residence)	1,909	1,762	3,641	2,458	5,661	3,548	799
<i>Free Homestead Farms</i> ...	63,623	257,528	238,102	201,172	203,791	151,985	112,874
<i>Under the Agric. Lands Purchase Acts</i>	4,295	35,599	23,787	49,983	8,375	10,835	2,451
<i>Homestead or Grazing Leases</i> ...	64,834	850,066	238,876	194,839	568,958	585,332	454,881
<i>Poison Land Leases</i> ...	9,530	...	...	...	...	...	...
<i>Workmen's Blocks</i> ...	8	189	148	99	56	4	1
Total ...	351,999	2,005,820	1,891,367	1,923,172	1,970,082	1,411,597	998,850
Number of holdings ...	1,888	5,861	5,403	4,265	4,871	3,771	4,497

1. For year ended 30th June. 2. Provisions repealed by Act of 1906.

3. Closer settlement. (See § 8, 7.)

Particulars as to the total areas in process of alienation are given in a later part of this section. (See § 11.)

7. **Tasmania.**—The various types of conditional purchases in this State are as follows:—(i.) Selection of rural land; (ii.) homestead areas; (iii.) selection in mining.

areas; and (iv.) sales by auction on credit, either of town or rural lands. The conditions under which land may be selected under this form of tenure are given in previous issues of the Year Book. (See No. 6, p. 283.)

The following table shews the areas alienated absolutely under systems of conditional purchases and sales on credit, the conditions having been fulfilled, and also shews the areas sold conditionally and the applications for conditional purchases received and confirmed, during the year 1901 and from 1909 to 1913 :—

**TASMANIA.—CONDITIONAL PURCHASES, 1901 and 1909 to 1913.**

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
<i>Completion of Conditional Purchases</i> <sup>1</sup> ... ..	23,781	41,942	42,276	33,055	39,844	45,937
<i>Sold Conditionally—</i>						
Free Selections ... ..	40,004	183,237	145,651	211,447	91,513	51,622
Homestead Areas ... ..	9,108	971	364	274	199	370
Auction Sales on Credit ... ..	12,961	4,988	4,365	2,437	2,026	1,916
Other Sales (Town Lands) ... ..	636	2,400	2,380	1,493	1,915	1,037
<b>Total...</b> ... ..	<b>62,709</b>	<b>191,596</b>	<b>152,760</b>	<b>215,651</b>	<b>95,653</b>	<b>54,945</b>
<i>Applications—</i>						
Received ... ..	1,444	2,929	3,171	2,136	1,800	1,631
Confirmed ... ..	768	1,501	1,180	1,241	652	698

1. Including selections and sales on credit.

Particulars of total areas alienated and in process of alienation are given hereinafter. (See § 11.)

## § 7. Leases and Licenses.

1. **Introduction.**—Leases and licenses are issued in all the States and in the Northern Territory for various terms and upon various conditions. In Victoria, Queensland, South Australia, and the Northern Territory perpetual leases are issued for an indefinitely long period upon payment of an annual rent, while in all the States leases or licenses of comparatively large areas may be obtained for pastoral purposes. Provision has also been made in all the States for convenient forms of leases and licenses for various special purposes, and also for special classes of lands. The leases and licenses dealt with below are exclusive of those issued under Closer Settlement and kindred Acts, and also of those issued for mining and auxiliary purposes. (See §§ 8 and 9.)

2. **New South Wales.**—The following are the various types of leases and licenses issued in this State:—(i.) Conditional leases; (ii.) conditional purchase leases; (iii.) settlement leases; (iv.) improvement leases; (v.) annual leases; (vi.) residential leases; (vii.) special leases; (viii.) snow leases; (ix.) pastoral leases; (x.) scrub leases; (xi.) inferior lands leases; (xii.) occupation licenses; (xiii.) Western lands leases; (xiv.) homestead farm leases; (xv.) suburban holdings leases; (xvi.) Crown leases; (xvii.) irrigation farm leases.

A description in detail of the conditions which govern the issue of these various leases and licenses may be found in previous editions of the Year Book. (See Year Book No. 6, p. 285.)

On the 30th June, 1913, there were 59,398 leases and licenses current under the Lands Department and the Western Land Board, comprising 122,085,796 acres of Crown lands. Of these leases there were 38,289, comprising 18,680,867 acres, in the Eastern Division; 18,072, comprising 27,065,104 acres, in the Central; and 3,037, comprising 76,339,825 acres, in the Western Division.



The following table shews the areas held under various descriptions of leases and licenses at the end of the year 1901, and at the end of 1910-11 and following financial years, and also the area and rental of leases current on the 30th June, 1914 :—

**NEW SOUTH WALES.—AREAS OCCUPIED UNDER LEASES AND LICENSES,  
1901 AND 1910-1914.**

Leases and Licenses.	1901.	1910-11.	1911-12.	1912-13.	1913-14.	
					Area.	Rent.
	Acres.	Acres.	Acres.	Acres.	Acres.	£
Pastoral ... ..	44,805,221	1,137,095	1,137,095	1,137,095	1,137,095	734
Outgoing pastoral lessees ...	—	1,096,327	1,098,981	996,272	1,061,240	9,822
Western land leases & licenses ...	—	74,327,246	74,338,648	74,368,024	*74,434,751	90,883
Occupation { (i.) Ordinary	25,812,215	6,821,352	6,553,241	6,401,989	5,923,013	10,662
licenses { (ii.) Preferential	12,985,651	2,177,318	2,046,163	1,703,260	1,487,269	8,754
Homestead leases ... ..	10,953,388	593,628	489,788	480,210	388,378	676
Condit'l. leases—(i.) Gazetted	13,014,055	15,227,269	15,670,320	15,987,366	15,688,322	193,344
(ii.) Not gazetted (under pro- visional rent) ... ..	966,887	1,073,586	490,507	202,155	110,549	921
Conditional purchase leases ...	—	675,961	632,515	611,152	579,108	17,000
Settlement leases ... ..	3,468,675	7,782,720	7,829,712	7,256,701	6,591,911	72,008
Improvement " ... ..	5,551,060	6,430,605	6,418,260	6,014,906	5,448,966	39,130
Annual " ... ..	6,755,942	4,095,280	4,262,930	4,237,898	3,705,570	27,032
Scrub " ... ..	1,535,415	2,255,758	2,273,123	2,211,234	2,053,634	7,823
Snow land " ... ..	79,582	63,864	60,104	60,104	52,970	433
Special " ... ..	124,877	563,378	596,179	620,447	622,079	32,082
Inferior land " ... ..	288,530	128,711	129,651	108,664	104,674	349
Artesian well " ... ..	358,071	92,160	71,680	71,680	71,680	144
Blockholders' " ... ..	—	1	1	1	1	6
Residential leases (on gold and mineral fields) ... ..	5,751	13,383	13,637	13,427	13,353	1,574
Church and school lands ...	97,207	14,014	9,720	6,855	4,384	415
Permissive occupancies† ...	118,634	919,652	949,941	1,002,794	1,303,244	9,484
Prickly pear leases ... ..	—	62,157	57,691	62,687	50,187	641
Crown lease ... ..	—	—	168,392	555,864	880,785	9,259
Homestead farms ... ..	—	—	27,815	241,221	450,499	19,744
Suburban holdings ... ..	—	—	1,085	9,731	22,114	2,523
<b>Total under Lands Dept. and Western Land Board</b>	<b>126,921,161</b>	<b>125,551,465</b>	<b>125,827,179</b>	<b>124,361,737</b>	<b>122,085,796</b>	<b>555,445</b>

\* Includes 834,215 acres held under Permissive Occupancy at a rental of £457.

† Permissive Occupancies in the Western Division not included.

The total annual rent derived from the leases and licenses issued by the Lands Department and the Western Lands Board amounted to £555,445, or an average of 1.092 pence per acre. Particulars regarding leases and licenses issued by the Mines Department are given in a later part of this section. (See § 9, *Occupation of Crown Lands for Mining Purposes.*)

**3. Victoria.**—The various types of leases and licenses (exclusive of Closer Settlement and Mines Department leases and licenses) which may be issued in this State are as follows:—(i.) Selection purchase leases; (ii.) grazing area leases; (iii.) perpetual leases; (iv.) Mallee perpetual leases; (v.) licenses of auriferous lands; (vi.) swamp or reclaimed lands leases; (vii.) grazing licenses and pastoral leases; (viii.) leases and licenses for other than pastoral purposes; and (ix.) State forests and timber reserves licenses.

A description in detail of the conditions which govern the issue of these various leases and licenses may be found in the previous issues of the Year Book. (See Year Book No. 5, pp. 291-2.)

*Areas held under Leases and Licenses.* The following statement shews the areas of Crown lands occupied under leases and licenses at the end of the year 1901, and from 1909 to 1913.

**VICTORIA.—OCCUPATIONS OF CROWN LANDS UNDER LEASE OR LICENSE,  
1901 AND 1909-13.**

Tenure.	Area in Acres.					
	1901.	1909.	1910.	1911.	1912.	1913.
Pastoral Leases ... ..	39,450	61,450	14,200	...	...	...
Grazing Area Leases... ..	2,338,649	3,087,173	3,006,998	2,950,226	2,869,095	2,747,571
Grazing Licenses—						
Land Acts 1890-91 ... ..	5,908,985	...	...	...	...	...
Land Acts 1901 (exclus. of Mallee)	...	6,774,794	5,763,489	5,328,249	5,777,386	5,291,179
Mallee Lands ... ..	...	4,970,042	5,273,592	5,413,216	5,016,456	4,694,213
Auriferous Lands (Licenses)... ..	377,427	103,996	101,623	99,008	92,873	86,667
Swamp Lands (Leases) ... ..	4,200	4,500	4,038	4,001	3,981	3,900
Perpetual Leases ... ..	8,137	32,354	22,159	9,950	7,899	8,407
Mallee Pastoral Leases ... ..	7,980,592	718,249	637,083	327,149	114,287	...
Mallee Allotment Leases ... ..	...	...	...	...	...	...
Perpetual Leases under Mallee Lands	...	...	...	...	...	...
Acts 1896-1901 ... ..	448,842	641,837	610,693	587,350	561,214	398,274
Wattles Act 1890 ... ..	4,427	...	...	...	...	...
Total ... ..	17,110,709	16,384,395	15,433,875	14,719,149	14,443,191	13,230,211

4. **Queensland.**—In this State Crown lands may be occupied under the following types of leases and licenses:—(i.) Grazing homesteads; (ii.) grazing farms; (iii.) occupation licenses; (iv.) special leases; (v.) perpetual lease selections; and (vi.) pastoral leases. An applicant for a grazing homestead or grazing farm may not hold more than 60,000 acres, and the term of the lease may not exceed 28 years.

(i.) *Grazing Homesteads.* Lands opened for grazing selections are available for fifty-six days as grazing homesteads only. Personal residence is necessary for the first 5 years, and prior to the expiration of such period or the earlier death of the lessee, a grazing homestead cannot be assigned or transferred. Without the special permission of the Minister it may not be mortgaged during the five years except to the Agricultural Bank; thereafter the lease is subject to the condition of occupation.

(ii.) *Grazing Farms.* In order to obtain priority of claim the applicant may tender an annual rent higher than the notified one, for the first seven years. As soon as the land is fenced the selector becomes entitled to a lease, and may thereafter mortgage the same. The lease is subject to the condition of occupation during the whole term. The Crown may resume the whole or part of the lease.

Particulars of grazing farms and grazing homesteads are given in the following paragraph:—

(iii.) *Grazing Farms, Homestead and Scrub Selections.* The following table shews the number of grazing farms, grazing homesteads, and scrub selections, for which applications were accepted in 1901 and from 1909 to 1913:—

**QUEENSLAND.—GRAZING FARMS, HOMESTEAD AND SCRUB SELECTIONS,  
1901 AND 1909-13.**

Year	Grazing Farms.		Grazing Homesteads		Scrub Selections.		Total.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		Acres.		Acres.		Acres.		Acres.
1901 ...	247	1,371,283	47	290,785	19	48,450	313	1,710,518
1909 ...	304	3,114,593	116	1,509,210	2	8,489	422	4,632,292
1910 ...	182	1,406,087	243	2,477,743	1 <sup>1</sup>	5,324	426	3,889,154
1911 ...	161	1,762,406	253	2,726,306	...	...	414	4,488,712
1912 ...	223	1,834,920	348	3,860,887	...	...	571	5,695,807
1913 ...	230	2,681,948	317	3,698,600	...	...	547	6,380,548

1. The Land Act 1910 makes no provision for the further selection of land as scrub selections.

The average rent in 1913 was .92d. per acre for grazing farms and 1.23d. per acre for grazing homesteads.

Particulars of total areas held under leases and licenses are given in a later part of this section. (See § 11.)

(iv.) *Occupation Licenses.* Annual licenses are granted to occupy Crown lands which have been declared open for such occupation by notification in the *Gazette*. The rent is as specified by the notification or as bid by the licensee, but the Minister may by notice before the 1st September in any year increase the rent. The total number of licenses in force at the end of the year 1913 was 2004, comprising an area of 63,336 square miles, the total rent being £42,807. Particulars of the area held under license for previous years are given in a later part of this section. (See § 11.)

(v.) *Special Leases.* Leases of any portion of land may be issued for a term not exceeding thirty years to any person for any manufacturing, industrial, business or recreation purposes. Leases for a similar term may be issued for any country lands reserved for public purposes and which are infested with noxious weeds.

During the year 1913 there were 85 leases for special purposes granted, comprising an area of 5755 acres, the total annual rent being £530, and there were extant at the end of the year 577 such leases, reserving rents amounting to £3348 per annum. In addition, 55 leases of reserves, aggregating 21,160 acres, were granted at rentals amounting to £257 per annum; the total number of these leases of reserves in force at the end of the year being 197, reserving rents amounting to £795. Particulars of special leases for previous years are given in a later part of this section. (See § 11.)

(vi.) *Perpetual Lease Selections.* Land proclaimed to be open for agricultural farm selection (see § 6, 4) may also be opened for perpetual lease selection, and the latter mode may be conceded priority of application over the former. The rent for the first period of ten years of the lease is  $1\frac{1}{2}$  per cent. on the proclaimed purchase price of the land for agricultural farm selection. The rent for each succeeding period of ten years is determined by the Land Court. Similar conditions of occupation and improvement as are prescribed for agricultural farms are attached to perpetual lease selections.

(vii.) *Special Licenses.* Licenses to cut timber or to dig for any stone, gravel, earth, shells, or guano, may be issued.

(viii.) *Pastoral Leases.* Existing pastoral leases are now deemed to be held under the Land Act 1910. Lands open for pastoral lease may be leased for a period not exceeding thirty years. The annual rent, per square mile, for the first ten years must be as notified in the *Gazette*, or in case of competition, bid at auction. If the value of the holding become enhanced by the development of public works in the neighbourhood, or by the occurrence of minerals on or near the holding, the rent may be redetermined.

The following table shows the total areas of pastoral leases occupied under the various Acts at the end of the year 1901 and from 1909 to 1913 inclusive:—

**\*QUEENSLAND.—PASTORAL LEASES OCCUPIED UNDER VARIOUS ACTS,**

1901 AND 1909-1913.

Particulars.	Area in Square Miles.					
	1901.	1909.	1910.	1911.	1912.	1913.
Pastoral Leases Act 1869 ... ..	39,307	1,379	890	...	...	...
Crown Lands Act 1884 ... ..	243,586	18,733	11,710	...	...	...
Land Act 1897 ... ..	15,046	1,307	86	...	...	...
Pastoral Leases Act 1900 ... ..	50,076	24,061	21,739	...	...	...
Pastoral Holdings New Leases Act 1901 ...	—	347	500	...	...	...
Land Act 1902 ... ..	—	280,960	305,924	...	...	...
Land Act 1910 ... ..	—	—	—	346,637	354,843	357,615
Total ... ..	348,015	326,787	340,849	346,637	354,843	357,615

\* Up to the year 1910, resumed parts of pastoral holdings were included in these figures, but since that year they are held under occupation license, and are included in the figures under that head.

The gross area held at the end of the year 1913 for purely pastoral purposes (under *Occupation Licenses and Pastoral Leases*) was 420,951 square miles, at rentals aggregating £344,168 per annum. The area was 244 square miles less than that for the previous year, and the rental was £2805 less. The average rent was 16s. 4½d. per square mile, as against 16s. 5½d. for the previous year.

5. **South Australia.**—The following are the various types of leases and licenses which are issued in this State:—(i.) Perpetual leases; (ii.) miscellaneous leases; (iii.) miscellaneous grazing and cultivation leases; (iv.) irrigation and reclaimed swamp leases; (v.) licenses for special purposes; (vi.) leases under the Pastoral Act 1904; and (vii.) leases with right of purchase.

(i.) *Perpetual Leases.* Surveyed Crown lands are available for perpetual leases as well as for agreements to purchase under Crown Lands Acts of 1903 to 1912. Under the Crown Lands Act of 1888 perpetual leases were granted in perpetuity, and the rent determined for each period of fourteen years, at least twelve months before the expiration of each such period. Under the Crown Lands Act of 1893 the revaluation section was repealed and the rent was fixed in perpetuity, generally at rates varying from 2 per cent. to 4 per cent. per annum on the value of the land as fixed by the Land Board. The condition as to payment of rent of land offered under provisions of the Act of 1912 in newly surveyed mallee lands is that no rent is charged for the first four years, for the fifth and sixth years payment is made at the rate of 2 per cent. per annum, the full rate at 4 per cent. becoming due at the commencement of the seventh year. All minerals are reserved to the Crown, and the Crown may reserve any part of the land for the purposes of roads, water conservation, mining, etc., compensation being payable to the lessee for loss occasioned by resumption.

The conditions under which the other leases and licenses are issued will be found in detail in the previous issues of the Year Book. (See Year Book No. 5, pp. 294 and 295.)

(ii.) *Area held under Lease.* The following table shews the area held under leases and licenses at the end of the year 1901, and from 1909 to 1913:—

**SOUTH AUSTRALIA.—AREA UNDER LEASES AND LICENSES, 1901 and 1909 to 1913.**

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Right of Purchase Leases ...	5,639,519	4,232,009	3,697,423	3,150,533	2,836,346	2,702,210
Perpetual Leases ...	7,115,782	14,088,223	14,789,305	15,020,544	15,070,607	15,043,199
Pastoral Leases ...	68,916,125	87,038,450	91,434,450	91,546,770	96,356,850	96,933,810
Other Leases ...	3,905,729	1,513,032	1,394,964	1,233,663	1,273,350	1,230,105
Total held under Lease ...	85,577,155	106,871,714	111,316,142	111,001,510	115,537,153	115,914,324

6. **Western Australia.**—The following are the various types of leases and licenses issued in this State:—(i.) Pastoral leases; (ii.) permits and licenses to cut timber; (iii.) special leases; and (iv.) licenses for quarrying.

The conditions of tenure with respect to these leases and licenses may be found in the previous issues of the Year Book. (See Year Book No. 5, pp. 296-7.)

*Areas Held under Leases and Licenses.* The following table shews the number and area of leases and licenses issued during the year 1901, and from 1909 to 1914:—

## WESTERN AUSTRALIA.—LEASES AND LICENSES ISSUED, 1901 and 1909 to 1914.

Particulars.	1901.	1909. <sup>1</sup>	1910. <sup>1</sup>	1911. <sup>1</sup>	1912. <sup>1</sup>	1913. <sup>1</sup>	1914. <sup>1</sup>
o	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Pastoral Leases ...	19,909,251	9,787,020	10,130,358	9,057,002	11,245,895	18,135,488	8,365,927
Special Leases ...	149	12,498	6,212	3,112	6,760	3,993	3,382
Leases in Reserves ...	324	31,376	327,020	174,107	188,444	2,901,238	233,037
Timber Leases and Permits <sup>2</sup>	109,630	38,500	236,970	68,430	119,000	129,317	20,141
Residential Lots ...	221	3	6	4	18	2	...
Total ...	20,019,575	9,869,397	10,700,566	9,302,655	11,560,117	21,170,038	8,622,487
Number Issued ...	1,466	480	505	396	487	1,918	1,709

1. For financial year ended the 30th June.

2. No timber leases granted since 1903.

Particulars as to the total area occupied under leases and licenses are given in a later part of this section. (See § 11.)

7. **Tasmania.**—The several forms of leases and licenses in this State are as follows :—(i.) Grazing leases; (ii.) miscellaneous leases; (iii.) timber licenses; (iv.) occupation licenses; (v.) temporary licenses; and (vi.) timber leases.

The conditions which govern the issue of these leases and licenses are more fully dealt with in the previous issues of the Year Book. (See Year Book No. 5, p. 297).

*Area held under Leases and Licenses.* The following table shews the areas of Crown lands occupied under leases and licenses at the end of the year 1901 and from 1909 to 1913:—

## TASMANIA.—LEASES AND LICENSES, 1901 and 1909-13.

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Ordinary Leased Land ...	1,280,688	1,173,823	1,176,900	1,242,400	1,245,400	1,280,400
Islands ...	149,165	90,100	67,100	62,000	135,025	134,908
Land Leased for Timber ...	40,768	100,098	108,889	134,516	136,471	160,216
Total ...	1,470,621	1,364,021	1,372,889	1,438,916	1,516,896	1,575,524

8. **Northern Territory.**—The system of land settlement in the Northern Territory is being reorganised by the Commonwealth Government. A new Lands Ordinance was passed in December, 1912, known as the Crown Lands Ordinance 1912, and future disposal of land in the Territory will be made in accordance with this Ordinance, which provides for a leasehold system only, and no further alienation of Crown lands will be permitted, unless such alienation is in pursuance of existing agreements. Under this Ordinance, the classification and control of Crown lands is in the hands of a Board, consisting of the Director of Lands, the Director of Agriculture, and the Chief Surveyor. The classified land is leased in blocks, the maximum area ranging from 300 square miles of first-class pastoral to 1280 acres of first-class agricultural land. Before offering any land for leasing, the Board fixes the annual rental, but every lease is subject to reappraisalment of rent at specified periods, viz., every fourteen years in the case of town lands, and every twenty-one years in the case of agricultural and pastoral lands.

Leases under this Ordinance are in perpetuity, except as regards pastoral and miscellaneous leases, the term of which is 21 or 42 years, according to the quality of the land leased.

The lessee must reside on the land leased for a certain period every year, must fence, stock, and cultivate it to the extent prescribed, and must, within two years of the commencement of the lease, establish a home on it. In order to promote settlement in the Territory, the first five thousand blocks of agricultural land taken up on perpetual lease under this ordinance will be rent free during the life of the applicant, or for 21 years from the commencement of the lease, whichever period is longer. By an amending ordinance of 1913, additional powers are given to the Administrator in revoking and granting leases.

The various types of leases, licenses, and permits current are as follows:—(i.) Agricultural leases; (ii.) pastoral leases; (iii.) special leases; (iv.) leases with right of purchase; (v.) tropical products leases; (vi.) leases for horsebreeding stations; (vii.) licenses; and (viii.) pastoral and other permits. (See § 2, 7). The permit system was discontinued at the end of 1911.

*Area held under Lease, License, and Permit.* The following table shews the total area held under lease, license, and permit at the end of the year 1901 and 1909 to 1913:—

**NORTHERN TERRITORY.—AREA HELD UNDER LEASE, LICENSE OR PERMIT,  
1901 AND 1909-1913.**

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Right of Purchase Leases ...	1,067	5,224	667	667	667	667
Pastoral Leases <sup>1</sup> ...	111,476,240	95,559,840	98,729,120	92,045,540	94,329,600	93,748,100
Other Leases <sup>1</sup> ...	1,176,981	512,650	445,236	1,698,754	1,696,171	1,762,538
Total Leased ...	112,654,288	96,077,714	99,175,023	93,744,961	96,026,438	95,511,305

1. See Table given below.

The following table gives particulars of the areas held under the various types of lease and license as at the end of the year 1913, and included in the previous table under the heads of "pastoral leases" and "other leases."

**NORTHERN TERRITORY.—AREA HELD UNDER LEASE, LICENSE OR PERMIT,  
AT 31ST DECEMBER, 1913.**

Particulars.	No. of leases.	Area in acres.
(UNDER SOUTH AUSTRALIAN ACTS.)		
Pastoral leases ...	250	68,839,840
Pastoral permits ...	115	17,020,800
Annual pastoral leases ...	9	378,240
Mixed farming leases ...	1	1,280
Right of purchase leases ...	4	667
Agricultural leases ...	26	6,767
Leases, special purposes ...	2	10
Occupation, special licenses and permits ...	19	46
Gold-mining leases ...	38	594
Mineral leases ...	14	970
Tin-dredging applications ...	1	400
Gold-dredging applications ...	2	140
Coal and oil permits ...	5	1,644,060
Water leases ...	2	1,280
(UNDER CROWN LANDS ORDINANCE, 1912.)		
Grazing Licenses ...	55	7,509,120
Miscellaneous leases ...	2	14
Agricultural leases (cultivation) ...	18	9,139
Agricultural leases (mixed farming and grazing) ...	12	21,033
Town leases ...	37	25
(UNDER MINERAL OIL ORDINANCE, 1913.)		
Mineral oil licenses ...	16	50,880
(UNDER ENCOURAGEMENT OF MINING ORDINANCE.)		
Licenses ...	3	6,000
Total ...	...	95,511,305

### § 8. Closer Settlement.

1. **Introduction.**—In all the States, Acts have been passed authorising the Governments to repurchase alienated lands for the purpose of cutting them up into blocks of suitable size and throwing them open to settlement on easy terms and conditions.. Special Acts have also been passed in several of the States authorising the establishment on particular lines of co-operative communities, village settlements, and labour colonies.. Lands may be acquired either compulsorily or voluntarily in New South Wales, Victoria, Queensland, and Tasmania, but only voluntarily in South Australia and Western Australia.

The following table gives particulars up to the latest available date of operations under the Closer Settlement Acts for each State and the whole Commonwealth :—

#### CLOSER SETTLEMENT.—TOTAL AREAS ACQUIRED AND ALLOTTED UP TO 30th JUNE, 1914.

Particulars.		N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tas.	Cwlth.
Area acquired ...	... acres	685,156	567,687	664,363	632,715	446,804	60,232	3,056,957
Purchasing price ...	... £	2,542,489	4,222,248	1,713,165	1,973,919	421,333	175,471	11,048,625.
Farms, etc., allotted	No.	1,567	4,112	2,542	1,985	*	202	†10,406
	acres	734,125	449,791	552,768	588,617	268,260	52,285	2,645,846.

\* Not available. † Exclusive of Western Australia.

The following table shews the areas of private lands acquired in each State for the financial year 1901, and for each year from 1909 to 1914 :—

#### CLOSER SETTLEMENT.—AREAS OF PRIVATE LANDS ACQUIRED, 1901, and 1909 to 1914.

Year ended 30th June.	N.S.W.	Victoria.	Q'land.*	S. Aust.*	W. Aust.	Tasmania.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres	Acres.	Acres.
1901 ...	...	28,553	132,760	...	46,624	...	...
1909 ...	321,209	237,400	497,095	500,464	215,822	33,079§	1,805,069.
1910 ...	461,723	343,829	497,095†	527,501‡	249,522	34,441§	2,114,111
1911 ...	676,278	455,954	537,449†	592,972‡	297,391	34,448§	2,594,492
1912 ...	676,438	515,604	664,363†	619,469‡	303,469	45,731§	2,825,074
1913 ...	676,439	560,081	664,363	624,202‡	446,804	49,476§	3,021,365.
1914 ...	685,156	567,687	664,363	632,715‡	446,804	60,232§	3,056,957

\* Particulars are for calendar years.

† To the preceding 31st December.

‡ To 30th June. § Including 10,382 acres of Crown lands.

2. **Government Loans to Settlers.**—For the purpose of promoting pastoral, agricultural, and similar pursuits, and with the object of assisting settlers in erecting buildings and carrying out improvements on their holdings, general systems have been established in all the States, under which financial aid is rendered to settlers by the State Governments. These general systems are more particularly referred to in the section in this book dealing with "Agriculture." In many of the Closer Settlement and similar Acts, however, special provisions have been inserted with the object of lending money to settlers taking up land under these Acts, with which to build homes or effect improvements.. The principal features of these provisions are referred to below.

3. **New South Wales.**—Under the Closer Settlement Act of 1901 provision was made for the acquisition of private lands or of Crown lands held under lease, for the purpose of closer settlement. No power of compulsory resumption was conferred by the Act, which was in consequence practically inoperative. Under the Closer Settlement Act of 1904, and subsequent amendments, and the Closer Settlement Promotion Act 1910, the Government is empowered to resume private lands, either by agreement or by compulsory purchase, and to alienate them on favourable terms to persons who desire to settle and make homes for themselves and their families on the soil. Land acquired under the Acts is subdivided into blocks or farms, and by notification in the *Government*

*Gazette* is declared to be a settlement purchase area available for application. The *Gazette* notice also gives all necessary information as to the class and character of the land, and the capital value, area, etc., of each block or farm.

(i.) *Closer Settlement Purchase.* Under this tenure a settler may acquire the freehold of the land under a system of deferred payments. A deposit of  $5\frac{1}{2}$  per cent. of the notified value of the settlement purchase must be lodged with the application, and a similar amount by way of instalment, paid annually until the purchase-money, together with interest at the rate of  $4\frac{1}{2}$  per cent., is paid off. Unless otherwise notified, the deposit, annual instalments and rate of interest on a settlement purchase within a settlement purchase area notified prior to 1st January, 1913, are 5, 5 and 4 per cent. respectively. Under this system the balance due to the Crown will be paid off in thirty-eight years, the holding then becoming a freehold. A condition of residence for ten years attaches to every settlement purchase. Under the amending Act of 1909 postponement of the payment of instalments may be granted by the Minister, subject to the conditions (a) that additional improvements to the value of the amount postponed be made on the land within twelve months, and (b) that interest at 4 per cent. per annum be paid on the amount postponed. The Minister may also grant extension of time to pay overdue instalments under certain conditions. The period allowed under any one such extension must not exceed five years, interest being charged on overdue instalments at the rate of 5 per cent. per annum.

(ii.) *Closer Settlement Permissive Occupancies.* The Minister may grant permits to occupy from month to month any lands within a settlement purchase area which remain undisposed of, subject to certain terms and conditions.

(iii.) *Sales by Auction.* Areas within closer settlement districts necessary for township settlement may be set apart by notification in the *Gazette*. Allotments, each of which may not exceed half an acre in extent, within such areas may be sold by auction.

(iv.) *Private Subdivision.* An important feature of the amending Act of 1909 is the power which is given to owners for private subdivision of lands which have been notified by proclamation for resumption. Upon the owner entering into an agreement with the Minister to subdivide the land and to sell or lease in such areas and subject to such terms as may be agreed upon, the Minister is empowered to suspend the power of resumption for a period not exceeding two years.

(v.) *The Closer Settlement Promotion Act 1910.* Under this Act any three or more persons who are qualified to hold settlement purchases and who desire to purchase from the same owner any private lands may, upon entering into an agreement with the owner and subject to valuation by the Advisory Board and the Savings Bank Commissioners, acquire such lands through the Minister on Closer Settlement conditions. The maximum sum which may be advanced for the purposes of this Act may not exceed £1,000,000 in any financial year.

The following table shews the number and area of farms allotted since the passing of the Act:—

**NEW SOUTH WALES.—CLOSER SETTLEMENT PROMOTION ACT 1910.**

Year.	Farms Allotted—		
	Number.	Area.	Amount Advanced.
		Acres.	£
1910-11 ... ..	26	10,785	54,131
1911-12 ... ..	209	84,279	418,941
1912-13 ... ..	274	107,791	599,145
1913-14 ... ..	183	62,598	361,351
Total ... ..	692	265,453	1,433,568

(vi.) *Areas Acquired and Disposed of.* Up to the 30th June, 1914, twenty-eight estates had been opened for settlement under the Closer Settlement Acts.



The following statement gives particulars of the aggregate areas opened up to the 30th June, in each year from 1910 to 1914:—

**NEW SOUTH WALES.—CLOSER SETTLEMENT AREAS, 1910 to 1914.**

Year Ended 30th June.	Areas.			Capital Values.		
	Acquired Lands.	Adjoining Crown Lands.	Total.	Acquired Lands.	Adjoining Crown Lands.	Total.
	Acres.	Acres.	Acres.	£	£	£
1910 ...	461,723	83,045	544,768	1,624,858	147,977	1,772,835
1911 ...	591,861	86,127	677,988	2,293,399	148,696	2,442,095
1912 ...	676,438	87,760	764,198	2,666,516	156,796	2,823,312
1913 ...	676,439	87,759	764,198	2,667,203	159,973	2,827,176
1914 ...	685,156	89,540	774,696	2,685,660	163,254	2,848,914

The total area thus set apart has been divided into 1613 farms comprising 748,551 acres, the remaining area being reserved for recreation areas, roads, stock routes, schools, etc.

The following table gives particulars as to the disposal of the farms by closer settlement purchase for each year ended the 30th June, 1910 to 1914:—

**NEW SOUTH WALES.—CLOSER SETTLEMENT ALLOTMENTS, 1910 to 1914.**

Year.	Farms Allotted by Board to Date.			Total Amount received in respect of Settlement Purchases.	Total Number of Applications received.
	Number.	Area.	Value.		
	No.	Acres.	£	£	No.
1909-10 ...	941	471,639	1,731,480	147,945	1,209
1910-11 ...	1,316	604,319	2,420,035	220,720	1,328
1911-12 ...	1,485	673,610	2,722,564	274,440	1,555
1912-13 ...	1,554	724,924	2,767,370	363,425	1,568
1913-14 ...	1,567	734,125	2,806,285	493,795	1,578

(vii.) *Labour Settlements.* These settlements were founded by the Labour Settlements Acts 1893 and 1894, which have now been amended and repealed by the Labour Settlements Act 1902. Land may be set apart for lease for a period of 28 years as a labour settlement under the superintendence of a Board of Control. The functions of the Board of Control are to enrol members of the settlement; to make regulations concerning the work to be done; to apportion the work among the members; and to distribute the wages and profits. The Minister is empowered to grant financial assistance to the Board of Control.

*Settlements Established.* Only two settlements had been established under the Act up to the 30th June, 1914. Particulars are given in the following statement:—

**NEW SOUTH WALES.—PARTICULARS OF LABOUR SETTLEMENTS, 30th JUNE, 1914.**

Settlement.	Date of Establish- ment.	Area.	Population.				Value of Improve- ments.	Loans Advanced by the Govern- ment.
			Men Enrolled.	Women.	Children.	Total.		
Bega ...	1893	Acres. 1,360	28	29	87	144	£ 3,100	£ 2,420
Wilberforce ...	1893	435	10	9	24	43	1,510	2,479
Total ...	—	1,795	38	38	111	187	4,610	4,899

The Murrumbidgee Irrigation Act 1910 provides for the acquisition of 1,668,000 acres near Narrandera, in Riverina, for irrigation and other purposes in connection with the Burrinjuck Irrigation Scheme. Part of this area has since been made available. (See *Water Conservation*. Section XVI., § 3.)

4. **Victoria.**—(i.) *Closer Settlement Acts, 1904 to 1909.* The Closer Settlement Acts in Victoria are administered by a Board consisting of three persons appointed by the Governor-in-Council, and entrusted with power to acquire, either compulsorily or by agreement, private lands in any part of the State for the purpose of Closer Settlement. The Board may dispose of all lands acquired, either Crown lands or repurchased lands, on conditional purchase leases either as (a) farm allotments not exceeding £2500 in value, (b) workmen's homes allotments not exceeding £250 in value, and (c) agricultural labourers' allotments not exceeding £350 in value. The price of the land must cover the cost of the original purchase and the cost of all improvements. Land acquired by the Board may also be sold in small areas in fee simple as sites for churches, public halls, butter factories, creameries, recreation reserves, or other public purposes.

The Board may approve of an agreement between an owner and one or more persons to purchase a farm or farms, not exceeding £2500 in value. On the property being acquired by the Board, the applicant obtains a lease under Closer Settlement conditions.

(a) *Closer Settlement Leases.* Every conditional purchase lease is for such a term of years as may be agreed upon by the lessee and the Board, and payment must be made with interest at  $4\frac{1}{2}$  per cent. per annum by sixty-three half-yearly instalments, or such lesser number as may be agreed upon. Under the amending Act of 1906 postponement of payment of instalments may be granted by the Board up to 60 per cent. of the value of improvements. The lessee must personally reside during eight months in each year on his allotment, and for six years he must carry out prescribed improvements. Thereafter he may, with permission, transfer, assign, mortgage or sublet his allotment. After twelve years, if all conditions have been fulfilled, a Crown grant, with the same residence condition as that contained in the lease, will be issued. In the case of workmen's homes allotments the land must be fenced within one year, and a dwelling-house to the value of at least £50 must be erected within the same time; within two years further improvements must be made to the value of at least £25. As regards agricultural labourers' allotments, a dwelling-house to the value of at least £30 must be erected within one year, and within two years the allotment must be fenced.

(b) *Advances to Settlers.* The Board may make advances for the purpose of fencing and building dwelling-houses, and is empowered to erect dwelling-houses, outbuildings, or improvements on any allotment at a cost not exceeding £500 for any one allotment. Any sum so expended is repayable, with interest added, by instalments extending over a prescribed period, not greater than twenty years. Provision has also been made for deferring payments in cases of hardship, as well as for advances (to the extent of 60 per cent. of the value of the improvements) to enable work to be carried on. Special advances may also be granted to purchase wire netting in rabbit-infested districts.

(c) *Loans to Municipalities.* Under the Amendment Act of 1907 loans may be made out of the Closer Settlements Fund for the purpose of carrying out any road-making or other public works within the boundaries of an estate.

(d) *Areas acquired and made available for Closer Settlement.* The following statement shows the operations which have taken place in Victoria under the provisions of the Closer Settlement Acts, 1898. to 1910, up to the 30th June, 1901 and 1910 to 1914 :—

## VICTORIA.—CLOSER SETTLEMENT, 1901 and 1910-1914.

Year ended 30th June.	Total Area Acquired by Government to Date.	Total Cost to Date.	How Made Available for Settlement.					Number of Applications Granted to Date.	Total Receipts to Date.	Repayments of Principal to Date.	Area Available for Settlement.
			Farm Allotments.	Workmen's Homes Allotments.	Agricultural Labourers' Allotments.	Town Allotments.	Roads and Reserves.				
	Acres.	£	Acres.	Acres.	Acres.	Acres.	Acres.	No.	£	£	Acres.
1901	23,553	151,566	28,461	69	—	44	240	193	7,529	—	—
1910	343,829*	2,390,738	237,670	243	1,659	617	2,242	1,880	391,746	153,890	9,302
1911	455,954	3,177,831	363,676	571	2,761	—	—	2,708	606,558	234,038	54,214
1912	515,604	3,721,485	474,410	512	3,651	—	—	3,354	765,076	318,338	71,367
1913	563,554	4,315,305	498,701	512	3,658	3,564	6,334	3,306	922,842	397,803	64,550
1914	567,687	4,232,248	500,819	828	3,829	24,903	—	4,112	1,213,593	456,511	60,028

\* Includes eight estates (97,315 acres) not yet made available for settlement.

(ii.) *The Small Improved Holdings Act 1906.* Under this Act, which has been repealed, 2822 acres at a cost of £53,568 allotted to 260 settlers were purchased close to towns where industrial employment could be obtained by the settlers.

These settlements are now under the control of the Closer Settlement Board.

(iii.) *Village Communities.* The settlement of land by Village Communities is now provided for in the Land Act 1901, but is not availed of to any extent. Certain unalienated Crown lands were surveyed into allotments of one to twenty acres. The price is not less than twenty shillings an acre. Additional areas may be acquired by conditional purchase. The rent is a nominal one for three years. The total amount of monetary aid advanced up to the 30th June, 1914, was £67,379, of which sum the amount repaid to date was £41,516. After three years a lease may be obtained.

Particulars of areas in process of cultivation under the Act are given hereinafter. (See § 11, 3.)

On the 30th June, 1914, there were 836 settlers actually residing, and 99 not residing, but improving, making a total of 935 in occupation. Including wives and children the total number in residence was 3887. At the same date the area under cultivation was 10,586 acres; the value of live stock £49,904, and of improvements, £154,513.

(iv.) *Closer Settlement in the Irrigated Districts.* The movement for closer settlement in the irrigated districts started about five years ago. The State had expended between three and four million pounds on irrigation works, which were not being used to their full extent. Under the Goulburn Scheme, the largest of the State works, more than half the available water was being wasted. The reason was lack of people to cultivate the land as irrigation requires. Previously, in the various districts the average size of farms varied from 400 to 600 acres, while under irrigation from 20 to 80 acres will now give employment to a good-sized family and furnish them a comfortable living. The large farms of the irrigation districts could not be properly cultivated by their owners, and the only way to make irrigation a success was to subdivide these holdings and bring in farmers to cultivate the smaller areas. To this end the State offered to buy suitable land in any district having a reliable and ample water supply at a price fixed by impartial expert valuers, and has now purchased about 110,801 acres for this purpose. This land is sold to settlers on 31½ years' terms with 4½% interest on deferred payments. These payments are calculated on the Credit Foncier basis and are equalised through the whole period. As a result, the settlers by paying an additional 1½ per cent., or six per cent. in all, on the cost for 31½ years pay off both principal and interest. To help the settler of small capital, the State will build him a house and give 15 to 20 years to pay for it, will prepare a part of his area for irrigation and allow payments to be extended over 10 years. The cash payments required are as follows:—On houses costing less than £100, £10; from £100 to £150, £15; while on houses costing more the cash payment

varies from 12 to 30 per cent. of the estimated cost. A cash payment of one-fifth the estimated cost of preparing land for irrigation is required. The State also makes loans to settlers equal to 60 per cent. of the value of permanent improvements, these loans to be repaid in 20 years. Five per cent. interest is charged on all advances—whether for houses, preparing land, or money furnished the settler. In the past five years 1016 irrigated blocks, averaging 61 acres, have been taken by settlers, of whom 401 were from oversea, chiefly from Great Britain, and 615 were Australian. At Shepparton, one of the oldest of these settlements, there are now 234 settlers living where there were originally 25. In Koyuga there are now 46 settlers with good houses, many young orchards, fine crops of lucerne and vegetables, where in November 1910 there was not a house, a family, or an acre of cultivated land. Under four years ago there were 27 houses in the Rochester district, now there are over 491. In Tongala there are now 190 houses where three years ago there were 30.

Similar progress has been made in the other settlements. Houses now being erected are of a better type than the original ones. This has been made possible because the settlers now applying have as a rule more capital than the earlier ones and desire better homes.

5. **Queensland.**—Under the provisions of the Closer Settlement Act of 1906, private lands may be re-purchased by the Crown, either by agreement or compulsorily.

(i.) *Compulsory Acquisition.* The owner of an estate in possession, the whole of which is proposed to be taken compulsorily, has the right to retain in one block, land of the value of £10,000 to £20,000 according to the value of the whole estate. The maximum sum which may be expended on the acquisition of land for the purpose of closer settlement is £500,000 in any one year.

(ii.) *Disposal of Land.* A sufficient part of the land acquired must be set apart for roads, public reserves, and townships, and the remainder is proclaimed open for selection as agricultural farms under the Land Act 1910, which repealed the Land Acts 1897 to 1909 under the Closer Settlement Act Amendment Act of 1913; the term of the lease is 40 years. The rent to be paid for the first year is equal to £10 for every £100 of the purchasing price; and (no payment being required during the second, third, or fourth years) an annual payment of £6 6s. 0d. for every £100, continued from the fifth to the fortieth year, will, at the end of the term, have paid off the principal sum together with interest.

(iii.) *Areas Acquired and Selected.*—The following table gives particulars of the operations under the above Acts at the end of the year 1901 and of each year from 1909 to 1913:—

QUEENSLAND.—CLOSER SETTLEMENT, 1901 and 1909-13.

Year.				Number of Estates Acquired.	Total Area Acquired to Date.	Total Amount of Purchase Money.	Total Area Selected to Date.
					Acres.	£	Acres.
1901	...	...	...	15	132,760	335,056	124,710
1909	...	...	...	27	497,095	1,349,251	409,381
1910	...	...	...	27	537,449	1,490,489	437,496
1911	...	...	...	29	644,385	1,670,330	498,315 <sup>1</sup>
1912	...	...	...	29	664,363	1,713,165	525,168
1913	...	...	...	29	664,363	1,713,165	543,788

1. In addition there were at the end of the year 1913, 12,236 acres sold at auction and 3184 acres retained by the Government for experimental farms and for other sales.

The total area opened for selection up to the end of the year 1913 was 625,932 acres, of which 543,788 acres had been selected by 2141 selectors. There remained 82,144 acres unselected or reserved. The total amount of rent paid up to the same date was £972,395, the amount in arrear being £12,841. At the end of the year 1913 there were 2141 selectors holding 2260 agricultural farms, 243 unconditional selections, and three prickly pear infested selections. In addition, land and improvements to the value of £89,075 had been sold at auction.

(iv.) *The Special Agricultural Selections Acts 1901 to 1905.* These Acts were partly repealed by the Amending Act of 1909, which was in its turn repealed by the Land Act 1910. Under the last Act land may be set apart for members of bodies of selectors who desire to settle in the same locality. The terms and conditions are similar to those in force for single selectors. Every group selection shall be subject to the condition of personal residence during the first five years of the term.

The Special Agricultural Selections Act 1905 provides that financial aid may be granted to all or any of the members of a body of selectors of agricultural homesteads. Advances may also be made to each selector for a value not exceeding £80 for the purpose of buying tools, rations, stock and poultry.

The portions opened for "group settlement" in 1913 numbered 414, and comprised a gross area of 249,545 acres. Up to the end of that year 306 portions, comprising 184,044 acres, valued at £107,630, had been applied for by members of the bodies of settlers for whom they were opened. The greater part of the remaining lots have since been selected.

**6. South Australia.**—Under the provisions of the Crown Lands Acts the Commissioner may repurchase land for the purposes of closer settlement at a cost not exceeding £600,000 in any two years.

Reference has already been made to the provisions of the Irrigation and Reclaimed Lands Acts 1908, regarding the settlement of reclaimed lands. (See § 7, 5 iv.)

(i.) *Disposal of Land.* The Crown Lands Act Further Amendment Act 1910 enlarges the value of the blocks into which estates may be subdivided for closer settlement purposes from £2000 to £5000 unimproved value. The purchase money with interest thereon at 4 per cent. per annum is payable in seventy half-yearly instalments, the first ten payments being interest only.

For the first five years, improvements to the value of £3 for every £100 of the purchase money must be yearly effected.

(ii.) *Areas Acquired and Selected.* The following table shews the area of land acquired by the Government in South Australia for the purposes of closer settlement, and the manner in which the same has been disposed of under the provisions of the Crown Lands Acts for the years 1902 and 1909 to 1913:—

**SOUTH AUSTRALIA.—CLOSER SETTLEMENT, 1902 and 1909-13.**

Year.	Area of Lands Repurchased to 31st Dec.	Agreements with Covenants to Purchase.	Total Area Leased as Homestead Blocks.		Perpetual Leases.	Miscellaneous Leases.	Sold.	Remainder Unoccupied (including Roads).
			Right of Purchase.	Perpetual Lease.				
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1902	156,481	—	2,717	3,073	90,128	309	403	59,851
1909	500,464	298,013	1,381	1,779	75,045	50,056	24,641	51,549
1910	527,501	357,480	1,241	1,510	62,386	40,077	35,266	29,541
1911	622,422	411,370	1,077	1,414	55,121	40,082	43,969	69,389
1912	624,122	436,038	894	1,386	49,657	40,101	57,884	38,408
1913	629,574	434,417	818	1,344	50,998	134	61,061	82,146

During the financial year 1913-14 ten properties of 13,501 acres were repurchased. The total area repurchased at 30th June, 1914, was 632,715 acres, the purchase money being £1,973,919. Of that area 592,912 acres had been allotted to 2471 persons, the average area to each being 240 acres.

(iii.) *Irrigation Areas.* Under the Irrigation and Reclaimed Lands Act, 1908, 1909, 1910 and 1912, special provisions are made for granting perpetual leases of reclaimed lands. The maximum area of irrigable or reclaimed land one person may hold in any irrigation area is 50 acres, but in the case of partnerships 50 acres may be held by each partner up to a maximum of 150 acres. Land above the irrigating channels is also offered to lessees of irrigable blocks for dry farming, grazing, etc. Each block is offered under perpetual lease, at a rent not less than a sum equivalent to 4 per cent. on the unimproved value of the land, plus the cost of reclaiming. In the case of swamp lands, in the reclaimed lands a drainage rate of from 5s. to 7s. 6d. per acre per annum is payable. On the irrigable land the water rate has been fixed at 30s. per acre per annum for the first four years, after which an amount will be charged sufficient to cover actual cost of supplying water, and the interest on pumping plants, channels, etc. A sliding scale covers both the rent and water rates for the first four years.

Under Part V. of the Act a fund has been constituted called the Lessees of Reclaimed Lands Loan Fund, consisting of money provided by Parliament to be expended by the Department in assisting settlers on the irrigation areas by fencing, clearing and grading their blocks, and constructing irrigation channels and drains and concrete tanks thereon. Such improvements will be undertaken up to a value not exceeding £15 per acre of the irrigable area in each lessee's block, but before the work can be commenced a deposit must be paid equal to 15 per cent. of the Department's estimated value of such improvements.

The total cost of the work, less amount of deposit paid, will be treated as a loan to the lessee, and will be repayable in twenty equal annual instalments, after the expiration of five years, or at any shorter period if so desired by the lessee, current rate of interest being charged.

Any lessee will be permitted to accept the contract for carrying out his own improvements, according to the specifications and estimate of the Department, up to the maximum amount per acre, as mentioned above.

(iv.) *Village Settlement.* Out of the reserved lands the Commissioner is directed to set apart for the purpose of village settlement such land as he shall consider fit (a) for horticultural purposes, to be termed "horticultural land"; (b) for agricultural purposes, to be termed "commonage land"; and (c) land whereon any irrigation works are situated. Land so set apart is to be divided as follows:—Horticultural lands into blocks of as nearly as practicable equal unimproved value, and of about ten acres in extent; and the commonage lands into one or more blocks of such area as the Commissioner may determine, and the lands so set apart in each case form the district of the association. No person may hold more than two blocks. Commonage lands may only be leased to the association on perpetual lease, and all unleased horticultural blocks are under the control of the association. Every member of each association must provide or contribute towards the maintenance and regulation of irrigation works and the care and cultivation of the commonage lands.

As the Waikerie and Kingston districts were proclaimed irrigation areas under the Irrigation and Reclaimed Lands Acts 1908 and 1909, this would leave only the Lyrup Village Settlement, which is in a better position, both financially and as regards population, than the others.

(v.) *Homestead Blocks.* Aboriginal reservations, except those at Point McLeay or Point Pearce, and other suitable lands may be offered as homestead blocks on perpetual lease or lease with a right of purchase. Each block must not exceed £100 in value, and residence by a member of the family for at least nine months of every year is compulsory.

There is now hardly any demand for homestead blocks, persons generally preferring small blocks of repurchased or Crown lands on ordinary conditions. The system appears to be of value only in centres of population where work can be obtained, and within a reasonable distance of a school.

- (a) *Advances to Blockholders.* Advances up to £50 may be made by the Commissioner to any homestead blockholder who has complied with the conditions of his lease or agreement, to assist in erecting permanent buildings on the blocks, or other improvements. Advances must be repaid, with interest at 4 per cent. per annum, by twenty equal instalments, commencing twelve months from the date of advance. The Commissioner may, in case of hardship, extend the time of repayment, deferred payments bearing interest at 5 per cent. per annum. The total amount advanced up to the 30th June, 1914, was £41,047, of which £38,650 had been repaid.
- (b) *Particulars of Homestead Blocks.* The total number of leases and agreements of which purchase had been completed to the 31st December, 1913, was 1998, comprising 31,926 acres, at a purchase price of £75,071, or an average of £2 7s. per acre, the average of each holding of which purchase was completed being 15 acres.

7. **Western Australia.**—Under the Agricultural Lands Purchase Act 1909, which repealed and consolidated the Agricultural Lands Purchase Acts 1896 to 1904, sums not exceeding in the aggregate £400,000 may be expended on the repurchase of Crown lands near the railways, suitable for immediate cultivation.

(i.) *Acquisition of Land by the Government.* For the purpose of carrying out the provisions of the Acts, a Land Purchase Board has been constituted. Advised by the report of the Board, the Minister, with the approval of the Governor, may make a contract for the acquisition of the land by surrender at the price fixed by the Board, or at any lesser price.

(ii.) *Sale of Repurchased Land.* After reservation of part of the repurchased land for public purposes, the remainder is thrown open for selection. The maximum quantity held by one person must not exceed 1000 acres; in special cases 2000 acres.

(iii.) *Conditions of Sale to Selectors.* The maximum selling price of any repurchased land is equal to 105 per cent. of the actual cost of the land plus the cost of any improvements made upon it. A lease for twenty years is issued at a rent, the half-yearly instalments of which are to be at the rate of £3 17s. 9d. for each £100 of the selling price. Improvements must be made to the value of one-fifth of the purchase-money every two years of the first ten years of the lease. One-half of the land must be fenced within the first five years and the whole within ten years. Loans may be granted to selectors under the provisions of the Agricultural Bank Acts.

(iv.) *Areas Acquired and Selected.* The transactions conducted under the provisions of the Agricultural Lands Purchase Acts are shewn for 1901 and for each year from 1909 to 1914 in the subjoined table:—

**WESTERN AUSTRALIA.—CLOSER SETTLEMENT, 1901 and 1909-10 to 1913-14.**

* Year.	Total Area Acquired.	Total Purchase- money.	Roads, Reserves, etc.	Total Area made available for Selection.	Area Se- lected during the Year.	Total Area oc- cupied to Date.	Balance of Area available for Selection.	Total Re- venue received to Date.
	Acres.	£	Acres.	Acres.	Acres.	Acres.	Acres.	£
1901 ...	46,624	52,764	1,459	45,165	4,295	37,235	7,929	14,451
1909-10	249,522	158,041	10,757	228,823	25,134	213,416	15,407	111,125
1910-11	297,391	262,302	14,876	282,515	50,032	261,942	20,573	129,386
1911-12	303,469	270,622	14,506	283,985	8,375	264,885	18,000	151,110
1912-13	446,804	421,333	12,799	290,670	10,335	270,945	19,724	175,245
1913-14	446,804	421,333	128,605	315,133	2,451	268,260	45,873	210,675

\* The figures for 1901 are up to 31st December. For subsequent years they are given as up to 30th June.

On the 30th June, 1913, the total expenditure, exclusive of purchase-money but including interest, was £88,460, which left a balance of £86,785. At the same date the amount invested as sinking fund was £86,426. During the year 1912-13 two properties, viz., Henty and Yandanoocha, having a total area of 144,526 acres, were purchased, but have not yet been made available for selection.

(v.) *Workingmen's Blocks.* Any person not already holding land within the State is entitled to obtain a lease of lands which have been surveyed and thrown open for selection as workingmen's blocks. The maximum area that may be selected by one person is, if within any town or goldfield, half an acre, or five acres elsewhere. The price is not less than twenty shillings per acre, payable in ten years by half-yearly instalments. Residence and improvement conditions must be fulfilled. At the expiration of the lease, or at any time after five years from the date of the commencement of the lease, upon compliance with all conditions and upon payment of the full purchase-money and fee, a Crown grant will be issued. No person who has once held a workingman's block is allowed to select another, except under very special circumstances.

The following table shews the number and area of accepted applications for workingmen's blocks during each year, as well as the total number and area in existence at the end of the year 1901 and for each year from 1909 to 1914:—

**WESTERN AUSTRALIA.—PARTICULARS OF WORKINGMEN'S BLOCKS, 1901,  
and 1909-14.**

Year ... ..	1901.	1909. <sup>1</sup>	1910. <sup>1</sup>	1911. <sup>1</sup>	1912. <sup>1</sup>	1913. <sup>1</sup>	1914. <sup>1</sup>
NUMBER AND AREA OF ACCEPTED APPLICATIONS DURING YEAR.							
Number	2	88	122	53	28	1	1
Area in Acres	6	189	148	99	56	4	1
NUMBER AND AREA OF BLOCKS OCCUPIED AT END OF YEAR.							
Number	7	408	440	388	327	230	168
Area in Acres	31	667	719	722	688	617	590

1. For financial year ended 30th June.

During the years 1907 to 1911 residential blocks on the goldfields were made available as workingmen's blocks, instead of under residential lease, as before, and since 19th October, 1911, the system of leasehold has been reverted to.

8. *Tasmania.*—The principles of closer settlement were not introduced into Tasmania until the Closer Settlement Act of 1906 was passed. Under this Act, which was amended in 1908 and 1911, and consolidated in 1913, power is given to the Minister for Lands, on the recommendation of the Closer Settlement Board, to purchase compulsorily or by agreement private land in any part of Tasmania for the purpose of closer settlement, and also to deal with and dispose of any unoccupied Crown land for the same purpose.

(i.) *Disposal of Land.* Lands so brought under the Act are subdivided into farm allotments of a suitable size—not exceeding £1500 in value—and are disposed of by way of lease for ninety-nine years. The rental is determined by the Board at a rate not exceeding 5 per cent. per annum on the capital value of the land. Any lessee who has fulfilled the conditions under the Act may, after the expiration of ten years of the term of the lease, purchase the land leased to him. The Minister has power to dispose of, either by rental or sale, such land in any estate which is considered unsuitable for closer settlement.



A lessee must improve his holding to a value equal to 2½ per cent. on the capital value of the land in each of the first ten years of the term of his lease, and he must, within two years of the date of the lease, personally reside on his allotment during at least eight months of each of the following nine years. Provision is made for reserving a proportion of the allotments thrown open, and leasing the same, under special terms and conditions, to *bonâ fide* immigrants.

(ii.) *Advances to Settlers.* The total advance by the Government in aid of the cost of effecting improvements to any one lessee must not exceed pound for pound of the sum expended by him in building and other improvements. Such advances must be repaid, together with interest at 5 per cent., in equal half-yearly instalments within a period not exceeding 21 years.

(iii.) *Special Sales.* The fee-simple of land acquired may be disposed of by sale on the recommendation of the Board as sites for churches, public halls, dairy factories, fruit-preserving factories, mills, or creameries. The area sold may not exceed one acre in the case of a church or public hall, or five acres in other cases.

(iv.) *Areas Acquired and Selected.* Up to the 30th June, 1914, thirteen areas, viz., Cheshunt, Mount Pleasant, Forester Nos. 1, 2 and 3, Isandula, Brinktop, Frogmore, Woolmers, Branhholm, Hillhouse, Formosa, and Native Plains, had been opened up for closer settlement. Particulars are given in the following statement:—

#### TASMANIA.—CLOSER SETTLEMENT, 1907 to 1914.

Year.	Number of Farms made Available.	Number of Farms Allotted.	Area of Farms Allotted.	Rental of Farms Allotted.	Total Area Purchased.
			Acres.	£	Acres.
1907 ...	61	54	10,365	1,923	13,397
1908 ...	28	26	8,191	634	11,780
1909 ...	49	45	9,117	789	7,902
1910 ...	9	15	1,872	539	1,362
1911 ...	37	36	4,965	168	5,143
1912 ...	11	7	3,912	563	6,147
1913 ...	18	21	5,652	1,134	3,745
1914 ...	24	17	8,975	1,959	10,756

The total purchase-money paid by the Government up to the 30th June, 1913, was £175,471.

### § 9. Occupation of Crown Lands under Leases and Licenses Issued by Mines Departments.

1. *Introduction.*—Leases and licenses for the occupation of Crown lands for mining and other purposes are issued by the Mines Departments in all the States. Such leases and licenses may be issued with respect to all Crown lands, whether otherwise unoccupied or whether occupied also under leases and licenses issued by the Lands Departments. Certain Crown lands, such as reserves, etc., are, however, subject to special conditions.

(i.) *Mining on Private Lands.* Certain of the Crown lands of the several States have been alienated from time to time, subject to various reservations in respect of gold and other minerals which might afterwards be found therein. Other lands have been alienated without such reservation, but as the mineral gold does not pass from the Crown unless by express conveyance, it has remained the property of the State on all alienated lands. All lands alienated or in process of alienation are open to mining for gold; but to mining for other minerals, those lands only are open in respect of which the rights are reserved in the grants. There are, however, generally certain reservations, such as those with reference to town or village lands and lands which have been built on or are used for special purposes. The working of minerals on private lands is regulated in the several States either by special Acts or by special provisions of the Acts relating to mining.

(ii.) *Leases and Licenses Issued and Total Areas of Crown Lands Occupied.* The following tables shew the total areas of Crown lands for which leases and licenses for mining purposes were issued in each State during 1901 and for each year from 1909 to 1913 inclusive, and also the total areas of Crown lands occupied for mining purposes at the end of each year during the same period:—

**CROWN LANDS, LEASES AND LICENSES FOR MINING PURPOSES, 1901 and 1909 to 1913.**

Particulars.	N.S.W.	Victoria. <sup>1</sup>	Qld. <sup>2</sup>	S. Aust. <sup>3</sup>	W. Aust.	Tas.	Cwth.
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**AREAS FOR WHICH LEASES AND LICENSES ISSUED.**

		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901	...	50,349	...	55,698	93,985	37,593	18,125	255,750
1909	...	72,696	36,114	43,591	49,135	55,133	20,414	277,083
1910	...	31,674	38,655	41,687	216,273	87,429	24,173	439,891
1911	...	42,865	25,353	40,642	59,918	94,853	26,454	290,085
1912	...	15,548	34,047	50,783	259,381	64,939	13,920	438,618
1913	...	25,154	36,141	146,366	244,528	62,773	15,534	530,496

**TOTAL AREA OCCUPIED AT END OF YEAR.**

			Not avail- able					
1901	...	134,209		124,182	14,140	66,682	50,362	438,9575
1909	...	236,265		147,010	84,293	128,129	55,819	4651,516
1910	...	235,235	136,710	164,737	197,714	164,963	57,908	957,267
1911	...	233,030	116,420	171,078	89,077	158,946	58,038	826,589
1912	...	228,526	123,228	203,059	292,320	144,846	49,239	1,041,218
1913	...	219,488	123,320	285,966	412,693	149,801	45,913	1,237,181

1. Including private lands, leases, and water right licenses only. 2. Exclusive of lands held under miners' rights only, amounting in 1908 to approximately 27,500 acres. 3. Exclusive of miners' rights. 4. Excluding Victoria.

2. **New South Wales.** Under the provisions of the Mining Act 1906 and the regulations made thereunder, Crown lands may be occupied for mining or other purposes by virtue of (i.) miners' rights; (ii.) business licenses; (iii.) authorities to prospect; or (iv.) leases.

A description of the conditions under which these licenses and leases are granted may be found in previous issues of the Year Book. (See Year Book No. 6, p. 307.)

(i.) *Particulars of Leases and Licenses Issued, 1913.* The following table gives particulars of leases and licenses of Crown lands issued by the Mines Department during the year 1913:—

## NEW SOUTH WALES.—LEASES AND LICENSES.

ISSUED BY MINES DEPARTMENT DURING YEAR 1913.

Particulars.	Act under which Issued.	Purpose for which Issued.	Area.
<i>Leases—</i>	Mining Act 1906 ... ..	To mine for—	Acres.
	" " " " " " " "	Gold ... ..	1,727
	" " " " " " " "	Minerals other than coal ...	7,455
	" " " " " " " "	Coal ... ..	6,793
	Mining Act 1906 (Dredging) ...	Leases (mining purposes) ...	268
	" " " " " " " "	Gold ... ..	2,526
	" " " " " " " "	Minerals other than gold ...	
<i>Other forms of occupancy—</i>	Mining Act 1906 ... ..	Authorities to prospect ...	6,385
Total ... ..	—	—	25,154

(ii.) *Leases and Licenses Issued and Areas Occupied.* The following table gives particulars of the areas of Crown lands for which leases and licenses were issued by the Mines Department during each year, and of the total areas of Crown lands occupied under such leases and licenses at the end of the year 1901 and from 1909 to 1913 inclusive:—

## NEW SOUTH WALES.—LEASES AND LICENSES.

ISSUED BY MINES DEPARTMENT, 1901 AND 1909-1913.

Purposes for which Issued or Occupied.	1901.	1909.	1910.	1911.	1912.	1913.
LEASES AND LICENSES ISSUED.						
Gold mining ... ..	Acres. 2,272	Acres. 5,243	Acres. 6,412	Acres. 3,708	Acres. 3,584	Acres. 4,253
Mining for other minerals ...	47,990	41,008	16,493	27,347	11,671	14,248
Authorities to prospect ...	...	25,481	8,107	11,569	183	6,385
For other purposes ... ..	87	964	662	241	110	268
Total ... ..	50,349	72,696	31,674	42,865	15,548	25,154

## TOTAL AREAS OCCUPIED.

Gold mining ... ..	6,942	16,079	18,917	15,455	15,531	12,623
Mining for other minerals ...	126,885	190,153	199,497	213,209	208,286	198,415
Authorities to prospect ...	...	28,287	12,441	...	139	3,989
For other purposes ... ..	382	1,746	4,380	4,366	4,570	4,461
Total ... ..	134,209	236,265	235,235	233,030	228,526	219,488

3. *Victoria.*—The occupation of Crown lands for mining and auxiliary purposes in this State is regulated by the Mines Act 1890-1907. The Department of Mines and Forests is authorised to issue mining leases (gold-mining, mineral, and dredging), and special license (searching, tailings, and water-right), while the issue of miners' rights, business licenses and residence areas is restricted to the Treasury Department. A description of the conditions governing the issue of these leases and licenses will be found in previous editions of the Year Book. (See Year Book No. 6, p. 303.)

Licenses of auriferous lands not for mining purposes may be issued by the Lands Department. (§ 7, 3 iv.)

*Leases and Licenses Issued and Areas Occupied for Mining.* Particulars of leases and licenses for mining purposes of Crown lands alone are not available, the official returns including also private lands. During the year 1913 the number of mining leases, licenses, etc., issued was 393, covering an area of 36,141 acres; the rent, fees, etc., received amounted to £1949. No particulars are available as to the total area of either Crown or private land occupied for mining purposes.

4. **Queensland.**—The occupation of the Crown lands for mining purposes in this State is regulated by the Mining Acts 1898 to 1902, and the Mining for Coal and Mineral Oil Act 1912. Under these Acts the Department of Mines is authorised to issue:— (i.) Miners' rights; (ii.) mining leases; (iii.) mining leases and licenses for coal and mineral oil; and (iv.) miners' homestead leases.

The conditions which govern the issue of miners' rights, mining leases, and miners' homestead leases are described in previous issues of the Year Book. (See Year Book No. 6, p. 309.)

Mineral leases for coal and mineral oil may be granted for a term of twenty-one years at an annual rent of sixpence an acre, together with a royalty according to the distance the lease is from a seaport or other place of delivery of twopence to threepence per ton of coal raised during the first five years of the lease and of fourpence to sixpence per ton during the remainder of the term. A lease for mineral oil with a maximum area of 30 acres may be granted for a term of 21 years at an annual rental of 6d. per acre, with a royalty of 5% of the value of all crude oil produced. Licenses to occupy not more than 2560 acres may be granted to any person desiring to prospect Crown lands for coal and mineral oil upon payment of one penny for every acre comprised in the application.

The "Mining on Private Land Act 1909," authorises the granting of leases, etc. on and under private land, under conditions as to compensation, etc.

(i.) *Particulars of Leases and Licenses Issued, 1913.* The subjoined table gives particulars of the leases and licenses of Crown lands issued for mining purposes during the year 1913:—

#### QUEENSLAND.—LEASES AND LICENSES.

ISSUED BY MINES DEPARTMENT DURING YEAR 1913.

Lease or License.	Mining Leases.				Miners' Homestead Leases.	Coal Prospecting Licenses.	Miscellaneous Rights & Licenses.
	To mine for gold.	To mine for minerals other than gold.	Tramways	Buildings and machinery.	Residence, business, etc.	To prospect for coal.	Mining, residence, etc.
Purpose for which issued.							
Area in acres...	1,055	7,248	9	...	19,998	118,065	*20,000

\* Approximate.

(ii.) *Particulars of Areas Occupied.* The following table shews the areas for which leases and licenses of Crown lands were issued during each year, and the total area occupied at the end of the year 1901 and from 1909 to 1913 inclusive.

The particulars given are exclusive of miners' rights.

## QUEENSLAND.—LEASES AND LICENSES.

ISSUED BY MINES DEPARTMENT; 1901 AND 1909-1913.

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
* LEASES AND LICENSES ISSUED DURING YEAR.						
Gold mining ...	Acres. 3,581	Acres. 1,668	Acres. 1,306	Acres. 532	Acres. 918	Acres. 1,055
Mining for other minerals ...	7,142	2,878	3,105	2,715	3,198	7,248
For other purposes ...	44,975	39,045	37,276	37,417	46,667	138,072
Total ...	55,698	43,591	41,687	40,664	50,783	146,375
* TOTAL AREA OCCUPIED AT END OF YEAR.						
Gold mining ...	11,296	8,590	8,082	7,820	6,884	5,915
Mining for other minerals ...	23,113	20,292	25,188	24,895	31,253	34,711
For other purposes ...	89,773	118,128	131,467	138,363	164,922	245,340
Total ...	124,182	147,010	164,737	171,078	203,059	285,966

\* Exclusive of lands held under miners' rights only.

5. **South Australia.**—In this State leases and licenses for mining purposes are issued by the Department of Mines under the authority of the Mining Act 1893, and amending Acts. Under these Acts mining and prospecting are permitted in virtue of (i.) miners' rights; (ii.) mining leases; (iii.) coal or oil leases; and (iv.) miscellaneous leases, and in addition occupation of Crown lands is permitted by virtue of (v.) business claims, and (vi.) occupation licenses.

The conditions which govern the issue of these various leases and licenses have been described in previous issues of the Year Book. (See Year Book No. 6, p. 311.)

(i.) *Particulars of Leases and Licenses.* The following table gives particulars of leases and licenses of Crown lands issued by the Mines Department during the year 1913:—

## SOUTH AUSTRALIA.—LEASES AND LICENSES.

ISSUED BY THE MINES DEPARTMENT DURING YEAR 1913.

Particulars.	Act under which Issued.	Purpose for which Issued.	Area.
			Acres.
Leases ...	Mining Act 1893 ...	To mine for—	3,436
Mineral claims ...		Gold and other metals and miner's	27,972
Licenses ...	Mining Act Amendment Act 1900 ...	To search for "precious" stones, mineral phosphates, oil, rare metals, minerals, and earths, the mining for which has not proved payable in any portion of the State	213,120
Total ...	—	—	244,528

(ii.) *Leases and Licenses Issued and Areas Occupied.* The following table gives particulars of the areas of Crown lands for which leases and licenses were issued by the Mines Department during each year, and of the total area of Crown lands occupied under such leases and licenses at the end of the year 1901 and from 1909 to 1913 inclusive:—

### SOUTH AUSTRALIA.—LEASES AND LICENSES.

ISSUED BY MINES DEPARTMENT, 1901 AND 1909 TO 1913.

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
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#### LEASES AND LICENSES ISSUED.\*

	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Gold mining ... ..	1,377	334	145	340	480	312
Mining for other minerals ... ..	92,587	48,799	216,128	59,578	258,901	244,204
For other purposes ... ..	21	2	...	...	...	12
<b>Total ... ..</b>	<b>93,985</b>	<b>49,135</b>	<b>216,273</b>	<b>59,918</b>	<b>259,881</b>	<b>244,528</b>

#### TOTAL AREAS OCCUPIED.\*

	14,140	2,374	1,353	1,512	1,536	1,419
Gold mining ... ..	14,140	2,374	1,353	1,512	1,536	1,419
Mining for other minerals ... ..	...	81,811	196,256	87,459	290,667	411,175
For other purposes ... ..	...	108	105	106	117	99
<b>Total ... ..</b>	<b>14,140</b>	<b>84,293</b>	<b>197,714</b>	<b>89,077</b>	<b>292,320</b>	<b>412,693</b>

\* Exclusive of miners' rights.

The following table shows the total area occupied (exclusive of miners' rights) at the end of the year 1913, classified according to the nature of the holding:—

### SOUTH AUSTRALIA.—TOTAL AREA UNDER MINING ACTS, 1913.

Nature of Holding.	Number.	Area.	Nature of Holding.	Number.	Area.
		Acres.			Acres.
Mineral leases	251	12,071	Search licenses ...	144	343,680
Gold leases ...	65	1,219	Coal and oil claims ...	26	16,640
Gold dredging leases	1	200	Gold claims ...	5	12
Miscellaneous leases	59	15,280	Coal and oil leases ...	1	640
Mineral claims	591	22,852			
Occupation licenses	199	99	<b>Total ... ..</b>	<b>1,342</b>	<b>412,693</b>

6. **Western Australia.**—The issue of leases and licenses by the Mines Department is regulated by the Mining Act 1904. Under this Act Crown lands may be occupied by virtue of (i.) Miners' rights; (ii.) mining leases; and (iii.) miners' homestead leases.

The conditions governing the issue of these leases and licenses are described in previous issues of the Year Book. (See Year Book No. 6, p. 312.)

(i.) *Particulars of Leases and Licenses Issued, 1913.* The following table gives particulars of mining leases and licenses of Crown lands issued during 1913 :—

**WESTERN AUSTRALIA.—LEASES AND LICENSES ISSUED BY MINES  
DEPARTMENT, 1913.\***

Particulars.	Gold-Mining.	Minerals other than Gold.	Miners' Homesteads.	Miscellaneous.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.
Leases ...	7,982	2,816	1,726	86	12,610
Licenses ...	12,675	37,295	...	193	50,163

\* Exclusive of miners' rights.

(ii.) *Particulars of Areas Occupied.* The following table shews the areas for which leases and licenses of Crown lands were issued during each year, and the total area occupied at the end of the year 1901, and from 1909 to 1913 inclusive :—

**WESTERN AUSTRALIA.—LEASES AND LICENSES.**

ISSUED BY MINES DEPARTMENT, 1901 AND 1909-1913.

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
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**LEASES AND LICENSES ISSUED DURING YEAR.\***

Gold mining ...	Acres. 17,454	Acres. 32,092	Acres. 32,365	Acres. 47,385	Acres. 23,285	Acres. 20,657
Mining for other minerals ...	19,281	14,843	51,008	40,085	33,318	40,111
For other purposes ...	858	8,198	4,056	7,383	8,336	2,005
Total ...	37,593	55,133	87,429	94,853	64,939	62,773

\* Exclusive of miners' rights.

**TOTAL AREA OCCUPIED AT END OF YEAR.\***

Gold mining ...	40,525	41,521	44,157	44,163	33,737	30,464
Mining for other minerals ...	14,091	45,229	78,838	70,944	62,998	71,291
For other purposes ...	12,066	41,379	41,968	43,839	48,111	48,046
Total ...	66,682	128,129	164,963	158,946	144,846	149,801

\* Exclusive of miners' rights.

**7. Tasmania.**—Under the provisions of the Mining Act 1905, Crown lands in this State may be occupied for mining and auxiliary purposes by virtue of (i.) prospectors' licenses; (ii.) miners' rights; (iii.) mining leases; and (iv.) miscellaneous licenses. Business and residence licenses within mining areas may be issued by the Lands Department. (See § 7, 8 iv.)

A description of the conditions under which these leases and licenses are issued may be found in previous editions of the Year Book. (See Year Book No. 6, p. 314.)

(i.) *Particulars of Leases and Licenses Issued, 1913.* The following table shews particulars of leases and licenses of Crown lands, exclusive of prospectors' licenses and miners' rights, issued by the Mines Department during the year 1913 :—

## TASMANIA.—LEASES AND LICENSES.

ISSUED BY THE MINES DEPARTMENT DURING 1913.\*

Mineral.	No. of Applications.	Area.	Mineral.	No. of Applications.	Area.
		Acres.			Acres.
Coal ...	8	1,480	Tin ...	199	5,576
Copper...	3	130	Wolfram ...	1	61
Gold ...	35	529	Dredging claims ...	10	217
Iron ...	2	152	Machinery sites ...	4	13
Limestone ...	2	360	Mining easements...	31	196
Minerals ...	80	4,029	Water rights ...	72	352
Nickel...	1	41			
Shale ...	2	1,588			
Silver ...	12	810	Total...	462	15,534

\* Exclusive of prospectors' licenses and miners' rights, which are issued by officers in different districts throughout the State, and as to which particulars are not available.

(ii.) *Leases and Licenses Issued and Areas Occupied.* The following tables give particulars of the areas of Crown lands for which leases and licenses (exclusive of prospectors' licenses and miners' rights) were issued during each year, and of the total area of Crown lands occupied under such leases and licenses at the end of the year 1901 and from 1909 to 1913 inclusive :—

## TASMANIA.—LEASES AND LICENSES.

ISSUED BY MINES DEPARTMENT, 1901 AND 1909 TO 1913.\*

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
LEASES AND LICENSES ISSUED.*						
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Gold mining ...	1,067	998	448	737	477	529
Mining for other minerals ...	17,058	19,114	23,669	25,316	12,729	14,444
For other purposes ...	...	302	56	401	714	561
Total ...	18,125	20,414	24,173	26,454	13,920	15,534
TOTAL AREAS OCCUPIED.*						
	3,394	1,265	1,159	1,220	1,344	988
Gold mining ...	46,968	52,939	55,050	55,007	45,500	42,360
Mining for other minerals ...	...	1,615	1,699	1,811	2,395	2,565
For other purposes ...						
Total ...	50,362	55,819	57,908	58,038	49,239	45,313

\* See note to preceding table.

8. **Northern Territory.**—The granting of leases and licenses for mining purposes in Northern Territory is under the control of the Administrator. The area of land held under Mining Regulations in the Northern Territory has been previously referred to in § 7 of this chapter (page 243).



### § 10. Resumption by Crown of Alienated Lands.

1. *General.*—Under various Acts, alienated lands may be compulsorily resumed by the Crown in the several States for certain purposes, generally connected with works of a public nature. Resumptions for closer settlement purposes have already been referred to (see § 8, above). In most of the States there are Lands Clauses or similar Acts providing the machinery, and indicating the procedure to be adopted in assessing the compensation to be paid by the Crown to private owners in cases where the parties have failed to agree as to the amount to be paid. The provisions of these Acts are generally incorporated in the special Acts specifying the purposes for which alienated lands may be resumed. Lands leased for pastoral purposes may generally be resumed by the Crown on short notice. The lessee is ordinarily entitled to compensation for land resumed, for loss or depreciation in value of the lease caused by such resumption, and for improvements.

(a) *New South Wales.* Alienated lands may be recovered by the Crown for authorised works and certain public purposes under the provisions of the Public Works Act 1900, and in other cases may be acquired by the Crown by purchase, gift, or surrender under Executive authority. Alienated lands required for public roads may be resumed under the Public Roads Act 1902, and if containing gold may be resumed for mining under Section 72 of the Mining Act 1906. Lands dedicated or granted by the Crown for public purposes may be resumed under Section 105 of the Crown Lands Act 1884, Section 41 of the Crown Lands Act 1889, and Section 1 of the Public Trusts Act 1897. Surrender and exchange of lands alienated or in process of alienation may be carried out under Section 47 of the Crown Lands Act 1895.

(b) *Victoria.* In Victoria lands may be resumed in accordance with the provisions of the Lands Compensation Act 1890, the Public Works Act 1890, the Railways Acts, the Land Act 1901, the Local Government Act 1903, the Water Act 1905, the Vacant Unclaimed Lands Act 1906, and the Forests Act 1907.

(c) *Queensland.* In this State alienated lands may be resumed under the provisions of the Public Works Land Resumption Act 1906, for any of the purposes specified in Section 4 of that Act.

(d) *South Australia.* In this State the principal Acts under which land is repurchased, for public works are the Railways Commissioners Act 1887, the Water Conservation Acts 1886, 1889, and 1900, the Waterworks Act 1882, and the Sewers Act 1878.

(e) *Western Australia.* In Western Australia private lands may be resumed under the provisions of the Land Act 1898, the Roads Act 1902, and the Public Works Act 1902.

(f) *Tasmania.* The procedure for resuming land when required for road purposes is as follows:—

When provision is made by Parliament for a Public Works vote for any road, or when an amount is available from other sources, as under the Crown Lands Act (under which a proportion of the amount paid as purchase money is set aside for road purposes), application is made to the owner of the property through which the road is to pass. In most cases either land is given free or a price is agreed on between the owner and the officers of the Department. The purchase-money, with cost of necessary survey, is charged against the provision as referred to above, the land is surveyed and proclaimed under the provisions of the Lands Vesting Act. In case of it being impossible to settle the matter by arrangement with the owner, the land can be acquired by arbitration under the Lands Clauses Act, which is incorporated with the Public Works and Crown Lands

Acts, but since the passing of the Lands Resumption Act it is possible to acquire it compulsorily without waiting for the usual formalities. Under this Act a notification is given to the owner, the land is surveyed, and then resumed by notification in the Gazette, on the publication of which the fee simple of the land vests at once in the Crown absolutely. The owner is then called upon to submit his claim, and the amount can be settled either by arbitration or by a court of competent jurisdiction in accordance with the provisions of the Lands Resumption Act. This procedure under the Lands Resumption Act is now becoming much more general in cases where the land cannot be acquired by arrangement, and it is expected that the effect of the operation of the Act will be to the advantage of the Government and consequently to the public, in enabling land to be acquired more economically than under the former practice. The local bodies, *i.e.*, the municipalities, have also power to acquire land under the provisions of the Local Government Act, but in practice it has been found most convenient for the procedure to be carried out by the Public Works Department on behalf of the local bodies, and this insures the title being vested in the Crown, which gives uniformity of practice, and has also the effect that inquiry made as to title at the Government office shews at once the land that has been acquired.

2. **Areas Resumed.**—The subjoined table shews, so far as particulars are available, the areas of private lands resumed, exclusive of resumptions for closer settlement purposes, in each State during 1901 and 1909-13:—

#### AREAS OF PRIVATE LANDS RESUMED BY THE CROWN

(EXCLUSIVE OF RESUMPTIONS FOR CLOSER SETTLEMENT), 1901 AND 1909-13.

Year.	N.S.W.*	Victoria.**	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901 ...	7,864	52	26	†	91	120	8,153‡
1909 ...	3,020	†	122	†	†	212	†
1910 ...	3,878	†	92	†	†	544	†
1911 ...	2,169	†	...	†	†	690	†
1912 ...	2,021	†	123	†	†	†	†
1913 ...	2,363	†	79	†	†	†	†

\* To 30th June. \*\* Exclusive of resumptions for railway purposes, which for the years 1901 to 1906 inclusive, amounted to 13,081 acres. † Not available. ‡ Exclusive of South Australia.

### § 11. Alienation and Occupation of Crown Lands in the Several States.

1. **Introduction.**—The tables given in the previous parts of this section shew separately the areas alienated, in process of alienation, and occupied under various tenures in the several States. The tables given below shew collectively the general condition of the public estate in each State, having regard to (a) the area alienated absolutely, which includes free grants, sales, and conditional purchases for which grants have been issued, the conditions having been complied with; (b) the area in process of alienation, comprising holdings for which the fee-simple has not yet been alienated, but which are in process of sale under systems of deferred payments; (c) the area occupied under all descriptions of leases and licenses; and (d) the area unoccupied, which, ordinarily, includes roads, permanent reserves, forests, etc. In some cases, however, lands which are permanently reserved from alienation are occupied under leases and licenses, so that

in such cases the areas reserved are comprised in class (c) and not in class (d). Particulars of leases and licenses of reserved areas, as distinguished from leases and licenses of other lands, are not available. It should be observed that in many cases lands occupied under leases or licenses for pastoral purposes are held on short tenures only, and could thus be made available for settlement practically whenever required.

**2. New South Wales.**—The total area of the State of New South Wales (exclusive of Commonwealth Territory) is 198,054,420 acres, of which on the 30th June, 1914, 39,825,380 acres, or nearly one-fifth, were alienated absolutely; 18,837,281 acres, or over one-eleventh were in process of alienation; 122,305,284 acres, or about three-fifths, were occupied under Lands Department, Western Land Board, or Mines Department leases and licenses; and the remaining 17,086,475 acres, or about one-eleventh, were unoccupied. The next table shews the areas alienated, in process of alienation, held under leases and licenses, and unoccupied, in 1901 and from 1910-11 to 1913-14.

During the year 1913-14, a total area of 1,816,054 acres became available for homestead selection, and settlement lease, Crown leases, homestead farms and suburban and additional holdings. Of this area, 6,359 acres were made available for irrigation farms, 9702 acres for settlement purchase, and 62,598 acres were acquired under the Closer Settlement Promotion Act.

### NEW SOUTH WALES.—ALIENATION AND OCCUPATION OF CROWN LANDS,

1901 and 1910-14.\*

Particulars.	Area in Acres.				
	1901.	1910-11.	1911-12.	1912-13.	1913-14.
<b>1. Alienated.</b>					
Granted and sold by private tender and public auction, at prices ranging from five to twenty shillings per acre, prior to 1862 ...	7,146,579	7,146,579	7,146,579	7,146,579	7,146,579
Sold by auction and other sales, 1862 to date ...	14,638,888	14,903,655	14,909,311	14,912,708	14,914,336
Conditionally sold, 1862 to date ...	4,212,189	14,560,791	15,232,355	15,638,374	15,960,930
Granted under Volunteer Land Regulations, 1867 to date ...	168,545	170,650	171,498	171,998	172,198
Granted for public and religious purposes ...	241,968	230,907	232,822	234,192	234,426
Homestead grants ...	35,385	1,729,154	1,518,703	1,480,834	1,396,911
<b>Total area alienated ...</b>	<b>26,443,554</b>	<b>138,741,736</b>	<b>39,211,268</b>	<b>39,584,685</b>	<b>39,825,380</b>
<b>2. In Process of Alienation.</b>					
Under system of deferred payments ...	20,044,703	15,614,036	16,529,008	17,305,305	17,837,702
Under system of homestead selections (including leases converted, but excluding grants issued) ...	1,550,985	\$	\$	\$	\$
Closer settlement purchases ...	...	596,149	812,426	928,033	999,579
<b>Total area in process of alienation ...</b>	<b>21,595,688</b>	<b>16,210,185</b>	<b>17,341,434</b>	<b>18,233,338</b>	<b>18,837,281</b>
<b>3. Held under Leases and Licenses.</b>					
<b>Total under Lands Department and Western Land Board ...</b>	<b>126,921,161</b>	<b>122,998,519</b>	<b>125,827,179</b>	<b>124,361,637</b>	<b>122,085,796</b>
<b>Mineral and auriferous leases and licenses (Mines Department) ...</b>	<b>134,209</b>	<b>1225,040</b>	<b>236,852</b>	<b>228,596</b>	<b>219,488</b>
<b>Total leases under all Government Departments ...</b>	<b>127,055,370</b>	<b>123,223,559</b>	<b>126,064,031</b>	<b>124,590,163</b>	<b>122,305,284</b>
<b>4. Unoccupied ...</b>	<b>23,543,468</b>	<b>20,462,600</b>	<b>15,437,687</b>	<b>15,646,234</b>	<b>17,086,475</b>

Area of State (exclusive of Commonwealth Territory)—198,054,420 acres.

\* The figures for 1901 are up to the 31st December, while for the other years given they are up to the 30th June. † Inclusive of alienated and dedicated areas within Commonwealth Territory, and areas acquired for closer settlement and promotion of same. ‡ Inclusive of alienated area within the Commonwealth Territory, and acquisitions under Closer Settlement Acts. § Now included under Homestead grants. ¶ Up to 31st December.

3. **Victoria.**—The total area of the State of Victoria is 56,245,760 acres, of which 24,009,440 acres, or about three-eighths, had been alienated absolutely up to the end of the year 1913; 7,162,516 acres, or about one-eighth, were in process of alienation under deferred payments; and 13,230,211 acres were occupied under leases and licenses (exclusive of leases and licenses held under the Mines Department). The following table shews the areas alienated and in process of alienation, together with the areas reserved, leased, and available for occupation at the end of the year 1901 and from 1909 to 1913:—

**VICTORIA.—ALIENATION AND OCCUPATION OF CROWN LANDS,  
1901 and 1909-13.**

Particulars.	Area in Acres.					
	1901.	1909.	1910.	1911.	1912.	1913.
1. <i>Alienated</i> ... ..	20,066,875	23,107,613	23,568,070	23,727,962	23,856,389	24,009,440
2. <i>In Process of Alienation—</i>						
<i>Exclusive of Mallee, etc.</i> ...	3,587,668	2,017,219	*2,079,977	1,953,268	1,932,189	1,971,614
<i>Mallee Lands</i> ... ..	87,606	3,077,067	3,493,952	4,076,792	4,838,883	5,165,799
<i>Under Closer Settlement Acts</i> ...	...	190,784	221,565	303,024	397,402	§(449,791)
<i>Village Settlements</i> ... ..	55,077	42,645	39,278	31,911	30,057	25,103
<i>Total</i> ... ..	3,730,351	5,327,715	5,834,772	6,364,995	7,198,531	7,162,516
3. <i>Leases and Licenses Held—</i>						
<i>Under Lands Department</i> ...	17,110,709	16,384,395	15,433,875	14,719,149	14,443,191	13,230,211
<i>Under Mines Department†</i> ...	...	...	...	...	...	...
4. <i>Unoccupied Crown Land‡</i> ...	15,337,825	11,426,037	11,409,043	11,433,654	10,747,649	11,843,593

Total area of State—56,245,760 acres.

\* Including 187,778 acres which, having reverted to the Crown in March, 1911, are now included in Mallee Lands. † Not available. ‡ Including leases and licenses held under the Mines Department, which are not available. § This area is also included with land alienated.

Crown lands in Victoria include roads, 1,717,607 acres; water reserves, 314,917 acres; agricultural colleges, etc., 85,107 acres; State forests and timber reserves (now under Forests Act 1907), 3,817,061 acres; State forests and timber reserves under Land Acts, 270,430 acres; reserves in the Mallee, 397,881 acres; unsold land in towns, etc., 2,523,347 acres; and other reserves, 303,860 acres.

4. **Queensland.**—The total area of this State is 429,120,000 acres, of which, on the 31st December, 1913, 16,041,763 acres, or about one-twenty-seventh, were alienated absolutely; 10,039,255 acres, or about one-forty-third, were in process of alienation; 322,337,898, or three-quarters, were occupied under leases and licenses; roads, reserves, etc., occupied 15,473,444 acres, the remaining 65,227,640 acres being unoccupied. From 1901 to 1913 the area alienated absolutely increased by 2,508,295 acres or 18½ per cent., and the area in process of alienation by 7,247,591 acres or 259 per cent.

The following table shews the area alienated absolutely, the area in process of alienation, and the area held under various forms of lease and license at the end of the year 1901 and from 1909 to 1913:—

**QUEENSLAND.—ALIENATION AND OCCUPATION OF CROWN LANDS,  
1901 and 1909-13.**

Particulars.	Area in Acres.					
	1901.	1909.	*1910.	1911.	1912.	1913.
<b>1. Alienated Absolutely—</b>						
By Purchase ... ..	13,462,304	15,214,146	15,377,626	15,626,173	15,790,907	15,956,663
Without Payment ... ..	71,164	82,540	82,726	83,013	83,295	85,100
<b>Total ... ..</b>	<b>13,533,468</b>	<b>15,296,686</b>	<b>15,460,352</b>	<b>15,709,186</b>	<b>15,874,202</b>	<b>16,041,763</b>
<b>2. In Process of Alienation ...</b>	<b>2,791,664</b>	<b>6,806,467</b>	<b>7,971,342</b>	<b>9,025,049</b>	<b>9,577,037</b>	<b>10,039,255</b>
<b>3. Occupied under Leases and Licenses—</b>						
Runs in Settled Districts ...	176,000	209,143,600	218,142,640	222,158,880	227,410,480	228,873,480
" Unsettled Districts ...	222,553,760					
Occupation Licenses ... ..	35,103,600	38,062,240	37,834,960	43,478,880	42,465,360	40,535,160
Grazing Farms and Homesteads	21,793,242	35,250,197	38,460,439	42,130,631	47,179,483	52,251,784
Scrub Selections ... ..	272,946	273,102	235,150	234,435	233,436	216,438
Leases Special Purposes ...	249	32,722	57,782	45,000	88,147	107,707
Under Mines Department ...	124,182	147,010	187,158	140,021	203,059	310,966
Perpetual Lease Selections ...	...	...	...	18,089	35,179	42,363
<b>Total ... ..</b>	<b>280,023,979</b>	<b>282,908,871</b>	<b>294,918,129</b>	<b>308,205,936</b>	<b>317,615,144</b>	<b>322,337,898</b>
<b>4. Roads and Reserves ...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>14,828,256</b>	<b>15,371,446</b>	<b>15,473,444</b>
<b>5. Unoccupied ... ..</b>	<b>132,770,889</b>	<b>124,107,974</b>	<b>110,870,177</b>	<b>81,351,573</b>	<b>70,682,171</b>	<b>65,227,640</b>

Total area of State—429,120,000 acres.

The area open for selection (as distinguished from occupation for purely pastoral or special purposes) under every mode at the beginning of the year 1913 was 8,774,987 acres, and the area opened during the year was 11,205,132 acres, while the area withdrawn was 1,465,788 acres. The area selected was 7,500,595 acres, and the area remaining open at the end of the year was 11,013,736 acres. The number of grazing selections was 547 as against 571 in the previous year, and their gross area 6,380,548 acres, as against 4,695,807 acres.

**5. South Australia.**—The area of the State of South Australia is 243,244,800 acres. In this State, at the end of the year 1913, there were 10,418,974 acres, or about one twenty-fourth, alienated absolutely; 2,032,635 acres, or about one one-hundred and thirty-sixth, were in process of alienation; 115,862,374 acres, or about one-half were occupied under leases and licenses; while the remaining 114,930,817 acres were unoccupied. From 1901 to the end of 1913, the area of land absolutely alienated has increased by very nearly three million acres, or over 36 per cent., while, during the same period, the area of land in process of alienation has increased by almost two million acres, or over 220 per cent. The subjoined table shews for South Australia the area of land alienated absolutely, and in process of alienation under deferred payments, and the area held under different forms of leases:—

**SOUTH AUSTRALIA.—ALIENATION AND OCCUPATION OF CROWN LANDS,  
1901 and 1909-13.**

Particulars.	Area in Acres.					
	1901.	1909.	1910.	1911.	1912.	1913.
<b>1. Alienated—</b>						
Sold ... ..	7,413,510	8,598,751	9,146,396	9,769,993	10,129,969	10,296,156
Granted for Public Purposes ...	121,613	72,123	122,393	122,604	122,777	123,818
<b>Total ... ..</b>	<b>7,535,123</b>	<b>8,670,874</b>	<b>9,268,789</b>	<b>9,892,597</b>	<b>10,252,746</b>	<b>10,419,974</b>
<b>2. In Process of Alienation—</b>	<b>553,774</b>	<b>1,297,277</b>	<b>1,463,038</b>	<b>1,761,442</b>	<b>1,782,451</b>	<b>2,032,635</b>
<b>3. Held under Lease and License—</b>						
Right of Purchase ... ..	5,639,519	4,232,009	3,697,423	3,150,533	2,836,346	2,701,392
Perpetual ... ..	7,115,782	14,088,223	14,789,305	15,020,544	15,070,607	14,997,201
Pastoral ... ..	68,916,125	87,088,450	91,434,450	91,546,770	96,356,850	96,933,810
Other Leases and Licenses ...	3,905,729	1,513,032	1,394,964	1,283,663	1,273,350	1,229,971
*Mining " " ... ..	14,140	84,293	197,714	89,077	292,323	412,693
<b>Total ... ..</b>	<b>85,591,235</b>	<b>106,956,007</b>	<b>111,513,856</b>	<b>111,090,587</b>	<b>115,829,476</b>	<b>116,275,067</b>
<b>4. Total Occupied ... ..</b>	<b>93,680,192</b>	<b>116,924,158</b>	<b>122,245,683</b>	<b>123,744,626</b>	<b>127,864,673</b>	<b>128,726,676</b>
<b>5. Area Unoccupied ... ..</b>	<b>149,564,606</b>	<b>126,320,642</b>	<b>120,999,117</b>	<b>120,500,174</b>	<b>115,380,127</b>	<b>114,518,124</b>

Total area of State—243,244,800 acres.

\* Exclusive of miners' rights.

**6. Western Australia.**—The total area of Western Australia is 624,588,800 acres, of which on the 30th June, 1913, 7,795,319 acres, or about a one-eighty-fifth part, were alienated absolutely; 13,853,630 acres, or about one-forty-seventh part, were in process of alienation; while 184,277,656 acres, a little more than a quarter, were occupied under leases and licenses issued either by the Lands or the Mines Departments. The remaining 418,662,195 acres, or about two-thirds, were unoccupied.

The following table shews the area alienated absolutely and conditionally, and the areas held under leases and licenses at the end of the year 1901 and on 30th June, 1910 to 1914:—

**WESTERN AUSTRALIA.—ALIENATION AND OCCUPATION OF CROWN LANDS,  
1901 and 1910-14.**

Particulars.	Area in Acres.					
	1901.	1909-10.*	1910-11.*	1911-12.*	1912-13.*	1913-14.*
<b>1. Absolutely Alienated ... ..</b>	<b>3,468,878</b>	<b>4,449,329</b>	<b>7,202,696</b>	<b>7,387,929</b>	<b>7,606,759</b>	<b>7,795,319</b>
<b>2. In Process of Alienation—</b>						
Midland Railway Concessions ...	2,768,810	2,686,521	121,800	121,800	121,800	121,800
Free Homestead Farms ... ..	283,455	1,366,066	1,454,275	1,531,424	1,547,817	1,517,330
Conditional Purchases ... ..	1,349,554	6,067,901	7,305,932	8,285,058	8,294,524	8,255,604
Selections from the late W.A. Company ... ..	75,213	38,628	33,259	16,413	12,716	7,182
Selections under the Agricultural Lands Purchase Act ...	37,235	202,059	250,646	253,588	261,517	258,191
Special Occupation Leases and Licenses ... ..	8,867	2,805	2,404	2,110	9,010	1,803
Homestead or Grazing Leases ...	286,425	2,433,341	2,592,043	3,115,727	3,442,557	3,634,233
Poison Land Leases or Licenses ...	1,306,270	82,019	82,019	78,426	72,194	56,862
Immigrants' Grants ... ..	400	100	100	100	...	...
Village Allotments ... ..	6	36	36	35	35	35
Working-men's Blocks ... ..	31	719	722	688	617	590
<b>Total in Process of Alienation</b>	<b>6,116,266</b>	<b>12,880,195</b>	<b>11,843,236</b>	<b>13,405,369</b>	<b>13,755,787</b>	<b>13,853,630</b>

**WESTERN AUSTRALIA.—ALIENATION AND OCCUPATION OF CROWN  
LANDS, 1901 and 1910-1914.—Continued.**

Particulars.	Area in Acres.					
	1901.	1909-10.*	1910-11.*	1911-12.*	1912-13.*	1913-14.*
<b>3. Leases and Licenses in Force—</b>						
(i.) <i>Issued by Lands Department</i>						
Pastoral Leases ... ..	96,508,549	165,463,185	167,933,347	173,431,848	183,477,495	180,891,721
Special Leases ... ..	448	24,780	26,710	33,157	34,442	30,401
Leases of Reserves ... ..	5,296	475,901	572,400	630,127	3,402,605	2,136,072
Selections in Goldfields ... ..	3,955	100	100	100	100	100
Timber Leases and Licenses	865,180	1,143,572	1,304,282	1,423,292	775,769	658,146
Timber Permits ... ..	...	...	...	...	761,790	411,191
Residential Lots ... ..	550	534	468	405	318	224
(ii.) <i>Issued by Mines Department</i>						
Gold Mining Leases... ..	34,086	†128,129	†100,337	†158,946	†94,899	†149,801
Mineral Leases ... ..	6,376					
Other Leases ... ..	8,623					
Licenses ... ..	17,397					
<b>Total under Leases and Licenses</b>	<b>97,450,660</b>	<b>167,236,201</b>	<b>169,937,644</b>	<b>175,677,865</b>	<b>188,547,418</b>	<b>184,277,656</b>
<b>4. Area Unoccupied ... ..</b>	<b>517,552,996</b>	<b>440,023,075</b>	<b>435,605,224</b>	<b>248,117,637</b>	<b>414,678,836</b>	<b>418,662,195</b>

Total area of State—624,588,800 acres.

\* Figures are now given as up to the 30th June, instead of as up to 31st December. Figures for previous years may be obtained from the Statistical Registers of Western Australia. † On the 31st December.

**7. Tasmania.**—Of the total area of Tasmania, namely, 16,777,600 acres, there were at the end of the year 1913, 5,051,112 acres, or about three-tenths, alienated absolutely; 1,290,705 acres, or about one-thirteenth, were in process of alienation; 1,667,009 acres, or about one-tenth, were occupied under leases and licenses for either pastoral, agricultural, timber, or mining purposes, the remaining 8,744,225 acres, or nearly one-half, being unoccupied. The following table shews the areas alienated, in process of alienation, and held under lease or license, and the area unoccupied at the end of the year 1901 and from 1909 to 1913:—

**TASMANIA.—ALIENATION AND OCCUPATION OF CROWN LANDS, 1901 and 1909-13.**

Particulars.	Area in Acres.					
	1901.	1909.	1910.	1911.	1912.	1913.
<b>1. Alienated Absolutely ... ..</b>	<b>4,621,585</b>	<b>4,890,000</b>	<b>4,932,276</b>	<b>4,965,331</b>	<b>5,005,175</b>	<b>5,051,112</b>
<b>2. In Process of Alienation ... ..</b>	<b>272,376</b>	<b>1,006,642</b>	<b>1,104,379</b>	<b>1,274,947</b>	<b>1,310,728</b>	<b>1,290,705</b>
<b>3. Leases or Licenses</b>						
(i.) <i>Issued by Lands Department—</i>						
Islands ... ..	149,165	90,100	87,100	62,000	135,025	134,908
Ordinary Leased Land ... ..	1,280,688	1,173,823	1,176,900	1,242,400	1,245,400	1,280,400
Land Leased for Timber ... ..	40,768	100,036	108,889	134,516	136,471	160,216
Closer Settlement ... ..	...	27,657	29,726	34,841	46,217	45,572
(ii.) <i>Issued by Mines Department</i> ... ..	50,362	55,819	57,908	44,953	79,239	45,913
(iii.) <i>Occupied by Commonwealth and State Departments</i> ... ..	...	...	...	...	...	7,121
(iv.) <i>Reserved for Public Purposes</i> ... ..	...	...	...	...	...	63,000
<b>Total ... ..</b>	<b>1,520,963</b>	<b>1,447,497</b>	<b>1,460,523</b>	<b>1,518,710</b>	<b>1,642,352</b>	<b>1,691,558</b>
<b>4. Total Area Occupied ... ..</b>	<b>6,414,944</b>	<b>7,344,139</b>	<b>7,497,178</b>	<b>7,758,988</b>	<b>7,958,255</b>	<b>8,033,375</b>
<b>5. Area Unoccupied ... ..</b>	<b>10,362,656</b>	<b>9,433,461</b>	<b>9,280,422</b>	<b>9,018,612</b>	<b>8,819,345</b>	<b>8,744,225</b>

Total area of State—16,777,600 acres.

\* For year 1913 included in 1. Alienated Land.

8. **Northern Territory.**—On the 1st January, 1911, the Northern Territory was taken over by the Commonwealth. In the Northern Territory at the end of the year 1913, there were 473,990 acres, or only about one seven-hundred-and-seventh part alienated absolutely; 95,511,305 acres, or nearly two-sevenths, were held under leases and licenses; while the remaining 239,131,505 acres, or about five-sevenths, were unoccupied. The following table shews the area of land alienated absolutely, and also the area under lease:—

**NORTHERN TERRITORY.—ALIENATION AND OCCUPATION OF CROWN LANDS,  
1901 and 1909-13.**

Particulars.	Area in Acres.					
	1901.	1909.	1910.	1911.	1912.	1913.
<b>1. Alienated—</b>						
Sold ... ..	473,230	473,761	473,942	474,147	473,942	473,942
Granted for Public Purposes ... ..	48	48	48	48	48	48
<b>Total Alienated ... ..</b>	<b>473,278</b>	<b>473,809</b>	<b>473,990</b>	<b>474,195</b>	<b>473,990</b>	<b>473,990</b>
<b>2. Leased—</b>						
Right of Purchase ... ..	1,067	5,224	667	667	667	667
Pastoral ... ..	111,476,240	95,559,840	98,729,120	100,522,240	94,329,600	93,748,100
Other Leases ... ..	1,176,981	512,650	445,236	385,277	1,696,171	1,762,538
<b>Total Leased ... ..</b>	<b>112,654,288</b>	<b>96,077,714</b>	<b>99,175,023</b>	<b>100,908,184</b>	<b>96,026,438</b>	<b>95,511,305</b>
<b>3. Total Occupied ... ..</b>	<b>113,127,566</b>	<b>96,551,523</b>	<b>99,649,013</b>	<b>101,382,379</b>	<b>96,500,428</b>	<b>95,985,295</b>
<b>4. Remainder Unoccupied*</b> ... ..	<b>221,989,234</b>	<b>238,565,277</b>	<b>235,467,787</b>	<b>233,734,421</b>	<b>238,616,372</b>	<b>239,131,505</b>

Total area of Northern Territory—335,116,800 acres.

\* Including Aboriginal and other reserves, and Mission stations.

## § 12. Classification of Holdings according to Size.

1. **General.**—The classification of holdings according to their area is of interest chiefly in relation to the efforts made by the several States in recent years to promote settlement on the land on blocks of suitable size, especially by means of the Closer Settlement Acts. Returns shewing such a classification are not available for Queensland and the Northern Territory.

A table shewing the movement of land consequent on the operation of the Commonwealth Land Tax Act of 1910, can be found in the section dealing with Commonwealth Finance.

The following table gives particulars of the number and aggregate area of holdings of lands alienated and in process of alienation in area series, as returned to the collectors of agricultural statistics, for all the States excepting Queensland and the Northern Territory for the season 1913-14:—



## CLASSIFICATION OF HOLDINGS (ONE ACRE AND OVER) IN AREA SERIES, 1913-14.

Size of Holdings.	N.S.W.	Victoria.*	S. Aust.	W. Aust.	Tasmania.	Federal Territory	Total.
NUMBER.							
Acres.							
1 to 50	39,268	18,757	6,757	3,820	4,402	38	73,042
51 " 100	8,923	7,356	1,726	608	2,271	29	20,917
101 " 500	26,493	24,735	5,806	3,354	5,088	83	65,578
501 " 1,000	8,842	10,181	3,707	3,569	721	33	27,057
1,001 " 5,000	7,529	5,364	3,196	3,912	667	39	20,707
5,001 " 10,000	889	267	112	240	116	2	1,626
10,001 " 20,000	394	116	42	82	69	...	703
20,001 " 50,000	235	34	22	27	34	3	355
50,001 and over	52	1	1	8	3	...	95
Total...	92,655	66,811	21,369	15,620	13,271	227	210,080

## AREA.

Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1 to 50	506,073	356,959	106,625	45,587	72,786	669	1,068,692
51 " 100	703,774	558,534	133,205	52,927	157,181	2,288	1,608,216
101 " 500	6,791,433	6,359,230	1,648,192	912,146	1,033,625	21,277	16,770,062
501 " 1,000	6,203,646	7,123,402	2,681,006	2,892,963	482,723	24,784	19,411,084
1,001 " 5,000	14,935,841	9,552,404	5,529,836	7,662,282	1,367,511	72,253	39,120,127
5,001 " 10,000	6,067,812	1,825,862	725,744	1,625,220	786,400	15,790	11,046,828
10,001 " 20,000	5,411,574	1,609,045	603,769	1,152,497	919,370	...	9,696,255
20,001 " 50,000	6,878,505	992,521	668,865	824,319	887,087	83,070	10,334,367
50,001 and over	7,187,904	51,400	64,000	646,495	316,458	...	8,266,257
Total...	54,686,561	28,429,357	12,161,232	15,814,436	6,023,141	220,124	117,341,888

\* For the year 1912-13.

2. New South Wales.—The total number of holdings of one acre and over in area in this State on the 31st March, 1901, was 69,439. On the 31st March, 1914, the corresponding number was 92,655, shewing an increase of about 30 per cent. The following table shews the number of holdings of land alienated and in process of alienation, on the 31st March, 1901, and from 1909 to 1914:—

## NEW SOUTH WALES.—NUMBER OF HOLDINGS ALIENATED AND IN PROCESS OF ALIENATION, 1901 and 1909-14.

Size of Holdings.	1901.	1909.	1910.	1911.	1912.	1913.	1914.
Acres.	Number.	Number.	Number.	Number.	Number.	Number.	Number.
1 to 50	23,155	35,345	36,288	37,272	38,211	38,641	39,268
51 " 100	8,929	9,105	9,173	9,159	9,027	8,955	8,923
101 " 500	20,504	24,069	24,672	25,322	25,964	26,251	26,493
501 " 1,000	6,105	7,321	7,632	7,911	8,329	8,616	8,842
1,001 " 5,000	4,464	5,796	5,991	6,395	6,934	7,287	7,529
5,001 " 10,000	579	691	711	738	825	853	889
10,001 " 20,000	352	358	348	344	371	379	394
20,001 " 50,000	202	257	264	267	247	245	235
50,001 and over	149	103	99	95	84	86	82
Total	69,439	83,045	85,178	87,503	89,992	91,313	92,655

3. **Victoria.**—Lands alienated absolutely and in process of alienation in this State were classified according to size in 1906, 1908, 1910, and 1912. The following table shews the number and area of holdings of such lands on the 1st March of those years:—

**VICTORIA.—NUMBER OF HOLDINGS ALIENATED AND IN PROCESS OF ALIENATION, 1906-1912.**

Size of Holdings.				1906.	1908.	1910.	1912.
Acres.				Number.	Number.	Number.	Number.
1 to	50	...	...	13,309	14,692	16,609	18,757
51 "	100	...	...	5,864	6,223	6,696	7,356
101 "	500	...	...	21,628	22,510	23,397	24,735
501 "	1,000	...	...	7,688	7,817	8,216	10,181
1,001 "	5,000	...	...	4,083	4,409	4,908	5,364
5,001 "	10,000	...	...	220	231	239	267
10,001 "	20,000	...	...	116	118	131	116
20,001 "	50,000	...	...	73	61	42	34
50,001 and over		...	...	6	4	2	1
Total				52,987	56,065	60,240	66,811

4. **South Australia.**—In the State of South Australia the number of holdings of alienated lands, and lands in process of alienation, was available for the first time in 1910-11. The following table shews the number and area of such holdings for that and each subsequent year:—

**SOUTH AUSTRALIA.—NUMBER OF HOLDINGS ALIENATED AND IN PROCESS OF ALIENATION, 1910-11 to 1913-14.**

Size of Holdings.				1910-11.	1911-12.	1912-13.	1913-14.
Acres.				Number.	Number.	Number.	Number.
1 to	50	...	...	6,745	6,823	6,909	6,757
51 "	100	...	...	1,646	1,728	1,724	1,726
101 "	500	...	...	5,542	5,729	5,691	5,806
501 "	1,000	...	...	3,370	3,538	3,590	3,707
1,001 "	5,000	...	...	2,540	2,844	3,075	3,196
5,001 "	10,000	...	...	110	118	109	112
10,001 "	20,000	...	...	53	52	48	42
20,001 "	50,000	...	...	23	21	22	22
50,001 and over		...	...	1	1	...	1
Total				20,030	20,854	21,168	21,369

5. **Western Australia.**—In this State the number of holdings of one acre and over in area was 5699 for the season 1900-1 (see Year Book No. 1), and 15,620 for the season 1912-13, shewing an increase of 9921, or nearly 200 per cent. The subjoined table shews the number of holdings of land alienated, and in process of alienation, for 1901 and 1910-1914:—

**WESTERN AUSTRALIA.—NUMBER OF HOLDINGS ALIENATED AND IN PROCESS OF ALIENATION, 1901 and 1910-14.**

Size of Holdings.			1900-1.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
Acres.			Number.	Number.	Number.	Number.	Number.	Number.
1 to	50	...	1,728	3,078	3,135	3,274	3,656	3,820
51 "	100	...	198	517	549	571	609	608
101 "	500	...	2,302	3,318	3,212	3,171	3,320	3,354
501 "	1,000	...	717	2,320	2,777	3,024	3,465	3,569
1,001 "	5,000	...	607	2,200	2,616	2,967	3,545	3,912
5,001 "	10,000	...	73	170	189	200	213	240
10,001 "	20,000	...	38	88	79	77	82	82
20,001 "	50,000	...	36*	29	24	26	28	27
50,001 and over		...	...	6	7	6	7	8
Total			5,699	11,726	12,588	13,316	14,925	15,620

\* Including all holdings of 20,001 acres and upwards.

6. **Tasmania.**—In Tasmania the total number of holdings of land alienated and in process of alienation on the 1st March, 1909, was 12,413. Particulars for previous years are not available. The following table shews the classification of such holdings in area series for 1909-10 and subsequent years :—

**TASMANIA.—NUMBER OF HOLDINGS ALIENATED AND IN PROCESS OF ALIENATION, 1909-10 to 1913-14.**

Size of Holdings.			1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
Acres.			Number.	Number.	Number.	Number.	Number.
1 to	50	...	4,526	4,596	4,624	4,752	4,402
51 "	100	...	2,341	2,334	2,413	2,378	2,271
101 "	500	...	4,784	4,957	5,036	5,161	5,088
501 "	1,000	...	624	675	669	705	721
1,001 "	5,000	...	588	589	621	634	667
5,001 "	10,000	...	116	119	117	123	116
10,001 "	20,000	...	61	51	60	62	69
20,001 "	50,000	...	26	26	31	28	34
50,001 and over		...	2	2	2	1	3
Total			13,068	13,349	13,573	13,844	13,371

### § 13. The Progress of Land Settlement, 1901 to 1913.

1. **Recent Progress.**—The progress of settlement and the growth of land alienation in the States of the Commonwealth under recent legislation is seen in the subjoined statement, which shews concisely the condition of the public estate in each State and in the Commonwealth, at the end of 1901 and of each year from 1909 to 1913 inclusive. The effect of the land laws during that period has been generally to diminish the number of large holdings, at the same time decreasing the area held under lease, while both the area alienated and the area in process of alienation have increased. As leases of large areas fall in or are otherwise terminated they are in many cases not renewed, but the land is then cut up for the purpose of settlement under systems of deferred payment; the

State Governments, also, have in many cases acquired by repurchase considerable areas under the provisions of the various Closer Settlement Acts. Further, greater facilities have been granted to the working classes to acquire possession of the soil, and special inducements have been offered to *bona fide* settlers by the introduction of new forms of tenure on easy terms and conditions.

From 1901 to 1913 the area alienated absolutely in the whole Commonwealth increased by 27,332,121 acres, or 35 per cent.; the area in process of alienation increased by 17,657,817 acres, or 50 per cent.; the area leased by 136,740,742 acres, or 18 per cent.; while the area unoccupied decreased by 181,730,680 acres, or 17 per cent.

### TOTAL AREA ALIENATED, IN PROCESS OF ALIENATION, HELD UNDER LEASE OR LICENSE AND UNOCCUPIED.

EXPRESSED ABSOLUTELY AND AS PERCENTAGES OF AREA OF ENTIRE STATE FOR THE YEARS 1901 AND 1909-13.

Year.	Alienated.		In Process of Alienation.		Held under Lease or License.		Occupied by the Crown or Unoccupied.*	
	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.
NEW SOUTH WALES.—AREA, 198,054,420 ACRES.								
1901†	26,443,554	13.32	21,595,688	10.87	127,055,370	63.96	23,543,468	11.85
1909	36,783,741	18.52	15,217,891	7.66	128,390,868	64.63	18,245,580	9.19
1910	37,999,049	19.13	15,460,919	7.78	125,733,630	63.30	19,444,482	9.79
1911	38,741,736	19.50	16,210,185	8.16	123,223,559	62.04	20,462,600	10.30
1912‡	39,211,268	19.75	17,341,434	8.75	126,064,031	63.65	15,437,687	7.85
1913‡	39,584,685	19.98	18,233,338	9.21	124,590,163	62.91	15,646,234	7.90
1914‡	39,825,380	20.11	18,837,261	9.51	122,305,284	61.75	17,086,475	8.63
VICTORIA.—AREA, 56,245,760 ACRES.								
1901	20,066,875	35.67	3,730,351	6.63	17,110,709	30.42	\$15,337,825	\$27.28
1909	23,107,613	41.08	5,358,496	9.53	16,384,395	29.13	\$11,395,256	\$20.26
1910	23,568,070	41.90	5,869,185	10.43	15,433,875	27.45	\$11,374,630	\$20.22
1911	23,727,962	42.18	6,364,995	11.31	14,719,149	26.34	\$11,433,654	\$20.17
1912	23,856,389	42.41	7,198,531	12.79	14,443,191	25.67	\$10,747,649	\$19.13
1913	24,009,440	42.68	7,162,516	12.73	13,230,211	23.54	\$11,843,593	\$21.05
QUEENSLAND.—AREA, 429,120,000 ACRES.								
1901	13,533,468	3.15	2,791,664	0.65	280,023,979	65.26	132,770,889	30.94
1909	15,296,688	3.56	6,806,467	1.59	283,023,871	65.95	123,992,974	28.90
1910	15,460,352	3.60	7,971,342	1.86	295,385,129	68.84	110,303,177	25.70
1911	15,709,186	3.66	9,025,049	2.10	308,205,936	71.82	96,179,829	22.42
1912	15,874,202	3.69	9,577,037	2.23	317,615,144	74.01	86,053,617	20.07
1913	16,041,763	3.74	10,039,255	2.34	322,337,898	75.11	80,701,084	18.81
SOUTH AUSTRALIA.—AREA, 243,244,800 ACRES.								
1901	7,535,123	3.10	553,774	0.23	85,591,295	35.18	149,564,608	61.49
1909	8,670,874	3.56	1,297,277	0.53	106,956,007	43.97	126,320,642	51.94
1910	9,268,789	3.81	1,463,038	0.60	111,513,856	45.80	120,999,117	49.79
1911	9,892,597	4.07	1,761,442	0.72	111,090,587	45.67	120,500,174	49.54
1912	10,252,746	4.22	1,782,451	0.73	115,829,476	47.62	115,380,127	47.43
1913	10,418,974	4.28	2,032,635	0.84	116,275,067	47.79	114,518,124	47.09

\* Including roads and reserves. † To 31st December; subsequent years to 30th June.  
‡ Exclusive of Commonwealth Territory. § Including Mines Department leases and licenses.

## TOTAL AREAS ALIENATED, IN PROCESS OF ALIENATION, ETC.—Continued.

Year.	Alienated.		In Process of Alienation.		Held under Lease or License.		Occupied by the Crown or Unoccupied.*	
	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.

## WESTERN AUSTRALIA.—AREA, 624,588,800 ACRES.

1901	3,468,878	0.56	6,116,266	0.98	97,450,660	15.60	517,552,996	82.86
1909*	4,343,808	0.70	11,342,024	1.81	163,576,742	26.19	445,326,226	71.30
1910*	4,449,329	0.71	12,880,195	2.06	167,236,201	26.78	440,023,075	70.45
1911*	7,202,696	1.15	11,843,236	1.90	169,937,644	27.21	435,605,224	69.74
1912*	7,387,929	1.18	13,405,369	2.16	175,677,865	28.13	428,117,637	68.53
1913*	7,606,759	1.21	13,755,787	2.20	188,547,418	30.18	414,678,836	66.41
1914*	7,795,319	1.25	13,853,630	2.22	184,277,656	29.50	418,662,195	67.03

\* To 30th June.

## TASMANIA.—AREA, 16,777,600 ACRES.

1901	4,621,585	27.54	272,376	1.62	1,520,983	9.06	10,362,656	61.78
1909	4,890,000	29.15	1,006,642	6.00	1,457,497	8.68	9,423,461	56.17
1910	4,932,276	29.40	1,104,379	6.58	1,460,523	8.71	9,280,422	55.31
1911	4,965,331	29.60	1,274,947	7.60	1,518,710	9.05	9,018,612	53.75
1912	5,005,175	29.83	1,310,728	7.82	1,642,352	9.78	8,819,345	52.57
1913	5,051,112	30.09	1,290,705	7.68	1,691,558	10.05	8,744,225	52.18

## NORTHERN TERRITORY.—AREA, 335,116,800 ACRES.

1901	473,278	0.14	...	...	112,654,288	33.62	221,989,234†	66.24
1909	473,809	0.14	...	...	96,077,714	28.67	238,565,277†	71.19
1910	473,990	0.14	...	...	99,175,023	29.60	235,467,787†	70.26
1911	474,195	0.14	...	...	100,908,184	30.11	233,734,421†	69.75
1912	473,990	0.14	...	...	96,026,438	28.66	238,616,372†	71.20
1913	473,990	0.14	...	...	95,511,305	28.60	239,131,505†	71.26

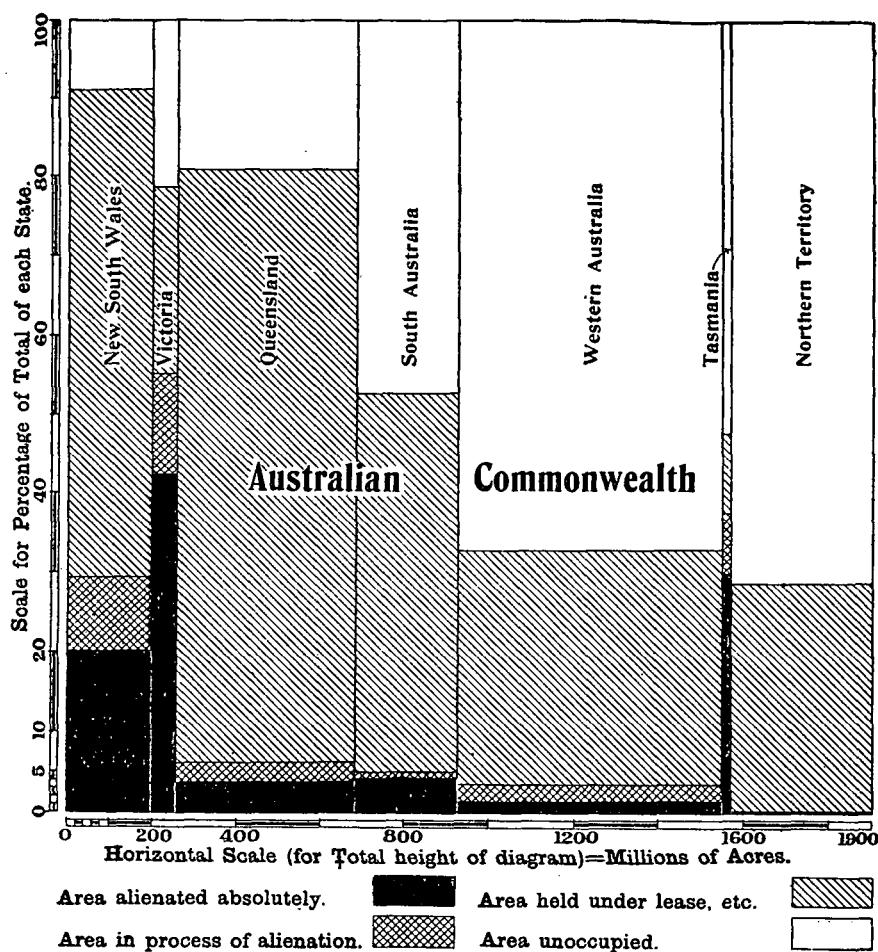
## THE COMMONWEALTH.†—AREA, 1,903,731,840 ACRES.

1901	76,142,761	4.00	35,060,119	1.84	721,407,284	37.89	1,071,121,676	56.27
1909	93,566,533	4.91	41,028,797	2.15	795,877,094	41.81	973,259,416	51.13
1910	96,151,855	5.05	44,749,058	2.35	815,938,237	42.85	946,892,690	49.75
1911	100,713,498	5.29	46,479,854	2.45	822,440,546	43.20	934,097,942	49.06
1912	102,746,699	5.40	51,977,451	2.73	858,932,085	45.11	890,075,605	46.76
1913	103,474,882	5.44	52,717,936	2.76	858,148,026	45.03	889,390,996	46.72

\* Including roads and reserves. † Including aboriginal reserves and mission stations.

‡ Including Federal Capital Territory.

**2. Diagram shewing Condition of Public Estate.**—The following diagram shews the condition of the public estate in the Commonwealth at the end of the year 1912. The square itself represents the total area of the Commonwealth, while the relative areas of individual States are shewn by the vertical rectangles. The areas alienated absolutely, in process of alienation under systems of deferred payments, and the areas held under leases or licenses, are designated by the differently-shaded areas as described in the reference given below the diagram, while the areas unoccupied are left unshaded:—



3. Federal Territory. The following particulars relate to the tenures of land within the Federal Capital Territory at the end of the year 1914:—

#### FEDERAL CAPITAL TERRITORY, TENURES OF LAND, 1914.

Area of acquired lands	...	...	...	...	* { Leased 67,279 acres Unoccupied 45,851 „	Acres. 113,130
Lands alienated	...	...	...	...	...	99,599
In process of alienation— (Conditional purchases and conditional leases)	...	...	...	...	...	105,857
Held under lease issued by the State	...	...	...	...	...	166,889
Unoccupied lands (roads, reserves, etc.)	...	...	...	...	...	98,185
Total Area of Territory	...	...	...	...	...	583,660

\* Including land held under agistment or still occupied by late owners.

## SECTION VII.

## PASTORAL PRODUCTION.

## § 1. Initiation and Growth of Pastoral Industry.

1. **Early Statistics.**—In previous issues of the Year Book will be found a brief review of the history of the pastoral industry in Australia up to the year 1860. (See Year Book No. 6, page 330.)

2. **Subsequent Statistics.**—The statistical records of live stock in Australia prior to the year 1860 are somewhat defective, but from that year onwards fairly complete particulars are available in most of the States. At the present time, statistics of live stock are collected annually in all the States, principally through the agency of the police, but in the years 1885 to 1888 inclusive, and 1893 to 1895 inclusive, no such particulars were collected in South Australia, and similar gaps occur in the Victorian records for the periods 1895 to 1899 inclusive, and 1901 to 1903. In order to obtain totals for the Commonwealth for these years the missing numbers have been supplied by interpolation. The results so obtained probably differ but slightly from the actual numbers for the respective years.

3. **Increase in Numbers.**—Particulars concerning the numbers of each of the principal kinds of live stock in the Commonwealth at quinquennial intervals from 1860 to 1910, and thence onwards in single years, are given in the following table, and are shewn continuously in the graphs as given hereinafter.

During the fifty-three years covered by the table the live stock of the Commonwealth increased considerably, horses by 484 per cent., cattle 190 per cent., sheep 322 per cent., and pigs 128 per cent. The average annual increases which these aggregates represent are as follows:—Horses, 3.39 per cent. per annum; cattle, 2.03 per cent.; sheep, 2.76 per cent.; and pigs, 1.57 per cent.

## COMMONWEALTH LIVE STOCK, 1860 to 1913.

Year.	Horses.	Cattle.	Sheep.	Pigs.
1860 ... ..	431,525	3,957,915	20,135,286	351,096
1865 ... ..	566,574	3,724,813	29,539,928	345,704
1870 ... ..	716,772	4,276,326	41,593,612	543,388
1875 ... ..	835,393	6,389,610	53,124,209	549,808
1880 ... ..	1,061,078	7,523,000	62,176,027	815,776
1885 ... ..	1,143,064	7,397,847	67,491,976	748,908
1890 ... ..	1,521,588	10,299,913	97,881,221	891,138
1895 ... ..	1,680,419	11,767,488	90,689,727	822,750
1900 ... ..	1,609,654	8,640,225	70,602,995	950,349
1905 ... ..	1,674,790	8,528,331	74,540,916	1,014,977
1910 ... ..	2,165,866	11,744,714	92,047,015	1,025,850
1911 ... ..	2,279,027	11,828,954	93,003,521	1,110,721
1912 ... ..	2,408,113	11,577,259	83,263,686	845,255
1913 ... ..	2,521,983	11,483,882	85,057,402	800,505

**4. Fluctuations.**—The increases referred to, however, have not been continuous, marked fluctuations having taken place during the period, mainly on account of the droughts which have from time to time left their impress on the pastoral history of Australia. These were in evidence in 1869, 1877, 1884, 1895 and subsequent years, 1902, to some extent in 1908, and in a severer form during the earlier half of 1912. The want of rain had commenced to be seriously felt in the latter year, when an opportune general downfall in June materially relieved the situation, not however before much loss of stock had resulted, the poor lambing being the principal contributing factor. The drought of 1902 was one of the most severe experienced in Australia, the number of sheep in the Commonwealth diminishing under its influence from 72,040,211 on 31st December, 1901, to 53,668,347 at the same date in 1902—a decrease of more than 25 per cent. The falling off in the number of sheep in 1912 was 9,739,835, of cattle 251,695, and of pigs 265,466, being 10.47, 2.13 and 23.9 respectively. The number of horses during 1913 was the highest ever recorded in the Commonwealth, shewing an increase of 242,956, or 10.66 per cent., over the 1911 figures.

The extraordinary recuperative power of Australia is evidenced by the large increases in the numbers of stock which the good seasons, supervening on the various droughts, have witnessed. Thus, in the nine years from 1902 to 1911, horses increased by 754,426, cattle by 4,766,212, and sheep by 38,335,174, the corresponding increases per cent. per annum being horses 4.57 per cent., cattle 5.90 per cent., and sheep 6.30 per cent.

The years in which the numbers of live stock attained their maxima are as follows:—Horses, 1913, 2,521,983; cattle, 1894, 12,311,617; sheep, 1891, 106,421,068; and pigs, 1911, 1,110,721.

**5. Live Stock in Relation to Population.**—The number of each kind of live stock per head of the population of the Commonwealth has varied during the past fifty-three years in the manner shewn in the succeeding table:—

**NUMBER OF LIVE STOCK PER HEAD OF POPULATION, 1860 to 1913.**

Year.		Horses.	Cattle.	Sheep.	Pigs.	Year.		Horses.	Cattle.	Sheep.	Pigs.
1860	...	0.38	3.45	17.58	0.31	1895	...	0.48	3.36	25.93	0.24
1865	...	0.41	2.68	21.25	0.25	1900	...	0.43	2.29	18.75	0.25
1870	...	0.43	2.60	25.24	0.33	1905	...	0.42	2.11	18.48	0.25
1875	...	0.44	3.37	27.99	0.29	1910	...	0.49	2.65	20.80	0.23
1880	...	0.48	3.37	27.87	0.37	1911	...	0.50	2.59	20.36	0.24
1885	...	0.42	2.75	25.05	0.28	1912	...	0.51	2.45	17.59	0.18
1890	...	0.48	3.27	31.06	0.28	1913	...	0.52	2.36	17.46	0.16

Considered in relation to population, the live stock attained its maximum in the period 1890-5, and its minimum in the year 1902. During the period of fifty-three years under review, the number of horses varied but slightly in proportion to population, the range being from 0.38 to 0.52 per head. In the case of cattle, the limits of variation were 1.82 and 3.45; sheep, 13.85 and 31.06; and pigs, 0.16 and 0.37.

**6. Live Stock in Relation to Area.**—The numbers of live stock per square mile in the several States and Territories of the Commonwealth on 31st December, 1913, were as follows:—



## NUMBER OF LIVE STOCK PER SQUARE MILE, 31st DECEMBER, 1913.

States and Territories.			Horses.	Cattle.	Sheep.	Pigs.
New South Wales	...	...	2.41	9.10	128.29	0.93
Victoria	...	...	6.40	17.39	137.84	2.52
Queensland	...	...	1.05	7.94	32.49	0.21
South Australia	...	...	0.75	0.93	13.35	0.17
Western Australia	...	...	0.16	0.85	4.53	0.05
Tasmania	...	...	1.68	7.85	66.58	1.45
Northern Territory	...	...	0.04	0.80	0.13	0.002
Federal Territory	...	...	1.88	8.36	163.24	0.21
Commonwealth	...	...	0.85	3.86	28.59	0.27

7. **Minor Classes of Live Stock.**—The numbers of minor classes of live stock returned as at 31st December, 1913, were as follows:—Goats, 262,272; camels, 10,822; mules and donkeys, 8215; and ostriches, 1908. Of these, goats were most numerous in Queensland, camels and donkeys in Western Australia, and mules and ostriches in South Australia. In the raising of goats, considerable attention has in recent years been devoted to the angora goat and its product—mohair, and over 20,000 angora goats are included in the total of 262,272 goats shewn above. Of these, 7925 were in Queensland, while the quantity of mohair produced in that State in 1912 was set down at 6935 lbs., and the number of skins placed on the market was returned as 1063.

8. **Net Exports of Principal Pastoral Products.**—The quantities by which the exports of the principal pastoral products of the Commonwealth exceeded the imports for the years 1909 to 1913 are as follows:—

## QUANTITIES OF NET EXPORTS OF PRINCIPAL PASTORAL PRODUCTS

OF THE COMMONWEALTH, 1909 to 1913.

Products.	Unit of Quantity.	1909.	1910.	1911.	1912.	1913.
<b>Animals (living)—</b>						
Cattle	No.	894	3,641	9,861	16,050	14,548
Horses	"	6,335	6,619	4,377	7,055	7,761
Sheep	"	2,540	10,281	18,965	31,210	33,322
Bones	cwt.	13,070	14,145	17,151	20,885	37,848
Glue Pieces and Sinews	"	20,199	20,570	29,211	33,033	38,297
Glycerine	lb.	*	*	*	*	*
Hair	"	190,052	304,006	287,957	152,369	279,108
Hoofs	cwt.	4,666	7,677	8,617	10,416	12,476
Horns	"	*	*	*	*	*
<b>Meats—</b>						
Frozen Beef	lb.	71,130,972	109,421,146	108,774,397	142,186,123	218,911,159
" Mutton and Lamb	"	116,914,965	190,228,396	129,567,812	115,365,547	204,919,042
" Rabbits and Hares	pair	9,181,312	9,652,127	8,362,994	6,494,259	9,366,290
" Other	lb.	1,114,536	2,640,275	4,025,715	4,797,512	7,685,149
Potted and Extract of	"	*	*	*	*	*
Preserved in Tins, etc.	"	22,877,569	33,556,048	40,347,183	33,571,112	51,731,741
Other	"	235,479	591,196	1,062,233	2,957,745	1,154,580
Sausage Casings	"	*	*	*	*	*
<b>Skins—</b>						
Hides	No.	286,973	286,639	452,942	746,088	1,037,882
Sheep	"	10,658,776	11,119,338	9,748,630	10,650,834	10,997,873
Rabbit and Hare	cwt.	62,180	86,930	92,587	87,878	86,998
Other, including Undressed Furs	No.	*	*	*	*	*
Tallow	cwt.	929,157	1,256,661	1,343,046	1,058,341	1,435,156
Wool—Greasy	lb.	528,388,349	586,883,111	578,622,188	557,683,801	531,248,798
Scoured	"	73,569,380	77,042,042	69,223,301	60,232,936	60,873,478
Tops	"	496,492	1,123,469	2,515,106	3,018,050	3,561,722

\* Quantity not available.

The values of the net exports for the same five years are furnished in the next table and amount to no less a total than £184,709,994 for the period, or an average of £36,941,999 per annum, of which wool represents nearly 72 per cent. Meats, skins, and tallow rank next in order of importance.

**VALUE OF NET EXPORTS OF PRINCIPAL PASTORAL PRODUCTS OF THE  
COMMONWEALTH, 1909 to 1913.**

Products.	1909.	1910.	1911.	1912.	1913.
<b>Animals (living)—</b>	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>
Cattle ... ..	3,876	11,516	37,864	64,233	50,229
Horses ... ..	84,695	—51,267	—128,092	—38,017	63,389
Sheep ... ..	6,030	16,448	12,732	61,879	46,565
Bones ... ..	6,041	7,366	9,798	12,310	22,021
Glue Pieces and Sinews ... ..	11,800	11,037	13,645	18,139	23,328
Glycerine ... ..	2,316	10,169	15,926	13,621	13,769
Hair ... ..	22,584	25,879	24,987	29,950	28,160
Hoofs ... ..	1,622	2,804	3,169	4,923	6,178
Horns ... ..	18,729	25,532	25,673	30,339	30,444
<b>Meats—</b>					
Frozen Beef ... ..	733,028	1,179,060	1,101,914	1,630,306	2,652,144
" Mutton and Lamb ... ..	1,231,027	2,161,495	1,633,597	1,592,302	2,896,292
" Rabbits and Hares ... ..	423,679	486,592	407,034	320,887	497,568
" Other ... ..	18,027	40,816	48,390	59,706	99,509
Potted and Extract of ... ..	57,061	70,504	57,356	60,779	203,412
Preserved in Tins, etc. ... ..	401,606	602,890	756,148	611,388	1,062,618
Other ... ..	1,663	8,173	13,010	12,944	17,677
Sausage Casings ... ..	52,182	38,204	37,129	8,735	32,133
<b>Skins—</b>					
Hides ... ..	239,539	286,274	467,364	871,953	1,418,191
Sheep ... ..	1,736,464	2,003,810	1,603,718	1,988,122	2,480,900
Rabbit and Hare ... ..	347,944	566,739	498,037	576,179	620,487
Other, including Undressed Furs ... ..	607,158	822,095	476,872	647,959	746,023
<b>Tallow</b> ... ..	1,229,541	1,888,796	1,934,009	1,545,033	2,157,610
<b>Wool—Greasy</b> ... ..	20,580,783	23,431,947	21,388,155	22,066,585	21,472,360
Scoured ... ..	4,820,092	5,202,683	4,398,126	3,957,792	4,380,184
Tops ... ..	58,638	134,874	275,406	323,299	415,670
<b>Total Values</b> ... ..	<b>32,695,425</b>	<b>38,984,426</b>	<b>35,112,037</b>	<b>36,481,245</b>	<b>41,436,861</b>

Note. — signifies net imports.

## § 2. Horses.

1. **Suitability of Australia for Horse-breeding.**—From the earliest times the suitability of the climate and pastures of Australia for the production of serviceable breeds of horses has been fully recognised. By the importation of high-class sires, and the careful selection of breeding mares, these natural advantages were utilised to the fullest extent, all classes of horses being bred. As a consequence of this combination of advantages the Australian horse, whether of the heavy draught, medium weight, or light saddle and carriage variety, compares more than favourably with the product of other lands. The Australian horse has been found suitable for the army in India, and large numbers are obtained annually for remount purposes.

2. **Distribution throughout the Commonwealth.**—As regards numbers, the State of New South Wales, the earliest settled of the group, established a lead, which it has ever since retained. For some years past Queensland has made rapid progress in this regard, and in 1913 there were 706,472 horses in that State, in the same year there being 744,485 in New South Wales, and 562,331 in Victoria. The figures for the several States or a series of years are as follows:—

**NUMBER OF HORSES IN STATES, TERRITORIES, AND COMMONWEALTH,  
1860 to 1913.**

Year.	N.S.W.	Victoria.	Q'sland.	S. Aust.	W. Aust.	Tas.	N. T.	Fed. Terr.	Commonwealth.
1860 ...	251,497	76,536	23,504	49,899	9,555	21,034	...	...	431,525
1865 ...	282,587	121,051	51,091	73,993	15,700	22,152	...	...	566,574
1870 ...	337,597	167,220	83,358	83,744	22,174	22,679	...	...	716,772
1875 ...	357,696	196,184	121,497	107,164	29,379	23,473	...	...	835,393
1880 ...	395,984	275,516	179,152	148,219	34,568	25,267	*2,372	...	1,061,078
1885 ...	344,697	304,098	260,207	164,753	34,392	28,610	6,307	...	1,143,064
1890 ...	444,163	436,459	365,812	187,686	44,384	31,165	11,919	...	1,521,588
1895 ...	499,943	424,995	468,743	181,839	58,506	31,580	14,813	...	1,680,419
1900 ...	481,417	392,237	456,788	166,790	68,253	31,607	12,562	...	1,609,654
1905 ...	506,884	385,513	430,565	197,099	97,397	37,101	20,231	...	1,674,790
1910 ...	650,636	472,080	593,813	249,326	134,114	41,388	24,509	...	2,165,866
1911 ...	687,242	507,813	618,954	259,719	140,277	41,853	21,407	1,762	2,279,027
1912 ...	714,952	530,494	674,573	276,589	147,629	44,039	18,382	1,505	2,408,113
1913 ...	744,458	562,331	706,472	283,641	156,636	43,941	22,792	1,712	2,521,983

\* Statistics not collected prior to 1880.

**3. Proportion in the Several States and Territories.**—The percentages of the numbers of horses in the several States and Territories on the total for the Commonwealth for 1901 and the past five years are as follows:—

**PERCENTAGE OF HORSES IN EACH STATE AND TERRITORY ON THE TOTAL FOR  
COMMONWEALTH, 1901 and 1909 to 1913.**

Year.	N.S.W.	Victoria.	Q'sland.	S. Aust.	W. Aust.	Tas.	North'n Terr.	Fed. Terr.	Commonwealth.
	%	%	%	%	%	%	%	%	%
1901 ...	30.03	23.90	28.52	10.20	4.55	2.00	0.80	...	100.00
1909 ...	29.90	21.89	27.47	11.39	6.19	2.00	1.16	...	100.00
1910 ...	30.04	21.80	27.42	11.51	6.19	1.91	1.13	...	100.00
1911 ...	30.15	22.28	27.16	11.40	6.15	1.84	0.94	0.08	100.00
1912 ...	29.69	22.03	28.01	11.48	6.13	1.83	0.77	0.06	100.00
1913 ...	29.52	22.30	28.01	11.25	6.21	1.74	0.90	0.07	100.00

During the period under review, the proportions in South Australia and Western Australia have increased, that in Victoria has diminished, while in the case of New South Wales, Queensland, Tasmania, and the Northern Territory the proportion in 1913 was practically identical with that in 1901.

**4. Oversea Export Trade in Horses.**—Australia's export trade in horses is a fairly considerable, though somewhat fluctuating, one. During the past five years it has varied in number between 12,161 for the year 1910 and 7807 in 1909, and in value between £256,104 in the former year and £163,730 during 1913. The total number of horses exported during the five years amounted to 47,846, an average of 9569 per annum. The total value of the exports for the period was £1,002,341, or £200,468 per annum.

The average export value per head for the period was £20 19s. 0d. The numbers exported to the principal countries concerned in this trade are as follows:—

**NUMBER AND DESTINATION OF HORSES EXPORTED FROM THE COMMONWEALTH,  
1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 years.
	No.	No.	No.	No.	No.	No.
India ... ..	6,136	9,187	7,416	7,299	6,775	36,813
Java ... ..	594	450	880	584	799	3,807
Straits Settlements ... ..	353	605	481	410	436	2,285
Philippine Islands ... ..	315	727	350	247	88	1,727
Ceylon ... ..	97	265	198	156	3	719
Mauritius ... ..	70	403	112	46	95	726
Fiji ... ..	114	190	180	146	106	736
New Zealand ... ..	31	122	92	77	90	412
Japan ... ..	1	43	45	41	59	189
Papua ... ..	17	110	47	56	57	287
Siam ... ..	...	...	165	...	...	165
China ... ..	19	1	13	25	...	58
Hong Kong ... ..	29	...	32	...	...	61
South African Union ... ..	3	1	12	13	8	37
Other Countries ... ..	28	57	86	107	46	324
Total ... ..	7,807	12,161	10,109	9,207	8,562	47,846

The corresponding particulars relative to the value of the horses exported are given in the next table:—

**VALUE OF HORSES EXPORTED FROM THE COMMONWEALTH, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 years.
	£	£	£	£	£	£
India ... ..	126,686	171,862	135,840	129,186	107,925	671,499
Java ... ..	19,598	10,424	19,235	13,459	21,465	84,181
Straits Settlements ... ..	10,339	21,185	12,939	11,322	11,614	67,399
Philippine Islands ... ..	5,303	14,971	7,795	5,449	2,061	35,579
Ceylon ... ..	2,201	7,486	3,622	3,403	840	17,552
Mauritius ... ..	480	7,191	2,371	1,358	3,229	14,629
Fiji ... ..	2,982	4,566	4,788	3,642	3,215	19,193
New Zealand ... ..	2,847	12,403	17,322	11,435	5,319	49,326
Japan ... ..	60	1,860	2,115	2,650	2,836	9,521
Papua ... ..	936	2,055	920	899	1,271	6,081
Siam ... ..	...	...	7,298	...	...	7,298
China ... ..	295	60	390	625	...	1,370
Hong Kong ... ..	888	...	800	...	...	1,688
South African Union ... ..	180	25	500	695	211	1,611
Other Countries ... ..	217	2,016	4,016	5,421	3,744	15,414
Total ... ..	173,012	256,104	219,951	189,544	163,730	1,002,341

It will be seen from the foregoing tables that the export trade in horses with India, the Straits Settlements, and Java has been fairly uniform throughout the five years under review, but that the particulars for some of the other countries specified exhibit marked fluctuations.

The number of horses imported into the Commonwealth is comparatively small, consisting mainly of valuable animals introduced for breeding purposes, and imported principally from New Zealand and the United Kingdom. The average value per head of the horses imported during the five years was £67 12s. 8d., as compared with £20 18s. 6d. per head for the exports for the same period. The average number imported per annum was, however, only 3134, and the average annual value £212,313. The following table furnishes a comparison of imports and exports of horses during the five years 1909 to 1913:—

#### COMMONWEALTH IMPORTS AND EXPORTS OF HORSES, 1909 to 1913.

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1909 ...	1,472	88,317	7,807	173,012	6,335	84,695
1910 ...	5,542	307,371	12,161	256,104	6,619	— 51,267
1911 ...	5,732	347,973	10,109	219,951	4,377	—128,022
1912 ...	2,152	217,561	9,207	189,544	7,055	— 28,017
1913 ...	801	100,341	8,562	163,730	7,761	63,389
Total for 5 years	15,699	1,061,563	47,846	1,002,341	32,147	— 59,222

Note. — signifies value of net imports.

5. Comparison with other Countries.—The numbers of horses in some of the leading horse-breeding countries of the world, according to the latest available returns, are as follows:—

#### NUMBER OF HORSES IN SOME OF THE LEADING HORSE-BREEDING COUNTRIES IN THE WORLD.

Country.	Date.	Number of Horses.	Country.	Date.	Number of Horses.
Russian Empire ...	1912	33,169,706	Sweden ...	1911	588,485
Utd. States America	1912	20,509,000	Cuba ...	1912	560,580
Argentine Republic	1911	8,894,031	Uruguay ...	1908	556,307
Germany...	1912	4,523,059	Bulgaria ...	1905	538,271
Austria-Hungary <sup>1</sup> ...	1910 & 1911	4,154,329	Denmark ...	1909	535,018
France ...	1912	3,222,140	Spain ...	1912	525,853
Australia...	1913	2,521,983	Chile ...	1911	420,786
Canada <sup>2</sup> ...	1912	2,378,204	New Zealand <sup>5</sup> ...	1911	404,688
United Kingdom <sup>3</sup> ...	1912	1,994,607	Netherlands ...	1910	327,377
Japan ...	1911	1,576,146	Belgium...	1912	262,709
British India <sup>4</sup> ...	1910	1,564,985	Algeria ...	1911	226,764
Italy ...	1908	906,820	Norway ...	1907	172,468
Rumania ...	1900	864,324	Servia ...	1910	152,617
Mexico ...	1902	859,217	Switzerland ...	1911	144,128
Union of Sth. Africa	1911	719,414	Egypt ...	1912	47,427

1. Austria 1910, Hungary 1911. 2. Exclusive of British Columbia. 3. Agricultural horses, unbroken horses, and breeding mares only. 4. Exclusive of Eastern Bengal. 5. Including mules and asses.

**6. Relation to Population.**—In proportion to population, horses are much more numerous in the Northern Territory than in any other of the principal divisions of the Commonwealth. Queensland is next in order, while Tasmania has the smallest number of horses per head. In all cases the number of horses per head of population was somewhat higher in 1913 than in 1901. Particulars for 1901 and the past five years are as follows :—

NUMBER OF HORSES PER HEAD OF POPULATION, 1901 and 1909 to 1913.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Federal Terr.	C'wlth.
1901	0.35	0.32	0.91	0.46	0.38	0.18	2.76	...	0.42
1909	0.37	0.35	0.96	0.59	0.47	0.21	6.70	...	0.47
1910	0.40	0.36	0.99	0.61	0.48	0.21	7.42	...	0.49
1911	0.41	0.37	0.99	0.62	0.48	0.22	6.59	0.92	0.50
1912	0.40	0.38	1.06	0.64	0.48	0.22	5.29	0.78	0.51
1913	0.41	0.40	1.07	0.64	0.49	0.22	6.21	0.86	0.52

### § 3. Cattle.

**1. Purposes for which Raised.**—In all the States of the Commonwealth cattle-raising is carried out on a more or less extensive scale, the main object in certain districts being the production of stock suitable for slaughtering purposes, and in others the raising of profitable dairy herds. The great impetus which the development of the export trade in Australian butter gave to the dairying industry in the Commonwealth led to a considerable increase in numbers and improvement in quality of the dairy herds of Victoria, New South Wales, and Southern Queensland in particular, the sub-tropical portion of Australia being apparently the best adapted to this industry. On the other hand, by far the finest specimens of beef-producing cattle are those raised in the tropical districts of the Commonwealth, *i.e.*, in the northern parts of Queensland, in the Northern Territory, and in the Kimberley districts in the north of Western Australia.

**2. Distribution throughout Commonwealth.**—Until 1880 New South Wales occupied the leading position in the Commonwealth group as a cattle-raising State, but in that year Queensland forged ahead and obtained a lead which it has since maintained. The extent of this lead has, however, varied considerably, owing principally to the effects produced by the tick fever and droughts, from both of which causes the Queensland herds suffered more severely than those of the other States. In fact, during the period from 1894, when the number of cattle in Queensland attained its maximum of rather more than 7,000,000, to 1903, when the number recorded was less than 2,500,000, an uninterrupted decline was experienced. During the ten years ended 1913, however, a rapid improvement took place, and the total reached on 31st December, 1913, was over 5,300,000.

The numbers of cattle in the several States and the Northern Territory at quinquennial intervals from 1860 to 1910 and for each subsequent year are as follows :—

**NUMBER OF CATTLE IN STATES, TERRITORIES AND COMMONWEALTH,  
1860 to 1913.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Fed. Ter.	C'wealth.
1860	2,408,586	722,332	432,890	278,265	32,476	83,366	...	...	3,957,915
1865	1,961,905	621,337	848,346	158,057	45,148	90,020	...	...	3,724,813
1870	2,195,096	721,096	1,076,630	136,832	45,213	101,459	...	...	4,276,326
1875	3,184,086	1,054,598	1,812,576	219,240	50,416	118,694	...	...	6,389,610
1880	2,580,040	1,286,267	3,162,752	283,315	63,719	127,187	*19,720	...	7,523,000
1885	1,317,315	1,290,790	4,162,652	271,478	70,408	138,642	146,562	...	7,397,847
1890	2,091,229	1,782,978	5,558,264	359,938	130,970	162,440	214,094	...	10,299,913
1895	2,150,057	1,795,314	6,822,401	355,867	200,091	162,801	280,957	...	11,767,488
1900	1,983,116	1,602,384	4,078,191	214,761	338,590	165,516	257,667	...	8,640,225
1905	2,337,973	1,737,690	2,963,695	304,027	631,825	206,211	346,910	...	8,528,331
1910	3,140,307	1,547,569	5,131,699	384,862	825,040	201,854	513,383	...	11,744,714
1911	3,185,824	1,647,127	5,073,201	393,566	843,638	217,406	459,780	8,412	11,828,954
1912	3,033,726	1,508,089	5,210,891	383,418	806,294	222,181	405,552	7,108	11,577,259
1913	2,815,113	1,528,553	5,322,033	352,905	834,265	205,743	417,643	7,627	11,483,882

\* Statistics not collected prior to 1880.

**3. Proportion in each State.**—During the period elapsing between 1901 and 1913 the proportion of cattle in the several States and the Northern Territory has varied considerably, as shewn hereunder :—

**PERCENTAGE OF CATTLE IN EACH STATE AND TERRITORY ON TOTAL FOR  
COMMONWEALTH, 1901 and 1909 to 1913.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Federal Territory.	C'wealth.
	%	%	%	%	%	%	%	%	%
1901 ...	24.11	19.12	44.43	2.65	4.69	1.99	3.01	...	100.00
1909 ...	27.42	14.04	42.68	3.12	7.18	1.81	3.75	...	100.00
1910 ...	26.74	13.18	43.69	3.28	7.02	1.72	4.37	...	100.00
1911 ...	26.93	13.92	42.89	3.33	7.14	1.84	3.89	0.07	100.00
1912 ...	26.20	13.03	45.01	3.31	6.97	1.92	3.50	0.06	100.00
1913 ...	24.51	13.31	46.34	3.07	7.27	1.79	3.64	0.07	100.00

A comparison of the positions of the several States in 1901 and 1913 shews that, while Victoria's proportion of the Commonwealth herds suffered considerable diminution, and that for Tasmania a falling off to a slight extent, fairly large increases are in evidence in the other States, more especially in Western Australia, the Northern Territory also shewing an upward tendency.

**4. Imports and Exports of Cattle.**—Although the various products of the cattle-raising industry bulk largely in the export trade of the Commonwealth, the export of live cattle from Australia has never been considerable. The number of cattle imported is also small, consisting, as in the case of horses, mainly of valuable animals for breeding. Details are as follows :—

## COMMONWEALTH IMPORTS AND EXPORTS OF CATTLE, 1901 and 1909 to 1913.

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1901 ...	114	3,591	2,413	22,088	2,299	18,497
1909 ...	81	5,710	975	9,586	894	3,876
1910 ...	104	8,665	3,745	20,181	3,641	11,516
1911 ...	103	7,806	9,964	45,670	9,861	37,864
1912 ...	33	1,502	16,083	65,735	16,050	64,233
1913 ...	57	5,572	14,605	55,801	14,548	50,229

The average value of the cattle imported into the Commonwealth during the last five years was £77 7s. 11d. per head, while the average value of the cattle exported during the same period was £4 6s. 10d. The imported cattle were principally for stud purposes.

The comparatively large exports for the last two years were due to shipments to Java and Philippine Islands valued at £42,290 and £61,766 respectively. The bulk of these cattle were exported from Western Australia.

**5. Cattle Slaughtered.**—Complete returns of the number of cattle slaughtered annually in the Commonwealth are not obtainable, as these particulars were collected in Tasmania prior to 1911 for Hobart and Launceston only, and were collected in South Australia for the first time in 1908 in respect of the year 1907. Estimates for the missing data for these States have, however, been made, as shewn in the following table:—

**CATTLE (INCLUDING CALVES) SLAUGHTERED IN STATES, TERRITORIES AND  
COMMONWEALTH, 1901 and 1909 to 1913.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. †	N.T.	Fed. Ter.	C'wealth.
1901	335,823	251,477	377,433	*72,000	39,424	34,000	†	...	1,110,157
1909	412,066	287,548	305,026	82,460	49,716	37,000	3,975	...	1,177,791
1910	483,947	319,665	378,514	84,164	55,723	37,000	4,061	...	1,363,074
1911	548,651	347,926	444,264	87,293	58,049	38,000	\$4,061	269	1,528,513
1912	612,773	368,512	580,332	113,344	59,695	41,000	\$4,061	267	1,779,984
1913	679,901	410,694	703,367	116,282	62,613	30,038	\$4,061	276	2,007,232

\* Estimated. † Partly estimated prior to 1913. ‡ Not available. § 1910 figures, those for 1911, 1912 and 1913 not available.

For Hobart and Launceston only, the figures for the years 1901, 1909, and 1910 were, respectively, 8815, 10,059 and 11,569.

**6. Export of Beef Preserved by Cold Process.**—A large export trade in beef preserved by cold process is carried on by the Commonwealth, mainly with the United Kingdom, the Philippine Islands and the South African Union. The quantities so exported during the five years 1909 to 1913 are as follows:—



**QUANTITY OF BEEF PRESERVED BY COLD PROCESS EXPORTED FROM THE  
COMMONWEALTH, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ... ..	52,777,113	91,250,736	81,501,060	108,886,860	169,963,291	504,379,060
Philippine Islands ... ..	11,260,779	10,020,181	10,336,535	13,996,124	14,535,447	60,149,066
South African Union ... ..	1,698,046	3,784,637	7,337,652	9,228,546	5,656,346	27,705,227
Egypt ... ..	2,525,097	1,362,686	1,905,595	2,084,806	3,990,804	11,868,988
Straits Settlements ... ..	1,092,263	1,073,889	1,646,590	1,781,817	2,053,514	7,648,073
United States ... ..	...	...	...	289	5,037,769	5,038,058
Malta ... ..	856,599	862,148	1,526,389	1,090,044	1,142,092	5,477,272
Italy ... ..	90,609	327,056	2,509,466	2,127,876	6,356,514	11,411,521
Hong Kong... ..	220,919	385,895	618,688	551,012	423,659	2,200,173
Germany ... ..	...	...	...	97,491	1,813,799	1,911,390
Canada ... ..	...	...	239,653	904,832	3,352,675	4,497,160
Gibraltar ... ..	130,703	70,908	403,626	...	353,582	968,819
Japan ... ..	102,723	22,119	77,223	1,098	36,705	239,868
Ceylon ... ..	56,509	99,564	151,104	150,620	221,521	679,318
Hawaiian Islands ... ..	105,403	71,606	272,559	1,198,140	2,356,115	4,003,823
Other countries ... ..	225,532	96,103	260,277	110,521	1,624,773	2,317,206
Total ... ..	71,142,295	109,427,528	108,786,417	142,210,076	218,918,606	650,484,922

The value of the beef preserved by cold process exported from the Commonwealth during the same years is as follows:—

**VALUE OF BEEF PRESERVED BY COLD PROCESS EXPORTED FROM THE  
COMMONWEALTH, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ... ..	533,044	967,662	813,393	1,245,536	2,037,978	5,597,613
Philippine Islands ... ..	125,052	126,719	114,989	162,555	183,047	712,362
South African Union ... ..	18,251	36,559	67,940	97,601	65,906	286,257
Egypt ... ..	26,747	14,582	19,308	24,537	49,134	134,308
Straits Settlements ... ..	11,899	12,452	21,065	20,141	25,576	91,133
United States ... ..	...	...	...	5	66,838	66,843
Malta ... ..	8,690	9,790	15,412	11,491	13,214	58,597
Italy ... ..	1,002	3,866	26,497	23,173	75,130	129,668
Hong Kong... ..	2,144	3,826	6,370	4,346	4,392	21,078
Germany ... ..	...	...	...	1,219	23,388	24,607
Canada ... ..	...	...	3,707	16,831	44,456	64,994
Gibraltar ... ..	1,157	517	3,751	...	3,595	9,020
Japan ... ..	1,139	205	694	13	350	2,401
Ceylon ... ..	601	1,035	1,315	1,367	2,643	6,961
Hawaiian Islands ... ..	1,067	690	4,413	20,325	38,003	64,498
Other countries ... ..	2,417	1,243	3,278	1,591	18,625	27,154
Total ... ..	733,210	1,179,146	1,102,132	1,630,731	2,652,275	7,297,494

During the five years under review, the largest of Australia's customers for beef preserved by cold process has been the United Kingdom, while the most consistent and the second largest customer has been the Philippine Islands; the South African Union and Egypt ranked next in order of importance. The exporting States during 1913 were: Queensland, 188,538,120 lbs., valued at £2,231,972; New South Wales, 18,172,575 lbs., valued at £247,934; Victoria, 10,022,248 lbs., valued at £146,106; and South Australia, 2,185,663 lbs., valued at £26,263.

**7. Comparison with other Countries.**—In the following comparison of the herds of Australia with those of some of the principal cattle-raising countries of the world, the latest available figures have been inserted in each case:—

## NUMBER OF CATTLE IN VARIOUS COUNTRIES.

Country.	Date.	No. of Cattle.	Country.	Date.	No. of Cattle.
British India <sup>1</sup> ...	1910	72,669,279	Spain ...	1912	2,561,894
U. S. of America ...	1912	57,959,000	Denmark ...	1909	2,253,982
Russian Empire ...	1912	48,896,236	Netherlands ...	1910	2,026,943
Argentine Republic...	1911	28,786,168	New Zealand ...	1911	2,020,171
Germany ...	1912	20,182,021	Belgium ...	1912	1,830,747
Austria-Hungary <sup>2</sup> ...	1910 & 11	16,479,130	Chile ...	1911	1,760,272
France ...	1912	14,705,900	Bulgaria ...	1905	1,695,533
United Kingdom ...	1912	11,914,635	Switzerland ...	1911	1,443,483
Australia ...	1913	11,483,882	Japan ...	1911	1,405,026
Uruguay ...	1908	8,192,602	Algeria ...	1911	1,113,952
Canada <sup>3</sup> ...	1912	6,596,860	Norway ...	1907	1,094,101
Italy ...	1908	6,198,861	Ceylon ...	1911	1,003,627
Union of South Africa	1911	5,796,949	Servia ...	1910	957,918
Mexico ...	1902	5,142,457	Portugal ...	1906	703,198
Cuba ...	1912	2,829,553	Egypt ...	1912	619,540
Sweden ...	1911	2,689,609	Tunis ...	1912	224,514
Rumania ...	1900	2,588,526 <sup>4</sup>			

1. Exclusive of Eastern Bengal.

2. Austria, 1910, Hungary 1911.

3. Exclusive of British

Columbia. 4. Including buffaloes.

8. Relation to Population.—The number of cattle per head of population differs considerably in the several States, and is also subject to marked variation from year to year in the same State. Particulars for 1901 and the past five years are as follows:—

## NUMBER OF CATTLE PER HEAD OF POPULATION, 1901 and 1909 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.Aust.	Tas.	Northern Territory.	Fed. Terr.	C'wealth.
1901 ...	1.49	1.34	7.44	0.63	2.06	0.96	54.68	...	2.22
1909 ...	1.88	1.21	8.15	0.88	2.99	1.04	117.03	...	2.55
1910 ...	1.91	1.21	8.57	0.95	2.98	1.04	150.86	...	2.65
1911 ...	1.88	1.23	8.15	0.94	2.87	1.12	141.56	4.38	2.59
1912 ...	1.71	1.09	8.19	0.89	2.63	1.13	116.71	3.66	2.45
1913 ...	1.54	1.08	8.06	0.82	2.60	1.02	113.74	3.84	2.36

For the Commonwealth as a whole the ratio of cattle to population is 6 per cent. greater for 1913 than for 1901, and exhibits a continuous increase from 1902 to 1910, while the proportion for 1911 is approximately the same as for the previous year; 1912 and 1913 shew a slight decline. The excess of the 1913 figures over those for 1901 is in evidence in all the States except Victoria, and is most marked in the case of the Northern Territory. In Victoria the ratios for the last two years are the lowest for the period under review.

## § 4. Sheep.

1. The Founding of the Commonwealth Pastoral Industry.—Fortunately for Australia, the suitability of its climate and general conditions for the production of a high class of wool was, at an early date in the history of its settlement, surmised and tested by Captain Macarthur, one of the pioneer sheep-breeders of New South Wales. To the energy of this enterprising pastoralist is due in large measure the rapid and extremely satisfactory development of Australia as a producer of fine wool, and though

it would appear that the introduction of the Merino sheep into Australia was not due to Macarthur, a great deal of the credit for having successfully established the pastoral industry in Australia must certainly be his.

**2. Distribution throughout Commonwealth.**—With the exception of a short period in the early sixties, when the flocks of Victoria outnumbered those of the mother State, New South Wales has maintained amongst the Commonwealth group the lead in sheep production which naturally attached to it as the portion of the Commonwealth in which settlement was first effected. From 1878 onwards, the number of sheep in New South Wales has, in every year except 1902, 1903, and the past four years represented more than half the total for the Commonwealth, and even in these years it fell but little short of that amount.

The number of sheep in the several States and Territories at quinquennial intervals from 1860 to 1910, and for each year onwards to 1913, is as follows:—

**NUMBER OF SHEEP IN STATES, TERRITORIES, AND COMMONWEALTH,  
1860 to 1913.**

Year.	New South Wales.	Victoria.	Queens- land.	South Aust.	Western Aust.	Tas- mania.	Northern Territory	Federal Territory.	Total C'wealth.
1860	6,119,163	5,780,896	3,449,350	2,824,811	260,136	1,700,930	...	...	20,135,286
1865	8,132,511	8,835,380	6,594,966	3,779,308	445,044	1,752,719	...	...	29,539,928
1870	16,306,585	10,761,897	8,163,818	4,400,655	608,892	1,349,775	...	...	41,593,612
1875	25,353,924	11,749,532	7,227,774	6,179,395	881,861	1,731,723	...	...	53,124,209
1880	35,398,121	10,360,285	6,935,967	6,443,904	1,231,717	1,796,715	*9,318	...	62,176,027
1885	37,820,906	10,681,837	8,994,322	6,593,648	1,702,719	1,648,627	49,917	...	67,491,976
1890	55,986,431	12,692,843	18,007,234	7,004,642	2,524,913	1,619,256	45,902	...	97,881,221
1895	47,617,687	12,791,084	19,856,959	6,531,006	2,295,832	1,523,846	73,713	...	90,689,727
1900	40,020,506	10,841,790	10,339,185	5,235,220	2,434,311	1,683,956	48,027	...	70,602,995
1905	39,506,764	11,455,115	12,535,331	6,277,812	3,120,703	1,583,561	61,730	...	74,540,916
1910	45,560,969	12,882,665	20,331,838	6,267,477	5,158,516	1,788,310	57,240	...	92,047,015
1911	44,722,523	13,857,804	20,740,981	6,171,907	5,411,542	1,823,017	50,983	224,764	93,003,521
1912	38,855,861	11,892,224	20,310,036	5,481,489	4,596,958	1,862,669	75,808	188,641	83,263,686
1913	39,701,348	12,113,682	21,786,600	5,073,057	4,421,375	1,745,356	67,109	148,875	85,057,402

\* Statistics not collected prior to 1880.

**3. Proportion in the Several States and Territories.**—Particulars concerning the relative positions of the several States and Territories with respect to the total flocks of Australia during the years 1901 and 1909 to 1913, and the variations in such positions which have taken place during those years are as hereunder:—

**PERCENTAGE OF SHEEP IN EACH STATE AND TERRITORY ON TOTAL  
FOR COMMONWEALTH, 1901 and 1909 to 1913.**

Year.	N.S.W.	Vic.	Q'sland.	S. Aust.	W. Aus.	Tas.	N.T.	Fed. Terr.	C'wealth.	
	%	%	%	%	%	%	%	%	%	
1901	...	58.10	14.82	13.92	6.95	3.65	2.49	0.07	...	100.00
1909	...	50.40	14.11	21.37	7.02	5.16	1.89	0.05	...	100.00
1910	...	49.50	14.00	22.09	6.81	5.60	1.94	0.06	...	100.00
1911	...	48.09	14.90	22.30	6.64	5.82	1.96	0.05	0.24	100.00
1912	...	46.67	14.28	24.39	6.58	5.52	2.24	0.09	0.23	100.00
1913	...	46.68	14.24	25.61	5.96	5.20	2.05	0.08	0.18	100.00

During the period the proportion of total Commonwealth flocks declined considerably in the case of New South Wales, and in a less marked degree in Victoria,

South Australia and Tasmania, while in the case of Queensland a marked advance in proportion was experienced, and in Western Australia to a minor extent.

**4. Oversea Imports and Exports of Sheep.**—As in the case of cattle, the oversea exports of live sheep from Australia are of comparatively small importance. The principal countries to which such exports have been consigned during recent years are the South African Union, Straits Settlements, and Papua, Western Australia being the principal exporting State. The following are the particulars of the imports and exports for the years 1901 and 1909 to 1913 :—

**COMMONWEALTH IMPORTS AND EXPORTS OF SHEEP, 1901 and 1909 to 1913.**

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1901 ... ..	553	12,134	12,094	12,104	11,541	—30
1909 ... ..	2,775	14,213	5,315	20,243	2,540	6,030
1910 ... ..	2,863	14,008	13,144	30,456	10,281	16,448
1911 ... ..	5,254	25,997	24,219	38,729	18,965	12,732
1912 ... ..	2,903	10,643	34,113	72,522	31,210	61,879
1913 ... ..	8,448	28,508	41,770	75,073	33,322	46,565

Note. — signifies net imports.

**5. Sheep Slaughtered.**—The numbers of sheep slaughtered in the several States during 1901 and from 1909 to 1913 are as follows :—

**SHEEP (INCLUDING LAMBS) SLAUGHTERED, 1901 and 1909 to 1913.**

Year.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tas.†	N.T.	Fed. Terr.	C'wealth.
1901	4,519,133	2,469,797	554,705	*678,000	428,534	322,000	...	...	8,972,169
1909	6,430,486	3,708,512	1,076,718	1,335,514	491,103	344,000	523	...	13,386,856
1910	7,470,002	4,245,881	1,751,151	1,316,388	549,977	346,000	516	...	15,679,915
1911	6,539,559	4,348,363	981,153	1,275,734	622,555	350,000	516	7,366	14,125,246
1912	5,805,595	4,153,269	1,273,332	1,332,838	610,214	357,000	516	6,587	13,539,351
1913	6,420,810	4,742,231	1,375,827	1,222,315	602,383	315,726	516	4,765	14,684,573

\* Estimated. † Partly estimated. ‡ Figures for 1910; those for 1911, 1912, and 1913 not available.

**6. Exports of Mutton and Lamb Preserved by Cold Process.**—Australia's export trade in mutton and lamb preserved by cold process has, in recent years, advanced rapidly. In 1903 the value of exports was £492,114, while seven years afterwards, in 1910, the value amounted to no less a sum than £2,161,513; the average for the past two years, 1912 and 1913, was £2,244,455. In all the States considerable attention is now being paid to the breeding of a class of sheep that will best meet the requirements of consumers. Crosses between the Merino and the Lincoln, or between the Merino and the Leicester breeds, have proved exceedingly valuable, as they furnish both a good quality of wool and also an excellent carcase for export purposes. The breeding of Shropshire and Southdown sheep with a view to combining meat production with that of wool is also on the increase. Special attention is being paid to the raising of lambs for the home markets, as it is becoming very widely recognised that with suitable breeds, the export trade in lambs is a very profitable one.

Australia's principal customer in this trade is the United Kingdom, which has absorbed 94.1 per cent. of the total quantity exported from the Commonwealth during the past

five years. The South African Union and Canada took 1.5 and 1.1 per cent. respectively, while the balance of 3.3 per cent. was principally absorbed by the Philippine Islands, Malta, Straits Settlements, and Egypt. The recent revision of the tariff of the United States of America will doubtless have the effect of eventually opening up a vast market in that country for Australian mutton and lamb and other meat products. The quantities exported to various countries are as follow :—

**QUANTITY OF MUTTON AND LAMB PRESERVED BY COLD PROCESS EXPORTED FROM THE COMMONWEALTH, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ...	110,138,905	181,556,597	120,757,079	108,556,172	191,440,138	712,448,891
South African Union ...	2,458,029	2,720,584	2,657,853	1,910,196	1,550,257	11,296,919
Canada ...	1,138,974	2,309,441	2,077,802	1,320,718	1,662,910	8,509,845
Germany ...	...	...	...	133,429	5,144,062	5,277,491
Philippine Islands ...	682,116	788,577	859,022	677,076	778,693	3,785,484
Malta ...	630,313	838,871	699,514	266,035	1,059,183	3,493,916
Straits Settlements ...	568,684	713,836	845,079	992,831	928,783	4,049,213
Egypt ...	455,599	369,611	447,411	624,506	633,109	2,530,236
Hong Kong ...	323,113	318,590	417,316	328,330	401,380	1,788,729
Ceylon ...	117,141	254,212	332,011	293,523	365,065	1,361,952
Hawaiian Islands...	255,051	145,246	102,361	83,770	91,085	677,513
United States ...	...	...	...	2,051	571,008	573,059
Gibraltar ...	67,190	52,590	99,501	...	...	219,281
Japan ...	22,789	18,681	19,885	...	39	61,394
Other Countries ...	57,735	142,494	254,461	183,344	306,071	944,105
<b>Total ...</b>	<b>116,915,639</b>	<b>190,229,330</b>	<b>129,569,295</b>	<b>115,371,981</b>	<b>204,931,783</b>	<b>757,018,028</b>

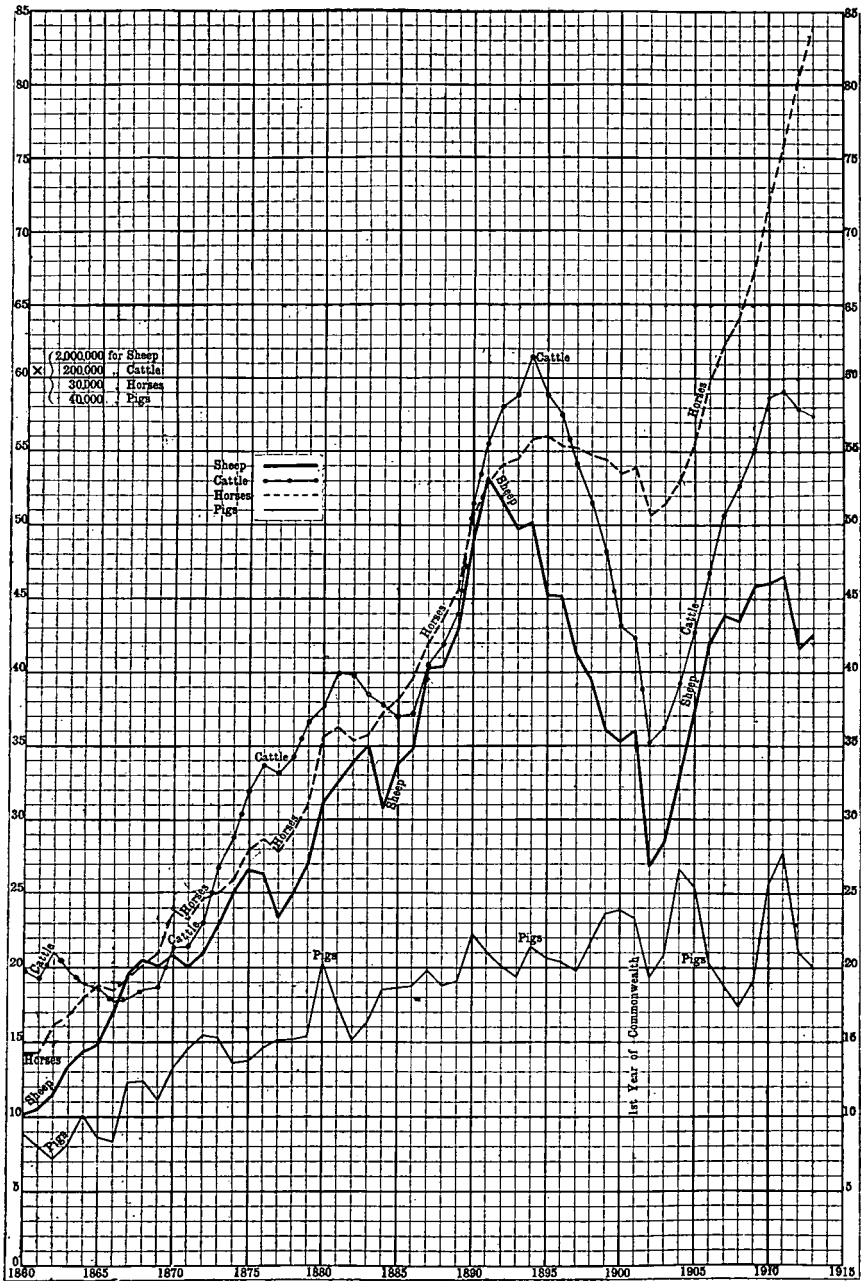
The corresponding particulars concerning the values of the exports are :—

**VALUES OF FROZEN MUTTON AND LAMB EXPORTED FROM THE COMMONWEALTH, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ...	1,161,475	2,069,932	1,529,633	1,499,648	2,712,682	8,973,370
South African Union ...	23,578	28,935	28,365	23,919	19,936	124,733
Canada ...	14,646	23,132	28,027	20,336	27,256	113,397
Germany ...	...	...	...	1,670	67,896	69,066
Philippine Islands ...	6,059	7,878	9,282	9,271	9,649	42,139
Malta ...	6,262	10,140	8,274	3,228	14,142	42,046
Straits Settlements ...	5,488	7,407	9,781	13,387	11,841	47,904
Egypt ...	4,987	4,385	6,248	8,282	9,435	33,337
Hong Kong ...	2,997	3,288	4,581	4,483	5,571	20,920
Ceylon ...	1,096	2,649	3,910	4,448	5,091	17,194
Hawaiian Islands ...	2,994	1,783	1,549	1,343	1,386	9,055
United States ...	...	...	...	35	7,793	7,828
Gibraltar ...	700	329	829	...	...	1,858
Japan ...	195	240	202	...	1	638
Other Countries ...	558	1,415	2,941	2,328	4,353	11,595
<b>Total ...</b>	<b>1,231,035</b>	<b>2,161,513</b>	<b>1,633,622</b>	<b>1,592,378</b>	<b>2,896,532</b>	<b>9,515,080</b>

**7. Comparison with other Countries.**—As regards the size of its flocks and the quantity and quality of wool produced, Australia occupies the foremost position amongst the sheep-raising countries of the world. The following comparison gives the latest available figures relative to the number of sheep in the principal wool-producing countries :—

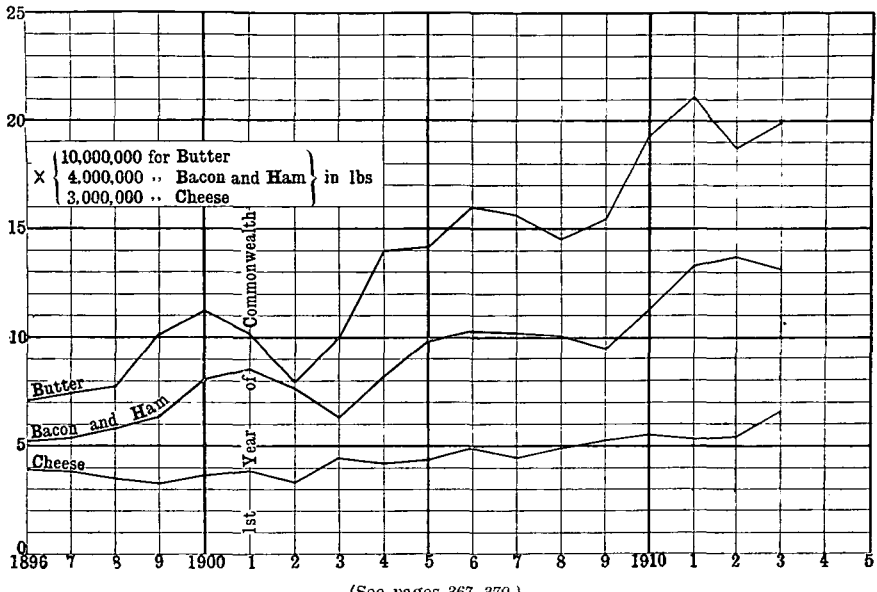
GRAPHS SHEWING NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN THE  
COMMONWEALTH FROM 1860 TO 1913.



(See pages 276 *et seq.*)

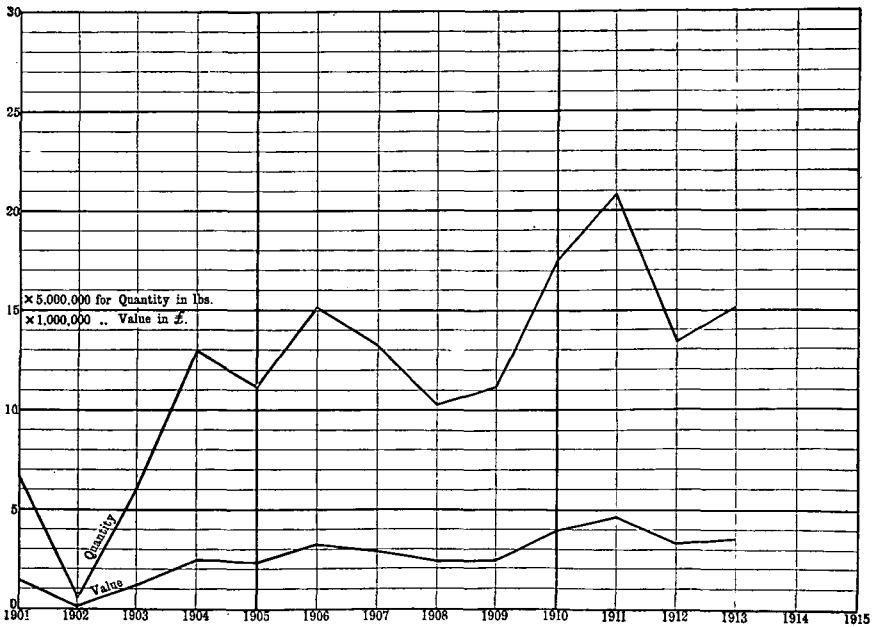
EXPLANATION OF GRAPH.—The base of each small square represents an interval of one year. The totals of the sheep, cattle, horses, and pigs for the Commonwealth are indicated by the several curves or graphs, the vertical side of a small square representing 2,000,000 in the case of sheep; 200,000 for cattle; 30,000 for horses; 40,000 for pigs.

GRAPHS SHEWING THE PRODUCTION OF BUTTER AND CHEESE, AND BACON AND HAM, IN THE COMMONWEALTH, FROM 1896 TO 1913.



EXPLANATION OF GRAPH.—The base of each small rectangle represents an interval of one year, and the vertical height of each small rectangle denotes in the case of butter 10,000,000 lbs.; in the case of bacon and ham, 4,000,000 lbs.; and in the case of cheese 3,000,000 lbs.

GRAPHS SHEWING THE QUANTITY AND VALUE OF NET EXPORTS OF BUTTER FROM THE COMMONWEALTH, FROM 1901 TO 1913.



EXPLANATION OF GRAPH.—The base of each small rectangle represents an interval of one year and the vertical height of each small rectangle represents 5,000,000 lbs. in weight, or £1,000,000 in value.

## NUMBER OF SHEEP IN VARIOUS COUNTRIES.

Country.	Date.	No. of Sheep	Country.	Date.	No. of Sheep.
Australia ...	1913	85,057,402	Bulgaria ...	1905	8,130,997
Argentine Republic ...	1911	80,401,486	Germany ...	1912	5,803,445
Russian Empire <sup>1</sup> ...	1912	74,066,167	Rumania ...	1900	5,655,444
United States of America ...	1912	52,362,000	Chile ...	1911	4,168,572
Ottoman Empire ...	1908	40,000,000	Servia ...	1910	3,808,815
Union of South Africa ...	1911	30,656,659	Mexico ...	1902	3,424,430
United Kingdom ...	1912	28,967,495	Portugal ...	1906	3,072,988
Uruguay ...	1908	26,286,296	Canada <sup>4</sup> ...	1912	2,084,594
New Zealand ...	1913	24,191,810	Norway ...	1907	1,393,488
British India <sup>2</sup> ...	1910	23,280,662	Sweden ...	1911	945,709
France ...	1912	16,467,700	Netherlands ...	1910	889,036
Spain ...	1912	15,829,954	Tunis ...	1911	766,848
Italy ...	1908	11,162,926	Denmark ...	1909	726,879
Austria-Hungary <sup>3</sup> ...	{ 1910 } { 1911 }	10,976,305	Iceland ...	1910	578,634
Algeria ...	1911	8,528,610	Belgium ...	1895	235,722
			Switzerland ...	1911	161,414

1. Including goats. 2. Exclusive of Eastern Bengal. 3. Austria 1910, Hungary 1911.  
4. Exclusive of British Columbia.

8. **Relation to Population.**—The relation of the flocks of the several States and Territories to the populations at the end of each year 1901 and 1909 to 1913 is as follows:—

## NUMBER OF SHEEP PER HEAD OF POPULATION, 1901 and 1909 to 1913.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Federal Ter.	C'wealth.
1901	30.43	8.82	19.80	13.95	13.56	10.23	10.34	...	18.83
1909	28.63	10.13	33.91	16.37	17.81	8.98	12.39	...	21.20
1910	27.72	9.90	33.94	15.40	18.63	9.23	17.34	...	20.80
1911	26.74	10.17	33.34	14.76	18.40	9.42	15.70	117.00	20.36
1912	21.86	8.61	31.91	12.74	15.02	9.45	21.82	97.24	17.59
1913	21.67	8.58	33.00	11.53	13.79	8.65	18.28	74.89	17.46

## § 5. Wool.

1. **Importance of Wool Production.**—The chief contributing factor to the pastoral wealth of Australia is the production of wool, the value of the output for the season ended 30th June, 1914, being about £28,588,000. The bulk of the wool produced in the Commonwealth is exported, but with the increased activity of the local woollen mills there has, in recent years, been an increasing quantity used in Australia, although even now the quantity so used represents little more than 1½ per cent. of the whole clip.

2. **Greasy and Scoured Wool.**—For the purpose of comparing the clips of the several States or of the Commonwealth as a whole for a series of years, it is convenient to have the total production expressed in terms of greasy wool.

The quantity of Australian wool scoured and washed before export is, on the average, about 20 per cent. of the total clip. The ratio of loss of weight in scouring varies largely with season, locality, breed, and condition. It seems preferable to express "scoured and washed" wool in terms of "greasy" rather than *vice versa*, since the absolute error arising from any uncertainty as to the average loss of weight has thus the less effect.



In the following tables, relative to the production of wool, "scoured and washed" has been converted into the estimated equivalent amount of "greasy" on the assumption that two pounds of "greasy" wool are on the average required to produce one pound of "scoured and washed" wool.

**3. Total Production.**—The estimated production of wool in the several States, formerly based on Customs returns, being no longer available from that source, an effort has been made to arrive at approximate figures from data collected by the State Statisticians from growers and fellmongers, etc. Particulars for years prior to 1910 will be found in former issues (see Year Book No. 6, page 346). The following table gives the estimates obtained in reference to the four seasons ended 30th June, 1911, 1912, 1913, and 1914:—

**ESTIMATED QUANTITY OF WOOL AS IN THE GREASE, SHORN, FELLMONGERED, OR ON SKINS SHIPPED DURING THE SEASONS ENDED 30th JUNE, 1911, 1912, 1913, and 1914.**

State.	1910-11.	1911-12.	1912-13.	1913-14.
	lbs.	lbs.	lbs.	lbs.
New South Wales* ...	374,907,068	371,546,415	326,804,000	357,985,000
Victoria ...	101,803,644	110,463,041	88,762,612	106,833,690
Queensland ...	139,250,802	142,382,269	136,878,270	154,183,114
South Australia ...	63,613,781	60,056,470	56,691,036	55,014,048
Western Australia ...	29,984,453	30,833,837	26,849,981	26,625,787
Tasmania ...	11,338,540	10,726,593	12,416,014	10,092,564
Northern Territory ...	400,000	400,000	450,000	400,000
Commonwealth ...	721,298,288	726,408,625	648,851,913	711,184,203

\* Including Federal Territory.

It is to be noted that a shortage has apparently occurred in the collection of these statistics, the estimates falling considerably below the approximate totals obtained from oversea shipments of wool and skins, together with quantity used in local manufactories. The Commonwealth total so obtained represented 758,090,676 lbs. for the season 1910-11, 785,753,099 lbs. for 1911-12, 668,667,078 lbs. for 1912-13, and 754,123,633 lbs. for 1913-14.

**4. Wool Locally Used.**—The quantity of wool used in the manufactories of the several States of the Commonwealth during the past five calendar years was approximately as follows:—

**LOCALLY USED WOOL, ESTIMATED AS "GREASY," COMMONWEALTH AND STATES, 1909 to 1913.**

State.	1909.	1910.	1911.	1912.	1913.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales ...	1,095,136	1,594,712	2,401,920	2,420,000	2,481,446
Victoria ...	5,239,806	5,309,730	5,774,863	5,535,483	6,978,300
Queensland ...	301,078	270,246	336,486	583,892	406,829
South Australia ...	634,250	564,432	634,238	710,000	645,000
Western Australia ...	...	...	...	...	...
Tasmania ...	991,388	1,087,400	986,000	1,082,000	552,500
Commonwealth ...	8,261,658	9,826,520	10,133,512	10,331,375	11,067,075

**5. Bounties on Combed Wool or Tops Exported.**—Under the Bounties Act 1907, bounties are payable on combed wool or tops exported from the Commonwealth, provided they were produced therein. The maximum amount to be paid may not exceed a total of £10,000 per annum; any unexpended sum may be carried forward and be available for the years following. For the three years commencing 1st January, 1909, the rate of bounty granted was 1½d. per lb., and for the two years commencing 1st January, 1912, 1d. per lb. was payable for all combed wool or tops produced; and thenceforward to the end of 1915, 1d. per lb. is payable up to 1,000,000 lbs. to any one manufacturer during a year and ½d. per lb. in excess of that quantity. During the year 1908-9, an amount of £326 was paid in bounties, in 1909-10, £4,933, in 1910-11, £3,522, in 1911-12, £16,898, in 1912-13, £13,061, and in 1913-14, £12,706. The quantities of wool on which these amounts were paid were 52,085, 789,216, 1,363,555, 3,122,244, 3,134,614 and 3,068,170 lbs. respectively.

Figures shewing the exports of wool tops for the calendar years 1909 to 1913 inclusive will be found at the head of the next page.

**6. Exports of Wool.**—About thirty-nine per cent. of the exports of wool from the Commonwealth is despatched to the United Kingdom, the other leading consignees being France, Germany, Belgium, the United States of America and Japan. The following table shews for the years 1909 to 1913 the quantities of "greasy" wool exported from the Commonwealth and the principal countries to which consigned:—

**COMMONWEALTH EXPORTS OF WOOL IN THE GREASE, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ... ..	210,353,060	222,880,179	230,013,473	211,386,638	185,397,090	1,060,020,440
France ... ..	128,402,229	154,091,890	155,347,112	151,555,673	159,782,827	749,179,730
Germany ... ..	102,160,121	122,297,188	105,674,113	107,523,165	94,068,893	531,723,460
Belgium ... ..	47,381,739	63,305,855	58,469,298	54,679,915	51,881,724	275,718,531
United States of America ...	32,846,145	11,079,242	10,154,171	8,686,125	14,666,531	77,432,234
Japan ... ..	5,320,455	7,869,785	6,583,686	9,339,817	7,199,671	36,313,414
Italy ... ..	1,915,544	3,710,785	5,644,235	4,856,997	5,778,424	21,905,985
Austria-Hungary ... ..	22,030	...	5,836,992	7,908,480	11,731,933	25,499,435
India ... ..	271,030	485,990	478,353	390,536	501,827	2,127,736
New Zealand ... ..	135,954	1,122,446	154,193	147,794	101,104	1,661,491
Canada ... ..	157,263	208,269	52,299	126,517	88,916	633,264
Other Countries ... ..	54,643	41,640	415,698	1,231,062	247,918	1,990,961
<b>Total... ..</b>	<b>529,020,213</b>	<b>587,093,269</b>	<b>578,823,623</b>	<b>557,832,718</b>	<b>531,436,878</b>	<b>2,784,206,701</b>

Similar particulars concerning the exports of "scoured and washed" wool are as follows:—

**COMMONWEALTH EXPORTS OF "SCOURED AND WASHED WOOL,"\*  
1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ... ..	34,168,844	35,571,404	35,940,841	28,305,314	26,176,484	160,162,887
France ... ..	16,651,577	15,861,390	13,989,442	15,037,742	18,804,399	80,344,550
Germany ... ..	14,589,296	14,145,596	12,148,316	10,541,771	10,135,857	61,554,836
Belgium ... ..	7,661,482	11,418,895	7,629,001	5,661,005	5,269,908	37,640,291
Japan ... ..	635,722	887,292	1,602,747	2,760,614	3,564,433	9,440,808
Italy ... ..	148,695	212,661	397,004	380,550	188,298	1,327,208
India ... ..	74,876	41,962	33,321	47,626	100,434	298,419
United States of America ...	151,309	5,319	...	49,849	124,301	330,778
New Zealand ... ..	3,972	32,488	2,934	42,927	11,042	93,363
Austria-Hungary ... ..	...	1,113	16,734	89,036	62,932	169,815
Other Countries ... ..	2,646	180	10,300	347,472	11,998	372,596
<b>Total... ..</b>	<b>74,082,419</b>	<b>78,178,300</b>	<b>71,770,640</b>	<b>63,254,106</b>	<b>64,450,086</b>	<b>351,735,551</b>

\* Including "tops." See next page.

The figures for "scoured and washed wool" for 1909 include for the first time an export of tops, amounting to 496,492 lbs. and valued at £58,638. In 1910 the corresponding export was 1,123,469 lbs., valued at £134,874; in 1911, 2,513,106 lbs., valued at £275,406; in 1912, 3,018,050 lbs. valued at £323,299; and in 1913, 3,561,722 lbs. valued at £415,670. In the latter year Japan took 3,435,456 lbs., valued at £402,071.

The total value of the wool exported from the Commonwealth to the principal countries during the five years under review was:—

#### TOTAL VALUE OF WOOL EXPORTED FROM THE COMMONWEALTH, 1909 to 1913.

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years.
	£	£	£	£	£	£
United Kingdom ... ..	10,569,929	11,447,359	11,159,335	10,418,577	9,456,636	53,044,836
France ... ..	5,594,983	6,905,177	6,016,293	6,527,854	7,429,856	32,474,163
Germany ... ..	5,006,623	6,053,873	4,851,785	5,050,974	4,693,157	25,656,412
Belgium ... ..	2,230,206	3,084,847	2,552,282	2,480,348	2,386,892	12,734,575
United States of America ...	1,691,389	579,605	500,015	460,275	745,354	3,976,638
Japan ... ..	264,630	420,622	459,000	703,371	735,018	2,582,641
Italy ... ..	97,756	181,457	245,804	230,436	256,718	1,012,171
Austria-Hungary ... ..	1,025	55	242,461	360,125	519,477	1,123,143
India ... ..	16,657	24,268	21,290	18,739	30,586	111,540
New Zealand ... ..	6,637	67,219	6,199	8,844	5,199	94,098
Canada ... ..	7,748	10,695	2,824	7,155	5,404	33,826
Other Countries ... ..	2,527	2,106	13,905	87,865	12,765	119,168
Total ... ..	25,483,110	28,777,283	26,071,193	26,354,563	26,277,062	132,963,211

7. **Care needed in Comparing Clips.**—The Customs returns do not furnish a reliable indication of increase or decrease in successive clips, since in each case they relate to the year ended 31st December. Ordinarily, therefore, they include for any year imports and exports of wool belonging to two distinct clips. A further defect in the comparability of successive clips arises as follows:—Owing to climatic or other conditions, the time of shearing may be so far delayed that one clip may include almost thirteen months' growth of wool, while the succeeding one may include little more than eleven months' growth.

8. **Wool-producing Countries in Southern Hemisphere.**—The next table, compiled by the firm of Messrs. Helmuth Schwartz and Co., the English wool brokers, furnishes interesting evidence of the relative importance of the three great wool-producing countries of the Southern Hemisphere. The figures given represent for the respective years the imports of wool into Europe and North America:—

#### IMPORTS OF WOOL INTO EUROPE AND NORTH AMERICA, 1901 and 1909 to 1914.

Year.	Commonwealth and New Zealand.	Cape Colony.	River Plate.	Total.
	Bales.	Bales.	Bales.	Bales.
1901 ... ..	1,745,000	217,000	532,000	2,494,000
1909 ... ..	2,296,000	380,000	571,000	3,247,000
1910 ... ..	2,411,000	377,000	461,000	3,249,000
1911 ... ..	2,524,000	376,000	499,000	3,399,000
1912 ... ..	2,463,000	463,000	497,000	3,423,000
1913 ... ..	2,296,000	484,000	437,000	3,217,000
1914 ... ..	2,332,000	499,000	406,000	3,237,000

As the River Plate bale is much larger than the Australian or Cape bale, a comparison of the number of bales would be somewhat misleading. Allowing approximately for the difference in size of the several bales, it may be said that during the last five years the importations from Australia and the Dominion of New Zealand represent about 65 per cent. of the total.

9. **United Kingdom Importation of Wool.**—The quantity and value of wool imported into the United Kingdom during the year 1913 from the principal wool-producing countries, furnish evidence of the important position which the Commonwealth occupies in the supply of wool to the mother country. This is shewn in the following table:—

**IMPORTS OF WOOL INTO THE UNITED KINGDOM, 1913.**

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	lbs.	£		lbs.	£
Australia ...	265,078,480	12,301,380	Egypt ...	4,112,081	119,079
New Zealand ...	181,181,381	8,165,408	China ...	2,316,400	88,259
Union of Sth. Africa	133,224,202	5,095,818	Italy ...	1,237,712	68,302
Argentine Republic	55,455,562	2,140,647	Persia ...	1,864,720	51,517
France ...	24,492,772	1,691,611	Portugal ...	1,421,086	48,346
British India ...	54,946,318	1,659,117	Canada ...	724,019	25,684
Chile ...	24,286,912	783,962	Iceland & Greenland	432,847	18,097
Uruguay ...	9,657,762	397,028	Netherlands ...	345,861	12,495
Russia ...	7,144,338	325,337	Morocco ...	292,549	9,174
Turkey ...	9,423,448	274,071	Denmark ...	201,618	8,803
Peru ...	5,281,190	212,300	Spain ...	100,523	3,277
Germany ...	4,717,683	210,903	Other Countries ...	814,555	30,134
Falkland Islands	6,150,514	205,424			
Belgium ...	3,088,406	142,770			
U.S. of America ...	2,582,876	132,160	Total ...	800,580,815	34,226,103

It will be seen that of the total importations of wool into the United Kingdom, Australian wool represented over 33 per cent. of quantity and nearly 36 per cent. of value.

10. **The Wool Market.**—A résumé of Australian wool market conditions for the seasons 1907-8 to 1912-13 will be found in Year Book No. 7 (pages 296 and 297).

The 1913-14 season results were satisfactory. Brisk selling proved the rule throughout at prices a shade lower, on the average, than those in force during the previous season, but these were, nevertheless, productive of payable returns to wool-growers. The output shewed a marked increase in volume as compared with the preceding clip, being particularly well grown, sound, and of good average value.

Continental buyers were well represented throughout the season, France particularly having bought freely and continuously. America participated largely, and was a potent factor in maintaining values, its purchases in the aggregate having covered some 5.3 per cent. of all wool sold during the season, as against 1.3 per cent. during 1912-13. Although during the first series of sales Yorkshire bidding was dull, there was increased operation from the opening of the second series to the close of the season, the result being an upward course of the market from January to June.

The average values per lb. of Australian greasy wool according to the export returns for the past ten years have been as follows:—

**EXPORT VALUE PER LB. OF AUSTRALIAN GREASY WOOL, 1904 to 1913.**

Year ...	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Average value per lb. ...	d. 9.30	d. 9.83	d. 10.14	d. 10.73	d. 9.17	d. 9.35	d. 9.58	d. 8.87	d. 9.50	d. 9.70

(i.) *Exports of Wool from each State, and Quantity sold Locally.* Over 86½ per cent. of the wool grown in Australia was sold in the local markets prior to export from the Commonwealth during 1913-14. Buyers from the United Kingdom, France, Germany, and other European countries, also from America, Japan, China, and India, attend the sales conducted in Sydney, Melbourne, Geelong, Brisbane, Adelaide, Fremantle, Hobart, and Launceston.

The following table shews the number of bales of wool exported oversea from each State during the season ended 30th June, 1914, and the proportion sold at the local sales prior to shipment. It must be noted that as considerable quantities of wool grown in some States are sold in or shipped from others, these figures therefore do not shew actual local production, but total oversea shipments and sales. The estimated quantity of wool produced in each State is given on page 294.

**EXPORTS OF WOOL TO PLACES OUTSIDE THE COMMONWEALTH, AND THE QUANTITY SOLD LOCALLY IN THE SEVERAL STATES, DURING THE SEASON ENDED 30th JUNE, 1914.**

State.	Oversea Exports.		Sold at Local Sales prior to Export.		Ratio of Local Sales to	
					Oversea Exports from each State.	Total Exports from C'wealth.
	Bales.	%	Bales.	%	%	%
New South Wales ...	853,104	43.38	775,443	45.51	90.90	39.43
Victoria ...	486,976	24.76	463,381	27.20	95.15	23.57
Queensland ...	387,277	19.69	292,875	17.19	75.62	14.89
South Australia ...	152,930	7.78	141,642	8.31	92.62	7.20
Western Australia ...	64,921	3.30	3,860	0.23	5.95	0.20
Tasmania...	21,368	1.09	26,543	1.56	124.22	1.35
Commonwealth ...	1,966,576	100.00	1,703,744	100.00	...	86.64

It will be seen that in regard to the ratio of local sales to oversea exports, Victoria's sales represent over 95 per cent. of her exports, New South Wales about 91, South Australia 92½, and Queensland 75½ per cent. In Tasmania some of the wool sold locally was subsequently shipped to interstate ports. Of the total quantity sold in the Commonwealth, New South Wales and Victoria are represented by 45.51 and 27.20 per cent. respectively; Queensland, South Australia, Tasmania, and Western Australia following in the order named.

During the season under review 1,966,576 bales of wool were shipped from the Commonwealth, of which 86.64 per cent. was sold in the Australian markets. Of this percentage New South Wales and Victoria are represented by 63, Queensland and South Australia 22, while Tasmania and Western Australia account for the balance.

(ii.) *Exports of Wool from Commonwealth and Quantity sold Locally.* The number of bales of wool exported from the Commonwealth and sold at local sales prior to shipment during 1895, 1900, 1905, and the past five seasons is shewn in the following table:—

**EXPORTS OF WOOL FROM THE COMMONWEALTH, AND THE QUANTITY SOLD LOCALLY, FROM 1895 to 1914.**

Year ended 30th June.					Oversea Exports.	Sold prior to Export.	Ratio of Wool sold to Exports.
					Bales.	Bales.	%
1895	...	...	...	...	1,595,652	817,333	51.22
1900	...	...	...	...	1,221,163	807,031	66.09
1905	...	...	...	...	1,218,969	926,940	76.04
1910	...	...	...	...	1,921,705	1,624,561	84.54
1911	...	...	...	...	1,975,378	1,642,555	83.15
1912	...	...	...	...	2,020,547	1,700,494	84.16
1913	...	...	...	...	1,718,486	1,518,650	88.37
1914	...	...	...	...	1,966,576	1,703,744	86.64

The steady development of the Australian wool market is clearly shewn in this table. In nineteen years the quantity sold has more than doubled, and the ratio of wool sold to that exported has increased from 51 per cent. in 1895 to over 86½ per cent. in the season ended 30th June, 1914.

During the past season 1,703,744 bales of wool were sold in Australia and 264,834 bales in New Zealand, representing the total value of £26,079,536. This enormous quantity far exceeds the sales of any other country in the world.

(iii.) *Distribution of Wool sold in Australian Markets.* The estimated approximate distribution of wool sold in the local markets during the season 1913-14 is shewn in the following table, and exhibits the world-wide representation of buyers at the Australian sales :—

**ESTIMATED APPROXIMATE DISTRIBUTION OF WOOL SOLD LOCALLY IN THE  
SEVERAL STATES OF THE COMMONWEALTH DURING THE SEASON  
ENDED 30th JUNE, 1914.**

Destination.	N.S.W.	Victoria.	Q'land.	S. Aust. (a)	Tas.	C'wealth.
	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.
United Kingdom ... ..	77,930	157,028	34,779	34,947	13,977	318,661
France, Belgium, and Holland	321,526	144,839	137,486	60,873	4,298	669,022
Germany ... ..	256,738	73,028	77,066	15,322	3,121	425,275
Austria, Italy and other Euro- pean Countries ... ..	51,041	21,759	6,277	11,157	...	90,234
America ... ..	26,050	47,942	13,690	745	1,838	90,265
Japan, China, and India ...	14,658	1,610	4,232	...	...	20,500
Local Woollen Mills ... ..	27,500	17,175	19,345	22,458	3,309	32,434
Scourers and Speculators ... }						57,353
<b>Total Sales ...</b>	<b>775,443</b>	<b>463,381</b>	<b>292,875</b>	<b>145,502</b>	<b>26,543</b>	<b>1,703,744</b>

**PERCENTAGE DISTRIBUTION.**

	%	%	%	%	%	%
United Kingdom ... ..	10.05	33.89	11.88	24.02	52.66	18.70
France, Belgium, and Holland	41.46	31.26	46.94	41.84	16.19	39.27
Germany ... ..	33.11	15.76	26.31	10.53	11.76	24.96
Austria, Italy and other Euro- pean Countries ... ..	6.58	4.69	2.14	7.67	...	5.30
America ... ..	3.36	10.35	4.67	0.51	6.92	5.30
Japan, China, and India ...	1.89	0.35	1.45	...	...	1.20
Local Woollen Mills ... ..	3.55	3.70	6.61	15.43	12.47	1.90
Scourers and Speculators ... }						3.37
<b>Total Sales ...</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

(a) Including Western Australia, 3860 bales.

Of the total quantity sold, amounting to 1,703,744 bales, 1,184,531 were purchased for the Continent of Europe, 318,661 for the United Kingdom, 90,265 for America, 20,500 for Asiatic countries, 57,353 by scourers and speculators, while 32,434 bales went for consumption in the local woollen mills. Of the Continental purchases 56.5 per cent. went to France, Belgium and Holland, nearly 35.9 per cent. to Germany, and 7.6 per cent. to Austria, Italy and other European countries.

(iv.) *Quantities of Various Descriptions of Wool Sold in each State.* The quantities and ratios of the various descriptions of wool marketed in each State are shewn in the following tables:—

**PROPORTIONS OF THE VARIOUS DESCRIPTIONS OF WOOL SOLD LOCALLY IN  
THE SEVERAL STATES OF THE COMMONWEALTH DURING THE SEASON  
ENDED 30th JUNE, 1914.**

Description of Wool.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Common-wealth.
	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.
Greasy ...	681,927	450,878	227,927	140,310	3,830	26,543	1,531,415
Scoured ...	93,516	12,503	64,948	1,332	30	...	172,329
Total	775,443	463,381	292,875	141,642	3,860	26,543	1,703,744
Fleece, etc.	734,469	432,011	274,837	133,485	3,666	25,446	1,603,914
Lambs ...	40,974	31,370	18,038	8,157	194	1,097	99,830
Total	775,443	463,381	292,875	141,642	3,860	26,543	1,703,744
Merino ...	698,699	227,057	287,743	124,645	2,895	10,617	1,351,656
Crossbred and all strong breeds	76,744	236,324	5,132	16,997	965	15,926	352,088
Total	775,443	463,381	292,875	141,642	3,860	26,543	1,703,744
	%	%	%	%	%	%	%
Greasy ...	87.94	97.30	77.82	99.06	99.22	100.00	89.89
Scoured ...	12.06	2.70	22.18	0.94	0.78	...	10.11
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Fleece, etc.	94.72	93.23	93.84	94.24	94.97	95.87	94.14
Lambs ...	5.28	6.77	6.16	5.76	5.03	4.13	5.86
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Merino ...	90.10	49.00	98.25	88.00	75.00	40.00	79.33
Crossbred and all strong breeds	9.90	51.00	1.75	12.00	25.00	60.00	20.67
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Wool in the grease represented 90 per cent. of total sales during the period under review. Of fleece and lambs, the former shews about 94.1, and the latter 5.9 per cent. The good lambing in 1913 resulted in the increase of lamb's wool from 3.6 per cent. in 1912-13 to 5.9 in 1913-14. The class of wool produced is principally merino, which is

almost exclusively grown in the northern and central parts of the continent, the bulk of the merino wool sold in Victoria coming from Riverina and other parts of New South Wales. Victoria, the southern parts of South Australia and of New South Wales, and Tasmania, produce nearly the whole of the crossbred and other strong bred wools.

(v.) *Percentages in each State of Various Descriptions of Wool Sold.* The following table gives the percentages of each description of wool sold in the several States during the season 1913-14 :—

**PERCENTAGE OF BALES OF EACH DESCRIPTION OF WOOL SOLD IN THE SEVERAL STATES TO THE TOTAL SOLD IN THE COMMONWEALTH, 1913-14.**

Description of Wool.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Commonwealth.
	%	%	%	%	%	%	%
Greasy ...	44.53	29.44	14.89	9.16	0.25	1.73	100.00
Scoured ...	54.27	7.25	37.69	0.77	0.02	...	100.00
Fleece, etc. ...	45.79	26.93	17.14	8.32	0.23	1.59	100.00
Lambs ...	41.05	31.42	18.07	8.17	0.19	1.10	100.00
Merino ...	51.69	16.80	21.29	9.22	0.21	0.79	100.00
Crossbred and all strong breeds ...	21.80	67.12	1.46	4.83	0.27	4.52	100.00

## § 6. Hides and Sheepskins.

1. **Extent of Trade.**—In addition to the hides and sheepskins treated in the tanneries of the several States, a very considerable export trade is carried on, the total value of the hides and sheepskins exported from Australia during the five years 1909 to 1913 being no less a sum than £14,290,287, or an average of £2,858,057 per annum.

2. **Sheepskins with Wool.**—By far the largest item included in the amount mentioned in the preceding paragraph arises from the value of sheepskins with wool exported, which are shipped principally to France and the United Kingdom. Details concerning the number so exported during the five years 1909 to 1913 are as follow :—

**COMMONWEALTH EXPORTS OF SHEEPSKINS WITH WOOL, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years
	No.	No.	No.	No.	No.	No.
France ...	3,140,764	4,325,337	4,322,505	5,297,141	5,932,257	23,018,004
United Kingdom ...	3,968,494	3,763,002	3,306,567	3,707,050	3,861,161	18,606,274
Belgium ...	1,100,023	1,282,942	1,020,847	1,277,530	996,821	5,678,163
Germany ...	57,041	106,534	109,621	63,112	57,735	394,043
U.S. of America ...	86,664	155,782	39,811	129,899	59,037	511,193
Italy ...	27,565	29,575	26,140	...	960	84,240
Canada ...	...	10,446	...	679	...	11,125
New Zealand ...	...	100	...	661	...	761
Other Countries ...	234	...	6,869	...	261	7,364
Total ...	8,380,785	9,673,718	8,832,360	10,476,072	10,948,232	48,311,167



The next table furnishes corresponding particulars as to value :—

**VALUE OF SHEEPSKINS WITH WOOL EXPORTED FROM THE COMMONWEALTH,  
1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years.
	£	£	£	£	£	£
France ...	598,172	884,450	735,259	980,298	1,315,156	4,513,335.
United Kingdom ...	737,592	710,229	568,618	666,962	804,432	3,487,833
Belgium ...	274,823	316,958	253,995	314,301	335,569	1,495,646
Germany ...	9,566	16,720	13,195	10,576	11,620	61,677.
U.S. of America...	9,836	16,978	3,706	12,713	15,127	58,360
Italy ...	10,244	9,630	4,075	...	100	24,049
Canada...	...	1,071	...	66	...	1,137.
New Zealand ...	...	25	...	113	...	138
Other Countries ...	63	...	697	...	55	815
<b>Total ...</b>	<b>1,640,296</b>	<b>1,956,061</b>	<b>1,579,545</b>	<b>1,985,029</b>	<b>2,482,059</b>	<b>9,642,990.</b>

**3. Sheepskins without Wool.**—In the case of sheepskins without wool the principal countries to which export takes place are the United Kingdom and the United States of America. Particulars concerning the quantities exported are as follows :—

**COMMONWEALTH EXPORTS OF SHEEPSKINS WITHOUT WOOL, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years.
	No.	No.	No.	No.	No.	No.
United Kingdom ...	1,140,338	875,994	459,252	131,103	128,578	2,735,265.
United States of America	1,285,946	710,001	590,582	271,028	21,760	2,879,317
France ...	3,315	23,863	21,666	55,845	5,364	110,053.
New Zealand ...	9,840	15,552	9,484	1,515	...	36,391
Germany ...	...	14,447	...	...	...	14,447
Belgium ...	...	8,428	331	167	...	8,926.
Canada ...	1,068	1,956	...	...	...	3,024.
Italy ...	...	...	...	...	...	...
Other Countries ...	...	...	...	...	...	...
<b>Total ...</b>	<b>2,440,507</b>	<b>1,650,241</b>	<b>1,081,315</b>	<b>459,658</b>	<b>155,702</b>	<b>5,787,423.</b>

Corresponding details concerning value are given hereunder :—

**VALUE OF SHEEPSKINS WITHOUT WOOL EXPORTED FROM THE  
COMMONWEALTH, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years.
	£	£	£	£	£	£
United Kingdom ...	50,077	37,015	17,138	3,854	5,130	113,214
United States of America	57,795	22,544	16,295	8,730	1,550	106,914
France ...	312	1,711	1,225	5,948	382	9,578.
New Zealand ...	422	514	196	27	...	1,159.
Germany ...	...	538	...	...	...	538
Belgium ...	...	396	12	4	...	412
Canada ...	50	115	...	...	...	165.
Italy ...	...	...	...	...	...	...
Other Countries ...	...	...	...	...	...	...
<b>Total ...</b>	<b>108,656</b>	<b>62,833</b>	<b>34,866</b>	<b>18,563</b>	<b>7,062</b>	<b>231,980</b>

4. **Hides.**—The Commonwealth trade in hides has now assumed considerable proportions, and during 1913 the total value of hides exported amounted to £1,657,971. The exports took place principally to the United Kingdom, Belgium, Germany, Italy, and the United States of America. Large quantities of hides are also imported into the Commonwealth, mainly from New Zealand and the Pacific Islands. The total value of hides imported during 1913 was £239,780.

Particulars concerning the export of hides during the past five years are as follows:—

**COMMONWEALTH EXPORTS OF HIDES, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years.
	No.	No.	No.	No.	No.	No.
United Kingdom	196,827	253,442	245,993	350,519	360,549	1,407,330
Belgium ... ..	79,977	41,326	80,453	108,455	244,394	554,605
Germany ... ..	47,335	21,810	64,536	78,059	206,588	418,328
Italy ... ..	11,316	45,541	68,991	117,352	85,984	329,184
U.S. of America...	56,131	21,318	29,232	82,808	136,687	326,176
France ... ..	20,546	11,938	15,790	15,151	16,208	79,633
Canada ... ..	3,737	4,000	33,519	65,407	11,205	117,868
Japan ... ..	6,593	4,697	6,436	5,025	155	22,911
Austria-Hungary	515	...	103	1,275	3,631	5,524
Sth. African Union	200	...	...	...	...	200
Other Countries ...	166	1,975	5,815	9,717	7,674	25,347
<b>Total ...</b>	<b>423,348</b>	<b>406,047</b>	<b>550,868</b>	<b>833,768</b>	<b>1,073,075</b>	<b>3,287,106</b>

In the next table are given particulars relative to the value of hides exported:—

**VALUE OF HIDES EXPORTED FROM THE COMMONWEALTH, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years.
	£	£	£	£	£	£
United Kingdom	177,738	294,702	279,474	430,609	580,195	1,762,718
Belgium ... ..	89,547	48,343	91,110	189,188	385,627	753,815
Germany ... ..	42,710	23,947	79,530	103,081	339,605	588,873
Italy ... ..	8,333	41,983	62,047	125,744	102,834	340,941
U.S. of America...	56,639	21,988	28,772	94,783	196,583	398,765
France ... ..	22,805	11,073	17,988	19,865	20,078	91,809
Canada ... ..	3,591	4,049	35,320	74,273	16,622	133,855
Japan ... ..	10,315	7,873	11,060	8,378	335	37,961
Austria-Hungary	627	...	161	1,757	5,545	8,090
Sth. African Union	260	...	...	...	...	260
Other Countries ...	225	2,087	5,795	9,576	10,547	28,230
<b>Total ...</b>	<b>412,790</b>	<b>456,045</b>	<b>611,257</b>	<b>1,007,254</b>	<b>1,657,971</b>	<b>4,145,317</b>

The number and value of hides imported into the Commonwealth during the five years 1909 to 1913 are as follows:—

**HIDES IMPORTED INTO THE COMMONWEALTH, 1909 to 1913.**

Particulars.	1909.	1910.	1911.	1912.	1913.	Total for 5 Years.
No. ... ..	136,375	119,408	97,926	87,680	135,193	576,582
Value ... ..	£ 173,251	169,771	143,893	135,301	239,780	861,996

## § 7. Graphical Representation of Pastoral Production.

1. **General.**—As comparatively complete statistics relative to the number of horses, cattle, sheep and pigs are available from 1860, the graphical representation of the increase in numbers for the Commonwealth as a whole, shewn on page 291, covers the period from 1860 to 1913.

2. **Horses.**—With relatively unimportant fluctuations the number of horses in the Commonwealth increased at a fairly consistent rate until 1895, when a decline set in, culminating in the losses of the disastrous drought of 1902. At this latter point the number was practically identical with that for 1890. From 1902 onwards a rapid improvement has been experienced, the total for 1913 being the highest recorded.

3. **Cattle.**—The graph for cattle furnishes evidence of rapid increase in number, interrupted by three marked periods of decline, of which the first extended from 1862 to 1866, the second from 1881 to 1885, and the third from 1894 to 1902. So extensive was this last-mentioned decline that the number receded to that of 1879. From 1902 a rapid recovery took place, and the total for 1911 exceeded that existing at the end of the year 1895, though still short of the maximum attained in 1894. The 1912 and 1913 figures shew a slight decline, those for the latter year shewing a falling off of slightly under 3 per cent. on the 1911 returns.

4. **Sheep.**—In the case of sheep the graph furnishes evidence of five periods in which the upward movement in number has been arrested or reversed. The first of these occurred between 1868 and 1871, the second between 1875 and 1877, the third during 1884, the fourth, by far the most serious, between 1891 and 1902, and the fifth during 1912. From 1902 to 1907 a rapid increase took place, succeeded by a slight decline in 1908, and a rapid advance in 1909, 1910 and 1911, the point then reached in the latter year being the highest since 1894. The return for 1912, however, shews a considerable decrease, but this was followed by an increase in 1913.

5. **Pigs.**—The graph for pigs exhibits more numerous fluctuations than that for any of the other classes of live stock represented, and from 1904 to 1908 furnished evidence of a persistent decline. In 1909, however, an upward movement took place; and this was well maintained during the two succeeding years, the 1911 returns exceeding all previous records. There was, however, a considerable decrease in 1912, and a smaller one during 1913.

## SECTION VIII.

## AGRICULTURAL PRODUCTION.

NOTE.—Except where otherwise stated, the “agricultural” years hereinafter mentioned are taken as ending on the 31st March.

## § 1. Introductory.

1. **Early Attempts at Agriculture.**—The instructions issued to Captain Phillip on the 25th April, 1787, directed him, amongst other things, to proceed as soon as possible to the cultivation of the soil “under such regulations as may appear to be necessary and best calculated for securing supplies of grain and provisions.” When the settlers landed at Botany Bay, however, it was found that the glowing accounts published in England by members of Captain Cook’s expedition of the fertility of the soil in that locality were considerably overdrawn. Even when Phillip and his company moved round to Port Jackson on the 26th January, 1788, matters were for a time in no better case. The ground in the immediate neighbourhood of the settlement was not suitable for the cultivation of cereal crops, and when the time came to cultivate the soil it was found that there were very few who possessed the slightest acquaintance with the art of husbandry.

2. **The First Sowing.**—In his despatch of the 15th May, 1788, Captain Phillip states that it was proposed to sow eight acres with wheat and barley, although, owing to the depredations of field mice and ants, he was doubtful of the success of the crops.

3. **Discovery of Suitable Agricultural Land.**—A branch settlement was formed at Rosehill, on the Parramatta River, towards the close of 1788, and here corn crops were successfully raised. In his despatch of 12th February, 1790, Phillip refers to the harvest at Rosehill at the end of December, 1789, as consisting of 200 bushels of wheat and 60 of barley, in addition to small quantities of oats, Indian corn, and flax. By the year 1791 there were 213 acres under crop in this locality. In 1792 a new settlement was formed at Toongabbie, about three miles westward of Parramatta, where Phillip states “there are several thousand acres of exceeding good ground.” The Hawkesbury Valley, which probably contains some of the richest land in the world, was first settled in 1794. For a long time agricultural operations in Australia were restricted to the narrow belt of country between the tableland and the east coast of New South Wales, as it was not until the year 1813 that a passage was discovered across the Blue Mountains to the fertile plains of the west.

## § 2. Progress of Agriculture.

1. **Early Records.**—In an “Account of Live Stock and Ground under Crop in New South Wales, 19th August, 1797,” Governor Hunter gives the acreage under crop as follows:—Wheat, 3361 acres; maize, 1527 acres; barley, 26 acres; potatoes, 11 acres; and vines, 8 acres.

At a muster taken in 1808 the following was the return of crops:—Wheat, 6877 acres; maize, 3389 acres; barley, 544 acres; oats, 92 acres; peas and beans, 100 acres; potatoes, 301 acres; turnips, 13 acres; orchards, 546 acres; and flax and hemp, 34 acres.

By the year 1850 the area under crop had increased to 491,000 acres, of which 198,000 acres were cultivated in what is now the State of New South Wales, and 169,000 acres in Tasmania. At the end of 1850 the area under cultivation in Victoria, which was then the Port Phillip District of New South Wales, was 52,190 acres.

The gold discoveries of 1851 and subsequent years had at first a very disturbing effect on agricultural progress, the area under crop declining from 491,000 acres in 1850 to 458,000 acres in 1854; the area under cultivation in New South Wales decreased by nearly 66,000 acres, while in Tasmania a falling-off of over 41,000 acres was experienced. The demand for agricultural products occasioned by the large influx of population was, however, soon reflected in the increased area cultivated, for at the end of 1858 the land under crop in Australia totalled over a million acres. The largest increase took place in Victoria, which returned an area of 299,000 acres. For the same year South Australia had 264,000 acres in cultivation, Tasmania 229,000 acres, and New South Wales 223,000 acres.

**2. Progress of Cultivation since 1860.**—The following table shews the area under crop in each of the Commonwealth States and Territories at quinquennial intervals since 1860 and during each of the last three seasons. The area under permanent artificially-sown grasses is excluded in all the States, except for the years 1860-79 in the case of New South Wales, where the acreage cannot be separated. During those years, however, the area laid down under permanent grasses could not have been very large:—

AREA UNDER CROP IN AUSTRALIA, 1860 to 1913-14.

Season.	New South Wales.	Victoria.	Queens- land.	South Australia.	W. Aust.	Tas- mania.	N.T.	Fed. Terr.	Common- wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1860-1	260,798	387,282	3,353	359,284	24,705	152,860	...	...	1,188,282
1865-6	378,255	448,194	14,414	547,124	38,180	159,547	...	...	1,585,714
1870-1	426,976	692,840	52,210	801,571	54,527	157,410	...	...	2,185,534
1875-6	451,139	736,520	77,347	1,111,882	47,571	142,547	...	...	2,567,006
1880-1	629,180	1,548,809	113,978	2,087,237	57,707	140,788	...	...	4,577,699
1885-6	737,701	1,867,496	198,334	2,298,412	60,058	144,761	...	...	5,306,762
1890-1	852,704	2,031,955	224,993	2,093,515	69,678	157,376	...	...	5,430,221
1895-6	1,348,600	2,413,235	285,319	2,092,942	97,821	212,703	...	...	6,450,620
1900-1	2,445,564	3,114,132	457,397	2,369,680	201,338	224,352	...	...	8,812,463
1905-6	2,840,235	3,219,962	522,748	2,255,569	364,704	230,237	...	...	9,433,455
1910-11	3,386,017	3,952,070	667,113	2,746,334	855,024	286,920	360	...	11,893,838
1911-12	3,628,513	3,640,241	526,388	2,965,338	1,072,653	270,000	375	3,509	12,107,017
1912-13	3,737,085	4,079,356	668,483	3,062,998	1,199,991	286,065	330	3,741	13,038,049
1913-14	4,567,592	4,391,321	747,814	3,169,559	1,537,923	264,140	354	4,309	14,683,012

The increase in the area under crop during the past thirteen years has been most marked in the case of New South Wales, Western Australia and Victoria, the respective increases being 2,122,028, 1,336,585, and 1,277,189 acres. During the same period an increase of 799,879 acres was experienced in South Australia, 290,417 in Queensland, and 39,788 acres in Tasmania. The total area under crop in the Commonwealth increased during the period by 5,870,549 acres, and the total for 1913-14 was the highest ever attained by the Commonwealth. During the past eight seasons the percentage of increase was particularly high in Western Australia, viz., 321½ per cent. New South Wales had an increase of 80½ per cent., while Queensland, South Australia, Victoria, and Tasmania added to their areas under crop to the extent of 43, 40½, 36½ and 14½ per cent. respectively. The increase for the whole of the Commonwealth during the same period was over 55½ per cent.

**3. Relation to Population.**—From the following table it will be seen that for the Commonwealth as a whole the area under crop has, during the seasons under review, with the exception of 1911-12, increased at a rate which is somewhat greater than that

at which the population of the Commonwealth has increased. This relatively greater increase is in evidence in all the States, being most marked in the case of Western Australia, which has now a larger area under crop per head of population than any State except South Australia. Details for 1901-2 and for the past five seasons are as follows:—

**TOTAL AREA UNDER CROP PER 1000 OF POPULATION.**

Season	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aus.	Tas.	Northern Territory	Federal Terr.	C' with.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901-2	1,656	2,451	954	6,224	1,123	1,327	...	...	2,200
1909-10	1,971	2,865	1,050	6,440	2,718	1,419	...	...	2,538
1910-11	2,060	3,037	1,114	6,750	3,089	1,480	109	...	2,688
1911-12	2,169	2,671	846	7,091	3,646	1,396	115	1,827	2,650
1912-13	2,102	2,955	1,050	7,122	3,920	1,451	95	1,928	2,755
1913-14	2,494	3,110	1,133	7,203	4,796	1,310	96	2,168	3,014

4. **Relation to Total Area.**—The next table furnishes a comparison of the area under crop in the Commonwealth and the several States and Territories, with the respective total areas. For the Commonwealth as a whole, the area under crop represented for 1913-14 only about one acre in every 130. In Victoria the area under crop was about one acre in every 13, in New South Wales one in 45, in Tasmania one in 64, in South Australia one in 77, in Western Australia one in 407, in Queensland one in 575, in the Northern Territory one in 946,658, and in the Federal Territory one in 136.

**PERCENTAGE OF AREA UNDER CROP TO TOTAL AREA OF EACH STATE AND OF COMMONWEALTH FOR SEASONS 1901-2 and 1909-10 to 1913-14.**

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aus.	Tas.	Northern Territory	Federal Terr.	C'w lth.
	%	%	%	%	%	%	%	%	%
1901-2	1.147	5.273	0.113	0.919	0.035	1.386	...	...	0.442
1909-10	1.601	6.505	0.141	1.040	0.116	1.633	...	...	0.576
1910-11	1.705	7.026	0.155	1.129	0.137	1.710	0.0001	...	0.625
1911-12	1.832	6.472	0.123	1.219	0.172	1.609	0.0002	0.609	0.686
1912-13	1.887	7.253	0.156	1.259	0.192	1.705	0.0001	0.641	0.685
1913-14	2.230	7.807	0.174	1.303	0.246	1.574	0.0001	0.738	0.771

5. **Artificially-Sown Grasses.**—In all the States considerable areas are devoted to artificially-sown grasses, frequently sown on uncultivated land after burning off. Statistics regarding the area under such grasses are as shewn hereunder:—

**AREA UNDER SOWN GRASSES, 1901-2 and 1909-10 to 1913-14.**

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Fed. Terr.	Commonwealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901-2	467,839	162,954	34,679	23,510	3,711	314,422	...	1,007,115
1909-10	888,937	198,671	108,438	23,343	9,017	439,450	...	2,457,856
1910-11	1,055,303	991,195	140,196	26,416	8,348	493,233	...	2,714,691
1911-12	1,119,738	1,041,772	166,175	30,431	5,760	505,940	50	2,869,866
1912-13	1,152,399	1,085,346	205,363	30,377	5,168	508,714	50	2,987,419
1913-14	1,234,405	1,094,566	236,582	30,277	6,919	605,559	50	2,308,362

(a) Including 2 acres Northern Territory 1912-13, and 4 acres 1913-14.

The considerable increase in the area of the grass lands of the Commonwealth is due in large measure to the great development of the dairying industry which has taken place during the last ten years, and which is referred to in the succeeding section. The areas contained in the above table relate in most cases to grasses sown for grazing purposes on uncultivated land, generally after burning off, and are consequently not included with "area under crop."

### § 3. Relative Importance of Crops.

1. **Various Crops.**—In the following table are furnished details concerning the areas in the several States under each of the principal crops for the season 1913-14 :—

#### DISTRIBUTION OF CROPS IN AUSTRALIA, 1913-14.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Fed. Terr.	Total for C'wealth
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Wheat ...	3,203,572	2,565,861	132,655	2,267,851	1,097,193	18,432	9	1,825	9,287,398
Oats ...	103,262	442,060	4,093	116,932	133,625	58,886	8	154	859,020
Maize ...	156,793	17,962	156,775	239	38	...	45	27	331,879
Barley—									
Malting ...	16,392	44,584	6,274	71,537	6,417	6,735	...	5	151,944
Other ...	4,209	38,767	2,552	19,015	5,085	988	...	4	70,620
Beans and Peas	460	12,630	69	9,031	1,551	15,091	7	...	38,839
Rye ...	4,913	1,779	91	1,242	679	850	...	5	9,559
Other Cereals ...	...	...	5	10	14	...	45	...	74
Hay ...	798,978	977,684	76,469	568,550	246,640	84,138	61	2,152	2,754,672
Green Forage ...	146,093	98,963	171,290	49,948	13,126	7,037	21	26	486,504
Grass Seed ...	...	1,452	736	11	...	1,460	10	...	3,669
Orchards & other Fruit Gardens	51,457	67,183	20,072	24,425	20,575	32,200	50	59	216,021
Vines—									
Productive ...	7,328	17,926	1,449	21,737	2,325	...	...	...	50,765
Unproductive	825	4,509	88	4,471	539	...	...	...	10,432
Market Gardens	10,585	10,777	2,611	2,265	2,851	769	60	22	29,940
Sugar Cane—									
Productive ...	6,198	...	102,303	...	...	...	...	...	109,001
Unproductive	7,034	...	44,940	...	...	...	1	...	51,975
Potatoes ...	38,695	74,574	10,085	10,809	5,229	30,811	...	30	170,233
Onions ...	208	6,121	96	309	116	82	...	...	6,932
Other root crops	1,334	2,515	3,998	462	172	4,083	10	...	12,574
Tobacco ...	1,952	284	731	...	...	...	...	...	3,007
Broom Millet ...	1,970	515	399	...	...	...	10	...	2,894
Pumpkins and Melons	4,206	2,233	6,556	249	743	...	12	...	13,999
Hops ...	...	117	...	3	...	1,353	...	...	1,473
All other crops	1,088	2,825	2,977	463	1,005	1,225	5	...	9,588
Total Area...	4,567,592	4,391,321	747,814	3,169,559	1,537,923	264,140	354	4,309	14,683,012

2. **Relative Areas of Crops in States and Territories.**—Taking the principal crops, *i.e.*, those in the case of which the cultivation amounts to more than 50,000 acres in the Commonwealth, the proportion of each in the various States and Territories to the total area under crop for the season 1913-14 is shewn in the next table. In four of the States, *viz.*, New South Wales, Victoria, South Australia, and Western Australia, wheat-growing for grain is by far the most extensive form of cultivation, while in each of these States the hay crop is second in importance. In New South Wales maize ranks third, but in Victoria, South Australia, and Western Australia, and also in the Commonwealth as a whole, the oat crop occupies third position. In Queensland, on the other hand, the three principal crops in the order of importance are green forage, maize, and sugar cane, while in Tasmania hay, oats, and orchards occupy the leading positions. For the Commonwealth as a whole, the wheat, hay, and oat crops represent nearly 88 per cent. of the total area under crop.

## PROPORTION OF AREA UNDER CHIEF CROPS, 1913-14.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Federal Terr.	C'wealth
	%	%	%	%	%	%	%	%	%
Wheat ...	70.14	58.43	17.74	71.55	71.34	6.98	2.54	42.35	63.25
Hay ...	17.49	22.26	10.23	17.94	16.04	31.85	17.23	49.94	18.76
Oats ...	2.26	10.07	0.55	3.69	8.69	22.29	2.26	3.57	5.85
Maize ...	3.43	0.41	20.96	0.01	...	...	12.71	0.63	2.26
Green Forage	3.20	2.25	22.91	1.58	0.85	2.66	5.93	0.60	3.31
Orchards and Fruit G'dens	1.13	1.53	2.68	0.77	1.34	12.19	14.13	1.37	1.47
Sugar Cane...	0.29	...	19.76	...	...	...	0.28	...	1.10
Potatoes ...	0.85	1.70	1.35	0.34	0.34	11.66	...	0.70	1.16
Barley ...	0.45	1.90	1.18	2.86	0.75	2.92	...	0.21	1.52
Vineyards ...	0.18	0.51	2.06	0.83	0.19	...	...	...	0.42
All Other ...	0.58	0.94	0.58	0.43	0.46	9.45	44.92	0.63	0.90
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

## 3. Relative Positions of States and Territories in regard to Principal Crops.—

The relative proportion of acreage of the several crops and position regarding them in each State and Territory is shewn in the following table. New South Wales exhibits the largest area under wheat and maize; Victoria the leading position in regard to hay, oats, orchards and fruit gardens, and potatoes; and Queensland first in sugar cane and green forage, and second in maize. South Australia had the largest area under vineyards, and barley; Western Australia second position in oats and fourth in wheat, hay, barley, and vineyards; while Tasmania was third in regard to potatoes, orchards and fruit gardens.

## RELATIVE POSITIONS OF THE SEVERAL STATES AND TERRITORIES IN REGARD TO AREA UNDER EACH OF THE PRINCIPAL CROPS DURING THE SEASON 1913-14.

Crop.	N.S.W.	Vict.	Q'land.	S. Aust.	W.A.	Tas.	N.T.	Federal Terr.	C'with.
Wheat ...	34.49	27.63	1.43	24.42	11.81	0.20	...	0.02	100.00
position	1	2	5	3	4	6	...	7	
Hay ...	29.00	35.49	2.78	20.64	8.95	3.06	...	0.08	100.00
position	2	1	6	3	4	5	...	7	
Oats ...	12.02	51.46	0.48	13.61	15.56	6.85	...	0.02	100.00
position	4	1	6	3	2	5	...	7	
Maize ...	47.25	5.41	47.24	0.07	0.01	...	0.01	0.01	100.00
position	1	3	2	4	6	...	5	7	
Green Forage	30.03	20.34	35.21	10.27	2.70	1.44	...	0.01	100.00
position	2	3	1	4	5	6	...	7	
Orchards and Fruit Gardens...	23.82	31.10	9.29	11.31	9.52	14.91	0.02	0.03	100.00
position	2	1	6	4	5	3	8	7	
Sugar Cane	8.22	...	91.78	...	...	...	...	...	100.00
position	2	...	1	...	...	...	...	...	
Potatoes ...	22.66	42.79	7.64	6.20	3.00	17.68	0.01	0.02	100.00
position	2	1	4	5	6	3	8	7	
Barley ...	9.25	37.45	3.97	40.69	5.17	3.47	...	...	100.00
position	3	2	5	1	4	6	...	...	
Vineyards ...	13.32	36.66	2.51	42.83	4.68	...	...	...	100.00
position	3	2	5	1	4	...	...	...	
All other crops	20.20	32.09	11.71	10.93	5.55	19.38	0.12	0.02	100.00
position	2	1	4	5	6	3	7	8	
Total area under crop	31.11	29.91	5.09	21.59	10.47	1.80	...	0.03	100.00
position	1	2	5	3	4	6	8	7	



4. **Acreage of Principal Crops, Commonwealth.**—The acreage devoted to each of the principal crops in the whole Commonwealth during the last five seasons is shewn below :—

**ACREAGE OF CHIEF COMMONWEALTH CROPS, 1909-10 to 1913-14.**

Crop.			1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
			Acres.	Acres.	Acres.	Acres.	Acres.
Wheat	...	...	6,586,236	7,372,456	7,427,834	7,339,651	9,287,398
Hay	...	...	2,228,029	2,258,405	2,518,288	3,217,041	2,754,672
Oats	...	...	698,448	676,688	616,857	874,034	859,020
Maize	...	...	364,585	414,914	340,065	314,936	331,879
Green Forage	...	...	306,082	374,862	424,440	428,006	486,504
Orchards and Fruit Gardens	...	...	178,798	185,156	194,524	205,174	216,021
Sugar Cane	...	...	142,261	155,542	144,283	155,567	160,976
Potatoes	...	...	137,070	151,515	130,463	128,889	174,262
Barley	...	...	143,013	108,424	116,466	181,387	222,564
Vineyards	...	...	58,151	59,111	60,602	62,388	61,197
All other Crops	...	...	129,626	136,762	133,195	130,976	128,519
Total	...	...	10,972,299	11,893,838	12,107,017	13,038,049	14,683,012

During the period under review the area devoted to the several crops has varied considerably, that under wheat attaining a maximum in the season 1913-14, and a minimum in 1909-10, while hay reached its maximum area in 1912-13 and its minimum in 1909-10. Of the other crops green forage, orchards and fruit gardens, sugar cane, potatoes and barley attained their maximum areas in 1913-14, maize in 1910-11, and oats and vineyards in 1912-13.

**§ 4. Wheat.**

1. **Progress of Wheat-Growing.**—(i.) *Acreage.* The area under wheat for grain is given below for each State at various periods since 1860, and is shewn diagrammatically in the graph hereinafter :—

**AREA UNDER WHEAT, 1860-1 to 1913-14.**

Season.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tas.	N.T.	Fed. Terr.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1860-1	128,829	161,252	196	273,672	13,584	66,450	...	...	643,983
1865-6	131,653	178,628	2,068	410,608	22,249	73,270	...	...	818,476
1870-1	147,997	284,167	2,892	604,761	26,640	57,382	...	...	1,123,839
1875-6	133,609	321,401	4,478	898,820	21,561	42,745	...	...	1,422,614
1880-1	253,138	977,285	12,632	1,733,542	27,686	50,022	...	...	3,054,305
1885-6	264,667	1,020,082	10,093	1,922,555	29,511	30,266	...	...	3,277,374
1890-1	333,233	1,145,163	10,390	1,673,573	33,820	32,452	...	...	3,228,631
1895-6	596,684	1,412,736	27,090	1,649,929	23,241	64,652	...	...	3,774,332
1900-1	1,530,609	2,017,321	79,304	1,913,247	74,308	51,825	...	...	5,666,614
1905-6	1,939,447	2,070,517	119,356	1,757,036	195,071	41,819	...	...	6,122,746
1910-11	2,128,826	2,398,089	106,718	2,104,717	581,862	52,242	2	...	7,372,456
1911-12	2,379,968	2,164,066	42,962	2,190,782	612,104	37,208	2	742	7,427,834
1912-13	2,230,500	2,085,216	124,963	2,079,633	793,096	25,226	3	1014	7,339,651
1913-14	3,203,572	2,565,861	132,655	2,267,851	1,097,193	18,432	9	1825	9,287,398

The area devoted in the Commonwealth to the production of wheat for grain was higher for the season 1913-14 than for any previous season, there being an increase in all the States with the exception of Tasmania, which shewed a falling-off. Prior to 1913-14

the maximum area under wheat for grain was attained by the several States in the following seasons:—New South Wales, and South Australia, 1911-12; Victoria, 1910-11; Queensland, 1904-5; Western Australia, 1912-13; and Tasmania, 1897-8. The average area under wheat in the Commonwealth in the past ten seasons was 6,703,466 acres. The past four seasons exceeded this average, while the previous six seasons fell short of it.

(ii.) *Field.* The production during the same period for each State and for the Commonwealth as a whole is given below:—

#### PRODUCTION OF WHEAT, 1860-1 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. T.	Federal Terr.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1860-1 ...	1,581,598	3,459,914	3,136	3,576,593	208,332	1,415,896	...	...	10,245,469
1865-6 ...	1,013,863	3,514,227	33,088	3,587,800	231,594	1,273,766	...	...	9,654,338
1870-1 ...	999,595	2,870,409	39,787	6,961,164	316,769	896,881	...	...	12,084,605
1875-6 ...	1,958,640	4,978,914	97,400	10,739,634	237,171	700,092	...	...	18,712,051
1880-1 ...	3,717,355	9,727,369	223,243	8,606,510	332,232	750,040	...	...	23,356,749
1885-6 ...	2,733,133	9,170,538	51,598	14,612,876	339,376	524,348	...	...	27,431,869
1890-1 ...	3,649,216	12,751,295	207,990	9,399,389	467,369	642,860	...	...	27,118,259
1895-6 ...	5,195,312	5,669,174	123,630	5,929,300	189,077	1,164,655	...	...	18,270,348
1900-1 ...	16,173,771	17,847,321	1,194,088	11,253,148	774,653	1,110,421	...	...	48,353,402
1905-6 ...	20,737,200	23,417,670	1,137,321	20,143,798	2,308,305	776,478	...	...	68,520,772
1910-11 ...	27,913,547	34,813,019	1,022,373	24,344,740	5,897,540	1,120,744	20	...	95,111,983
1911-12 ...	25,080,111	20,891,877	285,103	20,352,720	4,358,904	659,615	20	7,991	71,636,347
1912-13 ...	32,466,506	26,223,104	1,975,505	21,496,216	9,168,594	630,315	...	20,830	91,981,070
1913-14 ...	37,996,068	32,936,245	1,769,432	16,936,988	13,331,350	349,786	...	24,313	103,344,132

The harvest of 1913-14 was the largest ever reaped in the Commonwealth, and exceeded by 8,232,149 bushels that of 1910-11, the next largest harvest; the 1912-13 yield was 91,981,070 bushels, and that for 1909-10 was 90,413,597 bushels, these being the only four occasions on which a yield exceeding 90,000,000 bushels has been obtained. The harvest for 1914-15 will probably be very poor, the prolonged drought having been very disastrous to the wheat areas. The estimated yield at time of writing was about 30,000,000 bushels, the lowest since 1902. Later information will, however, be found in the Appendix.

(iii.) *Average Yields.* In the next table will be found the average yield of wheat per acre in each of the seasons 1901-2 and 1909-10 to 1913-14 and for the decennium:—

#### YIELD OF WHEAT PER ACRE, 1901-2 and 1909-10 to 1913-14.

Season.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tasmania.	N.T.	Fed. Terr.	C'wealth
	Bushels.	B'shls.	B'shls.	B'shls.	B'shls.	B'shls.	B'shls.	B'shls.	B'shls.
1901-2 ...	10.64	6.91	19.40	4.60	10.10	21.86	...	...	7.54
1909-10 ...	14.34	13.72	13.41	13.26	12.48	21.41	...	...	13.73
1910-11 ...	13.11	14.52	9.58	11.57	10.14	21.45	10.00	...	12.90
1911-12 ...	10.54	9.65	6.64	9.29	7.12	17.73	10.00	10.77	9.64
1912-13 ...	14.56	12.58	15.81	10.34	11.56	24.99	...	20.54	12.53
1913-14 ...	11.86	12.84	13.34	7.47	12.15	18.97	...	13.32	11.13
Average for 10 seasons	11.61	11.55	12.04	10.20	10.76	20.50	...	14.84	11.18

As the above figures shew, there were considerable variations in the average yields, chiefly due of course to the vagaries of the season.

For the Commonwealth as a whole the average yield for 1913-14 of 11.13 bushels per acre was 0.05 below the average yield of 11.18 per acre during the last ten seasons. The highest average yield for any State was in Tasmania with 18.97 bushels per acre. Queensland, Victoria, and Western Australia producing an average of 13.34, 12.84, and 12.15 respectively. New South Wales and South Australia had an average yield of 11.86 and 7.47 bushels per acre respectively, the former being 0.25 above and the latter 2.73 below the average for the decennium.

(iv.) *Relation to Population.* During the seasons embraced in the following table, the Commonwealth's production of wheat per head of population has varied between  $3\frac{1}{2}$  bushels in 1902-3 and  $21\frac{1}{2}$  bushels in 1910-11. The State in which wheat-growing occupies the most important position relatively to population is South Australia, which in 1909-10 had a yield which averaged close upon 64 bushels per head. Taking a series of years Queensland is the State in which the average production of wheat per head is least; during 1913-14, however, Tasmania shews the lowest average. Particulars for 1901-2 and the past five seasons are as follows:—

#### AUSTRALIAN WHEAT PRODUCTION PER 1000 OF POPULATION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Fed. Terr.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bush'ls	Bush'ls	Bushels.
1901-2	10,766	10,023	3,340	22,299	4,943	5,499	...	...	10,082
1909-10	17,679	22,537	2,720	63,971	21,087	4,110	...	...	20,910
1910-11	16,981	26,750	1,707	59,835	21,304	5,783	6	...	21,494
1911-12	14,993	15,330	485	48,671	14,817	3,409	6	4,056	15,955
1912-13	18,265	18,995	3,104	49,981	29,950	3,196	...	10,737	19,433
1913-14	20,743	23,324	2,680	38,489	41,572	1,734	...	12,230	21,212

2. *Australian and Foreign Wheat Yields.*—In the next table will be found a statement of the average return per acre in the principal wheat-growing countries of the world, ranging from Belgium with a maximum of  $38\frac{7}{10}$  bushels per acre, to Tunis with a minimum of  $2\frac{1}{2}$  bushels per acre. Australia with approximately  $12\frac{1}{2}$  occupies a subordinate position. (See table on previous page.)

#### AVERAGE YIELD OF WHEAT IN VARIOUS COUNTRIES, 1912.

Country.	Average Yield in bushels per acre.	Country.	Average Yield in bushels per acre.
Belgium ...	38.70	Servia (1911) ...	16.04
Netherlands ...	33.58	United States ...	15.46
Germany ...	33.68	Italy ...	14.10
Sweden (1910) ...	32.48	<b>Australia*</b> ...	<b>12.53</b>
New Zealand ...	30.05	India ...	12.12
United Kingdom ...	29.13	Argentine Republic ...	11.61
Bulgaria ...	23.03	Spain ...	11.41
Austria ...	21.70	Uruguay (1911) ...	10.96
Egypt (1911) ...	21.69	Russia in Europe ...	10.25
Japan ...	21.13	Russia in Asia ...	10.16
Canada ...	20.42	Portugal (1911) ...	9.78
France ...	20.03	Algeria ...	7.52
Hungary ...	19.27	Tunis ...	2.42
Rumania ...	16.86		

\* 1913, 11.13.

3. *Wheat Crops of the World.*—The latest available official statistics of the production of wheat in various countries are given in the following table:—

## WHEAT YIELD OF VARIOUS COUNTRIES, 1912.

Country.	Yield in Bushels.	Country.	Yield in Bushels.
United States ...	708,064,000	Bulgaria ...	63,732,334
Russia in Europe ...	621,813,850	United Kingdom ...	57,402,304
India ...	358,388,806	Egypt ...	30,891,407
France ...	325,073,376	Algeria ...	27,164,344
Canada ...	199,236,000	Japan ...	25,690,320
Argentine Republic ...	198,360,000	Belgium... ..	15,343,694
Hungary ...	184,591,439	Servia ...	15,307,488
Russia in Asia ...	177,179,404	Portugal ...	11,846,400
Italy ...	165,674,683	Uruguay... ..	8,754,400
Germany... ..	160,180,258	Sweden ...	7,589,728
Spain ...	109,753,493	Netherlands ...	5,513,696
<b>Australia *</b> ...	<b>91,981,070</b>	New Zealand† ...	5,179,626
Rumania... ..	86,176,264	Tunis ...	3,609,376
Austria ...	67,557,616	Denmark ...	3,477,888

\* 1913—103,344,132. † 1913—5,231,700.

Various estimates of the total quantity of wheat produced in the world have been made. That furnished by the United States Department of Agriculture gives the following figures for the five years 1909 to 1913 :—

## WORLD'S PRODUCTION OF WHEAT.

Year ... ..	1909.	1910.	1911.	1912.	1913.
	1,000,000 bushels.	1,000,000 bushels.	1,000,000 bushels.	1,000,000 bushels.	1,000,000 bushels.
Production ... ..	3,472	3,466	3,432	3,676	3,999

In this estimate the figures given for Australia and New Zealand relate to the agricultural year ending on 31st March in the year specified.

For the five years referred to, the Australian production of wheat aggregated 411,734,000 bushels, thus representing slightly over 2½ per cent. of the world's production. The total quantity of wheat produced in the British Empire during the same period of five years was approximately 3,478 million bushels, so that the Australian production of wheat represented 11.8 per cent. of that of the British Empire, while the British Empire production represented 19.3 per cent. of the world's total.

4. **Prices of Wheat.**—(i.) *British Wheat.* Since the United Kingdom is the largest importer of Australian wheat, the price of wheat in the British markets is a matter of prime importance to the local producer. The table below gives the average prices per Imperial quarter realised for British-grown wheat :—

## PRICES OF BRITISH WHEAT PER QUARTER, 1861 to 1913.

Year.	Average for Year.	Highest Weekly Average.	Lowest Weekly Average.	Year.	Average for Year.	Highest Weekly Average.	Lowest Weekly Average.
	s. d.	s. d.	s. d.		s. d.	s. d.	s. d.
1861 ...	55 4	61 6	50 0	1906 ...	28 3	30 9	25 9
1871 ...	56 8	60 0	52 6	1907 ...	30 7	36 3	26 0
1881 ...	45 4	55 2	40 9	1908 ...	32 0	35 6	30 5
1891 ...	37 0	41 8	32 3	1909 ...	36 11	44 9	31 4
1901 ...	26 9	27 8	25 8	1910 ...	31 8	33 9	29 0
1902 ...	28 1	31 8	24 10	1911 ...	31 8	33 4	30 0
1903 ...	26 9	30 3	24 11	1912 ...	34 9	39 2	29 10
1904 ...	28 4	30 6	26 3	1913 ...	31 8	34 3	30 0
1905 ...	29 8	32 3	26 8				

(ii.) *Australian and other Wheat.* Generally speaking, Australian wheat shows a grain of bright clear texture, rich in gluten, and of fine milling quality. Its excellence is attested by the high price which it realises in the home markets. The statement below shews, for the last five years, the average value per Imperial quarter of the wheat imported into the United Kingdom from the chief producing countries:—

**AVERAGE PRICE OF FOREIGN WHEAT IMPORTED INTO THE UNITED KINGDOM,  
1909 TO 1913.**

Country.	Average Price per Imperial Quarter.					Country.	Average Price per Imperial Quarter.				
	1909.	1910.	1911.	1912.	1913.		1909.	1910.	1911.	1912.	1913.
	s. d.	s. d.	s. d.	s. d.	s. d.		s. d.	s. d.	s. d.	s. d.	s. d.
Australia ...	41 5	37 2	34 10	38 5	37 6	Germany ...	38 3	36 11	33 6	36 8	31 0
Russia ...	39 3	35 7	33 4	37 6	33 11	Bulgaria ...	...	32 11	35 1	36 4	...
Rumania ...	40 9	34 2	34 7	37 3	33 3	United States	38 6	37 3	34 9	35 9	35 1
British India	40 8	35 5	33 7	37 0	36 6	Argentina ...	39 9	34 11	33 4	35 6	35 8
Chile... ..	39 1	33 7	33 0	36 9	36 7	Canada ...	39 3	36 9	34 10	35 2	34 8

In the next table will be found a statement of the export values of Australian wheat during each of the last ten years:—

**EXPORT VALUES OF AUSTRALIAN WHEAT, 1904 to 1913.**

Particulars.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Price per bushel	3s. 2d.	3s. 5d.	3s. 3d.	3s. 4d.	4s. 1d.	4s. 2d.	4s. 2d.	3s. 6d.	3s. 11d.	3s. 9d.

The export values here shewn are the average declared values for the successive years at the several ports of shipment in the Commonwealth.

**5. Imports and Exports of Wheat and Flour.**—(i.) *Quantities.* The table hereunder shews the imports, exports, and net exports of wheat and flour during 1901 and 1909 to 1913. For the sake of convenience flour has been expressed at its equivalent in wheat, one ton of flour being taken as equal to 50 bushels of grain. During 1903 the Commonwealth imports of wheat and flour were equivalent to 12,607,940 bushels of wheat. This importation was necessitated by the failure of the crop in the preceding season. In ordinary seasons the import of wheat and flour is negligible. During the past five years the export has ranged between 38,047,948 bushels in 1909 and 63,942,390 bushels in 1911, the net exports for that period averaging 50,353,000 bushels.

**IMPORTS AND EXPORTS OF WHEAT AND FLOUR, COMMONWEALTH,  
1901 AND 1909 TO 1913.**

Year.	Imports.			Exports.			Net Exports.
	Wheat.	Flour.	Total.	Wheat.	Flour.	Total.	
	Bushels.	Eq. Bshls. <sup>1</sup>	Bushels.	Bushels.	Eq. Bshls. <sup>1</sup>	Bushels.	Bushels.
1901	22,992	302,550	325,542	20,260,058	4,840,700	25,100,758	24,775,216
1909	128	4,000	4,128	31,549,498	6,498,450	38,047,948	38,043,820
1910	325	8,600	8,925	47,761,895	6,997,300	54,759,195	54,750,270
1911	113	12,150	12,263	55,147,840	8,794,550	63,942,390	63,930,127
1912	1,483	7,300	8,783	32,604,248	8,404,700	41,008,948	41,000,165
1913	60	2,650	2,710	42,922,887	11,082,900	54,005,787	54,003,077

1. Equivalent in bushels of wheat.

(ii.) *Destination of Exported Breadstuffs.* In the next two tables will be found the principal countries to which the Commonwealth exported wheat and flour during each

year of the period 1909-13. The countries are as shewn in the Australian Customs returns, but owing to the fact that wheat ships are frequently instructed to call for orders at various ports, the countries to which these ports belong cannot always be considered as the ultimate destination of the whole of the wheat said to be exported to them.

**EXPORTS OF WHEAT FROM THE COMMONWEALTH, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for Five Years.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
U. Kingdom	26,030,722	36,998,625	37,475,188	23,099,670	27,922,717	151,526,922
Sth. African Union ...	3,234,603	3,001,145	2,458,780	1,784,332	4,482,865	14,961,775
Canary Is.*	238,410	3,280,215	4,756,647	3,107,257	1,477,005	12,859,534
France ...	24,803	918,815	5,468,993	53,773	1,943,208	8,409,592
Peru ...	627,417	1,270,360	1,594,610	1,201,682	943,130	5,637,199
Belgium ...	120,237	1,174,210	1,639,140	1,414,263	1,742,803	6,090,653
Chile ...	...	102,025	477,573	...	...	579,598
Japan ...	61,448	231,320	99,560	42,550	1,215,778	1,650,656
Germany ...	40,403	290,905	255,740	556,508	290,553	1,434,109
India ...	101,135	...	...	...	...	101,135
China ...	42	...	...	...	...	42
Italy ...	483,783	54,140	...	488,697	1,879,923	2,906,543
Egypt ...	...	...	156,485	427,988	92,413	676,886
Philippine I.	178,153	...	152	1,667	...	179,972
New Zealand	72,130	8,410	12,247	1,695	...	94,482
New Caledonia ...	3,275	470	642	1,400	1,129	6,916
Ceylon ...	308	820	1,325	1,487	1,748	5,688
Other Countries ...	332,629	430,435	750,753	421,229	929,615	2,864,666
Total ...	31,549,498	47,761,895	55,147,840	32,604,248	42,922,887	209,986,368

\* For orders.

The exports of flour during the same period and the principal countries of destination were as follows :—

**EXPORTS OF FLOUR FROM THE COMMONWEALTH, 1909 to 1913.**

Country to which Exported.	1909.	1910.	1911.	1912.	1913.	Total for Five Years.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Sth. African Union	24,460	29,535	35,136	26,230	38,209	153,570
United Kingdom	33,128	23,323	24,616	38,535	18,894	138,496
Java ...	13,346	18,808	30,964	29,275	38,103	130,496
Portuguese East Africa ...	16,496	22,517	8,421	4,264	15,612	67,310
Philippine Islands	11,803	9,359	16,634	16,240	14,366	68,402
Straits Settlements	6,250	12,374	22,036	15,177	21,625	77,462
Hong Kong ...	1,511	1,742	5,687	1,952	2,466	13,358
New Zealand	5,439	3,148	2,818	1,641	3,057	16,103
New Caledonia ...	3,897	4,049	4,174	4,012	4,143	20,275
Mauritius ...	3,090	2,894	1,974	1,240	1,906	11,104
Ceylon ...	2,257	2,287	3,046	3,901	5,454	16,945
China ...	300	816	1,656	1,738	2,188	6,698
Fiji ...	1,810	1,760	2,230	2,429	2,619	10,848
Japan ...	337	815	269	453	610	2,484
Other Countries ...	5,845	6,519	16,230	21,007	52,406	102,007
Total ...	129,969	139,946	175,891	168,094	221,658	835,558

During the five years under review the export of wheat to the United Kingdom totalled 151,526,922 bushels, or about 72 per cent. of the total export for the period. On the other hand, the export of flour to the United Kingdom aggregated only 138,496 tons, or about 16½ per cent. of the total export. During the five years the heaviest exports of flour have been to South Africa, the United Kingdom, Java, Portuguese East Africa, the Philippine Islands, the Straits Settlements, and New Caledonia.

(iii.) *Exports of Wheat and Flour.* From the foregoing returns it will be seen that the quantity of Australian wheat exported in the form of flour during the past five years represents, on the average, slightly over 16½ per cent. of the total equivalent in wheat exported as wheat or flour from the Commonwealth. One cause of this, and probably the chief one, is the fact that Australian wheats are in considerable demand with the English millers for mixing purposes, while the Australian flour has not, up to the present, received that consideration from the English bakers which its admitted qualities undoubtedly merit. Steps which have recently been taken to bring these qualities before the British public may possibly have the effect of increasing the proportion of wheat exported in the form of flour.

A point of some interest in connection with the export of wheat, and one which bears also on the proportions of wheat and flour exports just referred to, is that concerning the quantity of phosphoric acid which this export has the effect of removing from the Commonwealth, and the necessity which exists for the return to the soil of this substance in some form.

According to an estimate furnished by the chemist to the New South Wales Department of Agriculture (F. B. Guthrie, Esq., F.C.S., etc.), the proportions of milled product from a bushel (60 lbs.) of wheat are, approximately, 42 lbs. of flour, 9 lbs. of bran, and 9 lbs. of pollard, while the percentage of phosphoric acid contained in these products is as follows:—

Flour ...	...	...	0.32 per cent., or 0.13 lb. per bushel.
Bran ...	...	...	3.00        "        0.27        "
Pollard ...	...	...	0.90        "        0.08        "

The total amount of phosphoric acid contained in a bushel of wheat is, therefore, 0.48 lb., of which 0.13 lb. is in the flour and 0.35 lb. in the offal.

During the past ten years the net exports from the Commonwealth of wheat and its milled products have amounted to 342,049,930 bushels of wheat, 1,537,549 tons of flour, and 7,303,769 bushels of bran, pollard, and sharps. On the basis of the figures quoted above this export would contain no less than 177,000,000 lbs. of phosphoric acid, the value of which as a fertiliser would be over a million pounds sterling.

(iv.) *Local Consumption of Wheat.* The estimated consumption of wheat for food and for seed purposes in the Commonwealth during the past nine years is given in the following tables:—

#### WHEAT USED FOR HUMAN CONSUMPTION IN THE COMMONWEALTH.

Year.	Flour Milled.	Net Exports of Flour.		Net Quantity Available for Home Consumption.		Net Quantity Available per Head of Population.	
		Flour.	Flour in Biscuits Exp'd.	Flour.	Equivalent in Terms of Wheat.	Flour.	Equivalent in Terms of Wheat.
1905 ...	Tons. 596,908	Tons. 153,206	Tons. 1,100	Tons. 442,602	Bushels. 22,130,100	Tons. .1106	Bushels. 5.531
1906 ...	613,923	166,005	1,570	446,348	22,317,400	.1099	5.496
1907 ...	652,135	163,064	1,840	487,231	24,361,550	.1182	5.908
1908 ...	552,388	116,625	1,810	433,953	21,697,650	.1035	5.173
1909 ...	603,688	129,889	1,980	471,819	23,590,950	.1104	5.519
1910 ...	649,282	139,774	2,340	507,163	25,358,400	.1161	5.803
1911 ...	691,301	175,649	2,570	513,082	25,654,100	.1143	5.713
1912 ...	677,053	167,948	2,820	506,285	25,314,250	.1090	5.450
1913 ...	760,613	221,605	2,600	536,408	26,820,400	.1117	5.583
Aggregate 9 years ...	5,797,291	1,433,765	18,630	4,344,896	217,244,800	.1115	5.576

### ESTIMATED QUANTITY OF WHEAT USED FOR SEED PURPOSES IN THE COMMONWEALTH.

Year.	Wheat for Seed Purposes.		
	Quantity.	Per Acre.	Per Head of Population.
	Bushels.		Bushels.
1905 ... ..	6,747,000	.946	1.686
1906 ... ..	6,664,000	.954	1.641
1907 ... ..	6,261,000	.960	1.518
1908 ... ..	6,429,000	.962	1.533
1909 ... ..	7,322,000	.960	1.713
1910 ... ..	8,332,000	.966	1.907
1911 ... ..	8,282,000	.922	1.844
1912 ... ..	8,484,000	.919	1.827
1913 ... ..	9,747,000	.908	2.029
Aggregate for 9 years ... ..	68,268,000	.941	1.752

In addition to the above there is to be taken into consideration grain fed to poultry and other live stock. This, doubtless, varies in quantity from year to year according to the prices current for wheat, and other causes. No data is available on which to base an estimate of actual quantity so consumed. The flour available for human consumption necessarily fluctuates from year to year coincident with stocks being heavy or light. In 1907 the flour available per head of population, after deducting net exports from quantity milled, shewed a substantial increase over the average for the previous two years, this, however, being counterbalanced by a decline in the following year. The average quantity of flour consumed per annum for the nine years under consideration was 0.1115 tons per head of population, this, when expressed in equivalent terms in wheat, representing 5.576 bushels. The estimates of quantity of grain used for seed purposes have been based on data supplied by the Agricultural Departments of the several States, giving average quantities of seed used per acre for wheat sown either for grain, hay or green fodder. The average annual quantity thus used during the nine years was 1.752 bushels per head of population, and 0.941 bushels per acre sown.

Reference will be found in a subsequent section to Commonwealth and State legislation for control of trade and prices of commodities during the war. Various State Boards and Commissions and a Federal Royal Commission were appointed to collect information and to report on such matters as the supply of foodstuffs and other necessities required by, and available for, Australia, and other important matters relating to conditions of trade and industry arising from the war.

**6. Value of the Wheat Crop.**—The estimated value of the wheat crop in each State and in the Commonwealth during the season 1913-14 is shewn below :—

#### VALUE OF THE WHEAT CROP,\* 1913-14.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Terr.	C'w'lth.
	£	£	£	£	£	£	£	£
Aggregate value ... ..	6,775,970	6,038,312	442,358	3,105,114	2,332,986	69,947	4,330	18,769,017
Value per acre ... ..	£2/2/4	£2/7/1	£3/6/8	£1/7/5	£2/2/6	£3/15/11	£2/7/5	£2/0/5

\* Exclusive of the value of straw.

### § 5. Oats.

**1. Progress of Cultivation.**—Oats comes next in importance to wheat amongst the grain crops cultivated last season, but while wheat grown for grain accounted for over 63 per cent., oats represented less than 6 per cent. of the area under crop in the Commonwealth. The progress of cultivation of oats since 1860 is shewn in the table hereunder, and more fully in the graphs hereinafter :—



## CULTIVATION OF OATS, 1860-61 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Federal Terr.	C'wealth
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1860-1	6,535	86,337	7	2,273	507	30,303	...	125,962
1865-6	10,939	102,817	348	2,872	1,232	28,538	...	146,746
1870-1	10,683	149,309	122	6,188	2,095	30,946	...	199,343
1875-6	18,856	124,100	114	3,640	1,256	32,556	...	180,522
1880-1	17,923	134,089	116	4,355	1,319	19,853	...	177,655
1885-6	14,117	215,994	208	7,871	1,596	29,247	...	269,033
1890-1	14,102	221,048	411	12,475	1,934	20,740	...	270,710
1895-6	23,750	255,503	922	34,098	1,880	32,699	...	348,852
1900-1	29,383	362,689	385	27,988	4,790	45,073	...	470,308
1905-6	38,543	312,052	533	56,950	15,713	42,776	...	466,567
1910-11	77,991	392,681	2,537	77,674	61,918	63,887	...	676,688
1911-12	70,880	302,238	557	107,881	77,488	57,583	167	616,794
1912-13	84,979	439,242	4,232	155,545	127,645	62,445	196	874,284
1913-14	103,262	442,060	4,093	116,932	133,625	58,886	154	859,020*

\* Including 8 acres, Northern Territory.

2. **Total Yield.**—The total oat crop of the several States for the same period is furnished in the following table:—

## COMMONWEALTH OAT CROP, 1860-1 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Terr.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bush'ls	Bushels.
1860-1	98,814	2,633,693	91	52,989	11,925	926,418	...	3,723,930
1865-6	116,005	2,279,468	4,524	42,642	19,005	688,740	...	3,150,384
1870-1	119,365	2,237,010	1,586	88,383	39,974	691,250	...	3,177,568
1875-6	352,966	2,719,795	1,482	60,749	18,840	827,043	...	3,980,875
1880-1	356,121	2,362,425	2,081	50,070	21,104	439,446	...	3,231,247
1885-6	279,107	4,692,303	1,006	97,201	23,142	784,325	...	5,877,084
1890-1	256,659	4,919,325	8,967	116,229	38,791	519,395	...	5,859,366
1895-6	374,196	2,880,045	10,887	184,012	19,326	906,934	...	4,375,400
1900-1	593,548	9,582,332	7,855	366,229	86,433	1,406,913	...	12,043,310
1905-6	883,081	7,232,425	5,858	869,146	283,987	1,200,024	...	10,474,521
1910-11	1,702,706	9,699,127	50,469	1,136,618	776,233	2,063,303	...	15,428,456
1911-12	1,152,827	4,585,326	5,783	1,349,480	961,385	1,504,633	2,337	9,561,771
1912-13	1,669,259	8,323,639	82,420	1,673,508	2,105,812	2,257,258	4,816	16,116,712
1913-14	1,832,616	8,890,321	56,236	1,200,740	1,655,681	1,593,664	2,790	15,232,048

The principal oat-growing State of the Commonwealth is Victoria. During the past five seasons it has produced about 55½ per cent. of the total quantity of oats grown in the Commonwealth; Tasmania, New South Wales, Western Australia, and South Australia come next in order of importance. In New South Wales and Tasmania, the highest production of oats for any season was that of 1909-10, while Victoria experienced a maximum yield in 1903-4, and Queensland, South Australia and Western Australia in 1912-13. For the Commonwealth as a whole the record yield was that of 17,541,210 bushels in the season 1903-4, while the yields of 16,248,857 and 16,116,712 for 1908-9 and 1912-13 respectively, rank second and third.

3. **Average Yield.**—The average yield per acre of the oat crop of the Commonwealth varies considerably in the different States, being highest in Tasmania and lowest in South Australia. Particulars as to average yield in each of the seasons 1901-2 and 1909-10 to 1913-14, and also for the decennium, are given in the succeeding table:—

## AVERAGE YIELD OF OATS PER ACRE.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Terr.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bush'ls	Bushels.
1901-2 ...	21.31	20.43	27.50	13.54	16.78	31.48	...	21.22
1909-10 ...	24.14	20.60	17.93	14.17	17.02	32.93	...	21.10
1910-11 ...	21.83	24.70	19.89	14.63	12.54	32.30	...	22.80
1911-12 ...	16.25	15.17	10.38	12.51	12.41	26.13	13.99	15.50
1912-13 ...	19.64	18.95	19.48	10.76	16.50	36.15	24.57	18.43
1913-14 ...	17.75	20.11	13.74	10.27	12.39	27.06	18.12	17.73
Average for 10 Seasons	19.19	20.45	17.95	12.95	14.40	30.86	19.23	19.65

The smallest average yield per acre for the Commonwealth for the past ten-year period was that experienced in the season 1907-8, being 14.29, while the largest was that of the season 1903-4, amounting to 28.25 bushels per acre.

4. **Relation to Population.**—The State in which oat production occupies the most important position in relation to population is Tasmania, the yield for that State representing for 1913-14 about 7.9 bushels per head, as compared with 3.1 bushels per head for the Commonwealth as a whole. Particulars for the seasons 1901-2 and 1909-10 to 1913-14 are furnished in the succeeding table:—

## OAT PRODUCTION PER 1000 OF POPULATION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Federal Territory.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1901-2	500	5,558	83	1,306	845	9,734	...	2,559
1909-10	1,219	6,197	87	3,077	4,698	12,156	...	3,408
1910-11	1,036	7,453	84	2,794	2,804	10,646	...	3,487
1911-12	689	3,365	9	3,227	3,268	7,777	1,217	2,093
1912-13	939	6,029	129	3,891	6,879	11,446	2,482	3,405
1913-14	1,000	6,296	85	2,729	5,163	7,902	1,403	3,126

5. **Value of Oat Crop.**—The estimated value of the oat crop of the several States of the Commonwealth for the season 1913-14 is as follows:—

## VALUE OF OAT CROP,\* 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Terr.	C'wealth.
Aggregate value	£244,350	£777,903	£11,247	£100,062	£179,365	£219,129	£370	£1,532,426
Value per acre	£2/7/4	£1/15/2	£2/15	17/1	£1/6/10	£3/14/5	£2/8/1	£1/15/8

\* Exclusive of the value of straw.

6. **Imports and Exports.**—The production of oats in the Commonwealth has not yet reached such a stage as to admit of a regular export trade in this cereal; in fact in certain years the imports have exceeded the exports, notably in 1903, 1906, 1908, and 1912. The quantities and values of oats imported into and exported from the Commonwealth during the years 1901 and 1909 to 1913 are given hereunder:—

## COMMONWEALTH IMPORT AND EXPORT OF OATS, 1901 and 1909 to 1913.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1901	1,526,599	153,674	2,874,334	285,347	1,347,735	131,673
1909	320,543	32,607	339,258	35,375	18,715	2,768
1910	19,510	2,232	129,490	14,893	109,980	12,661
1911	4,522	639	391,465	46,493	386,943	45,854
1912	2,939,325	398,114	106,275	14,688	2,833,050	383,426
1913	146,102	20,282	111,280	14,102	34,822	6,180

Note. — signifies net imports.

The principal countries from which the Commonwealth imports of oats have been obtained are the Dominion of New Zealand and the South African colonies, while the principal countries to which oats were exported during the period under review were the South African colonies in the earlier, and the United Kingdom, the Philippine Islands, and India in the later years.

7. **Oatmeal, etc.**—Importations of oatmeal, etc., into the Commonwealth take place principally from the United Kingdom, the United States, and Canada. The total importations of oatmeal, wheatmeal, and rolled oats during 1913 amounted to 805,039 lbs., and represented a value of £10,124, while the exports amounted to 670,200 lbs., valued at £9,386, principally to Portuguese East Africa and the South African Union.

8. **Comparison with other Countries.**—A comparison of the Australian production of oats with that of the leading oat-producing countries of the world, is furnished in the following table:—

## PRODUCTION OF OATS IN VARIOUS COUNTRIES, 1912.

Country.	Quantity of Oats produced.	Country.	Quantity of Oats produced	Country.	Quantity of Oats produced.
	Bushels.		Bushels.		Bushels.
United States ...	1,375,216,000	Argentina ...	95,054,560	Spain ...	18,895,352
Russia in		Russia in Asia	94,962,184	Australia* ...	16,116,712
Europe ...	796,083,600	Sweden ...	73,554,248	Netherlands	14,947,856
Germany ...	481,499,576	Hungary ...	65,688,240	New Zealand	14,870,448
Canada ...	315,356,976	Denmark ...	40,826,368	Norway ...	11,248,496
France ...	304,360,648	Belgium ...	28,780,928	Algeria ...	10,131,128
United Kingdom	164,800,632	Italy ...	23,219,424	Bulgaria ...	9,889,744
Austria ...	141,852,448	Rumania ...	20,132,832		

\* 1913—15,232,048 bushels.

9. **Comparison of Yields.**—The average yield per acre of oats in Australia is a somewhat low one compared with the results obtained in other countries, where the cultivation of this cereal is more extensively carried on. Arranging the countries contained in the foregoing table, with the exception of Denmark, Sweden and Norway, for which particulars are not available, according to the magnitude of the average yield of oats for the year 1912, the results are as follow:—

## YIELD OF OATS PER ACRE, 1912.

Country.	Average per Acre.	Country.	Average per Acre.	Country.	Average per Acre.
	Bushels.		Bushels.		Bushels.
Belgium ...	44.44	Argentina ...	32.27	Russia in Europe	19.31
Germany ...	44.43	France ...	30.95	Italy ...	18.52
Netherlands	43.90	Austria ...	30.76	Australia* ...	18.43
United Kingdom...	40.44	Bulgaria ...	25.02	Russia in Asia ...	16.72
New Zealand ...	38.45	Hungary ...	24.23	Spain ...	14.78
United States ...	36.27	Rumania ...	21.35		
Canada ...	34.22	Algeria...	21.31		

\* 1913—17.73 bushels.

10. **Price of Oats.**—The average wholesale prices of oats in the markets of the several capitals for the year 1913 are given in the following table:—

**AVERAGE WHOLESALE PRICE OF OATS PER BUSHEL, 1913.**

Particulars.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
Average price per bushel ...	s. d. 3 0	s. d. 2 4	s. d. 4 3	s. d. 1 10	s. d. 2 3	s. d. 2 8

## § 6. Maize.

1. **States Growing Maize.**—The only States in which maize is at all extensively grown for grain are those of New South Wales and Queensland, the area so cropped in these two States during the season 1913-14 being 313,568 acres, or over 94 per cent. of the total for the Commonwealth. Of the balance, Victoria contributed 17,962 acres, South Australia 239 acres, Western Australia 38 acres, the Northern Territory 45 acres, and Federal Territory 27 acres. The climate of Tasmania prevents the growing of maize for grain in that State. In South Australia prior to 1908 particulars concerning maize had not been specially asked for on the form used in the collection of agricultural statistics. In all the States maize is grown to a greater or less extent as green forage, particularly in connection with the dairying industry.

2. **Area under Maize.**—The area devoted to the growing of maize for grain in each State, from 1875 onwards, is given in the following table, and the actual fluctuations from year to year are shewn more fully on the graph hereinafter.

The total area under maize in the Commonwealth exceeded 300,000 acres for the first time in the season 1890-1, and although it fluctuated somewhat during the succeeding seventeen years, it may be considered to have remained at about that figure. The greatest divergence during the period occurred in 1903-4, when a record total of 371,906 acres was harvested. For 1908-9 and the two following seasons a continuous increase in the area devoted to maize was in evidence, and the total of 414,914 acres for 1910-11 is the highest ever attained. The unfavourable weather conditions during 1911-12 resulted in the acreage under maize for that season being reduced by 74,849 acres as compared with its predecessor; the 1912-13 season shewed a further slight decline, and that of 1913-14 a slightly upward tendency.

**AREA UNDER MAIZE, 1875-6 to 1913-14.**

Season.	N.S.W.	Victoria.	Queensland.	South Aust.	W. Aust.	N.T.	Fed. Terr.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1875-6	117,582	2,346	38,711	...	60	...	...	158,699
1880-1	127,196	1,769	44,109	...	32	...	...	173,106
1885-6	132,709	4,530	71,741	...	120	...	...	209,100
1890-1	191,152	10,357	99,400	...	81	...	...	300,990
1895-6	211,104	7,186	100,481	...	23	...	...	318,794
1900-1	206,051	9,389	127,974	...	91	...	...	343,505
1905-6	189,353	11,785	113,720	...	43	...	...	314,901
1910-11	213,217	20,151	180,862	*619	46	19	...	414,914
1911-12	167,712	18,223	153,916	97	29	19	69	340,065
1912-13	176,415	19,98	117,993	176	25	35	56	314,686
1913-14	156,793	17,96	156,775	239	38	45	27	331,879

\* Particulars for years prior to 1907-8 not available.

3. **Total Yield.**—The average yield per acre of this cereal for the season 1913-14 was not so high as that obtaining for some of the previous years, but compared favourably with the average for the decade, being only 0.3 bushels below the decennium average. The 1910-11 crop was a record one, and exceeded 13,000,000 bushels. The average annual production of maize during the last decade was 9,371,394 bushels. Particulars concerning the yield from 1875 onwards are as hereunder:—

**MAIZE CROP, 1875-6 to 1913-14.**

Season.	N.S.W.	Victoria.	Queensland.	S. Aust.	W. Aust.	N.T.	Fed. Terr.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	B'shls.	B'shls.	Bushels.
1875-6	3,410,517	37,177	1,006,486	...	1,200	...	...	4,455,380
1880-1	4,518,897	49,299	1,409,607	...	896	...	...	5,978,699
1885-6	4,336,163	181,240	1,574,294	...	1,417	...	...	6,093,114
1890-1	5,713,205	574,083	2,373,803	...	1,526	...	...	8,662,617
1895-6	5,687,030	351,891	2,391,378	...	600	...	...	8,430,899
1900-1	6,292,745	604,180	2,456,647	...	1,399	...	...	9,354,971
1905-6	5,539,750	641,216	2,164,674	...	428	...	...	8,346,068
1910-11	7,594,130	982,103	4,460,306	*6,375	718	449	...	13,044,081
1911-12	4,506,547	792,660	3,637,562	1,490	401	400	795	8,939,855
1912-13	5,111,056	715,299	2,524,371	2,628	470	1,400	934	8,356,158
1913-14	4,452,989	800,529	3,915,376	2,336	421	1,350	320	9,173,321

\* Particulars for years prior to 1907-8 not available.

4. **Average Yield.**—In the following table particulars are given of the average yield per acre of the maize crops of the several States for the seasons 1901-2 and 1909-10 to 1913-14, and also for the decennium:—

**AVERAGE YIELD OF MAIZE PER ACRE, 1901-2 and 1909-10 to 1913-14.**

Season.	N.S.W.	Victoria.	Q'sland.	S. Aust.	W. Aust.	N.T.	Fed. Terr.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	B'shls.	Bushels.
1901-2 ...	22.98	61.42	21.96	*	10.16	...	...	23.86
1909-10 ...	33.36	60.59	18.96	16.00	14.64	...	...	29.54
1910-11 ...	35.62	48.74	24.66	10.30	15.61	23.63	...	31.44
1911-12 ...	26.87	43.50	23.63	15.36	13.83	21.05	11.52	26.29
1912-13 ...	28.93	35.79	21.39	14.93	18.80	40.00	16.68	26.53
1913-14 ...	28.40	44.57	24.97	9.77	11.08	30.00	11.85	27.64
Average for 10 Seasons	29.99	48.88	22.87	†13.33	12.31	‡30.50	13.48	27.94

\* Particulars not available. † Average for 7 seasons. ‡ Average for 4 seasons.  
|| Average for 3 seasons.

The extraordinarily high average yield obtained in Victoria is due, in large measure, to the fact that the area under maize in that State is comparatively small and is situated in districts that are peculiarly suited to the production of this grain. The yield in New South Wales is appreciably higher than that obtained in Queensland.

5. **Value of Maize Crop.**—The value of the Commonwealth maize crop for the season 1913-14 has been estimated at £1,963,314, made up as follows:—

**VALUE OF MAIZE CROP, 1913-14.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	N.T.	Federal Terr.	C'wealth.
	£	£	£	£	£	£	£	£
Aggregate value	853,490	130,086	978,844	526	105	203	60	1,963,314
Value per acre	£5/8/10	£7/4/10	£6/4/10	£2/4/0	£2/15/3	£4/10/3	£2/4/5	£5/18/4

6. **Relation to Population.**—During the past ten seasons the Commonwealth production of maize has ranged between  $1\frac{3}{4}$  bushels per head of population in 1912-13 and 3 bushels per head in 1910-11. The production in Queensland, the State in which the maize yield per head of population is highest, ranged during the same period between  $3\frac{3}{4}$  bushels per head in 1903-4 and  $7\frac{1}{2}$  bushels per head in 1910-11. Details for the several States for the seasons 1901-2 and 1909-10 to 1913-14 are as follow:—

**MAIZE PRODUCTION PER 1000 OF POPULATION, 1901-2 and 1909-10 to 1913-14.**

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	N. T.	Federal Terr.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1901-2	2,795	509	5,070	*	27	...	...	1,839
1909-10	4,398	907	4,342	9	8	...	...	2,491
1910-11	4,620	755	7,446	16	3	132	...	2,948
1911-12	2,786	596	5,921	4	1	121	447	2,013
1912-13	2,875	518	3,967	6	2	403	481	1,765
1913-14	2,431	567	5,931	5	1	368	161	1,883

\* Particulars not available.

7. **Australian and Foreign Maize Production.**—The following table gives the production of maize in Australia and in the leading maize-producing countries of the world. The figures shew that of the total production the United States of America was responsible for 78 per cent.

**PRODUCTION OF MAIZE IN VARIOUS COUNTRIES, 1912.**

Country.	Production of Maize.	Country.	Production of Maize.
	Bushels.		Bushels.
United States ...	3,029,752,000	Bulgaria ...	51,426,664
Hungary ...	192,206,430	Servia (1911) ...	24,747,480
Argentine Republic ...	183,666,664	Spain ...	23,391,792
Rumania ...	100,708,808	Canada ...	16,569,800
Italy ...	92,064,752	Austria ...	14,581,280
Russia in Europe ...	74,068,200	Russia in Asia ...	13,500,840
Egypt ...	53,732,392	Australia* ...	8,306,158

\* 1913, 9,173,321 bushels.

8. **Comparison of Yields.**—The average yield per acre of maize in the Commonwealth of  $26\frac{1}{2}$  bushels may be regarded as highly satisfactory when compared with that of other maize-producing countries. Canada, Bulgaria, Egypt, United States of America, and Hungary, are the only countries shewing a higher average. The remaining countries shewn in the following table had average yields per acre ranging from  $12\frac{3}{4}$  to  $23\frac{1}{2}$  bushels.

**AVERAGE YIELD OF MAIZE IN VARIOUS COUNTRIES, 1912.**

Country.	Average yield per acre.	Country.	Average yield per acre.
	Bushels.		Bushels.
Canada ...	56.58	Spain ...	20.36
Bulgaria ...	32.03	Rumania ...	19.61
Egypt ...	31.72	Austria ...	19.52
United States of America ...	28.29	Argentine Republic ...	19.41
Hungary ...	27.13	Russian Empire ...	18.27
Australia* ...	25.67	Servia (1911) ...	17.16
Italy ...	23.39	Russia in Asia ...	12.78

\* 1913, 27.64 bushels.

9. **Oversea Imports and Exports.**—Except in the years 1902, 1903 and 1912, when many of the maize crops failed, the Commonwealth oversea trade in maize has been practically insignificant. In the first of the years mentioned nearly two million, and in each of the latter two years considerably more than a million bushels were imported. In 1908 and 1909 also, owing to the small harvests of seasons 1907-8 and 1908-9, the imports of maize were largely in excess of the exports. Details of imports and exports for 1901 and the past five years are as follows:—

**COMMONWEALTH IMPORTS AND EXPORTS OF MAIZE, 1901 and 1909 to 1913.**

Year.	Imports.		Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1901 ...	188,423	24,764	533	75	187,890	24,689
1909 ...	628,063	104,367	5,054	999	623,009	103,368
1910 ...	133,730	19,554	12,557	1,904	121,173	17,650
1911 ...	31,764	4,925	19,914	3,438	11,850	1,487
1912 ...	1,133,755	218,233	37,968	8,402	1,095,787	209,831
1913 ...	273,123	53,887	15,261	3,349	257,862	50,038

The principal countries to which maize has been exported from the Commonwealth are New Zealand and China, while the principal countries from which importations have taken place are the United States, the Pacific Islands, South Africa, and Java.

10. **Prepared Maize.**—A fairly large quantity of corn-flour is imported annually into the Commonwealth, the principal countries of supply being the United Kingdom and the United States. During the year 1912 these importations amounted to 437,635 lbs., and represented a value of £6,738.

11. **Price of Maize.**—The average wholesale price of maize in the Sydney market is given in the following table for each of the years 1904 to 1913:—

**AVERAGE PRICE OF MAIZE PER BUSHEL, 1904 to 1913.**

Particulars.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Average price } per bushel }	2 4	3 3	3 0	3 2	4 7	4 2	2 11	3 0	4 8	4 1

## § 7. Barley.

1. **Area under Barley.**—The area devoted to barley in the Commonwealth has fluctuated very considerably, though with a tendency to increase during the past few years. Taking a series of years the principal barley-growing State is Victoria. For the season 1913-14 South Australia attained the lead for the first time and accounted for 40½ per cent. of the Commonwealth area devoted to this crop; Victoria was next in importance with a percentage of 37½; the remaining 22 per cent. being represented by New South Wales, Western Australia, Queensland, and Tasmania in the order named. The figures here given relate to the areas harvested for grain; only small areas are cropped for hay, while more considerable quantities are cut for green forage. These, however, are not included in this sub-section. The area under barley for grain in the several States from 1875 onwards is shewn in the following table:—

## COMMONWEALTH AREA UNDER BARLEY, 1875-6 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tasmania.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1875-6	4,817	31,568	613	13,969	5,014	5,939	61,920
1880-1	8,066	68,630	1,499	13,074	6,363	8,297	105,919
1885-6	5,298	74,112	406	16,493	6,178	6,833	109,320
1890-1	4,937	87,751	584	14,472	5,322	4,376	117,442
1895-6	7,590	78,438	721	14,184	1,932	6,178	109,043
1900-1	9,435	58,853	7,533	15,352	2,536	4,502	98,211
1905-6	9,519	40,938	5,201	26,250	3,665	5,372	90,945
1910-11	7,082	52,687	5,578	34,473	3,369	5,235	108,424
1911-12	10,803	53,541	1,634	40,743	3,664	6,081	116,466
1912-13	16,909	71,631	9,447	68,964	5,626	8,802	*181,387
1913-14	20,601	83,351	8,826	90,552	11,502	7,723	*222,564

\* Including 1 acre Northern and 7 acres Federal Territory in 1912-13, and 9 acres Federal Territory 1913-14.

2. **Malting and other Barley.**—In recent years the statistics of all the States have distinguished between "malting" and "other" barley. Particulars for the Commonwealth for 1913-14 season are as follows:—

## AREA UNDER MALTING AND OTHER BARLEY, 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Ter.	Fed. Ter.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Malting barley	16,392	44,584	6,274	71,537	6,417	6,735	...	5	151,944
Other barley	4,209	38,767	2,552	19,015	5,085	988	...	4	70,620
Total ...	20,601	83,351	8,826	90,552	11,502	7,723	...	9	222,564

It will be seen that, taking the Commonwealth as a whole, about 68 per cent. of the area devoted to this grain in 1913-14 was cropped with malting barley. The proportion varies considerably in the several States.

3. **Total Yield.**—The total production of barley in the Commonwealth for the season 1913-14 amounted to 3,920,425 bushels, giving an average yield of 17.61 bushels per acre as compared with 18.93 for the decennium. Particulars concerning the yields of the several States from 1875 onwards are as follows:—

## COMMONWEALTH BARLEY CROP, 1875-6 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tasmania.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1875-6	98,576	700,665	12,260	197,315	70,196	165,357	1,244,369
1880-1	163,395	1,068,830	31,433	151,886	89,082	169,156	1,673,782
1885-6	85,606	1,302,854	9,826	218,334	89,581	176,466	1,882,667
1890-1	81,383	1,571,599	12,673	175,583	85,451	99,842	2,026,531
1895-6	96,119	715,592	7,756	140,391	18,691	138,833	1,117,382
1900-1	114,228	1,215,478	127,144	211,102	29,189	116,911	1,814,052
1905-6	111,266	1,062,139	61,816	505,916	49,497	106,042	1,896,676
1910-11	82,005	1,340,387	83,621	544,471	33,566	142,318	2,226,368
1911-12	129,008	1,024,584	15,369	702,855	37,011	145,009	2,056,836
1912-13	239,562	1,744,527	146,847	1,318,734	93,418	265,908	*3,859,116
1913-14	303,297	1,812,890	115,975	1,332,714	167,915	187,484	*3,920,425

\* Including 120 bushels, Federal Territory, 1912-13, 150 bushels 1913-14.



4. **Value of Barley Crop.**—The estimated value of the total barley crop of the Commonwealth for the season 1913-14 was £564,871. The extent to which the several States have contributed to the total is shown in the following table :—

VALUE OF BARLEY CROP,\* 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tas.	Fed. Terr.	C'wealth.
Total value ...	£68,980	£256,564	£17,397	£161,906	£26,365	£33,629	£30	£564,871
Value per acre	£3/7/0	£3/1/7	£1/19/5	£1/15/9	£2/5/10	£4/7/1	£3/6/8	£2/10/9

\* Exclusive of the value of straw.

5. **Relation to Population.**—During the seasons embraced in the following table, the quantity of barley produced in the Commonwealth has averaged about half a bushel per head of population. For the season 1913-14 the production ranged from about 3 bushels per head in South Australia to one-sixth of a bushel in New South Wales. Details for the period are as follows :—

BARLEY PRODUCTION PER 1000 OF POPULATION, 1901-2 AND 1909-10 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1901-2 ...	75	573	547	677	179	956	397
1909-10 ...	169	801	335	1,760	333	796	563
1910-11 ...	50	1,002	140	1,338	121	734	503
1911-12 ...	78	771	25	1,709	129	778	458
1912-13 ...	163	1,264	231	3,066	305	1,348	815
1913-14 ...	166	1,284	176	3,029	524	930	805

6. **Commonwealth Imports and Exports.**—The Commonwealth oversea trade in barley is not extensive, and in most years the imports exceed the exports. In 1902, 1903, and 1912, somewhat extensive importations of barley from the United States and New Zealand took place, owing to the shortage in local supply resulting from the severe droughts of those periods. In 1904, the excellent crop of the season 1903-4 furnished the material for a heavy exportation to Japan, the total exported thither during that year being 551,821 bushels. In 1909 also a fairly heavy export took place, mainly to the United Kingdom. Particulars of the Commonwealth oversea imports and exports of barley for the years 1901 and 1909 to 1913 are contained in the following table :—

COMMONWEALTH IMPORTS AND EXPORTS OF BARLEY, 1901 and 1909 to 1913.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1901 ...	55,508	7,208	17,474	1,942	— 38,034	— 5,266
1909 ...	51,332	12,356	188,946	28,774	137,614	16,418
1910 ...	34,684	8,498	39,146	5,155	4,462	— 3,343
1911 ...	218,316	58,922	9,420	1,256	— 208,896	— 57,666
1912 ...	546,177	109,466	1,426	322	— 544,751	— 109,144
1913 ...	22,810	6,026	7,414	1,069	— 15,396	— 4,957

Note. — signifies net imports.

Only in three years during the period embraced in the above table have the Commonwealth exports of barley exceeded in value the imports, viz., in 1904, 1905, and 1909. During the last ten years the total importations amounted to 2,140,279 bushels, valued at £449,348, and the total exports to 1,102,096 bushels, valued at £137,529, giving a net importation of 1,038,183 bushels with a value of £311,819.

In addition to the above, which relates to the unprepared grain, there is a small importation into the Commonwealth of pearl and Scotch barley, mainly from the United Kingdom and Japan. The total imported during 1913 amounted to only 8,083 lbs. in weight, with a value of £60.

From time to time a considerable export trade in Australian pearl and Scotch barley has been carried on, mainly with the United Kingdom and New Zealand, the total exports for 1909 reaching 1,155,346 lbs., valued at £3,573, and for 1910, 119,337 lbs., valued at £510. During 1911 and 1912, the exports were only 588 lbs., valued at £8, and 712 lbs., valued at £10, respectively; in 1913, however, they increased to 62,992 lbs., with a value of £406.

**7. Commonwealth Imports and Exports of Malt.**—The importations of malt into the Commonwealth are fairly extensive, the bulk of the supply being obtained from the United Kingdom, Austria-Hungary, and Germany, but principally from the United Kingdom. Details of imports and exports for the years 1901 and 1909 to 1913 are given hereunder:—

**COMMONWEALTH IMPORTS AND EXPORTS OF MALT, 1901 AND 1909 to 1913.**

Year.	Imports.		Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1901 ... ..	516,135	140,615	...	...	516,135	140,615
1909 ... ..	110,563	35,239	470	174	110,093	35,065
1910 ... ..	108,168	34,696	258	66	107,910	34,630
1911 ... ..	102,760	32,798	82	32	102,678	32,766
1912 ... ..	128,800	45,226	117	48	128,683	45,178
1913 ... ..	85,002	31,071	120	55	84,882	31,016

**8. Comparison with other Countries.**—In comparison with the barley production of other countries of the world, that of Australia appears very small indeed. Particulars for some of the leading countries for the year 1912 are as follows, the Australian figures being added for the sake of comparison:—

**PRODUCTION OF BARLEY IN VARIOUS COUNTRIES, 1912.**

Country.	Production of Barley.	Country.	Production of Barley.
	Bushels.		Bushels.
Russia in Europe ...	436,352,472	Rumania ...	20,636,384
United States ...	217,016,000	Chili (1911) ...	15,207,600
Germany ...	153,485,416	Sweden ...	13,237,952
Austria ...	71,853,504	Egypt (1911) ...	10,409,664
Hungary ...	69,215,024	Italy ...	8,064,450
United Kingdom ...	58,207,200	Servia (1911) ...	4,423,216
Spain ...	57,578,528	Belgium ...	4,081,368
Japan ...	48,561,920	Australia* ...	3,859,116
France ...	47,435,296	Netherlands ...	3,211,312
Canada ...	42,253,440	Tunis ...	3,070,832
Russia in Asia ...	38,657,232	Norway... ..	2,990,800
Algeria ...	31,562,568	New Zealand† ...	1,377,610
Denmark ...	21,941,944		

\* 1913 3,920,425 bushels. † 1913: 1,205,628 bushels.

9. **Average Yield.**—The average yield per acre of barley varies considerably in the different States, being as a rule highest in Tasmania and Victoria, and lowest in Western Australia and New South Wales. Details for each State for 1901-2 and the past five seasons, and also for the decennium, are given in the following table :—

**AVERAGE YIELD PER ACRE OF BARLEY, 1901-2 and 1909-10 to 1913-14.**

Season.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	West Aust.	Tas.	C'wealth.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1901-2 ...	17.16	21.40	23.53	15.68	13.01	27.44	20.40
1909-10 ...	18.07	17.46	14.77	16.50	12.67	24.42	17.04
1910-11 ...	11.58	25.44	14.99	15.79	9.96	27.19	20.53
1911-12 ...	11.94	19.14	9.41	17.25	10.10	24.34	17.66
1912-13 ...	17.12	24.35	15.54	19.12	16.60	30.21	21.28
1913-14 ...	14.72	21.75	13.14	14.72	14.60	24.28	17.61
Average for 10 Seasons ...	14.88	21.64	15.57	16.76	12.85	24.94	18.93

10. **Price of Barley.**—The average prices of barley in the Melbourne market during each of the past ten years are given in the following table :—

**AVERAGE PRICE OF BARLEY PER BUSHEL, 1904 to 1913.**

Particulars.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Malting barley	3 6	4 0	4 5	4 8	4 10	3 10	4 1	4 10½	5 11½	3 11½
Cape barley ...	1 9	2 7	2 4	2 8	3 8	2 7	2 5	2 8	4 11	3 0

## § 8. Other Grain and Pulse Crops.

In addition to the grain crops already specified, the only grain and pulse crops at all extensively grown in the Commonwealth are beans, peas and rye. The total area under the two former crops for the season 1913-14 was 38,839 acres, giving a yield of 648,009 bushels, or an average of 16.69 bushels per acre, being 2.22 below the average yield for the decennium ended 1913-14, which was 18.91 bushels per acre. The States in which the greatest area is devoted to beans and peas are Tasmania, Victoria and South Australia. The total area under rye in the Commonwealth during the season 1913-14 was 9,559 acres, yielding 113,181 bushels, and giving an average of 11.84, this being slightly below the average for the past ten seasons, which is 12.24 bushels per acre. Nearly 60 per cent. of the rye grown during the season was produced in New South Wales, 17 per cent. in Victoria, and 10½ per cent. in South Australia. In addition to these grain crops a small area of rice has for some years been cultivated in Queensland and the Northern Territory. The results obtained, however, have not up to the present been very satisfactory. Should rice-growing ever be seriously taken up in Australia, it is probable that large tracts of country in the northern parts of Western Australia and in the Northern Territory will be found well suited to its cultivation.

### § 9. Potatoes.

1. **Area.**—The principal potato-growing State of the Commonwealth as regards area is Victoria, Tasmania prior to 1909-10 usually ranking second, and New South Wales third; the relative positions of these two States have, however, been reversed during the last five seasons. The lower figures for Tasmania relating to 1909-10 and onwards may be attributed mainly to the prevalence of the Irish potato blight in that State.

The area under potatoes in each State from 1890 onwards is given hereunder :—

#### COMMONWEALTH AREA UNDER POTATOES, 1890-1 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Terr.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1890-1 ...	19,406	53,818	6,270	6,626	511	20,133	...	106,764
1895-6 ...	24,722	43,895	9,240	6,448	668	19,247	...	104,220
1900-1 ...	29,408	38,477	11,060	6,628	1,794	23,068	...	110,435
1905-6 ...	26,374	44,670	7,170	9,540	2,145	28,634	...	118,533
1910-11...	44,452	62,904	8,326	7,812	1,791	26,230	...	151,515
1911-12...	43,079	47,692	7,688	7,412	2,705	21,818	69	130,463
1912-13...	34,093	47,575	8,822	8,581	5,175	24,612	31	128,889
1913-14...	38,695	74,574	10,085	10,809	5,229	30,811	30	170,233

2. **Total Yield.**—For the season 1913-14, Victoria's production represented about 42½ per cent. of the total for the Commonwealth, New South Wales and Tasmania coming next in order with 22½ and 17½ per cent. respectively. The total Commonwealth production for the season 1906-7, viz., 507,153 tons, was the highest ever attained, the yield which most nearly approached it being 449,333 tons in 1903-4. Details as to production in the several States during the period from 1890 onwards are as follows :—

#### COMMONWEALTH PRODUCTION OF POTATOES, 1890-1 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Terr.	C'wealth.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1890-1 ...	52,791	204,155	13,112	23,963	1,900	73,158	...	369,079
1895-6 ...	56,179	117,238	19,027	18,412	2,290	81,423	...	294,569
1900-1 ...	63,253	123,126	20,014	14,566	4,836	93,862	...	319,657
1905-6 ...	50,386	115,352	11,308	20,328	6,297	64,606	...	268,277
1910-11...	121,033	163,312	15,632	23,920	5,864	70,090	...	399,851
1911-12...	75,040	119,092	13,087	22,668	9,312	62,164	126	301,489
1912-13...	91,600	191,112	16,386	33,078	13,558	72,565	42	418,341
1913-14...	106,805	176,602	16,548	32,950	17,803	80,389	44	431,141

3. **Average Yield per Acre.**—The suitability of the soil, climate, and general conditions of Tasmania for potato growing is evidenced by the high yields per acre which are almost invariably obtained in the island State, the average yield during the past ten seasons being 3½ tons per acre. The lowest average yield is that obtained in Queensland

with an average of a little under two tons for the same period. Particulars for each State for the seasons 1901-2 and 1909-10 to 1913-14, and also for the past decennium, are given hereunder:—

#### AVERAGE YIELD OF POTATOES, 1901-2 and 1909-10 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Federal Terr.	C'wealth.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1901-2	1.50	3.13	2.25	2.41	3.14	4.51	...	2.94
1909-10	2.80	2.80	1.76	2.28	3.42	3.46	...	2.82
1910-11	2.72	2.60	1.88	3.06	3.27	2.67	...	2.64
1911-12	1.74	2.50	1.70	3.06	3.44	2.85	1.83	2.31
1912-13	2.69	4.02	1.86	3.85	2.62	2.95	1.35	3.25
1913-14	2.76	2.37	1.64	3.05	3.40	2.61	1.47	2.53
Average for 10 Seasons	2.60	2.73	1.79	2.68	3.05	3.42	1.63	2.75

4. **Value of Potato Crop.**—The estimated value of the potato crop of each State for the season 1913-14 is furnished in the following table, together with the value per acre:—

#### VALUE OF POTATO CROP, 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Federal Territory.	C'wealth.
Tot. value	£442,220	£750,559	£198,576	£130,081	£124,424	£361,750	£200	£2,025,810
Value per acre ...	£11/8/7	£10/1/3	£19/13/0	£12/0/8	£27/4/9	£11/14/10	£6/13/4	£11/18/0

5. **Relation to Population.**—The average production of potatoes per annum per head of the population of the Commonwealth for the past ten seasons has been approximately 195 lbs. In Tasmania, where this crop is of far greater importance in relation to population than is the case in any other State, the production per head in 1906-7 was nearly a ton, and in 1911-12 about 6½ cwt. Details for the seasons 1901-2 and 1909-10 to 1913-14 are as follows:—

#### POTATO PRODUCTION PER 1000 OF POPULATION.

Season.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tas.	Federal Terr.	C'wealth.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1901-2 ...	28	104	44	42	30	655	...	84
1909-10 ...	62	137	23	47	22	382	...	90
1910-11 ...	93	125	26	59	21	362	...	90
1911-12 ...	45	90	21	55	32	327	69	67
1912-13 ...	52	138	26	77	44	368	22	88
1913-14 ...	59	125	25	75	56	398	22	88

6. **Commonwealth Imports and Exports.**—Under normal conditions there is usually a fairly large export trade in potatoes carried on by the Commonwealth, principally with New Zealand, the Pacific Islands, and the Philippine Islands. Thus, during 1907, out of a total export of 17,842 tons, 13,346 tons went to New Zealand, 2,102 tons to the Pacific

Islands, and 2,112 tons to the Philippine Islands. On the other hand, when in 1902, 1903, and 1912, the droughts of those periods had brought about a shortage in some of the States, importations from New Zealand took place to the extent of 11,471 tons and 2,279 tons in the first two years, and 17,732 tons in 1912. The quantities and values of the Commonwealth oversea imports and exports of potatoes for 1901 and the past five years are contained in the following table:—

**COMMONWEALTH IMPORTS AND EXPORTS OF POTATOES, 1901 and 1909 to 1913.**

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
1901 ...	17,655	86,067	6,028	45,485	— 11,627	— 40,582
1909 ...	138	1,202	2,604	16,370	2,466	15,168
1910 ...	1,665	1,313	7,089	42,395	5,424	41,082
1911 ...	245	1,881	1,834	12,241	1,589	10,360
1912 ...	18,151	163,249	1,619	15,331	— 16,532	— 147,918
1913 ...	996	5,537	1,689	12,012	693	6,475

Note. — signifies net imports.

**7. Comparison with Other Countries.**—The following table will furnish means for comparing the potato crop of Australia for 1912 with those of some of the leading potato-producing countries of the world for the same year:—

**POTATO CROPS OF VARIOUS COUNTRIES, 1912.**

Country.	Yield.	Country.	Yield.
	Tons.		Tons.
Germany ...	49,402,528	Sweden ...	1,593,322
Russia in Europe ...	36,229,977	Italy ...	1,507,969
France ...	14,783,677	Russia in Asia ...	1,035,927
Austria ...	12,340,049	Norway ...	722,582
United States ...	10,196,000	Denmark ...	695,171
Hungary ...	5,945,196	Japan (1909) ...	589,376
United Kingdom ...	5,726,342	<b>Australia*</b> ...	<b>418,341</b>
Belgium ...	3,253,067	Luxemburg ...	232,522
Netherlands (1911) ...	2,506,760	New Zealand ...	155,835
Canada ...	2,033,575		

\* 1913, 431,141 tons.

**§ 10. Other Root and Tuber Crops.**

**1. Nature and Extent.**—Root crops, other than potatoes, are not extensively grown in Australia, the total area devoted to them for the season 1913-14 being only 19,506 acres. The principal of these crops are onions, mangolds, turnips, and "sweet potatoes" (*Batatas edulis*). Of these, onions are most largely grown in Victoria, mangolds in Tasmania and Victoria, turnips in Tasmania, and sweet potatoes in Queensland. The total area under onions in the Commonwealth during the season 1913-14 was 6,932 acres, giving a total yield of 28,455 tons, and averaging 4.1 tons per acre. The area devoted in 1913-14 to root crops other than potatoes and onions, viz., 12,547 acres, yielded 80,348 tons, and gave an average of 6.39 tons per acre. The areas and yields here given are exclusive of the production of "market gardens," a reference to which will be made later.

**2. Commonwealth Imports and Exports.**—The only root crop, other than potatoes, in which any considerable oversea trade is carried on by the Commonwealth is that of onions. During the year 1912 oversea imports of onions amounted to 3,763 tons, obtained principally from Japan, the United States, and New Zealand, of which total 2,747 tons went to New South Wales and 837 tons to Queensland. For the same year the exports of onions totalled 3,678 tons, the principal countries to which they were exported being the Philippine Islands, the Pacific Islands, and the United States of America. 1,510 tons were imported during 1913 and 3,813 tons exported, of which 1,318 tons were shipped to New Zealand and 961 to Philippine Islands.

## § II. Hay.

**1. Nature and Extent.**—As already stated, the most important crop of the Commonwealth is that of wheat grown for grain. Next to this in importance is the hay crop, which for the season 1912-13 represented nearly 25 per cent. of the area under crop in the Commonwealth, and 17½ per cent. for 1913-14. In most European countries the hay crop consists almost entirely of meadow and other grasses, whilst in Australia a very large proportion of the area under hay comprises cereal crops, mainly wheat and oats. A considerable quantity of lucerne hay is also made, particularly in New South Wales and Queensland. The area under hay of all kinds in the several States from 1860 onwards is given hereunder:—

AREA UNDER HAY, 1860-1 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tas.	N. T.	Fed. Terr.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1860-1	46,584	90,921	276	55,818	6,626	31,837	...	...	232,062
1865-6	61,909	97,902	1,449	101,996	8,824	30,244	...	...	302,324
1870-1	65,404	163,181	3,671	140,316	17,173	33,612	...	...	423,357
1875-6	77,125	155,274	8,531	161,429	17,319	34,758	...	...	454,436
1880-1	131,153	249,656	12,022	272,567	19,563	31,615	...	...	716,576
1885-6	219,836	421,036	28,881	312,672	19,677	41,693	...	...	1,043,845
1890-1	175,242	413,052	31,106	345,150	23,183	45,381	...	...	1,033,114
1895-6	319,296	464,482	28,609	362,972	63,804	54,748	...	...	1,293,911
1900-1	466,236	502,105	42,497	341,330	104,254	61,541	...	...	1,517,963.
1905-6	438,036	591,771	37,425	317,924	124,906	64,350	...	...	1,574,412
1910-11	638,577	832,669	98,558	440,177	175,432	72,992	...	...	2,258,405
1911-12	651,866	860,205	61,299	521,182	344,032	77,466	18	2,220	2,518,288
1912-13	944,725	1,203,728	87,643	647,069	231,690	99,839	10	2,337	3,217,041
1913-14	798,978	977,684	76,469	568,550	246,640	84,138	61	2,152	2,754,672

It will be seen from this table that in all the States marked fluctuations occur in the area devoted to the hay crop from year to year. These fluctuations are due to various causes, the principal being the variations in the relative prices of grain and hay, and the favourableness or otherwise of the season for a grain crop. Thus crops originally sown for grain are frequently cut for hay owing to the improved price of that commodity, or owing to the fact that the outlook for the due development of the grain is not a satisfactory one. On the other hand, improved grain prices or the prospect of a heavy yield will frequently cause crops originally intended for hay to be left for grain. The area under hay in the Commonwealth for the season 1912-13 was the highest on record, and that for 1913-14 the next.

**2. Kinds of Hay.**—Particulars concerning the kind of crop cut for hay are furnished in the returns prepared by five of the States. In the case of Tasmania the bulk consists of oaten hay; full particulars, however, are not available for that State.

Details for the past five seasons are given in the following table:—

**KINDS OF HAY GROWN, 1909-10 to 1913-14.**

Kind of Hay Crop.				1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
				Acres.	Acres.	Acres.	Acres.	Acres.
<b>NEW SOUTH WALES—</b>								
Wheaten	...	...	...	380,784	422,972	439,591	703,509	533,890
Oaten	...	...	...	173,968	142,805	146,162	181,400	209,821
Barley	...	...	...	1,917	2,241	2,309	1,703	1,395
Lucerne	...	...	...	68,822	70,559	63,804	56,403	52,457
Other	...	...	...	...	...	...	1,710	1,415
Total	...	...	...	630,491	638,577	651,866	944,725	798,978
<b>VICTORIA—</b>								
Wheaten	...	...	...	186,400	240,026	304,388	386,370	220,560
Oaten	...	...	...	660,525	575,791	535,146	790,268	729,678
Other	...	...	...	17,434	16,852	20,671	27,090	27,446
Total	...	...	...	864,359	832,669	860,205	1,203,728	977,684
<b>QUEENSLAND—</b>								
Wheaten	...	...	...	9,031	19,894	1,763	12,710	12,648
Oaten	...	...	...	16,752	13,052	5,403	19,539	16,020
Lucerne	...	...	...	42,935	61,750	51,059	50,814	44,270
Other	...	...	...	3,580	3,862	3,074	4,580	3,531
Total	...	...	...	72,298	98,558	61,299	87,643	76,469
<b>SOUTH AUSTRALIA—</b>								
Wheaten	...	...	...	318,197	336,439	401,648	492,980	411,101
Oaten	...	...	...	96,496	96,062	113,011	147,963	151,694
Lucerne	...	...	...	2,537	2,055	2,411	2,414	2,378
Other	...	...	...	7,218	5,621	4,112	3,712	3,377
Total	...	...	...	424,448	440,177	521,182	647,069	568,550
<b>WESTERN AUSTRALIA—</b>								
Wheaten	...	...	...	101,590	135,521	284,073	176,744	195,497
Oaten	...	...	...	55,006	38,637	58,393	52,904	49,801
Lucerne	...	...	...	254	233	167	205	264
Other	...	...	...	1,779	1,041	1,399	1,837	1,078
Total	...	...	...	158,629	175,432	344,032	231,690	246,640

It will be seen that wheat is the principal hay crop in New South Wales, South Australia, and Western Australia, oats in Victoria, and lucerne in Queensland.

**3. Total Yield.**—The Commonwealth hay crop for the season 1913-14 amounted to 3,372,596 tons, or 582,715 tons less than that produced in the previous season, which represented the largest ever harvested in the Commonwealth, the highest previous records being that of 3,153,196 tons for the season 1909-10, and 3,175,887 for



1910-11. For many years past the State of Victoria has been the largest hay producer in the Commonwealth, and in the season 1912-13 accounted for 35½ per cent. of the total production. The total yields of the several States from 1860 onwards are given hereunder:—

#### COMMONWEALTH HAY CROP, 1860-1 to 1913-14.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	N. T.	Fed. Ter.	Commonwealth.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1860-1	50,927	144,211	414	71,241	8,099	62,318	...	...	337,210
1865-6	54,230	96,101	2,173	88,731	7,901	34,751	...	...	283,887
1870-1	69,602	183,708	5,506	197,149	20,833	40,763	...	...	517,561
1875-6	88,968	206,613	12,796	194,794	17,319	49,217	...	...	569,707
1880-1	174,194	300,581	23,441	261,371	19,563	35,883	...	...	815,033
1885-6	191,371	442,118	30,670	307,855	19,677	51,872	...	...	1,043,563
1890-1	213,034	567,779	50,116	310,125	25,014	52,021	...	...	1,218,089
1895-6	229,671	390,861	50,881	225,462	53,758	62,345	...	...	1,012,978
1900-1	526,260	677,757	78,758	353,662	103,813	94,198	...	...	1,834,448
1905-6	459,182	864,177	56,829	435,546	139,380	90,077	...	...	2,045,191
1910-11	843,080	1,292,410	151,252	595,064	178,891	115,190	...	...	3,175,887
1911-12	727,054	1,032,288	94,553	605,239	299,695	107,684	40	1,420	2,867,973
1912-13	1,105,350	1,572,933	119,867	714,766	255,751	183,709	10	2,925	3,955,311
1913-14	952,489	1,350,374	103,935	571,616	278,585	112,958	81	2,558	3,372,596

4. **Value of Hay Crop.**—The following table furnishes particulars concerning the total value and the value per acre of the hay crop of the several States of the Commonwealth for the season 1913-14:—

#### VALUE OF HAY CROP, 1913-14.

Particulars.	New South Wales.	Victoria.	Queensland.	South Aust.	Western Aust.	Tasmania.	N. T.	Fed. Ter.	Commonwealth.
Total value ...	£3,893,700	£2,768,267	£545,358	£1,571,944	£798,818	£395,353	£249	£11,220	£9,984,909
Value per acre	£4/17/6	£2/16/8	£7/2/8	£2/15/3	£3/4/9	£4/14/0	£4/1/8	£5/4/3	£3/12/6

5. **Average Yield per Acre.**—The States of the Commonwealth in which the highest average yields per acre have been obtained during the decennium are those of Tasmania and Queensland, these being also the States in which the smallest areas are devoted to this crop. For the same period the lowest yield for the Commonwealth as a whole was that of 19 cwt. per acre in 1907-8, and the highest that of 31 cwt. in 1903-4. The average per decennium was 25 cwt. Particulars for the several States for the seasons 1901-2 and 1909-10 to 1913-14, and also for the decennium, are given hereunder:—

#### AVERAGE YIELD OF HAY PER ACRE, 1901-2 and 1909-10 to 1913-14.

Season.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	N. T.	Fed. Terr.	Commonwealth.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1901-2 ...	1.07	1.34	1.94	0.94	0.97	1.78	...	...	1.20
1909-10 ...	1.56	1.37	1.34	1.35	1.23	1.53	...	...	1.42
1910-11 ...	1.32	1.55	1.53	1.35	1.02	1.58	...	...	1.41
1911-12 ...	1.12	1.20	1.54	1.16	0.87	1.39	2.22	0.72	1.14
1912-13 ...	1.17	1.31	1.36	1.10	1.10	1.84	1.00	1.25	1.23
1913-14 ...	1.19	1.38	1.36	1.01	1.13	1.34	1.33	1.19	1.22
Average for 10 seasons	1.15	1.34	1.45	1.22	1.03	1.50	* 1.47	1.03	1.24

\* Average for 3 years.

6. **Relation to Population.**—During the past ten seasons the Commonwealth hay production per head of population has varied between 7 cwt. in 1904-5 and 16½ cwt. in 1912-13; averaging about 12½ cwt. per head for the period. The State in which the hay production per head of population is highest is South Australia. Details for the seasons 1901-2 and 1909-10 to 1913-14 are given hereunder:—

#### HAY PRODUCTION PER 1000 OF POPULATION.

Season.	N.S.W.	Vict.	Q'Ind.	S. Aust.	W. Aust.	Tas.	N. T.	Fed. Ter.	C'with.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1901-2 ...	339	231	241	964	463	624	...	...	529
1909-10 ...	608	929	168	1,462	735	615	...	...	729
1910-11 ...	513	993	253	1,463	648	594	...	...	718
1911-12 ...	440	777	154	1,472	1,045	566	12	899	639
1912-13 ...	622	1,139	188	1,662	835	932	3	1,508	836
1913-14 ...	520	956	157	1,299	869	560	22	1,287	692

7. **Oversea Imports and Exports.**—Under normal conditions hay, whether whole or in the form of chaff, is somewhat bulky for oversea trade, and consequently does not in such circumstances figure largely amongst the imports and exports of the Commonwealth. In 1901 and 1902, however, the exceptional demand which was created by the South African war brought about a fairly large export of hay and chaff to Natal and Cape Colony. These colonies also took a considerable quantity of Australian compressed fodder. During the year 1904, when the war between Japan and Russia was being carried on, the exports of compressed fodder to Hong Kong were valued at £42,759, and those to Japan at £23,608. The total value of the hay and chaff exported during 1901 was £406,455, as compared with only £20,846 in 1913, while the exports of compressed and other fodder, which amounted in value to £142,472 in 1904, had shrunk to £32,811 in 1913.

During 1913 the principal consignees of the hay and chaff exported from the Commonwealth were India, the Straits Settlements, and Ceylon, while the principal countries to which compressed fodder was exported were the Philippine Islands, New Zealand, and Hong Kong.

Imports of hay and chaff into the Commonwealth are usually unimportant, and for the year 1913 totalled 68 tons, valued at £291, obtained from New Zealand.

8. **Hay Production in Other Countries.**—As already noted, the hay crops of most European countries consist of grasses of various kinds, amongst which clover, lucerne, sainfoin and rye grass occupy prominent places. The statistics of hay production in these countries are not prepared on a uniform basis, and consequently any attempt to furnish an extensive comparison of the production of hay in the various countries would probably be misleading. It may be noted, however, that in the United Kingdom the production of hay from clover, sainfoin, etc., for the year 1913, amounted to 5,231,040 tons from 3,025,345 acres, while from permanent grasses a yield of 10,164,048 tons of hay was obtained from 6,798,877 acres, giving a total of 15,395,088 tons from 9,890,482 acres, or about 31½ cwt. per acre.

## § 12. Green Forage.

1. **Nature and Extent.**—In all the States of the Commonwealth a considerable area is devoted to the production of green forage, mainly in connection with the dairying industry. The total area so cropped during the season 1913-14 was 486,504 acres, which was 58,498 acres more than the corresponding area for 1912-13. Of this total the Queensland area represented about 35½ per cent., that in New South Wales 30 per cent., while

that in Victoria amounted to 20½ per cent. of the total. The principal crops cut for green forage are maize, sorghum, oats, barley, rye, rape, and lucerne, while small quantities of sugar-cane also are so used. Particulars concerning the area under green forage in the several States from 1890 onwards are furnished in the following table:—

#### AREA UNDER GREEN FORAGE, 1890-1 to 1913-14.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. T.	Fed. Terr.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1890-1	37,473	10,091	9,546	7,349	161	1,497	...	...	66,117
1895-6	66,833	25,939	19,552	7,809	430	1,883	...	...	121,946
1900-1	78,144	18,975	41,445	13,136	1,024	3,749	...	...	156,473
1905-6	95,058	34,041	66,183	23,842	1,873	4,882	...	...	225,879
1910-11	179,382	71,826	89,667	20,728	4,545	8,695	19	...	374,862
1911-12	211,693	75,177	93,049	33,673	5,021	5,627	19	181	424,440
1912-13	154,522	84,460	135,354	39,954	7,339	6,304	60	13	428,006
1913-14	146,093	98,963	171,290	49,948	13,126	7,037	21	26	486,504

2. **Value of Green Forage Crops.**—The value of these crops is variously estimated in the several States, and the Commonwealth total for the season 1913-14 may be taken approximately as £1,594,834, or about £3 5s. 7d. per acre.

3. **Relation to Population.**—Particulars concerning the area under green forage per 1000 of the population of the Commonwealth and the several States for the seasons 1901-2 and 1909-10 to 1913-14 are given hereunder:—

#### AREA UNDER GREEN FORAGE PER 1000 OF POPULATION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. T.	Fed. Terr.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901-2	82	27	79	38	8	24	...	...	54
1909-10	74	44	174	44	23	35	...	...	71
1910-11	109	55	150	51	16	45	6	...	85
1911-12	128	57	151	82	18	30	6	102	95
1912-13	87	61	213	93	24	32	17	7	90
1913-14	80	70	259	114	41	35	6	13	100

### § 13. Sugar-Cane.

1. **Area.**—Sugar-cane is grown for sugar-making purposes in only two of the States of the Commonwealth, viz., Queensland and New South Wales, and much more extensively in the former than the latter. Thus of the total area of 160,976 acres under sugar-cane in the Commonwealth for the season 1913-14 there were 147,743 acres, or about 92 per cent., in Queensland. Sugar-cane growing appears to have been started in the Commonwealth in or about 1862, as the earliest statistical record of sugar-cane as a crop is that which credits Queensland with an area of twenty acres for the season 1862-3. In the following season the New South Wales records shew that an area of two acres was devoted to the crop in the mother State. The area under cane in New South Wales reached its maximum in 1895-6 with a total of 32,927 acres. It then fell continuously to 1902-3, when it was lower than for any previous season since 1889-90. From 1902-3 to 1906-7 it remained practically stationary; from that time, with slight variations, it gradually fell to 13,232 acres in 1913-14, the lowest area under sugar-cane since 1882-3. In Queensland, on the other hand, although fluctuations in area are in evidence throughout, the general trend has been one of satisfactory increase, the area under cane for the season 1913-14 being the highest on record, that for 1910-11 being the next highest and that for 1912-13 only a little short of it. In 1907-8 the area in Queensland declined to

126,810 acres, and in 1908-9 still further to 123,902 acres, but there was a marked increase in 1909-10, while in 1910-11 there was a further increase, when it rose to 141,779 acres. Owing to unfavourable climatic conditions the area under cane for 1911-12 shewed a falling off of 11,403 acres, or a reduction of about 8 per cent.; the figures for the two following seasons, however, shewed an increase. The area under sugar-cane in the Commonwealth from 1865 is given in the following table:—

AREA UNDER SUGAR-CANE, 1865-6 to 1913-14.

Season.	N.S.W.	Queensland.	C'wealth.	Season.	N.S.W.	Queensland.	C'wealth.
	Acres.	Acres.	Acres.		Acres.	Acres.	Acres.
1865-6	141	450	591	1900-1	22,114	108,535	180,649
1870-1	4,082	6,342	10,424	1905-6	21,805	134,107	155,912
1875-6	6,454	13,459	19,913	1910-11	13,763	141,779	155,542
1880-1	10,971	20,224	31,195	1911-12	13,907	130,376	144,283
1885-6	16,419	59,186	75,605	1912-13	13,914	141,652	*155,567
1890-1	20,446	50,922	71,368	1913-14	13,232	147,743	*160,976
1895-6	32,927	77,247	110,174				

\* Including 1 acre Northern Territory.

**2. Productive and Unproductive Cane.**—The areas given in the preceding table represent the total area on which sugar-cane was grown during the seasons specified for purposes other than green forage. The whole area, however, was not in any case cut for crushing during that season, there being always a considerable amount of "stand over" cane, as well as a small quantity required for plants. In the season 1913-14 the New South Wales total comprised 6,198 acres of productive and 7,034 acres of unproductive cane, while in the case of Queensland the productive cane amounted to 102,803 acres and the unproductive to 44,940 acres.

**3. Yield of Cane.**—Queensland statistics of the production of sugar-cane are not available for dates prior to the season 1897-8. In that season the total for the Commonwealth was 1,073,833 tons, as against 2,271,558 tons for the record season 1913-14. The average yield per acre of productive cane is much higher in New South Wales than in Queensland, the average during the last decade being 23.53 tons for the former and 16.60 for the latter State. During the six seasons 1901-2 to 1906-7 in the case of New South Wales the yield remained practically constant at about 21 tons per acre. In 1907-8 the yield in New South Wales was so excellent that, notwithstanding the comparative smallness of the area cultivated, the aggregate amount of cane produced was the largest in that State since 1898-9. In 1909-10, on the other hand, owing mainly to the decline in area of productive cane, the total yield amounted to only 131,081 tons, the lowest for the State since 1888. In 1910-11 there was a further decline in the acreage of productive cane; the yield of over 28½ tons per acre, however, was so excellent that the production exceeded that of the previous season by 29,230 tons of cane. The yield per acre for 1911-12 was approximately the same as for the previous year, but owing to the falling off in the acreage cropped, a decline to the extent of 12,512 tons was in evidence in regard to the quantity of cane produced. The area of productive cane for 1912-13 shewed an increase of 893 acres, but the yield, however, was 6,885 tons below that of the previous season, the average tons per acre being 22.96 for 1912-13 as against 28.18 for 1911-12. The area of productive cane in this State for 1913-14 shewed an increase of only 61 acres; nevertheless, owing to the exceptionally high average yield per acre, the total cane produced in that season exceeded that of 1912-13 by 45,056 tons. In Queensland the average yield per acre for 1910-11 was by far the highest recorded for that State prior to 1913-14, viz., 19.45 tons, while that for the latter year was 20.29, being 3.69 above the average in that State for the last ten years. Particulars relative to the total and average yields of the Commonwealth sugar crops for the seasons 1901-2 and 1909-10 to 1913-14 are as follows:—

## YIELD OF SUGAR-CANE, 1901-2 and 1909-10 to 1913-14.

Season.	Total Yield of Cane.			Average Yield per Acre of Productive Cane.		
	N.S.W.	Queensland.	C'wealth.	N.S.W.	Queensland.	C'wealth.
	Tons.	Tons.	Tons	Tons.	Tons.	Tons.
1901-2 ...	187,711	1,180,091	1,367,802	21.36	15.10	15.73
1909-10 ...	131,081	1,163,569	1,294,650	20.23	14.53	14.95
1910-11 ...	160,311	1,840,447	2,000,758	28.65	19.45	19.96
1911-12 ...	147,799	1,534,451	1,682,250	28.18	16.02	16.65
1912-13 ...	140,914	994,212	*1,135,141	22.96	12.72	13.47
1913-14 ...	185,970	2,085,588	2,271,558	30.05	20.29	20.84

\* Including 15 tons Northern Territory.

A preliminary estimate for Queensland for the season 1914-15 states that the prospects in many districts are favourable, but that a falling off will be experienced in others. The yield will probably prove to be about 1,890,600 tons of cane, a decrease of 380,900 tons on the previous year's returns. The sugar production is expected to be about 210,000 tons of raw sugar.

4. **Relation to Population.**—The sugar-cane production of the Commonwealth during the past five seasons has averaged about  $7\frac{1}{2}$  cwt. per head of population. In Queensland, the principal sugar-producing State, the production of cane per head has ranged between  $1\frac{1}{2}$  tons in 1912-13 and 3 tons in 1913-14. Details for the period 1909-10 to 1913-14 are as follows:—

## SUGAR PRODUCTION PER 1000 OF POPULATION.

State.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	Tons	Tons.	Tons.	Tons.	Tons.
New South Wales ...	81	98	89	79	102
Queensland ...	2,014	3,072	2,498	1,562	3,159
Commonwealth ...	299	452	375	240	466

5. **Quality of Cane.**—The quantity of cane required to produce a ton of sugar varies considerably not only with the district in which the cane is grown but also with the season. In Queensland, for instance, during the seasons 1902-3 to 1906-7 the sugar content of the cane crushed continuously diminished, so that while in 1902-3 the quantity of cane used in producing a ton of sugar was 8.38 tons, in the season 1906-7 the quantity required was 9.38 tons, the production in the former case being approximately 12 per cent. and in the latter  $10\frac{3}{4}$  per cent. of the weight of cane crushed. For the season 1907-8, the cane was of much better quality, and the quantity required to produce a ton of sugar was only 8.84 tons, the sugar content representing in this case somewhat more than  $11\frac{1}{4}$  per cent. of the weight of cane crushed. In 1908-9, owing in large measure to the effect of frosts, the quantity of cane required to produce one ton of sugar was increased to 9.49 tons, the sugar thus representing only about  $10\frac{1}{2}$  per cent. of the weight of cane crushed, while in 1909-10 only 8.65 tons of cane were required to each ton of sugar, the sugar representing about  $11\frac{1}{2}$  per cent. of the weight of cane crushed. The especially favourable weather existing throughout 1910 resulted in a very high average quantity of cane per acre being obtained, while the moisture which caused this led to a slight diminution in the saccharine density as compared with the previous year. During 1910-11 and the three following seasons the quantity of cane required to produce one ton of sugar was 8.73, 8.85, 8.79, and 8.59 tons in the order named, the sugar produced representing about  $11\frac{1}{2}$  per cent. of the weight of cane crushed in each of those years, while the average quantity of sugar obtained per acre crushed was 2.23 tons in 1910, 1.81 in 1911, 1.45 in 1912 and 2.36 in 1913. It should be noted that in 1901-2 no

less than 9.76 tons of cane were needed to produce a ton of sugar. It may be remarked in this connection that the systematic study of the beet in Germany shewed that by suitable culture its sugar content could be greatly increased, and this is by no means impossible in the case of sugar-cane.

**6. Sugar Bounties.**—The provision of bounties or similar aids to the sugar-growers of the Commonwealth early occupied the attention of the Commonwealth Parliament, the object in view being that of assisting the industry, and at the same time diminishing the employment of coloured labour in connection therewith. An account of the various Acts in connection with sugar bounties and sugar excise tariffs will be found on pages 394 to 396 of the Year Book No. 6. In 1912 the Sugar Excise Repeal Act and the Sugar Bounty Abolition Act were passed by the Federal Parliament, conditionally on the Queensland Parliament approving of legislation prohibiting the employment of coloured labour in connection with the industry. The State Sugar Cultivation Act, the Sugar Growers Act, and the Sugar Growers' Employees Act, of 1913, having been approved of, the 1912 Federal Acts, which repeal all previous enactments in regard to excise on sugar and bounty on cane, came into force by proclamation in July 1913.

**7. Beet Sugar.**—During the past few years an effort has been made to revive the sugar-beet industry in Victoria. During 1910-11 £554 was paid as bounty on 1,847 tons of beet, £2,244 on 7,481 tons during 1911-12, £1,667 on 6,207 tons during 1912-13, and £1,001 on 3,330 tons during 1913-14.

**8. Cost of Bounties.**—The amounts paid by the Commonwealth Government in sugar bounties and the expenses in connection therewith during the period 1909-10 to 1913-14 are shewn in the following table:—

**SUGAR BOUNTIES AND EXPENSES, 1909-10 to 1913-14**

Particulars.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
Bounties ...	£ 402,132	£ 630,762	£ 543,503	£ 370,306	£ 149,244
Expenses ...	5,645	6,862	*	*	*
	407,777	637,624	*	*	*

\* Not available.

**9. Collection of Sugar Excise.**—The table hereunder contains particulars concerning the net amount of excise duty on sugar collected in respect of the several States for the years 1901-2 and 1909-10 to 1913-14. In this table refunds and drawbacks have been deducted and the requisite adjustment has been made between the States:—

**SUGAR EXCISE, 1901-2 and 1909-10 to 1913-14.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
	£	£	£	£	£	£	£
1901-2 ...	119,577	40,189	10,658	781	8,184	10,156	189,545
1909-10 ...	137,672	229,981	126,626	9,373	32,526	12,538	548,716
1910-11 ...	*	*	*	*	*	*	794,645
1911-12 ...	*	*	*	*	*	*	748,670
1912-13 ...	*	*	*	*	*	*	518,508
1913-14 ...	*	*	*	*	*	*	†179,148

\* Amounts not allocated to separate States.  
25th July, 1913.

† Excise duty on sugar was abolished from

**10. Production by White and Coloured Labour.**—The following table contains particulars furnished by the Commonwealth Treasury concerning the production of sugar in New South Wales and Queensland since 1902, and furnishes an indication of the decline in the employment of coloured labour in the sugar industry during that period:—

## SUGAR PRODUCTION, 1902-3 to 1913-14.

Season.	New South Wales.			Queensland.			Commonwealth.		
	Cane Sugar Produced by—			Cane Sugar Produced by—			Cane Sugar Produced by—		
	White Labour.	Coloured Labour.	Total.	White Labour.	Coloured Labour.	Total.	White Labour.	Coloured Labour.	Total.
1902-3 ...	Tons. 19,434	Tons. 1,526	Tons. 20,960	Tons. 12,254	Tons. 65,581	Tons. 77,835	Tons. 31,688	Tons. 67,107	Tons. 98,795
1903-4 ...	19,236	2,561	21,797	24,406	65,456	89,862	43,642	68,017	111,659
1904-5 ...	17,812	1,838	19,650	39,404	105,616	145,020	57,216	107,454	164,670
1905-6 ...	18,019	1,964	19,983	50,897	101,362	152,259	68,916	103,326	172,242
1906-7 ...	21,805	1,613	23,418	127,539	54,619	182,158	149,344	56,232	205,576
1907-8 ...	28,247	934	29,181	162,480	22,583	185,063	190,727	23,517	214,244
1908-9 ...	14,351	964	15,315	132,049	18,358	150,407	146,400	19,322	165,722
1909-10 ...	13,639	815	14,454	118,298	14,451	132,749	132,137	15,266	147,403
1910-11 ...	17,936	892	18,828	191,406	15,776	207,182	209,342	16,668	226,010
1911-12 ...	16,412	887	17,299	160,091	10,371	170,462	176,503	11,258	187,761
1912-13 ...	16,483	240	16,723	106,068	6,453	112,541	122,571	6,693	129,264
1913-14* ...	17,240	55	17,295	198,437	8,759	207,196	215,677	8,814	224,491

\* Estimated.

During the period under review the proportion of sugar produced by coloured labour declined from 68 per cent. of the total for 1902-3 to 4 per cent. of the total for 1913-14. The sugar production of 1914-15 is expected to be less than that of the previous season, the estimated yield of raw sugar being 210,000 tons.

11. **Employment of White and Coloured Labour.**—The estimated number of white and coloured persons engaged in the sugar industry is shewn in the following table. In 1905 coloured labour represented nearly 28 per cent. of the total number engaged; in 1912, the latest year for which information is available, the percentage had fallen to under 5 per cent.:—

## ESTIMATED NUMBER OF WHITE AND COLOURED PERSONS ENGAGED IN SUGAR INDUSTRY, 1905 to 1912.

Year.	White Labour.	Coloured Labour.	Total persons engaged.
1905 ...	23,162	8,952	32,114
1906 ...	33,700	7,576	41,276
1907 ...	41,800	4,068	45,868
1908 ...	38,198	3,319	41,517
1909 ...	36,619	2,325	38,944
1910 ...	34,120	2,077	36,197
1911 ...	29,776	1,778	31,554
1912 ...	27,380	1,383	28,763

12. **Imports and Exports of Sugar.**—Notwithstanding the increase in the production of sugar in the Commonwealth during recent years, Australia's over-sea import trade in cane sugar remained fairly extensive until 1906, the principal countries engaged in supplying this commodity being Java, Mauritius, and Fiji. In 1907 the exports of sugar exceeded the imports for the first time, the value of the net exports being £166,121. In 1908 the imports exceeded the exports by 4,811 tons in quantity and £37,080 in value. The principal countries to which sugar is exported are South African Union, the Pacific Islands, the United Kingdom, and Portuguese East Africa, but the bulk of the sugar exported from the Commonwealth is not of

Australian origin, but merely a re-export of sugar produced elsewhere. Thus of 3,419 tons exported during 1913, only 6 tons were of Australian origin. The sugar so re-exported comes mainly from Fiji, Java, and Mauritius. Particulars concerning the imports and exports of cane sugar for 1901 and the past five years are as follows:—

**IMPORTS AND EXPORTS OF CANE SUGAR, 1901 and 1909 to 1913.**

Year.	Oversea Imports.		Oversea Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	£	tons.	£	tons.	£
1901 ...	98,544	1,239,550	4,738	68,876	93,806	1,170,674
1909 ...	99,698	1,122,863	8,051	118,555	91,647	1,004,308
1910 ...	34,008	406,709	6,584	108,751	27,424	297,958
1911 ...	33,276	404,474	7,331	120,956	25,945	283,518
1912 ...	98,481	1,189,763	2,257	39,614	96,224	1,150,149
1913 ...	74,861	864,768	3,419	54,322	71,442	810,446

**§ 14. Vineyards.**

1. **Nature and Extent.**—The introduction of the vine into Australia has been set down by different investigators as at various dates, the years 1815 and 1828 being principally favoured. It would seem, however, that the vine was really brought out with the First Fleet, which initiated the colonisation of Australia, in 1788, and that consequently the Australian vine is as old as Australian settlement. As already mentioned a report of Governor Hunter's gives the area under vines in 1797 as 8 acres. From New South Wales the vine spread to Victoria and South Australia, and these States have now far outstripped the mother State in the area which they have devoted to its cultivation. In Queensland and Western Australia also, vine-growing has been carried on for many years, but in neither State has the industry progressed with the rapidity attained in Victoria and South Australia. In Tasmania the climate is not favourable to the growth of grapes. The purposes for which grapes are grown in Australia are three in number, viz.—(i.) for wine-making, (ii.) for table use, (iii.) for drying. The total area under vines in the several States from 1860 onwards is given in the following table:—

**COMMONWEALTH VINEYARDS, 1860-1 to 1913-14.**

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
	Acres.	Acres.	Acres	Acres.	Acres.	There are no vineyards in Tasmania.	Acres
1860-1 ...	1,584	1,138	—	3,180	335		6,237
1865-6 ...	2,126	4,078	110	6,629	634		13,577
1870-1 ...	4,504	5,466	416	6,131	710		17,227
1875-6 ...	4,459	5,081	376	4,972	675		15,563
1880-1 ...	4,800	4,980	739	4,337	659		15,515
1885-6 ...	5,247	9,775	1,483	5,142	624		22,271
1890-1 ...	8,044	20,686	1,981	9,535	1,024		41,270
1895-6 ...	7,519	30,275	2,021	17,604	2,217		59,636
1900-1 ...	8,441	30,634	2,019	20,158	3,325		64,577
1905-6 ...	8,754	26,402	2,044	23,603	3,541		64,344
1910-11 ...	8,321	23,412	1,634	22,952	2,795		59,114
1911-12 ...	8,231	24,193	1,371	23,986	2,821		60,602
1912-13 ...	8,163	24,579	1,428	25,208	3,010		62,388
1913-14 ...	8,153	22,435	1,537	26,208	2,864		61,197

The area devoted to vines in the Commonwealth attained its maximum in the season 1904-5, when a total of 65,673 acres was reached. Each of the five following seasons shewed a decrease, the area in 1909-10 being only 58,151 acres.



The wine-growing industry in Australia, more particularly in Victoria and New South Wales, received a severe check various outbreaks of phylloxera. With a view to its eradication extensive uprooting of vineyards in the infested areas was undertaken, while further planting within such areas, except with phylloxera-resisting vines, was prohibited.

2. **Wine Production.**—The production of wine in Australia has not increased as rapidly as the suitability of soil and climate would appear to warrant. The cause of this is probably twofold, being in the first place due to the fact that the Australians are not a wine-drinking people and consequently do not provide a local market for this product, and in the second to the fact that the new and comparatively unknown wines of Australia find it difficult to establish a footing in the markets of the old world, owing to the competition of well-known brands. Active steps are being taken in various ways to bring the Australian wines under notice, and it may be confidently expected that when their qualities are duly recognised the wine production of Australia will exhibit a rapid development. Particulars concerning the quantity of wine produced in the several States during 1901-2 and the past five seasons are contained in the table given hereunder:—

AUSTRALIAN WINE PRODUCTION, 1901-2 and 1909-10 to 1913-14.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	No production of wine in Tasmania.	Gallons.
1901-2 ...	868,479	1,981,475	148,835	2,631,563	185,735		5,816,087
1909-10 ...	808,870	991,941	91,410	2,569,797	140,559		4,602,577
1910-11 ...	805,600	1,362,420	74,806	3,470,058	153,665		5,866,049
1911-12 ...	850,210	983,423	57,358	2,921,597	162,559		4,975,147
1912-13 ...	719,100	1,206,111	54,627	3,974,838	149,132		6,103,808
1913-14 ...	561,100	1,121,491	58,897	2,759,665	208,738		4,709,891

3. **Relation to Population.**—In relation to population the area of the vineyards of the several States exhibits a well-marked decline from 1901 to 1908, the Commonwealth total having fallen during the period from 17 to 13 acres per 1000 of the population; during the past five seasons, however, the relation has remained stationary. Details for the period are furnished in the succeeding table:—

AREA OF VINEYARDS PER 1000 OF POPULATION.

Season.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tas.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901-2 ...	6	24	4	58	19	...	17
1909-10 ...	5	18	3	57	11	...	13
1910-11 ...	5	18	3	56	10	...	13
1911-12 ...	5	18	2	57	10	...	13
1912-13 ...	5	18	2	59	10	...	13
1913-14 ...	4	16	2	60	9	...	13

4. **Imports and Exports.**—The principal countries of origin of wine imported into Australia are France, Spain, Portugal, and Germany, the greater portion of the sparkling wines coming from France and of still wines from Spain and Portugal. Particulars relative to the importations of wine into the Commonwealth during 1901 and the past five years are given hereunder:—

## COMMONWEALTH IMPORTS OF WINE, 1901 and 1909 to 1913.

Year.	Quantity.			Value.		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£	£	£
1901	55,341	165,472	220,813	104,700	57,245	161,945
1909	47,669	60,946	108,615	91,046	24,975	116,021
1910	50,982	70,903	121,885	97,296	29,106	126,402
1911	78,115	75,446	153,561	153,561	31,363	184,924
1912	67,851	85,874	153,725	132,830	36,377	169,207
1913	68,907	81,006	149,913	138,563	34,797	173,360

The principal countries to which wine is exported from Australia are the United Kingdom and New Zealand, a small but fairly regular export trade being also carried on with India, Ceylon, Fiji, and the South Sea Islands. Details concerning the exports of wine from Australia during 1901 and the past five years are given in the following table :—

## COMMONWEALTH EXPORTS OF WINE, 1901 and 1909 to 1913.

Year.	Quantity.			Value.		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£	£	£
1901	2,936	863,147	866,083	6,972	122,751	129,723
1909	2,649	974,413	977,062	4,455	121,116	125,571
1910	2,830	949,033	951,913	5,340	123,593	128,933
1911	2,343	1,097,624	1,099,967	4,126	147,608	151,734
1912	2,467	784,371	786,838	4,803	116,327	121,130
1913	1,768	701,872	703,640	3,767	102,263	106,030

The sparkling wine included in the foregoing table consists mainly of foreign wine re-exported.

**5. Other Viticultural Products.**—In addition to grapes for wine-making purposes, large quantities are grown in all the States for table use, while, particularly in Victoria and South Australia, the drying of raisins and currants is also carried on. The quantities of table grapes grown in the several States during 1901-2 and the past five seasons are as follows :—

## TABLE GRAPES, 1901-2 and 1909-10 to 1913-14.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
	Tons	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1901-2	3,475	5,110	750*	2,800 *	1,100*	...	13,235
1909-10	4,181	3,189	1,520	2,496	3,928	...	15,314
1910-11	3,914	2,913	1,254	2,531	3,200	...	13,812
1911-12	4,223	3,102	973	2,123	3,506	...	13,927
1912-13	3,893	2,624	1,046	2,194	1,891	...	11,648
1913-14	3,883	2,849	1,306	2,067	2,690	...	12,795

\* Estimated.

Statistics of the quantities of raisins and currants dried are available for a series of years for Victoria and South Australia, and are as follows for 1901-2 and the past five seasons :—

#### RAISINS AND CURRANTS DRIED, 1901-2 and 1909-10 to 1913-14.

Season.	Raisins.		Currants.	
	Victoria.	Sth. Australia.	Victoria.	Sth. Australia.
	lbs.	lbs.	lbs.	lbs.
1901-2 ... ..	3,083,665	822,080	285,157	332,256
1909-10 ... ..	9,076,928	3,114,496	3,069,696	4,037,824
1910-11 ... ..	8,883,616	3,891,440	2,956,128	4,509,232
1911-12 ... ..	11,527,488	3,880,912	5,240,368	5,229,840
1912-13 ... ..	12,283,824	3,947,776	5,413,744	5,847,296
1913-14 ... ..	13,473,936	3,981,376	6,954,976	5,507,040

In New South Wales, Queensland, and Western Australia also small quantities of raisins and currants are dried, but until recently no statistics were collected. The quantity so produced in New South Wales amounted to 100,912 lbs. in 1907-8, 160,720 lbs. in 1908-9, 165,984 lbs. in 1909-10, 297,472 lbs. in 1910-11, 429,968 lbs. in 1911-12, 494,704 in 1912-13, and 545,888 lbs. in 1913-14. In Western Australia 176,400 lbs. were dried during 1912-13, and 199,024 lbs. during 1913-14. For Queensland there are no particulars available.

### § 15. Orchards and Fruit Gardens.

1. **Nature and Extent.**—Fruit-growing has made rapid progress in the Commonwealth during recent years, the area devoted thereto having increased in the past ten years by no less than 59,428 acres. The States in which the increase is most marked are :—Tasmania, 18,066 acres; Victoria, 15,826 acres; Western Australia, 12,637 acres; and South Australia, 5,700 acres. During the same period the Queensland fruit-growing area increased 4,465 acres, while that in New South Wales exhibited a slight increase of 2,625 acres. The increased areas in Tasmania and Western Australia are mainly due to extensive plantings of apple trees with a view to the possibilities of the London market for fresh fruit. The total area devoted to orchards and fruit gardens in the several States is given hereunder :—

#### COMMONWEALTH ORCHARDS AND FRUIT GARDENS, 1901-2 and 1909-10 to 1913-14.

Season	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Fed. Terr.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901-2...	48,448	50,055	14,396	16,315	6,076	11,485	...	...	146,775
1909-10	45,892	56,108	15,360	21,760	15,609	24,069	...	...	178,798
1910-11	47,533	57,375	15,153	22,410	16,738	25,934	13	...	185,156
1911-12	48,385	59,985	16,817	23,214	18,194	27,868	13	48	194,524
1912-13	49,329	63,209	18,556	23,905	19,540	30,575	...	60	205,174
1913-14	51,457	67,183	20,072	24,425	20,575	32,200	50	59	216,021

The varieties of fruit grown differ materially in various parts of the several States, and range between such fruits as the pineapple, paw-paw, mango, and guava of the tropics, and the strawberry, the raspberry, and the currant of the colder parts of the

temperate zone. The principal varieties grown in Victoria are the apple, plum, peach, apricot, cherry, and pear. In New South Wales, citrus fruits (orange, lemon, etc.) occupy the leading position, although apples, pears, peaches, plums, and apricots are also extensively grown. In Queensland the banana, the orange, the pineapple, the apple, the peach, the mango, and the plum are the varieties most largely grown. In South Australia, in addition to the apple, pear, peach, apricot, plum, orange, and lemon, the almond and the olive are also largely grown. In Western Australia the apple, orange, peach, pear, plum, fig, and apricot are the sorts chiefly grown, while in Tasmania, although the apple represents four-fifths of the area in that State devoted to fruit-growing, small fruits, such as the currant, raspberry, and gooseberry, are very extensively grown, and the balance of the area is mainly occupied with the pear, plum, apricot, peach, and cherry. The following table gives the acreage under the principal kinds of fruit grown, and the quantity and value of fruit produced. The acreages shewn are exclusive of young trees not yet bearing. The acreages for each kind of fruit in Victoria are not available:—

**PARTICULARS OF THE PRINCIPAL KINDS OF FRUIT GROWN IN THE SEVERAL  
STATES OF THE COMMONWEALTH DURING THE SEASON 1913-14.**

Fruit.	N.S.W. (a)	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
Apples ... acres	6,251	...	835	6,664	5,675	16,952	...
bushels	495,898	1,653,035	49,423	450,240	425,715	1,925,867	...
£	120,000	371,933	21,005	119,905	114,411	385,173	1,132,427
Apricots ... acres	1,021	...	90	1,930	326	616	...
bushels	86,572	308,307	5,946	144,962	25,123	50,380	...
£	25,970	96,346	1,189	49,372	12,561	11,335	196,773
Bananas ... acres	256	...	7,400	...	122	...	...
bunches	72,943	...	1,037,936	...	(b) 2,709	...	...
£	25,530	...	129,742	...	2,438	...	157,710
Lemons ... acres	2,698	...	121	482	125	...	...
bushels	180,597	57,652	13,311	28,936	16,587	...	...
£	58,690	21,620	3,993	8,681	4,769	...	97,753
Nectarines { acres	5,855	...	1,063	1,413	890	78	...
and { bshls.	353,949	368,814	56,380	92,146	62,946	6,005	...
peaches { £	106,220	133,140	13,955	34,445	19,408	1,952	309,120
Oranges ... acres	10,111	...	2,407	1,814	1,230	...	...
bushels	661,217	63,542	375,544	139,952	101,623	...	...
£	247,960	30,182	112,663	59,480	47,001	...	497,286
Pineapples acres	35	...	3,014	...	...	...	...
dozen	8,439	...	744,906	...	...	...	...
£	1,370	...	74,491	...	...	...	75,861
Pears ... acres	1,482	...	112	866	685	913	...
bushels	152,557	476,430	3,304	86,852	81,707	150,447	...
£	53,390	123,078	1,156	25,312	21,448	33,851	258,235
Other fruits acres	8,501	...	3,022	4,146	1,441	2,424	...
£	240,900	204,684	58,319	94,561	36,788	66,160	701,412
Total ... acres	36,210	49,432	18,064	17,315	10,494	20,983	(c) 152,548
£	880,030	980,983	416,513	391,756	258,824	498,471	3,427,077 (c)

(a) Including Federal Territory, 43 acres, value £580.  
Northern Territory, value £500.

(b) Bushels.

(c) Including 50 acres

2. **Relation to Population.**—In relation to population the orchards and fruit gardens of the Commonwealth have exhibited an increase during the last ten years, more than compensating for the decline which was experienced in the case of vineyards. Taking the two in conjunction, the relative area under vineyards and orchards has, during the period, remained practically stationary, shewing 55 acres per 1000 of population in 1901-2, and 57 in 1913-14. Details for 1901-2 and the past five seasons are as follows :—

#### AREA OF ORCHARDS AND FRUIT GARDENS PER 1000 OF POPULATION.

Season.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tas.	N.T.	Fed. Terr.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901-2...	35	41	28	45	31	66	...	...	38
1909-10	28	44	27	55	59	125	...	...	41
1910-11	29	44	25	55	60	134	4	...	42
1911-12	29	44	27	56	62	144	4	25	43
1912-13	28	46	29	56	64	155	...	31	43
1913-14	28	48	30	56	64	160	14	30	44

3. **Commonwealth Imports and Exports.**—A very considerable fruit trade, both import and export, is carried on by the Commonwealth with overseas countries, the major portion of the importations consisting of dried fruits, while the bulk of the exports is made up of fresh fruits. Amongst the imports the principal dried fruits are currants, dates, sultanas, and raisins, and the principal fresh fruits bananas, oranges, lemons, and apples. The currants imported are mainly of Greek, the dates of Arabian, Persian, and Turkish, the raisins mainly of Spanish, and the sultanas of Turkish origin. Of the fresh fruits imported during 1913, the bananas were chiefly from Fiji, the oranges and lemons from Italy, and the apples from the United States and Canada. In 1907 a very marked development in the trade in Australian dried fruits took place, the total export for the year being valued at £76,872, of which £71,506 represented Australian fruits and £5,366 re-exports of foreign fruits. In 1908 the total export of dried fruits from Australia was valued at £35,359, of which £33,111 represented Australian fruits, and £2,248 re-exports of foreign fruits. There was a further decline in 1909, when the total value of exports was only £13,013, made up of £11,826 of Australian produce, and £1,187 of re-exports. There was a small increase in the total exports in 1910 and 1911, the exports for the latter year amounting to £23,900; 1912 experienced a further and more substantial increase, the value of dried fruits exported in that year being £48,012. In 1913 the export value was £32,099; of this sum £31,089 represented Australian produce, and the balance of £1,010 re-exports of foreign fruits. The principal consignees of Australian dried fruits exported were United Kingdom and New Zealand. The fresh fruits exported during the year were valued at £399,800, and consisted mainly of apples. These were all of Australian origin with the exception of re-exports valued at £1,015. The principal countries to which these were sent were the United Kingdom, Germany, New Zealand, Argentine Republic, and Uruguay.

Particulars concerning the overseas imports and exports of dried fruits for 1901 and the last five years are as follows :—

**COMMONWEALTH OVERSEA IMPORTS AND EXPORTS OF DRIED FRUITS,  
1901 AND 1909 TO 1913.**

Year.	Oversea Imports.		Oversea Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1901	14,265,731	179,305	831,996	14,206	13,433,735	165,099
1909	13,242,198	121,059	1,089,730	13,013	12,152,468	108,046
1910	9,885,118	89,076	973,171	14,765	8,911,947	74,311
1911	6,526,498	68,942	1,291,795	23,900	5,234,703	45,042
1912	7,484,432	81,913	2,545,779	48,012	4,938,653	33,901
1913	10,551,877	112,439	2,478,585	32,099	8,073,292	80,340

Similar information with regard to the Commonwealth oversea trade in fresh fruits for the same period is contained in the table given hereunder :—

**COMMONWEALTH OVERSEA IMPORTS AND EXPORTS OF FRESH FRUITS,  
1901 AND 1909 TO 1913.**

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Centals.	£	Centals.	£	Centals.	£
1901	*	45,955	*	167,926	*	121,971
1909	250,311	146,081	372,308	243,699	121,997	97,618
1910	137,733	90,100	500,661	322,694	362,928	232,594
1911	338,749	197,924	651,837	420,780	313,088	222,856
1912	306,079	217,796	674,695	468,306	368,616	250,510
1913	472,331	356,060	584,914	399,800	112,583	43,740

\* Not available.

4. **Jams and Jellies.**—A small oversea trade in jams and jellies is carried on by the Commonwealth, the value of the imports for the year 1913 amounting to £12,213, and of the exports to £29,402. The country of origin of the bulk of the importations is the United Kingdom, while the destinations of the exports are principally South Africa, Ceylon, Philippine Islands and Fiji. Particulars relative to imports and exports for 1901 and the last five years are as follow :—

**COMMONWEALTH OVERSEA TRADE IN JAMS AND JELLIES, 1901 and 1909 to 1913.**

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1901 ...	1,312,377	23,358	4,140,072	64,389	2,827,695	41,031
1909 ...	334,738	7,956	1,706,400	26,124	1,371,662	18,168
1910 ...	365,752	8,859	1,814,002	28,372	1,448,250	19,513
1911 ...	322,487	8,304	1,288,729	20,896	966,242	12,592
1912 ...	476,504	13,081	1,429,338	23,089	952,834	10,008
1913 ...	453,951	12,213	1,858,231	29,402	1,404,280	17,189

5. **Preserved Fruit.**—Details concerning the quantities and values of preserved fruit imported into and exported from the Commonwealth cannot readily be obtained, owing to the fact that in the Customs returns particulars concerning fruit and vegetables are in certain cases combined. The total value of fruit and vegetables, other than fresh fruits, dried fruits, potatoes, and onions, imported into Australia during 1913 was £50,740, and the corresponding value of exports was £23,069.

## § 16. Minor Crops.

1. **Nature and Extent.**—In addition to the leading crops which in the foregoing pages have been dealt with in some detail, there are many others which, owing either to their nature or to the fact that their cultivation has advanced but little beyond the experimental stage, do not occupy so prominent a position. Some of the more important of these are those which may be classed under the heads of Market Gardens, Pumpkins and Melons, Turnips, Mangolds, Sugar Beet, Nurseries, Grass Seed, Tobacco, Hops, and Millet, while the possibilities of cotton-growing in the tropical portions of the Commonwealth have in recent years received considerable attention, although the industry cannot yet be said to be beyond the experimental stage. The total area in the Commonwealth during the season 1913-14 devoted to minor crops was 76,463 acres, of which market gardens accounted for 29,940 acres.

2. **Market Gardens.**—Under this head are included all areas on which are grown mixed vegetables for sale. Where considerable areas are devoted to the production of one vegetable, such for instance as the potato, the onion, the melon, the tomato, etc., these crops are usually not included with market gardens, but are shewn either under some specific head, or under some such general head as "Other Root Crops," or "All other Crops." The area under market gardens in the several States of the Commonwealth during 1901-2 and each of the last five seasons is given in the table hereunder:—

**COMMONWEALTH MARKET GARDENS, 1901-2 and 1909-10 to 1913-14.**

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Federal Terr.	C'wealth.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1901-2 ...	7,834	8,752	2,328	9,005	2,142	1,746	...	...	31,807
1909-10 ...	10,254	10,214	2,677	2,784	3,481	1,720	...	...	31,130
1910-11 ...	9,813	10,778	2,317	2,818	3,576	1,741	*58	...	31,101
1911-12 ...	9,488	10,331	2,293	2,848	3,120	2,144	58	10	30,292
1912-13 ...	9,836	10,414	2,386	2,857	3,664	1,458	50	11	30,676
1913-14 ...	10,585	10,777	2,611	2,265	2,851	†769	60	22	29,940

\* Included with South Australia prior to 1910-11. † Other than Market Gardens included in previous years.

The area for 1909-10 was in excess of that for 1901-2 in all the States with the exception of South Australia, where the falling-off is more apparent than real, being in large part due to a change in the classification of crops introduced in connection with the new system of collection which came into force for 1907-8. It is believed that the figures given for the earlier years are considerably in excess of the reality. During the past five seasons there has been very little variation in the total area of market gardens in any of the States; Victoria shews the largest increase, viz., 1,598 acres.

3. **Grass Seed.**—The total area under this crop during 1913-14, exclusive of New South Wales, for which State no figures are available, was 3,669 acres, of which 1,460 acres were in Tasmania, 1,452 acres in Victoria, 736 acres in Queensland, and 11 acres in South Australia. The total yield for 1913-14, including New South Wales, was 38,081 bushels.

4. **Tobacco.**—The tobacco-growing industry is one which has experienced marked fluctuations in Australia and which once promised to occupy an important place amongst the agricultural industries of the Commonwealth. Thus, as early as the season 1888-9 the area under this crop amounted to as much as 6,641 acres, of which 4,833 were in New South Wales, 1,685 in Victoria, and 123 in Queensland. This promise of prosperity was, however, not fulfilled, and after numerous fluctuations, in the course of which the Victorian area rose in 1895 to over 2000 acres, and that in Queensland to

over 1,000 acres, the total area under tobacco for the season 1913-14 was only 3,007 acres, distributed as follows:—New South Wales, 1,992 acres; Victoria, 284 acres; and Queensland, 731 acres. This decline in production appears to have been due to the comparatively small demand which existed in Australia for the locally-produced leaf, and to the fact that the cost of production and preparation in the Commonwealth prevented the Australian leaf from obtaining a footing in the outside markets. Since 1907-8, however, a gradual increase has taken place both in area under the crop and production of leaf. Probably under more favourable circumstances, and with greater attention given to the production of leaf of the best quality only, the industry is one which will eventually assume considerable proportions. In all the States in which its cultivation has been tried the soil and climate appear to be very suitable for the growth of the plant, and the enormous importations of tobacco in its various forms into the Commonwealth furnish an indication of the extensive local market which exists for an article grown and prepared in such a manner as to meet with the requirements of consumers. The value of the net importations of tobacco into the Commonwealth during the year 1913 amounted to £987,420, comprising unmanufactured tobacco £697,546, cigars £183,408, cigarettes £56,436, manufactured tobacco £49,172, and snuff £858.

**5. Pumpkins and Melons.**—The total area under this crop in the Commonwealth during 1913-14 was 13,999 acres, of which 4,206 acres were in New South Wales, 2,233 acres in Victoria, 6,556 acres in Queensland, and 743 acres in Western Australia; the production for the first three named was 13,656, 21,271 and 20,208 tons respectively; the quantity produced in Western Australia is not available.

**6. Sugar Beet.**—The area under this crop in the Commonwealth during 1913-14 was 1,099 acres, of which all but 6 acres were in Victoria. The production amounted to 7,448 tons, as compared with 6,253 tons from 938 acres the previous season.

**7. Hops.**—Hop-growing in the Commonwealth is practically confined to Tasmania and some of the cooler districts of Victoria, the total area for the season 1913-14 being 1,478 acres, of which 1,353 acres were in Tasmania, and 117 acres in Victoria; a small area of 3 acres was also grown in South Australia. The Tasmanian area, though still small, has increased rapidly during the past nine years, the total for the season 1901-2 being only 599 acres. On the other hand, the Victorian area, which in 1901-2 was 307 acres, has diminished to 117 acres in 1913-14. The cultivation of hops was much more extensive in Victoria some thirty years ago than at present, the area devoted to this crop in 1883-4 being no less than 1,758 acres. During the year 1913 the net importations of hops into the Commonwealth represented a weight of 1,503,298 lbs. and a value of £92,150. The total value of the net importations of hops into Australia during the past ten years amounted to £578,513, thus indicating the existence of a regular and extensive local demand.

**8. Millet.**—Millet appears in the statistical records of three of the Commonwealth States. The total area devoted thereto in 1913-14 was 2,894 acres, of which 1,970 acres were in New South Wales, 515 in Victoria, and 399 in Queensland. The particulars here given relate to millet grown for grain and fibre. That grown for green forage is dealt with in the section relating thereto.

**9. Nurseries.**—In all the States, somewhat extensive areas are devoted to nurseries for raising plants, trees, etc., but statistics concerning the area so occupied for flowers, fruit trees, etc., are not available, and so far as they relate to forestry are given elsewhere.

**10. Cotton.**—Cotton-growing on a small scale has been tried in Queensland, but so far without very marked success; 214 acres were devoted to this crop in 1913-14, giving a yield of 35,230 lbs. of unginned cotton, valued at £881. Hopes are entertained that with the invention of a mechanical device for the picking of the cotton the industry will become firmly established, since the soil and conditions appear eminently suitable for the growth of this crop. Small areas in the Northern Territory have also been planted with



cotton, and 15 acres were under cultivation in 1912-13. The tropical portions of Western Australia have also long been regarded as suitable for its cultivation.

11. **Coffee.**—Queensland is the only State of the Commonwealth in which coffee-growing has been at all extensively tried, and here the results have up to the present time been far from satisfactory. The total area devoted to this crop reached its highest point in the season 1901-2, when an area of 547 acres was recorded. Since then the area continuously declined to 1906-7, when it was as low as 256 acres. During the season 1907-8 the area increased to 304 acres, declining to 285 acres in 1908-9, 200 acres in 1910-11, 198 acres in 1911-12, 196 acres in 1912-13, and 165 acres in 1913-14. In the last-mentioned season the yield amounted to 182,223 lbs., valued at £6,833.

12. **Other Crops.**—Miscellaneous small crops are grown in the several States, amongst which may be mentioned tomatoes, rhubarb, artichokes, arrowroot, chicory, and flowers.

### § 17. Bounties on Agricultural Products.

1. **General.**—The Bounties Act of 1907 passed by the Federal Parliament in order to encourage the manufacture and production of certain articles in the Commonwealth, includes among the number of items on which bonuses are payable, several agricultural products. The most important of these, viz., sugar, has been referred to on page 339 of this publication. Minor products of the soil on which these bounties are payable are as follows:—

#### AGRICULTURAL PRODUCTS (OTHER THAN SUGAR) ON WHICH BOUNTIES ARE PAYABLE.

Article.	Period dating from 1st July, 1907, during or in respect of which Bounty may be paid.	Rates of Bounty.	Maximum amounts which may be assigned in any one year.
Cotton, ginned ... ..	8 years	10 % on market value	£ 6,000
Fibres—			
New Zealand flax ... ..	10 "	10 " "	3,000
Flax and hemp ... ..	5 "	10 " "	8,000
Jute ... ..	5 "	20 " "	9,000
Sisal hemp ... ..	10 "	10 " "	3,000
Oil materials supplied to an oil factory for the manufacture of oil—			
Cottonseed ... ..	8 "	10 " "	1,000
Linseed (flax seed) ... ..	5 "	10 " "	5,000
Rice, uncleaned ... ..	5 "	20s. per ton	1,000
Coffee, raw, as prescribed ... ..	8 "	1d. per lb.	1,500
Tobacco leaf for the manufacture of cigars, high grade, of a quality to be prescribed ... ..	5 "	2d. "	4,000
Fruits—			
Dates (dried) ... ..	15 "	1d. "	1,000
Dried (except currants and raisins) or candied, and exported	5 "	10 % on market value	6,000

\* Any unexpended amount assigned in any year is available for the years following.

Although the rate of bonus on the several articles, is, as shewn above, fairly liberal, the bounties have not been availed of to any great extent, as will be seen from the following table, which gives particulars as to the quantity of the articles raised and the amounts paid as bounties in respect thereof for the five financial years ended 1913-14 :—

**PARTICULARS OF BOUNTIES PAID ON AGRICULTURAL PRODUCTS (OTHER THAN SUGAR), 1909-10 to 1913-14.**

Article.	Quantity produced on which Bounties were paid.					Amount paid as Bounties.				
	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
Cotton, ginned ...lbs.	24,994	51,493	60,443	46,043	9,642	£ 34	£ 91	£ 116	£ 95	£ 21
Fibres—										
Flax and hemp tons	28	28	137	101	137	120	123	480	215	318
Sisal hemp ...	11	45	8	...	...	25	112	18	...	...
Oil materials supplied to an oil factory for the manufacture of oil—										
Cottonseed ... lbs.	45,616	97,997	99,209	84,479	6,306	10	22	21	13	1
Linseed (flax seed) cwt.	...	...	...	100	...	...	...	...	9	...
Coffee, raw, as prescribed ... lbs.	28,134	26,645	16,269	30,053	17,540	117	112	68	125	73
Tobacco leaf for the manufacture of cigars, high grade, of a quality to be prescribed. lbs.	33,093	10,902	9,258	25,820	41,263	276	90	78	215	344
Fruits—										
Dried (except currants and raisins) or candied, & exported. lbs.	23,932	548,123	636,452	196,837	142,928	104	1,078	1,734	587	433

During the year 1913-14 the total amount paid in respect of cotton, cottonseed, and coffee was claimed by the State of Queensland. South Australia collected £426, and Tasmania £7 of the fruit bonus, while £325 of the bounty paid for tobacco leaf was paid to Queensland, the remainder being earned in New South Wales and Victoria, the amounts being £6 and £13 respectively. Victoria claimed the total amount paid for flax and hemp.

No bounties have yet been paid on New Zealand flax, jute, uncleaned rice or dates.

### § 18. Fertilisers.

1. **General.**—In the early days of settlement and cultivation in the Commonwealth, scientific cultivation was in a much less developed state than it is to-day. The early farmers were neither under the necessity, nor in fact, aware of such necessity, of supplying the constituents to the soil demanded by each class of crop. The widely-divergent character of the soils in the Commonwealth, their degeneration by repeated cropping, the limitations of climatic conditions, the difficulties of following any desired order of rotation of crops, all rendered it essential to give attention to artificial manuring. The introduction of the modern seed-drill, acting also as a fertiliser distributor, has greatly facilitated the use of artificial manures, and much land formerly regarded as useless for cultivation has now been made productive. There is reason to believe that this feature will be even more strikingly characteristic of the future.

2. **Fertilisers Acts.**—In order to protect the interests of users of artificial manures legislation has been passed in each of the States, regulating the sale and preventing the adulteration of fertilisers. A list of these Acts and their main features will be found in Year Book No. 6. (pages 406 and 407).

3. **Imports.**—The local production of artificial manures has assumed large proportions during the last few years, though considerable quantities are still imported.

The importation of fertilisers has increased over 200 per cent. since 1901. The chief items, as regards both quantity and value, are those relating to phosphates, a fertiliser which has proved itself to be very suitable for the growing of cereals in Australian

soils. The greatest quantity of the manufactured superphosphates imported from any one country during 1913 was obtained from Japan, whence came  $41\frac{1}{2}$  per cent. of the total imported, while the United Kingdom contributed  $34\frac{1}{2}$  per cent., Germany 21 per cent., and Belgium  $2\frac{1}{2}$  per cent., the small balance being imported from the Netherlands. Ocean Island, with 66 per cent., was the principal contributor of rock phosphates; of the balance about 16 per cent. was obtained from the South Sea Islands (so described), and 15 per cent. from the Caroline and other Pacific Islands, and 3 per cent. from Christmas Islands. Guano was imported chiefly from Malden Island, and the balance, which was about 10 per cent., from the United Kingdom, while the East Indies had practically a monopoly of the bone-dust trade with the Commonwealth during 1913.

The imports of artificial manures during the last five years is shewn in the following table. It will be noticed that the quantity of rock phosphates imported during that period has shewn a substantial increase. The imports were particularly large during 1910 and 1913. The figures for the manufactured superphosphates shewed an increase of about 50 per cent. during 1910, those for 1911 shew a further increase of some 5 per cent., while those for 1912 shew a decrease of 23 per cent., and those for 1913 one of 45 per cent. as compared with those of their respective previous year.

#### COMMONWEALTH IMPORTS OF FERTILISERS, 1909 to 1913.

Fertiliser.			1909.	1910.	1911.	1912.	1913.
Bonedust ... ..	Cwt.		71,959	12,740	4,164	8,769	15,241
" ... ..	£		17,632	3,294	1,086	2,309	4,378
Guano ... ..	Cwt.		468,215	788,304	484,003	541,873	26,819
" ... ..	£		56,723	89,961	52,447	64,833	5,733
Superphosphates ...	Cwt.		757,515	1,196,613	1,254,592	967,480	534,138
" ... ..	£		105,229	174,751	189,532	155,643	89,474
Rock Phosphates ...	Cwt.		1,006,030	2,112,127	1,721,140	1,953,640	3,200,648
" ... ..	£		143,246	294,212	228,292	259,994	397,634
Other ... ..	Cwt.		151,241	377,327	161,121	247,026	279,308
" ... ..	£		38,007	107,573	47,479	82,769	90,202
Total ... {	Cwt.		2,454,960	4,487,111	3,625,320	3,728,788	4,056,314
	£		360,837	669,791	513,136	565,548	587,421

4. Exports.—The subjoined table shews the exports of artificial manures for the years 1909 to 1913. Practically the whole of the fertiliser is manufactured locally, and is shipped mainly to New Zealand, Japan and the Pacific Islands:—

#### COMMONWEALTH EXPORTS OF FERTILISERS, 1909 to 1913.

Fertiliser.			1909.	1910.	1911.	1912.	1913.
Bonedust ... ..	Cwt.		62,637	80,602	122,456	125,546	86,295
" ... ..	£		16,571	19,066	34,787	38,188	26,023
Guano ... ..	Cwt.		...	2,812	2,719	500	6,242
" ... ..	£		...	490	603	100	848
Superphosphates ...	Cwt.		235,939	260,261	200,925	182,377	257,629
" ... ..	£		44,041	51,051	38,007	34,400	47,396
Rock Phosphates ...	Cwt.		3,320	11,190	2,106	...	18,555
" ... ..	£		658	1,819	353	...	3,060
Soda Nitrate ... ..	Cwt.		3,579	6,215	6,107	5,523	10,154
" ... ..	£		2,075	2,844	3,098	2,660	5,386
Ammonia Sulphate ...	Cwt.		69,894	69,015	56,630	73,193	46,067
" ... ..	£		42,766	43,081	37,141	51,022	31,577
Other ... ..	Cwt.		177,189	229,841	215,382	146,348	237,734
" ... ..	£		33,880	48,989	53,510	49,316	63,154
Total ... {	Cwt.		552,558	650,936	606,325	533,487	662,676
	£		139,991	167,340	167,499	175,686	177,434

5. **Statistics of Use of Fertilisers.**—The statistics available in connection with the use of manures in the Commonwealth for a series of years refer to New South Wales, Victoria, South Australia, and Western Australia; those for Tasmania were collected for the first time for 1911-12. Particulars concerning the first-mentioned State are given hereunder:—

**FERTILISERS USED IN NEW SOUTH WALES, 1909-10 to 1913-14.**

Season.	Total Area of Crops.	Area Manured.		Manure Used.	
		Aggregate.	Percentage to Total Area of Crop.	Natural (Stable-yard, etc.).	Artificial.
	Acres.	Acres.	%	Loads.	Tons.
1909-10 ...	3,180,561	826,197	25.98	189,008	21,659
1910-11 ...	3,386,017	1,030,554	30.43	186,204	25,017
1911-12 ...	3,628,513	1,407,453	38.80	178,689	33,820
1912-13 ...	3,737,085	1,642,078	43.94	170,312	38,918
1913-14 ...	4,567,592	2,224,623	48.70	166,503	50,476

Particulars for Victoria for 1901-2 and the past five seasons are as follows:—

**FERTILISERS USED IN VICTORIA, 1901-2 and 1909-10 to 1913-14.**

Season.	Total Area of Crops.	Farmers Using Manure.	Area Manured.		Manure Used.	
			Aggregate.	Percentage to Total Area of Crop.	Natural (Stable-yard, etc.).	Artificial.
	Acres.	No.	Acres.	%	Tons.	Tons.
1901-2 ...	2,965,681	11,439	556,777	18.77	153,611	23,535
1909-10 ...	3,658,535	26,690	2,407,331	65.80	197,446	77,579
1910-11 ...	3,952,070	27,845	2,714,854	68.69	203,884	86,316
1911-12 ...	3,640,241	26,159	2,676,408	73.52	205,739	82,581
1912-13 ...	4,079,356	29,524	3,029,418	74.26	222,253	94,010
1913-14 ...	4,391,321	30,610	3,401,013	77.45	219,423	105,612

The figures relating to the use of fertilisers in South Australia are shown in the table below:—

**FERTILISERS USED IN SOUTH AUSTRALIA, 1909-10 to 1913-14.**

Season.	Total Area of Crops.	Area Manured.		Manure Used.	
		Aggregate.	Percentage to Total Area of Crop.	Natural (Stable-yard, etc.).	Artificial.
	Acres.	Acres.	%	Loads.	Tons.
1909-10 ...	2,530,301	2,031,832	80.30	133,935	76,413
1910-11 ...	2,746,334	2,235,578	81.40	129,918	81,899
1911-12 ...	2,965,338	2,511,130	84.68	134,503	87,475
1912-13 ...	3,062,998	2,603,136	84.99	111,434	91,607
1913-14 ...	3,169,559	2,584,814	81.55	100,435	97,023

Corresponding particulars relative to Western Australia for the seasons 1909-10 to 1913-14 are given in the following table, and furnish interesting evidence of the rapid extension of the use of manures in that State:—

## FERTILISERS USED IN WESTERN AUSTRALIA, 1909-10 to 1913-14.

Season.	Total Area of Crops.	Area Manured.		Manure Used.	
		Aggregate.	Percentage to Total Area of Crops.	Natural (Stable-yard, etc.).	Artificial.
	Acres.	Acres.	%	Loads.	Tons.
1909-10...	722,086	608,870	84.32	67,263	24,654
1910-11...	855,024	773,561	90.47	62,229	33,194
1911-12...	1,072,653	992,463	92.52	51,600	43,843
1912-13...	1,199,991	1,120,334	93.36	55,085	47,563
1913-14...	1,537,923	1,459,218	94.88	58,390	58,962

Statistics relating to the use of manures in Tasmania were collected for the first time in 1911-12, particulars for the past three seasons being as follows:—

## FERTILISERS USED IN TASMANIA, 1911-12 to 1913-14.

Season.	Total Area of Crops.	Area Manured.		Manure Used.	
		Aggregate.	Percentage to Total Area of Crops.	Natural (Stableyard, etc.).	Artificial.
	Acres.	Acres.	%	Tons.	Tons.
1911-12...	270,000	129,914	48.12	25,792	8,750
1912-13...	286,065	137,653	48.12	27,328	9,272
1913-14...	264,140	136,764	51.78	30,530	14,398

A marked increase in the proportion of cropped land treated with manure is in evidence in all of the States for which returns are available. Thus, in New South Wales the area of manured land represented in 1908-9 only 18 $\frac{3}{4}$  per cent. of the area under crop, as against nearly 49 per cent. in 1913-14. Similarly, in Victoria the percentage increased from 18 $\frac{1}{2}$  per cent. in 1901-2 to 59 $\frac{1}{2}$  per cent. in 1908-9 and to 77 $\frac{1}{2}$  per cent. in 1913-14, in South Australia from 73 $\frac{3}{4}$  per cent. in 1908-9 to over 81 $\frac{1}{2}$  per cent. in 1913-14, and in Western Australia from 64 per cent. in 1904-5 to nearly 95 per cent. in 1913-14.

**6. Local Production of Fertilisers.**—Statistics relative to the local production of fertilisers are very incomplete, and detailed returns for fertiliser factories other than bone mills are not available. The number of firms engaged in the manufacture of artificial manures in the Commonwealth at latest available date was 86, made up as follows:—New South Wales, 18; Victoria, 32; Queensland, 15; South Australia, 13; Western Australia, 6; and Tasmania, 2. If, however, approximately complete returns of the quantities of fertilisers used in the various States could be given, a comparison with the importations would give valuable information, but, as already mentioned, such particulars are only available for four of the States prior to 1911-12, and even then do not furnish the whole of the information necessary.

**7. Benefits Derived from the Use of Fertilisers.**—There is little doubt that the increased and increasing use throughout the Commonwealth of fertilisers, natural and artificial, combined with the greater attention being devoted to fallowing and to the combination of sheep-farming with agriculture, is having the effect of improving the

prospects of those dependent for a livelihood on the products of the soil. Reference has previously been made to the loss to the soil of phosphoric acid which the Commonwealth export of wheat and its milled products involves, and the necessity which thus arises for returning this ingredient in some form. Similarly, other staple products exported impose their respective tolls upon the soil of the Commonwealth, and the increased use of fertilisers furnishes evidence that producers are alive to the necessity for making good the deficiency so arising.

## § 19. Ensilage.

1. **Value to Stockowners.**—The use of ensilage as a substitute for green fodder during periods of drought or spells of dry weather, or for winter use, is less extensive in Australia than the circumstances would appear to warrant. There is, however, a growing disposition on the part of dairy farmers to make silos on their holdings, as they find that dairy cattle eat ensilage greedily, and that by its means the output of milk, both in regard to quantity and quality, may be kept up long after the supply of ordinary green food is exhausted. Sheepbreeders are also recognising the fact that during protracted periods of dry weather the silo enables them to keep their stock in good condition, and that lambing can take place satisfactorily. Ensilage thus obviates the expense of travelling or trucking sheep for hundreds of miles to get beyond the drought area, or the equally costly and even ruinous alternative of providing chaff for food at high prices and costly freight. In the rearing of lambs for the London market, ensilage appears to be destined to play an important part, as the lambs thrive upon it much better than upon dry food. By the judicious economising of the surplus growth of green food with the use of the silo, farmers and squatters can carry more stock on their holdings than they otherwise would be justified in doing. Not only is the great waste of superabundant food thus avoided, but it becomes possible to change into a succulent and nutritious food much growth that in any other state would not be eaten by stock. Thus such vegetation as marsh mallows, thistles, weeds of all sorts, and even the swamp reed *Arundo phragmites*, which grows in great quantities in lagoons, billabongs, and swamps, are all eaten with avidity when offered to stock in the form of ensilage. The pit and stack silos are rapidly being superseded by those built of red gum and hardwood or concrete. This is found to a great extent to obviate the loss sustained by mould, at the same time reducing the risk of fire. The silos vary in capacity from forty to 130 tons. A portable silo made of iron, which has been devised, is made in sections of such size and weight as to admit of ready handling. These silos can be increased in diameter or height by the addition of further sections.

2. **Government Assistance in the Production of Ensilage.**—The Government of Victoria, recognising the fact that defective methods of making ensilage have often been adopted, leading to partial or total failure, have for some years been making special efforts to educate the farming community in this respect, so that mistakes may be avoided and the conditions essential for the production of good ensilage may be better appreciated. These conditions vary with the climate and with the locality. The Government also undertakes the erection of silos on very liberal terms, repayment extending over a series of years. Experts supervise the erection of the silos, and give practical lessons as to packing them, etc. The New South Wales Government have, by giving advice in the "Agricultural Gazette" and by the issue of special bulletins, taken steps towards the education of the farmers. Silos have also been erected on the various experimental farms with a view to demonstrating the value of ensilage. No financial assistance is, however, given in New South Wales in this connection.

3. **Quantity Made.**—Particulars concerning the number of silos and the quantity of ensilage made in the several States of the Commonwealth in the seasons 1909-10 to 1913-14, are furnished in the table given hereunder:—

## COMMONWEALTH ENSILAGE-MAKING, 1909-10 to 1913-14.

State or Territory.	1909-10.		1910-11.		1911-12.		1912-13.		1913-14.	
	*Holdings.	Ensilage Made.	*Holdings.	Ensilage Made.	*Holdings.	Ensilage Made.	*Holdings.	Ensilage Made.	*Holdings.	Ensilage Made.
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
New South Wales ...	364	34,847	258	29,616	158	20,477	144	18,579	129	18,358
Victoria ...	518	27,280	460	25,969	371	20,888	287	17,877	270	19,505
Queensland ...	79	4,517	97	5,804	61	4,379	58	4,155	75	4,273
South Australia ...	81	2,244	68	1,530	39	1,250	28	2,230	16	778
Western Australia ...	28	770	14	414	9	307	23	479	22	658
Tasmania ...	13	686	21	1,073	34	260	20	424	17	662
Federal Territory ...	...	...	...	...	...	...	1	10	1	8
Commonwealth ...	1,083	70,344	918	64,406	672	47,581	561	43,655	530	44,242

\* No. of holdings on which ensilage was made.

Since the drought of 1902-3 greater attention has been paid to ensilage than was previously the case, and during the four seasons ended 1909-10 a continuous and fairly rapid increase was in evidence in all the States, both in the number of holdings on which ensilage was made, and in the quantity produced. The following three seasons shew a falling-off in all the States. The reduction cannot be accepted as an indication of a lessening of appreciation of the benefits of ensilage, but rather of the fact that stocks had not been drawn upon to any great extent during the previous seasons. The accumulated stocks proved of very great value during the recent 1914 drought, though far below what would have been the case if more attention had been paid to ensilage-making during the previous years of surplus growth of green food.

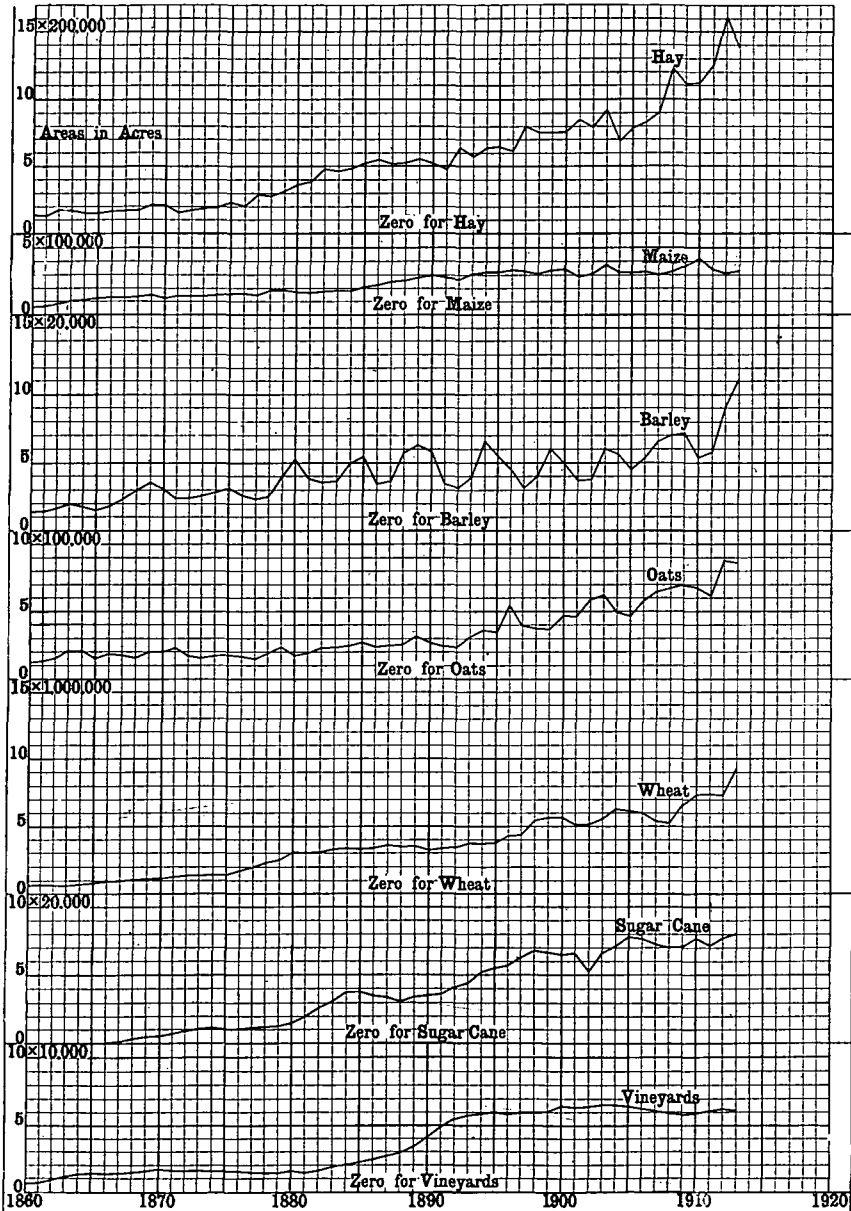
## § 20. Agricultural Colleges and Experimental Farms.

1. **Introduction.**—In most of the States agricultural colleges and experimental farms have been established with a view to promoting agriculture and to establishing improved and more scientific systems of stock-breeding and dairying. In these colleges and on some of the farms provision is made for the accommodation of pupils, to whom both practical and theoretical instruction is given by experts in various branches of agriculture. Analyses of soils and fertilisers are made, manures are tested, and elementary veterinary science, etc., is taught, while general experimental work is carried on with cereal and other crops, not merely for the purpose of shewing that it is practicable to produce certain crops in a given place, but also to shew how it is possible to make farming pay best in that locality. Opportunities are afforded for practice in general agricultural work, and instruction is given in the conservation of fodder; in cheese and butter making; in the management, breeding, and preparation for the market of live stock; in the eradication of pests and weeds; and in carpenters', blacksmiths', and other trades.

Travelling expert lecturers are sent to the various agricultural and dairying centres, and there is a wide distribution of periodical agricultural gazettes and bulletins on matters of importance at special seasons.

2. **Particulars of Agricultural Colleges and Experimental Farms.**—In the tables given below particulars of agricultural colleges and experimental farms in the several States of the Commonwealth in 1913-14 are shewn. Tasmania is the only State in which such colleges or farms are not established.

GRAPHS SHEWING THE AREA UNDER THE PRINCIPAL CROPS IN THE  
COMMONWEALTH FROM 1860-1 TO 1913-14.



(See pages—for wheat, 310; oats, 318; maize, 321; barley, 325; hay 332; sugar-cane, 337; and vineyards, 341.)

EXPLANATION OF GRAPHS.—The of base each small square represents an interval of one year, while the vertical height represents a number of acres, varying with the nature of the crop in accordance with the scale given on the left-hand of the diagram. The height of each graph above the base line denotes, for the crop to which it relates, the total area under cultivation in the Commonwealth during the successive seasons.



GRAPHS SHEWING THE PRODUCTION OF THE PRINCIPAL CROPS IN THE COMMONWEALTH FROM 1860-1 TO 1913-14.



(See pages—for wheat, 311; oats, 318; maize, 322; barley, 325; and hay, 334.)

EXPLANATION OF GRAPHS.—In this diagram a separate base line is provided for each of the crops dealt with. In each instance the base of a small square represents an interval of one year; the vertical height of such square representing in the case of the wheat graph, 10,000,000 bushels; oats, 2,000,000 bushels; barley, 500,000 bushels; maize, 2,000,000 bushels; and hay, 500,000 tons. The height of each graph above its base line denotes the aggregate yield in the Commonwealth of that particular crop during the successive seasons.

PARTICULARS OF AGRICULTURAL COLLEGES AND EXPERIMENTAL FARMS IN THE SEVERAL STATES OF THE COMMONWEALTH DURING THE SEASON 1913-14.

Particulars.	Unit of Quantity.	New South Wales.	Vic.	Q'land.	South Aust.	West. Aust.	Tasmania. (b)	Northern Terr. (c)	C'with.
No. of agricultural colleges	No.	1	2	1	1	...	...	...	5
" experimental farms	"	17	5	6	6	5	...	2	41
" students	"	443	180	43	49	4	...	...	719
" hands employed	"	305	152	71	59	32	...	33	652
Value of plant & machinery	£	64,274	11,465	7,944	8,068	3,014	...	8,000	102,765
" produce for year	"	31,038	15,343	4,902	6,535	2,995	...	...	60,813
Receipts—									
Government grant	"	54,099	25,053	15,098	12,930	3,469	...	...	124,799
Fees	"	6,413	11,196	4,702	1,761	40	...	50	56,118
Sales of produce, &c.	"	22,760	...	5,793	3,403	...	...	...	...
Other	"	1,346	162	...	2,603	100	...	...	4,211
Total receipts	"	84,618	36,411	19,800	23,087	7,012	...	50	185,128
Expenditure—									
Salaries, professional	"	10,824	5,709	3,761	3,676	...	...	700	24,670
general	"	27,608	7,621	5,513	6,473	3,407	...	4,000	54,622
Buildings & maintenance	"	10,604	23,081	10,526	8,486	3,605	...	2,500	105,836
Other	"	35,582	...	4,452	...	...	...	7,000	...
Total expenditure	"	84,618	36,411	19,800	23,087	7,012	...	14,200	185,128
Agriculture, &c.—									
Area under cereals for grain	Acre	1,376	1,480	234	2,037	862	...	18	6,007
" hay	"	1,132	699	386	809	279	...	17	3,322
" fruit trees, &c.	"	265	175	115	53	51	...	...	874
" vines	"	142	...	11	62	...	...	...	...
" green fodder	"	1,353	437	158	446	508	...	74	2,976
" root crops	"	47	61	10	2	1	...	5	128
" other crops	"	50	210	47	64	6	...	20	397
Total under crop	"	4,365	3,062	961	3,473	1,707	...	134	13,702
Area of land in fallow	"	345	1,210	389	2,255	976	...	45	5,220
" under artificially sown grasses	"	1,203	54	288	14	10	...	...	1,569
New ground broken up during season	"	544	145	146	479	103	...	147	1,564
Previously cropped land lying idle	"	807	1,133	141	868	1,627	...	...	4,576
Total area of arable land	"	7,264	5,604	1,925	7,089	4,423	...	326	26,631
Balance of area	"	19,032	5,516	14,511	4,449	2,646	...	4,794	50,948
Total area	"	26,296	11,120	16,436	11,538	7,069	...	5,120	77,579
Live stock—									
Horses	No.	456	225	207	214	81	...	49	1,232
Dairy cows	"	575	165	147	97	111	...	11	1,106
All other cattle	"	519	211	776	83	109	...	10	1,708
Sheep	"	5,491	2,742	1,616	2,666	1,080	...	42	13,657
Pigs	"	757	196	226	305	148	...	26	1,658
Capacity of tanks or dams	Gal.	17,286,000	16250000	239,000	187,800	20,000	...	8,000	34,990,800

(a) Incomplete. (b) There are no Agricultural Colleges or Experimental Farms in Tasmania. (c) For year 1912.

3. New South Wales.—In order to meet the demand for agricultural training, and for the purpose of conducting experiments in various branches of agriculture and of disseminating agricultural knowledge, an agricultural college and farm and seventeen experimental farms have been established by the New South Wales Government. Theoretical instruction in agriculture, with practical illustrations, forms part of the

curriculum of the Sydney Technical College. The School of Agriculture in the Sydney University, which has been established for four years, is doing very satisfactory work. At the Hurlstone Continuation College there is a special course in both theoretical and practical agriculture for teachers. Instruction in "nature knowledge" is given in the State primary schools, many of which have their own experimental plots. As a means of further encouraging the study of agriculture the Department of Public Instruction has a travelling inspector in agriculture, whose duty it is to visit the country and metropolitan schools, lecturing on the value, necessity, and advantages of agricultural knowledge, and giving practical demonstrations wherever practicable.

4. **Victoria.**—In 1884, the Agricultural Colleges Act, passed to make provision for the establishment of agricultural colleges and experimental farms in Victoria, provided for the permanent reservation from sale of 150,000 acres of Crown lands by way of endowment of agricultural colleges and experimental farms, which, together with other lands reserved as sites for such institutions prior to the passing of the Act, are vested in three trustees appointed by the Governor. Provision was made for the appointment of a Council of Agricultural Education, consisting of eleven members, five of whom are elected by the members of the Agricultural Societies of the State, five are nominated by the Governor, whilst the Secretary for Agriculture is also a member of the Council and its Treasurer. Two agricultural colleges and four experimental farms, orchards and vineyards were in existence in different parts of the State during 1913-14. There are five Agricultural High Schools under the control of the Education Department, while elementary experimental agriculture is taught at many of the State primary schools. Instruction in agriculture is also given at the technical schools at Melbourne and Bairnsdale.

5. **Queensland.**—Organised experimental agriculture in Queensland dates from the establishment of the Department of Agriculture and Stock, but such work as has been done in connection with stock-breeding, other than that carried on by private individuals, has been of later birth, and has been confined to dairy stock and draught horses. Agriculture in Queensland in the early nineties was upon the well-defined lines of the other States, so that the knowledge to be gained as to what could be profitably adapted to Queensland, with its varied climate and rainfall, covered a wide field. Instructors were appointed conversant with the different lines of agriculture, of which grain cultivation, dairying, fruit-growing, tobacco cultivation, and tropical agriculture, such as sugar, rubber, and spices, are the most important. This has been followed by the establishment of an agricultural college, of farms in the temperate parts of the State, and of nurseries in the tropical parts. With wheaten grain a system of experiments has been carried out for some years with the distinctive object of evolving a type of wheat adapted for Queensland, and as far as possible resistant to the attacks of rust. In dairying, a commencement was made by despatching to the different farming centres properly equipped travelling dairies with the latest appliances. The export of Queensland dairy produce has arisen through this effort. No travelling dairies are, however, now employed. A fruit farm has been established, at which fruits suitable for or likely to adapt themselves to the Queensland climate and conditions have been experimented with during a series of years. To cope with the insect and fungus pests to which such fruits are peculiarly susceptible, careful inspection is made of fruits in the markets and for export, and every effort is put forth to prevent the introduction of fresh diseases and to exterminate those which are already within the State.

6. **South Australia.**—To this State belongs the honour of starting the first experimental farm in the Commonwealth. As far back as the year 1879 a resolution was passed by the local Parliament in favour of the establishment of a School of Agriculture, with an experimental farm, under the charge of a professor of agriculture. Active operations in this connection were commenced in 1882, when the first series of plots of wheat were sown at Roseworthy. Experimental work, chiefly directed towards improving

the wheat yield, has been developed along three main lines, viz.: (a) the improvement of varieties of wheat, (b) the improvement of methods of cultivation, and (c) the use of manures. The Central Agricultural Bureau, established at Adelaide under the control of an Advisory Board, has an extensive membership distributed throughout the agricultural districts of the State. It assists farmers by the dissemination of knowledge; by helping to introduce new economic plants; by improving the breed of stock; and it acts as a means of keeping the Agricultural Department in touch with the producers. The branches of the bureau hold meetings at regular intervals in their several districts, ideas and methods as regards practical subjects are interchanged, and discussions are held on matters of general interest to agriculturists.

7. **Western Australia.**—A considerable amount of developmental work has been done of late years towards the promulgation of agricultural knowledge on the State farms at Chapman and Narrogin, and, more recently still, on the experimental farms at Brunswick, Merredin and Denmark.

8. **Tasmania.**—In Tasmania there is a Council of Agriculture consisting of eleven members, whose duties are to collect and publish information of every kind calculated to prove beneficial to agriculturists, such as suitability of various districts for growth or production of animal and vegetable products, information respecting plants, methods of cultivation, breeding and feeding animals, and how best to improve the same: to prevent as far as possible the introduction and spread of diseases and pests, and to publish bulletins, abstracts, and reports containing all such information as may be desirable. Other matters embrace the employment of experts in any branch of agricultural science, distribution of plants and seeds for experiment, and the establishment of local boards of agriculture in different parts of the State. Lectures are given by the experts from time to time, and useful information and knowledge is diffused by means of the monthly gazette published by the Council, and also by means of special bulletins. There are no agricultural colleges or experimental farms, and practically no agricultural teaching is given in the elementary schools.

## § 21. Government Loans to Farmers.

1. **Introduction.**—All the Australian States have established systems under which financial aid is rendered to agriculturists by the Government. The principle upon which such aid is founded was probably first practically applied in Germany, viz., in the year 1770, when the *Landschaften Bank* was created. The establishment of the *Credit Foncier* nearly a century later in France was a creation of a similar character. This latter institution was designed to enable house and land owners to raise money on mortgage at a low rate of interest, with facility for repayment by an annuity including redemption of the capital. It dates from 1852, but the mortgage bank known as the *Caisse Hypothécaire*, which, after a struggling existence, was finally liquidated in 1846, was based essentially on the same principle. Over the operations of the *Credit Foncier*, created under governmental patronage and invested with such special privileges as to virtually constitute it a monopoly, the Government exercised a direct control, viz., by appointing its governor and its two deputy-governors. The *Credit Foncier* was empowered to lend money only on a first mortgage, and to the amount of one-half of the estimated value of houses and farms, and one-third that of vineyards, woods, and other plantations, and the commission charged could not exceed six-tenths per cent. The system developed and adopted in the Commonwealth, with the object of assisting farmers to make improvements or to develop or utilise the agricultural or pastoral resources of the land, is analogous. Particulars of advances made under the Closer Settlement and similar Acts are dealt with in the section on Closer Settlement. (See pages 244 *et seq.*)

2. **Aggregate of Transactions in each State, 1910 to 1914.**—The subjoined table gives aggregate of transactions in reference to advances to farmers in each State during the past five years.

**STATE GOVERNMENT ADVANCES DEPARTMENTS—AGGREGATE OF LOANS  
TO FARMERS, 1909-10 to 1913-14 (a).**

State.	TOTAL ADVANCED TO 30TH JUNE.					BALANCE DUE AT 30TH JUNE.				
	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.
	£	£	£	£	£	£	£	£	£	£
N.S.W. (b)...	1,362,853	1,617,192	1,948,885	2,423,955	3,531,263	795,113c	928,086	1,074,358	1,396,336	2,297,981
Victoria ...	2,657,713	2,797,323	2,954,618	3,208,903	3,491,008	1,306,425c	1,306,657	1,343,834	1,511,798	1,676,432
Q'nsland ...	235,793	306,944	430,403	623,436	851,600	163,640	206,997	305,652	470,795	636,790
S. Aust. (d)	1,544,946	1,766,762	2,064,583	2,370,076	2,601,450	710,316	819,818	866,670	1,150,020	1,264,417
W. Aust. ...	1,257,062	1,540,241	1,946,184	2,582,937	3,089,575	935,960	976,811	1,280,732	1,883,957	2,351,959
Tasmania	9,187	14,610	18,636	23,915	41,004	8,521	13,561	16,592	21,089	36,965
C'wealth ...	7,067,574	8,063,072	9,363,309	11,233,284	13,605,900	3,921,975	4,251,930	4,987,838	6,433,995	8,244,544
	PROFITS FOR YEAR ENDED 30TH JUNE.					ACCUMULATED PROFITS AT 30TH JUNE.				
	£	£	£	£	£	£	£	£	£	£
N.S.W. (b)...	5,390	8,200	9,543	10,335	(h)20,946	8,039	15,606	25,349	35,684	56,630
Victoria ...	5,926	3,022	3,069	5,203	9,100	81,913	84,936c	88,006e	93,209e	102,309e
Q'nsland ...	1,974	2,548	3,318	3,354	2,983	6,003	8,551	11,869	15,223	18,206
S. Aust. (d)	4,587	6,662	6,289	8,218	9,376	38,186	44,848	51,137	59,355	68,731
W. Aust. ...	6,823	6,753	8,060	10,031	(f)	31,078	37,831	45,892	55,923	(f)
Tasmania	(—) 98	48	81	472	295	(—) 98	(—) 50	31	503	798
C'wealth ...	24,602	27,233	30,360	37,613	42,700g	165,121	191,722	222,284	259,897	246,674g

(a) Compiled from figures furnished by the Government Savings Bank of Victoria. (b) For years ended 31st December prior, except for 1914, which ended 30th June. (c) Balance after deduction of special principal payments in advances. (d) Includes loans to farmers and other producers and to local bodies on the security of their own rates. (e) Including profits in connection with House and Shop loans. (f) Not available. (g) Exclusive of Western Australia. (h) For 15 months ended 30th June, 1914.

3. **Particulars of Transactions in each State.**—An account of the initial legislation in each State in reference to advances to settlers; subsequent legislation; security on which, and objects for which, advances were made; amount of advances and repayments up to the end of 1911-12, etc., will be found in previous issues of the Year Book (see No. 6, pages 417-25).

4. **Transactions in each State, 1913-14.**—The following table gives particulars of applications received and granted, and amounts advanced and repaid during 1913-14:—

**STATE GOVERNMENT ADVANCES TO FARMERS DURING THE YEAR 1913-14.**

Particulars.		New South Wales. (a)	Victoria.	Queens-land.	South Australia.		Western Australia.	Tasmania. (c)
					State Bank (b).	Settlers' Board (c).		
Applications received ...	No.	1,534	726	(d)	291	643	2,874	204
" granted ...	£	847,180	479,685	(d)	247,570	151,892	563,200	22,697
" granted ...	No.	1,607	424	(d)	235	471	2,601	159
Amounts advanced ...	£	844,655	282,680	(d)	126,770	123,007	415,511	19,183
" repaid ...	£	600,650	282,105	228,102	106,377	111,426	506,636	17,089
" repaid ...	£	161,654	117,471	62,107	53,786	3,182	58,638	1,203

(a) Including Irrigation Farms Department. (b) Year ended 31st March, 1914. (c) Year ended 30th June, 1914. (d) Not available.

(i.) *New South Wales Closer Settlement Promotion Act 1910.* In 1910 an Act was passed in New South Wales whereby intending settlers might acquire, by direct purchase from the owner, areas of private land suitable for closer settlement, under the same

conditions regarding residence, the payment of purchase money, etc., as apply to settlement purchases under the Closer Settlement Acts. The purchasers are financed to the extent of 95 per cent. of the purchase money, provided that such does not exceed the bank's valuation of the properties. A considerable amount of business has been done under this Act which has materially expanded the operations of advances to farmers in this State. The following table will shew the business transacted up to the end of 1913 :—

**TRANSACTIONS UNDER THE CLOSER SETTLEMENT PROMOTION ACT IN  
NEW SOUTH WALES.**

Applications.	Estates.	Farms.	Prices agreed upon by Vendors and Purchasers.
			£
Cases settled and surrender arranged since inception of Act	80	610	1,264,264
„ reported on but not yet settled ... ..	45	251	550,299
„ awaiting inspection and report ... ..	4	36	90,717
„ refused since inception of Act ... ..	87	454	886,741
Total cases submitted up to end of 1913 ... ..	216	1,351	2,792,021

The number of estates submitted during the year to bank by the Lands Department was 49, comprising 389 farms, the purchase price asked being £892,980.

(ii.) *Particulars of Transactions of Agricultural Bank of Western Australia, 1909 to 1912.* The following table gives particulars of transactions of the Agricultural Bank for each year from 1909 to 1912 inclusive :—

**AGRICULTURAL BANK, WESTERN AUSTRALIA, 1909 to 1912. (a)**

**AMOUNTS ADVANCED FOR WHICH IMPROVEMENTS HAVE BEEN EFFECTED.**

Year ended the 30th June.	Amounts Advanced to Date.	Improvements Effectuated to Date.							
		Clearing.	Cultivating.	Ring-barking.	Fencing.	Drain- ing.	Wells and Reservoirs.	Build- ings.	Total.
	£	£	£	£	£	£	£	£	£
1909	1,004,675	780,907	124,338 b	62,711	177,410	4,675	48,543	83,708	1,282,292
1910	1,257,082	899,712 c	124,782 b	81,042	240,729	5,043	61,387	83,868	1,496,563
1911	1,540,241	1,031,891 c	124,812 b	107,676	297,077	5,386	78,581	83,868	1,729,291
1912	1,946,184	1,194,750 c	124,782 b	149,043	361,637	5,660	103,519	83,868	2,023,259

(a) For figures relating to the year 1913 see Appendix. (b) Including £4321 for orchards.  
(c) Including £6300 in 1910, £8611 in 1911, and £12,180 in 1912 for poison and blackboy grubbing.

5. **Particulars Respecting Agricultural and Stock Departments.**—In Year Book No. 7, 1901-1913, on pages 364 to 369, will be found particulars respecting agricultural and stock departments of the several States of the Commonwealth as on 30th June, 1913. The main features of organisations are set out under their respective headings, and will be found to embrace such items as the number on staffs, expenditure, facilities for agricultural education and work undertaken in agricultural colleges, technical schools, experimental farms and orchards and vineyards. The nature of lectures and other forms of agricultural instruction by experts is dealt with, as well as the extent

of distribution of plants, and the special steps taken by the departments to disseminate information amongst agriculturists, and also to facilitate placing the products of the State on the market.

## § 22. Graphical Representation of Crops.

**1. Areas of Principal Crops.**—A graphical representation of the areas devoted to each of the principal crops in the Commonwealth for the period 1860-1914 will be found on page 357. The crops so represented are as follows :—Wheat, hay, oats, maize, sugar-cane, barley, and vines.

**2. Production.**—On page 358 will be found a graphical representation of the aggregate yields in the Commonwealth since 1860 of wheat, oats, barley, maize, and hay.

## SECTION IX.

## FARMYARD AND DAIRY PRODUCTION.

## § 1. Introductory.

1. **General.**—The introduction of cattle into Australia, and the early history of the dairying industry are referred to in some detail in previous issues of this work (see Official Year Book No. 6, pp. 430 *et seq.*). It may here be noted that the original stock has been crossed with specially imported stud cattle, while further judicious crossing of strains has resulted in an increased and improved milk supply. In Australia, dairy cattle thrive in the open throughout the year, local climatic conditions demanding no protection other than tree plantations for shelter, and rugging in the coldest weather. Indigenous and imported grasses furnish food during the greater part of the year, and winter fodder, when necessary, is given to the cattle in the fields. With the adoption of scientific methods in the treatment of animals and pasturage and in the process of manufacture, coupled with effective State supervision, the dairying industry has shewn rapid expansion.

2. **Official Supervision of Industry.**—Dairy experts, under the supervision of the various State Agricultural Departments, give instruction in approved methods of production, and inspect animals, buildings, and marketable produce. A high standard of cleanliness, both of *personnel* and *matériel*, prevails. Financial assistance of a temporary nature is also given, advances made being generally repaid with promptitude.

The export trade is regulated by the terms of the Commonwealth Commerce Act 1905 and regulations thereunder. The provisions of this Act are set out in detail in Official Year Book No. 6, pp. 431-2. It will be sufficient to note here that true trade description, etc., must be marked on all produce intended for export, while official inspection ensures the maintenance of purity and quality. Upon request of the exporter the goods are certificated by the inspector.

3. **Mixed Farming.**—Dairying is not now, as formerly, wholly confined to farmers, since many graziers in a large way of business have lately given it their attention. In non-coastal regions it is generally carried on in conjunction with agriculture and sheep-raising, sufficient fodder being grown to carry the cattle through the winter months. Local wants are thus met, and in many places remote from the metropolis well-equipped factories have been established.

4. **Factory System.**—Cream separation and butter-making are often carried on together under the co-operative system. The creation of large central butter factories, supplied by numerous separating establishments or "creameries," has resulted in a considerable reduction in the cost of manufacture, since improved appliances, such as refrigerators, may be profitably worked at the larger establishments. The product is also of a more uniform quality. The number of farmers who adhere to hand processes is rapidly diminishing. Formerly the average quantity of milk used per pound of hand-made butter was about 3 gallons, but separator butter requires less than 2½ gallons.



**5. Butter and Cheese Factories.**—The establishments in the Commonwealth where the manufacture of butter, cheese, and condensed milk was carried on, numbered 531 in 1913. These were distributed as regards the various States as follows:—New South Wales, 170; Victoria, 197; Queensland, 88; South Australia, 48; Western Australia, 8; Tasmania, 25.

## § 2. Milk, Butter, and Cheese.

**1. Dairy Herds.**—Since the drought year 1902 there has been a general increase in the number of dairy cows. In New South Wales, Victoria, South Australia, and Tasmania—as will be seen from the table of cattle and dairy cattle given below—the proportion of dairy cattle to all cattle is high. In Queensland, the Northern Territory, and Western Australia there is a greatly preponderating number of other cattle, dairying not being firmly established in the tropical regions of the Continent. In southern Queensland, however, the industry has developed remarkably during the last decade. In the tables which follow in this section, the returns for the Northern Territory and the Federal Territory are, unless shewn separately, included in South Australia and New South Wales respectively, the dairy products from the newly-acquired Commonwealth territories being small. Prior to 1913 the figures for the Northern Territory were unreliable:—

**CATTLE AND DAIRY CATTLE, COMMONWEALTH, 1909 to 1913.**

State.			1909.	1910.	1911.	1912.	1913.
New South Wales	...	All Cattle	3,027,727	3,140,307	3,185,824	3,033,726	2,815,113
	...	Dairy Cows	755,879	826,443	855,926	852,040	821,923
Victoria	...	All Cattle	1,549,640	1,547,569	1,647,127	1,508,089	1,528,553
	...	Dairy Cows	625,063	668,777	699,555	655,939	656,080
Queensland	...	All Cattle	4,711,782	5,131,699	5,073,201	5,210,891	5,322,033
	...	Dairy Cows	333,839	365,444	357,095	375,660	391,439
South Australia	...	All Cattle	344,034	384,862	393,566	393,418	352,905
	...	Dairy Cows	110,757	119,628	121,803	114,734	107,879
Western Australia	...	All Cattle	793,217	825,040	843,638	806,294	834,265
	...	Dairy Cows	29,176	30,785	27,740	27,310	30,680
Tasmania	...	All Cattle	199,945	201,854	217,406	222,181	205,743
	...	Dairy Cows	50,996	52,966	56,858	60,160	59,380
Northern Territory	...	All Cattle	414,046	513,383	459,780	405,552	417,643
	...	Dairy Cows	464	556	300	300	70
Federal Territory	...	All Cattle	*	*	8,412	7,108	7,627
	...	Dairy Cows	*	*	1,192	742	744
Commonwealth	...	All Cattle	11,040,391	11,744,714	11,828,954	11,577,259	11,483,882
	...	Dairy Cows	1,906,174	2,064,599	2,120,469	2,086,885	2,068,195

\* Included under New South Wales.

**2. Milk.**—The annual quantity of milk produced per dairy cow varies greatly with locality and season, probably reaching as high as 500 gallons, but averaging for the whole of Australia, for all dairy cows and for all seasons, something under 300 gallons per annum. The best yields over a series of years appear to be in Victoria, New South Wales, and South Australia, while Western Australia and Tasmania are below Queensland. In the following table the annual average yields per cow for the last five years are taken from the number of dairy cows which were, during any part of the year, milking. The average given is considerably below that for cows which were yielding during the greater part of the year. It will be seen that the highest averages obtain in those States which have adopted more scientific methods of dairying, such as systematic breeding, culling of herds, milk testing, etc.

## PRODUCTION OF MILK, COMMONWEALTH, 1909 to 1913.

Heading.	N.S.W.*	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
1909—							
Dairy cows ... No.	755,879	625,063	333,839	111,221	29,176	50,996	1,906,174
Production of milk gals.	301,183,337	162,994,658	70,642,888	29,778,032	4,893,446	11,600,000†	481,092,361
Aver. yield per cow gals.	266	261	212	268	168	227	252
1910—							
Dairy cows ... No.	826,443	668,777	365,444	120,184	30,785	52,966	2,064,599
Production of milk gals.	235,577,702	196,674,373	87,648,322	34,672,756	5,125,124	13,300,000†	572,998,277
Aver. yield per cow gals.	285	294	240	288	166	251	278
1911—							
Dairy Cows ... No.	857,118	699,555	357,095	121,803	27,740	56,858	2,120,169†
Production of milk gals.	237,623,000	238,149,700	71,770,148	27,952,612	5,017,004	14,214,500†	594,726,964‡
Aver. yield per cow gals.	277	340	200	230	181	250	280
1912—							
Dairy Cows ... No.	852,782	655,939	375,660	114,734	27,310	60,160	2,086,585†
Production of milk gals.	225,446,209	199,296,920	82,977,730	27,547,870	5,215,779	15,040,000†	555,524,508†
Aver. yield per cow gals.	264	304	221	240	191	250	266
1913—							
Dairy Cows ... No.	822,667	656,080	391,439	107,879	30,680	59,380	2,068,125†
Production of milk gals.	231,592,000	216,947,170	90,545,516	27,593,023	5,550,197	11,557,309	583,785,215†
Aver. yield per cow gals.	282	331	231	256	181	195	282

\* Including figures for Federal Territory, which in 1911 were 1192 dairy cows; 153,090 gallons of milk averaging 128 gallons per cow; in 1912, 742 dairy cows; 106,647 gallons of milk, averaging 144 gallons per cow; and in 1913, 744 dairy cows; 89,410 gallons of milk averaging 120 gallons per cow. † Estimated. ‡ Exclusive of Northern Territory.

3. **Butter and Cheese.**—The butter output shews, in general, a tolerably steady increase since the drought year 1902, the most marked development being in Queensland. The production of butter reached its highest figures in 1911, the next highest yields being in 1913 and 1910. The year 1913 marks the highest cheese production, the return being upwards of 20 per cent. advance on that of 1910, the next highest record. In both butter and cheese a decrease took place in some of the States in 1907 and 1908, due to the dryness of the season. There was a recovery in 1909. For the five years from 1909 to 1913 the figures are:—

## PRODUCTION OF BUTTER AND CHEESE, COMMONWEALTH, 1909 to 1913.

State.	1909.	1910.	1911.	1912.	1913.
BUTTER.					
New South Wales* ...	62,865,608	76,624,830	83,204,568	76,609,528	77,779,197
Victoria ...	55,166,555	70,603,787	86,500,474	67,655,834	73,361,567
Queensland ...	24,592,711	31,258,333	27,858,535	30,307,339	35,199,387
South Australia ...	8,482,168	10,717,486	9,694,666	8,394,557	8,036,274
Western Australia ...	414,453	641,491	498,047	448,799	518,566
Tasmania† ...	2,751,757	3,365,982	3,817,455	3,778,104	3,843,247
Commonwealth ...	154,273,252	193,211,909	211,573,745	187,194,161	198,758,238

## CHEESE.

New South Wales ...	4,775,268	5,191,089	5,460,652	5,454,685	6,620,648
Victoria ...	5,025,834	4,530,893	4,549,843	4,176,778	4,856,321
Queensland ...	3,662,497	4,146,661	3,718,257	3,947,615	5,395,050
South Australia ...	1,578,378	1,796,281	1,526,930	1,953,027	2,216,985
Western Australia ...	1,570	3,306	900	...	...
Tasmania† ...	731,290	868,781	630,130	623,386	654,411
Commonwealth ...	15,774,837	16,537,011	15,886,712	16,160,491	19,743,415

\* Including Federal Territory, where 27,630 lbs. of butter were produced in 1911; 16,561 lbs. in 1912; and 12,494 lbs. in 1913. † Estimated.

4. **Concentrated Milk.**—"Condensed" or "concentrated" milk denotes milk the bulk of which is reduced by evaporation, no sweetening agent being added. When a sweetening agent is added it is called "preserved" milk. Small quantities of such milk were made prior to 1911, in which year the output for the Commonwealth was nearly doubled. In 1912 there was a further notable increase, the figures for Victoria for that and the following year shewing a marked expansion. There is still a considerable import of milk, as will be seen from the tables hereunder; but in 1912, for the first time, the balance of trade was in favour of exports. No condensed or concentrated milk is made in South Australia, Western Australia, or Tasmania. In New South Wales, Victoria, and Queensland the following quantities are returned for the last five years:—

#### CONDENSED AND CONCENTRATED MILK MADE, 1909 to 1913.

Year.	N.S.W.	Victoria.	Queensland.	Commonwealth.
	lbs.	lbs.	lbs.	lbs.
1909 ... ..	2,400,687	3,487,312	7,038,202	12,926,201
1910 ... ..	1,940,481	2,707,110	7,843,670	12,491,261
1911 ... ..	3,058,497	13,697,691	6,227,519	22,983,707
1912 ... ..	3,636,519	18,500,011	7,923,381	30,059,911
1913 ... ..	3,682,812	20,942,620	8,059,051	32,684,483

5. **Oversea Trade in Milk, Butter, and Cheese.**—The tables following give the imports, exports, and net exports or imports of butter, cheese, and milk. In each of the five years exports of butter exceeded imports; in two the cheese import was heavier than the export; and this was also the case with milk.

#### IMPORTS, EXPORTS, AND NET EXPORTS OF BUTTER, CHEESE, AND MILK, COMMONWEALTH, 1909 to 1913.

##### IMPORTS.

Products.	1909.	1910.	1911.	1912.	1913.
Butter ... .. lbs.	80,111	71,695	22,607	44,142	13,844
" " " " " £	4,078	3,570	1,081	1,989	565
Cheese ... .. lbs.	367,504	303,155	318,891	443,847	364,699
" " " " " £	14,720	13,772	14,461	19,958	17,334
Milk—concentrated and preserved* lbs.	7,439,232	8,543,158	4,166,117	1,215,351	1,150,715
" " " " " £	145,736	135,297	74,278	25,949	26,579

##### EXPORTS.

Butter ... .. lbs.	55,700,987	87,928,151	101,722,136	66,685,056	75,802,303
" " " " " £	2,402,619	3,952,808	4,637,362	3,342,642	3,565,282
Cheese ... .. lbs.	203,477	921,583	1,159,363	146,022	1,609,452
" " " " " £	5,771	22,178	27,243	5,760	42,421
Milk—concentrated and preserved* lbs.	360,821	517,634	1,260,323	1,821,583	2,875,030
" " " " " £	7,852	10,289	21,990	37,876	75,165

##### NET EXPORTS.†

Butter ... .. lbs.	55,620,876	87,856,456	101,699,529	66,640,914	75,788,459
" " " " " £	2,398,541	3,949,238	4,636,281	3,340,653	3,564,717
Cheese ... .. lbs.	164,027	618,428	840,472	297,825	1,244,753
" " " " " £	8,949	8,406	12,782	14,928	25,087
Milk—concentrated and preserved* lbs.	7,078,411	8,025,524	2,905,794	606,232	1,724,315
" " " " " £	137,884	125,008	52,288	11,927	48,586

\* See definition above.

† — signifies net imports.

6. **Local Consumption of Butter and Cheese.**—The total production of butter and cheese, with the net export or import subtracted or added, gives approximately the quantity available for consumption in the Commonwealth. In the period considered hereunder, 1910, 1911, and 1913 were the years in which the local supply of cheese was adequate :—

**BUTTER AND CHEESE FOR LOCAL CONSUMPTION, 1909 to 1913.**

Product.		1909.	1910.	1911.	1912	1913.
		lbs	lbs.	lbs.	lbs.	lbs.
Butter	... Total ...	98,652,376	105,569,150	109,874,216	120,500,247	122,969,779
	... Per head of mean population ...	23.1	24.2	24.5	25.9	25.6
Cheese	... Total ...	15,938,864	15,918,853	15,046,240	16,458,316	18,498,662
	... Per head of mean population ...	3.8	3.7	3.4	3.5	4.8

The quantity available for consumption in 1913 averaged 25.6 lbs. of butter and 4.8 lbs. of cheese per head of mean population, an amount probably unsurpassed anywhere. The consumption of butter and cheese in the United Kingdom is given as about 20 lbs. per head.

**§ 3. Pigs, Bacon, etc.**

1. **Pigs.**—Great attention has been paid, both privately and by the various State Governments, to the improvement of marketable qualities in pigs. The number of pigs in the Commonwealth from 1909 to 1913 is shewn below :—

**NUMBER OF PIGS, COMMONWEALTH, 1909 to 1913.**

State.	1909.	1910.	1911.	1912.	1913.
New South Wales ...	237,849	321,632	370,700	293,450	287,896
Victoria ...	217,921	333,281	348,069	240,072	221,277
Queensland ...	124,803	152,212	173,902	143,695	140,045
South Australia ...	80,410	96,386	93,130	69,832	64,119
Western Australia ...	47,062	57,628	55,635	47,351	47,966
Tasmania ...	55,705	63,715	67,392	49,152	37,990
Northern Territory ...	1,387	996	1,500	1,500	1,018
Federal Territory ...	†	†	393	203	194
Commonwealth ...	765,137	1,025,850	1,110,721	845,255	800,505

† Included in New South Wales.

Prior to 1911 the number of pigs was highest in 1904, when for the first time it was over a million; prior to 1899 it had never reached 900,000. An examination of the returns shews remarkable fluctuations. There was a general decrease in 1906 and the two following years. Recovery began in 1909, and continued through 1910 and 1911; but 1912 and 1913 shew a heavy fall. The number of pigs per head of population, and the number per square mile, will be found in the tables of live stock, pages 277 and 278.

2. **Bacon and Ham.**—From 1905 to 1908 the production of bacon and ham in the Commonwealth shewed little annual variation. In 1909 there was a considerable falling-off, but a large increase has taken place in subsequent years.

**PRODUCTION OF BACON AND HAM, COMMONWEALTH, 1909 to 1913.**

State.	1909.	1910.	1911.	1912.	1913.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales* ...	9,931,377	12,620,067	16,102,827	16,526,376	15,192,263
Victoria ...	13,620,485	16,438,837	19,546,772	20,043,706	19,289,258
Queensland ...	9,228,317	10,758,963	11,667,654	12,437,019	13,709,716
South Australia ...	3,348,050	3,741,942	4,311,497	3,771,064	3,265,773
Western Australia ...	120,623	121,154	97,136	114,950	100,143
Tasmania† ...	1,526,115	1,468,789	1,538,766	1,299,060	1,116,535
Commonwealth ...	37,774,967	45,149,752	53,264,652	54,192,175	52,673,688

\* Including Federal Territory, where 22,670 lbs. of bacon and ham were produced in 1911; 15,196 lbs. in 1912; and 11,885 lbs. in 1913. † Estimated prior to 1913.

3. **Oversea Trade in Pig Products.**—The oversea trade in pigs and pig products is shewn in the following tables:—

**IMPORTS, EXPORTS, AND NET EXPORTS OF BACON AND HAM, FROZEN PORK, PIGS, AND LARD, COMMONWEALTH, 1909 to 1913.**

Particulars.	1909.	1910	1911	1912.	1913.
<b>BACON AND HAM.</b>					
Imports ...	lbs. 244,903	204,488	201,309	294,130	126,692
" ...	£ 9,384	8,687	8,566	11,962	6,301
Exports ...	lbs. 403,801	1,605,699	2,340,612	2,174,114	1,866,894
" ...	£ 18,979	57,060	74,178	68,503	74,718
Net Exports ...	lbs. 158,898	1,401,211	2,139,303	1,879,984	1,740,202
" ...	£ 9,595	48,373	65,612	56,541	68,417

**FROZEN PORK.**

Imports ...	lbs. 109,620	106,757	...	79,052	...
" ...	£ 3,301	3,227	...	2,592	...
Exports ...	lbs. 394,559	741,410	1,641,013	897,929	215,175
" ...	£ 9,318	17,087	33,639	16,661	5,259
Net Exports ...	lbs. 284,939	634,653	1,641,013	818,877	215,175
" ...	£ 6,017	13,860	33,639	14,069	5,259

**PIGS.**

Imports ...	No. 31	50	35	14	20
" ...	£ 1,177	799	539	198	54
Exports ...	No. 229	303	385	609	440
" ...	£ 460	477	748	1,025	1,336
Net Exports*	No. 198	253	350	595	420
" ...	£ — 717	— 322	209	827	1,282

\* — signifies net imports.

## IMPORTS, EXPORTS, AND NET EXPORTS OF BACON AND HAM, FROZEN PORK, PIGS, AND LARD, COMMONWEALTH, 1909 to 1913—Continued.

Particulars.	1909.	1910.	1911.	1912.	1913.
<b>LARD.</b>					
Imports ... .. lbs.	358,213	198,897	387,626	794,961	884,812
" ... .. £	9,148	5,573	9,870	22,096	23,900
Exports ... .. lbs.	1,618,995	3,112,190	3,399,386	2,092,422	4,299,987
" ... .. £	28,948	62,664	57,861	37,063	85,194
Net Exports ... .. lbs.	1,260,782	2,913,293	3,011,760	1,297,461	3,415,175
" ... .. £	19,800	57,091	47,991	14,967	61,294

From 1901 to 1903 there was a considerable net import of bacon and ham, but for the following years there was a large net export. The local production of frozen pork and lard was for each of the years shewn more than sufficient for the local demand. The net export of pig products was considerably greater in 1910 and 1911 than in previous years. There was a decline in 1912, and a further falling off in 1913.

4. **Local Consumption of Bacon and Ham.**—From 1904 to 1913 the production of bacon and ham was sufficient to meet the local demand, and there was a surplus for export, but in 1901, 1902, and 1903 this was otherwise, and considerable quantities were imported.

**BACON AND HAM AVAILABLE FOR LOCAL CONSUMPTION, 1909 to 1913.**

Consumption.	1909.	1910.	1911.	1912. *	1913.
	lbs.	lbs.	lbs.	lbs.	lbs.
Total ... ..	37,616,069	43,748,541	51,125,349	52,312,191	50,933,486
Per head of mean population ...	8.8	10.0	11.4	11.3	10.6

5. **Total Dairy Production.**—The total dairy production of the Commonwealth in 1913 is shewn below :—

**TOTAL DAIRY PRODUCTION, COMMONWEALTH, 1913.**

Where Produced.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
<b>MILK.</b>							
On Dairy & other Farms	gallons. 231,592,000	gallons. 216,947,170	gallons. 90,545,516	gallons. 27,593,023	gallons. 5,550,197	gallons. 11,557,309	gallons. 583,785,215†

**BUTTER.**

In Factories ... ..	lbs. 73,245,383	lbs. 67,701,897	lbs. 33,122,143	lbs. 4,415,074	lbs. 146,953	lbs. 2,754,855	lbs. 181,386,305
On Dairy & other Farms	4,533,814*	5,679,670	2,077,244	3,621,200	371,613	1,088,392	17,371,933
Total ... ..	77,779,197*	73,381,567	35,199,387	8,036,274	518,566	3,843,247	198,758,238

## TOTAL DAIRY PRODUCTION, COMMONWEALTH, 1913—Continued.

Where Produced.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
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## CHEESE.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
In Factories ...	3,451,710	2,847,951	5,261,682	2,214,865	...	442,897	14,219,305
On Dairy & other Farms	3,168,938*	2,008,370	133,168	2,120	...	211,514	5,524,110
Total ...	6,620,648	4,856,321	5,395,050	2,216,985	...	654,411	19,743,415

## CONDENSED OR CONCENTRATED MILK.

	lbs.	lbs.	lbs.				lbs.
In Factories ...	3,682,812	20,942,620	8,059,051	...	...	...	32,684,483

## BACON AND HAM.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
In Factories ...	12,874,666	16,315,955	12,840,736	2,520,035	...	784,559	45,365,951
On Dairy & other Farms	2,317,597*	2,943,303	868,980	745,738	100,143	331,976	7,307,737
Total ...	15,192,263*	19,259,258	13,709,716	3,265,773	100,143	1,116,535	52,673,688

\* Including Federal Territory, where there was produced 89,410 gallons of milk; also 12,494 lbs. of butter on farms; also 11,885 lbs. of bacon and hams (on farms). † Exclusive of Northern Territory, for which no returns are available.

## § 4. Poultry Farming.

1. **Development of the Industry.**—Poultry stocks are usually maintained by farmers and furnish a considerable addition to the annual agricultural or dairying returns. During recent years the poultry industry has assumed an independent position among rural industries. It is also carried on in conjunction with pig farming. Special poultry farms have been instituted for scientific breeding. Poultry experts engaged by the State Governments give lectures and instruction. Poultry for consumption is extensively reared, and the egg-producing qualities of the birds have also been greatly improved by careful breeding. Co-operative egg collecting circles have been formed in some districts; eggs are also delivered with the milk and cream to the local butter factories and thence forwarded to market.

2. **Production of Poultry.**—Figures for the yield of poultry products are difficult to obtain. The following values are returned :—

ESTIMATED VALUE OF POULTRY AND EGGS, COMMONWEALTH,  
1909-10 to 1913-14.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
	£	£	£	£	£	£	£
1909-10 ...	1,309,000	1,570,000	185,000	431,575	160,562	*	3,656,137†
1910-11 ...	1,170,000	1,592,000	204,000	496,311	168,251	\$227,000	3,857,562
1911-12 ...	1,200,000†	1,618,500	195,000	533,941	175,890	\$230,000	3,953,331
1912-13 ...	1,434,000†	1,825,010	188,000	541,489	183,689	\$230,000	4,402,188
1913-14 ...	1,579,600†	1,706,700	219,400	569,254	223,713	\$230,000	4,528,667

\* Not available. † Excluding Tasmania. ‡ Including Federal Territory, where the estimated value was £1800 in 1911-12; £1880 in 1912-13; and £1600 in 1913-14. § Estimated.

**3. Oversea Trade in Poultry Products.**—The imports and exports of eggs shew a considerable balance on the side of imports in each of the years 1901 to 1906 and during the last five years. In 1907 the export greatly exceeded the import, and in 1908 the imports were greater in quantity, but less in value, than the exports. The figures for frozen poultry indicate a considerable oversea export.

**IMPORTS, EXPORTS, AND NET EXPORTS OF EGGS AND LIVE AND FROZEN POULTRY, COMMONWEALTH, 1909 to 1913.**

Particulars.				1909.	1910.	1911.	1912.	1913.
EGGS.								
Imports	...	...	... doz.	38,931	39,330	40,969	45,160	53,577
"	...	...	... £	1,007	1,111	1,209	1,464	1,748
Exports	...	...	... doz.	10,527	3,853	5,734	6,211	4,872
"	...	...	... £	713	326	1,124	518	377
Net exports*	...	...	... doz.	28,404	35,477	35,235	38,949	48,705
"	"	...	... £	294	785	85	946	1,371
LIVE POULTRY.								
Imports	...	...	... No.	1,862	1,274	2,398	1,720	1,725
"	...	...	... £	944	663	964	1,460	913
Exports	...	...	... No.	4,708	3,251	2,218	3,859	2,480
"	...	...	... £	1,475	1,057	1,068	1,231	1,074
Net exports*	...	...	... No.	2,846	1,977	180	2,139	755
"	"	...	... £	531	394	104	229	161
FROZEN POULTRY.								
Imports	...	...	... lbs.	3,565	4,811	5,653	2,102	10,328
"	...	...	... £	100	131	257	64	475
Exports	...	...	... pair	5,828	7,680	16,869	23,390	25,520
"	...	...	... £	3,127	4,171	7,470	10,144	10,979
Net exports	...	...	...	†	†	†	†	15,192
"	"	...	... £	3,027	4,040	7,213	10,080	10,504

\* — signifies net imports.

† Quantity not available.

## § 5. Bee Farming.

**1. The Bee-farming Industry.**—Bee farming, like poultry farming, has ordinarily been an adjunct to agricultural or dairying industries, and can hardly yet be said to have been organised as a distinct industry. The annual returns of honey from the hives range between 20 lbs. and 60 lbs. per hive.

The value of the export of honey from Australia was only £2675 in 1909, £2439 in 1910, £4414 in 1911, £1924 in 1912, and £4094 in 1913. It is believed that this export could be considerably increased. Australian honey exhibited in the Franco-British Exhibition in London in 1908, obtained the highest award, thus evidencing the purity of its flavour.

**2. Production of Honey and Beeswax.**—The particulars of honey and beeswax production are as given below:—



**NUMBER OF HIVES AND PRODUCTION OF HONEY AND BEESWAX,  
SEASON 1913-14.**

State.	Bee Hives.			Honey Produced.		Beeswax Produced.	
	Productive	Un-productive.	Total.	Quantity.	Value.	Quantity.	Value.
	No.	No.	No.	lbs.	£	lbs.	£
New South Wales	43,895	10,968	54,863	1,862,471	27,440	39,060	2,490
Victoria ...	41,397	14,168	55,565	1,961,746	26,565	37,323	2,449
Queensland ...	13,862	2,599	16,461	754,760	9,042	12,059	648
South Australia ...	19,808	7,909	27,717	876,395	12,781	11,607	677
Western Australia	5,963	1,910	7,873	156,162	1,952	3,910	228
Tasmania ...	7,164	2,946	10,110	180,472	3,008	4,630	289
Federal Territory	95	61	156	4,364	60	184	10
Commonwealth	132,184	40,561	172,745	5,796,370	80,848	108,773	6,791

**QUANTITY OF HONEY AND BEESWAX PRODUCED, 1909-10 to 1913-14.**

Season.	N. S. Wales	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania	Fed.Ter.	C'wealth.
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**HONEY.**

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1909-10	2,066,330	1,611,284	548,171	812,487	409,345	*	...	5,447,617†
1910-11	2,765,618	2,308,405	517,565	996,376	388,507	*	...	6,926,471†
1911-12	3,394,489	1,635,260	574,973	760,094	416,823	*	38,764	6,820,403†
1912-13	2,390,355	3,277,590	581,228	1,446,364	292,515	*	19,645	8,007,697†
1913-14	1,862,471	1,961,746	754,760	876,395	156,162	180,472	4,364	5,796,370

**BEESWAX.**

1909-10	53,006	22,369	11,849	10,059	9,841	*	...	107,124†
1910-11	72,617	34,695	11,798	10,608	7,215	*	...	136,933†
1911-12	66,686	28,405	11,419	9,745	13,730	*	672	130,657†
1912-13	49,267	45,354	11,744	18,054	6,073	*	467	130,959†
1913-14	39,060	37,323	12,059	11,607	3,910	4,630	184	108,773

\* Not available. † Exclusive of Tasmania.

The quantity of honey and beeswax produced from year to year varies considerably according to the climatic conditions of the seasons. During the past five years New South Wales has been the largest producer, accounting for nearly 38 per cent. of the total honey produced in the Commonwealth, and 46 per cent. of the beeswax; Victoria, the next in importance, produced about 33 per cent. of the honey, and 27 per cent. of the beeswax, South Australia, Queensland, and Western Australia coming next in the order named.

3. **Oversea Trade in Bee Products.**—Both honey and beeswax are produced in the Commonwealth in sufficient quantities to supply all local requirements, and a considerable quantity of each is sent oversea.

**IMPORTS, EXPORTS, AND NET EXPORTS OF HONEY AND BEESWAX,  
COMMONWEALTH, 1909 to 1913.**

Particulars.				1909.	1910.	1911.	1912	1913.
HONEY.								
Imports	...	...	... lbs.	9,842	872	2,477	5,024	636
"	...	...	... £	249	23	93	89	19
Exports	...	...	... lbs.	168,953	182,083	353,367	135,318	284,322
"	...	...	... £	2,675	2,439	4,414	1,924	4,094
Net Exports	...	...	... lbs.	159,111	181,211	350,890	130,294	283,686
" "	...	...	... £	2,426	2,416	4,321	1,835	4,075

**BEESWAX.**

Imports	...	...	... lbs.	19,041	7,821	8,335	7,212	6,059
"	...	...	... £	1,112	505	564	536	480
Exports	...	...	... lbs.	35,540	26,408	12,691	9,453	10,455
"	...	...	... £	2,064	1,587	751	581	657
Net Exports	...	...	... lbs.	16,499	18,587	4,356	2,241	4,396
" "	...	...	... £	952	1,082	187	45	177

**§ 6. Summary of Australian Farmyard and Dairy Products.**

The value of the principal farmyard and dairy products raised in the Commonwealth in 1913 was:—

**VALUE OF THE PRINCIPAL FARMYARD AND DAIRY PRODUCTS IN THE  
COMMONWEALTH DURING THE YEAR 1913.**

Produce.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aus.	Tas.	N. T.	Fed. Ter.	C'wealth.
	£	£	£	£	£	£	£	£	£
Milk, cons'm'd									
as such	938,900	900,200	239,000	191,900	109,000	57,500	1,200	1,100	2,438,800
Butter	3,461,200	3,341,900	1,582,100	416,150	29,000	186,550	(a)	600	9,017,500
Cheese	174,400	126,700	140,550	53,060	...	13,620	(a)	...	508,330
O'densd & con- cen'ted milk	52,734	386,300	187,536	...	...	...	...	...	626,570
Bacon & ham	511,400	810,600	447,380	131,690	3,350	41,075	...	400	1,945,895
Poultry & eggs	1,578,000	1,706,700	219,400	569,254	223,713	230,000	...	1,600	4,528,667
Honey & wax	29,930	29,014	9,690	13,458	2,180	3,297	...	70	87,639

(a) Information not available.

### § 7. Summary of Australian Farmyard and Dairy Products Exported, 1909 to 1913.

The quantities and values of Australian farmyard and dairy products exported from the Commonwealth during each of the last five years are shewn below :—

#### QUANTITIES OF AUSTRALIAN FARMYARD AND DAIRY PRODUCTS EXPORTED FROM THE COMMONWEALTH DURING EACH OF THE YEARS 1909 to 1913.

Products.	1909.	1910.	1911.	1912.	1913.
Beeswax ... .. lbs.	35,540	26,408	12,671	9,347	10,455
Butter ... .. "	55,644,925	87,894,943	101,722,136	66,679,120	75,795,642
Cheese ... .. "	193,204	911,760	1,149,134	136,452	1,602,609
Egg albumen and yolk ... .. "					
Eggs ... .. doz.	10,359	3,753	5,542	6,163	4,872
Feathers, undressed ... .. "					
Honey ... .. lbs.	168,953	182,023	353,367	135,318	284,322
Lard ... .. "	1,617,442	3,105,307	3,399,209	2,090,477	4,279,440
Meats—					
Bacon and ham ... .. "	396,342	1,604,362	2,338,299	2,172,860	1,846,966
Frozen poultry ... .. pair	5,828	7,680	16,869	23,390	25,520
" pork ... .. lbs.	394,559	741,410	1,641,013	897,929	215,175
Milk, concentrated & preserved ... .. "	169,310	266,904	1,017,072	1,646,414	2,779,963
Pigs, living ... .. No.	229	303	385	606	440
Poultry, living ... .. "	4,708	3,251	2,198	3,849	2,480

\* Quantity not available.

#### VALUE OF AUSTRALIAN FARMYARD AND DAIRY PRODUCTS EXPORTED FROM THE COMMONWEALTH DURING THE YEARS 1909 to 1913.

Products.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£
Beeswax ... ..	2,064	1,587	749	575	657
Butter ... ..	2,399,693	3,951,131	4,637,362	3,342,320	3,564,925
Cheese ... ..	5,337	21,730	26,754	5,303	42,030
Egg albumen and yolk ... ..	4	724	651	...	3
Eggs ... ..	706	320	437	516	377
Feathers, undressed ... ..	2,244	2,021	2,971	2,926	1,576
Honey ... ..	2,675	2,435	4,414	1,924	4,094
Lard ... ..	28,876	62,474	57,854	37,007	84,737
Meats—					
Bacon and ham ... ..	18,682	56,935	74,065	68,439	73,982
Frozen poultry ... ..	3,137	4,171	7,470	10,144	10,979
" pork ... ..	9,318	17,087	33,639	16,661	5,259
Milk, concentrated and preserved ... ..	3,319	4,865	16,675	34,317	72,950
Pigs, living ... ..	460	477	748	1,025	1,336
Poultry, living ... ..	1,475	1,057	1,038	1,209	1,074
Total ... ..	2,477,980	4,127,074	4,864,827	3,522,366	3,863,979

### § 8. British Imports of Dairy Products.

1. Value of Britain's Imports of Dairy Products.—Great Britain has paid annually since 1909, £24,000,000 for imported butter, the value of the imports in 1909, 1910, 1911, 1912, and 1913 being £22,425,000, £24,493,000, £24,600,000, £24,354,000, and £24,084,000, respectively; for imported cheese the amounts in the years named were respectively £6,830,000, £6,810,000, £7,140,000, £7,414,000, and £7,035,000; for bacon and ham, £16,914,000, £15,918,000, £17,391,000, £17,276,000, and £20,497,000, respectively; and for pork, £1,336,000, £1,500,000, £1,413,000, £1,101,000, and £1,665,000, respectively.

2. **Butter.**—Australia in 1911 stood second, and in 1912 and 1913 third, in the value of butter imported into the United Kingdom; but the import of other Australian dairy products was inconsiderable.

#### IMPORT OF BUTTER INTO THE UNITED KINGDOM, 1913.

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	Cwt.	£		Cwt.	£
Denmark ...	1,706,759	10,657,589	Argentine Republic	72,418	394,529
Russia ...	751,414	3,831,366	Norway... ..	20,132	119,808
Australia...	594,552	3,210,733	Other Countries ...	8,008	43,534
New Zealand ...	251,663	1,351,285			
Sweden ...	332,331	2,047,634			
France ...	248,579	1,505,442			
Netherlands ...	153,172	921,738	Total ...	4,139,028	24,083,658

In October, 1907, a falling-off of imports of Australian butter into Great Britain was noticed, with the result that, three months later, there was a heavy shortage, accompanied by rapidly rising prices, until a limit was reached with 156s. per cwt., the highest recorded for Australasian butter. After a short period of high values in February, 1908, prices steadied at 116s., and then gradually fell to 104s. in the middle of May, when European grass-fed butter was ready for the British market. In January, 1910, the average price was 111s. After a fall in 1911, 134s. was reached in the middle of January, 1912. These high values were followed by a rapid decline. Higher prices were again in evidence as 1913 advanced, 128s. being obtained for best unsalted butter in October and November of that year. Prices in London during the last five years have been considerably higher than the average of any previous year since the Australian export trade was instituted twenty years ago. A marked approach to Danish values has lately been made in the prices of Australian butter.

3. **Cheese.**—The value of the British cheese import in 1913 was £7,035,000, of which over four million pounds' worth was received from Canada. Small experimental shipments from Australia were made in 1908 and following years, a fair price being realised. In 1913, the value of the import from Australia was £24,600.

4. **Bacon and Ham.**—Of a total import of bacon and ham valued in 1913 at £20,497,000, Great Britain received imports to the value of £8,870,000 from Denmark; £8,838,000 from the United States; and £1,200,000 from Canada. The British import from Australia was small, but experimental shipments have been made during recent years.

5. **Pork.**—The total value of British imports of pork (including refrigerated, frozen and salted) was £1,665,000 in 1913. Of this the value of Australian produce was *nil*, whilst from the Netherlands, pork valued at £1,269,000 was imported into Great Britain.

6. **Other Products.**—There is practically no British import from Australia of honey, beeswax, poultry, game, lard, or eggs, but frozen rabbits to the value of £571,000 were received from the Commonwealth in 1913.

### § 9. Graphical Representation of Dairy Production.

Two graphs shewing respectively the increase in dairy production and in the exports of butter will be found on page 292.

## SECTION X.

## FORESTS, FORESTRY, AND FORESTAL PRODUCTS.

## § 1. The Forests of Australia.

1. **Extent of Forests.**—Although no definite survey of forest lands has been made on a uniform basis for the different States of Australia, the following table gives the results of careful estimates made for each State :—

## FOREST RESERVES AND FOREST AREAS, STATE AND COMMONWEALTH, 1913.

State.	Specially Reserved for Timber.	Total Forest Area.	Percentage of State Area.		Percentage of Commonwealth Area.	
			Specially Reserved.	Total Forest.	Specially Reserved.	Total Forest.
	Acres.	Acres.	%	%	%	%
New South Wales	*6,853,823	15,000,000	3.46	7.55	0.36	0.78
Victoria ...	4,160,342	11,800,000	7.40	20.98	0.22	0.62
Queensland ...	4,108,470	40,000,000	0.96	9.32	0.22	2.10
South Australia ...	154,232	3,800,000	0.07	0.66	0.01	0.20
Western Australia	12,371,152	20,400,000†	1.98	3.27	0.65	1.07
Tasmania ...	1,017,949	11,000,000	6.07	65.56	0.05	0.58
Commonwealth	28,665,973	102,000,000	—	—	1.51	5.35

\* Inclusive of Federal area. † S.W. division only.

The actual area of wooded land is probably in all cases much greater than shewn above. For example, that of Western Australia is estimated at 97,900,000 acres; Queensland has probably 143,000,000 acres; and Victoria has a considerable extent of "Mallee" country not included in the above estimate. The basis of estimation for each State in any case cannot be regarded as quite identical. Considerable areas not included as forest lands possess timber of local value.

In each of the States areas have been set apart as State forests and "timber reserves," in some cases the reservation being made in perpetuity, in others for a definite period; in others again the reservation may be cancelled at any time.

The absolute and relative forest areas of Australia and other countries, to the latest available date, are shewn in the table on the next page.

## RELATIVE AREAS OF FOREST LANDS, AUSTRALIA AND OTHER COUNTRIES.

Country.	Total Forest Area.	Percentage of Total Area.	Country.	Total Forest Area.	Percentage of Total Area.
	Sq. Miles.	%		Sq. Miles.	%
<b>Commonwealth</b> ...	<b>159,375</b>	<b>5.35</b>	Rumania ...	10,836	21.36
New Zealand ...	26,562	25.63	Sweden ...	90,241	52.20
United Kingdom ...	4,820	3.84	Norway ...	26,685	21.50
France ...	36,005	17.58	Russia in Europe	859,375	39.00
Algeria ...	10,249	2.98	United States ...	860,000	24.08
Germany ...	54,015	25.90	Canada ...	625,000	17.34
Switzerland ...	3,290	20.60	Cape Colony ...	537	0.19
Italy ...	17,613	15.92	British India ...	126,330	11.55
Austria ...	37,700	31.66	Japan ...	29,680	18.24
Hungary ...	34,750	29.30			

2. **Distribution of Timber.**—The characteristics of the forest areas are given in some detail for each State in the Official Year Book No. 6, pp. 446-9. The more conspicuous timber regions of Australia as a whole are the eastern and southern portions, including Tasmania, and, again, the south-western portion northwards and eastwards from Cape Leeuwin. In regard to distribution, on the eastern side of the continent the largest timber is found on the crests and coastal slopes of the mountain ranges, but in the south-west, in addition to the vegetation between mountains and sea, a large area of forest stretches inland from the coastal ranges. The hills encircling Adelaide and Yorke and Eyre Peninsulas also bear good forest. The Kimberley district is timbered, and in the Northern Territory and round the shores of the Gulf of Carpentaria there are considerable forest areas. In the coastal regions of parts of West and North-West Australia, and along the shores of the Great Australian Bight and Encounter Bay, there is little forest. The areas in the centre of the continent are thinly timbered.

## § 2. Forestry.

1. **Objects.**—Economic forestry, aiming at the conservation of forestal wealth by safeguarding forests against inconsiderate destruction, and by the suitable re-afforestation of denuded areas, is essential to the preservation of industries dependent upon an adequate supply of timber, and to the perpetuation of a necessary form of national wealth. Though in Australia large areas of virgin forests still remain, the inroads made by timber-getters, by agriculturists, and by pastoralists—who have destroyed large areas by “ring-barking”—are considerable; and it is not unlikely that climatological changes are caused thereby. It is stated that beneficial consequences follow on the planting of trees on denuded lands, or along eroding coasts, and that a forest covering tends to beneficially regulate the effects of rainfall.

Successful planting of exotics in various parts of the Commonwealth has demonstrated that the Australian climate is suitable for the cultivation of a large number of the most valuable and beautiful of the world's timber trees.

2. **Forestry Departments.**—Each State of the Commonwealth, excepting Tasmania, has organised a separate forestry department or branch of service specially charged with forestal matters. Forest improvement work is carried on, areas of young forest being cleaned up by the felling and removal of stunted, diseased and suppressed growth, the

burning of debris and the making of fire breaks. Provision is made for effective patrols in forest districts, to check the ravages caused by fires, often, it is believed, caused through carelessness.

3. **Sylvicultural Nurseries and Plantations.**—Recognition of the necessity for systematic sylviculture has led to the creation in most of the States of a number of sylvicultural nurseries and plantations. The locality of these establishments, together with a brief statement of the nature of their activities, is given in previous issues of the Year Book. (Reference may be made to Official Year Book No. 6, pp. 451-3.) Details regarding forest reserves, nurseries, and trial stations are as follows:—

#### FOREST RESERVES AND NURSERIES, 1913.

Particulars.	New South Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Commonwealth.
State Forest Reserves— Number (for area see page 378) ...	1,486	317	348	38	292*	63	2,544
State Forest Nurseries— Number ...	1	3	2	7	1	1	15
Area ...	126	54	1	7	17	5	210
Plantation Trial Stations— Number ...	7	11	2	...	2	...	22
Area ...	4,497	19,070	40	...	850	...	24,457
Number of persons employed in Forestry Departments— Administrative ...	16	16	2	1	6	1	42
Professional ...	6	5	1	1	...	2	15
General ...	151	116	18	174	32	7	498

\* Areas specially reserved.

4. **Revenue and Expenditure.**—The revenue and expenditure of the State Forestry Departments from 1909-10 to 1913-14 are given below:—

#### REVENUE OF STATE FORESTRY DEPARTMENTS, 1909-10 to 1913-14.

State.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
New South Wales ...	66,030	87,618	95,231	96,145	99,333
Victoria ...	37,992	43,886	45,077	51,146	57,746
Queensland ...	35,200	39,645	53,840	63,467	62,973
South Australia ...	3,089	3,756	4,849	5,609	6,868
Western Australia ...	31,549	23,985	23,456	33,805	48,236
Tasmania ...	3,840	4,366	3,800	4,414	4,659
Commonwealth ...	177,700	203,256	226,253	254,586	279,815

## EXPENDITURE OF STATE FORESTRY DEPARTMENTS, 1909-10 to 1913-14.

State.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
New South Wales ...	24,510	26,695	34,408	42,154	44,828
Victoria ...	27,230	46,448	41,686	56,899	58,007
Queensland ...	5,000	8,000	2,954	5,397	7,386
South Australia ...	16,411	20,968	23,296	22,858	22,832
Western Australia ...	10,110	8,572	8,874	10,469	11,463
Tasmania ...	260	240	220	760	760
Commonwealth ...	83,521	110,923	111,438	138,537	145,276

5. **Instruction in Scientific Forestry.**—Forestry schools have been established in which, while general scientific instruction is imparted, special attention is paid to forestry. In the classes, theoretical forestry, botany, geology, physics, land surveying, etc., are taught; while in outside work trainees receive practical instruction in the preparation of seed-beds, seed-sowing, propagation, planting out, pruning, the general care and improvement of plantations and natural forests, and the employment of timber to the best advantage. The desire is to give the prospective forester a thorough training in all branches of the work. Courses of lectures are also given at various centres, and at some of the higher technical schools, members of the forest staffs are afforded opportunities of qualifying in special subjects.

6. **Forest Congresses.**—An Australian Interstate Conference on Forestry was held at Sydney in November, 1911. Many of the recommendations which the conference approved have been carried out. An International Forest Congress was held at Paris in June, 1913, when Professor Percy Groom, of South Kensington Imperial College, represented the Commonwealth Government. The papers and reports dealt chiefly with the threatened shortage of timber, and the measures necessary to avert the danger.

### § 3. Commercial Uses of Principal Australian Timbers.

The uses of the more important of Australian timbers are many and various, and are indicated in previous issues of this work (see Official Year Book No. 6, pp. 454-6).

As aids in the development of Commonwealth industries, the Government is experimenting with Australian woods for rifle stocks, telephone switch boards, etc. It has also made available a sum of money for the seasoning and storing of Australian timber. Timber seasoning depôts have also been established by States Governments at the principal centres, and from these contractors may obtain timber at scheduled rates. Other timber seasoning works have been established by private enterprise.

### § 4. Forestal Industries and Production.

1. **Timber.**—Estimates of the quantity and value of timber cut and sawn have been prepared by the States Forestry Departments, and are as follows:—



**QUANTITIES OF LOCAL TIMBER SAWN OR HEWN IN EACH STATE OF THE  
COMMONWEALTH DURING THE YEARS 1909 to 1913.**

State.	1909.	1910.	1911.	1912.	1913.
	sup. feet.	sup. feet.	sup. feet.	sup. feet.	sup. feet.
New South Wales ... ..	134,070,000	138,845,000	142,358,000	162,604,000	164,899,000
Victoria ... ..	50,000,000	51,000,000	53,000,000	60,000,000	81,770,000
Queensland ... ..	108,391,000	116,438,000	138,896,000	163,828,000	156,634,000
South Australia ... ..	240,500	210,000	217,000	183,000	100,000
Western Australia ... ..	171,825,000	174,528,000	191,114,000	217,696,000	218,908,000
Tasmania... ..	45,035,000	54,933,000	66,061,000	63,243,000	60,780,000
Commonwealth ... ..	509,561,500	535,954,000	591,646,000	667,554,000	683,091,000

**2. Other Forest Produce.**—No satisfactory estimates of the total value of forest production are available. Large returns are credited to firewood, but these are subject to a wide range of uncertainty.

**§ 5. Oversea Trade.**

**1. Imports.**—The quantity and value of timber imports during the four years 1910 to 1913 inclusive are shewn according to countries of origin in the following tables:—

**IMPORTS OF DRESSED TIMBER, COMMONWEALTH, 1910 to 1913.**

Country of Origin.	Quantity.*				Value.			
	1910.	1911.	1912.	1913.	1910.	1911.	1912.	1913.
	sup. ft.	sup. ft.	sup. ft.	sup. ft.	£	£	£	£
United Kingdom ... ..	12,012	6,350	95,938	3,537	409	177	1,070	191
New Zealand ... ..	2,304	6,251	77,821	4,427	30	36	1,107	32
Other British Poss. ... ..	39,459	46,375	961,085	2,344	633	227	8,468	26
Norway ... ..	48,465,404	59,396,352	45,796,037	56,251,225	338,924	446,180	341,731	399,699
Sweden ... ..	15,648,298	27,249,978	23,827,979	23,571,012	100,965	201,142	176,697	187,988
United States ... ..	1,747,748	1,812,295	4,299,739	1,938,088	21,510	23,099	37,477	19,658
Other For. Countries ... ..	231,960	399,696	22,283	700,809	4,280	3,855	417	5,566
Total ... ..	64,147,155	88,917,337	75,080,872	82,471,445	466,754	674,716	566,987	613,360

\* Exclusive of timber not measured in super. feet.

**IMPORTS OF UNDRESSED TIMBER, INCLUDING LOGS, COMMONWEALTH,  
1910 to 1913.**

Country of Origin.	Quantity.*				Value.			
	1910.	1911.	1912.	1913.	1910.	1911.	1912.	1913.
	sup. ft.	sup. ft.	sup. ft.	sup. ft.	£	£	£	£
United Kingdom ... ..	65,420	97,485	311,535	65,342	738	1,509	3,409	1,189
Canada ... ..	15,585,078	25,806,593	12,371,444	12,263,586	68,308	110,238	54,116	54,369
India ... ..	483,635	826,240	740,059	682,724	13,604	15,373	20,847	18,490
New Zealand ... ..	70,604,559	85,383,540	93,524,793	64,469,843	416,630	571,979	654,093	453,798
Straits Settlements ... ..	295,525	313,443	544,190	281,155	1,799	1,658	2,785	1,454
Other British Poss. ... ..	75,033	267,545	59,607	2,793	900	2,922	550	61
Japan ... ..	7,138,554	13,218,773	11,911,714	16,011,418	29,127	62,552	61,900	72,095
Java ... ..	64,459	324,630	7,319	45,890	1,244	5,765	147	1,312
Norway ... ..	6,104,204	5,798,584	4,152,072	6,204,961	43,065	45,165	29,093	42,162
Russia ... ..	14,878,825	21,641,285	9,258,609	10,516,517	83,408	136,645	56,099	66,434
Sweden ... ..	6,506,762	6,093,004	6,986,236	5,905,476	44,378	40,459	50,072	44,696
United States ... ..	156,219,083	193,949,570	227,112,385	256,331,192	835,614	987,016	1,209,626	1,418,760
Other For. Countries ... ..	653,617	507,182	2,074,393	317,975	3,354	4,011	18,878	2,771
Total ... ..	278,674,754	354,227,874	368,954,356	373,118,802	1,542,178	1,985,292	2,161,605	2,157,591

\* Exclusive of timber not measured in super. feet.

2. Exports.—The quantity and value of undressed (sawn) timber exported from 1909 to 1913 are given below, the countries of destination being also shewn.

### EXPORTS OF UNDRESSED TIMBER (SAWN), COMMONWEALTH, 1909 to 1913.

Country to which Exported.	Quantity.*					Value.				
	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.
	1000 sup. ft.	1000 sup. ft.	1000 sup. ft.	1000 sup. ft.	1000 sup. ft.	£	£	£	£	£
United Kingdom...	21,689	10,879	10,436	11,325	20,222	151,724	77,003	77,070	79,940	140,082
Canada ...	492	610	546	456	619	5,267	7,038	6,640	5,893	8,028
S. African Union	3,768	11,687	19,243	39,544	33,793	24,712	80,223	32,094	270,282	233,782
Ceylon ...	2,235	303	611	576	1,926	14,864	1,833	4,110	4,153	12,923
Fiji ...	1,305	1,994	1,900	2,359	1,421	7,950	13,392	12,416	17,342	12,939
India ...	55,357	44,852	52,254	31,477	23,960	364,430	300,411	353,482	209,312	160,577
Mauritius ...	8	525	273	225	235	75	3,533	2,138	1,501	1,587
New Zealand	25,424	20,766	27,137	21,061	38,566	172,705	147,314	199,666	162,518	278,975
Ocean Island ...	416	268	120	446	347	3,236	1,605	768	3,682	3,139
Papua ...	160	357	435	614	598	1,366	3,497	4,223	6,410	6,184
Straits Settlements	601	52	52	81	88	3,877	320	380	506	478
Other British Pos.	4,022	2,643	103	18	249	29,702	19,651	774	184	2,151
Argentine Repub.	1,134	3,007	2,474	667	1,584	7,499	19,797	16,492	4,447	10,558
Belgium ...	1,820	3,535	2,887	2,727	2,429	12,154	24,870	21,665	19,193	17,146
China ...	7,263	409	2,138	1	1	26,595	2,693	14,250	2	2
Egypt ...	10,176	15,708	7,289	50	56	62,096	104,600	48,594	333	377
Germany ...	2,027	1,944	1,829	1,774	1,762	17,987	18,555	18,122	17,394	14,293
Japan ...	73	26	36	90	86	484	317	354	771	890
Kaiser Wilhelm L.	75	43	79	98	131	556	333	648	891	1,522
Marshall Islands...	162	229	226	140	211	1,325	1,643	2,023	1,366	2,227
Netherlands ...	35	...	3	...	...	256	...	26	...	...
Neu Pommern ...	311	562	372	611	...	2,504	4,838	3,498	6,231	...
New Caledonia ...	118	441	355	232	201	949	3,511	3,096	2,017	2,123
Philippine Islands	306	3,282	2,941	61	63	3,372	21,132	19,608	414	449
Port'guese E. Africa	3,539	4,720	2,639	380	3,106	24,230	31,036	17,416	3,890	21,775
South Sea Islands (so described) ...	337	388	631	914	838	2,965	3,247	5,520	9,129	8,403
U.S. of America ...	659	2,501	4,907	942	1,295	7,703	12,693	25,032	11,182	13,579
Uruguay ...	3,894	6,240	1,888	1,754	...	25,963	41,596	12,589	11,689	...
Other For. Count.	648	4,863	2,715	778	998	5,164	29,674	16,948	7,685	10,449
<b>Total</b> ...	<b>148,064</b>	<b>142,834</b>	<b>146,524</b>	<b>119,401</b>	<b>134,805</b>	<b>981,770</b>	<b>976,355</b>	<b>1,019,648</b>	<b>858,357</b>	<b>964,938</b>

\* Exclusive of timber not measured in super. feet.

### QUANTITIES OF TIMBER IMPORTED INTO AND EXPORTED FROM THE COMMONWEALTH, 1909 to 1913.

Description.	1909.	1910.	1911.	1912.	1913.
IMPORTS.					
Veneers ... Sup. feet	296,801	599,178	994,575	1,815,917	1,959,436
Dressed ... "	57,924,923	65,609,803	90,672,708	76,513,670	83,849,002
Undressed ... "	200,469,213	257,007,893	324,325,658	350,052,617	349,680,896
Logs ... "	11,335,870	21,666,861	29,902,216	18,901,739	23,437,906
Palings ... No.	...	...	...	...	...
Pickets ... "	1,226,082	2,123,398	1,523,849	2,065,145	2,302,748
Shingles ... "	1,270,476	690,710	937,270	1,242,720	1,526,994
Staves—Dressed, etc. "	4,600	600	5,440	920	...
Undressed ... "	2,390,888	3,929,063	3,863,457	2,181,121	3,639,969
Laths for blinds ... "	...	...	...	...	...
" other ... "	25,692,686	38,564,512	30,213,094	29,631,746	46,337,501
Spokes, rims, felloes ... "	659,298	835,400	1,916,045	...	...
Doors ... "	4	2	234	12,172	1,410
Architraves, mouldings, etc. ... Lin. feet	29,725	9,045	23,601	35,106	80,398
Other (Free) ...	...	...	...	...	...

\* Quantity not available.

## QUANTITIES OF TIMBER IMPORTED AND EXPORTED, ETC.—Continued.

Description.	1909.	1910.	1911.	1912.	1913.
EXPORTS.					
Veneers ...	...	...	...	...	...
Dressed ... Sup. feet	1,280,703	990,924	1,071,683	975,679	716,621
Undressed ... "	148,063,541	142,833,520	146,262,683	119,401,434	134,805,222
Logs ...	4,254,472	2,195,219	3,252,115	1,913,973	1,899,474
Palings ... No.	718,550	608,602	942,220	630,670	487,094
Pickets ... "	3,000	19,570	6,628	5,335	1,411
Shingles ...	12,944	100,540	35,790	21,332	31,300
Staves—Dressed, etc. "	90	5,000	1,300	...	...
" Undressed "	...	1,267	...	...	...
Laths for blinds "	*	*	*	*	*
" other "	14,240	677,280	110,900	406,980	7,190
Spokes, rims, felloes "	*	*	*	*	*
Doors ...	*	*	*	*	*
Architraves, mouldings, etc. ... Lin. feet	90,458	94,054	92,162	125,327	107,664
Other ...	...	...	...	...	...
EXCESS OF IMPORTS OVER EXPORTS.					
Veneers ...	296,801	599,178	994,575	1,815,917	1,959,436
Dressed ... Sup. feet	56,644,220	64,618,879	89,601,025	75,537,991	83,132,381
Undressed ... "	52,405,672	114,174,373	178,062,975	230,651,183	214,875,674
Logs ...	7,081,398	19,471,642	26,650,101	16,987,766	21,538,432
Palings ... No.	—718,550	—608,602	—942,220	—630,670	—487,094
Pickets ...	1,223,082	2,104,428	1,517,221	2,059,810	2,301,337
Shingles ...	1,257,532	590,170	901,480	1,221,388	1,495,694
Staves—Dressed, etc. "	4,510	—4,400	4,140	920	...
" Undressed "	2,390,798	3,927,796	3,363,457	2,181,121	3,639,969
Laths for blinds "	*	*	*	*	*
" other ...	25,678,446	37,897,232	30,102,194	29,224,766	46,330,311
Spokes, rims, felloes "	*	*	*	*	*
Doors ...	*	*	*	*	*
Architraves, mouldings, etc. ... Lin. feet	—60,733	—85,009	—68,561	—90,221	—27,266
Other ...	*	*	*	*	*

\* Quantity not available.

Note. — signifies excess of exports over imports.

## VALUE OF TIMBER IMPORTED INTO AND EXPORTED FROM THE COMMONWEALTH, 1909 to 1913.

Description.	1909.	1910.	1911.	1912.	1913.
IMPORTS.					
Veneers ...	£ 8,778	£ 14,814	£ 25,795	£ 42,379	£ 55,374
Dressed ...	376,732	478,162	683,430	578,427	625,032
Undressed ...	1,158,445	1,432,301	1,819,832	2,061,666	2,036,330
Logs ...	51,246	109,877	165,460	99,939	121,261
Palings ...	...	...	...	...	...
Pickets ...	4,117	8,804	5,622	10,270	8,497
Shingles ...	1,873	851	1,280	1,892	2,208
Staves—Dressed, etc. ...	342	145	131	14	...
" Undressed ...	18,178	24,542	20,417	15,744	22,870
Laths for blinds ...	83	24	38	26	4
" other ...	20,970	28,397	23,181	26,436	40,131
Spokes, rims, felloes ...	12,408	17,297	40,047	21,616	13,993
Doors ...	1	1	137	3,616	445
Architraves, mouldings, etc. ...	59	29	65	145	250
Other (Free) ...	588	136	129	1,043	81
Total value ...	1,653,820	2,115,380	2,785,564	2,863,213	2,926,476

## VALUE OF TIMBER IMPORTED AND EXPORTED, ETC.—Continued.

Description.	1909.	1910.	1911.	1912.	1913.
EXPORTS.					
Veneers ... ..	£ ...	£ ...	£ ...	£ ...	£ ...
Dressed ... ..	12,104	11,396	12,599	11,542	8,160
Undressed ... ..	981,770	976,355	1,016,510	858,357	964,938
Logs ... ..	23,690	16,768	23,024	14,950	25,325
Palings ... ..	3,449	3,106	4,931	3,734	2,688
Pickets ... ..	26	176	84	66	40
Shingles ... ..	29	210	91	106	42
Staves—Dressed, etc. ... ..	1	52	16	...	...
Undressed ... ..	...	68	...	...	...
Laths for blinds ... ..	1,179	1,136	946	363	297
" Other ... ..	20	708	105	495	11
Spokes, rims, felloes ... ..	5,191	8,687	9,989	12,214	8,039
Doors ... ..	991	759	743	1,053	960
Architraves, mouldings, etc. ... ..	511	623	589	723	541
Other ... ..	...	...	...	...	...
Total value ... ..	1,028,961	1,020,044	1,069,627	903,603	1,011,041

## EXCESS OF IMPORTS OVER EXPORTS.

Veneers ... ..	8,778	14,814	25,795	42,379	55,374
Dressed ... ..	364,628	466,766	670,831	566,885	616,872
Undressed ... ..	176,675	455,946	803,322	1,203,309	1,071,392
Logs ... ..	27,556	93,109	142,436	84,989	95,936
Palings ... ..	—3,449	—3,106	—4,931	—3,734	—2,688
Pickets ... ..	4,091	8,628	5,538	10,204	8,457
Shingles ... ..	1,844	641	1,189	1,786	2,166
Staves—Dressed, etc. ... ..	341	93	115	14	...
Undressed ... ..	18,178	24,474	20,417	15,744	22,870
Laths for blinds ... ..	—1,096	—1,112	—908	—337	—293
" other ... ..	20,950	27,689	23,076	25,941	40,120
Spokes, rims, felloes ... ..	7,217	8,610	30,058	9,402	5,954
Doors ... ..	—990	—758	—606	2,563	—515
Architraves, mouldings, etc. ... ..	—452	—594	—524	—578	—291
Other ... ..	588	136	129	1,043	81
Total value ... ..	624,859	1,095,336	1,715,937	1,959,610	1,915,435

Note. — signifies excess of exports over imports.

The exports of sandalwood were:—

## EXPORTS OF SANDALWOOD, 1909 to 1913.

Country to which Exported.	Quantity.					Value.				
	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.
	cwt.	cwt.	cwt.	cwt.	cwt.	£	£	£	£	£
Hong Kong ... ..	54,387	141,646	120,432	22,854	91,054	25,546	71,672	62,566	11,567	41,476
Straits Settlements ... ..	12,890	7,378	13,783	2,390	17,835	5,036	3,319	5,967	1,034	5,931
Other British Possessions ... ..	5,163	15,223	5,687	7,863	10,760	3,358	6,301	2,506	3,455	4,560
China ... ..	31,649	19,399	7,140	36,755	13,540	12,180	7,332	2,348	16,619	5,593
Other Foreign Countries ... ..	...	...	6	233	486	...	...	9	225	387
Total ... ..	104,089	183,646	147,048	70,095	133,675	45,120	88,624	73,396	32,900	57,947

Tanning bark is largely exported from the Commonwealth, as the following table shews:—

### EXPORTS OF TANNING BARK, 1909 to 1913.

Country to which Exported.	Quantity.					Value.				
	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.
	cwt.	cwt.	cwt.	cwt.	cwt.	£	£	£	£	£
United Kingdom ...	19,424	12,159	3,154	605	3,078	8,188	4,674	1,195	197	1,010
New Zealand ...	69,137	55,838	66,574	73,667	45,013	31,414	25,036	29,105	34,224	20,559
Other British Poss. ...	1,745	1,895	1,868	1,684	621	902	860	921	802	307
Belgium ...	15,910	40,556	29,100	40,180	36,250	5,966	15,815	11,576	15,520	14,281
France ...	206	837	204	...	...	105	319	101	...	...
Germany ...	114,128	179,119	148,490	49,849	58,011	43,063	70,442	60,121	20,630	23,653
Other For. Countries ...	5,322	5,239	4,166	2,060	1,379	2,307	2,108	1,627	755	601
Total ...	225,872	295,616	253,556	168,045	144,352	91,945	119,254	104,646	72,128	60,411

### QUANTITIES AND VALUES OF BARK IMPORTED INTO, AND EXPORTED FROM THE COMMONWEALTH, 1909 to 1913.

Particulars.	1909.	1910.	1911.	1912.	1913.
	cwt.	cwt.	cwt.	cwt.	cwt.
QUANTITIES—					
Imports ...	28,020	12,648	72,447	119,253	77,689
Exports ...	225,872	295,616	253,556	168,045	144,352
Excess of exports over imports	197,852	282,968	181,109	48,792	66,663
VALUES—	£	£	£	£	£
Imports ...	12,774	5,461	31,253	50,920	27,987
Exports ...	91,945	119,254	104,646	72,128	60,411
Excess of exports over imports	79,171	113,793	73,393	21,208	32,424

## SECTION XI.

## FISHERIES AND PISCICULTURE.

## § 1. Commercial Fisheries.

1. **Fish Stocks.**—Australasia possesses an abundant and varied fish fauna, which embraces both tropical and temperate varieties and includes destructive as well as edible species. In rivers and lakes both indigenous and imported varieties thrive. The latter have been introduced and acclimatised for industrial and sporting purposes by Governments and angling societies. Exploitation of the fishing areas—for some classes of fish for the whole year, for others during the breeding season only, or until a certain size is attained—is, where necessary, expressly forbidden; proclaimed localities are closed against net-fishing, and a minimum size of mesh for nets is sometimes fixed. The sea-fishermen in some districts have made regulations in their own interests for the purpose of controlling the market supply, and these they rigorously observe.

2. **Economic Fisheries.**—Although Australia's food fishes are abundant, the development of the industry has been slow. It has been authoritatively stated that the marine fisheries, properly fostered, will develop into an industry of national importance. Local catches of lake and river fishes furnish, in the aggregate, a not inconsiderable amount of food supply.

3. **Distribution of Supplies.**—Present methods of distribution impose serious difficulties on the development of fishing generally, since there is a wide divergence between the price paid by the consumer and the return received by the producer. States and municipalities are interesting themselves in the direction of more economic distribution. Good markets are assured in the chief cities for regular deliveries of fresh fish.

4. **Oyster Fisheries.**—Natural oyster beds, whose ample product is of excellent quality, exist on the foreshores in the shallow waters of inlets and estuaries in several parts of Australia. By husbanding the natural crop, and by judicious transplanting, the oyster output has been very materially augmented, and it is believed that there is a great future for the industry. The areas are leased by the Government to private persons, lengths of foreshore being taken up and profitably exploited. In New South Wales and Queensland particularly, the industry has developed; and small yields have been obtained in South Australia and Victoria.

5. **Pearl-shelling.**—Pearl-shelling is carried on in the tropical districts of Queensland, the Northern Territory, and Western Australia. The pearl oyster inhabits the northern and western coasts from Cape York to Shark Bay, a length of shore of over 2000 miles. The shells are marketed in considerable quantities, and pearls are also obtained in Queensland and Western Australia. The fishing is generally conducted with the aid of diving apparatus, in water varying from four to twenty fathoms in depth.

In Queensland and Northern Territory the bêche-de-mer industry is carried on, and tortoiseshell is obtained on the coasts. Experiments have been made in cultivating the pearl oyster on suitable banks. In October 1911 a pearl weighing 178 grains, and valued at £3000, was obtained at Broome. Further details regarding pearl-shelling are given in Official Year Book No. 6, p. 463.

The system of licensing boats and men engaged in the pearling industry restricts, in the States where it is in force, indiscriminate exploiting of the areas, and returns a small revenue.

Poaching in Australian territorial waters has long been rife, particularly on the north-west coast, and measures have recently been taken to check it.

In accordance with the "White Australia" policy, it has been determined that the employment of coloured labour in the pearl-shelling industry shall be restricted, and ultimately cease altogether. After 31st December, 1913, permits to indent Asiatics for the pearling fleet ceased, and all divers employed upon the luggers will eventually be white men. Experienced divers from England have been engaged. It is believed that practical difficulties which may arise in the transition period will be overcome. In March 1912 the Commonwealth Government appointed a Royal Commission to inquire into the pearling industry generally, and particularly as regards its labour problems. The Commission commenced its work at Cairns, Queensland, on 30th April, 1912. Evidence of a valuable nature has been taken in various centres; a progress report was presented in October 1913, and minutes of evidence, appendices, etc., were published in December 1913.

## § 2. Fisheries Statistics.

1. **Estimates for the Commonwealth.**—The returns given below have been furnished by the State departments. Estimates and approximations, where shewn, are official. The data do not generally lend themselves to presentation on a uniform scheme, but the principal facts have been compiled as far as possible for the Commonwealth.

### GENERAL FISHERIES (EXCLUDING EDIBLE OYSTERS, PEARLSHELL AND BÊCHE-DE-MER), COMMONWEALTH, 1913.

State.	No. of Boats Engaged.	Value of Boats and Equip-ment.	No. of Men Em-ployed.	Total Take of		Value of Take.	
				Fish.	Lobsters.	Fish.	Lobsters.
	No.	£	No.	cwt.	doz.	£	£
New South Wales ...	681	29,655	2,712	135,139	9,732	136,907	4,379
Victoria ...	717	51,982	968	96,300	37,355	88,918	11,571
Queensland...	316	15,749	616	37,860	...	39,356	...
South Australia ...	950	31,000	1,232	85,000	24,000	161,000	9,000
Western Australia ...	273	20,984	572	*34,000	12,347	*42,000	3,704
Tasmania* ...	170	9,771	300	†	10,773	20,965	2,225
Northern Territory ...	7	350	28	72	...	90	...
Commonwealth ...	3,114	159,491	6,428	†388,371	94,207	489,236	30,879

\* Estimated. † 159,545 dozen. ‡ Exclusive of Tasmania.

## EDIBLE OYSTER FISHERIES, COMMONWEALTH, 1913.

State.	Number of Boats Engaged.	Value of Boats and Equip-ment.	Number of Men Employed.	Number of Leases.	Length of Foreshore in Leases.	Oysters Taken.	
						Quantity.	Value.
	No.	£	No.	No.	Miles.	cwt.	£
New South Wales ...	327	9,678	337	1,896	279	34,646	44,773
Victoria ...	...	...	...	...	...	...	...
Queensland...	94	12,600	189	654	*	32,589	27,793
South Australia ...	7	660	11	*	...	819	1,638
Western Australia ...	...	...	...	...	...	...	...
Tasmania ...	...	...	...	...	...	...	...
Northern Territory ...	...	...	...	...	...	...	...
Commonwealth ...	428	22,938	487	2,550†	*	68,054	74,204

\* Figures not available.

† Exclusive of figures for South Australia.

## PEARL, PEARLSHELL, AND BÊCHE-DE-MER FISHERIES, COMMONWEALTH, 1913.

State.	Number of Boats Engaged.	Value of Boats and Equip-ment.	Number of Men Employed.	Quantity of Pearls obtained.	Value of Pearls obtained.	Value of Bêche-de-mer obtained.	Quantity of Tor-toiseshell obtained.	Value of Tor-toiseshell obtained.
	No.	£	No.	Tons.	£	£	lbs.	£
N.S.W. ...	...	...	...	...	...	...	...	...
Victoria ...	...	...	...	...	...	...	...	...
Q'sland ...	180	60,000	1,300	466	92,000	*8,265	29,268	1,167
S. Aust. ...	...	...	...	...	...	...	...	...
W. Aust. ...	379	202,550	2,743	1,489	240,776	88,050	...	...
Tas. ...	...	...	...	...	...	...	...	...
N. Terr. ...	39	4,605	234	59	13,661	1,415	1,675	215
C'wlth.	598	267,155	4,277	2,014	346,437	97,730	30,943	1,382

\* Exclusive of pearls obtained by Japanese divers, for which no record is obtained; estimated at about £25,000.

## PUBLIC REVENUE FROM FISHERIES, COMMONWEALTH, 1913.

State.	Licenses.	Leases.	Fines and Forfeitures.	Other Sources.	Total.
	£	£	£	£	£
New South Wales ...	1,228	5,848	391	404	7,871
Victoria ...	...	...	...	...	...
Queensland...	2,146	3,630	2	11	5,789
South Australia ...	446	...	20	...	466
Western Australia ...	2,866	1,603	49	26	4,544
Tasmania* ...	622	...	18	1	641
Northern Territory ...	71	...	...	...	71
Commonwealth ...	7,379	11,081	480	442	19,382

\* Returns incomplete; refer mainly to Fisheries Board of Hobart.



## GENERAL AND OYSTER FISHERIES, COMMONWEALTH, 1909 to 1913.

Particulars.		1909.	1910.	1911.	1912.	1913.
<b>General Fisheries—</b>						
No. of boats engaged ...		3,101	3,088	2,593	2,898	3,114
„ men employed ...		5,492	5,515	4,405	6,114	6,428
<b>Fish obtained—</b>						
Quantity ... cwt.		298,351	341,659†	350,828§	391,168†	388,371†
Value... .. £		276,672	381,182	474,027	497,345	489,236
Lobsters obtained—Value, £		16,078	22,172	27,718	27,840	30,879
<b>Edible Oyster Fisheries—</b>						
No. of boats engaged* ...		139	113	482	485	428
„ men employed* ...		175	174	589	518	487
<b>Oysters obtained—</b>						
Quantity ... cwt.		59,109†	59,854	64,397	58,113	68,054
Value ... .. £		63,192†	60,769	77,080	79,933	74,204
<b>Public Revenue from Fisheries</b>						
Licenses ... .. £		8,812	5,496	4,833	5,576	7,379
Leases ... .. £		7,446	9,842	11,583	11,668	11,081
Fines and forfeitures ...		142	180	345	495	480
Other sources ... .. £		649	742	386	625	442
<b>Total revenue</b> ... .. £		<b>17,049</b>	<b>16,260</b>	<b>17,147</b>	<b>18,364</b>	<b>19,382</b>

\* Queensland and South Australia only for years 1909 and 1910. There are practically no oyster fisheries in Victoria, Western Australia, and Tasmania. † New South Wales and Queensland only. ‡ Exclusive of Tasmania. § Exclusive of Western Australia and Tasmania.

**PEARL, PEARL-SHELL AND BÊCHE-DE-MER FISHERIES, COMMONWEALTH,\***  
1909 to 1913.

Particulars.		1909.	1910.	1911.	1912.	1913.
No. of boats engaged ...		567	586	578	607	598
No. of men employed ...		3,883	4,038	4,052	4,291	4,277
<b>Pearlshell obtained—</b>						
Quantity ... .. tons		1,770	1,853	1,717	2,103	2,014
Value ... .. £		270,256	299,143	327,444	530,298	346,437
<b>Pearls obtained †—</b>						
Value ... .. £		77,788	94,768	87,713	106,375†	97,730†
<b>Bêche-de-mer obtained—</b>						
Quantity ... .. tons		352	251	323	450	625
Value ... .. £		16,410	10,088	17,712	25,142	30,943
<b>Tortoiseshell obtained—</b>						
Quantity ... .. lbs.		3,532	2,070	1,056	1,302	1,382
Value ... .. £		1,739	998	572	785	850

\* Queensland, Northern Territory and Western Australia only. There is no production in the other States. † As returned. ‡ Exclusive of pearls obtained by Japanese divers, estimated at £25,000.

## § 3. Oversea Trade in Fish.

That the development of the fishing industry in Australia leaves much to be desired is evident from the fact that the import of preserved fish into the Commonwealth is very large. The figures for the trade are as follows:—

## IMPORTS OF FISH, COMMONWEALTH, 1909 to 1913.

Classification.		1909.	1910.	1911.	1912.	1913.
Fresh (oysters) ...	{ cwt. £	10,580 4,989	9,640 4,805	7,152 3,462	8,765 5,279	8,912 5,281
Fresh, or preserved by cold process... ..	{ cwt. £	11,855 20,785	11,248 23,001	20,455 44,536	25,673 56,396	34,172 78,510
Potted ... ..	{ cwt. £	* 22,082	* 25,408	* 26,024	* 35,506	* 37,644
Preserved in tins ...	{ cwt. £	137,860 371,620	154,547 466,381	148,846 443,049	194,092 606,969	171,733 525,996
Smoked, dried and n.e.i.	{ cwt. £	21,667 47,096	19,448 42,918	21,605 52,289	26,472 76,327	24,629 70,605
Total ...	{ cwt. † £	181,462 466,572	194,883 562,513	198,058 569,360	255,002 780,477	239,446 718,036

\* Not available. † Exclusive of potted fish.

## EXPORTS OF FISH (AUSTRALIAN PRODUCE), 1909 to 1913.

## COMMONWEALTH.

Classification.		1909.	1910.	1911.	1912.	1913.
Fish, fresh, smoked, or preserved by cold process	{ cwt. £	994 2,896	912 1,963	248 1,026	137 436	114 367
Preserved in tins, dried, salted, etc.	{ cwt. £	6,746 15,556	5,346 17,532	6,891 23,185	38,268 35,827	11,334 40,573
Total ...	{ cwt. £	7,740 18,452	6,258 19,495	7,139 24,211	38,405 36,263	11,448 40,940

Although a considerable development has taken place lately in the fish preserving industry, there is for the Commonwealth an excess of imports over exports amounting approximately to £450,000 in 1909, £540,000 in 1910, £545,000 in 1911, £745,000 in 1912, and £680,000 in 1913.

The exports of pearlshell and tortoiseshell are given hereunder for the five years 1909-13 :—

## EXPORTS OF PEARLSHELL AND TORTOISESHELL, 1909 to 1913.

## COMMONWEALTH.

Article.		1909.	1910.	1911.	1912.	1913.
Pearlshell ... ..	{ cwt. £	34,585 250,291	40,307 322,184	39,126 330,003	64,976 524,281	41,813 383,193
Tortoiseshell ... ..	{ lbs. £	3,207 1,557	1,742 823	1,693 964	5,170 3,454	3,244 2,081

## § 4. Development of the Fishing Industry.

**1. Transport and Marketing.**—For many years the question of securing to the consumer a regular supply of wholesome fish at a moderate price has been under consideration. Where quick transport by rail or steamer is not provided, the catch of fish in tropical or sub-tropical waters can only be locally consumed, since speedy marketing is essential. Adequate refrigerating apparatus on railway waggons and coasting steamers and quick transport to centres of population might, however, alter the economic condition in a satisfactory direction. In the temperate regions there are adequate supplies close to the principal ports—a fact which is of considerable advantage, since short trips mean marketing of the produce in good condition, and less sea risks are incurred. At the present time the natural wealth of Australia in fish is exploited only to a very slight extent.

**2. Experiment and Culture.**—*The Existing Fisheries.* In many respects the fishing industry is capable of modification and development. A good deal has been effected by the State Governments in the way of experiment and culture. A uniform policy of development for Australia is desirable, and recommendations have been made that the Fisheries Departments of the various States should co-operate with the Federal Government with a view to increasing the productiveness of the Commonwealth waters; and that uniform fisheries laws should be adopted by adjacent States.

All live fish arriving in Australia are examined on shipboard in order to prevent the importation of undesirable fish.

With the object of ascertaining something of the movements of oceanic fishes, as well as of those estuarine fishes which make periodical oceanic migrations, reports are furnished regarding the various kinds of fishes, etc., observed travelling along the coast, as well as the quantity and size of fish seen. Some very useful information has in this way been obtained.

Fuller details regarding the activities of the States in fish-culture are given in Official Year Book No. 6, pp. 471–2.

By arrangement with the Commonwealth Fisheries Department, members of the staff of the Australian Museum, Sydney, accompanied the F.I.S. "*Endeavour*" on various cruises. Specimens were collected, mounted for scientific purposes, and distributed to other Australian Museums, a considerable number being put aside for the Commonwealth Fishery Museum.

## § 5. The Commonwealth Department of Fisheries.

**1. The Federal Council of Australasia.**—The Federal Council had power to legislate with regard to fisheries in Australasian waters beyond territorial limits. In its second session (opened 16th January, 1888), an Act was passed to regulate pearlshell and bêche-de-mer fisheries in Australasian waters adjacent to Queensland; and in the third session, opened shortly afterwards, the Act was made applicable to Western Australia. Upon the passing of the Commonwealth Constitution Act of 1900, however, the Federal Council ceased to exist.

**2. Commonwealth Investigations.**—In 1907 the Commonwealth Government decided to demonstrate what might be attained commercially by the application of modern methods. A Federal Investigation Ship, the *Endeavour*, was constructed specially for the work, and a Director of Fisheries was appointed. Cruises and experiments were immediately instituted. These shew that the Commonwealth possesses an asset of considerable value in her sea fisheries. The scope and results of the inquiries are set out in the reports issued by the Director.

**3. Scope of the Inquiry.**—The immediate scope laid down for the investigation was, shortly, as follows:—

- (i.) By various means of capture to ascertain what marketable food-fishes may be found in ocean waters adjacent to Australia.
- (ii.) In what quantity they may be taken.
- (iii.) To what extent they migrate, and where.
- (iv.) How they may be conveniently and economically captured.
- (v.) By systematic survey to find out and chart suitable fishing grounds.

In addition to the work which is being thus carried on in the various recognised methods of capture (including long-line and drift-net fishing, etc.), survey, hydrographic work, etc., is conducted, for the purpose of ascertaining the nature of the bottom, depth of water, currents, and sea temperature.

4. **The F.I.S. "Endeavour."**—The construction of the investigation vessel was undertaken in the Commonwealth, and was upon the lines shewn by the most recent European experience to be of greatest advantage, with necessary modifications to suit the Australian climate. A description of the vessel, which was the first Commonwealth-owned sea-going ship, is given in *Official Year Book* No. 6, p. 473. Up to the end of 1913, 85 cruises had been made in eastern and southern waters. In 1914, 13 more cruises were successfully undertaken; but the vessel was lost on her 99th cruise, which was commenced on 20th November, 1914.

5. **Consumption of Fish.**—The inadequacy of the present supply of fish in Australia is universally admitted, yet all reports agree that there is, off the coast, a bountiful harvest of fish. It is not, as in Great Britain and the northern countries of Europe, a popular article of diet, but is rather in the nature of a luxury. While the value of fish consumed in Norway is nearly 20s., and in Holland, Denmark, and the United Kingdom 5s. per head of population, in Australia it is little over 1s. 6d. Moreover, in the European countries named, notwithstanding the fact that the trawlers have generally to go much further afield for their catches, a shilling's worth of fish represents a much larger quantity than could be obtained for the same amount in the Commonwealth, where the wealth of the coastal waters indicates that, with satisfactory handling, the product of the sea would become an article of food for the poorest classes, and a valuable industry would be developed. The uncertainties and limitations of the market, caused by the irregularity of the supply, will be overcome when the fact is recognised that the ocean product, properly exploited, is adequate to supply the demand, however strong. Under present conditions, it is not surprising that Australians are not great fish-eaters. The quantity of fish consumed annually per head in Great Britain is 42 lbs.; in Australia it is only 9 lbs.

## § 6. Fish Preserving.

Bounties have been provided by the Federal Government for fish preserving, the rate payable being  $\frac{1}{4}$ d. per lb. The amounts paid were £27 in 1907-8; £1727 in 1908-9; £311 in 1909-10; £115 in 1910-11; £168 in 1911-12; £103 in 1912-13; and £80 in 1913-14. It is anticipated that the bounties, together with the increased yield that may be expected to result from the fisheries investigations now being conducted, will lead to a considerable output and consumption of locally-preserved fish. The abundance of fish in Australian waters offers excellent opportunities for the institution of preserving establishments, particularly in those coastal districts which enjoy a temperate climate. Up to the present but little development has taken place, the establishments for fish preserving numbering only five.

## SECTION XII.

## MINES AND MINING.

## § 1. The Mineral Wealth of Australia.

**1. Place of Mining in Australian Development.**—The value of production from the mineral industry is now considerably less than that returned by the agricultural or the pastoral industry, nevertheless it was the discovery of gold in payable quantities that first attracted population to Australia, and thus laid the foundation of its nationhood. Prior to 1851, the year when Hargraves' memorable discovery was made, coal and copper had both been mined to some extent, and the existence of deposits of other minerals, including gold, had been proved. But it was the news of the sensational finds of the precious metal in 1851 and the year immediately following that brought about a constant stream of immigration, and caused an increase in population from 221,000 at the end of 1841 to upwards of 1,168,000 at the end of 1861.

**2. Extent of Mineral Wealth.**—The large production of gold, silver, copper, and tin, the extent of the coal deposits, the presence of large quantities of iron ore, and the great variety of minerals found in appreciable quantities, suggest that the future history of mining will, in all probability, be even more remarkable than that of the past. For the extent of the total mineral wealth of Australia cannot yet be regarded as well ascertained, since the mineral exploration of the country is, after all, still in its infancy. The presence of considerable deposits of valuable minerals has long been known. Thus, coal was discovered in 1797, and a shipload was exported to Bengal in 1799; silver was discovered by Count Strzelecki as early as 1839, and was worked as early as 1864; copper mining dates back to 1844; lead to about 1848; iron to about 1850; while the discovery of gold in payable quantities dates back to 1851. Cobalt, nickel, manganese, chromium, tungsten, molybdenum, mercury, antimony, bismuth, zinc, radio-active ores, etc., have all been found, some in fairly large quantities.

Among the more valuable non-metalliferous substances may be mentioned coke, kerosene shale, graphite, alunite, asbestos, diatomaceous earth, clays, ochres, etc.; in building stones, sandstones, syenites, granites, basalts, augite-andesite, porphyries, serpentines, slates, limestones, and marbles; in precious stones, diamonds, emeralds, rubies, sapphires, amethysts, precious opal, turquoise, topazes, garnets, chrysolites, cairngorm, agates, etc. In general it may be said that the variety of Australian mineral wealth is very great.

**3. Value of Production during 1913.**—Compared with the returns for 1912 the total mineral production of the Commonwealth shews an increase in 1913 of a little over £178,000. The largest advance is exhibited in the figures for New South Wales, where the total was about £423,000 in excess of that for the preceding year. In Western Australia the increase amounted to £276,000, and in South Australia to £68,000. The improvement in the States mentioned was, however, counterbalanced by more or less heavy decreases in the remaining States, the return for Queensland shewing a falling-off amounting to about £317,000, while there was a decline in the Victorian yield to the extent of £160,000. In Queensland the decline was due to the falling-off in the gold yield, and is stated to be due to the gradual exhaustion of the mines on the principal fields and failure to discover fresh sources of auriferous wealth. The decline in Victoria is also due to diminished returns from some of the principal gold mining areas. For the Commonwealth the decline in the gold yield amounted to about £503,000, Western Australia alone shewing an increased output over the total for the preceding year.

The comparative value of the production of minerals raised in each State during 1913 is given in the following table:—

## COMMONWEALTH MINERAL PRODUCTION IN 1913.

Minerals.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	N.T.	C'wealth.
	£	£	£	£	£	£	£	£
Alunite ...	8,940	...	...	...	...	...	...	8,940
Antimony ...	407	31,424	...	...	...	...	...	31,831
Asbestos ...	...	...	...	...	...	...	...	...
Bismuth ...	1,202	...	18,485	...	...	1,627	...	21,314
Coal ...	3,770,375	274,940	403,767	...	153,614	25,367	...	4,628,063
Coke ...	203,989	...	...	...	...	...	...	208,989
Copper ...	598,733	2,829	1,660,178	488,986	142,513	375,664	482	3,269,385
Diamonds ...	5,141	...	...	...	...	...	...	5,141
Diatomaceous earth	106	575	...	...	...	...	...	681
Gems (unspecified)...	...	...	43,292	...	...	...	...	43,292
Gold ...	635,703	1,847,475	1,128,768	27,800	5,581,701	141,876	13,250	9,376,573
Gypsum ...	...	2,363	...	5,362	...	...	...	7,725
Iron ...	186,252	...	...	...	...	...	...	186,252
Iron oxide ...	3,563	...	...	...	...	...	...	3,563
Ironstone flux ...	...	...	27,562	37,911	...	...	...	65,473
Kaolin ...	1,670	1,730	...	...	...	...	...	3,400
Lead (pig, etc.) ...	365,742	...	65,683	...	59,002	...	...	490,427
Limestone flux ...	10,686	...	38,202	11,075	...	...	...	59,963
Manganese ...	...	...	163	...	...	...	...	163
Molybdenite ...	6,802	...	19,001	...	...	...	...	25,803
Opal ...	29,493	...	3,000	...	...	...	...	32,493
Platinum ...	3,135	682	...	...	...	...	...	3,817
Salt ...	...	...	...	48,750	...	...	...	48,750
Scheelite ...	4,457	...	8	...	...	...	...	4,465
Shale ...	7,339	...	...	...	...	130	...	7,469
Silver ...	244,321	2,074	68,438	300	23,420	...	...	338,553
Silver-lead bullion }	3,563,804	...	...	1,100	...	319,997	2,228	3,887,129
Silver-lead ore }	...	...	...	...	...	...	...	...
Tin ...	421,292	6,959	343,669	...	72,142	531,983	25,526	1,401,571
Wolfram ...	13,037	60	35,359	10	86	7,040	3,140	58,732
Zinc ...	1,547,987	...	...	...	...	...	...	1,547,987
Unenumerated ...	9,913	366	2,306	11,225	3,787	*12,016	...	39,613
Total ...	11,649,089	2,171,477	3,857,881	632,519	6,036,265	1,415,700	44,626	25,807,557

\* Osmiridium.

It may be pointed out in connection with the figures given in the above table that the totals are exclusive of returns relating to certain commodities, such as stone for building and industrial uses, sand, gravel, brick clays, lime, cement, and slates, which might rightly be included under the generic term "mineral." Valuations of the production of some of these may be obtained from the reports of the various Mines Departments, but in regard to others it is impossible to obtain adequate information. In some instances, moreover, the published information is of little value. Thus, the New South Wales Mines Report supplies the value of exports only in connection with building stone, and it is obvious that such figures are of little value as regards production, while the Victorian figures are incomplete. It has therefore been considered advisable to discard both totals. By restricting the comparison to items in connection with which properly comparable information can be obtained for each State, it is believed that a satisfactory estimate of the progress of the mineral industry can be more readily obtained. The items excluded from the total for New South Wales in 1913 consist of—lime, £41,428; marble, £991; Portland cement, £402,249; building stone, £1156; and grindstones, £170. The South Australian figures are exclusive of—flint pebbles, £1799. For South Australia the principal items in the unenumerated class were phosphate rock, £6545; and radium and uranium ore, £3620.

4. Total Production to end of 1913.—In the next table will be found the estimated value of the total mineral production in each State up to the end of 1913. The figures given in this table are also exclusive of the same items referred to in connection with the preceding table. Thus the total for New South Wales falls short by £2,615,000 of that published by the State Department of Mines, the principal items excluded being cement, £2,241,933; lime, £319,355; and building stone, £25,332.

## COMMONWEALTH MINERAL PRODUCTION TO END OF 1913.

Minerals.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North'n Territ'y.	C'wealth.
	£	£	£	£	£	£	£	£
Gold ...	60,098,678	293,550,928	76,346,598	948,610	114,880,572	7,549,158	2,078,938	555,453,482
Silver and ...								
Lead ...	64,395,767	222,009	2,379,777	340,254	794,480	6,578,745	77,047	74,788,079
Copper ...	12,392,835	218,590	12,608,577	28,235,538	1,254,865	10,632,645	329,888	65,662,938
Tin ...	9,748,901	789,639	8,454,373	...	1,135,427	12,504,585	354,424	32,987,349
Coal ...	72,858,063	2,737,330	5,781,002	...	1,223,049	598,330	...	83,197,774
Other ...	19,515,232	446,347	2,169,027	1,534,746	85,714	222,016	47,102	24,040,184
Total ...	238,999,476	297,964,843	107,759,354	31,059,148	119,374,107	38,085,479	2,887,399	836,129,806

The "other" minerals in New South Wales include antimony, £305,631; bismuth, £129,739; chrome, £101,968; coke, £2,347,656; diamonds, £125,549; iron, £2,300,038; opal, £1,359,700; oil shale, £2,330,170; wolfram, £145,554; and zinc, £9,037,900. In the Victorian returns antimony ore was responsible for £256,136. Included in "other" in the Queensland production were opal, £175,195; gems, other, £269,494; bismuth and wolfram, £900,498; antimony ore, £50,953; manganese, £64,872; limestone flux, £317,600; and ironstone flux, £230,338. The chief item in South Australian "other" minerals was salt, £864,131. In the Tasmanian returns limestone flux was responsible for nearly £100,000, and iron ore for about £26,000.

It will be convenient in the succeeding pages to deal first with gold and the various metals, then with non-metallic minerals and precious stones, and finally to furnish some account of the extent of employment in mining generally.

## (A) METALS.

## § 2. Gold.

1. **Discovery of Gold in Various States.**—The discovery of gold in payable quantities was an epoch-making event in Australian history, for, as one writer aptly phrases it, this event "precipitated Australia into nationhood." A more or less detailed account of the finding of gold in the various States appears under this section in Official Year Books Nos. 1 to 4, but considerations of space preclude the insertion of this matter in the present issue.

2. **Production of Gold at Various Periods.**—In the table hereunder will be found the value of the gold raised each year in the several States and in the Commonwealth from the dates when payable discoveries were first reported. Owing to defective information in the earlier years the figures fall considerably short of the actual totals, for during the first stages of mining development large quantities of gold were taken out of Australia by successful diggers, who preferred to keep the amount of their wealth secret. For South Australia the records in the earlier years are somewhat irregular, and the remark applies to some extent also to the returns for Western Australia and Tasmania.

In New South Wales the yield for 1913 was much below the average, the output being the lowest recorded since 1892. Apart from the dredging industry, the business of gold-mining is at present apparently in a somewhat languishing state. In Victoria the diminished returns from the cyaniding of old tailings accounted for a decrease of 13,000 oz. out of the total decrease of 45,000 ozs. From dredging and sluicing the yield for 1913 was less by 8000 ozs. than the return for the previous year. The balance of the decline was due to decreased output from the quartz mines at Scarsdale, and the Great Southern, Rutherglen, Duke and Main Leads, and Maryborough alluvial mines. An increase in output of 16,981 ozs. was shewn by the Ararat field, while fair increases were recorded at Fryer's Creek, Berringa, and Wood's Point. The deficiency in Queensland was due to the reduced returns from some of the chief centres such as Charters Towers, Gympie, and Rockhampton. For Western Australia the figures shew an increase, the output for 1912 being 133,316 ozs. in excess of that for the preceding year. More than half the increase came from the Yilgarn and Broad Arrow fields, while improved returns were re-

corded from Murchison, North Coolgardie, Yalgoo, Dundas, Peak Hill, West Pilbara, Gascoyne, and Kimberley.

VALUE OF GOLD RAISED IN AUSTRALIA, 1851 to 1913.

Year.	N.S.W.	Victoria.	Q'sland.	S.A.	W.A.	Tas.	N.T.	C'wealth.
	£	£	£	£	£	£	£	£
1851 ...	468,336	851,596	...	...	...	...	...	1,319,932
1852 ...	2,660,946	9,146,140	...	...	...	...	...	11,807,086
1853 ...	1,781,172	10,976,392	...	...	...	...	...	12,757,564
1854 ...	773,209	8,873,932	...	...	...	...	...	9,647,141
1855 ...	654,594	11,277,152	...	...	...	...	...	11,931,746
1856 ...	689,174	11,214,976	...	8,800	...	...	...	12,912,950
1857 ...	674,477	11,320,852	...	876	...	...	...	11,966,205
1858 ...	1,104,175	10,384,924	...	2,348	...	...	...	11,491,447
1859 ...	1,259,127	9,394,812	...	730	...	...	...	10,654,669
1860 ...	1,465,373	8,896,276	11,631	...	...	...	...	10,373,280
1861 ...	1,806,171	8,140,692	3,137	...	...	...	...	9,950,000
1862 ...	2,467,780	6,920,804	499	12,442	...	...	...	9,401,525
1863 ...	1,796,170	6,779,276	11,820	...	...	...	...	8,587,266
1864 ...	1,304,926	6,489,788	66,513	...	...	...	...	7,861,227
1865 ...	1,231,243	6,446,216	74,216	...	...	...	...	7,751,675
1866 ...	1,116,404	6,187,792	68,325	...	...	...	...	7,372,521
1867 ...	1,053,578	6,005,784	151,125	...	...	4,382	...	7,214,869
1868 ...	994,665	6,739,672	473,956	2,936	...	2,536	...	8,213,765
1869 ...	974,149	6,179,024	417,681	15,593	...	514	...	7,586,961
1870 ...	931,016	5,217,216	390,925	24,217	...	7,475	...	6,570,849
1871 ...	1,250,485	5,475,768	492,635	6,000	...	14,218	...	7,239,106
1872 ...	1,644,177	5,325,508	527,365	6,363	...	16,055	...	7,519,468
1873 ...	1,396,375	4,681,588	572,996	293	...	18,390	...	6,669,642
1874 ...	1,041,614	4,390,572	1,082,899	4,175	...	18,491	...	6,537,751
1875 ...	877,694	4,273,668	1,196,583	7,034	...	11,982	...	6,366,961
1876 ...	613,190	3,855,040	1,140,282	9,888	...	44,923	...	5,663,323
1877 ...	471,448	3,238,612	1,043,780	...	...	23,289	...	4,777,129
1878 ...	430,200	3,032,160	1,149,240	1,225	...	100,000	...	4,712,825
1879 ...	407,219	3,035,788	1,034,216	90	...	230,895	...	4,708,208
1880 ...	444,253	3,316,484	944,869	...	...	201,297	...	4,906,903
1881 ...	573,582	3,333,512	957,570	880	...	216,901	111,945	5,194,390
1882 ...	526,522	3,458,440	786,868	3,080	...	187,337	82,374	5,043,521
1883 ...	458,530	3,121,012	736,810	10,534	...	176,442	77,195	4,580,523
1884 ...	396,059	3,114,472	1,062,471	15,469	...	160,404	77,935	4,826,810
1885 ...	378,665	2,940,873	1,062,514	18,295	...	155,309	70,414	4,626,069
1886 ...	366,294	2,660,784	1,187,189	32,535	1,148	117,250	63,139	4,428,339
1887 ...	394,579	2,471,004	1,481,990	72,003	19,517	158,533	68,774	4,665,400
1888 ...	317,241	2,500,104	1,690,477	34,205	13,273	147,154	34,802	4,737,256
1889 ...	434,784	2,459,352	2,695,629	37,305	58,871	119,708	47,651	5,853,295
1890 ...	460,285	2,354,240	2,182,563	20,808	86,664	75,888	80,769	5,261,217
1891 ...	559,231	2,305,596	2,030,312	27,380	115,182	145,459	98,701	5,281,861
1892 ...	575,299	2,617,824	2,164,391	26,097	226,284	158,917	109,658	5,878,470
1893 ...	651,286	2,684,504	2,167,794	12,561	421,385	141,326	108,130	6,186,086
1894 ...	1,156,717	2,867,816	2,330,282	33,401	787,099	217,024	109,699	7,502,038
1895 ...	1,315,929	2,960,344	2,150,561	26,060	879,748	206,115	102,816	7,641,573
1896 ...	1,073,360	3,220,348	2,132,979	14,350	1,068,808	237,574	81,210	7,828,629
1897 ...	1,104,315	3,251,064	2,552,668	30,020	2,564,977	296,660	81,210	9,889,914
1898 ...	1,201,743	3,349,028	2,750,348	10,676	3,990,698	291,496	84,789	11,678,778
1899 ...	1,623,320	3,418,000	2,838,446	15,582	6,246,732	327,545	63,565	14,533,190
1900 ...	1,070,920	3,229,628	2,871,578	14,494	6,007,610	316,220	67,988	13,578,438
1901 ...	737,164	3,102,753	2,541,764	16,613	7,235,653	295,176	76,609	14,005,732
1902 ...	684,970	3,062,028	2,720,512	24,878	7,947,661	301,573	70,325	14,811,947
1903 ...	1,080,028	3,259,482	2,839,801	28,650	8,770,719	254,403	61,600	16,294,684
1904 ...	1,146,109	3,252,045	2,714,934	76,025	8,424,226	280,015	9,983	15,897,337
1905 ...	1,165,013	3,173,744	2,517,295	45,853	8,305,654	312,380	30,971	15,550,910
1906 ...	1,078,866	3,280,478	2,313,464	27,000	7,622,749	254,963	54,295	14,631,745
1907 ...	1,050,730	2,954,617	1,978,938	20,540	7,210,749	277,697	21,928	13,515,109
1908 ...	954,854	2,849,898	1,975,554	12,300	6,999,882	242,482	23,943	13,058,853
1909 ...	869,546	2,778,956	1,935,178	30,206	6,776,274	190,201	24,148	12,604,509
1910 ...	802,211	2,492,745	1,874,955	28,000	6,246,848	157,370	21,711	11,553,840
1911 ...	769,353	2,140,855	1,640,323	15,000	5,823,075	132,108	30,910	10,551,624
1912 ...	702,129	2,039,464	1,477,979	25,000	5,445,385	161,300	22,671	9,879,928
1913 ...	635,703	1,847,475	1,125,768	27,800	5,581,701	141,876	13,260	9,376,573
Total £	60,098,678	293,550,928	76,346,598	948,610	114,880,572	7,549,158	2,078,938	555,453,482

The amount of gold raised in the Commonwealth in any one year attained its maximum in 1903, in which year Western Australia also reached its highest point. For the other States of the Commonwealth the years in which the greatest yields were obtained, were as follows:—New South Wales, 1852; Victoria, 1857; Queensland, 1900; South Australia, 1904, and Tasmania, 1899.

The following table shews the quantity in fine ounces of gold raised in each State and in the Commonwealth during each of the last ten years, the value of one ounce fine being £4 4s. 11½d.:—



## QUANTITY OF GOLD PRODUCED IN THE COMMONWEALTH, 1904 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	C'wealth.
	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.
1904	269,817	765,596	639,150	17,897	1,933,230	65,921	938	3,742,549
1905	274,267	747,163	592,622	10,983	1,955,317	73,540	7,103	3,660,995
1906	253,987	772,290	544,636	8,037	1,794,548	60,023	11,085	3,444,606
1907	247,363	695,576	465,882	5,609	1,697,555	65,354	4,389	3,181,728
1908	224,792	670,909	465,085	2,908	1,647,912	57,085	5,624	3,074,315
1909	204,708	654,222	455,579	7,111	1,595,270	44,777	5,685	2,967,352
1910	188,857	570,362	441,402	6,603	1,470,633	37,048	5,100	2,720,005
1911	181,120	504,000	386,165	3,537	1,370,868	31,101	7,277	2,484,068
1912	165,295	480,131	347,946	6,592	1,282,658	37,973	7,811	2,328,406
1913	149,657	434,933	265,735	6,545	1,314,044	33,400	3,119	2,207,433

3. **Changes in Relative Positions of States as Gold Producers.**—A glance at the figures in the table shewing the value of gold raised will sufficiently explain the enormous increase in the population of Victoria during the period 1851 to 1861, when an average of over 40,000 persons reached the State each year. With the exception of the year 1889, when its output was surpassed by that of Queensland, Victoria maintained its position as the chief gold-producer for a period of forty-seven years, or up to 1898, when its production was outstripped by that of Western Australia, the latter State from this year onward contributing practically half the entire yield of the Commonwealth. New South Wales occupied the second place on the list until 1874, when Queensland returns exceeded those of the parent State, a condition of things that has been maintained ever since. South Australia has occupied the position of lowest contributor to the total gold yield of the Commonwealth since the year 1871. Taking the average of the last ten years, the relative position of each State in regard to the gold production of the Commonwealth was as follows :—

## RELATIVE POSITION OF STATES AS GOLD PRODUCERS, 1904 to 1913.

State.	Annual Average of Gold Production, 1904 to 1913.	Percentage on Commonwealth.	State.	Annual Average of Gold Production, 1904 to 1913.	Percentage on Commonwealth.
	£			£	
Commonwealth ...	12,662,043	100.00	New South Wales	917,452	7.24
Western Australia	6,843,954	54.05	Tasmania ...	215,030	1.70
Victoria ...	2,674,022	21.12	South Australia	31,072	0.24
Queensland ...	1,955,739	15.45	North'n Territ'y	24,774	0.20

4. **Methods of Gold Mining adopted in Each State.**—The circumstances of gold mining in the various States are not quite identical, for which reason reference is made to that of each State.

(i.) *New South Wales.* In New South Wales the earlier "rushes" were to surface alluvial or shallow-sinking grounds. Many of these were apparently soon worked out, but there is reason to believe that in some instances payable results would be obtained by treating the rejected wash-dirt on more scientific principles. With the exhaustion of the surface deposits discoveries were made by sinking to what are called deep alluvial leads, representing the beds of old drainage channels in Pliocene and Pleistocene times. The first of these deep alluvial leads was discovered at Forbes, in New South Wales in 1862. The Tertiary deep leads at Gulgong were discovered in 1871. Cretaceous leads occur at Tibooburra, and detrital gold has been found in permo-carboniferous conglomerates at Tal-lawang. The method of dredging is at present being extensively used for winning gold from the beds of running streams, and from loose river flats and other wet ground where sinking would be impracticable. The system was introduced from New Zealand, where it was originally applied with great success on the Clutha River, and there are now dredges working on practically all the auriferous rivers of New South Wales. Hydraulic sluicing

is also employed in several places, the necessary machinery being fitted to a pontoon for convenience in moving from place to place. The quantity of alluvial gold obtained, other than by dredging, amounted to 5350 ozs. in 1913, the chief yields being—Uralla, 881 ozs.; Hill End, 511 ozs.; Windeyer, 480 ozs.; Tumberumba, 333 ozs.; and Braidwood, 280 ozs. The quantity obtained by dredging was 23,579 ozs.; the largest returns being obtained at Araluen, 10,346 ozs.; Adelong, 4858 ozs.; Uralla, 1428 ozs.; Nundle, 1021 ozs.; and Braidwood, 711 ozs. The dredges in operation during 1913 numbered 77, of which 24 were of the bucket type and 53 were suction plants. In the recovery of gold 19 bucket dredges and 12 pumping plants were employed, while 5 bucket dredges and 41 pumping plants were engaged in the winning of stream tin. The value of the plants in operation was estimated at £330,160. The quantity of gold won from quartz amounted to 118,222 ozs. At the present time the Cobar district is the chief centre of the production from quartz, the yields from the Cobar and Canbelego fields included therein being respectively 43,487 ozs. and 25,239 ozs. Next come the Wyalong field with 8525 ozs.; Adelong, 7423 ozs.; Hillgrove, 4948 ozs.; and Wellington, 4714 ozs. The Mount Boppy mine in the Cobar district has for some years been the premier gold mine in the State.

The table below shews as far as can be ascertained the yield from alluvial and quartz mining in each of the principal districts during 1913. Owing to the circumstance that it was impossible to obtain complete returns from the whole of the mine and battery owners the total for the State necessarily falls short of that given in preceding pages.

#### GOLD WON IN NEW SOUTH WALES, ALLUVIAL AND QUARTZ, 1913.

District.	Alluvial.		Quartz.	Total.
	Other than by Dredging.	By Dredging.		
	ozs.	ozs.	ozs.	ozs.
Albert ... ..	60	...	2,047	2,107
Bathurst ... ..	815	...	4,222	5,037
Clarence and Richmond ... ..	136	...	762	898
Cobar ... ..	...	...	70,526	70,526
Hunter and Macleay ... ..	4	...	110	114
Lachlan ... ..	62	49	13,389	13,500
Mudgee ... ..	659	...	8,155	8,814
New England ... ..	156	11	32	199
Peel and Uralla ... ..	1,143	2,449	5,318	8,915
Southern ... ..	746	11,591	4,714	17,051
Tambaroora and Turon ... ..	786	4,440	1,484	6,710
Tumut and Adelong ... ..	778	5,039	7,503	13,320
Total ... ..	5,350	23,579	118,262	147,191

(ii.) *Victoria.* Quartz reefing predominates in Victoria, although a considerable amount of gold is obtained from alluvial workings, both surface and deep leads. The deepest mines in Australia are found in the Bendigo district, where the two deepest shafts were at the 31st December, 1913, 4614 and 4318 feet deep respectively. Altogether there were at the close of 1913 no less than fifty-three shafts in this district which had reached a depth of over 2000 feet. A considerable amount of attention is given to dredging and hydraulic sluicing, particularly in the Beechworth, Maryborough, Castlemaine, Ararat, Stawell, and Ballarat districts, the number of plants in operation at the end of 1913 being 92, of which 51 were bucket dredges, 26 pump hydraulic sluice, and 15 jet elevator. In addition there were 5 hydraulic sluicing plants working by gravitation. The total quantity of gold won from dredge mining in 1913 was 65,433 ounces, the total area treated being 564 acres. Tin to the value of £3884 was also won. The yields from alluvial workings and quartz reefs as returned (in crude ounces) from the chief mining districts of the State during last year were as follows:—

**GOLD WON IN VICTORIA, ALLUVIAL AND QUARTZ, 1913.**

District.				Alluvial.	Quartz.	Total.
				Ozs.	Ozs.	Ozs.
Ararat and Stawell	...	...	...	28,574	6,999	35,573
Ballarat	...	...	...	10,293	46,308	56,601
Beechworth	...	...	...	58,439	15,278	73,717
Bendigo	...	...	...	3,310	161,963	165,273
Castlemaine	...	...	...	12,666	60,581	73,247
Gippsland	...	...	...	6,312	13,977	20,289
Maryborough	...	...	...	30,305	16,279	46,584
Total	...	...	...	149,899	321,385	471,284

The largest output from lode mines in 1913 was furnished by the Central Red, White and Blue, at Bendigo, with 14,711 ozs.; followed by the Ajax Central Company at Daylesford, with 12,248 ozs.; and the Carlisle Company at Bendigo, with 7103 ozs. Of the deep alluvial mines the Cathcart Central Company, at Ararat, produced gold to the value of £58,425, and the Great Southern at Rutherglen furnished a yield of £35,004. In dredging, the Briseis Co., at Yackandandah, headed the list with an output of £25,109; followed by the Campbell's Creek Co. with £14,403.

(iii.) *Queensland.* Operations in Queensland are at present chiefly confined to quartz reefing, the yield from alluvial in 1913 being only 2793 ounces, of which 704 ozs. were won at the Batavia River field, while the quantity produced from quartz was 131,255 ounces; from copper and other ores 125,795 ounces; and from old tailings 5892 ounces; making a total production of 265,735 ounces, valued at £1,128,768. The yields from the principal fields are given below:—

**GOLD WON IN QUEENSLAND, ALLUVIAL AND QUARTZ, 1913.**

District.				Alluvial.	Quartz.	From Copper and other Ores and old Tailings.	Total.
				Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.
Charters Towers	...	...	...	324	69,438	220	69,982
Gympie	...	...	...	436	32,248	2,171	34,855
Mount Morgan	...	...	...	61	307	105,915	106,283
Ravenswood	...	...	...	150	14,553	12	14,715
Croydon	...	...	...	5	5,987	2,499	8,491
Etheridge, Oaks and Woolgar	...	...	...	18	6,254	443	6,715
Cloncurry	...	...	...	14	...	7,236	7,250
Gladstone	...	...	...	82	374	1,031	1,487
Rockhampton	...	...	...	21	9	11,061	11,091
Other districts	...	...	...	1,682	2,085	1,099	4,866
Total	...	...	...	2,793	131,255	131,687	265,735

(iv.) *South Australia.* In South Australia alluvial gold has been worked for many years in the gullies round Adelaide, while a fair amount of gold has been obtained by this method at Teetulpa, in the northern areas. The battery and cyanide returns as published in the "Mining Review" shew that the chief producing centres in 1913 were Tarcoola, The Ajax (Wankaringa), and Deloraine.

The total output of gold for 1913 from the Northern Territory amounted to 3119 fine ounces, valued at £13,250.

(v.) *Western Australia.* The auriferous deposits of Western Australia may be grouped under three headings—(1.) Superficial deposits, (2.) Deposits in beds of conglomerate, and (3.) Lode and vein deposits. The first class includes a number of deposits of alluvial type, either in the beds of existing watercourses or in deep leads, up to 100 feet or more below present surface level. Associated with these are deposits of crystalline gold in "pug," oxide of iron, and soft weathered portions of underlying bed rock. Considerable areas of auriferous surface soil are also found, and these have apparently originated from the denudation by weathering of the bed rock and its associated veins. The shallow surface deposits have been worked by ground sluicing wherever water was available, but the most of the ground has been worked by "dry-blowing." The pug and clayey bedrock are usually treated in puddling machines or stamp batteries and Huntington mills or by a combination of both methods. In regard to (2) it may be noted that in several localities on the Pilbara goldfield and in one on the Yalgoo, gold has been found in conglomerate of the Nullagine series of rocks, now tentatively accepted as of Cambrian age. The gold is crystalline and is confined to the interstitial cementing material. Occasional occurrences of gold are met with in laterite conglomerate of tertiary and post tertiary age, and at Kintore in conglomerate of the same age. Lode and vein deposits alluded to in (3) are found in great variety in Western Australia. The gold is always found associated with iron pyrites in the un-oxidised portions of the lodes, and often also with copper pyrites, arsenical pyrites and galena. Tellurides of gold occur at times, and scheelite is a common accessory mineral. The principal auriferous rocks are of very great geological age, most probably pre-Cambrian, and possibly Archean, and have all been subjected to intense metamorphism. It is found that the rich veins are not restricted to any one particular description of rock—granite, quartz, porphyry, quartz dolerite, diorite, etc., and even metamorphic sedimentary country rock have been found to carry them in various parts of the State. The total production of gold from all sources during 1913 was 1,314,043 ounces, of which only about 0.2 per cent. was alluvial. The yields in each district were as shewn below:—

**GOLD WON IN WESTERN AUSTRALIA, ALLUVIAL AND QUARTZ, 1913.**

Goldfields.	Alluvial.	Dolled and Specimens.	Crushed.	Total.
	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.
East Coolgardie ... ..	123	1,258	718,548	719,929
East Murchison ... ..	159	1,608	86,210	87,977
Mount Margaret ... ..	370	1,051	89,852	91,273
Murchison ... ..	482	2,791	118,755	122,028
North Coolgardie ... ..	22	206	68,298	68,526
Coolgardie ... ..	373	533	30,986	31,892
Phillips River ... ..	4	...	2,784	2,788
North-east Coolgardie ... ..	136	361	11,896	12,393
Yilgarn ... ..	2	106	82,226	82,334
Broad Arrow ... ..	76	489	34,174	34,739
Peak Hill ... ..	530	253	1,982	2,765
Pilbara ... ..	216	...	5,382	5,598
Dundas ... ..	15	1,245	25,779	27,039
Yalgoo ... ..	37	397	7,729	8,163
West Pilbara ... ..	111	7	1,303	1,421
Ashburton ... ..	12	...	...	12
Kimberley ... ..	...	...	...	...
Other goldfields ... ..	7	...	204	211
<b>Total ... ..</b>	<b>2,675</b>	<b>10,305</b>	<b>1,286,108</b>	<b>1,299,088</b>

The figures in the above table are compiled from returns from the individual mines and are somewhat incomplete; the total is therefore less than that shewn on page 398, which represents mint and export returns.

(vi.) *Tasmania.* The yield from Tasmania is chiefly obtained from quartz reefing, although there is a little alluvial mining carried on, as shewn in the table hereunder. The yields as returned from each district in 1913 are given below :—

#### GOLD WON IN TASMANIA, ALLUVIAL AND QUARTZ, 1913.

District.	Quartz.	Alluvial.	Cyanide.	Blister Copper.	Silver Lead Bullion.	Total.
	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.
Beaconsfield ...	11,088	...	8,888	...	...	19,976
Mathinna ...	710	...	405	...	...	1,115
Mt. Victoria ...	...	245	...	...	...	245
Warrantinna ...						
Mt. Cameron ...						
Lefroy ...	8	...	...	...	...	8
Lisle ...	38	87	...	...	...	125
Golconda ...						
Lilydale ...						
West Coast ...	...	35	...	7,419	4,564	12,018
Total ...	11,844	367	9,293	7,419	4,564	33,487

The total production was valued at £141,876, equal to 33,400 ozs. fine, of which about 20,000 ounces were produced by the Tasmania Gold Mine Ltd., at Beaconsfield. Over 12,000 ounces were contained in blister copper and silver-lead bullion produced on the West coast.

(vii.) *Northern Territory.* Pine Creek is the chief mining field in the Northern Territory, but operations have for many years been carried on in a desultory manner, chiefly by Chinese labour. It is stated that the field has been unfairly exploited, the rich pockets only having being scooped out without any systematic prospecting. Confidence in the auriferous prospects of the area has been shaken by the failure of various companies, but in the view of the Mines Department the ground has not been properly tested or systematically mined, and the Department proposes to sink to a depth of 300 feet and prove that with proper methods the area is worthy of renewed exploration. The Cosmopolitan mine was the chief producer in 1913, and with the exception of 100 ozs., was responsible for all the reef gold produced in the district.

5. **Remarkable Masses of Gold.**—Allusion has already been made in preceding Year Books to the discovery of "nuggets" and other remarkable masses of gold, but it is not proposed to repeat this information in the present issue. It may be noted, however, that in 1913 nuggets yielding 180 ozs., 50 ozs., and 23 ozs. were obtained at Poseidon in Victoria. In the same State also, and near the spot at Moliagul where the famous "Welcome Stranger," weighing 2284 ozs., was discovered in 1869, a mass of quartz yielding 94 ozs. of gold was obtained in 1913. A small lump of quartz from a mine at Tallangatta furnished 44 ozs. In an alluvial deposit at Corindhap four nuggets weighing respectively 100, 60, 60, and 30 ozs. were obtained at a depth of 13 feet.

6. **Modes of Occurrence of Gold in Australia.**—This subject has been alluded to at some length in preceding issues of the Year Book, but considerations of space will not permit of repetition in the present issue.

7. **Place of Commonwealth in the World's Gold Production.**—In the table given below will be found the estimated value of the world's gold production, and the share of the Commonwealth therein during the ten years 1903 to 1912. The figures given in the table have been compiled chiefly from returns obtained direct by the Commonwealth Bureau of Census and Statistics from the gold-producing countries of the world.

## WORLD'S GOLD PRODUCTION, 1903 to 1913.

Year.	World's Production of Gold.	Gold produced in Commonwealth.	Percentage of C'wealth on Total.
	£	£	%
1903 ... ..	66,701,000	16,295,000	24.43
1904 ... ..	70,611,000	15,897,000	22.51
1905 ... ..	76,974,000	15,551,000	20.20
1906 ... ..	83,290,000	14,632,000	17.57
1907 ... ..	84,827,000	13,515,000	15.93
1908 ... ..	91,434,000	13,059,000	14.28
1909 ... ..	93,337,000	12,605,000	13.51
1910 ... ..	93,719,000	11,554,000	12.33
1911 ... ..	94,949,000	10,552,000	11.11
1912 ... ..	95,358,000	9,880,000	10.36
1913 ... ..	93,402,000	9,377,000	10.04

While the production of gold in the Commonwealth shews a slight decrease during the sixteen years from 1897 to 1913, the world's total production practically doubled itself in the same period. The following table will be found interesting, as shewing the various foreign countries where the chief increases have taken place during the interval in question:—

## INCREASE IN GOLD YIELD, VARIOUS COUNTRIES, 1897 to 1913.

Country.	1897.	1900.	1911.	1912.	1913.
	£	£	£	£	£
United States ...	11,787,000	16,269,000	19,909,000	18,840,000	18,144,000
Canada ...	1,240,000	5,742,000	2,010,000	2,599,000	3,406,000
Mexico ...	2,045,000	1,884,000	5,069,000	4,974,000	4,212,000
Transvaal ...	11,654,000	1,481,000	35,041,000	38,686,000	37,373,000
Rhodesia ...	800	308,000	2,648,000	2,707,000	2,931,000
Gold Coast ...	85,000	38,000	1,079,000	1,499,000	1,649,000
Madagascar ...	8,500	142,000	389,000	289,000	231,000
India ...	1,571,000	1,893,000	2,238,000	2,272,000	2,292,000
Corea ...	208,000	371,000	953,000	961,000	1,057,000
Japan ...	142,000	290,000	639,000	639,000	918,000
Java ...	24,000	112,000	625,000	550,000	531,000
Costa Rica ...	2,000	31,000	149,000	95,000	124,000

The largest increase was recorded in the Transvaal, where the production more than trebled itself in the sixteen years 1897 to 1912.

8. **Employment in Gold Mining.**—The number of persons engaged in gold mining in each State in 1901 and during each of the last five years is shewn in the following table:—

## PERSONS EMPLOYED IN GOLD MINING, 1901 and 1909 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Terr.	C'w'lth.
	No.	No.	No.	No.	No.	No.	No.	No.
1901 ...	12,064	27,387	9,438	1,000	19,771	1,112	200	70,972
1909 ...	5,585	18,671	7,150	920	17,027	713	257	50,323
1910 ...	5,247	16,553	6,115	950	16,279	682	306	46,132
1911 ...	4,650	14,015	5,227	920	15,428	570	358	41,168
1912 ...	3,898	11,856	3,981	920	13,700	485	263	35,103
1913 ...	3,570	11,931	3,123	800	13,445	481	175	33,525

### § 3. Platinum and the Platinoid Metals.

1. **Platinum.**—(i.) *New South Wales.*—The existence of platinum was first noted in New South Wales in 1851 by Mr. S. Stutchbury, who found a small quantity near Orange. Since the year 1878 small quantities of the metal have been obtained from beach sands in the northern coastal district. Platiniferous ore was noted in 1889 at Broken Hill. The chief deposits at present worked in the State are situated at Platina in the Fifield division, near Parkes, but the entire production in 1913 was small, amounting to only 442 ozs., valued at £3135, while the total production recorded to the end of 1913 amounted to 13,432 ozs., valued at £32,145.

At Platina, gold is found in association with the platinum, and it is proposed to provide a permanent water supply with the object of treating the washdirt on an extensive scale.

(ii.) *Victoria.* In Victoria the metal has been found in association with copper in Gippsland. The production of platinum in 1913 amounted to 127 ozs., and was contained in matte produced by the Gippsland Copper, Platinum, and Gold Mining and Smelting Company, from ores raised from the old mine at Cooper's Creek.

2. **Osmium, Iridium, etc.**—(i.) *New South Wales.* Small quantities of osmium, iridium, and rhodium are found in various localities. As far back as 1860, the Rev. W. B. Clarke states that he found native iridium. Platinum, associated with iridium and osmium, has been found in the washings from the Aberfoil River, about 15 miles from Oban; on the beach sands of the northern coast; in the gem sand at Bingara, Mudgee, Bathurst, and other places. In some cases, as for example in the beach sands of Ballina, the osmiridium and other platinoid metals amount to as much as 40 per cent. of the platinum, or about 28 per cent. of the whole metallic content.

(ii.) *Victoria.* In Victoria, iridosmine has been found near Foster, and at Waratah Range, South Gippsland.

(iii.) *Tasmania.*—For many years osmiridium has been known to exist in the bed of the Savage River, on the West Coast, and in rivulets and creeks in the Serpentine country, but it was not until early in 1911 that efforts were made to work the deposits. During that year the price paid for the mineral was as high as £7 10s. per oz., and about 100 men were engaged in the search for it. The quantity produced amounted to 272 ozs., valued at £1888. In 1912 the production was 779 ozs., valued at £5742, or an average of £7 7s. 9d. per oz. Early in 1913 a prospector was reported to have found near the Pieman River a piece of osmiridium weighing two ounces, the largest "nugget" of this metal ever found. The production in 1913 amounted to 1262 ozs., valued at £12,016, or an average of £9 10s. 5.8d. per oz. It is stated that the selling price has occasionally reached as high as £11 per oz., but this extraordinary value is dependent on causes which are not too well known. Besides a steady and increasing use in the manufacture of fountain pens there is at present some demand for iridium and osmiridium in connection with the prevailing fashion in hard platinum jewellery.

### § 4. Silver.

1. **Occurrence in Each State.**—Particulars regarding the occurrence of silver in each State will be found in preceding Year Books, Nos. I. to V., but considerations of space preclude the repetition of this matter in the present volume.

2. **Development of Silver Mining.**—In illustration of the development of silver mining in Australia the following table has been compiled, shewing the production of silver, silver-lead and ore, and lead from each State during the years 1881, 1891, 1901, and the five years ending 1913:—

## PRODUCTION OF SILVER AND LEAD, AUSTRALIA, 1881 to 1913.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tasmania.	North. Terr.	C'wealth.
	£	£	£	£	£	£	£	£
1881	...	5,239	13,494	1,182	11,224	...	...	31,139
1891	3,621,614	6,017	21,879	1,787	250	62,138	4,140	3,717,825
1901	1,954,964	6,550	69,234	3,886	7,718	325,335	...	2,367,687
1909	1,839,688	2,310	167,636	673	19,977	298,880	...	2,329,164
1910	2,110,040	2,090	123,086	907	20,210	247,576	...	2,503,909
1911	2,652,548	2,070	79,765	140	33,335	*253,361	...	3,021,219
1912	3,745,796	2,000	121,855	326	41,995	309,098	820	4,221,890
1913	4,173,867	2,074	134,121	1,400	82,422	319,997	2,228	4,716,109

\* Exclusive of silver to the estimated value of £42,831 contained in blister copper.

(i.) *New South Wales.* The figures quoted for New South Wales in the above table represent the *net* value of the product (excluding zinc) of the silver-lead mines of the State. In explanation of the values thus given, it must be noted that the metallic contents of the larger portion of the output from the silver-lead mines in the State are extracted outside New South Wales, and it is considered, therefore, that the State should not take full credit for the finished product. Hence the *net* value referred to above relates to that of the ore, concentrates, and bullion, as declared by the several companies to the Customs Department at date of export. The real importance of the State as a producer of silver, lead, and zinc is thus to some extent lost sight of. The next table, however, which indicates the quantity and value of these metals locally produced, and the quantity and value of concentrates exported during the last five years, will shew the estimated total value of the yield:—

## VALUE OF PRODUCTION FROM SILVER-LEAD MINES OF NEW SOUTH WALES, 1909 TO 1913.

Year.	Value of Silver, Lead, and Spelter produced within the C'wealth.	Value of Concentrates Exported.	Total.
	£	£	£
1909	1,176,394	2,707,630	3,884,074
1910	1,755,220	3,180,850	4,936,070
1911	1,949,271	3,259,246	5,208,517
1912	2,477,442	3,692,352	6,169,794
1913	2,709,867	3,759,691	6,469,558

As regards silver alone, the following table, which has been prepared on a basis similar to that on which the preceding table was compiled, shews the estimated total quantity and value of that metal yielded by the mines of New South Wales up to the end of 1903 and during the last ten years:—

## ESTIMATED QUANTITY AND VALUE OF SILVER YIELDED BY MINES OF NEW SOUTH WALES TO END OF 1913.

Period.	Produced in Australia.		Contained in Concentrates, etc., Exported.		Total Production.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
To the end of 1903 ...	Fine ozs. 82,947,404	£ 13,807,421	Fine ozs. 104,659,834	£ 18,330,147	Fine ozs. 187,607,238	£ 32,137,568
1904	7,751,667	920,947	2,945,058	349,891	10,696,725	1,270,838
1905	6,804,934	852,533	3,480,561	436,050	10,285,495	1,288,583
1906	5,575,410	775,409	3,111,013	432,669	8,686,423	1,208,078
1907	5,921,457	795,982	6,228,225	845,845	12,149,682	1,641,827
1908	6,484,288	693,034	5,499,381	587,768	11,983,669	1,280,802
1909	3,717,016	382,605	6,867,775	732,563	10,584,791	1,115,168
1910	5,196,323	561,280	7,608,336	843,257	12,804,659	1,404,537
1911	5,731,468	620,578	8,797,677	973,210	14,529,145	1,593,788
1912	5,220,538	641,707	8,293,711	1,036,715	13,514,249	1,678,422
1913	5,908,638	719,249	8,596,251	1,038,714	14,504,889	1,757,963
Total ...	141,259,143	20,770,745	166,087,822	25,606,829	307,346,965	46,377,574



3. **Chief Centres of Silver Production.**—Broken Hill, in New South Wales, and Zeehan, in Tasmania, are the great centres of silver production in Australasia. The production in Queensland has, however, considerably expanded during the last few years.

(i.) *New South Wales.* (a) *Broken Hill.* A description of the silver-bearing area in this district is given in preceding issues of the Year Book. During 1912 the output of ore from the mines in this division amounted to 1,714,000 tons, the highest recorded in the history of the field. The value of the output in 1913 was £4,968,000 as compared with £4,437,000 in 1912.

Although the returns are not complete in all cases, the following table relating to the mines at Broken Hill will give some idea of the richness of the field:—

**RETURNS OF BROKEN HILL SILVER MINES TO END OF 1913.**

Mine.	Authorised Capital.	Value of Output to end of 1913.	Dividends and Bonuses Paid to end of 1913.
	£	£	£
Broken Hill Proprietary Co. Ltd. ...	600,000	36,011,197*	10,472,000
Broken Hill Proprietary Block 14 Co. ...	155,000	3,523,920	559,660
British Broken Hill Proprietary Co. ...	339,000	2,945,977	588,550
Broken Hill Proprietary Block 10 Co. ...	1,000,000	4,160,058	1,330,000
Sulphide Corporation Ltd. (Central Mine) ...	1,100,000	14,472,570†	1,423,125
Broken Hill South Silver Mining Co. ...	200,000	5,612,900	1,495,000
North Broken Hill Mining Co. ...	600,000	3,483,577‡	898,940
Broken Hill Junction Lead Mining Co. ...	150,000	964,844‡	85,000
Junction North Broken Hill Mine ...	250,000	1,654,753	79,793
The Zinc Corporation Ltd. ...		1,138,209	10,000
Broken Hill South Extended Ltd. ...	337,500	151,517	50,000
Totals ...	4,731,500	74,119,522	16,992,068

\* The value of the ores purchased during the years 1903 to 1913 is not included. † Output understated owing to incomplete returns. ‡ Incomplete. || Not available.

(b) *Yerranderie.* The mines on the Yerranderie field in the Southern Mining District produced 475,866 ozs. of silver in 1913, besides 1070 ozs. of gold, and 1458 tons of lead, the total production being valued at £77,546. Mining operations in this locality are carried on under considerable difficulties owing to the heavy cost of transport, the cost of cartage to and from Camden railway station—£2 5s. per ton—preventing successful exploitation of the lower grade ores.

(c) *Kangiarra.* The yield from the Kangiarra field, in the Yass district, consisted of 12,620 ozs. of silver, besides gold, 162 ozs.; lead, 151 tons; and copper, 101 tons; the total production being valued at £12,220. Operations were not continuous on this field for the whole of the year.

(d) *Cobar.* A considerable quantity of silver is obtained from the Great Cobar Ltd. Mine and attached properties, the production in 1913 amounting to 103,837 ozs. At the Cobar Peak Silver Mine the production was 12652 ozs.

(ii.) *Tasmania, West Coast.* The production of silver-lead ore in 1913 was 83,289 tons, valued at £319,997, to which the Hercules Mine at Dundas contributed 24,042 tons, valued at £87,837. The next highest yields came from the Tasmanian Copper and Primrose at Rosebery with £37,432 and £29,223 respectively, followed by the North Mt. Farrell with £28,994, and the Zeehan Montana with £26,339.

(iii.) *Queensland.* The yield for the chief silver-producing centres in 1913 was as follows:—Chillagoe, silver £22,322, lead £46,278; Herberton, silver £6831, lead £8046; Charters Towers, silver £5313, lead £2898; Stanthorpe, silver £5586; Cloncurry, silver £6829. The Mungana Company, in the Chillagoe district, is the largest and most consistent producer of silver-lead in Queensland. During 1913 deposits of payable ore were developed at the Girofla mine.

(iv.) *South Australia.* Rich specimens of silver ore have been discovered at Miltalie, near Cowell, in South Australia. The surrounding district is highly mineralized, but, so far, has not been thoroughly prospected.

(v.) *Northern Territory.* Silver-lead ores have been found at O'Neill's Creek about 24 miles east of Pine Creek, at Mount Bonney, and at Iron Blow.

4. **World's Production of Silver.**—The world's production of silver during the last ten years for which particulars are available is estimated to have been as follows :—

**WORLD'S PRODUCTION OF SILVER, 1903 to 1912.**

Year ...	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
World's production in 1000 fine ozs.*	173,223	176,840	181,338	184,552	183,386	212,570	227,291	240,223	254,214	250,979

\* Add 000 to figures for fine ounces.

Australasia's share in the world's silver production in 1912 was estimated at 16,112,000 ounces, or about 6½ per cent. on the total production.

5. **Prices of Silver.**—As the production of silver is dependent to a very large extent on the price realised, a statement of the average price per standard ounce in the London market at various periods and during the last five years is given below :—

**PRICE OF SILVER, 1871 to 1913.**

Year ...	1871.	1881.	1891.	1901.	1908.	1909.	1911.	1912.	1913.
Pence per standard oz.	60 $\frac{9}{16}$	51 $\frac{3}{4}$	45 $\frac{1}{16}$	27 $\frac{3}{16}$	24 $\frac{3}{8}$	23 $\frac{11}{16}$	24 $\frac{9}{16}$	28 $\frac{1}{16}$	27 $\frac{9}{16}$

During the month of November, 1906, owing to the small sales in New York, and also to the fact that the Indian, American, and Mexican Governments were all buying silver, the price rose to 33½d., the highest realised since 1893, when the average stood at 36 $\frac{5}{16}$ d.

6. **Employment in Silver Mining.**—The number of persons employed in silver mining in 1901 and during each of the last five years is given below :—

**NUMBER OF PERSONS EMPLOYED IN SILVER MINING, 1901 and 1909 to 1913.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Terr.	C'wealth.
	No.	No.	No.	No.	No.	No.	No.	No.
1901...	6,298	...	40	150	...	2,414*	†	8,902‡
1909...	6,207	...	354	40	5	1,516	†	8,122
1910...	7,999	...	590	60	21	1,173	65	9,908
1911...	8,495	...	433	30	43	1,125	47	10,173
1912...	9,062	...	208	30	60	1,681	...	11,041
1913...	9,357	...	204	30	132	1,272	16	11,011

\* Including copper miners. † Included in South Australia. ‡ Including copper miners in Tasmania.

As the table shews, the bulk of the employment was in New South Wales and Tasmania, the quantity of silver raised in the other States, excepting Queensland, being unimportant.

## § 5. Copper.

1. **Production of Copper.**—The production of copper in the various States of the Commonwealth has been influenced considerably by the ruling prices, which have undergone extraordinary fluctuations. The quantity and value of the production in earlier years and for 1909 to 1913 is shewn in the following tables :—

# PRODUCTION OF COPPER, AUSTRALIA, 1881 to 1913.

State.	1881.	1891.	1901.	1908.	1909.	1910.	1911.	1912.	1913.
QUANTITY.									
N.S.W. ... { Copper Ore	Tons. *	Tons. *	Tons. 6,087 645	Tons. 8,679 393	Tons. 6,857 109	Tons. 8,435 4,455	Tons. 10,618 1,483	Tons. 8,990 2,044	Tons. 9,153 308
Victoria... { Copper & Ore	Tons. *	Tons. *	...	983	17	150	36	...	36
Q'land ... { Copper Ore	330 3,824	85 3,551	3,061 6,736	14,961 6,152	14,494 5,776	16,387 15,199	20,384 5,922	23,120 6,295	23,655 7,161
S. Aust. ... { Copper Ore	21,638 ...	13,239 ...	2,353 ...	...	1,345 ...	...	...	...	...
W. Aust. ... { Copper Ore	...	...	10,157 9,730	2,503 8,833	6,959 8,638	6,309 8,864	10,654 8,308	28 9,536	82 4,339
Tasmania ... { Copper Ore	...	...	10,029 1,185	...	1,588 ...	...	...	...	...
Northern Territory	...	...	...	...	...	...	163	377	41
O'wealth { Copper Ore	...	...	25,614 23,184	44,167	36,598 13,018	40,166 10,914	57,567	56,918	51,310

\* Not available.

+ Including 97 tons of copper, Northern Territory.

## VALUE.

	£	£	£	£	£	£	£	£	£
New South Wales ...	227,667	119,195	412,292	502,812	424,737	486,257	590,102	579,791	598,733
Victoria ...	8,186	216	...	3,923	44	450	2,088	...	2,829
Queensland ...	19,637	3,554	194,227	893,535	853,196	932,489	1,151,351	1,698,280	1,660,178
South Australia ...	418,296	235,317	500,077	345,968	342,329	307,316	332,500	461,500	488,986
Western Australia ...	...	4,463	75,246	57,091	104,644	95,928	78,118	59,624	142,513
Tasmania ...	...	...	1,026,748	609,651	608,038	566,972	408,649	440,444	375,664
Northern Territory	...	...	...	...	...	...	1,470	3,988	432
Commonwealth ...	673,786	362,745	2,208,590	2,412,985	2,332,988	2,389,412	2,564,278	3,243,837	3,269,385

\* Including £1196, Northern Territory.

A short account of the discovery of copper in the different States is given in the earlier Year Books.

**2. Sources of Production.—(i.) New South Wales.** The principal seat of the copper-mining industry at the present date is in the Cobar district, the value of the deposits there being first recognised in 1869. The value of the output from this district in 1913 was £391,914, out of a total for the State of £598,733. Operations at the Great Cobar Mine were to some extent interfered with owing to lack of skilled labour, and partial failure of the coke supply, hence the falling off in the yield as compared with the previous year, when the production was valued at £410,000.

The Cadia Copper mine, at Cadia, in the Orange division, raised 22,000 tons of ore, valued at £57,000. Of the gross contents of the ore it was estimated that the copper was valued at £54,000, gold £2400, and silver £600. The Lloyd Copper mine, in the Burranga division, after five years' idleness was reopened in 1913, and produced 35,000 tons of ore estimated to contain copper to the value of £92,000. From the Grafton Company's mine at Cangai the output was valued at £28,250, as compared with £57,000 in the preceding year. The Kyloe mine, in the Cooma division, produced about £10,000 worth of copper in 1913, the falling off as compared with previous year being due to the exhaustion of the high grade ores.

The Electrolytic and Refining and Smelting Company of Australia Limited, established at Port Kembla, produced 14,388 tons of electrolytic copper, chiefly from matte and ore imported from other States, especially from Queensland.

**(ii.) Victoria.** The copper produced in this State was obtained from the mine near Walhalla operated by the Gippsland Copper, Platinum, and Gold Mining and Smelting Company. During 1913 the company smelted 1291 tons, and from the resultant 127 tons of matte, the estimated contents were 36 tons of copper, 127 ozs. of platinum, 519 ozs. of silver, and 41 ozs. of gold, valued at £3775.

(iii.) *Queensland.* The yield in this State amounted in 1913 to 23,655 tons, valued at £1,660,178, to which the Cloncurry field contributed 9771 tons, valued at £681,843. Next in order were Mount Morgan with 7648 tons, valued at £546,991; Rockhampton, 2246 tons, £157,923; Etheridge, 1297 tons, £89,692; Mount Perry, 1045 tons, £71,342; Gladstone, 739 tons, £50,258; Chillagoe, 630 tons, £43,607; and Herberton, 163 tons, £11,432.

The Cloncurry district is by far the most important copper-bearing area in Queensland, and but for stoppages caused by a fire at the Consols mine and a dispute at the Mount Elliott and Hampden mines, the yield for the year would probably have established a record. It is now generally recognised that the field constitutes the richest and most extensive cupriferous area in Australia.

(iv.) *South Australia.* Taking the entire period over which production extended, the yield of copper in South Australia easily outstrips that of any other State in the Commonwealth. In recent years, however, Tasmania, Queensland, and New South Wales have come to the front as copper producers, as the table on the preceding page will shew. Deposits of copper ore are found over a large portion of South Australia. The Kapunda mine, discovered in 1842 by Messrs. Dutton and Bagot, is situated fifty miles north of Adelaide, and is the oldest copper mine in the State. Up to the end of 1879 the production amounted to 70,000 tons, the metal possessing such a high standard of purity that it always obtained the highest prices in the world's markets. During the nine years 1870 to 1878 the production was valued at £157,000. The Burra Burra mine, located in 1845 by a shepherd named Pickett, is situated about 100 miles north of Adelaide. The original capital invested in this mine was £12,320 in £5 shares, on which no call was ever made, while dividends to the amount of £800,000 were paid. For many years this mine produced from 10,000 to 13,000 tons of ore, averaging 22 to 23 per cent. of copper. During the 29½ years in which the mine was worked the production was valued at £4,749,000. In 1859 as many as 1170 persons were employed on it. The mine has lain practically idle for many years.

Yorke's Peninsula, between Spencer's Gulf and St. Vincent's Gulf, contains a large area of copper-bearing country. The principal mines at Wallaroo and Moonta are situated a few miles from Port Wallaroo, and date back to 1860. For about thirty years the Moonta mines were worked independently, selling their ores to the Wallaroo company. During its separate existence the Wallaroo field produced about £2,600,000 worth of copper, while Moonta yielded £5,396,000, and was the first Australian mining field to produce £1,000,000 in dividends. The amalgamation took place in 1889, and since that year the united properties have produced about £4,281,000 worth of copper. The entire yield from the date of first working is estimated at about £12,500,000. The mines just enumerated represent a very small proportion only of those opened on the copper-bearing areas of the State. The bulk of the production in 1913 came from the Moonta and Wallaroo mines.

(v.) *Western Australia.* The value of copper exported from this State in 1913 was £142,513. According to the returns, the production in the West Pilbara field was 12,622 tons, valued at £76,878, while the Phillips River field shewed a production of 807 tons of ore and 141 tons of metallic copper, the total being valued at £9787.

(vi.) *Tasmania.* The quantity of blister copper and copper ore produced in Tasmania during 1913 was 6535 tons, valued at 375,664, the bulk of the production being due to the Mount Lyell Mining and Railway Co. Ltd. This Company treated 267,064 tons of ore in 1913, and produced 4569 tons of blister copper, containing copper to the value of £324,789; silver, £39,944; and gold, £31,297. About 1800 men are employed at the company's mines and reduction works. The Mount Balfour field raised 947 tons of ore, valued at £4557. There was no output in 1913 from the Jasper Copper mine in the Heazlewood district.

(vii.) *Northern Territory.* Copper has been found at various places, including Copperfield, 4 miles west of Pine Creek, the Daly and Mary Rivers, Mount Davis and Mount Diamond, Woollogarang, Brock's Creek, Maude Creek, and Coronet Hill.

3. **Price of Copper.**—The great variation in price that the metal has undergone is shewn in the following table, which gives the average price in London and New York during 1901 and in each of the last five years. The figures are given on the authority of "The Mineral Industry."

#### FLUCTUATION IN VALUE OF COPPER, 1901 and 1909 to 1913.

Year.	London Price per Ton Standard Copper.	New York. Price in Cents per lb.	
		* Lake Copper.	Electrolytic Copper.
	£	Cents.	Cents.
1901 ... ..	66.79	16.55	16.11
1909 ... ..	58.73	13.34	12.98
1910 ... ..	57.05	13.04	12.74
1911 ... ..	55.97	12.63	12.38
1912 ... ..	72.94	16.56	16.34
1913 ... ..	68.34	15.69	15.25

\* The term "Lake" copper is used to designate all copper sold in the trade as such, regardless of the process by which it is refined. During the last five months of 1913 sales by the Lake Superior Companies were scattered and irregular.

4. **Relationship to World's Production.**—The world's production of copper in 1901 and during the last five years is estimated to have been as follows:—

#### WORLD'S PRODUCTION OF COPPER, 1901 and 1909 to 1913.

Year	...	...	...	...	1901.	1909.	1910.	1911.	1912.	1913.
World's production— (short tons)	...	...	...	...	583,517	942,408	966,998	969,750	1,114,769	1,104,517

5. **Employment in Copper Mining.**—The number of persons employed in copper-mining during 1901 and in each of the last five years was as follows:—

#### PERSONS ENGAGED IN COPPER MINING, 1901 and 1909 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	C'wealth.
	No.	No.	No.	No.	No.	No.	No.	No.
1901	2,964	4	814	4,000	321	*	†	8,103‡
1909	2,024	2	3,241	4,450	497	2,038	54	12,306
1910	2,286	40	2,418	4,150	559	2,042	49	11,544
1911	2,151	57	2,458	4,030	317	1,565	29	10,607
1912	2,384	6	3,457	4,500	223	1,681	52	12,303
1913	2,629	12	3,687	4,000	213	2,162	53	12,756

\* Included with silver miners. † No returns. ‡ Excluding Tasmania.

## § 6. Tin.

1. **Production of Tin.**—The development of tin mining is, of course, largely dependent on the price realised for the metal, and, as in the case of copper, the production has been subjected to somewhat violent fluctuations. The table below shows the production in each of the Commonwealth States during the years 1881, 1891, 1901, and 1909 to 1913:—

TIN PRODUCED IN AUSTRALIA, 1881 to 1913.

State.	1881.	1891.	1901.	1909.	1910.	1911.	1912.	1913.
QUANTITY.								
New South Wales { Ingots	Tons. 5,824	Tons. 1,454	Tons. 648	Tons. 951	Tons. 847.	Tons. 958	Tons. 900	Tons. 903.
{ Ore	609	203	11	992	1,021	970	1,175	2,118.
Victoria ... Ore	†	†	77	89	41	33	48	57
Queensland* ... Ore	†	†	1,661	3,326	2,953	3,081	3,230	3,197
West Australia (Ore & Ingot)	...	...	734	698†	500†	495	651	484
Tasmania ... Ore	†	†	1,790	4,511	3,701	3,953	3,714	4,010
Northern Territory Ore	...	†	81	427	364	239	271	258
Commonwealth { Ingots, ore, etc.	†	†	5,002	10,994	9,427	9,739	9,989	11,027
VALUE.								
New South Wales... { Ingots	£ 531,303	£ 124,320	£ 76,080	£ 127,089	£ 127,700	£ 191,000	£ 183,000	£ 182,800.
{ Ore	37,492	9,643	464	83,940	100,456	116,089	155,074	238,492.
Victoria ... Ore	7,834	5,092	4,181	7,067	3,706	3,417	5,733	6,959
Queensland ... Ore	193,699	116,387	93,723	244,927	243,271	307,847	364,503	343,666.
West Australia (Ore & Ingot)	...	10,200	40,000	65,959	45,129	55,220	79,738	72,142
Tasmania ... Ore	375,775	293,170	212,542	418,165	399,393	513,500	543,103	531,983
Northern Territory Ore	...	1,938	5,586	32,741	31,113	22,900	27,001	25,526
Commonwealth ...	1,145,603	560,750	432,576	979,888	950,768	1,209,973	1,358,152	1,401,571

\* Dressed tin ore, about 70% tin.

† Tin ingot and ore.

‡ Not available.

2. **Sources of Production.**—(i.) *New South Wales.* The bulk of the output in New South Wales was obtained by dredging, the quantity so won in 1913 being 1819 tons, valued at £239,958. In the Tingha division the yield amounted to 1169 tons, valued at £141,133, the yield from dredging being estimated at £93,431. The Emmaville division in the New England district shewed a yield of 1085 tons of ore, valued at £130,164, of which dredging produced 819 tons, valued at £108,591. In the Wilson's Downfall division, 153 tons, valued at £22,614, were raised. The Torrington division, also in the New England district, returned a yield of 113 tons, valued at £13,742. The Ardlethan field in the Lachlan division, discovered in January, 1912, produced ore and concentrates to the value of £42,536.

(ii.) *Victoria.* In Victoria lode tin has been discovered at Mt. Wills, Beechworth, Eldorado, Chiltern, Stanley, and other places in the north-eastern district; and stream tin has been found in a large number of places, including those just mentioned in the north-eastern district. The bulk of the production in 1913 was obtained in the Toora and Beechworth districts.

(iii.) *Queensland.* The continued high price of the metal during 1913 was responsible for renewed activity in tin mining, particularly in the Herberton district, where there was increased development in existing mines, while great attention was devoted to recent discoveries and also to deposits hitherto regarded as insufficiently productive. Besides the ordinary creek and stream alluvial, extensive layers of stanniferous wash capping many of the ridges have been profitably worked. The yield for this district amounted in 1913 to £189,069. From the other chief districts the yields were as follows:—Chillagoe, £46,773; Cooktown, £38,065; Stanthorpe, £31,221 and Kangaroo Hills, £27,484.

(iv.) *Western Australia.* The production of tin ore and ingot for the State during 1913 amounted to 484 tons, valued at £72,142, to which the Greenbushes field contributed 458 tons, valued at £50,954, and the Pilbara field 139 tons, valued at £16,506. Small quantities were also raised on the Murchison and Coolgardie fields. The bulk of the production on the Greenbushes field was alluvial.

(v.) *Tasmania.* The tin ore raised in 1913 amounted to 4010 tons, valued at £531,983, the largest contributor to the total being the Mount Bischoff Co. in the North Western Division. This company treated 228,664 tons of ore from which 1100 tons of tin oxide valued at £137,000 were obtained. The Mt. Bischoff Extended produced 182 tons of calcined tin oxide, valued at £20,500. In the North-Eastern Division, the Briseis Co. produced 503 tons of black tin, and the Pioneer obtained 476 tons. In the Eastern Division the Anchor Co. Ltd. produced 138 tons. In the Western Division the Renison Bell produced 97 tons of metallic tin, valued at £19,000.

(vi.) *Northern Territory.* Mount Wells, in the Burrundie district, has yielded a fair output of tin since 1886, and recent developments have proved that the lodes are increasing in size and quality. Copper, silver-lead and tin shows occur abundantly in the district, but little work has been done on them. The recently discovered tin field at Maranboy Springs, about 40 miles east of the Katherine telegraph station, promises to yield good returns. Small yields were also obtained during the year at Umbrewarra, Horseshoe Creek, West Arm, Bynoe Harbour, and Mary River.

3. **World's Production of Tin.**—According to "The Mineral Industry" the world's production of tin during each of the last five years for which particulars are available was obtained as follows:—

#### THE WORLD'S TIN SUPPLIES, 1908 to 1912.

Country in which Smelted.	1908.	1909.	1910.	1911.	1912.
	Tons.	Tons.	Tons.	Tons.	Tons.
Australia ... ..	6,700	6,450	5,500	5,150	5,130
Austria-Hungary ... ..	39	52	39	16	14
Banka, Sales in Holland ... ..	11,710	12,150	13,631	15,147	16,111
Billiton, Sales in Holland and Java ... ..	2,270	2,280	2,240	2,240	2,243
Bolivia, Exports to England ... ..	1,174	834	1,003	464	552
China, Exports ... ..	4,836	4,516	6,510	6,056	8,785
France ... ..	...	...	...	500	500
Germany, mainly Bolivian ores ... ..	6,374	8,995	11,394	12,426	12,500
Japan ... ..	26	23	23	155	175
Straits Settlements, Exports ... ..	63,690	61,540	57,490	57,944	61,528
United Kingdom, domestic ores ... ..	5,133	5,282	4,874	4,950	5,061
United Kingdom, imported ores ... ..	11,614	11,890	13,055	13,850	13,600
Total (metric tons) ... ..	113,566	114,012	115,759	118,898	126,199

The totals are exclusive of output from the native smelters in Central and South Africa, exports from Siam and the Dutch East Indies to India, China, Korea and Japan, and local consumption in Straits Settlements, Siam, and Dutch East Indies, omissions in these and a few other cases being due to lack of returns.

4. **Prices of Tin.**—The average price of the metal in the London market for the year 1897 and from 1903 to 1913 was as follows:—

## PRICE PER TON OF TIN, 1897 to 1913.

Year.			Price per Ton.	Year.			Price per Ton.
			£ s. d.				£ s. d.
1897	...	...	61 8 0	1908	...	...	133 2 6
1903	...	...	127 6 5	1909	...	...	134 15 6
1904	...	...	126 14 8	1910	...	...	155 6 2
1905	...	...	143 1 8	1911	...	...	192 7 0
1906	...	...	180 12 11	1912	...	...	209 8 5
1907	...	...	172 12 9	1913	...	...	206 5 7

According to "The Mineral Industry" the maximum price obtained for tin during the period 1897-1913 was reached in April, 1913, when the metal was quoted at £231 per ton.

5. **Employment in Tin Mining.**—The number of persons employed in tin mining in 1901 and during the last five years is shewn below:—

## PERSONS ENGAGED IN TIN MINING, COMMONWEALTH, 1901 and 1909 to 1913.

Year.			N.S.W.	Victoria.	Qld.	W. Aust.	Tas.	Nor. Ter.	C'wealth.
			No.	No.	No.	No.	No.	No.	No.
1901	...	...	1,428	...	1,148	413	1,065	...	4,054
1909	...	...	2,037	48	2,158	406	1,576	355	6,580
1910	...	...	2,028	25	1,932	326	1,598	322	6,231
1911	...	...	2,225	34	1,860	321	1,755	280	6,475
1912	...	...	2,646	57	2,153	409	1,762	287	7,314
1913	...	...	2,362	116	2,102	403	1,947	267	7,197

## 7. Zinc.

1. **Production of Zinc.**—The production of spelter is practically confined to the Broken Hill district of New South Wales, where zincblende forms one of the chief constituents in the enormous deposits of sulphide ores.

Gratifying results have been achieved in the work of the profitable extraction of the zinc contents of the large heaps of accumulated tailings and from the ore raised on the Broken Hill field. The year 1909 witnessed the passing of this problem out of the experimental stage, and the practical solution of the difficulty which had confronted the mining companies for many years. At present not only is the zinc being obtained in a marketable form, but the silver and lead contents are being turned to profitable account. In 1899 the exports of zinc (spelter and concentrates) amounted to 49,879 tons; in 1909 they totalled 373,906 tons, valued at £1,041,280; and in 1913, 506,681 tons, valued at £1,547,987, the great bulk of the production being obtained from tailings. The following table shews the production of zinc in New South Wales from 1889 to 1913:—

## NEW SOUTH WALES.—PRODUCTION OF ZINC, 1889 to 1913.

Year.			Quantity of Zinc (Spelter and Concentrates) Produced.	Value.	Year.			Quantity of Zinc (Spelter and Concentrates) Produced.	Value.
			Tons.	£				Tons.	£
1889			97	988	1910			468,627	1,289,634
1891			219	2,622	1911			516,378	1,414,980
1899			49,879	49,207	1912			520,518	1,766,242
1909			373,906	1,041,280	1913			506,681	1,547,987



The total quantity of zinc (spelter and concentrates) produced in New South Wales to the end of the year 1913 was 3,326,400 tons, valued at £9,087,900. The average price of spelter per ton in the London market during the last eight years was £23 16s. 7d., ranging from £20 3s. 3d. in 1908 to £27 0s. 5d. in 1906. The price in 1913 was £22 14s. 11d.

At the Silver Spur mine at Texas, in the Stanthorpe division in Queensland, part of the ore is high in zinc and lead, but low in silver. Profitable extraction of the zinc and lead depends, however, on railway connection with the mine.

During the year 1912, 14 tons of zinc, valued at £217, were raised in Western Australia, but there was no production in 1913.

The zinc contents of the ores produced by the Hercules Gold and Silver Mining Company in the Mt. Read district in Tasmania were stated to have amounted to 6905 tons for the year 1913.

## § 8. Iron.

1. **General.**—The fact that iron-ore is widely distributed in the Commonwealth has long been known, and extensive deposits have been discovered from time to time at various places throughout the States. It will appear, however, from what is stated below, that until quite recently, little has been done in the way of converting these deposits into a marketable commodity.

(i.) *The Manufactures Encouragement Act 1908-12.* It was hoped that the passing by the Commonwealth Parliament of the Manufactures Encouragement Act, which came into force on the 1st January, 1909, would assist in firmly establishing the iron industry in Australia on a remunerative basis, both in the smelting of pig iron and in the production of bar iron and steel from Australian ore. The Act referred to, together with its amendment in 1912, provided for the payment of bounties on iron in accordance with the terms set out hereunder :—

### BOUNTIES PAYABLE ON AUSTRALIAN PIG IRON, BAR IRON, STEEL, etc.

Description of Goods.	Rate of Bounty.	Total Amount which may be authorised.	Date of Expiry of Bounty.
CLASS 1.			
Pig iron made from Australian ore ...	12s. per ton	£150,000	30th June, 1914
Puddled bar iron made from Australian pig iron ...	„		
Steel made from Australian pig iron ...	„		
CLASS 2.			
Galvanised sheet or plate iron or steel (whether corrugated or not) made from Australian ore	10 per cent. on value	£30,000	30th June, 1914
Wire netting, not being prison made and being made from Australian ore or from wire manufactured in the United Kingdom	10 per cent. on value		
Wire made from Australian ore			
Iron and steel tubes or pipes (except riveted or cast), not more than six inches internal diameter, made from Australian pig iron or steel	10 per cent. on value		

Particulars of the bounties paid under the above Act during the half-year ended the 30th June, 1909, and during the financial years 1909-10 to 1913-14, are shewn in the following statement :—

**PARTICULARS OF BOUNTIES PAID ON PIG IRON, BAR IRON, STEEL, etc.,  
1909 to 1914.**

Period.	Steel made from Australian Pig Iron.	Puddled Bar Iron made from Aus- tralian Pig Iron.	Pig Iron made from Australian Ore.	Galvanised Sheet Iron made from Australian Ore.	Wire netting made from wire manu- factured in the United Kingdom	Total.
	£	£	£	£	£	£
Half-year ended 30th June, 1909	575	568	2,314	192	...	3,649
1909-10 ... ..	1,491	1,254	23,510	287	6,036	32,578
1910-11 ... ..	1,940	2,080	20,462	121	4,824	29,427
1911-12 ... ..	723	671	15,611	74	5,968	23,047
1912-13 ... ..	...	38	16,949	...	1,110	18,097
1913-14 ... ..	7,136	...	40,121	...	4,554	51,811
Total ... ..	11,865	4,611	118,967	674	22,492	158,609

So far New South Wales is the only State where bounty has been claimed, and the above figures, taken in conjunction with those in the succeeding table, show that production has fluctuated. The figures for 1913, however, shew a substantial increase.

(ii.) *The Iron Bounty Act 1914.* This Act repealed the Manufactures Encouragement Act 1908-14, and provides for a bounty on Australian pig iron up to the end of 1915. The rate of bounty is 8s. per ton, and the total amount authorised is £30,000. Provision is made for transfer, if required, to the State, of lands, buildings, etc., used in the manufacture of pig iron.

**2. Production of Iron.**—(i.) *New South Wales.* Reference to the extent of the deposits of iron ore in the State, and the events leading up to the establishment of ironworks at Lithgow, will be found in earlier issues of the Year Book (see No. III., p. 508). During 1913 the following materials were received at the blast furnace:—Iron ore, 71,577 tons; limestone, 26,251 tons; and coke, 60,854 tons. The output was 46,563 tons of pig iron, and 13,608 tons of steel ingots.

The Broken Hill Proprietary Company has obtained the necessary powers, and proposes to undertake the manufacture of iron and steel on a large scale at Newcastle. It is estimated that its plant and works will be in operation early in 1915. The Company will utilise the immense deposit of iron ore at the Iron Knob quarries in South Australia, abundant stores of first quality coal can be obtained from the various coalfields in the vicinity of Newcastle, and arrangements have been made for the local supply of the necessary quantities of limestone. The works have been planned so as to allow of ready extension as the business develops.

The following table shews the quantity and value of finished iron, pig iron, etc., made in New South Wales during the last seven years, chiefly from scrap iron, but since 1908 partly from the smelting of iron ore:—

**NEW SOUTH WALES.—PRODUCTION OF IRON, 1907 to 1913.**

Particulars.	1907.*	1908.†	1909.‡	1910.§	1911.§	1912.§	1913.§
Quantity    Tons	29,902	40,207	29,762	40,487	36,354	32,677	46,563
Value ...    £	178,632	118,224	106,357	161,948	145,416	130,708	186,252

\* Includes 18,631 tons pig iron, valued at £60,550, produced from 34,500 tons of iron ore raised within the State.  
† Includes 30,393 tons pig iron, valued at £98,777, from 51,206 tons of ore raised within the State.  
‡ Includes 26,762 tons pig iron, valued at £100,357, from 46,740 tons of iron ore raised within the State.  
§ From ore raised within the State.

The bounty paid in 1912 and 1913 on iron and steel made from ores mined in New South Wales was as follows:—

**BOUNTY PAID ON IRON AND STEEL, NEW SOUTH WALES, 1912 and 1913.**

Description.	1912.		1913.	
	Tonnage.	Bounty.	Tonnage.	Bounty.
Pig iron ... ..	31,104	£ 18,663	40,490	£ 24,294
Puddled bar iron ... ..	549	329	...	...
Steel ... ..	...	...	1,088	653
Total ... ..	31,653	18,992	41,578	24,947

A quantity of iron oxide is purchased by the various gasworks for use in purifying gas, the output in New South Wales being drawn chiefly from the deposits at Port Macquarie, while smaller quantities are obtained from Mittagong and Goulburn. During 1913 the quantity raised was 3204 tons, valued at £3563, while the total output to the end of that year was 26,900 tons, valued at £34,310. The quantity of ironstone disposed of for flux is decreasing, since the requirements of the smelting companies have fallen off, owing to suitable ores being obtained. In 1912 the quantity raised was 1093 tons, valued at £761, but there was no production in 1913.

(ii.) *Victoria.* Iron ore has been located at various places in Victoria, particularly at Nowa Nowa, in the Gippsland district, and at Dookie. A blast furnace was erected in 1881 near Lal Lal, on the Moorabool River, and some very fair quality iron was produced, which was used for truck wheels and stamper shoes in the Ballarat mines. The fall in the price of the metal, however, led to the closing of the works. In his report for 1905 the Secretary for Mines states that without special assistance to the industry there does not seem to be any prospect of the deposits being profitably worked.

(iii.) *Queensland.* Queensland possesses some extensive deposits of iron ore, which is mined chiefly for fluxing purposes in connection with the reduction of gold and copper ores. During the year 1913, 40,838 tons of ironstone, valued at £27,562, were raised, the bulk of the production being in the Rockhampton and Cloncurry districts.

(iv.) *South Australia.* In South Australia iron ore is raised for fluxing purposes only, although the State possesses some rich deposits capable of being mined for an indefinite period. The best known deposit is the Iron Knob, a veritable hill of iron of high percentage, situated about forty miles W.S.W. from Port Augusta. The estimated quantity of iron ore in sight at the Iron Knob and Iron Monarch has been set down at 21,000,000 tons. The Broken Hill Company intends to treat ore from this quarry at its ironworks at Newcastle, New South Wales.

(v.) *Western Australia.* This State has some very rich deposits of iron ore, but owing to their geographical position, the most extensive fields at the present time are practically unexploited, the production in the State being confined chiefly to that needed for fluxing purposes. The Murchison field possesses some extensive deposits of high-grade ore. There are also deposits on Koolan Island at Yampi Sound.

(vi.) *Tasmania.* The existence of large quantities of iron ore in Tasmania was noted as far back as 1822, when Surveyor-General Evans alluded to the "surprising abundance of iron within a few miles of Launceston." A company known as the Tasmanian Charcoal Iron Company was formed to work these deposits, and commenced operations in June, 1876. Unfortunately, however, the presence of chromium rendered the pig iron so hard and brittle that the works had to be abandoned. Extensive deposits of specular iron ore are also found in the neighbourhood of the Blythe and Gawler Rivers. The total production of iron ore in 1908 was 3600 tons, valued at £1600, and was all raised by the Tasmanian iron mine at Penguin, but owing to the closing down of that mine in 1909, there has been no further production. Iron pyrites for the manufacture of sulphuric acid and of manures, is produced on the West Coast.

(vii.) *Northern Territory.* Large bodies of rich ironstone have been discovered in various parts of the Territory, particularly between the Adelaide River and Rum Jungle. Owing to the lack of coal deposits, however, the deposits possess no immediate value.

(viii.) *World's Production of Iron, 1911.* The quantity of iron produced in Australia is but a very small proportion of the world's production, which in 1911 amounted to 63,211,000 metric tons (pig iron). The leading position for magnitude of production is held by the United States, which in 1911 produced 24,028,000 tons, compared with Germany's 15,280,000 tons, and the United Kingdom 9,875,000 tons. The position of the three countries named is similar to what it has been for several years past. Unfortunately, complete returns for a later year than 1911 are not available.

## § 9. Other Metals.

1. **Antimony.**—This metal is widely distributed in the north-eastern portion of New South Wales, between the 148° meridian and the coast, and has been found native at Lucknow, near Orange. Dyscrasite, a silver antimonide, has been found in massive blocks in the Broken Hill lodes. Owing to the low price ruling for the metal in 1913 production was small, the quantity raised being stated at 18 tons, valued at £407. The ore was raised in the Hillgrove division, where it is found in association with scheelite and gold. The total quantity of antimony ore raised in New South Wales up to the end of 1913 was 16,672 tons, valued at £305,631. The production of antimony ore in Victoria during 1913 amounted to 6151 tons, valued at £31,424. The ore was raised by a company operating at Costerfield. In Queensland extensive deposits were discovered at Neerdie, in the Wide Bay district, during 1872, also at Wolfram Camp on the Hodgkinson field, on the Palmer River, in the Ravenswood district, and on the Mitchell River in the Herberton district. In Western Australia lodes of stibnite carrying gold have been found in the Roeburne district.

2. **Arsenic.**—In the form of arsenopyrite, arsenic is of wide distribution in Victoria, but the deposits are worked to a limited extent only. At Ballarat a small quantity of the oxide is obtained from the flues of roasting furnaces.

3. **Barium.**—A valuable lode of barium sulphate has been discovered near Dalwin, on the North Lyell railway, in Tasmania, and it is proposed to develop the deposit. It is stated that the lode is from 2½ to 7 feet wide over a length of over 40 chains.

4. **Bismuth.**—This metal has been found in New South Wales, near Glen Innes, in the Deepwater division, and also at Whipstick, in the Pambula division, its discovery dating from 1877. About 9 tons of metal and ore, valued at £1202, were exported from New South Wales during 1913; the total quantity exported to the end of that year was

550 tons, valued at £129,739. In Queensland wolfram, molybdenite, and bismuth have been found in various districts, but the chief centres of production in 1913 were the Herberton and Chillagoe fields. The total production in 1913 was valued at £53,844, of which £35,359 was returned as wolfram, £618 as bismuth, and £17,867 as bismuth and wolfram. In South Australia deposits are found at Balhannah, at Mount Macdonald, and at Murninnie, on the shores of Spencer's Gulf. In Tasmania 5 tons, valued at £1616, were raised in 1913 by the Shepherd and Murphy mine at Middlesex.

5. **Chromium.** In New South Wales chromium is found at Bowling Alley Point, on the Peel River, at Barraba, at Gordon Brook, in the Clarence River district, at Bingara, Wallendbeen, and near Gundagai. The production during recent years has been trifling, the quantity raised in 1913 being 500 tons, from an area at Woods' Reef, Barraba. The total exports to the end of 1913 amounted to 31,335 tons, valued at £101,968. Chrome iron ore is found in Queensland in the Rockhampton district, where the Elgalla mine, at Cawarral, produced a small quantity in 1911. There was also some production from the mine near Broadmount.

6. **Carnotite.**—A discovery of carnotite ore was made in 1906 twenty miles E.S.E. from the Olary railway station in South Australia. (See also "Radium.")

7. **Cobalt.**—This metal was found at Carcoar in New South Wales in 1899, and subsequently at Bungonia, Port Macquarie, and various other places. There was no export of cobalt in 1913, and the total produced since 1860 amounted in value to only a little over £8000. Deposits have been noted in South Australia near Bimbourie, and South Blinman; in Western Australia at Norseman and Kanowna; and at various places in Victoria.

8. **Lead.**—This metal was first noted in New South Wales in 1849, when small specimens of native metal were found by the Rev. W. B. Clarke. At present lead mining *per se* is not practised to any extent in the Commonwealth, the supply of the metal being chiefly obtained in conjunction with silver. In New South Wales, lead in the form of pig, carbonate, and chloride, exported in 1913, amounted to 23,554 tons, valued at £365,742. The total lead exported to the end of 1913 was 161,746 tons, valued at £2,366,653. In Victoria oxides, sulphides, and carbonates of lead are found in the reefs of most of the goldfields. The deposits are not, however, of sufficient extent to repay the cost of working. In Queensland the deposits are worked chiefly for the silver, copper or gold contents of the ore, the lead produced in 1913 amounting to 3603 tons, valued at £65,683, of which 2550 tons, valued at £46,278, were produced from the mines in the Chillagoe district, 447 tons, valued at £8046, from Herberton, and 391 tons, valued at £7498, from the Etheridge district. Lead ore to the value of £59,002 was exported from Western Australia in 1913, the Northampton mineral field being the chief centre of production. Complete information is not available as to the lead contents of Tasmanian silver-lead ores. At one time South Australia produced a fair amount of lead, £22,303 worth being raised in 1902, but the production rapidly decreased, there having been no output for the last two years.

9. **Mercury.**—In New South Wales mercury was first recorded by the Rev. W. B. Clarke in 1841. Cinnabar has been found in lodes and impregnations at various places, such as Bingara, Clarence River, etc. Up to the present the production of quick-silver has been small, the total being only a little over 1000 lbs. A new reducing plant was in course of erection at Pulganbar in 1913, with a view of treating the deposits of high grade cinnabar available in the locality. In Victoria native mercury and cinnabar have been found at Silver Creek, a tributary of the Jamieson River. Lodes of cinnabar have been found in Queensland at Kilkivan, and at Black Snake, in the Wide Bay district; about four tons were produced between 1824 and 1891. Between O.K. and

Mungana several shows have been prospected with encouraging results. Small quantities have been found disseminated over a large area near Willunga in South Australia, and it is also found in New Guinea.

10. **Manganese.**—Ores of this metal occur in widely separated districts in New South Wales, but the low price of the metal precludes mining to any great extent, and the production to date has been trifling. In Queensland there are extensive deposits at Mount Miller, at Gladstone, and Mount Nansen, near Gympie, the product being utilised chiefly by the Mount Morgan mine. The production from the Mount Miller mine amounted in 1913 to 27 tons of ore, valued at £168. Small quantities of manganese ore were raised in Victoria during 1912 from mines in the vicinity of Heathcote. Extensive deposits of the ore were mined at Boolcunda in South Australia some years ago, but latterly the production has ceased. Deposits have also been noted at Kangaroo Island, Quorn, Tumby, and various other parts of the State. In Western Australia ores of the metal are found widely scattered, the black oxide being especially plentiful in the Kimberley district.

11. **Molybdenum.**—In New South Wales molybdenite (associated with bismuth) is obtained at Kingsgate, near Glen Innes, at Deepwater, and at Whipstick, in the Pambula division, the export in 1913 being 79 tons, valued at £6800, as compared with 57 tons, valued at £3700, in the previous year. The production in Queensland for 1913 was 66 tons, valued at £19,001, practically the whole of which was contributed by the mines in the Chillagoe field.

12. **Radium.**—(i.) It is reported that there have been several definite discoveries in Australia of the occurrence of minerals containing radium. The discovery at Olary, in South Australia, of carnotite, which is an alteration product of pitchblende, the compound from which radium is obtained, has already been referred to. In 1910 pitchblende was identified in portion of the workings at Olary, and a specimen, exhibiting a high degree of radio-activity, was obtained. This is the first authentic discovery of the mineral pitchblende in Australia. The deposits of radio-active uranium ores found at Radium Hill are now being mined, and the concentrates forwarded to Sydney for treatment at the company's works at Woolwich. In 1913 about 165 tons of concentrates averaging 1.4 per cent. uranium oxide were forwarded. In another case a monazite from Pilbara, Western Australia, has been shewn to give off radium emanations. This mineral has been called "pilbarite." Lastly, it is stated that the ores obtained at the Moonta mines, South Australia, contain from one-tenth to one-fifteenth of the amount of radium found in high-grade pitchblende, and that a product having a fairly high degree of radio-activity can be extracted therefrom with comparative ease.

(ii.) *Production of Radium Bromide.* At the end of November, 1912, a small quantity of radium bromide was produced at the Radium Hill Co.'s works at Woolwich, Sydney, this being the first occasion on which a marketable amount of this salt has been obtained outside of Europe. It is estimated by the chemist in charge that the present plant at the works is capable of providing £600 worth of radium weekly.

13. **Tungsten.**—Wolfram and scheelite, the principal ores of tungsten, are both mined to a small extent in New South Wales. During 1913 the export of wolfram was 126 tons, valued at £13,037, and of scheelite 44 tons, valued at £4457. Wolfram was mined chiefly at Torrington, in the Deepwater division, and scheelite at Hillgrove. In Victoria small quantities of ore were raised during 1913 at Benambra and Linton. In Queensland, tungsten ores are found in several districts, the chief centres of production in 1913 being Chillagoe and Herberton. (See also Bismuth, page 417.) A deposit of wolfram was discovered near Yankalilla in South Australia as far back as 1893, but the production up to date has been small. About 68 tons of wolfram, valued at £7040, were produced in Tasmania during 1913, 31 tons, valued at £3496, being raised at Avoca, and

29 tons, valued at £2692, at Middlesex. In the Northern Territory 11 tons of wolfram were raised during 1913 in the Wolfram Camp area, and there was a small output at Yenberrie.

In Western Australia a deposit of wolfram was discovered in the West Kimberley district, about 70 miles to the north-east of Derby; nine tons, valued at £826, were raised during 1911, but there was no production in 1912. Wolfram is mined at various points in Tasmania, the production for 1912 being 66 tons, valued at £6601, obtained chiefly at Avoca and from the Shepherd and Murphy mine at Middlesex. Scheelite has been discovered on King Island in Bass Strait.

14. **Tantalum.**—Tantalite in small quantities has been found in the Greenbushes mineral field of Western Australia for some time past, but recently a lode of fairly extensive proportions was located at the Wodgina tinfield. Up to the end of 1905 the production of this mineral in Western Australia amounted to 73 tons, valued at about £10,000, but early in 1906 it was found that the supply exceeded the demand and production was temporarily stopped; in 1908 a small quantity valued at £400 was exported. About £327 worth was reported as having been raised in the Greenbushes and Pilbara fields during 1909, but none was exported owing to the entire absence of any market. No production was recorded subsequently. Small quantities of the mineral are also found in the Northern Territory.

15. **Uranium.**—This mineral has been discovered in South Australia in the country between Mount Painter and Mount Pitts, about 80 miles east from Farina. The uranium ores occur most frequently in the form of torbernite and autunite, and are found over a considerable area. The discovery is therefore of considerable importance, since ores of this mineral are found to a very limited extent in other parts of the world, and radium is regarded as one of the products of disintegration of uranium.

In addition to the metals enumerated above there is a large number of others occurring in greater or less degree, while fresh discoveries are being constantly reported.

## (B). NON-METALLIC MINERALS.

### § 10. Coal.

1. **Production in each State.**—(i). *Historical.* A historical account of the discovery of coal in each State will be found in preceding issues of the Year Book. (See No. III., pp. 515-6.)

(ii). *New South Wales.* The production in 1913 amounted to 10,414,165 tons, valued at £3,770,375, the highest yet recorded.

(iii). *Victoria.* During 1913, 596,896 tons of coal were raised, valued at £274,940. Of this total 486,238 tons, valued at £211,423, were raised by the State coal mine at Wonthaggi. The total production for 1913 was about 3,700 tons higher than in the preceding year.

(iv). *Queensland.* The quantity of coal raised in 1913 was 1,037,944 tons, valued at £403,767, these figures constituting a record. Twenty-seven collieries were working in the Ipswich district, seven on the Darling Downs, four in the Wide Bay and Maryborough districts, and two at Blair Athol. The industry is at present in a very satisfactory position in the northern State, and owing to the wide area over which the deposits stretch, practically no limit can be set to its possibilities of extension.

(v.) *Western Australia.* Six collieries were in operation on the Collie field during 1913, and the output for the year was 313,818 tons, or about 19,000 tons more than in 1912. The improvement is due to the more general use of up-to-date plant and machinery.

(vi.) *Tasmania.* The principal collieries in Tasmania are the Cornwall and Mount Nicholas, the former producing 21,700 and the latter 30,900 tons out of a total yield in 1913 of 55,000 tons.

The quantity and value of coal produced in each State and in the Commonwealth at various periods since 1881, are shewn in the following table:—

#### PRODUCTION OF COAL, AUSTRALIA, 1881 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'w'lth.
QUANTITY.							
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1881	1,769,597	...	65,612	...	...	11,163	1,846,379
1891	4,037,929	22,834	271,603	...	...	43,256	4,375,623
1901	5,968,426	209,329	539,472	...	117,836	45,438	6,880,501
1909	9,885,815	128,673	756,577	...	214,302	66,162	8,185,593
1910	7,019,879	369,709	871,166	...	262,166	82,455	9,759,004
1911	8,173,508	659,998	891,568	...	249,890	57,067	10,550,127
1912	8,691,604	593,155	902,166	...	295,079	53,560	11,729,775
1913	10,414,165	596,896	1,037,944	...	313,818	55,043	12,417,866
VALUE.							
	£	£	£	£	£	£	£
1881	603,248	...	29,033	...	...	4,465	636,746
1891	1,742,796	19,731	128,198	...	...	17,303	1,908,028
1901	2,178,929	147,223	189,877	...	68,561	18,175	2,602,770
1909	2,618,596	76,945	270,726	...	90,965	26,464	3,083,696
1910	3,009,657	189,254	322,823	...	113,699	48,609	3,684,041
1911	3,167,165	301,141	323,998	...	111,154	26,214	3,929,679
1912	3,660,015	259,321	338,264	...	135,857	24,568	4,418,025
1913	3,770,365	274,940	403,767	...	153,614	25,367	4,628,053

The Victorian figures for 1913 include about 3000 tons of brown coal which was raised at Altona.

2. *Distribution and Quantity of Coal in each State.*—(i.) *New South Wales.* Estimates have from time to time been made as to the total quantity of coal available for working in the deposits in New South Wales, and while these naturally differ to some extent, they agree in placing the amount at well over a thousand million tons, without taking into consideration the deposits existing below a depth of 4000 feet. According to Mr. E. F. Pittman, the coal-bearing rocks of New South Wales may be classified as follows:—

#### COAL-BEARING ROCKS OF NEW SOUTH WALES.

Geological Age.	Maximum Thickness of Coal-bearing Strata.	Locality.	Character of Coal.
I. Tertiary—Eocene to Pliocene	Approx. 100 ft.	Kiandra, Gulgong, and Chouta Bay	Brown coal or lignite.
II. Mesozoic—Triassic or Trias-Jura	2,500 „	Clarence and Richmond Rivers	Coal suitable for local use only.
III. Palæozoic—Permo-Carboniferous	13,000 „	Northern, Southern and Western Coalfields	Good coal, suitable for gas, household and steaming.
IV. Palæozoic—Carboniferous	10,000 „	Stroud, Bullah Dellah.	Very inferior coal with bands; of no value.

In regard to the Tertiary deposits, it may be noted that no serious attempt has been made to use the coal as fuel in New South Wales. At Kiandra a deposit of lignite was found to possess a maximum thickness of 30 feet, but as a general rule the seams vary



from 3 to 4 feet in thickness. The Triassic or Trias-Jura deposits in the Clarence and Richmond districts contain numerous seams, but the coal is largely intersected by bands, while its large percentage of ash renders it unfit for use as fuel for industrial purposes. These beds extend under the great western plains but the presence of artesian water precludes the possibility of their being worked. The Clarence basin extends into Queensland, and at Ipswich thick and valuable seams of coal are worked. It is in the Permo-Carboniferous division that the great productive coal seams of the State are found, the area which they cover being estimated at about 16,550 square miles. The deepest part of the basin is somewhere in the vicinity of Sydney, where the "Sydney Harbour Colliery" is working the top seam at a depth of 2884 feet. Towards the north, south and west the seams rise towards the surface, and outcrop in the neighbourhood of Newcastle, Bulli and Lithgow. The coal from the various districts embraced in this division differs considerably in quality—that from the Newcastle district being especially suitable for gas-making and household purposes, while the product of the Southern (Illawarra) and Western (Lithgow) is an excellent steaming coal. At the present time the Greta coal seams are being extensively worked between West Maitland and Cessnock, and this stretch of country, covering a distance of fifteen miles, is now the most important coal mining district in Australasia. The Permo-Carboniferous measures have in various places been disturbed by intrusions of volcanic rocks, which in some instances have completely cindered the seams in close proximity to the intrusive masses, while in other instances the coal has been turned into a natural coke, some of which has realised good prices as fuel.

The table hereunder gives the yields from the various divisions at intervals from 1881 to 1913:—

#### COAL RAISED IN NEW SOUTH WALES, 1881 to 1913.

District.	1881.		1901.		1911.		1913.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£	Tons.	£
Northern ...	1,352,472	497,270	3,999,252	1,669,519	5,793,646	2,320,673	7,402,627	2,892,256
Southern ...	253,253	115,505	1,544,454	407,196	2,066,621	636,163	2,081,472	638,425
Western ...	163,842	50,473	424,720	102,214	831,337	210,329	930,066	239,694
Total ...	1,769,597	603,248	5,968,426	2,178,929	8,691,604	3,167,165	10,414,165	3,770,375

*Sydney Harbour Colliery.* This colliery possesses considerable interest from the circumstance that its workings are amongst the deepest in the world. Extended reference to the history of its opening will be found in preceding Year Books. (See No. VI., page 504.)

(ii.) *Victoria.* The deposits of black coal in Victoria occur in the Jurassic system, the workable seams, of a thickness ranging from two feet three inches to six feet, being all in the Southern Gippsland district. Deposits of brown coal and lignite of immense extent occur in gravels, sands, and clays of the Cainozoic period throughout Gippsland, Mornington Peninsula, Werribee Plains, Gellibrand, and Barwon and Moorabool basins. In the Latrobe Valley the beds reach a thickness of over 800 feet. When dried, the material makes good fuel, but owing to its excessive combustibility and friability requires to be consumed in specially constructed grates. Attempts have been made to manufacture briquettes from the brown coal, but so far without any great measure of success. At the Melbourne and Altona Colliery Company's mine at Altona, 2984 tons of brown coal, valued at £569, were raised in 1913.

The output of coal from the chief Victorian collieries during the last ten years was as follows:—

### PRODUCTION OF COAL IN VICTORIA, 1904 to 1913.

Year.	State Coal Mine.	Outtrim Howitt Company	Jumbunna Coal Company	Coal Creek.	Silkstone Co-operative Company	Austral Coal.	Other Companies.	Total Production.	Value.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	£
1904	...	57,328.	39,364	22,547	2,014	...	489	121,742	70,208
1905	...	71,989	49,009	27,710	1,624	...	4,804	155,136	79,060
1906	...	74,812	64,222	13,214	3,977	...	4,406	160,631	80,283
1907	...	64,083	61,755	3,762	7,565	...	1,470	138,635	79,706
1908	...	47,633	58,552	...	6,967	...	810	113,962	64,778
1909	2,946	44,156	65,945	3,265	...	10,631	1,730	128,673	76,945
1910	201,053	46,832	61,954	10,968	...	36,052	13,050	369,909	189,254
1911	506,059	28,359	57,397	4,589	...	34,607	28,987	659,998	301,141
1912	455,659	24,326	53,306	4,829	...	31,506	23,529	593,155	259,321
1913	486,238	22,460	38,795	6,218	...	33,462	9,723	596,896	274,940

Included in the total "for other companies" is an amount of 3847 tons raised by the Kilcunda Coal Mining Co., and 2892 tons by the Co-operative Colliery Limited at Kilcunda. The figures also include about 3000 tons of brown coal, the whole of which was raised at Altona.

(iii.) *South Australia.* The coal from Leigh's Creek in South Australia is subject to similar disabilities to the Victorian brown coal, and until some means are devised of overcoming these, production will probably languish.

(iv.) *Queensland.* In Queensland the coal-bearing strata are of vast extent and wide distribution, being noted under the greater portion of the south-eastern districts, within 200 miles of the sea, as far north as Cooktown, and under portions of the far western interior. The Ipswich beds are estimated to occupy about 12,000 square miles of country, while the Burrum fields occupy a considerably larger area. At Callide, fifty miles west of Gladstone, a seam of coal free from bands has been struck in a shaft only sixty feet deep, and borings have proved the deposit to be of considerable magnitude. The beds in the Cook district are estimated to comprise rather more than 1000 square miles, but coal measures extend to the south-west far beyond Laura and to the north of the railway. Extensive beds occur in the basin of the Fitzroy River, in the Broadsound district, and at the Bowen River. Amongst other places where the mineral is found may be enumerated Clermont, the Palmer River, Tambo, Winton, Mount Mulligan, and the Flinders River. Boring operations have proved the existence of seams of workable coal for some distance on both sides of the Dawson River. A bituminous coal is yielded by the Ipswich seams, those of the Darling Downs yield a cannel, while anthracite of good quality is furnished by the Dawson River beds.

The quantity and value of coal raised in Queensland at various periods since 1861 were as shewn below:—

### PRODUCTION OF COAL IN QUEENSLAND, 1861 to 1913.

Year	...	...	1861.	1871.	1881.	1891.	1901.	1913.
Quantity	...	Tons	14,212	17,000	65,612	271,603	539,472	1,037,944
Value	...	£	9,922	9,407	29,033	128,198	189,877	403,767

The distribution of production during the last two years was as follows:—

### QUEENSLAND COLLIERIES, 1912 and 1913.

Collieries.	1912.		1913.	
	Tons Raised.	Average Value at Pit's Mouth.	Tons Raised.	Average Value at Pit's Mouth.
Ipswich ... ..	598,505	s. d. 6 7	695,422	s. d. 7 1
Darling Downs ... ..	90,966	8 6½	103,538	8 6
Wide Bay and Maryborough ... ..	119,732	10 10½	129,611	10 11
Rockhampton ... ..	13,462	10 6	13,574	10 4
Clermont ... ..	79,501	7 6	95,799	7 7
Total ... ..	902,166	7 6	1,037,944	7 9

Of the total production in 1913, about 230,000 tons of Ipswich coal were shipped as bunker or cargo coal. The average value of Queensland coal in 1913 was the highest recorded since the year 1900.

(v.) *Western Australia.* The coal seams in Western Australia belong to the Carboniferous, Mesozoic, and Post-tertiary ages. Most of the coal contains a large proportion of moisture, and belongs partly to the hydrous bituminous and partly to the lignite class. The only coalfield at present worked is at Collie, in the Mesozoic beds of the south-west. The coal produced is bright and clean, but very fragile when free from moisture. The increased output for the last few years is partly due to the establishment of a bunkering trade at Bunbury and Fremantle, and partly to the employment of improved machinery. The production from this field since 1901 was as follows:—

### PRODUCTION OF COAL IN WESTERN AUSTRALIA, 1901 to 1913.

Year ... ..	1901.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Quantity Tons	117,836	142,373	175,248	214,302	262,166	249,890	295,079	313,818
Value £	68,561	55,158	75,694	90,965	113,699	111,154	135,857	153,614

(vi.) *Tasmania.* In Tasmania coal occurs in the following geological periods:—  
 (1) Permo-Carboniferous: Lower Coal Measures. (2) Mesozoic: Upper Coal Measures.  
 (3) Tertiary: Brown Coal and Lignite deposits. Permo-Carboniferous coal is found at Avoca, Mt. Nicholas and Fingal, Thomson's Marshes, Langloh, Seymour, York Plains, Mike Howe's Marsh, Longford, Colebrook, Schouten Island, Spring Bay and Prosser's Plains, Compton and Old Beach, Lawrenny, Longhole, Sandfly, Ida Bay, Hastings and Southport, Recherché and South Coast, Tasman's Peninsula. Deposits of lignite and brown coal are plentiful in beds of Tertiary age, but they have not been exploited to any extent. An estimate gives the approximate quantity of coal available as sixty-five million tons, of which eleven millions are in the Lower Coal Measures and fifty-four millions in the Upper Measures, exclusive of an unknown quantity in strata fringing the Central Tiers.

## PRODUCTION OF COAL IN TASMANIA, 1901 to 1913.

District.	1901.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
North-western ...	2,952	1,045	...	1,543	1,720	1,496	956	1,167
Eastern ...	37,239	53,214	55,539	57,227	71,115	54,296	51,205	52,759
Midland ...	1,536	624	...	560	721	635	679	847
South-eastern ...	...	4,008	5,529	6,832	8,899	640	720	270
South-western ...	3,711							
Total ...	45,438	58,891	61,068	66,162	82,455	57,067	53,560	55,043

The bulk of the output in 1913 was raised from the Cornwall and Mt. Nicholas mines, which produced 21,696 and 30,903 tons respectively.

3. **Production of Coal in Various Countries.**—The total known coal production of the world in 1912 amounted to about 1100 million tons (exclusive of brown coal or lignite), towards which the Commonwealth contributed 11 million tons, or about 1 per cent. The following table shews the production of the British Empire and the chief foreign countries in units of 1000 tons in 1901 and during each of the years from 1908 to 1912:—

## COAL PRODUCTION, BRITISH EMPIRE, 1901 and 1908 to 1912.

Year.	United Kingdom.	British India.	Canada.	Australian C'wealth.	New Zealand.	Union of S. Africa.
	1000 tons.	1000 tons.	1000 tons.	1000 tons.	1000 tons.	1000 tons.
1901 ...	219,047	6,636	5,791	6,881	1,228	712
1908 ...	261,529	12,770	9,720	10,194	1,861	5,137
1909 ...	263,774	11,870	9,376	8,186	1,911	5,534
1910 ...	264,433	12,047	11,526	9,759	2,197	6,351
1911 ...	271,892	12,716	10,110	10,550	2,066	6,780
1912 ...	260,416	14,706	12,958	11,730	2,178	7,248

## COAL PRODUCTION, FOREIGN COUNTRIES, 1901 and 1907 to 1911.

Year.	Russian Empire.	Sweden.	German Empire.	Belgium.	France.	Spain.	Austria-Hungary.	Japan.	United States.
	1000 tons.	1000 tons.	1000 tons.	1000 tons.	1000 tons.	1000 tons.	1000 tons.	1000 tons.	1000 tons.
1901 ...	16,215	268	106,795	21,856	31,126	2,609	12,895	8,885	261,875
1907 ...	25,487	300	143,746	23,179	36,044	3,823	14,843	14,587	371,288
1908 ...	26,232	243	144,602	23,140	36,519	3,799	14,868	14,806	411,432
1909 ...	24,460	298	148,645	23,532	37,030	3,751	14,834	15,429	447,854
1910 ...	25,998	307	156,033	22,683	37,902	3,605	15,418	17,349	443,180
1911 ...	*	355	172,065	22,603	39,745	*	*	*	477,202

\* Not available.

Including New Zealand the production from Australasia takes second place amongst the possessions of the British Empire, British India coming first in order.

4. **Export of Coal.**—The exports of coal from the Commonwealth are practically confined to New South Wales.

The total quantity of coal of Australian production (exclusive of bunker coal) exported from the Commonwealth to other countries in 1913 was 2,098,505 tons, valued at £1,121,505, of which amount 2,097,000 tons, valued at £1,120,167, were exported from New South Wales. The quantity of bunker coal taken by oversea vessels was 1,648,270 tons, of which 1,373,000 tons were taken from New South Wales.

In the following table will be found the quantity and value of the exports at decennial intervals since 1881 and during the last five years. The figures for New South Wales are given on the authority of the Mines Department of that State, and include both bunker coal and coal exported from New South Wales to other States of the Commonwealth :—

#### EXPORTS OF NEW SOUTH WALES COAL, 1881 to 1913.

Year.	1881.	1891.	1901.	1909.	1910.	1911.	1912.	1913.
Quantity ... 1000 tons	1,030	2,514	3,471	4,394	4,690	5,024	6,053	6,232
Value ... £1000	417	1,307	1,682	2,234	2,459	2,664	3,233	3,342

The principal oversea countries to which coal was exported from New South Wales during the year 1913 were as shewn hereunder. The quantity and value refer strictly to exports, and exclude bunker coal :—

#### DESTINATION OF NEW SOUTH WALES OVERSEA EXPORTS OF COAL, 1913.

Country.	Quantity.	Value.	Country.	Quantity.	Value.
	Tons.	£		Tons.	£
Chile ...	688,578	369,457	Hawaii...	87,518	47,323
Philippine Islands...	49,502	25,939	United States ...	93,755	50,559
Straits Settlements	155,393	81,771	India ...	63,324	33,018
Fiji ...	35,386	18,291	Java ...	267,382	144,130
New Zealand ...	477,605	254,338	Mexico ...	44,629	22,610
Peru ...	53,926	29,303	Alaska ...	17,242	9,401

The quantity of bunker coal taken from New South Wales by oversea vessels was about 1,373,000 tons, valued at £785,000.

The distribution of the total output from New South Wales collieries during the last five years was as follows ; the particulars given of amounts exported include coal shipped as bunker coal :—

#### DISTRIBUTION OF TOTAL OUTPUT OF NEW SOUTH WALES COAL, 1909 to 1913.

Year.	Exports to Australasian Ports.	Exports to other Ports.	Local Consumption.	Total.
	Tons.	Tons.	Tons.	Tons.
1909 ...	2,200,769	2,192,834	2,626,276	7,019,879
1910 ...	2,478,497	2,211,936	3,483,075	8,173,508
1911 ...	2,525,776	2,498,304	3,667,524	8,691,604
1912 ...	3,096,179	2,956,939	3,832,697	9,885,815
1913 ...	3,465,787	2,765,937	4,182,441	10,414,165

The figures quoted above are given on the authority of the New South Wales Mines Department. Owing to the abolition of the record of interstate trade it is impossible to give the quantities forwarded to each of the States of the Commonwealth.

5. **Consumption of Coal in Australia.**—An estimate of the consumption of coal in the Commonwealth may be arrived at by adding the imports to the home production, and deducting the exports (including bunker coal taken by oversea vessels). The following table shews the consumption of coal in Australia, computed in the manner specified, for the last five years:—

## CONSUMPTION OF COAL IN AUSTRALIA, 1909 to 1913.

Year.	Quantity of Coal Consumed.			
	Home Produce.	Produce of the United Kingdom.	Produce of Other Countries.	Total.
	Tons.	Tons.	Tons.	Tons.
1909 ... ..	5,367,000	1,000	11,000	5,379,000
1910 ... ..	6,897,000	110,000	198,000	7,205,000
1911 ... ..	7,407,000	7,000	4,000	7,418,000
1912 ... ..	7,907,000	1,500	14,000	7,922,500
1913 ... ..	8,671,491	872	3,577	8,675,940

The figures for 1910 are, of course, abnormal, the comparatively heavy importation from the United Kingdom and foreign countries being due to uncertainty in the local supply on account of the strike of coal-miners in New South Wales. Of the total importation from foreign countries in that year, India supplied 138,000 tons, and Japan 28,000 tons.

6. **Price of Coal.**—(i.) *New South Wales.* The price of coal in New South Wales has been subject to considerable fluctuation since the date of first production. Up to the end of 1857 the average value of the total output was 11s. 10d. per ton. Next year the value had risen to nearly 15s., declining thereafter until in 1871 the price realised was 7s. From 1872 to 1879 there was a rise in value to 12s. Between 1882 and 1891 the price ranged between 8s. and 10s. From 1891 onwards there was a steady decline until 1898, when the average was 5s. 4d. Henceforward prices rose again until 1902, when 7s. 5d. was the average. A decline then set in until 1905, when the price stood at a little over 6s., followed by a rise of one penny in 1906, and a further rise of eightpence in 1907. In 1908 the average was 7s. 4d., and in 1913, 7s. 3d. per ton. The price of New South Wales coal depends on the district from which it is obtained, the northern (Newcastle) coal always realising a much higher rate than the southern or western product. The average rate in each district during the last five years was as follows:—

## PRICE OF COAL IN NEW SOUTH WALES (PER TON), 1909 to 1913.

Year.				Northern District.	Southern District.	Western District.
				s. d.	s. d.	s. d.
1909 ... ..	...	...	...	8 3.48	5 11.91	4 9.34
1910 ... ..	...	...	...	8 1.44	6 1.76	5 5.56
1911 ... ..	...	...	...	8 0.13	6 1.88	5 0.72
1912 ... ..	...	...	...	8 1.15	6 1.06	4 11.98
1913 ... ..	...	...	...	7 9.91	6 1.13	5 1.85

(ii.) *Victoria.* In Victoria the average price of coal up to the 31st December, 1890, was 19s. 3d. per ton. In 1895 the price was still as high as 12s. 2d., but in the following five years there was a serious decline, the value in 1900 being quoted at 9s. 7d. per ton. In 1901, however, there was an astonishing rise, the figure being as high as 14s. 7d. Since that year, however, the price again declined, the average for 1905 being 10s. 2d.; for 1909, 12s.; for 1911, 9s. 3d.; for 1912, 8s. 9d.; and for 1913, 9s. 3d. These averages are exclusive of brown coal, the production of which in 1913 was valued at about 3s. 10d. per ton.

(iii.) *Queensland.* Prices in the principal coal-producing districts during the last five years were as follows:—

**PRICE OF COAL, QUEENSLAND, 1909 to 1913.**

District.	Value at Pit's Mouth.				
	1909.	1910.	1911.	1912.	1913.
	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.
Ipswich ... ..	6 8½	6 11	6 5	6 7	7 0½
Darling Downs ... ..	9 7¾	10 5½	8 5	8 6½	8 6
Wide Bay and Maryborough ...	11 6	11 9	10 10	10 10½	10 11
Rockhampton ... ..	4 6	8 0	10 4½	10 6	10 4
Clermont ... ..			7 6	7 6	7 7

(iv.) *Western Australia.* The average price of the Collie (Western Australia) coal up to the end of 1901 was 9s. 4d. per ton, the price in 1901 being 11s. 7d. In 1902 the average stood at 12s. 3d., and from that time the price fell steadily until 1906, when it was 7s. 7½d. per ton. In 1907, the average price was 7s. 8¾d.; in 1908, 8s. 7½d.; in 1909, 8s. 5¾d.; in 1910, 8s. 8d.; in 1911, 8s. 10d.; in 1912, 9s. 2d.; and in 1913, 9s. 9d. per ton.

(v.) *Tasmania.* The average price per ton of coal at the pit's mouth in Tasmania was 8s. in 1901. In 1902 it was 8s. 7d.; in 1903, 8s. 9d.; in 1904 and 1905, 9s. 8d.; in 1906, 9s. 9d.; in 1907, 1908, and 1909, 8s.; in 1910, 11s. 9d.; in 1911 and 1912, 9s. 2d.; and in 1913, 9s. 3d.

**7. Price of Coal in other Countries.**—According to a report published by the Board of Trade the average value of coal at the pit's mouth in the five principal coal-producing countries of the world, excluding Russia, for which no information is available, for the five years ended 1912, was as follows:—

**PRICE OF FOREIGN COAL, 1908 to 1912.**

Year.	United Kingdom.	Germany.	France.	Belgium.	United States.
	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.
1908 ... ..	8 11	10 3½	12 11½	13 1½	5 11½
1909 ... ..	8 0½	10 2½	12 5½	11 8¼	5 7½
1910 ... ..	8 2½	9 11½	12 3½	11 10½	5 10½
1911 ... ..	8 1½	9 9½	12 5½	12 0	5 10½
1912 ... ..	9 0½	10 6½	12 8½	13 5½	6 1

The price of coal at the pit's mouth in the principal British possessions is averaged by the same authority as follows:—

**PRICE OF COAL, BRITISH POSSESSIONS, 1908 to 1912.**

Year.	British India.	C'wealth of Australia.	New Zealand.	Canada.	Union of Sth. Africa.
	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.
1908 ... ..	5 3	7 4½	10 4½	10 8	6 9½
1909 ... ..	4 8½	7 6½	10 10½	10 10½	6 3½
1910 ... ..	4 1	7 6½	11 1½	11 0½	5 10½
1911 ... ..	3 11½	7 5½	10 10½	10 9½	5 8½
1912 ... ..	4 6	7 6½	10 11½	11 5½	5 6½

8. **Employment and Accidents in Coal Mining.**—The number of persons employed in coal mining in each of the States during the year 1913 is shewn below. The table also shews the number of persons killed and injured, with the proportion per 1000 employed, while further columns are added shewing the quantity of coal raised for each person killed and injured, this being a factor which must be reckoned with in any consideration of the degree of risk attending mining operations.

Returns published by the Board of Trade, England, give the total known number of persons engaged in coal mining in the principal countries of the world as 3½ millions, the number in the United Kingdom being 1,068,000; the United States, 723,000; Germany, 628,000; France, 199,000; Russia, 169,000; Belgium, 146,000; Austria, 75,000; India, 133,000; and Japan, 145,000.

Recent returns shew the rate in the United Kingdom in respect of deaths through accidents in coal mines as 1.17, and for the British Empire 1.48 per 1000 persons employed in coal mines. For France the rate is given as 1.17, for Germany 2.30, and the United States 3.35. For foreign countries generally the rate is stated at 2.48 per 1000.

#### EMPLOYMENT AND ACCIDENTS IN COAL MINING, 1913.

State.	Persons Employed in Coal Mining.	No. of Persons.		Proportion per 1000 Employed.		Tons of Coal Raised for Each Person.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales ...	18,343	18	74	0.96	3.93	570,000	141,000
Victoria ...	1,377	4	24	2.90	17.43	149,000	25,000
Queensland ...	2,332	1	40	0.43	17.15	1,038,000	26,000
Western Australia ...	559	...	84	...	150.27	...	3,700
Tasmania ...	136	...	1	...	...	...	55,000
Commonwealth	23,247	23	223	0.99	9.60	540,000	56,000

### § 11. Coke.

1. **Production of Coke.**—Notwithstanding the large deposits of excellent coal in Australia, there is at the present time a fairly considerable amount of coke imported from abroad, the oversea import during the year 1913 amounting to 26,866 tons, valued at £33,684, the bulk of which came from Germany, and was taken chiefly by South Australia and Western Australia. The table hereunder gives the production in New South Wales during the last five years :—

#### COKE MADE IN NEW SOUTH WALES, 1909 to 1913.

Year.	1909.	1910.	1911.	1912.	1913.
Quantity ... Tons	204,274	282,337	264,687	241,159	298,612
Value, total ... £	137,194	189,069	184,337	162,454	208,989
Value per ton ...	13s. 5d.	13s. 4d.	13s. 11d.	13s. 5d.	14s. 0d.

The output for 1913 is the largest in the quinquennium, and would have been much greater but for the two months' stoppage of the ovens in the South Coast district in consequence of industrial troubles.

A small quantity of coke is made in Queensland, but the bulk of that used in ore reduction is imported, mainly from New South Wales. The following table shews the amount manufactured locally, and the amount imported where figures are available during the last five years; the quantities imported include shipments landed from other States of the Commonwealth.



**QUEENSLAND.—COKE MANUFACTURED LOCALLY AND IMPORTED, 1909 to 1913.**

Year.				1909.	1910.	1911.	1912.	1913.
Manufactured locally	...	...	tons	8,633	11,188	35,025	38,136	14,942
Imported	...	...	"	55,559	*32,054	†	†	†

\* Nine months only. † Not available.

The Queensland State Mining Engineer points out that about 100,000 tons of coal and from 50,000 to 60,000 tons of coke are obtained yearly from New South Wales. During 1913 the only shipment from oversea consisted of 1986 tons of coke landed at Rockhampton from Germany.

**§ 12. Oil Shale and Mineral Oils.**

1. **Production of Shale.**—(i.) *New South Wales.* As pointed out by Mr. E. F. Pittman, the name kerosene shale has been rather inaptly applied to a variety of torbanite, cannel, or boghead mineral found at various geological horizons in New South Wales. The mineral does not, as a rule, split in parallel layers, the fracture being rather of a conchoidal type. Pure samples have been found to contain over 89 per cent. of volatile hydro-carbons. The discovery of the mineral in New South Wales dates probably as early as 1802. Its occurrence in the Hartley Vale district was noted by Count Strzelecki in 1845. The mineral has been found at several places in the Upper Coal Measures, and in at least two in the Lower Carboniferous. Production on anything like a large scale commenced in 1868, when about 17,000 tons, valued at £48,000, were raised. The production in 1913 amounted to 16,985 tons, valued at £7340, as compared with 86,018 tons, valued at £34,770, in 1912. The diminished returns in 1913 were occasioned chiefly by the cessation of operations at the Wolgan and Capertee mines. During the greater part of the year also, the works of the British Australian Oil Company were closed, and only a trifling amount of shale was raised from the mine at Temi, near Murrurundi.

(ii.) *Victoria.* Up to the present no extensive deposit of oil shale has been located in Victoria.

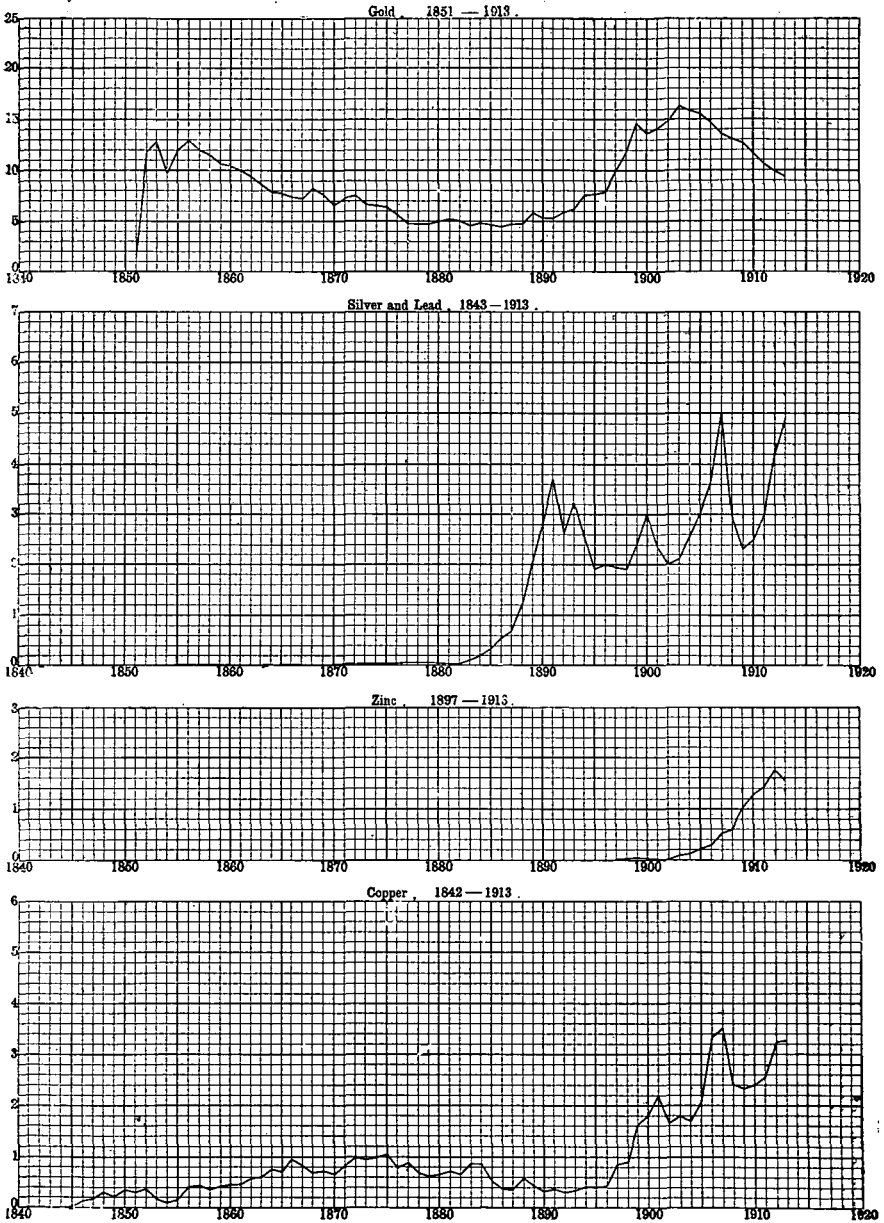
(iii.) *Queensland.* The discovery of natural gas and traces of oil in a deep bore at Roma has fostered the hope that energetic prospecting will lead to the discovery of mineral oil in quantity in this locality. Oilbearing shales are common in many parts of the State. The deposit at Duaringa on the Central railway line shewed a thickness of 6 feet, and contained about 30 gallons of oil to the ton. Inflammable gas and a little oil have been noted in bores put down for coal on the Dawson River. There are shale deposits at Monduran Creek, near Gladstone, Casuarina Island, Redbank plains in the Ipswich District and Murphy's Creek, near Toowoomba.

(iv.) *South Australia.* In this State large areas of bituminous shale, of which the boundaries are only approximately known, occur at Leigh's Creek and Lake Phillipson. Reference to the mineral known as coorongite is made in sub-section 13. Specimens of bitumen have been discovered on Kangaroo Island, and it was supposed that they were the product of a petroleum-bearing area. The Government Geologist states, however, that the island strata are not of such nature as to support this supposition. In regard to the mainland area it is argued by some investigators that the bores so far put down have not been carried to sufficient depth to fairly test the strata. A bonus of £5000 for the discovery of oil has been offered by the South Australian Government.

(v.) *Western Australia.* A deposit of carbonaceous shale of considerable thickness is known to exist at Coolgardie, but the mineral has not yet been raised in any quantity.

(vi.) *Tasmania.* Tasmanite shale has been discovered in the basins of the Mersey, Don, and Minnow Rivers, and the Government geologist estimates the probable capacity of the beds at 12,000,000 tons. The crude oil content of average quality shale has been

GRAPHS SHEWING VALUES OF THE PRINCIPAL MINERALS PRODUCED IN THE  
COMMONWEALTH, 1842 TO 1913.

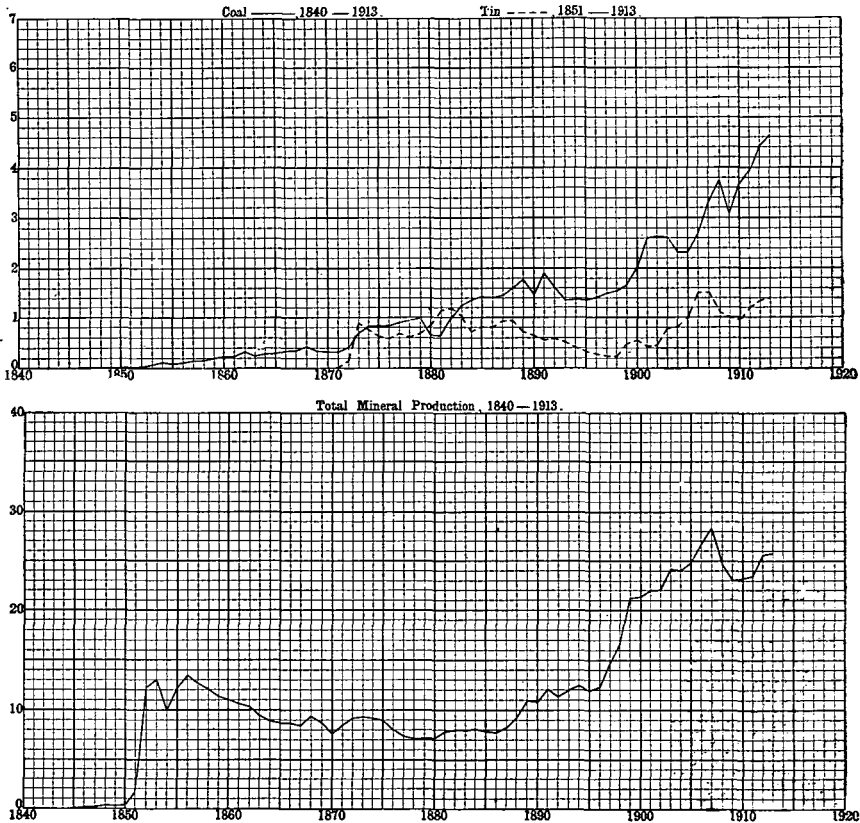


(See pages—for gold, 397; silver, 405; zinc, 413; copper, 408.)

EXPLANATION OF GRAPHS—The values shewn in the above diagrams are those of the total Commonwealth production of certain of the most important minerals in successive years from 1842 to 1913.

The base of each small square represents an interval of one year, and the vertical height represents in the case of gold £1,000,000, and in the case of silver, zinc and copper £200,000.

GRAPHS SHEWING VALUES OF THE PRINCIPAL MINERALS PRODUCED IN THE  
COMMONWEALTH, 1842 to 1913.



(See pages 421 for coal, 411, tin; and 395 total mineral production.)

**EXPLANATION OF GRAPHS**—The values shewn in the above diagrams are those of the total Commonwealth production of certain of the most important minerals in successive years from 1842 to 1913.

The base of each small square represents an interval of one year, and the vertical height represents in the case of coal and tin £200,000, and in the case of total mineral production £1,000,000.

estimated at 40 gallons to the ton. In July, 1912, the Railton-Latrobe Shale Oil Company acquired the leases and plant of the Tasmanian Shale and Oil Company, at Latrobe, and it is intended to develop the deposits on a large scale. The production in 1913 was, however, small, amounting to 130 tons, valued at £130.

(vii.) *Northern Territory.* The existence of oil shale has been reported for many years in the Boroloola district, while several oil licenses have been applied for in the Victoria River district. Results so far, however, have been negative, and experts have pronounced unfavourably on the prospects.

(viii.) *Papua.* An expert has reported that the deposits of oil-bearing shale can be worked at a profit, and oil of a satisfactory quality has been obtained from two comparatively shallow bores.

2. **Export of Shale.**—In 1913 New South Wales exported to New Zealand 256 tons of shale, valued at £671, and 100 tons, valued at £212, to Ecuador.

3. **Shale Oils Bounties.**—The Shale Oils Bounties Act 1910 provides for the payment of bounties on certain goods manufactured in Australia from Australian shale on or after the 1st July, 1910, and before the 1st July, 1913. The total amount to be made available for bounties under this Act is £50,000. Particulars are given in the following tabular statement :—

#### COMMONWEALTH SHALE OILS BOUNTIES—AMOUNT PAYABLE.

Description of Goods.	Rate of Bounty.	Maximum Amounts which may be paid during the Financial Year 1910-11.	Maximum Amounts which may be paid during each of the Financial Years 1911-12 and 1912-13.	Date of Expiry of Bounty.
Kerosene* ...	2d. per gallon.	£ 8,000	£ 16,000	30th June, 1913.
Refined paraffin wax ...	2s. 6d. per cwt.	2,000	4,000	

\* The product of shale, having a flashing point of not lower than 73 degrees Fahrenheit, determined by the "Abel Pensky" test apparatus in manner prescribed.

During the year 1913, the bounties paid in New South Wales amounted to £985 on 118,000 gallons of kerosene, and £809 on 324 tons of refined paraffin wax. As the bounty expired on the 30th June, 1913, the articles mentioned were produced prior to that date.

### § 13. Other Non-Metallic Minerals.

1. **Alunite.**—Probably the most remarkable deposit of alunite in the world occurs at Bullahdelah, in the county of Gloucester, New South Wales, a large proportion of a low bluff ridge in the district being composed of this mineral. The deposits are worked by quarrying, and up to the end of 1913, 41,270 tons had been exported, valued at £128,483, the exports for the year 1913 being 2235 tons, valued at £8940.

Deposits of a high-class alunite are reported to have been discovered near Sunbury, in Victoria.

In South Australia an extensive deposit of the mineral was located in 1913 at Carrickalinga Head, on the coast north of Normanville, and within a short distance of Adelaide. It is stated that the specimens so far analysed have proved richer in valuable constituents than any similar find yet recorded.

2. **Asbestos.**—This substance has been found in various parts of Australia, but up to the present has not been produced in any considerable quantity. In New South Wales the deposits at Jones' Creek, in the Gundagai division, were opened up during the year 1909 and a trial parcel of 15 tons shipped to Germany. There was, however, no record of production in 1913. In Western Australia what may prove to be a valuable deposit of

the fibrous chrysolite variety has been located at Tambourah, on the West Pilbara gold-field, and in 1909 £154 worth of this mineral was raised. In 1899 Tasmania raised 200 tons, valued at £363, but there has been no production during the last ten years. Deposits of asbestos of the mountain leather and mountain cork varieties have been discovered at Oodlawirra, while deposits of a good blue variety have been discovered near Hawker, and about 23 miles from Eudunda, in South Australia.

**3. Barytes.**—In New South Wales during 1913 about 438 tons of barytes, valued at £748, were obtained, the bulk of it being raised at Lue in the Mudgee division. Small quantities were produced at Cobargo, and at Bunyan, in the Cooma division.

**4. Clays and Pigments.**—Valuable deposits of clays and pigments of various sorts are found throughout the Commonwealth. There is a considerable local production of earthenware, bricks, and tiles, but the finer clays have not as yet been extensively used. In New South Wales the production of kaolin in 1913 amounted to 1654 tons, valued at £1670, raised in the Mudgee, Cootamundra, Parkes, and Goulburn divisions. Fireclay to the amount of 100 tons, valued at £50, was raised in the Bathurst division. Deposits of steatite near Wallendbeen were worked during 1913, the quantity disposed of during the year amounting to 54 tons. Near Morangaroo 3500 tons of silicia were raised and made into bricks valued at £7850. In Victoria 970 tons of kaolin were obtained at Axedale, 300 tons at Pyalong, and 248 tons at Egerton, the total value being given as £1730. In Queensland 6336 tons of fireclay, valued at £2535, were mined during the year 1912, in the Mount Morgan district. On Kangaroo Island, South Australia, where, it is stated, the first pottery mill in the Commonwealth was erected, there are vast deposits of felspar, china, stone, silica, and firebrick clay. There are also very extensive deposits of fireclay near Ardrossan on the Yorke Peninsula. Porcelain and other clays of good quality have been found in the Kingston district in Tasmania. A small parcel of kaolin from the Zeehan district yielded about 50 per cent. after treatment, but it is stated that the product could not be profitably exported to Europe. Deposits of ochre have been opened up at Dubbo, Wellington, and Marulan, in New South Wales, and ochres and pigments of excellent quality have been produced therefrom. Extensive deposits of iron oxide, giving a return of 80 per cent. ochre, have been discovered near Oodlawirra in South Australia.

**5. Coorongite.**—This peculiar indiarubber-like material was first noted many years ago near Salt Creek and in the vicinity of Coorong Inlet, in South Australia, as well as at various localities on Kangaroo Island. It was thought that the substance owed its origin to subterranean oil-bearing strata, but so far the search for petroleum has not been attended with success. (See also § 12., iv.) While the origin of coorongite is still in doubt, it is held by some observers that it is not a petroleum product.

**6. Fuller's Earth.**—Small quantities of this material were produced in 1912, from leases near Narrabri, in New South Wales, the total sold amounting to 50 tons, valued at £287.

**7. Graphite.**—Graphite is found in New South Wales near Undercliff Station, in the county of Buller, but the deposit is not sufficiently pure to prove remunerative. A small quantity of ore was forwarded in 1911 to England from a site on the Bookookoorara in the Wilson's Downfall division. In Victoria the mineral occurs in Ordovician slates in several of the goldfields, but is not worked. In Queensland graphite was raised some years ago by the Graphite Plumbago Company at Mt. Bopple, near Netherby, on the Maryborough-Gympie line. In Western Australia deposits occur near Bunbury.

**8. Gypsum.**—This mineral is found at various places in the Commonwealth. It occurs in two forms, large crystals, and a floury earth consisting of minute crystals and known as "copi." Both forms are exceedingly pure. It is largely used as a natural manure and to some extent in the manufacture of Portland cement. Gypsum, or hydrous sulphate of lime, when burnt forms plaster of Paris, but in spite of the abundant supply of suitable material it has not yet been used for this purpose. In Victoria during

1913 there was a production of 1676 tons, valued at £2363, of which 1019 tons were obtained at Boort, 597 tons at Lake Boga, and 60 tons at Fairley. A deposit of gypsum sand containing practically an inexhaustible supply is found on the edge of Lake Austin in Western Australia.

**9. Tripolite, or Diatomaceous Earth.**—Although tripolite has been found at Barraba, Cooma, Wyrallah, and in the Warrumbungle Mountains in New South Wales, the deposits have not yet been worked commercially on any considerable scale. From the deposits at Bunyan, in the Cooma division, 25 tons of diatomaceous earth, valued at £106, were produced in 1913. In Victoria there is a remarkably pure deposit at Lillicur, near Talbot, while beds of the mineral are also met with at other places in the Loddon valley, near Ballarat, at various places close to Melbourne, at Craigieburn, Lancefield, Portland, Swan Hill, Bacchus Marsh, etc. From the deposit at Lillicur, 100 tons were obtained in 1913, and 50 tons were raised at Portland. A fairly extensive deposit of tripolite exists in Queensland, between Nerang and Beaudesert, but the various outcrops have as yet been only partially examined.

**10. Salt.**—Salt is obtained from salt lakes in the Western and North-western Districts of Victoria, and from salterns in the neighbourhood of Geelong. Large quantities are also obtained from the shallow salt lakes of South Australia, chiefly on Yorke Peninsula. Lake Hart, about sixty square miles in area, situated about 120 miles N.W. from Port Augusta, contains immense supplies of salt of good quality, which at present, however, owing to distance from market, possess no economic value. The salt is simply scraped from the beds of the lakes in summer time and carted to the refinery. It is stated that care must be taken not to leave too thin a crust of salt over the underlying mud, as the resultant "crop" after the winter rains will in that case be smaller than usual. A bore recently put down near Kingscote, on Kangaroo Island, revealed brine which can be profitably used by evaporation. In Western Australia supplies are obtained from dried-up shallow lakes and consumed locally or exported. The chief centres of production were formerly Rottnest Island, near Fremantle, and Middle Island, near Esperance, but the greater part of that now produced is obtained at Port Gregory.

**11. Natural Manures.**—Gypsum has already been referred to. (See 8 *ante*.) South Australia possesses deposits of rock phosphate near Port Clinton and Ardrossan on Yorke Peninsula, at Belvedere near Kapunda, and at Koorunga, and also at many other places which have only been prospected to a small extent. Phosphate of lime has been found in small quantities in the limestone caves of New South Wales. Although it can hardly be considered a mineral product, mention may be made here of the large accumulations of guano on the Abrolhos Islands, off the coast of Western Australia, in the neighbourhood of Geraldton. The deposits vary in thickness from four to twenty-seven inches. During the years 1876-80 over 36,000 tons were raised; no figures are available shewing the production of recent years.

## § 14. Gems and Gemstones.

**1. Diamonds.**—Diamonds were first noted in New South Wales by E. J. Hargraves in 1851, and in October of the same year by Geological Surveyor Stutchbury. The Cudjiegong field was discovered in 1867, and shortly afterwards the Bingara diamondiferous deposits were located. Stones of small size are also found at Cope's Creek and other places in the Inverell district. The largest diamond won in New South Wales was reported to have been obtained in 1905 at Mt. Werong, near Oberon, and weighed 28½ carats. It is difficult to secure accurate returns in connection with the production of precious stones, but the yield of diamonds in 1913 was estimated at 5573 carats, valued at £5141, while the total production to the end of 1912 is given as 184,544 carats, valued at £125,549. The yield in 1913 was contributed chiefly by miners working in the vicinity of Copeton, in the Tingha division. Small quantities of diamonds are found in Victoria in the gravels of streams running through granite country in the Beechworth district; at Kongbool in the Western District; and near Benalla. The stones are generally small and the production up to date has been trifling. In 1912, eleven small diamonds, valued

at £20, were picked out of the sluice boxes of the Great Southern alluvial mine at Rutherglen. A few small diamonds have been found in the Pilbara district in Western Australia. In South Australia diamonds have been found on the Echunga goldfield, the most notable gem being Glover's diamond, which was sold for £70.

**2. Sapphires.**—These gems were discovered in New South Wales in 1851, near Burrandong. They have also been found in small quantities near Inverell, and at a few other localities in the State. There is no record of production. Specimens of sapphire have been found in Victoria, but the stones of commercial size are generally of little value owing to flaws.

In Queensland sapphires are found in the gravel of creek beds, between Withersfield and Anakie on the Rockhampton-Winton railway line. The gems show excellent fire and lustre, but the colour is darker blue than the Oriental sapphire. Hyacinths are occasionally found in association with the gems. The production of sapphires in Queensland in 1913 was valued at £43,222, and up to the end of 1913 the total was £269,494. The estimated return for 1912 has been distributed thus:—Purchases by gem buyers, £40,365; stones sold privately, £500; stones cut by lapidaries in Australia, £2427. Sapphires are plentifully found in the tin drifts of the Ringarooma and Portland districts in Tasmania, but the stones are, as a rule, small and not worth saving.

**3. Precious Opal.**—This stone was first discovered in New South Wales at Rocky Bridge Creek on the Abercrombie River, in the year 1877, and later a most important discovery was made at White Cliffs in the Wilcannia district, which, until recently, contributed the bulk of the production. In 1913, however, out of a total production valued at £29,493, the yield from the Lightning Ridge field, near Walgett, amounted to £19,372, while the output from the White Cliffs field was returned at £10,121. Some very fine stones are at times obtained, one weighing 5 ozs. and valued at £300 being recovered in 1911. Occasionally, black opals of very fine quality are found, one specimen from the Wallangulla field, weighing  $6\frac{1}{2}$  carats, being sold in 1910 for £102. The total value of opal won in New South Wales since the year 1890 is estimated at £1,359,700.

Small quantities of precious opal are also found in the Beechworth district in Victoria.

In Queensland, the first recorded discovery of the gem dates from about 1875. The opaliferous district stretches over a considerable area of the western interior of the State, from Kynuna and Opalton as far down as Cunnamulla. The yield in 1913 was estimated at £3000, and up to the end of that year at £175,195. These figures are, however, merely approximations, as large quantities of opal are disposed of privately to buyers on the fields, no record of which is obtained. At present, the industry suffers from the peculiar disability that in good seasons there is plenty of work available on the pastoral stations, and most men prefer this to the uncertain results obtainable by fossicking, while in dry seasons when constant work is not obtainable, the search for opal is limited by the difficulty in obtaining sufficient water.

**4. Other Gems.**—Emeralds were found in New South Wales in the year 1890, near the township of Emmaville, the largest specimen found in the district weighing twenty-three carats in the rough. Altogether 2225 carats were sent to London during that year, some of the gems bringing £4 a carat, but the production has since dwindled. The mine at the Glen in the Emmaville division was reopened and worked for a short period during 1908, when about 1000 carats of emeralds, valued at about £1650, were obtained. The largest stone in the rough weighed 60 carats. Small emeralds of fine quality have been found at Poona, in Western Australia, and it is stated that prospecting at greater depths would possibly reveal the existence of larger specimens. Amongst other gems found in New South Wales at various times may be mentioned *turquoises*, discovered in 1894, near Bodalla; *topazes*, fine specimens of which have been obtained in the New England district, and *zircon*s and *garnets*. Zircons of small size are plentifully found in the vicinity of Table Cape in Tasmania. Topazes are common in the tin drifts of Tasmania, and some fine specimens have been found. Turquoises are also found in thin veins in Victoria. In Gascoigne's mine, situated near the King River, in the parish of Edi,

samples of the gem have been found equal in colour to the best Persian stone, and a considerable quantity of turquoises from this mine has been sold in England and Germany. Fine *agates* are found in many places in Victoria, but have not been made use of to any extent. The gems also occur plentifully in the bed of Agate Creek, about 4 miles south of Forsayth, on the Etheridge field in Queensland. Garnets are found in Western Australia, and beautiful specimens of *crocidolite* have been obtained at Yarra Creek in the Murchison district. *Rubies* have been found at various places in New South Wales and Queensland. *Tourmaline* has been found on Kangaroo Island, in South Australia, and *beryls* near Williamstown, Victoria, and at Poona, in Western Australia. Very large but impure beryl crystals have been found at Ben Lomond in Tasmania. Some fine samples of *chiastolite* or luck stone have been found at Mt. Howden, near Bimbourie, in South Australia.

### (C.) GENERAL.

#### § 15. Numbers Engaged, Wages Paid, and Accidents in Mining.

1. **Total Employment in Mining.**—The number of persons engaged in the mining industry in each State and in the Commonwealth is an index of the significance of the mineral wealth. During the year 1913 the number so employed was as follows:—

##### NUMBER OF PERSONS ENGAGED IN MINING, 1913.

State.	Number of Persons Engaged in Mining for						Total.
	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Coal and Shale.	Other.	
New South Wales ...	3,570	9,357	2,629	2,362	18,966	1,996	38,880
Victoria ...	11,931	5	12	116	1,377	219	13,660
Queensland ...	3,123	204	3,687	2,102	2,332	945	12,393
South Australia ...	800	30	4,000	...	...	1,086	5,916
Western Australia ...	13,445	132	213	403	559	28	14,780
Tasmania ...	481	1,272	2,162	1,947	136	109	6,107
Northern Territory ...	175	16	53	267	...	15	526
Commonwealth ...	33,525	11,016	12,756	7,197	23,370	4,398	92,262

The following table shews the number of persons engaged in mining in the Commonwealth during each of the years 1891, 1901, and 1913, together with the proportion of the total population so engaged:—

##### PROPORTION OF PERSONS ENGAGED IN MINING, 1891, 1901, and 1913.

State	1891.		1901.		1913.	
	Miners Employed.	No. per 100,000 of Popu- lation.	Miners Employed.	No. per 100,000 of Popu- lation.	Miners Employed.	No. per 100,000 of Popu- lation.
New South Wales ...	30,604	2,700	36,615	2,685	38,880	2,150
Victoria ...	24,649	2,151	28,670	2,381	13,660	980
Queensland ...	11,627	2,934	13,352	2,664	12,393	1,899
South Australia ...	2,683	834	7,007	1,931	5,916	1,364
Western Australia ...	1,269	2,496	20,895	11,087	14,780	4,707
Tasmania ...	3,988	2,695	6,923	4,017	6,107	3,116
Northern Territory ...	...	...	...	...	526	...
Commonwealth ...	74,820	2,341	113,462	2,992	92,262	1,921



2. **Wages Paid in Mining.**—Particulars regarding wages paid in the mining industry, which in preceding issues of the Year Book were given in this section, have now been transferred to the section dealing with Labour and Industrial Statistics.

3. **Accidents in Mining, 1913.**—The following table gives particulars of the number of men killed and injured in mining accidents during the year 1913:—

### NUMBERS KILLED AND INJURED IN MINING ACCIDENTS, 1913.

Mining for—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. T.	Cwth.
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#### KILLED.

Coal and shale	18	4	2	...	...	...	...	24
Copper ...	3	...	14	2	...	1	...	20
Gold...	2	9	...	...	24	...	...	35
Silver, lead and zinc ...	23	...	1	...	1	...	...	25
Tin ...	1	...	...	...	1	4	...	5
Other minerals	1	...	...	...	...	1	...	2
Total ...	48	13	17	2	26	6	...	112

#### INJURED.

Coal and shale	74	24	45	...	84	1	...	228
Copper ...	4	...	65	8	...	32	...	109
Gold...	1	61	52	...	652	...	...	766
Silver, lead and zinc ...	27	...	15	...	5	7	...	54
Tin ...	1	...	10	...	...	18	...	29
Other minerals	1	...	1	...	...	2	...	4
Total ...	108	85	188	8	741	60	...	1,190

## § 16. State Aid to Mining.

1. **Introduction.**—The terms and conditions under which the States granted aid in mining were alluded to at some length in previous issues (see Year Books IV. and V.), but owing to considerations of space they have been omitted from this issue. A résumé of what is being done in this direction at the present time is given hereunder.

2. **New South Wales.**—The chief aid given in this State is in the direction of assistance to prospectors. Up to the end of 1913 the total sum expended in this manner amounted to £443,661, of which £10,302 was advanced in 1913. During the year the Government subsidy to the Miners' Accident Relief Fund amounted to £15,169.

3. **Victoria.**—Under the Mining Development and Surplus Revenue Acts the sum of £417,257 was expended from revenue, and £200,488 was provided out of votes during the period 1897 to 1913 as follows:—

	£
Advances to mining companies ... ..	165,228
Advances to prospectors ... ..	69,914
Boring for gold and coal ... ..	203,860
Construction of roads and tracks ... ..	62,038
Erection of testing plants, batteries, etc. ... ..	67,426
Miscellaneous, cyanide patents, Schools of Mines, etc. ... ..	49,279
Total ... ..	617,745

The expenditure in 1913 was £36,276, of which £11,410 was advanced to companies; £4775 was loaned to miners; £402 was spent on constructing roads, etc.; £15,019 on boring for gold, coal, etc., and £4670 on testing plants and miscellaneous. The Government batteries number 26, and of these 15 are managed by local trusts without expense to the Department so far as cost of working is concerned. The repayment of loans by companies amounts to £21,417, by miners £2455, and for cost of boring £8033. The State's contribution to the Coal Miners' Accident Relief Fund amounted in 1913 to £664.

4. **Queensland.**—State assistance to the mining industry in 1913 amounted to £21,693, of which £13,992 consisted of loans in aid of deep sinking; £1703 grants in aid of prospecting; £4145 in aid of roads and bridges to gold and mineral fields; £1853 advance under Mining Machinery Advances Act 1906.

5. **South Australia.**—Aid is given to the mining industry under the terms of the Mining Act of 1893, and previous measures. Up to the end of 1913 the total amount of subsidy paid was £58,209, of which £7583 has been recovered, leaving a debit of £50,626. Portion of this amount is represented by machinery that has fallen into the hands of the Government. Four Government batteries are in operation in this State.

6. **Western Australia.**—Under the Mining Development Act of 1902 assistance was granted in 1913 in accordance with the subjoined statement.—Advances in aid of mining work and equipment of mines with machinery, £6246; advances in aid of erection and equipment of crushing plants, including subsidies on stone crushed for the public, £5562; advances in aid of boring, £3293; providing means of transport, £216. In addition, amounts totalling in all £12,215 were expended from the Mining Development vote on various matters such as water supply, roads, cartage, and subsidies for development below the 100 feet level in small mines. Included in this amount of £12,215 is a sum of £10,431 on account of purchase of tailings. The sum of £5562 shewn above includes £1450 paid to owners of plants crushing for the public at fixed rates.

In 1913 there were forty State batteries in operation. The amount expended on the erection of State batteries up to the end of 1913 was £91,981 from revenue, and £240,397 from loan, giving a total of £332,378. During the year receipts amounted to £47,991, and working expenditure to £55,362.

The total value of gold and tin recovered to the end of 1913 at the State plants was £4,189,955, resulting from the treatment of 960,989 tons of gold ore and 64,920 tons of tin ore.

7. **Tasmania.**—Under the terms of the Aid to Mining Act 1912 the expenditure for the year 1913 amounted to £9347. The expenditure under Part A of the Schedule, viz., Mining prospecting and development work undertaken by or under the direction of the Department of Mines, was £8787, and under Part B, viz., Advances in aid of mining and prospecting, was £560. Of the former sum, an amount of £2893 was expended on prospecting and developmental work at Zeehan, and about £1390 in making tracks in the Heemskirk district, and from Macquarie Harbour to Port Davey.

8. **Northern Territory.**—Prior to 1912, prospectors were helped by grants of rations and some monetary assistance, but it was found that these privileges were occasionally abused, and steps have now been taken to ensure the bona fides of all seeking aid. Provision is made for generous grants to discoverers of metalliferous ores. Aid granted to prospectors in 1913 amounted to £2373, of which £633 was paid in respect of gold, £1685 for copper, and £55 for other minerals.

## SECTION XIII.

### MANUFACTURING INDUSTRIES.

#### § 1. General.

**1. Industrial Progress.**—The statistics of manufactures in the Commonwealth shew that many industries have now been permanently established on a secure basis, and also indicate a consistent progress both in regard to the extension of existing industries and the establishment of new ones. As will be seen in the following pages of this section, this progress has been particularly in evidence since the abolition of inter-colonial tariffs, which took place upon the creation of the Commonwealth of Australia in 1901.

(i.) *The Gold Discoveries, 1851.* Prior to the gold discoveries (1851) there was little development in the manufacturing industries of Australia. Reference to that period will be found in previous issues of the Year Book (see No. 6, page 524).

(ii.) *Later Progress.* Soon after the discovery of gold, the construction of the first railways (1854) and the re-establishment of regular steamship communication with Europe (1856) helped to encourage the nascent industrial activity. The Colonies of New South Wales and Victoria, which had recently (1855) received the benefits of responsible government, soon turned their attention to the settlement of an agricultural population on the land. The Acts which were passed had a beneficial effect on the working classes, giving them opportunities for employment not previously open to them, and fostering the manufacturing industries by increasing the measure of primary production. During the following years the various manufacturing industries prospered. The statistics of the States are not sufficiently complete or uniform to enable a statement of the progress of these industries to be given. The following table, however, shewing, so far as returns are available, the number of factories and the number of employees in each State at decennial periods since 1861, will serve to indicate generally the progress which has been made:—

**NUMBER OF FACTORIES AND EMPLOYEES IN EACH STATE, 1861 to 1913.**

Year.	N.S.W.	Victoria.	Queensland.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
NUMBER OF FACTORIES.							
1861	601	531	...	...	...	...	...
1871	1,813	1,740	...	...	...	...	...
1881	2,961	2,488	571†	823†	...	...	...
1891	3,056	3,141	1,328†	996†	175	...	...
1901	3,367	3,249	2,110†	1,335†	662	420*	11,143‡
1911	5,039	5,126	1,657	1,314	710	609	14,455
1912	5,162	5,263	1,790	1,341	711	611	14,878
1913	5,346	5,613	1,838	1,353	763	623	15,536
NUMBER OF EMPLOYEES.							
1861	...	4,395	...	...	...	...	...
1871	13,583	19,569	...	5,629†	...	...	...
1881	31,191	43,209	...	10,995†	...	...	...
1891	50,879	53,525	...	14,099†	...	...	...
1901	66,135	66,529	26,172†	19,283†	12,198	7,466*	197,783‡
1911	108,624	111,948	37,156	27,885	15,799	10,298	311,710
1912	115,561	116,108	40,948	28,500	16,382	9,957	327,456
1913	120,400	118,744	42,363	28,511	17,299	9,784	337,101

\* For 1902. † Not on same basis as other States. ‡ Not on same basis for some of States as in 1911.

NOTE.—In this and all subsequent tables, except where specially mentioned, "Number of Employees" includes working proprietors.

Since the inauguration of the Commonwealth, the throwing open of the whole of the Australian markets to the industrial products of each State has facilitated the internal distribution of the products of Australian industry.

**2. Defects in Industrial Statistics.**—A complete statistical account of the growth of the manufacturing industries in Australia unfortunately cannot be given for any lengthy period, owing to the fact that the necessary statistics have not been collected in past years by the several States upon a definite and identical basis. Even in respect of either the definition of a "factory" or (so far as they might be included in related returns) the statistics of persons employed therein, there was formerly no common agreement. The relatively minor place that manufacturing industry held in relation to the total activity of Australia was, perhaps, responsible for the fact that the necessity for uniform method was not earlier recognised.

In 1896 it was agreed, as between Victoria and New South Wales, to adopt a common definition of the term "factory," viz., "any factory, workshop, or mill where four or more persons are employed or power is used." This agreement was adopted for the States generally at the Conference of State Statisticians in 1902, when it was decided, however, that the term "factory" should include also "all establishments, whether making for the trade, wholesale or retail, or for export." It was further agreed that industries should be arranged, as far as possible, under a uniform classification. As a result of the conference of 1902 a higher degree of uniformity in the collection and presentation of industrial statistics was attained in the several States, so that returns upon which anything like a proper comparative study of the development and progress of various manufacturing industries in the Commonwealth may be based, date back only as far as the year 1903, when the resolution of the conference first came to be put into force. All the States did not, however, fall completely into line, and, as may be seen in the succeeding parts of this section, the comparisons afforded by the returns for the years 1903 to 1906 inclusive, are in some cases subject to various limitations. At the Conference of Statisticians held in Melbourne in 1906 special consideration was given to the methods to be adopted for the collection of statistical information regarding primary and secondary production and industry. A definite classification of industries was adopted, and a set of forms for the collection and compilation of industrial statistics on a definite and uniform basis in each State was agreed upon. The States have not, even yet, fallen entirely into line in collecting and classifying the returns. The particulars for the past five years are, however, in more complete co-ordination than formerly, and it is now possible to give particulars for the several States in greater detail and on a more uniform basis throughout.

**3. Classification of Manufacturing Industries.**—Under the classification adopted at the Conference of Statisticians held in 1906, factories were placed under nineteen different categories, according to the nature of the industry carried on therein; many of the categories were also subdivided. Where two or more industries are carried on by one proprietor in one building, each industry is, when possible, treated as a separate establishment. The statement given below shews the classification which has been adopted; it must be understood, however, that this classification does not pretend to be exhaustive, but merely serves as a guide for the collection and presentation of statistics in the several States on a definite and uniform basis:—

## CLASSIFICATION OF MANUFACTURING INDUSTRIES.

<p><b>CLASS I.—TREATING RAW MATERIALS, ETC.</b></p> <p>Boiling-down, Tallow Refining, etc.</p> <p>Tanneries</p> <p>Woolscouring &amp; Fellmongering</p> <p>Chaff-cutting, etc.</p> <p><b>CLASS II.—OILS AND FAT, ETC.</b></p> <p>Oil and Grease</p> <p>Soap and Candles</p> <p><b>CLASS III.—STONE, CLAY, GLASS, ETC.</b></p> <p>Bricks and Tiles</p> <p>Glass (including Bottles)</p> <p>Glass (Ornamental)</p> <p>Lime, Plaster, Cement and Asphalt</p> <p>Marble, Slate, etc.</p> <p>Modelling, etc.</p> <p>Pottery and Earthenware</p> <p><b>CLASS IV.—WORKING IN WOOD.</b></p> <p>Boxes and Cases</p> <p>Cooperage</p> <p>Joinery</p> <p>Saw Mills</p> <p>Wood-turning, etc.</p> <p><b>CLASS V.—METAL WORKS, MACHINERY, ETC.</b></p> <p>Agricultural Implements</p> <p>Brass and Copper</p> <p>Cutlery</p> <p>Engineering</p> <p>Galvanised Iron-working</p> <p>Ironworks and Foundries</p> <p>Lead Mills</p> <p>Railway Carriages</p> <p>Railway and Tramway Workshops</p> <p>Smelting</p> <p>Stoves and Ovens</p> <p>Tinsmithing</p> <p>Wireworking</p> <p>Other Metal Works</p> <p><b>CLASS VI.—FOOD AND DRINK, ETC.</b></p> <p>Bacon Curing</p> <p>Butter Factories</p> <p>Butterine and Margarine</p> <p>Cheese Factories</p> <p>Condensed Milk</p> <p>Meat and Fish Preserving</p> <p>Biscuits</p> <p>Confectionery</p>	<p>Corn-flour, Oatmeal, etc.</p> <p>Flour Mills</p> <p>Jam and Fruit Canning</p> <p>Pickles, Sauces, and Vinegar</p> <p>Sugar Mills</p> <p>Sugar Refining</p> <p>Aerated Waters, Cordials, etc.</p> <p>Breweries</p> <p>Condiments, Coffee, Spices, etc.</p> <p>Distilleries</p> <p>Ice and Refrigerating</p> <p>Malting</p> <p>Tobacco, Cigars, etc.</p> <p><b>CLASS VII.—CLOTHING AND TEXTILE FABRICS.</b></p> <p>Woolen and Tweed Mills</p> <p>Boots and Shoes</p> <p>Slop Clothing</p> <p>Clothing (Tailoring)</p> <p>Dressmaking and Millinery—</p> <p>Makers' material</p> <p>Customers' material</p> <p>Dyeworks and Cleaning</p> <p>Furriers</p> <p>Hats and Caps</p> <p>Waterproof and Oilskin</p> <p>Shirts, Ties, and Scarfs</p> <p>Rope and Cordage</p> <p>Tents and Tarpaulins</p> <p><b>CLASS VIII.—BOOKS, PAPER, PRINTING, ETC.</b></p> <p>Electrotyping &amp; Stereotyping</p> <p>Paper-making, Paper Boxes, Bags, etc.</p> <p>Photo-engraving</p> <p>Printing and Binding</p> <p><b>CLASS IX.—MUSICAL INSTRUMENTS, ETC.</b></p> <p>Musical Instruments and Sewing Machines</p> <p><b>CLASS X.—ARMS &amp; EXPLOSIVES</b></p> <p>Arms and Explosives</p> <p><b>CLASS XI.—VEHICLES, SADDLERY, HARNESS, ETC.</b></p> <p>Coach and Wagon Building</p> <p>Cycles</p> <p>Perambulators</p> <p>Saddlery, Harness, etc.</p> <p>Spokes, etc.</p>	<p><b>CLASS XII.—SHIP AND BOAT BUILDING AND REPAIRING.</b></p> <p>Docks and Slips</p> <p>Sailmaking</p> <p>Ship and Boat Building and Repairing</p> <p><b>CLASS XIII.—FURNITURE, BEDDING, ETC.</b></p> <p>Bedding, Flock, &amp; Upholstery</p> <p>Billiard Tables</p> <p>Furniture and Cabinet Making</p> <p>Picture Frames</p> <p>Window Blinds</p> <p><b>CLASS XIV.—DRUGS AND CHEMICALS, ETC.</b></p> <p>Chemicals, Drugs, and Medicines</p> <p>Fertilisers</p> <p>Paints, Varnishes, and By-products</p> <p><b>CLASS XV.—SURGICAL AND OTHER SCIENTIFIC INSTRUMENTS.</b></p> <p>Surgical, Optical, and other Scientific Instruments</p> <p><b>CLASS XVI.—TIMEPIECES, JEWELLERY, &amp; PLATED WARE.</b></p> <p>Electro-plating</p> <p>Manufacturing Jewellery, etc.</p> <p><b>CLASS XVII.—HEAT, LIGHT, AND POWER.</b></p> <p>Coke Works</p> <p>Electric Apparatus</p> <p>Electric Light and Power</p> <p>Gas Works and Kerosene</p> <p>Lamps and Fittings, etc.</p> <p>Hydraulic Power</p> <p><b>CLASS XVIII.—LEATHERWARE (N.E.I.)</b></p> <p>Leather Belting, Fancy Leather, Portmanteaux &amp; Bags</p> <p><b>CLASS XIX.—MINOR WARES.</b></p> <p>Basket and Wickerware, Matting, etc.</p> <p>Brooms and Brushware</p> <p>Rubber Goods</p> <p>Toys</p> <p>Umbrellas</p> <p>Other Industries</p>
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## § 2. Number of Manufactories.

1. **General.**—In stating the number of factories in the States of the Commonwealth, it is to be remembered that in the collection of statistics, for years prior to 1907, the same basis has not been adopted in each State. In Queensland, for example, prior to 1906, the statistics included all establishments where two or more hands were employed, except Government railway workshops, which were not included till 1907. The difference in other respects is not material.

In the following table, shewing the total number of manufactories in the Commonwealth during the years 1903 and 1908 to 1913, it should be noted that not only are the results affected by differences of classification prior to 1907, but also that the number of

factories from year to year does not unequivocally indicate a change in the position of the industry, since amalgamations may account for part of the reduction of the numbers. (See § 3, 5.)

### MANUFACTORIES OF THE COMMONWEALTH, 1903, and 1908 to 1913.

Year.	N.S.W.	Victoria.	Queensland.	South Aust.	West. Aust.	Tasmania.	C'wealth.
1903 ...	3,476	4,151	2,001*	906*†	586	431	11,551
1908 ...	4,453	4,608	1,371	1,237	627	557	12,853
1909 ...	4,581	4,755	1,420	1,265	632	576	13,229
1910 ...	4,821	4,873	1,563	1,278	680	635	13,850
1911 ...	5,039	5,126	1,657	1,314	710	609	14,455
1912 ...	5,162	5,263	1,790	1,341	711	611	14,878
1913 ...	5,346	5,613	1,838	1,353	763	623	15,536

\* Not on same basis as other States. † 1904 results, those for 1903 not available.

(i.) *Classification of Factories in Commonwealth, 1908 to 1913.* The following table shews the total number of factories in the Commonwealth at the end of each year from 1908 to 1913, classified on the basis indicated in § 1, 3 hereof :—

### CLASSIFICATION OF FACTORIES IN THE COMMONWEALTH, 1908 to 1913.

Class of Industry.	1908.	1909.	1910.	1911.	1912.	1913.
	No.	No.	No.	No.	No.	No.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	812	855	855	857	871	907
II. Treating oils and fats, animal, vegetable, etc. ...	97	94	100	105	102	100
III. Processes in stone, clay, glass, etc. ...	627	645	703	719	709	732
IV. Working in wood ...	1,322	1,411	1,474	1,625	1,752	1,812
V. Metal works, machinery, etc. ...	1,548	1,588	1,620	1,697	1,779	1,814
VI. Connected with food and drink, etc. ...	2,253	2,258	2,286	2,310	2,331	2,366
VII. Clothing and textile fabrics, etc. ...	2,681	2,774	2,982	3,093	3,115	3,266
VIII. Books, paper, printing and engraving ...	993	1,011	1,062	1,144	1,158	1,206
IX. Musical instruments, etc. ...	17	18	20	19	21	21
X. Arms and explosives ...	8	9	13	14	16	20
XI. Vehicles and fittings, saddlery & harness, etc. ...	1,105	1,117	1,195	1,208	1,249	1,396
XII. Ship and boat building and repairing ...	76	84	85	87	97	96
XIII. Furniture, bedding, and upholstery ...	483	512	560	613	670	719
XIV. Drugs, chemicals, and by-products ...	153	164	176	189	202	206
XV. Surgical and other scientific instruments ...	28	30	35	41	44	48
XVI. Jewellery, timepieces, and platedware ...	153	150	155	169	177	190
XVII. Heat, light, and power ...	307	314	326	351	372	420
XVIII. Leatherware, n.e.i. ...	54	55	60	62	66	67
XIX. Minor wares, n.e.i. ...	136	140	143	152	147	150
Total ...	12,853	13,229	13,850	14,455	14,878	15,536

For the purpose of the returns in the above table the definition of a factory adopted at the Conference of Statisticians in 1902 (see § 1, 2 hereof) is used, viz., "Any factory, workshop or mill where four or more persons are employed or power is used." The total increase in the number of factories according to this table from 1908 to 1913 was 2,683, or an average of 537 a year. The state of the manufacturing industries throughout Australia cannot, however, be gauged from a mere enumeration of the number of factories. Some of the factories concerned were practically in their infancy, employing but few hands, while others were developed on a large scale. Also, as pointed out previously, amalgamations may in some instances account for a reduction in the numbers.

(ii.) *Classification of Factories in each State, 1913.* The following table shews the number of factories in each State of the Commonwealth at the end of the year 1913, classified according to the nature of the industry. (See classification given in § 1, 3 hereof) :—

## CLASSIFICATION OF FACTORIES IN EACH STATE, 1913.

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	Cwth.
No.	No.	No.	No.	No.	No.	No.	No.
I. Treating raw material, product of agricul. and pastoral pursuits, etc.	297	361	47	120	36	46	907
II. Treating oils and fats, animal, vegetable, etc.	41	26	15	12	3	3	100
III. Processes in stone, clay, glass, etc.	313	209	44	99	46	21	732
IV. Working in wood	717	451	315	101	71	157	1,812
V. Metal works, machinery, etc.	553	721	237	179	77	47	1,814
VI. Connected with food and drink, etc.	770	656	434	256	135	115	2,366
VII. Clothing and textile fabrics, etc.	1,007	1,502	273	240	153	91	3,266
VIII. Books, paper, printing & engraving	447	447	144	77	66	25	1,206
IX. Musical instruments, etc.	13	5	...	2	1	...	21
X. Arms and explosives	8	11	...	1	...	...	20
XI. Vehicles and fittings, saddlery and harness, etc.	434	524	168	146	69	55	1,396
XII. Ship and boat building & repairing	46	13	13	10	6	8	96
XIII. Furniture, bedding, and upholstery	246	270	83	57	39	24	719
XIV. Drugs, chemicals, and by-products	87	91	3	10	13	2	206
XV. Surgical and other scientific instruments	13	21	7	2	5	...	48
XVI. Jewellery, timepieces, & plated ware	55	92	17	13	6	7	190
XVII. Heat, light, and power	216	126	24	13	25	16	420
XVIII. Leatherware, n.e.l.	23	35	4	3	2	...	67
XIX. Minor wares, n.e.l.	60	52	10	12	10	6	150
Total ...	5,346	5,613	1,838	1,353	763	623	15,536

2. **Use of Mechanical Power.**—The principal motive power is steam, but the chief towns possess electric power stations owned either by the Government, or by public bodies or private companies. From these many factories find it convenient to derive their motive power.

The following table shews the number of factories in which machinery was worked by steam, gas, oil, or electricity, and the horse-power of engines or motors used, in each State and in the Commonwealth, during the year 1913:—

## UTILISATION OF MECHANICAL POWER IN FACTORIES IN EACH STATE, 1913.

State	Number of Establishments.			Actual Horse-power of Engines Used.				
	Using Machinery worked by Steam, Gas, Oil, or Electricity	Others.	Total.	Steam.	Gas.	Oil.	Electricity.	Total.
	No.	No.	No.	H.P.	H.P.	H.P.	H.P.	H.P.
New South Wales	3,974	1,372	5,346	141,025	13,802	1,478	35,885	192,190
Victoria ...	3,911	1,702	5,613	67,262	16,759	2,471	18,732	105,224
Queensland ...	1,333	505	1,838	40,369	8,419	1,220	5,006	55,016
South Australia ...	977	376	1,353	24,308	6,068	1,865	5,194	37,435
Western Australia	569	194	763	27,995	3,346	825	4,633	36,799
Tasmania ...	475	148	623	12,126	283	283	2,798	15,490
Commonwealth	11,239	4,297	15,536	313,085	46,677	8,142	72,250	442,154

A comparison of the above table with that immediately preceding will explain the preponderance of horse-power employed in the New South Wales factories, this State possessing by far the largest number of industries demanding a considerable amount of power; Victoria, on the other hand, has the largest number of establishments, such as those connected with clothing and textile fabrics, wherein much less mechanical power is utilised.

The number of establishments in the Commonwealth using machinery worked by steam, gas, oil, or electricity during 1913 was 11,239, being 72.34 per cent.; 4,297 establishments, representing 27.66 per cent., used no mechanical power. The total average horse-power in use was 442,154, of which engines in which the motive power was steam formed 70.81 per cent.; gas, 11.01 per cent.; oil, 1.84 per cent.; and electricity, 16.34 per cent.



During 1913 there were 681 more establishments using power than in 1912, the increase in horse-power employed being 50,395, or over eleven per cent.

The following table shews the horse-power of engines used in connection with factories in the Commonwealth during each of the last six years :—

**UTILISATION OF MECHANICAL POWER IN FACTORIES IN COMMONWEALTH  
DURING 1908 to 1913.**

Year.	Number of Establishments.			Actual Horse-power of Engines used.				
	Using Machinery worked by Steam, Gas, Oil, or Electricity.	Others.	Total.	Steam.	Gas.	Oil.	Electricity.	Total.
	No.	No.	No.	H.P.	H.P.	H.P.	H.P.	H.P.
1908 ...	8,287	4,566	12,853	194,706	16,803	4,346	26,561	242,416
1909 ...	8,738	4,491	13,229	219,224	23,749	4,530	29,861	277,364
1910 ...	9,264	4,586	13,850	228,902	28,323	4,939	36,437	298,601
1911 ...	9,972	4,483	14,455	255,061	55,989	6,024	46,576	343,550
1912 ...	10,558	4,320	14,878	284,228	43,905	6,829	56,797	391,759
1913 ...	11,239	4,297	15,536	313,085	48,677	8,142	72,250	442,154

During the last five years the number of establishments using mechanical power has increased over 35½ per cent., the actual horse-power of engines used increasing over 82 per cent. during the same period.

### § 3. Numbers Employed in Australian Factories.

1. **Total Number Employed.**—Each person employed in and about a factory, in whatever capacity, is now included as a factory employee, consequently every proprietor who works in his business is counted as an employee, and all "outworkers" (see paragraph 6 hereinafter) are also included. The individuals embraced may be classed under the following heads, viz.:—(i.) Working proprietors; (ii.) managers and overseers; (iii.) accountants and clerks; (iv.) enginedrivers and firemen; (v.) skilled and unskilled workers in the factories, mills, or workshops; (vi.) carters and messengers; and (vii.) others.

(i.) *Average Numbers Employed, 1908 to 1913.* The following table shews, for each year from 1908 to 1913 inclusive, (a) the average numbers of persons (including both sexes and all ages) employed in manufacturing industries in each State; (b) the percentage of the numbers employed in each State on the total numbers employed in the Commonwealth; and (c) the numbers employed per ten thousand of the mean population in each State and the Commonwealth :—

**AVERAGE NUMBER OF PERSONS EMPLOYED IN MANUFACTURING INDUSTRIES,  
1908 to 1913.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
AVERAGE NUMBER.							
1908 ...	89,098	93,808	29,200	24,236	12,425	8,727	257,494
1909 ...	91,702	97,355	29,504	25,709	12,826	9,565	266,661
1910 ...	99,711	103,176	33,944*	27,010	14,107	9,980	286,928
1911 ...	108,624	111,948	37,156*	27,885	15,799	10,298	311,710
1912 ...	115,561	116,108	40,948*	28,500	16,382	9,957	327,456
1913 ...	120,400	118,744	42,363*	28,511	17,299	9,784	337,101
PERCENTAGE ON COMMONWEALTH TOTAL.							
	%	%	%	%	%	%	%
1908 ...	34.60	36.42	11.34	9.42	4.83	3.39	100.00
1909 ...	34.89	36.51	11.06	9.64	4.81	3.59	100.00
1910 ...	34.76	35.61	11.83*	9.41	4.91	3.48	100.00
1911 ...	34.85	35.91	11.92*	8.95	5.07	3.30	100.00
1912 ...	35.29	35.46	12.51*	8.70	5.00	3.04	100.00
1913 ...	35.72	35.22	12.57*	8.46	5.13	2.90	100.00

## AVERAGE NUMBER OF PERSONS EMPLOYED IN MANUFACTURING INDUSTRIES, 1908 TO 1913—Continued.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
PER 10,000 OF MEAN POPULATION.							
1908 ...	566	756	527	635	482	465	614
1909 ...	574	772	518	656	487	503	624
1910 ...	611	797	574*	673	521	522	657
1911 ...	654	848	605*	679	551	541	694
1912 ...	665	856	648*	676	543	519	705
1913 ...	665	852	649*	658	551	499	702

\* Including a number of drapery and tailoring shops making to order of customer; this class of establishment was omitted in Queensland in years previous to 1910.

(ii.) *Rates of Increase, 1908 to 1913.* From the preceding table it may be seen that there has been a general increase in the average number of persons employed in manufacturing industries during the period referred to. The following table shews the percentage of increase during each year on the average number for the preceding year:—

## PERCENTAGE OF INCREASE IN AVERAGE NUMBER EMPLOYED, 1908 to 1913.

Years.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
1908-9 ...	2.92	3.78	1.04	6.08	3.23	9.60	3.56
1909-10 ...	8.77	4.95	15.05*	5.06	9.99	4.34	7.61
1910-11 ...	8.94	9.56	9.46*	3.32	11.99	3.19	8.65
1911-12 ...	6.35	3.72	10.20*	2.12	3.69	— 3.31	5.03
1912-13 ...	4.19	2.27	3.46*	0.04	5.60	— 1.74	2.95

Note. — signifies a decrease. \* See note (\*) to preceding table.

2. *Classification of Numbers Employed in Factories in the Commonwealth, 1908 to 1913.*—The following table gives a classification of the average numbers of persons employed in factories of different descriptions in the Commonwealth during the years 1908 to 1913 inclusive:—

## AVERAGE NUMBER OF PERSONS EMPLOYED IN VARIOUS FACTORIES IN THE COMMONWEALTH, 1908 to 1913.

Class of Industry.	1908.	1909.	1910.	1911.	1912.	1913.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	9,042	9,549	9,655	9,805	9,624	9,495
II. Treating oils and fats, animal, vegetable, etc. ...	1,735	1,812	1,872	2,019	2,091	2,091
III. Processes in stone, clay, glass, etc. ...	9,420	9,605	10,737	12,093	12,909	13,794
IV. Working in wood ...	21,310	22,487	24,520	27,948	30,660	31,646
V. Metal works, machinery, etc. ...	48,505	49,753	54,238	60,538	66,472	68,539
VI. Connected with food and drink, etc. ...	40,652	41,006	42,921	45,623	46,812	49,882
VII. Clothing and textile fabrics, etc. ...	70,075	73,567	78,983	83,845	84,661	84,237
VIII. Books, paper, printing and engraving ...	21,448	21,943	23,064	24,292	25,077	26,013
IX. Musical instruments, etc. ...	444	433	553	607	628	616
X. Arms and explosives ...	339	377	431	508	899	1,240
XI. Vehicles and fittings, saddlery and harness, etc. ...	10,784	11,366	12,484	13,294	13,400	13,913
XII. Ship and boat building and repairing ...	2,278	2,220	2,506	2,920	3,821	4,216
XIII. Furniture, bedding and upholstery ...	7,117	7,638	8,434	9,480	10,405	10,462
XIV. Drugs, chemicals and by-products ...	3,086	3,391	3,627	4,165	4,381	4,328
XV. Surgical & other scientific instruments ...	176	173	190	233	238	264
XVI. Jewellery, timepieces, and platedware ...	1,771	1,800	1,696	2,142	2,302	2,170
XVII. Heat, light, and power ...	5,754	5,986	6,735	7,651	8,550	9,394
XVIII. Leatherware, n.e.i. ...	893	924	1,097	1,226	1,231	1,204
XIX. Minor wares, n.e.i. ...	2,665	2,631	2,763	3,321	3,295	3,29
Total ...	257,494	266,661	286,928	311,710	327,456	337,101

The total increase in the average number of hands employed from 1908 to 1913 was 79,607, or an annual average of 15,921. The increase was general throughout all the various classes of industry. The greatest development took place in Classes V. and VII., the increases being 20,334 and 14,162 respectively.

**3. Classification of Numbers Employed in each State, according to Class of Industry, 1913.**—The following table shews a similar classification of employees in manufacturing industries in each State for the year 1913:—

**AVERAGE NUMBER OF PERSONS EMPLOYED IN VARIOUS FACTORIES IN EACH STATE, 1913.**

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	C'wlth.
I. Treating raw material, product of agricul. and pastoral pursuits, etc.	3,992	3,246	590	1,004	286	377	9,495
II. Treating oils and fats, animal, vegetable, etc. ....	923	656	147	255	77	33	2,091
III. Processes in stone, clay, glass, etc.	6,563	4,137	671	1,502	691	230	13,794
IV. Working in wood ....	9,381	7,653	5,542	1,853	5,234	1,983	31,646
V. Metal works, machinery, etc.	27,619	20,138	7,333	8,278	3,398	2,073	68,839
VI. Connected with food and drink, etc.	15,197	15,153	13,056	3,599	1,515	1,362	49,882
VII. Clothing and textile fabrics, etc.	26,597	39,951	8,034	5,265	2,751	1,639	84,237
VIII. Books, paper, printing & engraving	10,009	9,118	2,982	1,932	1,229	743	26,013
IX. Musical instruments, etc. ....	406	181	...	21	8	...	616
X. Arms and explosives ....	379	856	...	5	...	...	1,240
XI. Vehicles and fittings, saddlery, and harness, etc. ....	4,550	5,230	1,442	1,559	650	482	13,913
XII. Ship and boat building & repairing	3,358	433	127	192	50	56	4,216
XIII. Furniture, bedding, and upholstery	4,035	3,240	1,190	1,171	465	361	10,462
XIV. Drugs, chemicals, and by-products	1,365	1,931	71	611	345	5	4,328
XV. Surgical and other scientific instruments ....	97	102	42	6	17	...	264
XVI. Jewellery, timepieces, & platedware	816	951	151	146	89	37	2,170
XVII. Heat, light, and power ....	3,577	3,419	765	893	378	362	9,394
XVIII. Leatherware, n.e.i. ....	525	568	66	27	18	...	1,204
XIX. Minor wares, n.e.i. ....	1,011	1,781	154	192	118	41	3,297
Total ... ..	120,400	118,744	42,363	28,511	17,299	9,784	337,101

The largest number employed in any particular class in the Commonwealth was in Class VII., in which there were 84,237 employees, or 24.99 per cent. of the whole number. The class affording employment to the smallest number of hands was Class XV., in which there were 264 hands, or 0.08 per cent. of the total number of employees. Classes VI., VII., and VIII. comprise those industries in which female labour is largely employed. (See § 4, 5 hereof.)

**4. Classification of Numbers Employed in each State according to Nature of Employment, 1913.**—In the following table the average numbers of persons employed in each State during the year 1913 are classified according to the nature of their employment:—

**AVERAGE NUMBER OF PERSONS EMPLOYED IN EACH STATE, CLASSIFIED ACCORDING TO NATURE OF EMPLOYMENT, 1913.**

State.	Average Number of Persons Employed.						Total.
	Working Proprietors.	Managers and Overseers	Accountants and Clerks.	Engine-drivers and Firemen.	Workers, Skilled & Unskilled in Factory, Mill or Workshop.	Carters, Messengers and Others.	
New South Wales ...	4,736	3,687	4,582	2,761	101,843	2,791	120,400
Victoria ...	5,649	3,314	3,927	1,821	100,022	4,011	118,744
Queensland ...	1,632	1,162	1,634	1,551	33,844	2,540	42,363
South Australia ...	1,335	878	1,126	555	23,849	768	28,511
Western Australia ...	557	544	640	502	13,501	1,555	17,299
Tasmania ...	502	409	396	442	7,637	398	9,784
Commonwealth ...	14,411	9,994	12,305	7,632	280,696	12,063	337,101

\* Including out-workers.

## 5. Classification of Factories according to Number of Hands Employed, 1913.—

(i.) The number of factories in each State classified according to the number of hands employed, and the total number of hands employed therein, are shewn in the following table:—

**CLASSIFICATION OF FACTORIES IN EACH STATE ACCORDING TO NUMBER OF HANDS EMPLOYED, 1913.**

No. of Persons Employed in each Factory.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
NUMBER OF FACTORIES.							
Under 4 ...	871	944	206	158	130	113	2,422
4 ...	557	636	195	154	76	78	1,696
5 to 10 ...	1,819	1,981	635	520	261	236	5,452
11 to 20 ...	951	940	360	240	119	100	2,710
21 to 50 ...	702	691	264	178	114	64	2,013
51 to 100 ...	240	216	93	60	38	16	663
Over 100 ...	206	205	85	43	25	16	580
Total ...	5,346	5,613	1,838	1,353	763	623	15,536

**AVERAGE NUMBER OF HANDS EMPLOYED.**

Under 4 ...	2,025	2,168	481	393	290	245	5,602
4 ...	2,228	2,544	780	616	304	312	6,784
5 to 10 ...	12,720	13,761	4,405	3,668	1,813	1,647	38,014
11 to 20 ...	13,880	13,770	5,238	3,511	1,758	1,448	39,605
21 to 50 ...	21,812	21,760	8,223	5,648	3,709	2,076	63,228
51 to 100 ...	16,989	14,875	6,744	4,212	2,675	981	46,476
Over 100 ...	50,746	49,866	16,492	10,463	6,750	3,075	137,392
Total ...	120,400	118,744	42,363	28,511	17,299	9,784	337,101

(ii.) Reference to the following table will shew the tendency of the ratio of the number of hands employed in the larger establishments to still further increase and that of the smaller factories to diminish. In 1908 the ratio of hands in factories employing under 21 hands was 29.72 per cent. of total employees in factories, and in those where over 100 hands were engaged 36.33 per cent., whereas in 1913 the percentages were 27.52 and 42.00 respectively. The number of factories with 20 hands or under in 1908 was 80.46 per cent., this number decreasing to 79.04 in 1913, whereas the larger factories employing over 100 hands shewed an increase from 3.20 to 3.73 per cent. The percentage of hands in factories employing from 21 to 100 hands was virtually the same during each of the two years. The average number employed in all establishments in 1908 was 20.08, and in 1913, 21.70.

**CLASSIFICATION OF FACTORIES IN THE COMMONWEALTH ACCORDING TO  
NUMBER OF HANDS EMPLOYED DURING THE YEARS 1908 to 1913.**

Year,	Establishments Employing on the Average—							
	20 hands and under.		21 to 100 hands.		101 hands and upwards.		Total.	
	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.
1908—								
Number ...	10,341	76,546	2,101	87,411	411	93,537	12,853	257,494
Average per establishment ...	...	70.40	...	41.60	...	227.58	...	20.03
Percentage to total ...	80.46	29.72	16.34	33.95	3.20	36.33	100.00	100.00
1909—								
Number ...	10,601	78,288	2,186	89,997	442	98,376	13,229	266,661
Average per establishment ...	...	7.38	...	41.17	...	222.57	...	20.16
Percentage to total ...	80.14	29.36	16.52	33.75	3.34	36.89	100.00	100.00
1910—								
Number ...	10,985	81,561	2,381	98,243	484	107,194	13,850	286,928
Average per establishment ...	...	7.42	...	41.26	...	221.33	...	20.72
Percentage to total ...	79.31	28.43	17.20	34.24	3.49	37.33	100.00	100.00
1911—								
Number ...	11,362	85,562	2,567	106,624	526	119,524	14,455	311,710
Average per establishment ...	...	7.53	...	41.54	...	227.23	...	21.56
Percentage to total ...	78.60	27.45	17.76	34.21	3.64	38.34	100.00	100.00
1912—								
Number ...	11,660	87,231	2,673	111,126	545	129,099	14,878	327,456
Average per establishment ...	...	7.48	...	41.67	...	226.88	...	22.01
Percentage to total ...	78.37	26.63	17.97	33.94	3.66	39.43	100.00	100.00
1913—								
Number ...	12,280	90,005	2,676	109,704	580	137,392	15,536	337,101
Average per establishment ...	...	7.33	...	41.00	...	236.88	...	21.70
Percentage to total ...	79.04	27.52	17.22	33.54	3.73	42.00	100.00	100.00

**6. Outworkers.**—The term “outworker” or “homeworker” has acquired a special meaning in connection with manufacturing industries, and technically embraces only those to whom work is given out by factory owners to be wrought upon in the employees’ own homes. Individuals working for themselves are not included. The following table gives particulars of the average number of outworkers connected with factories in each State during each year from 1908 to 1913 inclusive :—

**NUMBER OF OUTWORKERS\* CONNECTED WITH FACTORIES, 1908 to 1913.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
1908 ...	596	1,457	171	74	11	11	2,320
1909 ...	630	1,695	144	65	13	...	2,547
1910 ...	720	1,584	224	68	20	76	2,692
1911 ...	784	1,906	158	88	15	96	3,047
1912 ...	895	1,959	140	71	14	86	3,165
1913 ...	724	1,910	522	54	7	72	3,289

\* In all tables relating to number of hands employed in factories, outworkers are included.

The Factories Acts in each State contain provisions regulating the employment of outworkers. Generally records of out-work must be kept by factory proprietors, specifying the names and remuneration of workers, and stating the places where the work is done. Further particulars are given in a later part of this book. (See Section XXVII. *Industrial Unionism and Industrial Legislation.*)

### § 4. Sex Distribution in Factories.

**1. Employment of Females in Factories.**—In all the States the employment of female labour in factories is now regulated by Act of Parliament. In Victoria the first Act dealing with the subject was passed in the year 1873, and provided that no female should be employed for more than eight hours a day without the permission of the Chief Secretary. The number of working hours for women is now limited to forty-eight per week in all the States, overtime being allowed only with the permission of the Departments, and then to a limited extent. The maximum periods of continuous labour, and the intervals of cessation therefrom, are also prescribed by the several Acts. Further reference is made to the restrictions regarding the employment of females in a later part of this book. (See Section XXVII. *Industrial Unionism and Industrial Legislation.*)

**2. Distribution of Employees according to Sex, 1908 to 1913.**—In New South Wales the ratio of the number of females employed in factories to the number of males during 1886 was about one to seven; in 1891 one to six; in 1908 it became about one to four; and is now rather lower than one to three. In Victoria the ratio of females to males during the year 1886 was about one to five. Five years later (1891) it was somewhat less, but in 1896 had increased to about one woman to three men, and at present is slightly under one to two. In the remaining States the ratios during 1913 were—Queensland and South Australia—a little under one female employed to every four males, Western Australia one to five, and in Tasmania one to six. The proportion for the whole of the Commonwealth was just over one to three. The employment of women is, however, largely confined to a few trades.

The great prosperity in clothing and textile industries is one of the main causes of increase in female employment. Certain trades are specifically known as women's trades, such as clothing and textile trades, preparation of food, book-binding, and lighter work connected with the drug trade, as, for example, wrapping. In common with commercial establishments, a considerable number of women are also employed as clerks and typists in factories.

(i.) *Average Number of Males and Females Employed, 1908 to 1913.* The following table shows the average number of male and female employees in factories in each State from 1908 to 1913:—

#### AVERAGE NUMBER OF MALES AND FEMALES EMPLOYED IN MANUFACTURING INDUSTRIES, 1908 to 1913.

State.	1908.	1909.	1910.	1911.	1912.	1913.
MALES.						
New South Wales ...	67,616	69,184	75,384	82,083	88,178	93,036
Victoria ...	60,873	62,822	66,309	73,573	77,565	80,054
Queensland ...	24,639	24,877	*27,165	*29,832	*33,254	*34,715
South Australia ...	19,640	20,753	21,864	22,629	23,083	23,323
Western Australia ...	10,453	10,703	11,654	13,212	13,805	14,625
Tasmania...	7,334	8,132	8,277	8,737	8,391	8,354
Commonwealth ...	190,555	196,471	210,653	230,066	244,276	254,107

AVERAGE NUMBER OF MALES AND FEMALES EMPLOYED IN  
MANUFACTURING INDUSTRIES, 1908 to 1913—Continued.

State.	1908.	1909.	1910.	1911.	1912.	1913.
FEMALES.						
New South Wales ...	21,482	22,518	24,327	26,541	27,383	27,364
Victoria ...	32,935	34,533	35,867	38,375	38,543	38,690
Queensland ...	4,561	4,627	*6,779	*7,324	*7,694	*7,648
South Australia ...	4,596	4,956	5,146	5,256	5,417	5,188
Western Australia ...	1,972	2,123	2,453	2,587	2,577	2,674
Tasmania ...	1,393	1,433	1,703	1,561	1,566	1,430
Commonwealth ...	66,939	70,190	76,275	81,644	83,180	82,994

\* See Note (\*) to § 3, 1 (i).

It will be seen that during the years specified there has been for the whole Commonwealth a total increase in the number of male employees of 63,552, or an annual average of 12,710, and in the number of female employees a total increase of 16,055, or an annual average of 3,211.

(ii.) *Average Number of Males and Females Employed per 10,000 of Mean Population, 1908 to 1913.* The following table shews the average number of male and female employees per 10,000 of the mean male and female population respectively in each State from 1908 to 1913 :—

AVERAGE NUMBER OF MALE AND FEMALE FACTORY EMPLOYEES PER 10,000 OF  
MEAN MALE AND FEMALE POPULATION RESPECTIVELY, 1908 to 1913.

State.	1908.	1909.	1910.	1911.	1912.	1913.
MALES.						
New South Wales ...	816	826	883	947	967	979
Victoria ...	1000	1012	1045	1118	1,145	1,151
Queensland ...	818	801	*843	*892	970	982
South Australia ...	1015	1040	1071	1084	1,077	1,062
Western Australia ...	707	712	754	805	802	823
Tasmania ...	765	835	848	900	854	823
Commonwealth ...	876	887	929	986	1,009	1,015
FEMALES.						
New South Wales ...	288	296	312	334	332	319
Victoria ...	521	539	554	579	567	555
Queensland ...	181	178	*252	*262	266	256
South Australia ...	244	257	261	260	261	242
Western Australia ...	179	188	210	211	199	196
Tasmania ...	152	154	182	167	168	151
Commonwealth ...	332	341	363	379	374	361

\* See note (\*) to § 3, 1 (i).

3. **Rate of Increase for each Sex.**—The percentages of annual increase during the years 1908 to 1913 in the average number of males and females employed in manufacturing industries in the several States and the Commonwealth are shewn below:—

**PERCENTAGES OF ANNUAL INCREASE IN NUMBERS OF MALE AND FEMALE EMPLOYEES, 1908 to 1913.**

State.	1908-9.	1909-10.	1910-11.	1911-12.	1912-13.
<b>MALES.</b>					
	%	%	%	%	%
New South Wales ...	2.32	9.01	8.89	7.37	5.51
Victoria ...	3.20	5.55	10.95	5.43	3.21
Queensland ...	0.97	*9.20	*9.82	*11.47	*4.39
South Australia ...	5.67	5.35	3.60	1.91	1.04
Western Australia ...	2.39	8.89	13.37	4.49	5.94
Tasmania ...	10.88	1.78	5.56	—3.96	—0.44
Commonwealth ...	3.10	7.24	9.23	6.15	4.02
<b>FEMALES.</b>					
New South Wales ...	4.82	8.04	9.10	3.17	—0.07
Victoria ...	4.85	3.86	6.99	0.44	0.38
Queensland ...	1.45	*46.51	*8.04	*4.99	*—0.60
South Australia ...	7.83	3.83	2.14	3.06	—4.23
Western Australia ...	7.66	15.54	5.46	—0.39	3.76
Tasmania ...	2.87	18.84	—8.34	0.32	—8.68
Commonwealth ...	4.86	8.67	7.04	1.88	—0.22

Note.—The minus (—) sign indicates decrease. \* See note (\*) to § 3. 1 (i).

The above table shews that in each State for the first two years of the quinquennial period under discussion, with a few exceptions, there has been relatively a larger increase in the number of female than in the number of male employees. This position, however, was reversed in 1911, 1912, and 1913, when the percentage of increase of male employees exceeded that of female in every State, with the exception of New South Wales in 1911 and South Australia in 1912. This matter is referred to further in the following paragraph.

4. **Ratio of Female Employment in Factories.**—The extent to which females are employed in the factories of the Commonwealth may perhaps be best shewn by giving the masculinity of employees for each State for a series of years. As similar figures have not been published in former editions, the following table furnishes particulars for each of the years 1903 to 1913 inclusive:—

**EXCESS OF MALES OVER FEMALES PER 100 OF BOTH SEXES COMBINED, 1903 to 1913.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
1903	59.8	35.7	*66.8	59.7	76.2	65.6	52.5
1904	57.2	32.4	*67.1	59.7	74.7	67.3	50.6
1905	55.5	32.0	*66.8	64.3	74.2	67.8	50.3
1906	54.1	32.2	*66.6	63.2	70.8	69.9	49.6
1907	52.6	31.3	65.9	63.0	69.0	69.9	48.6
1908	51.8	29.8	63.8	62.1	68.3	68.1	48.1
1909	50.9	29.1	68.7	61.5	66.9	70.0	47.4
1910	51.2	29.6	†60.1	61.9	65.2	65.9	46.8
1911	51.1	31.5	†60.6	62.3	67.3	69.7	47.6
1912	52.6	33.6	†62.4	62.0	68.6	68.6	49.2
1913	54.5	34.8	63.9	63.6	69.1	70.8	50.8

\* Estimated. † See note (\*) to § 3. 1 (i).



This table shews that the proportion of the sexes has not materially changed during the past ten years, the 1913 figures for the whole of the Commonwealth being almost identical with those of 1904. The tables given in the succeeding paragraph shew that the comparatively high ratios for females have been due not so much to the incursion of female labour into what may be termed men's trades, as to the activity in those trades in which women are ordinarily engaged, more especially in dressmaking, millinery, etc.

**5. Employment of Females in Particular Industries, 1913.**—The employment of women in manufacturing industries in Australia is largely confined to a few trades, of which the more important are comprised in Classes VI., VII., and VIII., viz., in connection with food, drink, etc., clothing and textile fabrics, and books, paper, printing, etc. The following table shews the average number of females employed in each of these classes during the year 1913 in each State, and also shews the percentages of the average number so employed on the total average number of females employed in all classes of factories :—

**AVERAGE NUMBER OF FEMALES EMPLOYED IN PARTICULAR INDUSTRIES, AND  
PERCENTAGES ON AVERAGE TOTAL EMPLOYED, 1913.**

Class.	N.S.W.	Vict.	Q'land.	S. Aust.	W.Aust.	Tas.	Cw'ith.
AVERAGE NUMBER.							
VI. Food, drink, etc. ...	3,585	3,717	624	491	176	201	8,794
VII. Clothing and textile fabrics ...	18,817	29,842	6,010	3,891	2,129	1,052	61,741
VIII. Books, paper, printing, etc. ...	2,614	2,327	655	526	242	91	6,455
All other classes ...	2,348	2,804	359	280	127	86	6,004
Total ...	27,364	38,690	7,648	5,188	2,674	1,430	82,904

**PERCENTAGES ON TOTAL AVERAGE FEMALE EMPLOYEES.**

VI. Food, drink, etc. ...	13.10	9.61	8.16	9.46	6.58	14.06	10.60
VII. Clothing and textile fabrics ...	68.77	77.13	78.58	75.00	79.62	73.57	74.39
VIII. Books, paper, printing, etc. ...	9.55	6.01	8.57	10.14	9.05	6.36	7.78
All other classes ...	8.58	7.25	4.69	5.40	4.75	6.01	7.23
Total ...	100.00	100.00	100.00	100.00	100.00	100.00	100.00

It will be seen that by far the greater part of the total number of females employed in factories work in one or other of the three classes of industry indicated, Class VII. being the most important. The classification of the employment of females in the several industries in that class, and the ratio they bore to males so employed, are shewn in the following table :—

## FEMALE EMPLOYMENT IN EACH INDUSTRY IN CLASS VII. DURING 1913.

Industry.	New South Wales.			Victoria.			Other States.		
	Males.	Femls.	Femininity.	Males.	Femls.	Femininity.	Males.	Femls.	Femininity.
Woollen & tweed mills	360	416	7.2	817	973	8.7	224	300	14.5
Boots and shoes ...	2,703	1,559	—26.8	4,435	2,516	—27.6	1,510	733	—34.6
Slop clothing	3,232	8,334	44.1	2,585	8,017	51.2	2,340	6,457	48.8
Clothing (tailoring)									
Dressmaking & millin'y	116	4,814	95.3	289	9,382	94.0	35	3,581	98.1
Dyeworks and cleaning	49	33	—19.5	74	107	18.2	28	15	—30.2
Furriers ...	28	38	15.2	66	155	40.3	2	2	...
Hats and caps ...	570	975	26.2	726	1,011	16.4	92	161	27.3
Waterproof and oilskin	33	77	40.0	60	207	55.1	...	...	...
Shirts, ties, and scarfs	248	2,293	80.5	407	6,932	88.9	97	1,655	88.9
Rope and cordage ...	233	6	—95.0	522	338	—21.4	174	99	—27.5
Tents and tarpaulins...	208	272	13.3	114	60	—31.0	105	79	—14.1
Other ...	...	...	...	14	144	82.3	...	...	...
Total Class VII....	7,780	18,817	41.5	10,109	29,842	49.4	4,607	13,082	47.9

\* Excess of females over males per 100 of both sexes combined.

NOTE.—Minus sign (—) intimates excess of males over females.

## § 5. Child Labour in Factories.

1. **Conditions of Child Labour.**—The employment of young persons in factories in each State of the Commonwealth is regulated by Acts of Parliament in a similar manner to the employment of female labour. Excepting under special circumstances, children under a certain age may not be employed in factories. The minimum age in all the States is 14, with the exception of South Australia, where it is 13 years, and Victoria, where the minimum for females is 15 years. Other restrictions on the employment of young persons in factories are more particularly referred to in a later part of this book. (See Section XXVII. *Industrial Unionism and Industrial Legislation*.) The general object of the restrictions imposed is to assure that a proper period shall be devoted to primary education, and that the early years of toil shall not exhaust the worker before the attainment of full growth.

2. **Average Number of Children Employed in Factories, 1908 to 1913.**—In the statistical compilations of the various States the term "child" may be taken to denote any person under sixteen years of age, excepting in New South Wales, where it denoted, for years prior to 1907, any person under fifteen. The following table shews the average number of children of each sex employed in manufacturing industries in each State during the years 1908 to 1913.

## AVERAGE NUMBER OF CHILDREN EMPLOYED IN FACTORIES, 1908 to 1913.

State.	1908.	1909.	1910.	1911.	1912.	1913.
MALES.						
New South Wales	2,475	2,433	2,452	2,474	2,225	2,385
Victoria ...	3,049	2,817	2,753	2,623	2,652	2,743
Queensland ...	1,034	1,001	*1,031	*1,176	1,114	1,122
South Australia ...	1,179	1,094	1,082	999	1,078	1,122
Western Australia	289	289	340	368	356	346
Tasmania ...	239	258	282	280	322	283
Commonwealth ...	8,265	7,892	7,940	7,920	7,747	8,001

AVERAGE NUMBER OF CHILDREN EMPLOYED IN FACTORIES,  
1908 TO 1913.

State.	1908.	1909.	1910.	1911.	1912.	1913.
FEMALES.						
New South Wales ...	1,859	1,973	2,025	2,267	2,093	2,086
Victoria ...	3,065	2,496	2,174	1,937	1,740	1,840
Queensland ...	583	556	*733	*818	764	701
South Australia ...	568	577	702	555	704	611
Western Australia ...	251	242	266	293	334	360
Tasmania ...	135	128	96	131	121	141
Commonwealth ...	6,461	5,972	5,996	6,001	5,756	5,739
TOTAL.						
New South Wales ...	4,334	4,406	4,477	4,741	4,318	4,471
Victoria ...	6,114	5,313	4,927	4,560	4,392	4,583
Queensland ...	1,617	1,557	*1,764	*1,994	1,878	1,823
South Australia ...	1,747	1,671	1,784	1,554	1,782	1,733
Western Australia ...	540	531	606	661	690	706
Tasmania ...	374	386	378	411	443	424
Commonwealth ...	14,726	13,864	13,936	13,921	13,503	13,740

\* See Note (\*) to § 3. 1 (i).

**3. Percentage of Children to Total Persons Employed.**—The foregoing table shews a general increase in several of the States in the number of children employed in factories during the past quinquennial period. These increases, however, when examined in conjunction with the total number of persons employed, shew that in every State, with the exception of Tasmania, a fairly regular decrease in the percentage of child labour is in evidence. This decrease is particularly noticeable in Victoria, the percentage falling from 6.52 in 1908 to 3.86 in 1913.

PERCENTAGE OF CHILDREN IN FACTORIES TO TOTAL NUMBER OF EMPLOYEES,  
1908 to 1913.

State.	1908.	1909.	1910.	1911.	1912.	1913.
	%	%	%	%	%	%
New South Wales ...	4.86	4.80	4.49	4.36	3.74	3.71
Victoria ...	6.52	5.46	4.82	4.07	3.78	3.86
Queensland ...	5.54	5.28	5.20	5.37	4.59	4.30
South Australia ...	7.21	6.50	6.60	5.57	6.25	6.08
Western Australia ...	4.35	4.14	4.30	4.18	4.21	4.08
Tasmania ...	4.29	4.04	3.79	3.99	4.45	4.33
Commonwealth ...	5.72	5.20	4.86	4.47	4.12	4.08

**4. Industries Employing Child Labour, 1913.**—The employment of children is largely confined to a limited number of industries, the most important of which are specified in the table below, which shews the average number of children of each sex employed in the several industries indicated in each State during the year 1913 :—

## NUMBER OF CHILDREN ENGAGED IN VARIOUS INDUSTRIES, 1913.

Class.	Industry.	N.S.W.		Victoria.		Q'land.		S. Aust.		W.A.		Tas.		C'w'lth.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
III.	Bricks, tiles, pottery and earthenware	53	1	40	...	21	...	14	...	6	...	7	...	141	1
IV.	Joinery, boxes, cases, etc.	85	...	80	...	35	...	57	...	9	...	5	...	271	...
V.	Engin'ring, ironworks, and foundries	232	11	281	1	58	...	96	...	55	...	11	...	733	12
"	Galvanised iron-working and tinsmithing	82	2	91	17	55	1	86	4	...	...	5	...	319	24
"	Railway carriages, railway & tramway workshops	89	...	175	...	41	...	53	...	25	...	5	...	388	...
VI.	Biscuits, cakes, etc.	162	117	50	20	15	4	12	10	24	12	20	...	283	163
"	Confectionery	42	74	14	31	20	25	14	30	1	6	...	...	91	166
"	Jams, pickles, sauces, etc.	18	9	38	45	8	...	44	47	3	2	34	44	145	147
"	Aerated waters, cordials, etc.	45	4	62	5	62	3	15	...	11	...	3	...	198	12
"	Tobacco, cigars, etc.	52	64	31	9	2	2	4	...	2	4	...	...	91	79
VII.	Woollen, tweed, and cotton mills...	20	64	96	98	6	18	5	23	...	...	...	9	127	212
"	Boots and shoes	108	145	163	181	38	37	34	44	10	9	12	7	365	423
"	Clothing (tailoring and slop)...	84	500	92	291	60	259	31	185	14	92	10	19	291	1,346
"	Dressmaking and millinery	1	403	6	464	2	136	...	95	...	159	...	44	9	1,301
"	Hats and caps	26	60	28	29	3	8	4	4	...	...	...	...	61	101
"	Shirts, ties, scarfs, etc.	7	190	9	325	7	97	1	76	2	35	...	5	26	728
VIII.	Electrotyping, printing and binding...	378	164	434	127	159	63	87	26	64	21	42	12	1,164	413
"	Paper making, paper boxes, etc.	36	75	14	30	1	15	15	34	3	7	...	...	69	161
XI.	Coach & wagon building, etc.	65	...	138	...	29	...	59	...	12	...	11	...	315	...
XIII.	Billiard tables, cabinet making and furniture	82	1	49	1	63	5	57	1	5	1	22	...	278	9

5. **Apprenticeship.**—It is obvious that the age of apprenticeship in each State must be limited by the conditions governing the employment of child labour in factories. The early Apprentices Acts in some of the States are apparently in conflict on this point with the Factories Acts. The statutes limiting the age at which children may begin to work may be regarded as applicable by way of preventing too early apprenticeship, so also may those directing that education be continued up to a certain age or standard.

Indentures must be entered into specifying the conditions of the employment. Apprenticeships may not exceed seven years in duration, and become inoperative at twenty-one years of age, or in the case of women, on marriage.

The Arbitration Courts and Wages Boards have power to limit the number of apprentices which may be taken into a factory and specify the term of apprenticeship. No general statistics of the number of apprentices in Australia have been collected up to the present time. Other enactments relating to child labour are referred to in Section XXVII. of this book, *Industrial Unionism and Industrial Legislation*.

## § 6. Amount of Wages Paid and Value of Production.

1. **Introduction.**—The importance of the manufacturing industries of the Commonwealth is indicated by the fact that the total value of the output for 1913 was £161,560,763, of which amount the sum of £96,407,477 represents the value of the raw materials used. The difference between these two amounts, viz., £65,153,286, represents the amount by which the value of the raw materials was enhanced in the process of manufacture. The total amount of salaries and wages paid in factories during 1913 was £33,606,087.

2. **Amount of Salaries and Wages Paid, 1913.**—The total amount of salaries and wages paid during the year 1913 in various classes of factories in the Commonwealth (excluding all sums drawn by working proprietors) is shewn in the following table.

It has been found impracticable to shew satisfactorily herein the rates of wages paid to employees in various classes of manufacturing industries in Australia, owing to the facts—firstly, that the rates in many industries vary very considerably in different parts of the country; and secondly, that the necessary particulars are not collected by the several States on a uniform basis; while for some of the States the information given is meagre and unsatisfactory.

**AMOUNT OF SALARIES AND WAGES PAID IN FACTORIES IN COMMONWEALTH, 1913.\***

Class of Industry.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wlth.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	370,943	289,765	67,797	87,678	21,074	20,606	857,863
II. Treating oils and fats, animal, vegetable, etc. ...	82,325	68,949	15,314	28,276	9,112	3,298	207,274
III. Processes in stone, clay, glass, etc. ...	754,291	460,293	69,314	171,836	84,082	22,617	1,562,433
IV. Working in wood ...	988,590	802,930	549,155	211,965	797,022	160,099	3,509,761
V. Metal works, machinery, etc. ...	3,676,626	2,377,229	878,566	1,128,399	463,192	261,862	8,785,874
VI. Connected with food and drink, etc. ...	1,568,207	1,489,936	1,302,587	377,074	201,985	111,060	5,050,849
VII. Clothing and textile fabrics, etc. ...	1,841,867	2,367,020	476,927	319,307	195,531	95,050	5,295,703
VIII. Books, paper, printing and engraving ...	1,099,656	958,637	320,354	194,818	174,788	86,700	2,834,953
IX. Musical instruments, etc. ...	50,618	22,535	...	1,860	949	...	75,962
X. Arms and explosives ...	48,424	92,201	...	350	...	...	130,975
XI. Vehicles and fittings, saddlery and harness, etc. ...	450,123	464,602	122,431	153,204	68,587	37,628	1,296,575
XII. Ship and boat building and repairing... ..	464,912	47,739	13,540	20,639	5,419	7,513	559,762
XIII. Furniture, bedding and upholstery ...	425,417	317,349	113,325	117,713	58,721	29,021	1,061,546
XIV. Drugs, chemicals, and by-products ...	132,363	183,338	6,583	65,192	41,808	315	429,599
XV. Surgical and other scientific instruments ...	11,170	8,695	3,082	854	1,527	...	25,328
XVI. Jewellery, timepieces, and platedware ...	93,784	94,329	14,468	17,325	9,429	3,156	232,491
XVII. Heat, light, and power ...	492,510	462,795	106,528	119,294	70,683	42,308	1,294,108
XVIII. Leatherware, n.e.i. ...	49,190	43,957	5,548	2,954	1,182	...	102,881
XIX. Minor wares, n.e.i. ...	82,368	172,037	9,672	15,809	10,096	2,219	292,201
Total ... ..	12,683,384	10,714,336	4,075,191	3,034,537	2,215,187	883,452	33,606,087

\* Excluding all amounts drawn by working proprietors.

The maximum amount of salaries and wages paid in any particular class was in Class V., the amount being £8,785,874, or 26.14 per cent. on the total amount; the minimum amount was in Class XV., £25,328, or 0.075 per cent. on the total amount. The State in which the largest amount was paid was New South Wales. The following statement shews the total amount of salaries and wages paid, and the average amount paid per employee in each State, during each of the years 1908 to 1913; the figures are exclusive of the amounts drawn from the business by working proprietors:—

**AMOUNT OF SALARIES AND WAGES PAID AND AVERAGE AMOUNT PER ANNUM PAID PER EMPLOYEE, 1908 to 1913.**

Year.	Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wlth.
		£	£	£	£	£	£	£
1908	Total amount paid ...	7,218,556	6,380,296	2,192,015	1,924,974	1,474,934	693,592	19,884,367
	Average per employee ...	84.72	71.59	78.28	83.55	123.56	84.43	80.99
1909	Total amount paid ...	7,665,125	6,807,851	2,324,005	2,028,691	1,506,360	779,624	21,111,656
	Average per employee ...	87.27	73.57	82.09	83.08	122.08	86.44	82.97
1910	Total amount paid ...	8,687,007	7,600,932	2,830,704	2,323,398	1,683,657	740,463	23,866,161
	Average per employee ...	90.78	78.18	86.79	90.44	123.93	78.81	87.04
1911	Total amount paid ...	10,047,656	8,911,019	3,113,835	2,645,386	1,982,883	827,592	27,528,371
	Average per employee ...	96.35	83.48	87.15	99.64	129.80	84.47	92.26
1912	Total amount paid ...	11,592,052	10,102,244	3,699,065	2,869,653	2,169,144	855,334	31,287,493
	Average per employee ...	104.44	91.19	93.88	105.62	136.67	90.41	99.74
1913	Total amount paid ...	12,683,384	10,714,336	4,075,191	3,034,537	2,215,187	883,452	33,606,087
	Average per employee ...	109.66	94.74	100.05	111.66	132.31	95.18	104.14

In comparing the figures in the above table regard should be paid to the nature of certain industries which are carried on to a greater extent in some States than in others (see § 2 hereof). In Victoria, for instance, where the average is lowest, there are a large number of hands employed in Class VII., of whom a large percentage are women and children. The position occupied by Western Australia is principally due to the high ratio of male to female employees in that State.

It will be noted that there has been a persistent increase in the average wage paid per employee in each of the States during the period under review, despite the tendency of the number of females employed in certain industries to increase at a higher ratio than males. Taking the Commonwealth as a whole, during the period 1908-13 there has been an increase of 69.00 per cent. on the total amount of wages paid and 28.58 per cent. on the average paid per employee.

The following tables shew the approximate amount paid in salaries and wages to males and females in each class of industry in each State during 1913, and total amounts paid to each sex in New South Wales and Victorian factories during the last five years, in South Australia and Tasmania during the last three years, and in Queensland and Western Australia during 1912 and 1913:—

**AMOUNT\* OF SALARIES AND WAGES PAID TO MALE AND FEMALE HANDS EMPLOYED IN EACH CLASS OF INDUSTRY IN THE SEVERAL STATES OF THE COMMONWEALTH DURING 1913.**

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. A.	Tas.	C'wealth.
MALES.							
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ....	365,628	288,437	67,625	87,376	21,074	20,531	850,671
II. Treating oils and fats, animal, vegetable, etc. ....	72,491	66,026	14,945	27,964	9,112	3,129	193,667
III. Processes in stone, clay, glass, etc. ....	751,809	456,654	69,168	171,553	83,532	22,617	1,555,333
IV. Working in wood ....	984,160	799,736	546,574	210,937	796,775	159,440	3,497,622
V. Metal works, machinery, etc. ....	3,663,431	2,362,692	875,689	1,125,592	462,152	261,444	8,751,000
VI. Connected with food and drink, etc. ....	1,396,898	1,313,497	1,277,143	357,844	193,704	102,555	4,641,641
VII. Clothing and textile fabrics, etc. ....	895,749	1,020,941	217,198	146,607	77,235	53,326	2,411,056
VIII. Books, paper, printing and engraving ....	977,005	644,887	292,646	174,116	161,607	83,557	2,533,908
IX. Musical instruments, etc. ....	48,699	22,061	...	1,860	949	...	73,569
X. Arms and explosives ....	47,921	46,366	...	350	...	...	94,637
XI. Vehicles and fittings, saddlery and harness, etc. ....	445,444	457,557	120,431	151,810	67,885	36,645	1,279,772
XII. Ship and boat building and repairing ....	464,812	47,739	13,540	20,639	5,419	7,513	559,662
XIII. Furniture, bedding and upholstery ....	404,175	301,993	108,692	116,684	56,068	28,084	1,016,596
XIV. Drugs, chemicals and by-products ....	106,427	166,470	4,763	62,687	39,990	315	380,652
XV. Surgical and other scientific instruments ....	10,015	8,204	2,796	854	1,427	...	23,296
XVI. Jewellery, timepieces and plated ware ....	87,864	90,267	13,468	16,833	9,234	3,096	220,762
XVII. Heat, light and power ....	488,872	447,771	106,044	118,159	70,683	42,128	1,273,657
XVIII. Leatherware, n.e.i. ....	43,556	36,176	4,730	2,648	1,065	...	88,175
XIX. Minor wares, n.e.i. ....	68,745	148,340	8,598	14,553	9,401	1,978	251,615
Total ...	11,323,791	8,925,814	3,744,050	2,809,066	2,068,212	826,358	29,697,291

\* Exclusive of amount drawn by working proprietors.

## AMOUNT OF SALARIES AND WAGES PAID TO MALE AND FEMALE HANDS EMPLOYED IN EACH CLASS OF INDUSTRY, Etc.—Continued.

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. A.	Tas.	W'wealth.
FEMALES.							
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural & pastoral pursuits, etc.	5,315	1,328	172	302	...	75	7,192
II. Treating oils and fats, animal, vegetable, etc.	9,834	2,923	369	312	...	169	13,607
III. Processes in stone, clay, glass, etc.	2,482	3,639	146	283	550	...	7,100
IV. Working in wood	4,430	3,194	2,581	1,028	247	659	12,139
V. Metal works, machinery, etc.	13,195	14,537	2,877	2,807	1,040	418	34,874
VI. Connected with food and drink, etc.	171,309	176,439	25,444	19,230	8,281	8,505	409,208
VII. Clothing and textile fabrics, etc.	946,118	1,346,079	259,729	172,700	118,296	41,724	2,884,646
VIII. Books, paper, printing and engraving	122,561	113,750	27,708	20,702	13,181	3,143	301,045
IX. Musical instruments, etc.	1,919	474	...	...	...	...	2,393
X. Arms and explosives	503	35,335	...	...	...	...	36,338
XI. Vehicles and fittings, saddlery & harness, etc.	4,679	7,045	2,000	1,394	702	983	16,803
XII. Ship and boat building and repairing	100	...	...	...	...	...	100
XIII. Furniture, bedding, and upholstery	21,242	15,356	4,633	1,029	1,753	937	44,950
XIV. Drugs, chemicals, and by-products	25,936	16,868	1,820	2,505	1,818	...	48,947
XV. Surgical and other scientific instruments	1,155	491	286	...	100	...	2,032
XVI. Jewellery, timepieces and platedware	5,920	4,062	1,000	492	195	60	11,729
XVII. Heat, light, and power	3,638	15,024	484	1,125	...	180	20,451
XVIII. Leatherware, n.e.i.	5,634	7,781	818	306	117	...	14,656
XIX. Minor wares, n.e.i.	13,623	23,697	1,074	1,256	695	241	40,586
Total	1,359,593	1,788,522	331,141	225,471	146,975	57,094	3,908,796

\* Exclusive of amount drawn by working proprietors.

## AMOUNT\* OF SALARIES AND WAGES PAID TO MALES AND FEMALES IN FACTORIES IN CERTAIN STATES, 1909 to 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
MALES.							
1909. Amount paid	£ 6,823,732	5,607,703	...	...	...	...	...
Per cent. on total	89.02	82.37	...	...	...	...	...
Average per employee	£ 103.96	95.61	...	...	...	...	...
1910. Amount paid	£ 7,724,310	6,273,921	...	...	...	...	...
Per cent. on total	88.92	82.54	...	...	...	...	...
Average per employee	£ 107.84	101.20	...	...	...	...	...
1911. Amount paid	£ 8,917,577	7,357,735	...	2,430,263	...	773,900	...
Per cent. on total	88.76	82.57	...	91.87	...	93.51	...
Average per employee	£ 114.22	106.62	...	113.66	...	93.67	...
1912. Amount paid	£ 10,283,733	8,388,613	3,386,191	2,647,842	2,024,318	798,098	27,528,795
Per cent. on total	88.71	83.04	91.54	92.25	93.34	93.31	87.99
Average per employee	£ 122.50	115.18	106.57	121.41	152.02	100.85	118.86
1913. Amount paid	£ 11,323,791	8,925,814	3,744,050	2,809,066	2,068,212	826,358	29,697,291
Per cent. on total	89.28	83.30	91.87	92.57	93.37	93.54	88.37
Average per employee	£ 127.76	118.94	112.95	127.43	146.79	105.09	123.32
FEMALES.							
1909. Amount paid	£ 841,393	1,200,148	...	...	...	...	...
Per cent. on total	10.98	17.63	...	...	...	...	...
Average per employee	£ 97.91	35.41	...	...	...	...	...
1910. Amount paid	£ 962,697	1,327,011	...	...	...	...	...
Per cent. on total	11.08	17.46	...	...	...	...	...
Average per employee	£ 40.08	37.67	...	...	...	...	...
1911. Amount paid	£ 1,130,079	1,553,284	...	215,123	...	53,692	...
Per cent. on total	11.24	17.43	...	8.13	...	6.49	...
Average per employee	£ 43.10	41.16	...	41.44	...	34.98	...
1912. Amount paid	£ 1,308,319	1,713,631	312,874	222,123	144,514	57,236	3,758,697
Per cent. on total	11.29	16.96	8.46	7.75	6.66	6.69	12.10
Average per employee	£ 48.39	45.15	41.00	41.43	56.56	37.00	45.79
1913. Amount paid	£ 1,359,593	1,788,522	331,141	225,471	146,975	57,094	3,908,796
Per cent. on total	10.72	16.70	8.13	7.43	6.63	6.46	11.63
Average per employee	£ 50.29	47.01	43.66	43.94	55.42	40.24	47.74

\* Exclusive of amounts drawn by working proprietors.

A further analysis of salaries and wages paid during 1913 is given in the following table, the amounts paid to managers, overseers, etc., being differentiated from those paid to other employees. As previously mentioned, amounts drawn by working proprietors are excluded in all cases.

**DETAILS OF SALARIES AND WAGES PAID TO MANAGERS, OVERSEERS, Etc.,  
AND OTHER EMPLOYEES IN FACTORIES DURING 1913.**

Class of Industry.	Salaries and Wages Paid to—						
	Managers, Overseers, Accountants, and Clerks. (a)		All Other Employees. (b)		All Employees.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	£	£	£	£	£	£	£
II. Treating oils and fats, animal, vegetable, etc.	90,367	2,223	760,304	4,969	850,671	7,192	857,863
III. Processes in stone, clay, glass, etc.	44,424	2,657	149,243	10,950	193,667	13,607	207,274
IV. Working in wood	135,810	3,070	1,419,523	4,030	1,555,333	7,100	1,562,433
V. Metal works, machinery, etc.	311,352	8,136	3,186,270	4,003	3,497,622	12,139	3,509,761
VI. Connected with food and drink, etc.	665,681	17,968	8,085,319	16,906	8,751,000	34,874	8,785,874
VII. Clothing and textile fabrics, etc.	807,166	28,336	3,834,475	380,872	4,641,641	409,208	5,050,849
VIII. Books, paper, printing and engraving	353,847	141,679	2,057,209	2,742,967	2,411,056	2,884,646	5,295,702
IX. Musical instruments, etc.	458,474	35,676	2,075,434	265,369	2,533,908	301,045	2,834,953
X. Arms and explosives	7,430	687	66,139	1,706	73,569	2,393	75,962
XI. Vehicles and fittings, saddlery and harness, etc.	12,830	661	81,807	35,677	94,637	36,338	130,975
XII. Ship and boat building and repairing	102,759	5,687	1,177,013	11,116	1,279,772	16,803	1,296,575
XIII. Furniture, bedding, & upholstery	45,102	100	514,560	...	559,662	100	559,762
XIV. Drugs, chemicals, and by-products	66,432	4,663	950,164	40,287	1,016,596	44,950	1,061,546
XV. Surgical & other scientific instruments	78,331	5,007	302,321	43,940	380,652	48,947	429,599
XVI. Jewellery, timepieces, and platedware	3,490	221	19,806	1,811	23,296	2,032	25,328
XVII. Heat, light, and power	20,933	3,371	199,829	8,358	220,762	11,729	232,491
XVIII. Leatherware, n.e.i.	206,294	3,719	1,067,363	16,732	1,273,657	20,451	1,294,108
XIX. Minor wares, n.e.i.	14,566	1,803	73,609	12,853	88,175	14,656	102,831
	34,145	3,208	217,470	37,378	251,615	40,586	292,201
Total ...	3,459,433	268,872	26,237,858	3,639,924	29,697,291	3,908,796	33,606,087
Average paid per employee ...	209.93 (c)	68.91 (c)	138.37 (c)	51.12 (c)	123.32 (d)	47.74 (d)	104.14 (d)

(a) Exclusive of amount paid to accountants and clerks in Queensland. (b) Including amount paid to accountants and clerks in Queensland. (c) Exclusive of Queensland. (d) Including Queensland.

**3. Value of Fuel and Light used in Factories, 1913.**—The amount expended in factories on fuel and light is of considerable importance; in 1913 it amounted to £3,240,901, being an increase on the previous year's figures of £193,517. The classes of industry in which fuel was most extensively used were Class V., Metal Works, Machinery, etc., £1,035,864; Class VI., Connected with Food, Drink, etc., £655,609; Class XVII., Heat, Light, Power, etc., £563,877, of which amount £473,464 was expended on generating



electric light and power; and Class III., £425,260, of which £332,631 was represented in brick and pottery works, etc., and glass factories. The following tables shew the value of fuel and light used in the different classes of industry in the several States of the Commonwealth during 1913, and of the total used for each of the last six years:—

### VALUE OF FUEL AND LIGHT USED IN FACTORIES IN COMMONWEALTH, 1913.

Class of Industry.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'with.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	42,208	29,872	12,267	10,678	1,849	2,951	99,825
II. Treating oils and fats, animal, vegetable, etc. ...	15,633	13,005	2,105	6,388	841	415	38,387
III. Processes in stone, clay, glass, etc. ...	208,084	114,771	10,998	58,994	24,548	7,865	425,260
IV. Working in wood ...	22,525	16,944	9,387	4,629	2,139	1,800	57,424
V. Metal wks., machinery, etc.	475,477	153,817	61,517	212,272	31,505	101,276	1,035,864
VI. Connected with food and drink, etc. ...	188,564	186,873	181,385	56,037	30,449	12,301	655,609
VII. Clothing and textile fabrics, etc. ...	34,819	61,374	4,955	8,223	3,726	1,931	115,028
VIII. Books, paper, printing, and engraving ...	32,967	39,376	11,046	7,617	5,713	1,490	98,309
IX. Musical instruments, etc. ...	910	183	...	31	3	...	1,127
X. Arms and explosives ...	1,894	4,652	...	12	...	...	6,558
XI. Vehicles and fittings, saddlery and harness, etc. ...	12,866	14,248	1,839	5,215	2,810	1,214	38,192
XII. Ship and boat building and repairing ...	13,662	2,330	330	476	82	95	16,975
XIII. Furniture, bedding, and upholstery ...	6,947	7,047	2,471	3,126	1,545	840	21,976
XIV. Drugs, chemicals, and by-products ...	15,360	13,842	414	7,601	4,012	148	41,377
XV. Surgical and other scientific instruments ...	217	329	97	23	66	...	732
XVI. Jewellery, timepieces, and platedware ...	1,757	2,868	418	644	196	100	5,983
XVII. Heat, light, and power ...	293,245	64,966	29,048	34,931	88,485	53,202	563,877
XVIII. Leatherware, n.e.i. ...	811	1,229	148	13	31	...	2,232
XIX. Minor wares, n.e.i. ...	3,479	12,109	94	370	161	53	16,266
Total ...	1,371,425	739,835	328,519	417,280	198,161	185,681	3,240,901

### VALUE OF FUEL AND LIGHT USED IN FACTORIES IN COMMONWEALTH DURING THE YEARS 1908 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	C'wealth.
	£	£	£	£	£	£	£
1908 ...	876,565	538,571	196,908	309,483	141,349	*114,000	2,176,876
1909 ...	940,840	566,768	194,776	269,646	140,111	115,864	2,228,005
1910 ...	1,184,282	639,135	216,890	313,731	150,311	130,962	2,635,311
1911 ...	1,242,613	637,497	222,560	338,565	176,659	140,816	2,758,710
1912 ...	1,360,141	683,376	261,978	363,403	191,025	187,461	3,047,384
1913 ...	1,371,425	739,835	328,519	417,280	198,161	185,681	3,240,901

\* Figures estimated.

4. Value of Raw Materials used in Factories, 1913.—The total value of raw materials worked up (*i.e.*, exclusive of fuel, lubricants, etc.) in factories in the Commonwealth during 1913 was £96,407,477, which represents 59.67 per cent. of the total value of the finished products. (See next paragraph hereof.) The following table shews the value of the raw materials worked up in various classes of industry in each State during the year 1913:—

## VALUE OF RAW MATERIALS WORKED UP IN FACTORIES IN COMMONWEALTH, 1913.

Class of Industry.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	4,561,365	2,337,545	1,462,594	691,110	164,493	178,975	9,396,082
II. Treating oils and fats, animal, vegetable, etc. ...	736,464	480,016	65,736	136,636	58,912	8,987	1,486,751
III. Processes in stone, clay, glass, etc. ...	335,668	224,298	14,695	65,303	18,956	7,396	666,319
IV. Working in wood ...	2,414,486	1,170,881	793,725	819,923	115,913	153,078	5,468,006
V. Metal wks., machinery, etc. ...	9,684,085	3,123,196	1,308,576	2,596,943	711,722	793,707	18,218,229
VI. Connected with food and drink, etc. ...	15,900,805	12,278,374	9,178,986	2,614,283	890,144	657,883	41,520,475
VII. Clothing and textile fabrics, etc. ...	2,961,902	4,695,840	846,411	537,083	325,654	123,721	9,490,611
VIII. Books, paper, printing, and engraving ...	977,282	990,311	164,240	186,206	108,856	45,897	2,472,792
IX. Musical instruments, etc. ...	67,588	17,544	...	1,016	7,877	...	94,025
X. Arms and explosives ...	30,057	153,010	...	1,000	...	...	184,067
XI. Vehicles and fittings, saddlery and harness, etc. ...	473,537	477,951	130,160	177,313	77,712	46,793	1,388,406
XII. Ship and boat building and repairing ...	211,749	31,538	7,232	10,050	4,495	6,711	271,775
XIII. Furniture, bedding, and upholstery ...	613,065	489,841	119,010	122,594	78,880	30,310	1,453,700
XIV. Drugs, chemicals, and by-products ...	549,241	664,904	11,112	291,669	162,170	3,300	1,682,396
XV. Surgical and other scientific instruments ...	8,338	7,272	2,496	713	744	...	19,563
XVI. Jewellery, timepieces, and platedware ...	137,550	188,059	18,610	19,294	20,431	3,211	387,155
XVII. Heat, light, and power ...	547,245	362,440	37,965	54,723	21,587	21,549	1,045,509
XVIII. Leatherware, n.e.i. ...	152,033	189,678	9,768	3,116	1,610	...	356,205
XIX. Minor wares, n.e.i. ...	175,016	583,001	12,220	25,283	12,683	2,208	810,411
Total ...	40,537,476	28,465,699	14,183,539	8,354,258	2,782,839	2,083,666	96,407,477

The class in which the maximum value of raw materials was used was Class VI., "Connected with Food and Drink, etc.," the value being £41,520,475. The next important class in order of value was Class V., "Metal Works, Machinery, etc.," in which raw materials to the value of £18,218,229 were used. The class in which the minimum value appears is Class XV., "Surgical and other Scientific Instruments," the value being only £19,563. The year 1910 was the first for which reliable and complete returns were collected in every State relating to the value of raw materials worked up in factories; the following table, however, gives particulars for the six years ended 1913, so far as information is available:—

## VALUE OF RAW MATERIALS WORKED UP IN FACTORIES IN COMMONWEALTH DURING THE YEARS 1908 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
	£	£	£	£	£	£	£
1908 ...	25,507,414	18,662,070	6,946,550	6,689,376	1,592,216	*1,560,000	60,957,626
1909 ...	27,314,486	19,706,530	7,658,195	6,004,459	1,529,211	*1,816,000	64,028,881
1910 ...	31,379,604	21,941,255	9,476,819	6,695,255	1,809,959	1,456,369	72,759,261
1911 ...	33,670,951	25,029,525	8,788,335	7,503,979	2,059,346	1,952,240	79,004,376
1912 ...	37,122,441	27,002,302	11,078,954	8,199,110	2,586,195	2,286,618	88,275,620
1913 ...	40,537,476	28,465,699	14,183,539	8,354,258	2,782,839	2,083,666	96,407,477

\* Estimated on basis of partial returns and subsequent years' figures.

5. Total Value of Output of Manufacturing Industries, 1913.—The value of the output of new goods manufactured and repairs effected in factories of various classes in each State during the year 1913 is shewn in the following table. The figures given represent not only the increased value due to the process of manufacture, but also include the value of the raw materials used. The difference between the value of the materials used and the total output (see paragraph 6 hereof) is the real value of production from manufactories:—

## TOTAL VALUE OF OUTPUT OF COMMONWEALTH, 1913.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	C'w'ltb.
	£	£		£	£	£	£
I. Treating raw material, product of agricultural & pastoral pursuits, etc.	5,372,798	2,927,609	1,700,950	849,951	224,172	229,523	11,305,003
II. Treating oils and fats, animal, vegetable, etc.	989,465	716,703	120,599	223,938	83,938	14,526	2,149,169
III. Processes in stone, clay, glass, etc.	1,866,029	1,063,423	146,098	355,901	163,368	52,556	3,647,375
IV. Working in wood	3,884,383	2,381,037	1,802,243	1,182,064	1,233,349	377,180	10,859,256
V. Metal works, mach'y, etc.	16,504,236	6,638,526	2,942,716	4,611,741	1,249,338	1,204,695	33,241,252
VI. Connected with food and drink, etc.	20,420,126	16,079,600	13,400,482	3,616,304	1,512,843	950,654	55,980,009
VII. Clothing and textile fabrics, etc.	5,794,533	8,552,260	1,644,373	1,010,108	594,717	267,967	17,863,958
VIII. Books, paper, printing, and engraving	2,794,304	2,781,535	806,308	492,672	436,282	179,185	7,490,286
IX. Musical instruments, etc.	157,613	50,942	...	3,370	8,811	...	220,736
X. Arms and explosives	83,357	277,921	...	2,000	...	...	363,278
XI. Vehicles and fittings, saddlery and harness, etc.	1,183,809	1,180,203	350,153	418,388	183,223	105,187	3,420,958
XII. Ship and boat building and repairing	787,528	106,759	25,882	38,723	11,332	18,412	988,636
XIII. Furniture, bedding, and upholstery	1,234,117	967,739	291,350	276,180	158,260	78,178	3,005,824
XIV. Drugs, chemicals, and by-products	1,026,510	1,175,459	27,273	485,921	241,198	4,371	2,960,732
XV. Surgical and other scientific instruments	27,469	22,098	8,600	2,100	4,138	...	64,405
XVI. Jewellery, timepieces, and platedware	282,056	369,532	40,066	48,077	34,909	9,563	784,203
XVII. Heat, light, and power	2,708,881	1,493,549	337,059	323,021	308,371	195,552	5,366,433
XVIII. Leatherware, n.e.i.	241,874	282,566	19,654	8,187	5,079	...	557,360
XIX. Minor wares, n.e.i.	313,407	869,186	24,983	50,029	29,003	5,282	1,291,890
Total	65,672,495	47,936,647	23,688,789	13,998,670	6,481,331	3,782,831	161,560,763

It may be seen that the State of New South Wales far outstrips the other States in the total value of the output of her factories, the value being £65,672,495, or 40.65 per cent. on the total for the Commonwealth. The next State in order of value is Victoria, which produced 29.67 per cent.; the value of the output of Queensland was 14.67 per cent.; of South Australia 8.66 per cent.; of Western Australia 4.01 per cent.; and of Tasmania 2.34 per cent. The four most important classes in order of value of output (Classes VI., V., VII. and I.) are the same as in order of value of raw materials used. The following statement shews the value of output of factories, value per employee, and per head of mean population in each State during the six years ended 1913:—

## TOTAL VALUE OF OUTPUT OF FACTORIES IN COMMONWEALTH DURING THE YEARS 1908 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	C'wealth.
	£	£	£	£	£	£	£
1908	40,163,826	30,787,760	11,182,009	10,471,671	4,066,365	2,868,000	99,529,631
1909	42,960,689	32,698,235	12,823,685	9,926,105	4,008,604	3,339,000	105,955,328
1910	49,615,643	36,660,854	15,792,109	11,184,695	4,533,611	3,073,216	120,860,158
1911	54,346,011	41,747,863	15,675,662	12,416,361	5,311,088	3,525,087	133,022,000
1912	61,163,328	45,410,773	18,798,904	13,438,218	6,092,268	3,871,915	148,775,407
1913	65,672,495	47,936,647	23,688,789	13,998,670	6,481,331	3,782,831	161,560,763

## PER EMPLOYEE.†

	£	£	£	£	£	£	£
1908	451	328	383	432	326	329	387
1909	469	338	435	386	313	349	397
1910	498	359	465	414	321	308	421
1911	500	373	422	445	336	342	427
1912	529	391	459	472	372	389	454
1913	545	404	559	491	375	387	479

## PER HEAD OF MEAN POPULATION.

1908	25.53	24.82	20.60	27.44	15.73	15.30	23.73
1909	26.88	26.09	23.16	25.33	15.23	17.53	24.79
1910	30.38	28.59	26.69	27.88	16.73	16.09	27.66
1911	32.70	31.62	25.52	30.19	18.52	18.52	29.62
1912	35.22	33.48	29.77	31.87	20.21	20.20	32.03
1913	36.32	34.41	36.30	32.29	20.64	19.30	33.67

\* See note (\*) to last table § 6, 4.

† Including working proprietors.

6. Value of Production of Manufacturing Industries, 1913.—The difference between the figures given in paragraph 5 and the corresponding figures in paragraph 4 hereof represents the amount added to the value of the raw materials by the process of manufacture. This is the real measure of the value of production of manufacturing industries. The following table shows the value added in this manner in each State during the year 1913 for the various classes of factories:—

**VALUE OF PRODUCTION OF MANUFACTURING INDUSTRIES IN COMMONWEALTH, 1913.**

Class of Industry.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	C'wealth.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	811,433	590,064	238,356	158,841	59,679	50,548	1,908,921
II. Treating oils and fats, animal, vegetable, etc. ...	253,001	236,687	54,863	87,302	25,026	5,539	662,418
III. Processes in stone, clay, glass, etc. ...	1,530,361	839,125	131,400	290,598	144,412	45,160	2,981,056
IV. Working in wood ...	1,469,897	1,210,156	1,008,518	362,141	1,116,436	224,102	5,391,250
V. Metal works, machinery, etc. ...	6,820,151	3,515,330	1,634,140	2,014,798	537,616	500,988	15,023,023
VI. Connected with food and drink, etc. ...	4,519,321	3,801,226	4,221,496	1,002,021	622,699	292,771	14,459,534
VII. Clothing and textile fabrics, etc. ...	2,832,631	3,856,420	797,962	473,025	269,063	144,246	8,373,347
VIII. Books, paper, printing, and engraving ...	1,817,022	1,791,224	642,068	306,466	327,426	133,288	5,017,494
IX. Musical instruments, etc. ...	90,025	33,398	...	2,354	934	...	126,711
X. Arms and explosives ...	53,300	124,911	...	1,000	...	...	179,211
XI. Vehicles and fittings, saddlery and harness, etc. ...	710,272	702,252	219,993	241,070	105,511	58,454	2,037,552
XII. Ship and boat building and repairing ...	575,779	75,221	18,550	28,673	6,837	11,701	716,861
XIII. Furniture, bedding, and upholstery ...	621,052	477,898	172,340	153,586	79,380	47,868	1,552,124
XIV. Drugs, chemicals, and by-products ...	477,269	510,555	16,161	194,252	79,028	1,071	1,278,336
XV. Surgical and other scientific instruments ...	19,131	14,826	6,104	1,387	3,394	...	44,842
XVI. Jewellery, timepieces, and platedware ...	144,506	181,473	21,456	28,783	14,478	6,352	397,048
XVII. Heat, light, and power ...	2,161,636	1,131,109	299,094	268,298	286,784	174,003	4,320,924
XVIII. Leatherware, n.e.i. ...	89,841	92,888	9,886	5,071	3,469	...	201,155
XIX. Minor wares, n.e.i. ...	138,391	286,185	12,763	24,746	16,320	3,074	481,479
Total ...	25,135,019	19,470,948	9,505,250	5,644,412	3,698,492	1,699,165	65,153,286

The amount of the value added in each State is not in the same order as in the case of value of output, the four most important classes being V., VI., VII., and IV., in the order named. The value added to raw material by process of manufacture and amount per employee and per head of mean population are shewn in the following statement for the years 1908 to 1913:—

**VALUE OF PRODUCTION OF MANUFACTURING INDUSTRIES IN COMMONWEALTH, 1908 to 1913.**

Year.	N.S.W.	Victoria.	Queensland.	S. Aust.	W. Aust.	Tas.	C'wealth.
VALUE.							
1908 ...	£ 14,656,412	£ 12,125,690	£ 4,235,459	£ 3,782,295	£ 2,464,149	*1,308,000	£ 38,572,005
1909 ...	15,646,203	13,191,705	5,165,500	3,923,646	2,479,393	*1,523,000	41,929,447
1910 ...	18,236,039	14,719,599	6,315,290	4,489,440	2,723,652	1,616,877	48,100,897
1911 ...	20,675,060	16,718,338	6,887,327	4,912,402	3,251,740	1,572,847	54,017,714
1912 ...	24,040,887	18,408,471	7,719,950	5,239,108	3,506,073	1,585,298	60,499,787
1913 ...	25,135,019	19,470,948	9,505,250	5,644,412	3,698,492	1,699,165	65,153,286
PER EMPLOYEE.							
1908 ...	£ 165	£ 129	£ 145	£ 156	£ 198	£ 130	£ 150
1909 ...	171	136	175	153	193	120	157
1910 ...	183	144	186	166	193	162	168
1911 ...	190	149	185	176	206	153	173
1912 ...	208	159	189	184	214	159	185
1913 ...	209	164	224	198	214	174	193

\* See note (\*) to last table § 6, 4.

**VALUE OF PRODUCTION OF MANUFACTURING INDUSTRIES IN  
COMMONWEALTH, 1908 TO 1913—Continued.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
PER HEAD OF MEAN POPULATION.							
1908 ...	9.32	9.77	7.80	10.01	9.56	6.98	9.20
1909 ...	9.79	10.46	9.33	10.01	9.42	8.01	9.81
1910 ...	11.17	11.48	10.68	11.19	10.05	8.47	11.01
1911 ...	12.44	12.66	11.21	11.95	11.34	8.26	12.03
1912 ...	13.84	13.57	12.22	12.43	11.63	8.27	13.03
1913 ...	13.90	13.98	14.57	13.02	11.78	8.67	13.56

As the total value of the output for the Commonwealth was estimated at £161,560,763, there remained, after payment of £96,407,477, the value of the raw materials used, of £33,606,087 for salaries and wages, and of £3,240,901 for fuel, the sum of £28,306,298 to provide for all other expenditure and profits. The following table gives corresponding particulars for each State, expressed absolutely and as percentages of the total value of the output:—

**VALUE OF OUTPUT AND COST OF PRODUCTION IN COMMONWEALTH  
FACTORIES, 1913.**

State.	Raw Materials Used.	Fuel and Light.	Salaries and Wages.	All other Expenditure Interest, and Profits.	Total Value of Output.
VALUE AND COST, ETC.					
	£	£	£	£	£
New South Wales ...	40,537,476	1,371,425	12,683,384	11,080,210	65,672,495
Victoria ...	28,465,699	739,835	10,714,336	8,016,777	47,936,647
Queensland ...	14,183,539	328,519	4,075,191	5,101,540	23,688,789
South Australia ...	8,354,258	417,280	3,034,537	2,192,595	13,998,670
Western Australia ...	2,782,839	198,161	2,215,137	1,285,144	6,481,331
Tasmania ...	2,083,666	185,681	883,452	630,032	3,782,831
Commonwealth ...	96,407,477	3,240,901	33,606,087	28,306,298	161,560,763

**PERCENTAGE OF COSTS, ETC., ON TOTAL VALUE.**

	%	%	%	%	%
New South Wales ...	61.73	2.09	19.31	16.87	100.00
Victoria ...	59.38	1.54	22.35	16.73	100.00
Queensland ...	59.87	1.39	17.20	21.54	100.00
South Australia ...	59.68	2.98	21.68	15.66	100.00
Western Australia ...	42.93	3.06	34.18	19.83	100.00
Tasmania ...	55.08	4.91	23.35	16.66	100.00
Commonwealth ...	59.67	2.01	20.80	17.52	100.00

**§ 7. Land, Buildings, Plant and Machinery.**

1. **General.**—As an indication of the permanent character and stability of the industries which have been established in the Commonwealth, it may be noted that the values of land and buildings and of plant and machinery used in the factories are rapidly increasing. Thus, for the whole Commonwealth the total value of land and buildings and plant and machinery has increased from 1908 to 1913 by £21,543,924, i.e., from £52,585,754 to £74,129,678, or at the rate of £4,308,785 per annum.

The following statement shews for the year 1913 the values of land and buildings and of plant and machinery used in connection with manufacturing industries in each State:—

**VALUE OF LAND, BUILDINGS, PLANT AND MACHINERY IN CONNECTION WITH  
MANUFACTURING INDUSTRIES, 1913.**

Value of—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wlth.
	£	£	£	£	£	£	£
Land and buildings ...	15,792,105	10,753,309	3,923,584	3,261,242	2,036,769	1,105,711	36,872,720
Plant and machinery ...	14,861,676	10,022,429	5,877,387	2,982,323	2,264,455	1,248,688	37,256,958
Total ...	30,653,781	20,775,738	9,800,971	6,243,565	4,301,224	2,354,399	74,129,678

The total capital invested in land, buildings, plant and machinery in manufacturing industries in the Commonwealth during the year 1913 was approximately £74,129,678 (or £15 4s. 3d. per head of population); of that sum £36,872,720 was invested in land and buildings occupied as manufactories, the remaining £37,256,958 being the value of the plant and machinery used in connection therewith.

**2. Value of Land and Buildings.**—The value of the land and buildings occupied in connection with manufacturing industries may be conveniently classified according to the nature of the industry conducted therein.

(i.) *Total Value in Commonwealth, 1908 to 1913.* The following table shews for the whole Commonwealth the approximate values of land and buildings occupied in connection with manufacturing industries of various classes during each year from 1908 to 1913 inclusive:—

**VALUE OF LAND AND BUILDINGS OCCUPIED AS FACTORIES IN  
COMMONWEALTH, 1908 to 1913.**

Class of Industry.	1908.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	847,113	870,588	921,785	978,978	1,004,221	1,014,783
II. Treating oils and fats, animal, vegetable, etc. ...	359,624	370,681	394,079	445,499	449,453	452,415
III. Processes in stone, clay, glass, etc. ...	937,753	956,733	1,073,612	1,228,889	1,382,062	1,593,769
IV. Working in wood ...	1,195,581	1,285,267	1,492,673	1,668,045	1,923,963	2,184,257
V. Metal works, machinery, etc. ...	4,378,755	4,415,525	4,554,693	5,000,274	5,437,718	5,846,225
VI. Connected with food & drink, etc. ...	7,161,845	7,191,976	7,399,625	8,167,496	8,259,066	8,656,547
VII. Clothing and textile fabrics, etc. ...	3,377,905	3,809,148	4,191,488	4,601,924	4,928,474	5,188,631
VIII. Books, paper, printing, and engraving ...	2,483,693	2,642,029	2,779,754	2,964,466	3,150,049	3,388,072
IX. Musical instruments, etc. ...	31,054	33,314	75,632	82,168	85,731	88,136
X. Arms and explosives ...	34,586	33,016	38,763	41,462	112,300	184,772
XI. Vehicles and fittings, saddlery and harness, etc. ...	1,172,556	1,186,750	1,325,152	1,453,077	1,654,488	1,835,221
XII. Ship & boat building & repairing ...	988,141	1,033,513	1,052,868	1,163,299	1,261,647	1,113,243
XIII. Furniture, bedding & upholstery ...	659,604	690,588	757,485	993,408	1,043,680	1,149,120
XIV. Drugs, chemicals & by-products ...	531,765	543,507	687,162	760,441	823,429	831,892
XV. Surgical and other scientific instruments ...	33,054	56,378	56,149	61,703	59,308	70,968
XVI. Jewellery, timepieces, & plated-ware ...	226,352	232,483	271,834	300,717	344,306	353,900
XVII. Heat, light, and power ...	1,928,734	2,026,611	2,112,220	2,320,348	2,511,317	2,517,179
XVIII. Leatherware, n.e.i. ...	91,036	83,578	100,096	111,506	120,646	133,283
XIX. Minor wares, n.e.i. ...	218,840	210,325	220,984	250,550	257,298	270,307
Total ...	26,657,991	27,672,010	29,506,054	32,494,250	34,809,156	36,872,720

As shewn in the above table the total net increase during the five years was £10,214,729, or an annual average of £2,042,946. The largest increases were in Classes VII., VI., and V., and amounted to £1,810,726, £1,494,702, and £1,467,470 respectively.

(ii.) *Value in each State, 1913.* The following table gives similar information for each State up to the 31st December, 1913 :—

**VALUE OF LAND AND BUILDINGS OCCUPIED AS FACTORIES IN EACH STATE, 1913.**

Class of Industry.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	C'w'lth.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	399,149	404,064	55,695	100,109	39,520	16,246	1,014,783
II. Treating oils and fats, animal, vegetable, etc. ...	235,402	103,692	27,365	68,931	12,710	4,315	452,415
III. Processes in stone, clay, glass, etc. ...	915,358	413,118	51,068	132,059	55,976	26,190	1,593,769
IV. Working in wood ...	1,033,088	421,247	202,811	160,417	282,774	83,920	2,184,257
V. Metal works, machinery, etc. ...	2,700,256	1,343,288	634,183	552,312	530,494	85,692	5,846,225
VI. Connected with food and drink, etc. ...	2,787,934	2,544,483	1,568,492	775,415	403,330	575,893	8,656,547
VII. Clothing and textile fabrics, etc. ...	2,230,705	1,907,514	398,553	393,613	145,489	112,757	5,188,631
VIII. Books, paper, printing and engraving ...	1,433,936	927,013	456,758	322,848	200,813	46,704	3,388,072
IX. Musical instruments, etc. ...	57,076	25,320	...	3,140	2,600	...	88,136
X. Arms and explosives ...	78,522	102,750	...	3,500	...	...	184,772
XI. Vehicles and fittings, saddlery and harness, etc. ...	741,124	532,014	167,141	250,017	85,265	59,660	1,835,221
XII. Ship and boat building and repairing ...	822,411	212,096	9,215	62,540	2,890	4,097	1,113,243
XIII. Furniture, bedding and upholstery ...	506,356	350,253	106,171	97,904	56,234	32,202	1,149,120
XIV. Drugs, chemicals, and by-products ...	285,324	323,133	10,500	136,950	74,785	1,200	831,892
XV. Surgical and other scientific instruments ...	33,984	18,290	13,440	2,400	2,854	...	70,968
XVI. Jewellery, timepieces, and platedware ...	154,653	125,421	22,206	32,270	7,800	11,550	353,900
XVII. Heat, light, and power ...	1,194,851	841,924	178,516	146,427	114,376	41,085	2,517,179
XVIII. Leatherware, n.e.i. ...	60,062	56,531	9,800	4,200	2,690	...	133,283
XIX. Minor wares, n.e.i. ...	121,914	101,164	11,670	16,190	16,169	3,200	270,307
Total ...	15,792,105	10,753,309	3,923,584	3,261,242	2,036,769	1,105,711	36,872,720

The maximum value for the Commonwealth of land and buildings in any particular class was in Class VI., amounting to £8,656,547, or 23.48 per cent. on the total value. The next classes in importance were Classes V., VII., VIII., and XVII., in which the values were £5,846,225, £5,188,631, £3,388,072, and £2,517,179 respectively. The sum of the values for the five classes mentioned amounted to £25,596,654, or 69.42 per cent. on the total value for all classes.

(iii.) *Total Value in each State, 1908 to 1913.* The following table shews the total value of land and buildings occupied as manufactories in each State at the end of each year from 1908 to 1913 inclusive :—

**TOTAL VALUE OF LAND AND BUILDINGS OCCUPIED AS FACTORIES IN EACH STATE, 1908 to 1913.**

Year.	N.S.W.	Victoria.	Queensland.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
	£	£	£	£	£	£	£
1908...	10,390,260	8,589,027	2,763,085	2,304,965	1,565,756	1,044,898	26,657,991
1909...	11,014,362	8,642,344	2,888,923	2,425,970	1,522,692	1,177,719	27,672,010
1910...	12,108,776	9,012,263	3,045,974	2,641,973	1,674,953	1,022,115	29,506,054
1911...	13,474,455	9,921,520	3,277,776	2,950,170	1,819,342	1,050,987	32,494,250
1912...	14,765,810	10,362,661	3,524,991	3,150,834	1,910,372	1,094,488	34,809,156
1913...	15,792,105	10,753,309	3,923,584	3,261,242	2,036,769	1,105,711	36,872,720

It will be seen that since 1908 there has been a general, though in two States an irregular increase; the temporary fall in Western Australia was probably due to the

general reduction in values of real estate in that State. The fall in Tasmania for 1910 was due to the closing down of a large pyrites works.

3. **Value of Plant and Machinery.**—(i.) The following table shews for the whole Commonwealth the approximate value of plant and machinery used in connection with factories at the end of each year from 1908 to 1913 inclusive:—

**VALUE OF PLANT AND MACHINERY USED IN FACTORIES IN COMMONWEALTH,  
1908 to 1913.**

Class of Industry.	1908.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	671,015	754,556	829,255	877,820	926,966	985,619
II. Treating oils and fats, animal, vegetable, etc. ...	349,997	349,479	360,660	435,315	417,231	444,502
III. Processes in stone, clay, glass, etc. ...	833,809	901,193	1,109,139	1,399,774	1,491,333	1,717,544
IV. Working in wood ...	1,583,496	1,623,497	1,852,296	2,207,703	2,455,436	2,664,508
V. Metal works, machinery, etc. ...	4,633,636	4,941,632	5,255,575	5,722,956	6,308,356	6,879,461
VI. Connected with food and drink, etc. ...	7,744,682	7,772,770	8,212,440	8,570,565	9,029,735	9,650,298
VII. Clothing and textile fabrics, etc. ...	1,158,698	1,280,102	1,403,135	1,538,062	1,620,437	1,746,713
VIII. Books, paper, printing, and engraving ...	2,091,168	2,207,930	2,362,268	2,481,399	2,628,039	2,814,226
IX. Musical instruments, etc. ...	9,124	11,263	16,443	17,924	20,960	22,630
X. Arms and explosives ...	46,113	45,940	47,012	56,255	158,823	190,060
XI. Vehicles and fittings, saddlery and harness, etc. ...	204,138	220,746	249,973	283,470	329,933	374,371
XII. Ship and boat building, and repairing ...	432,803	434,905	443,429	478,012	597,783	725,934
XIII. Furniture, bedding, and upholstery ...	117,481	126,000	150,774	177,924	207,211	235,068
XIV. Drugs, chemicals, & by-products ...	398,028	435,019	517,781	602,276	629,402	650,185
XV. Surgical and other scientific instruments ...	8,144	9,215	9,929	11,158	11,615	13,121
XVI. Jewellery, timepieces, and platedware ...	46,160	43,980	49,490	61,765	61,791	68,186
XVII. Heat, light, and power ...	5,481,759	5,561,333	5,961,816	6,611,770	7,392,958	7,880,325
XVIII. Leatherware, n.e.i. ...	18,989	19,555	24,651	25,565	27,695	28,035
XIX. Minor wares, n.e.i. ...	98,503	116,097	120,669	138,896	145,141	166,172
<b>Total</b> ...	<b>25,927,763</b>	<b>26,855,212</b>	<b>28,976,735</b>	<b>31,599,209</b>	<b>34,460,895</b>	<b>37,256,958</b>

It may be seen that during the period in question there has been a steady and substantial net increase amounting in all to £11,329,195, or an annual average of £2,265,859. The increase has occurred in all classes of industry, the largest increase being in Class XVII., "Heat, Light, and Power," amounting to £2,398,566, while the two next largest were in Class V., "Metal Works, Machinery, etc.," amounting to £2,245,805, and Class VI., "Connected with Food and Drink, etc.," with an increase of £1,905,616.

(ii.) *Total Value in each State, 1908 to 1913.* The figures which were given in the above table referred to the Commonwealth as a whole. In the following table they are shewn for the States. It will be seen that the increase in value referred to above is general throughout the States. New South Wales shews by far the largest increase, viz., £5,142,834; while Victoria comes next with £3,064,823.

**VALUE OF PLANT AND MACHINERY IN FACTORIES, 1908 to 1913.**

Year.	N.S.W.	Victoria.	Queensland.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
	£	£	£	£	£	£	£
1908	9,718,842	6,957,606	4,470,145	2,064,097	1,744,652	972,421	25,927,763
1909	10,330,724	7,140,304	4,457,314	2,135,203	1,728,207	1,063,460	26,855,212
1910	11,578,620	7,601,085	4,631,519	2,225,718	1,893,602	1,046,191	28,976,735
1911	12,510,600	8,336,373	4,947,259	2,506,000	2,082,777	1,216,200	31,599,209
1912	13,795,195	9,095,134	5,442,471	2,725,540	2,241,536	1,161,019	34,460,895
1913	14,861,676	10,022,429	5,877,387	2,982,323	2,264,455	1,248,688	37,256,958

(iii.) *Classified Value in each State, 1913.* The following table shews the value of plant and machinery used in factories in each State during the year 1913, classified according to the nature of the industry in which used:—



## VALUE OF PLANT AND MACHINERY USED IN FACTORIES IN EACH STATE, 1913.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wlth.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ...	403,442	324,246	121,363	68,943	24,192	43,433	985,619
II. Treating oils and fats, animal, vegetable, etc. ...	232,062	131,556	40,348	28,276	11,139	1,121	444,502
III. Processes in stone, clay, glass, etc. ...	1,054,918	372,864	83,962	134,742	55,605	15,453	1,717,544
IV. Working in wood ...	846,446	567,578	471,363	84,088	506,638	188,395	2,664,508
V. Metal wks., machinery, etc. ...	3,447,776	1,400,623	782,683	510,848	386,517	351,014	6,879,461
VI. Connected with food and drink, etc. ...	3,150,439	2,130,758	3,253,324	594,202	384,330	137,245	9,650,298
VII. Clothing and textile fabrics, etc. ...	585,552	834,510	141,623	95,309	37,634	52,185	1,746,713
VIII. Books, paper, printing, and engraving ...	1,141,588	936,214	271,536	221,429	177,039	66,490	2,814,226
IX. Musical instruments, etc. ...	15,230	6,530	...	690	180	...	22,630
X. Arms and explosives ...	95,710	93,950	...	400	...	...	190,060
XI. Vehicles and fittings, saddlery and harness, etc. ...	132,708	127,488	32,170	49,062	21,391	11,552	374,371
XII. Ship and boat building and repairing ...	616,383	78,281	11,908	13,705	1,080	4,577	725,934
XIII. Furniture, bedding, and upholstery ...	70,757	69,515	35,687	37,655	14,294	7,160	235,068
XIV. Drugs, chemicals, and by-products ...	189,577	224,479	4,600	122,649	108,180	700	650,185
XV. Surgical and other scientific instruments ...	5,057	4,222	1,692	925	1,225	...	13,121
XVI. Jewellery, timepieces, and platedware ...	28,190	27,197	4,592	4,718	2,044	1,445	68,186
XVII. Heat, light, and power ...	2,761,016	2,591,218	618,065	1,012,320	530,063	367,613	7,880,325
XVIII. Leatherware, n.e.i. ...	11,433	14,624	1,120	359	499	...	28,035
XIX. Minor wares, n.e.i. ...	73,392	86,576	1,351	2,103	2,375	375	166,172
Total ...	14,861,676	10,022,429	5,877,387	2,982,323	2,264,455	1,248,688	37,256,958

The greatest value for any particular class of industry is for Class VI., "Connected with Food and Drink, etc.," and amounts to £9,650,298, or 25.90 per cent. on the total for all classes. The next in order of importance is Class XVII., "Heat, Light, and Power," which amounts to £7,880,325, or 21.15 per cent. on the total; followed by Class V., "Metal Works, Machinery, etc.," amounting to £6,879,461, or 18.47 per cent. on the total value. The total for these three classes amounts to £24,410,084, or 65.52 per cent. on the total value for all classes.

## § 8. Individual Industries.

1. **General.**—The preceding remarks and tables furnish a general view of the recent development of particular classes of industries in Australia treated under the nineteen categories referred to in § 1, 3 hereof. In order to make the information complete, it is necessary to furnish details of the development of individual industries. While it is not possible, within the limits of this article, to give a full and detailed account of all the manufacturing industries of the Commonwealth, it is proposed to deal herein with such particular industries as are of special importance by reason of the number of persons employed, the number of factories, the amount of capital invested therein, the value of the production, or other features of special interest. In cases where there are only one or two establishments of a particular class in any State, returns relative to output are not published, in order to avoid disclosing information as to the operations of individual factories.

2. **Tanning Industry.**—(i.) In Class I. (see § 1. 3 hereof) the most important industry is tanning. Until recent years the production of tanneries in Australia was confined to the coarser class of leathers, but lately the tanning of the finer skins has been undertaken with satisfactory results. The position of the industry in the several States in 1913 was as follows :—

**TANNERIES, 1913.**

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
Number of factories ... ..	72	52	20	13	3	4	164
" employees ... ..	942	1,401	195	217	57	80	2,892
Actual horse-power of engines employed ...	1,269	1,699	355	226	133	66	3,748
Approx. value of lands and buildings ...	£ 125,859	177,964	16,472	22,030	14,640	9,731	366,696
Approx. value of plant and machinery ...	£ 59,010	137,566	18,669	11,328	10,150	9,887	276,610
Total amount of wages paid during year ...	£ 102,116	159,025	22,675	23,977	6,890	9,064	322,747
Value of fuel used ... ..	£ 6,469	9,252	1,170	1,589	435	727	19,642
Value of raw material worked up ... ..	£ 865,021	1,145,139	183,049	122,467	47,988	64,339	2,428,003
Total value of output ... ..	£ 1,060,049	1,425,350	237,955	164,890	58,137	84,404	3,030,785
Value added in process of manufacture ...	£ 195,028	280,211	54,906	42,423	10,149	20,065	602,782

(ii.) *Raw Materials used in Tanneries, 1913.* The quantity of raw materials used in tanneries in each State during the year 1913 is shewn in the following table :—

**RAW MATERIAL USED IN TANNERIES, 1913.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
<b>RAW MATERIALS USED.</b>							
Hides & calf skins ... No.	453,640	719,760	120,886	75,248	23,469	28,969	1,421,973
Sheep pelts ... ..	3,693,515	760,683	174,046	57,390	...	28,667	4,714,301
Other skins ... ..	120,684	102,897	55,716	7,035	2,548	711	289,591
Bark ... .. Tons	9,614	11,279	2,336	1,330	589	315	25,463

(iii.) *Progress of Tanning Industries, 1908 to 1913.* The development of the tanning industry during the period 1908 to 1913 is shewn in the following table :—

**DEVELOPMENT OF TANNING INDUSTRY IN THE COMMONWEALTH, 1908 to 1913.**

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ... ..	181	179	176	176	174	164
Number of employees ... ..	3,044	2,980	3,110	3,247	3,071	2,892
Actual horse-power of engines used ...	2,311	2,846	3,125	3,168	3,274	3,748
Approx. value of land and buildings ...	£ 292,165	281,898	301,500	343,914	366,898	366,696
Approx. value of plant and machinery ...	£ 194,634	202,961	212,253	241,245	250,495	276,610
Total amount of wages paid ... ..	£ 259,054	266,797	303,012	332,206	328,060	322,747
Value of fuel used ... ..	£ *20,449	21,581	23,644	21,711	21,341	19,642
Value of raw materials worked up ... ..	£ *1,654,336	1,832,309	1,988,512	2,099,034	2,216,705	2,428,003
Value of final output ... ..	£ *2,191,689	2,320,190	2,570,858	2,698,250	2,834,007	3,030,785
Value added in process of manufacture ...	£ *537,293	487,881	572,346	599,216	617,302	602,782

\* Exclusive of Tasmania.

It will be seen from the above table that as regards the number of factories and of hands employed, the figures during the last five years have been almost stationary. The approximate amount of permanently invested capital, however, shews a very substantial increase, amounting to 25.5 per cent. in the value of land and buildings, and 42.1 per cent. in that of plant and machinery. The amount of wages paid, value of materials used, and of final output also shew a substantial increase during the period.

3. **Fellmongering and Wool-scouring.**—(i.) The next industry in importance in Class I. is that of fellmongering and wool-scouring, one of the earliest industries established in Australia. The following table gives particulars of the industry in each State for the year 1913 :—

## FELLMONGERING AND WOOL-SCOURING, 1913.

Items.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	C'with.
Number of factories ... ..	62	32	21	4	...	...	119
Number of employees ... ..	1,553	423	346	53	...	...	2,375
Actual horse-power of engines used ...	2,421	699	735	111	...	...	3,966
Approx. value of land and buildings £	159,806	66,735	36,153	7,201	...	...	269,895
Approx. value of plant and machinery £	183,388	59,282	95,225	8,486	...	...	346,381
Total amount of wages paid ...	£ 147,268	35,923	40,978	6,276	...	...	230,445
Value of fuel used ... ..	£ 19,079	4,669	8,823	833	...	...	33,404
Value of raw material worked up ...	£ 2,496,029	462,114	1,271,470	135,800	...	...	4,365,413
Value of final output ... ..	£ 2,808,198	536,303	1,443,722	152,187	...	...	4,940,410
Value added in process of manufacture £	312,169	74,189	172,252	16,387	...	...	574,997

(ii.) *Development of Fellmongering and Wool-scouring, 1908 to 1913.*—The following return furnishes particulars of fellmongering and wool-scouring establishments in the Commonwealth for the last six years :—

## DEVELOPMENT OF FELLMONGERING AND WOOL-SCOURING IN THE COMMONWEALTH, 1908 to 1913.

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ... ..	122	124	122	112	120	119
Number of employees ... ..	2,526	2,655	2,674	2,590	2,544	2,375
Actual horse-power of engines used ...	1,997	2,473	2,896	3,230	3,891	3,966
Approx. value of land and buildings £	234,983	255,030	274,132	273,281	267,188	269,895
Approx. value of plant and machinery £	222,412	243,894	298,548	308,211	348,970	346,381
Total amount of wages paid ...	£ 181,650	210,500	217,919	208,627	209,352	230,445
Value of fuel used ... ..	£ 20,845	25,907	31,250	21,581	31,445	33,404
Value of raw materials worked up ...	£ 3,186,497	3,714,968	3,965,303	3,757,750	3,859,200	4,365,413
Value of final output ... ..	£ 3,666,447	4,550,457	4,655,517	4,343,690	4,444,938	4,940,410
Value added in process of manufacture £	479,950	835,489	690,214	585,940	585,738	574,997

Little alteration has taken place in this industry during the last five years as regards the number of establishments or employees. In the other items shewn in the above table very large increases appear. The horse-power of engines used increased 98½ per cent., the value of raw materials used, 37 per cent., and that of the finished articles 35 per cent.

4. *Soap and Candle Factories.*—(i.) In Class II. (see § 1. 3 hereof) the manufactures of soap and candles are the most important industries. These two manufactures are frequently carried on in the same establishments, so that separate returns cannot be obtained; it may, however, be said generally that the manufacture of soap is the more important of the two. The following table gives particulars of soap and candle factories in each State during the year 1913 :—

## SOAP AND CANDLE FACTORIES, 1913.

Items.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Cw'ith.
Number of factories ... ..	31	18	15	5	3	2	74
" employees ... ..	725	571	147	207	77	28	1,755
Actual horse-power of engines employed ...	464	444	154	168	80	4	1,314
Approximate value of land and buildings £	171,551	89,091	27,385	55,851	12,710	4,215	360,763
Approximate value of plant and machinery £	170,995	117,692	40,348	23,512	11,139	671	364,337
Total amount of wages paid during year ...	£ 59,117	60,703	15,314	25,203	9,112	2,798	172,247
Value of fuel used ... ..	£ 11,081	11,239	2,105	6,061	841	365	31,692
Value of raw material worked up ...	£ 406,113	401,468	65,736	125,935	58,912	8,337	1,067,001
Total value of output ... ..	£ 610,175	610,581	120,599	205,069	83,938	13,526	1,644,188
Value added in process of manufacture £	204,062	209,413	54,863	79,134	25,026	4,689	577,187

(ii.) *Development of Soap and Candle Factories, 1908 to 1913.* The following table gives similar particulars for the last six years as regards the Commonwealth as a whole :—

**DEVELOPMENT OF SOAP AND CANDLE FACTORIES IN THE COMMONWEALTH,  
1908 to 1913.**

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories...	73	73	78	81	77	74
" employees	1,496	1,582	1,606	1,668	1,776	1,755
Actual horse-power of engines used...	*900	920	1,002	1,266	1,274	1,314
Approximate value of land and buildings	£ 287,685	296,312	311,333	347,824	360,572	360,783
" plant and machinery	£ 302,742	300,015	305,693	326,273	348,365	364,357
Total amount of wages paid...	£ 122,286	139,959	140,423	148,592	162,551	172,247
Value of fuel used	£ +28,295	30,270	33,222	31,701	30,896	31,692
" of raw material worked up	£ +734,110	832,263	952,770	1,018,757	1,030,770	1,067,001
" of final output	£ +1,167,443	1,304,463	1,440,176	1,588,416	1,614,898	1,644,188
" added in process of manufacture	£ +433,333	472,220	487,406	569,659	584,128	577,187

\* Approximate.

† Exclusive of Tasmania.

(iii.) *Production of Soap and Candles, 1908 to 1913.* The subjoined statement shews that, taking the Commonwealth as a whole, there has been a considerable and consistent increase in the output of soap during the past five years.

**PRODUCTION OF SOAP AND CANDLES IN THE COMMONWEALTH, 1908 to 1913.**

	1908.	1909.	1910.	1911.	1912.	1913.
Soap ... cwt.	549,714	567,648	617,458	639,458	688,722	700,878
Candles ... "	127,962	143,722	144,621	130,122	130,785	129,877

(iv.) *Raw Materials Used, 1908 to 1913.* The following statement shews the quantity of certain raw materials used in soap and candle factories in the Commonwealth during the years 1908 to 1913 :—

**RAW MATERIALS USED IN SOAP AND CANDLE FACTORIES, 1908 to 1913.**

Particulars.	1908.	1909.	1910.	1911.	1912.	1913.
Tallow ... cwt.	344,229	346,591	349,035	356,471	411,701	391,133
Alkali ... "	103,546	107,225	134,010	133,675	135,643	135,231
Cocoonut oil ... gal.			355,802	505,612	489,329	457,693

\* Figures not available.

5. *Saw Mills, etc.*—The most important industry in Class IV. is that of saw-milling. As separate particulars of forest saw mills are not available for some of the States, both forest and other saw mills, as well as joinery, moulding and box factories have been combined in the following table:—

**SAW MILLS, FOREST AND OTHER, JOINERY, Etc., 1913.**

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'w'lth.
Number of factories	662	394	300	91	71	152	1,670
" employees	8,870	7,139	5,431	1,729	5,234	1,968	30,371
Actual horse-power of engines employed	16,592	10,361	7,621	1,585	6,924	2,601	45,684
Approx. value of land and buildings	£ 937,507	366,489	191,921	149,742	282,774	79,606	2,008,035
" plant and machinery	£ 788,800	544,466	467,451	77,264	506,638	187,075	2,571,701
Total amount of wages paid during year	£ 935,990	753,833	536,904	200,865	797,022	159,293	3,388,907
Value of fuel used	£ 19,973	14,532	8,792	4,294	2,139	1,706	51,436
Value of raw material worked up	£ 2,300,851	1,113,577	709,042	791,915	1,115,913	152,360	5,245,688
Total value of output	£ 3,679,732	2,239,991	1,752,696	1,332,524	1,232,349	374,637	10,411,925
Value added in process of manufacture	£ 1,378,851	1,126,414	983,646	340,609	1,116,436	222,277	5,168,335

The development of forest and other saw mills, etc., since 1908, is shewn in the following table :—

**DEVELOPMENT OF SAW MILLS, FOREST AND OTHER, Etc., IN THE  
COMMONWEALTH, FROM 1908 to 1913.**

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of establishments ... ..	1,205	1,284	1,350	1,494	1,609	1,670
" employees ... ..	20,350	21,416	23,424	26,785	29,358	30,371
Actual horse-power of engines used...	24,056	27,141	30,520	34,540	40,256	45,684
Approximate value of land and buildings £	1,080,881	1,160,713	1,363,927	1,532,620	1,754,241	2,008,035
" of plant and machinery £	1,530,818	1,562,130	1,794,078	2,141,883	2,365,462	2,571,701
Total amount of wages paid...	£ 1,851,651	2,007,298	2,290,059	2,749,209	3,211,625	3,383,907
Value of fuel used ... ..	£ *24,443	28,694	29,856	37,308	43,913	51,436
" of raw material worked up ...	£ *2,904,408	2,977,219	3,372,421	4,208,333	4,900,612	5,273,688
" of final output ... ..	£ *5,521,333	6,098,939	6,928,310	8,535,800	9,882,810	10,411,923
" added in process of manufacture	£ *2,616,925	3,121,720	3,555,889	4,327,467	4,982,198	5,168,235

\* Exclusive of Tasmania.

The great development in the building and other trades that has taken place in Australia during late years is reflected in the very satisfactory progress of the timber industries. The large increase shewn in wages paid, value of materials used, and of final output, as well as in capital invested in land and buildings, and plant and machinery, all point to the rapid development of these industries.

**6. Agricultural Implement Factories.**—The manufacture of agricultural implements is an important industry in Australia, and is of particular interest owing to the fact that it is one of the first industries to which what has been called the "New Protection" system was sought to be applied (see Section XXVII. hereof). The nature of the machines manufactured may be gathered from the machines scheduled in the Customs tariff, 1906-7, which includes stripper harvesters, strippers, stump-jump ploughs, disc cultivators, winnowers, corn-shellors and baggers, drills, and other implements usually employed in agriculture. The stripper-harvester, which combines the stripper with a mechanism for winnowing and bagging grain, is an Australian invention, and is exported to many countries.

The following table gives particulars of the agricultural implement works of Australia for the year 1913 :—

**AGRICULTURAL IMPLEMENT WORKS, 1913.**

Items.	N.S.W.	Victoria	Q'land.	S.Aust.	W.A.	Tas.	C'w'lth.
Number of factories ... ..	23	66	4	53	6	2	154
" employees ... ..	651	2,242	98	1,092	346	15	4,444
Actual horse-power of engines employed	281	1,289	50	933	136	9	2,698
Approx. value of land and buildings £	85,896	155,984	6,012	67,824	32,250	700	348,666
" plant and machinery £	29,618	175,217	7,343	72,436	23,726	675	309,015
Total amount of wages paid during year £	77,361	268,880	10,384	114,086	30,857	676	502,244
Value of fuel used ... ..	£ 2,444	16,915	697	7,684	2,598	70	30,408
Value of raw material worked up ...	£ 307,106	324,063	19,056	123,536	50,045	750	824,556
Total value of output ... ..	£ 427,852	710,832	36,799	287,456	71,527	1,912	1,536,378
Value added in process of manufacture £	120,746	386,769	17,743	163,920	21,482	1,162	711,822

*Development of Agricultural Implement Works.* The following table shews the progress of this industry during the years 1908 to 1913 to have been very satisfactory. During the period the number of establishments increased 10 per cent., the number of employees nearly 42 per cent., the value of plant and machinery over 126 per cent., and the value of output about 74 per cent. :—

**DEVELOPMENT OF AGRICULTURAL IMPLEMENT WORKS IN THE  
COMMONWEALTH, FROM 1908 to 1913.**

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ... ..	140	148	150	155	159	154
Number of employees ... ..	3,134	4,081	4,868	5,156	4,733	4,444
Actual horse-power of engines used ... ..	1,530	1,713	2,228	2,347	2,419	2,698
Approx. value of land and buildings ... ..	£ 169,125	199,544	227,936	284,469	331,348	348,666
Approx. value of plant and machinery ... ..	£ 136,238	169,778	208,185	245,025	281,923	309,015
Total amount of wages paid ... ..	£ 261,275	356,710	470,931	550,922	527,406	502,244
Value of fuel used ... ..	£ *16,032	23,992	35,070	32,342	30,961	30,408
Value of raw material worked up ... ..	£ *413,825	559,141	743,032	811,322	751,596	824,556
Value of final output ... ..	£ *879,409	1,227,339	1,560,880	1,656,364	1,538,421	1,536,378
Value added in process of manufacture ... ..	£ *465,584	668,198	817,848	845,042	786,825	711,822

\* Exclusive of Tasmania.

**7. Engineering, Ironworks, and Foundries.**—The classification in these industries is not very satisfactory. Generally, engineering shops, ironworks, and foundries are included, as also are factories for making nails, safes, patterns, meters, and springs. Railway workshops, agricultural implement factories, cyanide, smelting, pyrites, and metallurgical works, galvanised iron, stoves and ovens, and wire working establishments are not included. The combination of industries is rendered necessary by the limited classification still adopted by some of the States.

**ENGINEERING, IRONWORKS, AND FOUNDRIES, 1913.**

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'w'th.
Number of factories ... ..	294	377	106	60	59	23	919
Number of employees ... ..	10,122	9,243	3,054	1,927	1,149	514	26,014
Actual horse-power of engines employed ... ..	8,746	7,299	1,708	1,452	1,072	353	20,630
Approx. value of land and buildings ... ..	£ 563,600	570,525	178,905	110,017	96,655	40,751	1,980,453
Approx. value of plant and machinery ... ..	£ 954,008	773,061	198,740	113,996	99,961	52,169	2,188,935
Total amount of wages paid during year ... ..	£ 1,214,956	1,061,023	324,588	226,469	141,132	56,095	3,044,263
Value of fuel used ... ..	£ 72,903	93,517	16,733	16,453	13,350	4,187	217,173
Value of raw materials worked up ... ..	£ 1,638,609	1,301,214	306,342	247,702	181,491	44,285	3,719,643
Total value of output ... ..	£ 3,375,207	3,010,355	847,579	569,216	388,763	124,200	8,315,320
Value added in process of manufacture ... ..	£ 1,735,598	1,709,141	541,237	321,514	207,272	79,915	4,595,677

In addition to engineering works which supply ordinary requirements, there are now a number of large and important establishments which engage in the manufacture of special classes of machinery and implements. The manufacture of mining and smelting machinery and apparatus forms an important section of this industry.

The development of engineering, ironworks, and foundries in the Commonwealth since 1908 is shewn in the following table:—

**DEVELOPMENT OF ENGINEERING, IRONWORKS, AND FOUNDRIES, FROM 1908 to 1913.**

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ... ..	729	764	781	820	877	919
Number of employees ... ..	17,699	17,882	20,109	22,539	25,151	26,014
Actual horse-power of engines used ... ..	10,200	11,403	13,493	16,015	18,744	20,630
Approx. value of land and buildings ... ..	£ 1,268,277	1,335,863	1,352,872	1,579,925	1,792,169	1,980,453
Approx. value of plant and machinery ... ..	£ 1,376,427	1,414,187	1,541,107	1,706,405	1,953,478	2,188,935
Total amount of wages paid ... ..	£ 1,675,178	1,715,292	1,948,326	2,342,603	2,846,180	3,044,263
Value of fuel used ... ..	£ *130,886	149,348	166,449	178,546	195,729	217,173
Value of raw material worked up ... ..	£ 2,024,181	2,076,291	2,414,210	2,832,181	3,536,179	3,719,643
Value of final output ... ..	£ *4,568,680	4,822,169	5,636,048	6,614,535	7,930,060	8,315,320
Value added in process of manufacture ... ..	£ *2,544,499	2,745,878	3,221,838	3,782,354	4,393,881	4,595,677

\* Exclusive of Tasmania.

The progress in these industries during late years has been very rapid. Since 1908 the number of establishments has increased 26 per cent., the number of hands employed 47 per cent., the amount of wages paid 82 per cent., and the amount of capital invested in land, buildings, plant and machinery, 57½ per cent. During the past four years the output increased by £3,493,151, or 72½ per cent.

### 8. Railway Carriages and Rolling Stock, Railway and Tramway Workshops.—(i.)

The railway workshops of Australia form an important item in the metal and machinery class, and are chiefly State institutions. The following table gives the details concerning them, but includes also private establishments manufacturing rolling stock:—

#### RAILWAY CARRIAGES AND ROLLING STOCK, RAILWAY AND TRAMWAY WORKSHOPS, 1913.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'w'lt'h.
Number of factories ...	25	17	8	8	8	7	73
" employees ...	10,122	9,248	3,054	1,927	1,149	514	26,014
Actual h.p. of engines employed ...	4,287	1,301	1,137	727	2,008	121	9,581
Approx. value of land and buildings £	953,006	313,232	299,766	259,619	397,509	575	2,213,697
Approx. value of plant and machinery £	713,075	242,347	204,166	131,857	264,595	79,010	1,685,050
Total amt. of wages paid during year £	1,338,995	709,069	294,916	347,769	286,855	41,384	3,018,988
Value of fuel used ...	25,837	23,730	5,592	5,569	15,421	1,086	77,155
Value of raw material worked up £	941,898	934,011	250,498	252,803	474,420	20,905	2,874,535
Total value of output ...	£2,492,820	1,807,861	619,934	672,037	776,219	66,952	6,435,823
Value added in process of manufacture £	1,550,922	873,850	369,436	419,234	301,799	46,047	3,561,288

(ii.) *Northern Territory Railway Workshops.* In addition to the above, a railway workshop is in operation in the Northern Territory. The work is almost exclusively repairs to stock, etc., no new goods being manufactured. For the sake of convenience this establishment is not included in any of the tables in this publication. Nine hands were employed during the year 1912, wages and salaries amounting to £1460. The cost of materials used was £872, and of fuel £76, while the value of output was £3317, and of land and buildings £14,684.

(iii.) *Development of Railway and Tramway Workshops, 1908 to 1913.* The following table shews the development of railway and tramway workshops in the Commonwealth since 1908:—

#### DEVELOPMENT OF RAILWAY AND TRAMWAY WORKSHOPS, Etc., FROM 1908 to 1913.

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories... ..	69	68	68	72	73	73.
" employees ... ..	12,293	13,176	14,915	17,425	19,662	26,014
Actual horse-power of engines used ...	6,674	10,731	7,384	8,373	9,637	9,581
Approx. value of land and buildings £	1,982,116	1,884,351	1,939,092	2,036,178	2,128,273	2,213,697
" " plant and machinery ...	1,271,974	1,284,764	1,394,657	1,433,093	1,563,710	1,685,050
Total amount of wages paid... ..	1,499,934	1,628,379	1,842,142	2,163,460	2,702,711	3,048,988
Value of fuel used ... ..	40,704	43,114	57,777	69,919	75,476	77,155
" of raw material worked up ...	*1,326,037	1,426,542	1,558,898	1,939,477	2,574,737	2,874,535
" of final output ... ..	*2,937,416	3,234,955	3,648,168	4,468,096	5,695,221	6,435,823
" added in process of manufacture	*1,611,379	1,808,413	2,069,270	2,528,619	3,120,484	3,561,288

\* Exclusive of Tasmania.

The growth of the railway and tramway systems, conjointly with heavy increases in passenger and goods traffic, throughout the Commonwealth during the past few years (see Section XVII., § 2 and 3), has resulted in an enhanced activity in those workshops engaged in the manufacture or repair of rolling stock, etc. The above table shews the number of employees to have increased 87 per cent. during the last five years and the

amount of wages paid 101 per cent. during the same period. Since 1909 the final output increased 199 per cent., while the value added in process of manufacture shews an increase of 97 per cent.

9. **Smelting Works, etc.**—The subjoined table gives particulars of metal smelting, cyanide, pyrites, and metallurgical works. The classification of these works does not appear to be carried out on a uniform basis in the several States, and the combination of industries is, therefore, somewhat unsatisfactory. The returns do not include particulars of plants used on mines.

### SMELTING, CYANIDE, PYRITES, Etc., WORKS, 1913.

Items.	N. S. W.	Vic.	Q'land.	S. A.	W. A.	Tas.	C'w'lth.
Number of factories ... ..	35	70	17	6	...	4	132
" employees ... ..	3,797	497	743	1,765	...	1,116	7,918
Actual horse-power of engines employed	16,680	450	4,764	3,784	...	3,681	29,359
Approx. value of land and buildings £	276,845	11,489	48,949	19,748	...	36,066	393,097
" plant and machinery £	1,537,204	51,305	303,135	68,420	...	216,629	2,176,693
Total am't of wages paid during year £	698,436	44,426	127,576	319,199	...	152,421	1,342,058
Value of fuel used ... ..	£ 362,987	5,665	36,683	179,106	...	95,572	680,013
Value of raw material worked up	£5,947,656	87,037	503,076	1,684,713	...	714,242	8,936,724
Total value of output ... ..	£8,813,304	174,899	985,382	2,619,137	...	1,071,053	13,663,775
Value added in process of manufacture £	2,865,648	87,862	492,306	934,424	...	356,811	4,727,051

\* See third paragraph below.

In New South Wales and Queensland the above figures represent smelting works; those for Victoria include sixty-two cyanide works, two metallurgical, four pyrites, and two smelting works; South Australia four cyanide and two smelting; and Tasmania three smelting and one cyanide works.

The largest output for the year under review was in New South Wales, viz., £8,813,304, or 64.50 per cent. on the total output for the Commonwealth. South Australia came next with £2,619,137, or 19.17 per cent.; this amount is made up of £2,612,861 smelting and £6276 cyanide. Of the total for Tasmania the output of smelting was £985,141, the balance £85,912 representing that obtained from cyanide works. The output in Victoria was £76,425, £56,936, £35,936, and £5602 from cyanide, pyrites, smelting, and metallurgical works in the order named.

In Western Australia all the plants are worked on the mines and are therefore not included.

10. **Bacon-curing Factories.**—The following table gives particulars of factories engaged in bacon-curing in each State during the year 1913:—

### BACON-CURING FACTORIES, 1913.

Items.	N. S. W.	Vic.	Q. and.	S. A.	W. A.	Tas.	C'w'lth.
Number of factories ... ..	19	28	7	12	2	7	75
" employees ... ..	188	460	336	76	12	33	1,105
Actual horse-power of engines employed	287	779	737	70	39	33	1,945
Approx. value of land and buildings £	62,638	88,198	69,779	12,116	3,690	5,743	242,164
" plant and machinery £	25,091	57,439	38,860	5,017	900	2,081	129,388
Total amount of salaries and wages paid £	29,168	49,305	39,991	7,839	1,857	2,558	130,718
Value of fuel used ... ..	£ 3,816	5,272	3,882	587	269	424	14,250
Value of raw material worked up	£405,466	624,288	292,500	89,231	113,664	24,855	1,550,004
Total value of output ... ..	£484,415	726,906	470,839	106,417	118,848	34,168	1,941,593
Value added in process of manufacture £	78,949	102,618	178,339	17,186	5,184	9,313	391,539

*Quantity and Value of Production, 1913.* The following table shews the number of pigs killed and the quantity and value of the production of bacon-curing factories in each State during the year 1913:—



## PRODUCTION OF BACON-CURING FACTORIES, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.*	Tasmania.	C'wealth.
QUANTITY (,000 omitted).							
Bacon & ham lbs.	12,875	16,346	12,841	2,520	...	785	45,367
Lard ... lbs.	579	747	836	96	...	68	2,326
VALUE.							
Bacon & ham £	433,263	686,906	419,026	101,616	...	28,864	1,669,675
Lard ... £	15,826	22,500	20,880	2,703	...	1,382	63,291
Other products £	18,780	17,500	30,933	2,098	...	3,922	73,233
PIGS KILLED.							
Number ...	140,969	179,710	159,082	29,043	...	10,266	519,070

\* In Western Australia all bacon and hams treated in factories are imported and subsequently smoked in that State.

Bacon and ham and other pig products are dealt with more fully in Section IX., *Farmyard and Dairy Production*.

11. **Butter, Cheese, and Condensed Milk Factories.**—(i.) The subjoined table gives particulars of butter, cheese, and condensed milk factories in each State during the year 1913. The returns are exclusive of butterine and margarine factories.

## BUTTER, CHEESE, AND CONDENSED MILK FACTORIES, 1913.

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'w'lth.
Number of factories ...	170	197	88	48	3	25	531
" employees ...	1,020	1,354	835	194	9	95	3,507
Actual horse-power of engines employed	2,695	3,082	1,371	377	28	173	7,726
Approximate value of land and buildings £	201,368	308,549	96,789	38,292	1,463	18,274	664,735
" plant and machinery £	261,650	341,382	175,871	29,172	3,210	17,701	828,986
Total amount of wages paid ...	£ 136,008	159,529	91,213	16,282	918	7,541	411,491
Value of fuel used ...	£ 27,443	28,650	12,508	2,458	106	749	72,214
Value of raw material worked up ...	£ 3,156,225	3,198,161	1,417,400	247,158	9,350	117,884	8,146,178
Total value of output ...	£ 3,472,689	3,562,057	1,813,706	281,634	11,702	142,959	9,284,747
Value added in process of manufacture £	316,464	363,896	396,306	34,476	2,352	25,075	1,138,569

(ii.) *Development of Factories, 1908 to 1913.* The following table shews the progress of the factories in this industry during the past five years:—

## DEVELOPMENT OF BUTTER, CHEESE, AND CONDENSED MILK FACTORIES IN THE COMMONWEALTH 1908 TO 1913.

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ...	560	550	548	540	530	531
" employees ...	3,428	3,283	3,479	3,730	3,518	3,507
Actual horse-power of engines used ...	5,835	6,045	6,182	6,818	8,156	7,726
Approx. value of land and buildings £	519,418	545,145	576,644	677,139	659,673	664,735
" plant and machinery £	716,678	694,129	708,239	775,792	788,922	828,986
Total amount of wages paid ...	£ 299,949	295,826	324,505	375,221	385,793	411,491
Value of fuel used ...	£ 60,647	52,789	59,616	67,555	70,155	72,214
" raw material worked up ...	£ 6,059,999	6,012,094	7,378,146	8,341,125	8,676,346	8,146,178
" final output ...	£ 6,643,603	6,727,324	8,230,782	9,432,122	9,760,205	9,284,747
Value added in process of manufacture £	583,604	715,230	852,636	1,090,997	1,083,859	1,138,569

\* Exclusive of Tasmania.

(iii.) *Quantity and Value of Production, 1913.* The following table shews the quantity and value of butter, cheese, and condensed milk produced, and the quantity of milk used in butter, cheese, and condensed milk factories in each State during 1913 :—

**PRODUCTION OF BUTTER, CHEESE, AND CONDENSED MILK FACTORIES, 1913.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'w'lth.
QUANTITY (,000 OMITTED).							
Butter ... lbs.	73,245	67,702	33,122	4,415	147	2,755	181,386
Cheese ... "	3,452	2,848	5,262	2,215	...	443	14,220
Condensed and concentrated milk ... lbs.	3,683	21,043	8,059	...	...	...	32,785
VALUE (,000 OMITTED).							
Butter ... £	3,260	3,083	1,489	229	8	134	8,203
Cheese ... £	91	74	137	53	...	9	364
Condensed and concentrated milk ... £	53	386	188	...	...	...	627
MILK USED (,000 OMITTED).							
Butter factories ... gals.	172,245	156,159	68,189	8,811	338	6,324	412,066
Cheese ... "	3,658	2,830	5,129	2,163	...	447	14,227
Condensed milk factories ... "	1,062	7,350	2,137	...	...	...	10,549

The butter, cheese and condensed milk industries are dealt with more fully in Section IX., *Farmyard and Dairy Production.*

**12. Meat and Fish Preserving, Ice and Refrigerating Works.**—These industries are now of considerable importance in Australia. The freezing of various kinds of produce for export has long been an established industry. Large freezing works have been installed at many ports in the Commonwealth for the purpose of freezing produce chiefly for export, and insulated space for the carriage of frozen produce is provided by a number of steamship companies trading between Australia and other parts of the world. Particulars regarding the export of frozen beef and mutton may be found on pages 286 and 290 hereof respectively. Special terms have been made by the Commonwealth Government in its English mail contract for the provision by the contractors of ample cold-storage facilities. The export of frozen produce is stated to be capable of considerable expansion. The particulars given in the subjoined table include ice-making and freezing works, and also meat-canning factories, separate particulars for each item for all the States not being available.

**MEAT AND FISH-PRESERVING, ICE AND REFRIGERATING WORKS, 1913.**

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'w'lth
Number of factories ...	98	34	51	17	13	7	220
" employees ...	2,391	1,640	4,104	293	85	29	8,542
Actual horse-power of engines employed	5,031	6,383	5,443	815	678	164	18,514
Approx. value of land and buildings £	498,112	353,098	558,189	149,281	45,785	5,790	1,610,255
" plant and machinery £	519,366	236,423	460,641	83,771	46,295	3,192	1,349,688
Total amount of wages paid during year £	263,299	171,524	506,918	35,714	12,544	2,241	997,240
Value of fuel used ...	45,221	29,072	63,486	6,042	5,799	492	150,172
Value of raw material worked up	£4,101,904	1,390,019	3,576,439	104,448	2,154	1,837	9,176,801
Total value of output ...	£4,810,993	1,699,723	4,830,039	153,979	35,458	6,541	11,536,733
Value added in process of manufacture £	709,089	309,704	1,253,600	49,531	33,304	4,704	2,359,932

The following table gives particulars, so far as available, of various classes of meat preserved during the year 1913 :—

## MEAT-PRESERVING WORKS—PARTICULARS OF ANIMALS TREATED, 1913.

Particulars.			N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'w'lth.
Sheep treated	...	No.	374,523	2,107,180	731,859	3,347	...	...	3,216,909
Cattle	"	No.	100,827	12,960	449,344	1,661	...	...	564,992
Pigs	"	No.	...	...	1,644	...	...	...	1,644

Large quantities of rabbits, hares, and poultry were treated in freezing works, for which, however, complete returns are not available. During 1913, 2,357,004 pairs of rabbits and hares were treated in Victoria, and 599,001 pairs of rabbits in South Australia. Exclusive of Victoria, for which State particulars are not available, the returns shew that 78,770 tons of ice, valued at £170,086, were manufactured in the Commonwealth in 1913.

Full particulars of quantities and value of beef, mutton, and lamb preserved by cold process, exported from the Commonwealth during a series of years, will be found in Section VII., *Pastoral Production*.

**13. Biscuit Manufactories.**—The following table gives particulars regarding establishments at which the manufacture of biscuits, cakes, etc., was carried on in each State during the year 1913:—

## BISCUIT, Etc., MANUFACTORIES, 1913.

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
Number of factories	7	5	16	3	3	7	41
employees	1,594	1,391	390	124	155	141	3,795
Actual horse-power of engines employed	1,017	272	148	61	105	51	1,654
Approx. value of land and buildings	£ 112,154	68,651	37,332	17,750	10,341	24,500	270,728
plant and machinery	£ 107,720	56,756	23,531	10,867	15,047	11,142	225,063
Total amount of wages paid during year	£ 88,353	101,438	36,617	10,183	12,827	9,587	259,060
Value of fuel used	£ 9,731	9,623	1,930	1,603	1,513	1,184	25,584
Value of raw material worked up	£ 426,135	348,496	87,675	28,686	38,858	30,581	960,435
Total value of output	£ 665,226	569,321	186,342	56,820	72,545	53,711	1,603,965
Value added in process of manufacture	£ 239,091	220,823	98,667	23,132	33,637	23,130	643,530

**14. Jam and Fruit Preserving, Pickles, Sauces, and Vinegar Manufactories.**—The jam and fruit preserving industry has increased in importance of late years, consequent on the extension of fruit-growing. As an exporting industry it is comparatively young, but is of increasing value, and is stated to be capable of considerable expansion. The subjoined table gives particulars of factories at which these industries were carried on in each State during the year 1913. Separate returns for the individual industries are not available for most of the States.

## JAM AND FRUIT PRESERVING, PICKLES, SAUCES, AND VINEGAR MANUFACTORIES, 1913.

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'w'lth.
Number of factories	35	31	13	29	4	18	130
employees	1,139	1,947	225	498	44	672	4,525
Actual horse-power of engines employed	294	290	88	102	26	480	1,280
Approx. value of land and buildings	£ 101,548	122,118	15,060	36,209	2,329	56,125	333,389
plant and machinery	£ 44,342	53,118	11,134	14,474	1,080	21,430	145,478
Total amount of wages paid during year	£ 85,457	131,273	12,895	30,069	3,656	45,559	308,909
Value of fuel used	£ 4,221	8,384	813	2,292	188	3,318	19,216
Value of raw material worked up	£ 400,853	554,974	43,932	123,811	7,611	227,736	1,358,917
Total value of output	£ 575,525	855,881	75,132	188,979	15,732	312,692	2,026,941
Value added in process of manufacture	£ 174,672	303,907	31,200	65,168	8,121	84,956	668,024

*Quantity and Value of Production, 1913.* The following table shews the quantity and value of jams, pickles, and sauces manufactured in each State during the year 1913:—

## QUANTITY AND VALUE OF JAMS, PICKLES, AND SAUCE MANUFACTURED, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
QUANTITY (,000 OMITTED).							
Jam ... lbs.	27,619	29,761	952	7,022	134	16,672	82,160
Fruit, preserved lbs.	1,772	11,492	4,152	3,158	...	13,264	23,838
Pickles ... pints	2,505	1,752	*90	304	108	55	4,814
Sauce ... pints	3,316	6,459	327	1,427	426	65	12,020
VALUE.							
Jam ... £	318,405	500,485	16,788	96,060	2,785	217,336	1,151,859
Fruit, preserved £	24,712	153,271	42,690	48,912	...	†42,839	312,424
Pickles ... £	44,145	42,715	1,761	6,167	3,314	1,445	99,547
Sauce ... £	74,786	162,410	7,124	23,756	8,891	1,682	278,649

\* Approximate. † Exclusive of 42,152 cwt. fruit pulped, value £49,111.

15. **Confectionery.**—The following table shews the position of the confectionery industry in 1913, and its growth will be apparent when it is stated that at the close of 1900 there were in New South Wales 16 establishments, with 706 employees, and in Victoria 16 establishments, employing 731 persons, the plant and machinery in the former State being valued at £2815, and at £19,070 in the latter.

## CONFECTIONERY FACTORIES, 1913.

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'w'lth.
Number of factories ...	44	31	8	8	5	3	99
employees ...	1,429	1,604	395	274	120	18	3,840
Actual horse-power of engines employed	634	532	57	160	130	12	1,525
Approx. value of land and buildings £	210,241	78,303	17,024	34,965	10,755	3,100	354,288
plant and machinery £	92,472	73,857	15,489	30,834	13,200	580	226,432
Total amount of wages paid during year £	119,863	110,897	26,706	21,998	9,474	1,195	290,133
Value of fuel used ...	7,243	7,224	821	2,445	1,458	140	19,331
Value of raw material worked up £	525,784	397,720	39,484	60,630	31,322	2,962	1,057,902
Total value of output ...	794,691	591,071	115,282	104,644	45,197	6,160	1,657,045
Value added in process of manufacture £	268,907	193,351	75,798	44,014	13,875	3,198	599,143

16. **Flour Mills.**—(i.) The following table shews the position of the flour-milling industry in the year 1913 :—

## FLOUR MILLS, 1913.

Items.	N.S.W.	Vic.	Q'land.	S.A.*	W.A.*	Tas.*	C'w'lth.
Number of factories ...	68	61	11	48	17	17	222
employees ...	1,335	842	166	547	227	113	2,930
Actual horse-power of engines employed	4,708	4,789	866	2,924	1,247	565	15,099
Approx. value of land and buildings £	375,396	223,630	55,953	119,643	88,475	44,000	907,097
plant and machinery £	342,367	262,521	69,304	151,552	78,666	27,685	932,065
Total am't of wages paid during year £	137,514	102,882	25,671	69,120	34,305	12,312	381,804
Value of fuel used ...	25,455	25,715	2,841	15,819	7,673	2,778	80,281
Value of raw material worked up £	2,530,840	2,239,512	392,877	939,826	523,007	190,630	6,746,692
Total value of output ...	2,957,947	2,633,604	397,940	1,142,394	673,117	231,532	8,036,434
Value added in process of manufacture £	427,107	394,092	75,063	202,468	150,110	40,902	1,289,742

\* The manufacture of cornflour, oatmeal, etc., was worked in conjunction with these establishments.

(ii.) **Production of Flour Mills, 1908 to 1913.** The production of flour by the mills in each State of the Commonwealth in the years 1908 to 1913 was as follows :—

## FLOUR MILLS—PRODUCTION, 1908 to 1913.

Year.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	West. Aust.	Tasmania.	C'wealth.
	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*
1908	180,843	192,687	22,266	107,742	31,424	17,426	552,388
1909	214,426	215,547	29,451	97,967	24,878	21,419	603,688
1910	242,813	225,282	27,559	95,885	36,818	20,925	649,282
1911	253,556	247,434	27,960	100,374	40,642	21,335	691,301
1912	255,359	225,376	25,855	103,100	49,319	18,044	677,053
1913	285,425	252,763	33,889	107,994	61,997	18,545	760,613

\* Tons of 2000 lbs.

The total production of flour for the Commonwealth for 1913, viz., 760,613 tons, was valued at £6,309,562; in addition 343,608 tons of bran and pollard, valued at £1,618,412, were made. The total quantity of wheat ground in 1913 was 37,281,806 bushels.

17. **Sugar Mills.**—The following table shews the position of the cane-crushing branch of the sugar-making industry in 1913. This industry is carried on in Queensland and New South Wales, the only States of the Commonwealth in which the sugar-cane is grown.

### SUGAR MILLS, 1913.

Items.	N.S.W.	Queensland.	Total.
Number of factories ... ..	3	48	51
" employees ... ..	486	4,524	5,010
Actual horse-power of engines employed ...	2,750	10,444	13,194
Approximate value of land and buildings £	54,000	342,591	396,591
" " plant and machinery £	470,183	1,994,724	2,464,907
Total amount of wages paid during year £	51,476	358,109	409,585
Value of fuel used ... ..	£ 5,280	61,433	66,713
Value of raw material worked up ...	£ 208,899	2,362,206	2,571,105
Total value of output ... ..	£ 354,742	3,653,693	4,008,435
Value added in course of manufacture £	145,843	1,291,487	1,437,330

The product of the sugar mill is raw sugar and molasses, the former being sent to the refineries in different parts of Australia for further treatment. Part of the molasses produced is used in distillation, part is turned into food cake for cattle, and part is used for manuring land, but fully a third is put to no use whatever. The following tables shew the progress of this industry in each State from the dates at which information is first obtainable :—

### SUGAR MILLS, NEW SOUTH WALES, 1870 to 1913.

Items.	1870.	1877.	1886.	1896.	1901.	1909.	1910.	1911.	1912.	1913.
No. of factories	27	50	64	23	12	4	4	4	3	3
" employees	..	1,065	2,259	1,475	695	529	506	469	469	486
Cane crushed tns		*	*		*	131,083	160,311	167,799	141,274	185,910
Sugar produced tons	677	7,537	13,750	28,557	19,519	14,810	20,115	17,299	16,817	22,192
Molasses produced gals.	...	345,543	507,000	2,520,580	1,300,909	1,072,400	918,900	796,440	667,100	966,000

The reduction in the number of New South Wales mills is due chiefly to the tendency towards concentration of cane-crushing in mills fitted with modern machinery, and the consequent closing of the small home mill. On the north coast of New South Wales some land formerly devoted to sugar-growing has been turned into pastures in connection with the dairying industry.

### SUGAR MILLS, QUEENSLAND, 1868 to 1913.

Items.	1868.	1876.	1886.	1896.	1901.	1909.	1910.	1911.	1912.	1913.
No. of factories	10	70	118	63	52	46	49	49	47	48
" employees	...	*	*	3,796	*	3,848	4,036	4,295	3,891	4,524
" acres crushed	...	7,245	40,756	66,640	78,160	1,163,569†	1,840,447†	1,534,451†	994,212†	2,085,588†
Sugar produced...tons	...	8,214	59,225	100,774	120,858	134,584	210,756	173,296	113,060	242,837
Molasses produced gals.	68,622	416,415	1,784,266	2,195,470	3,679,952	4,763,635	7,329,870	6,451,192	4,988,988	4,263,186

\* Not available. † Tons of cane crushed.

Information regarding the cultivation of sugar-cane and the bounties payable on cane grown by white labour may be found in the section of this book dealing with *Agricultural Production*. (See pages 336 to 340.)

**18. Sugar Refineries.**—The establishment of the sugar-refining industry considerably antedates the establishment of the sugar-milling industry, the raw material operated upon being originally brought chiefly from Mauritius and the East. In 1913 there were two sugar refineries in each of the States of Victoria and Queensland, and one in each of the States of New South Wales and South Australia. The returns for the individual States cannot be disclosed.

In the six refineries in the Commonwealth, an average number of 1716 hands was employed during the year 1913. The approximate value of land and buildings was £438,636; of plant and machinery, £982,191; and the total amount of wages paid during the year was £215,288. The value of all materials used in sugar refineries during 1913 was £3,848,008, while the total output represented £4,499,950.

As regards production, the amount of crude sugar used was 242,032 tons, and of refined sugar produced 231,280 tons, valued at £4,489,575.

**19. Breweries.**—(i.) The following table gives particulars of breweries in each State during the year 1913:—

#### BREWERIES, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'w'lh.
Number of factories ...	31	26	11	12	16	5	101
employees ...	1,043	987	513	364	501	143	3,551
Actual horse-power of engines employed ...	1,263	2,916	406	898	1,322	125	6,930
Approx. value of land and buildings ...	£ 324,822	£ 383,267	£ 134,216	£ 129,482	£ 186,950	£ 395,450	£ 1,554,187
Approx. value of plant and machinery ...	£ 382,290	£ 351,349	£ 110,314	£ 99,242	£ 187,793	£ 40,607	£ 1,171,595
Total amount of wages paid during year ...	£ 159,227	£ 155,024	£ 67,783	£ 58,601	£ 92,665	£ 19,543	£ 552,843
Value of fuel used ...	£ 23,232	£ 23,387	£ 6,781	£ 8,769	£ 11,545	£ 2,110	£ 75,824
Value of raw material worked up ...	£ 671,157	£ 461,397	£ 160,773	£ 110,784	£ 126,733	£ 37,776	£ 1,568,620
Total value of output ...	£ 1,423,586	£ 1,024,708	£ 466,463	£ 363,725	£ 427,085	£ 111,829	£ 3,817,396
Value added by process of manufacture ...	£ 752,429	£ 563,311	£ 305,690	£ 252,941	£ 300,352	£ 74,053	£ 2,248,776

(ii.) *Production and Materials Used, 1913.* The following table shews the quantity and value of ale and stout brewed and the quantity of raw materials used in each State during the year 1913:—

#### PRODUCTION AND MATERIALS USED IN BREWERIES, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
ALE AND STOUT BREWED.							
Quantity gallons	23,516,656	20,925,354	6,111,849	5,760,439	5,360,315	1,903,483	63,578,096
Value ...	£ 1,099,359	£ 1,020,000	£ 466,463	£ 356,367	£ 413,338	£ 111,829	£ 3,467,356
RAW MATERIALS USED.							
Malt ... bush.	809,171	586,375	203,564	143,405	155,147	63,335	1,960,997
Hops ... lbs.	909,116	653,803	294,319	185,186	214,397	101,513	2,358,13
Sugar ... cwt.	104,360	123,073	46,845	31,992	27,559	9,294	343,12
RAW MATERIALS USED PER 1000 GALLONS OF ALE AND STOUT PRODUCED.							
Malt ... bush.	34.41	28.02	33.31	24.88	28.94	33.27	30.84
Hops ... lbs.	38.66	31.24	48.16	32.15	39.96	53.33	37.09
Sugar ... cwt.	4.44	5.88	7.66	5.55	5.14	4.88	5.40

\* Exclusive of excise duty.

(iii.) *Development of Breweries, 1908 to 1913.* The following table shows the progress of this industry during the past five years:—

#### DEVELOPMENT OF BREWERIES FROM 1908 TO 1913.

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ... ..	134	125	124	121	110	101
" employees ... ..	3,372	3,238	3,333	3,450	3,532	3,551
Actual horse-power of engines used ...	4,236	3,704	4,663	5,008	5,678	6,930
Approx. value of land and buildings £	1,545,629	1,398,283	1,453,696	1,469,449	1,526,629	1,554,187
" plant and machinery £	835,940	817,671	903,521	970,618	1,078,724	1,171,595
Total amount of wages paid ...	£ 423,688	420,032	445,342	483,393	523,812	552,843
Value of fuel used ... ..	£ 56,551	68,963	77,101	69,284	76,906	75,824
" raw material worked up ...	£ 1,098,535	1,157,707	1,138,145	1,273,522	1,494,070	1,568,620
" final output ... ..	£ 2,755,589	2,864,923	3,076,736	3,318,937	3,647,850	3,817,396
Value added in process of manufacture £	1,657,054	1,707,216	1,938,591	2,045,415	2,153,780	2,248,776

\* Exclusive of Tasmania.

The main feature in the history of the brewing industry, which was established at an early date in Australia, has been the change from the small local brewery in every township of moderate size to the large centralised city brewery. This, however, has not been so much in evidence during the period embraced in the above table, the reduction of the number of establishments during recent years being mainly due to several large amalgamations. The total value of output of breweries in the Commonwealth increased from £2,864,923 in 1909 to £3,817,396 in 1913, equal to 31.7 per cent. during the four years.

20. **Distilleries.**—The subjoined table gives particulars of distilleries in each State during the year 1913. There are no distilleries in either of the States of Western Australia or Tasmania.

#### DISTILLERIES, 1913.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	C'w'lth.
Number of factories ... ..	3	9	3	17	...	...	32
" employees ... ..	21	83	37	85	...	...	225
Actual horse-power of engines employed ...	129	195	52	177	...	...	553
Approximate value of land and buildings £	17,330	92,660	13,903	25,317	...	...	149,210
Approx. value of plant and machinery £	51,782	68,143	17,115	20,598	...	...	157,638
Total amount of wages paid during year £	4,651	11,024	5,574	7,291	...	...	28,540
Value of fuel used ... ..	£ 1,305	2,340	2,945	2,358	...	...	8,948
Value of raw materials worked up ...	£ 26,842	40,662	10,689	60,766	...	...	138,959
Total value of output ... ..	£ 51,085	61,727	46,386	89,628	...	...	248,826
Value added in process of manufacture £	24,243	21,065	35,697	28,862	...	...	109,867

*Production of Spirits and Materials Used, 1913.* The total quantity of brandy distilled in 1913 was 226,668 proof gallons, and of other spirits was 2,641,784 proof gallons. The materials used comprised 328,624 cwt. of molasses and sugar, and 3,200,692 gallons of wine. Particulars for the separate States are not available for publication.

21. **Tobacco, Cigars, and Cigarettes.**—(i.) During the year 1913 there were thirty-six establishments in which the manufacture of tobacco, cigars, and cigarettes was carried on. There were no factories engaged in this industry in Tasmania.

#### TOBACCO, CIGAR, AND CIGARETTE FACTORIES, 1913.

Items.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	C'w'lth.
Number of factories ... ..	12	16	3	3	2	...	36
" employees ... ..	1,497	1,828	103	109	29	...	3,566
Actual horse-power of engines employed ...	602	486	20	10	1	...	1,119
Approx. value of land and buildings £	160,153	175,635	3,565	12,554	1,540	...	353,447
" plant and machinery £	100,298	110,946	8,708	11,300	295	...	231,547
Total amount of wages paid during year £	149,129	202,073	8,660	12,295	1,806	...	373,963
Value of fuel used ... ..	£ 919	2,586	207	339	2	...	4,053
Value of raw material worked up ...	£ 910,713	691,703	28,253	17,712	2,845	...	1,651,226
Total value of output ... ..	£ 1,379,048	1,234,107	59,191	34,019	6,998	...	2,713,363
Value added in process of manufacture £	468,335	542,404	30,938	16,307	4,153	...	1,062,137

(ii.) *Quantity of Goods Produced, and Tobacco Leaf Used, 1913.* The following table shews the quantity of goods produced in tobacco factories in each State, and the quantities of imported and Australian-grown leaf used during the year 1913 :—

**PRODUCTION OF TOBACCO FACTORIES AND QUANTITY OF LEAF USED, 1913.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'w'lth.
QUANTITY (,000 OMITTED).							
Manufact'ed tobacco lbs.	3,886	5,605	230	231	4	...	9,956
Cigars ... { lbs.	86	298	...	15	7	...	406
{ No.	7,750	25,019	...	1,200	608	...	34,577
Cigarettes ... { lbs.	2,526	240	...	...	1	...	2,767
{ No.	1,107,762	103,383	...	...	466	...	1,211,611
TOBACCO LEAF USED (,000 OMITTED).							
Australian leaf... lbs.	728	255	255	71	1	...	1,310
Imported leaf ... lbs.	5,085	5,114	6	149	14	...	10,368

(iii.) *Development of Industry.* This industry was among the first to be established in Australia. In 1861 New South Wales had eleven factories, producing 177,744 lbs. of manufactured tobacco; in the same year there was one factory in Victoria, but the quantity of tobacco manufactured is not available. The Australian market has for many years been largely supplied with local manufactures. The quantities imported into Australia during 1913 were—manufactured tobacco 1,902,435 lbs., cigars 433,279 lbs., and cigarettes 167,026 lbs., while the quantities manufactured in Australian factories were respectively 9,956,045 lbs., 405,901 lbs., and 2,767,550 lbs. The following tables shew the development of the tobacco industry in the Commonwealth during recent years :—

**DEVELOPMENT OF TOBACCO, CIGAR, AND CIGARETTE FACTORIES IN THE COMMONWEALTH, 1908 to 1913.**

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ...	33	37	35	33	35	36
Number of employees ...	4,137	3,991	3,923	3,730	3,484	3,566
Actual horse-power of engines used ...	785	764	830	1,045	917	1,119
Approx. value of land and buildings ...	£ 372,133	£ 366,502	£ 379,866	£ 373,895	£ 349,022	£ 353,447
Approx. value of plant and machinery ...	£ 234,573	£ 241,374	£ 250,351	£ 214,576	£ 227,294	£ 231,547
Total amount of wages paid ...	£ 276,028	£ 286,638	£ 323,171	£ 346,258	£ 358,081	£ 373,963
Value of fuel used ...	£ 5,574	£ 4,970	£ 4,535	£ 4,488	£ 4,267	£ 4,053
Value of raw material worked up ...	£ 1,424,946	£ 1,266,284	£ 1,385,863	£ 1,468,212	£ 1,622,713	£ 1,651,226
Value of final output ...	£ 2,087,962	£ 1,938,567	£ 2,332,966	£ 2,518,946	£ 2,696,157	£ 2,713,363
Value added in process of manufacture ...	£ 663,016	£ 672,283	£ 947,123	£ 1,050,734	£ 1,073,444	£ 1,062,137

**PRODUCTION.**

Tobacco made ...	lbs.	9,838,115	9,440,167	9,933,087	10,048,396	10,298,241	9,956,045
Cigars ...	"	274,823	285,330	319,908	356,127	388,906	405,901
Cigarettes ...	"	1,522,396	1,623,679	1,862,178	2,163,729	2,605,840	2,767,550
Leaf used ...	"	10,989,809	9,959,650	10,950,775	10,993,024	11,826,658	11,677,099

**22. Woollen, Cotton, and Tweed Mills.**—(i.) The manufacture of woollens and tweeds was established in Australia at an early period in its history, and was under Government control, the first record in New South Wales dating back to 1801, when a few blankets were made by the convicts; the first record in Victoria was in 1867. The following table, which gives particulars of the mills in each State during the year 1913, shews that the industry is now well established :—



## WOOLLEN, COTTON, AND TWEED MILLS, 1913.

Items.	N.S.W. †	Vic.	Q'ld.	S.A.	W.A.	Tas.	C'wlth. †
Number of factories ... ..	5	10	1	2	...	4	22
" employees ... ..	776	1,790	125	172	...	227	3,090
Actual horse-power of engines employed ...	1,549	2,346	135	212	...	116	4,358
Approx. value of land and buildings ...	£ 118,575	£ 141,307	£ 9,639	£ 8,945	...	£ 20,850	£ 290,305
" plant and machinery ...	£ 170,693	£ 263,363	£ 20,913	£ 23,040	...	£ 38,650	£ 516,659
Total amount of wages paid during year ...	£ 71,852	£ 125,691	£ 8,172	£ 10,543	...	£ 14,760	£ 231,018
Value of fuel used ... ..	£ 5,672	£ 13,061	£ *	£ *	...	£ 1,080	£ 21,778
Value of raw material worked up ... ..	£ 156,364	£ 264,229	£ *	£ *	...	£ 19,310	£ 475,637
Total value of output ... ..	£ 289,725	£ 513,252	£ *	£ *	...	£ 44,593	£ 925,602
Value added in process of manufacture ...	£ 133,362	£ 249,023	£ *	£ *	...	£ 25,233	£ 449,965

\* As there is only one factory in Queensland and two in South Australia, particulars of output, etc., are not disclosed; the amounts, however, are included in the totals for the Commonwealth. † Excluding 13 establishments for the manufacture of hosiery and knitted goods previously included.

(i.) *Progress of Industry, 1908 to 1913.* The progress of woollen and tweed manufactures in the Commonwealth during the last five years is shewn in the following table:—

DEVELOPMENT OF WOOLLEN, COTTON, AND TWEED MILLS IN AUSTRALIA  
FROM 1908 to 1913.

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ... ..	21	24	25	32	32	† 22
" employees ... ..	2,717	2,965	3,030	3,200	3,379	3,090
Actual horse-power of engines used ...	2,977	3,522	3,243	3,444	3,692	4,358
Approx. value of land and buildings ...	£ 204,096	£ 222,928	£ 249,787	£ 283,115	£ 307,049	£ 299,306
" plant and machinery ...	£ 370,847	£ 423,772	£ 436,921	£ 478,859	£ 497,827	£ 516,659
Total amount of wages paid ... ..	£ 142,773	£ 155,675	£ 172,394	£ 203,194	£ 232,561	£ 231,018
Value of fuel used ... ..	£ *16,215	£ 18,892	£ 20,033	£ 20,663	£ 22,709	£ 21,778
Value of raw material worked up ... ..	£ *277,219	£ 303,283	£ 347,226	£ 447,829	£ 468,728	£ 475,637
Value of final output ... ..	£ *517,636	£ 596,665	£ 693,297	£ 860,789	£ 930,485	£ 925,602
Value added in process of manufacture ...	£ *240,417	£ 293,382	£ 346,071	£ 412,960	£ 461,757	£ 449,965

\* Exclusive of Tasmania. † Excluding 13 establishments for the manufacture of hosiery and knitted goods previously included in New South Wales returns.

(iii.) *Quantity and Value of Production, 1913.* The production of the woollen mills of Australia consists chiefly of tweed cloths, flannels, and blankets, all of which have acquired a reputation for purity and durability. Detailed particulars for the several States are not available for publication. The total length of tweed and cloth manufactured in the Commonwealth during 1913 was over 2,750,000 yards. In New South Wales 1,312,363 yards of tweed and cloth, in Victoria 1,017,766 yards, and in Tasmania 20,486 yards were manufactured. The production of flannel in the Commonwealth in 1913 amounted to over 5,565,000 yards, while blankets, shawls, and rugs to the number of about 880,000 were manufactured.

No cotton spinning or weaving or linen weaving is carried on in Australia. Cotton ginning has been carried on intermittently in the northern States, and a mill was lately reopened at Ipswich in Queensland. For particulars of the quantity ginned on which bounties were paid, see page 350.

**23. Boots and Shoes.**—(i.) Among the manufactures of Australia the boot and shoe industry holds an important place both in respect to the employment afforded by it and the range of its output. The following table shews particulars of this industry for each State during the year 1913:—

## BOOT AND SHOE FACTORIES, 1913.

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'w'lth.
Number of factories ... ..	105	162	31	26	11	11	346
" employees ... ..	4,262	6,951	1,055	755	207	226	13,456
Actual horse-power of engines employed	989	1,350	226	173	32	53	2,823
Approx. value of land and buildings	£ 244,770	239,486	41,603	74,523	14,210	15,195	629,787
" plant and machinery	£ 158,916	187,087	40,044	26,105	8,090	9,752	429,994
Total amt. of wages paid during year	£ 382,223	578,503	89,309	68,827	18,412	17,384	1,154,558
Value of fuel used ... ..	£ 5,818	9,779	857	1,109	354	156	18,073
Value of raw material worked up	£ 734,744	1,230,725	147,689	119,894	42,383	32,759	2,308,194
Total value of output ... ..	£ 1,284,489	2,094,866	286,609	213,315	69,429	55,778	4,004,486
Value added in process of manufacture	£ 549,745	864,141	138,920	93,421	27,046	23,019	1,696,292

(ii.) *Progress of Industry, 1908 to 1913.* The progress of the industry in the last five years is shewn in the following table :—

DEVELOPMENT OF BOOT AND SHOE FACTORIES IN THE COMMONWEALTH,  
1908 to 1913.

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ... ..	328	315	337	341	332	346
Number of employees ... ..	13,606	14,023	13,810	13,772	13,341	13,456
Actual horse-power of engines used	1,889	2,008	2,248	2,405	2,646	2,823
Approx. value of land and buildings	£ 464,314	500,518	527,805	565,735	598,659	629,787
Approx. value of plant and machinery	£ 324,331	337,734	360,818	389,879	398,014	429,994
Total amount of wages paid	£ 848,212	900,812	968,375	1,096,575	1,144,455	1,146,558
Value of fuel used ... ..	£ *13,215	14,051	14,699	16,792	17,244	18,073
Value of raw material worked up	£ *1,677,735	1,804,444	2,000,704	2,151,101	2,184,750	2,308,194
Value of final output	£ *2,921,831	3,112,212	3,396,172	3,713,948	3,819,371	4,004,486
Value added in process of manufacture	£ *1,244,096	1,307,768	1,395,468	1,562,847	1,634,621	1,696,292

Although the average number of employees in boot and shoe factories shews a slight decline during the past five years, yet a substantial and consistent advance in the value of output is in evidence during the same period. This is doubtless attributable to the increase in mechanical power employed, and the introduction of improved plant and machinery, the value of which was £439,994 in 1913, as compared with £324,331 in 1908.

(iii.) *Value and Quantity of Production, 1913.* The number and value of boots, shoes and slippers made at factories in each State during the year 1913 are shewn in the following table :—

## PRODUCTION OF BOOT AND SHOE FACTORIES, 1913.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'w'lth.
QUANTITY (,000 OMITTED).							
Boots and shoes ... pairs	3,639	5,013	742	637	189	160	10,380
Slippers ... pairs	310	255	48	22	...	1	636
Uppers* ... pairs	53	37	8	18	3	2	121
VALUE.							
Boots and shoes ... £	1,208,216	2,042,700	269,968	197,562	63,727	53,105	3,835,278
Slippers ... £	28,415	26,000	3,108	3,013	...	50	60,586
Uppers* ... £	14,301	9,150	2,429	3,021	591	685	30,177

\* Made for other than factory use.

**24. Clothing (Tailoring and Slop) Factories.**—The importance of this industry in the several States and in the Commonwealth as a whole is shewn in the following table:—

**CLOTHING (TAILORING AND SLOP) FACTORIES, 1913.**

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'with.
Number of factories ... ..	445	506	147	132	69	43	1,342
" employees ... ..	11,566	10,602	4,093	2,699	1,287	718	30,965
Actual horse-power of engines employed	436	386	237	85	51	6	1,201
Approx. value of land and buildings	£ 1,057,725	588,722	237,672	196,922	75,715	55,590	2,212,346
" plant and machinery	£ 64,457	64,413	35,848	14,794	9,627	2,613	191,752
Total amount of wages paid during year	£ 859,141	641,611	254,369	166,851	109,024	44,920	2,075,916
Value of fuel used ... ..	£ 11,287	12,535	1,543	3,603	1,808	443	31,219
Value of raw material worked up	£ 991,368	1,011,453	328,035	224,031	132,844	44,510	2,732,241
Total value of output ... ..	£ 2,242,190	2,037,106	744,967	451,395	285,982	116,479	5,878,119
Value added in process of manufacture	£ 1,250,822	1,025,653	416,932	227,364	153,138	71,969	3,145,878

*Progress of Industry, 1908 to 1913.* The substantial development that has taken place in the tailoring and slop branch of this industry may be accepted as an indication of the general prosperity of the community. The amount of wages paid increased from £1,218,287 in 1908 to £2,075,916 in 1913, or over 70 per cent., while the output, leaving Tasmania out of consideration, increased approximately 54 per cent. during the same period.

**DEVELOPMENT OF CLOTHING (TAILORING AND SLOP) FACTORIES IN THE COMMONWEALTH, FROM 1908 TO 1913.**

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ... ..	945	1,004	1,111	1,182	1,238	1,342
" employees ... ..	23,337	24,811	27,451	30,549	31,068	30,965
Actual horse-power of engines used	643	741	851	1,020	1,206	1,201
Approx. value of land and buildings	£ 1,361,759	1,637,795	1,778,985	1,931,274	2,155,643	2,212,346
" plant and machinery	£ 128,038	131,004	143,793	160,935	173,706	191,752
Total amount of wages paid	£ 1,218,287	1,369,138	1,569,636	1,854,135	2,010,779	2,075,916
Value of fuel used ... ..	£ *19,781	22,602	24,985	28,561	29,550	31,219
" raw material worked up	£ *1,794,412	2,097,483	2,304,362	2,610,348	2,696,987	2,732,241
" final output ... ..	£ *3,675,719	4,260,162	4,805,629	5,486,388	5,807,431	5,878,119
Value added in process of manufacture	£ 1,881,307	2,162,679	2,501,267	2,876,040	3,110,444	3,145,878

\* Exclusive of Tasmania.

**25. Dressmaking and Millinery.**—Particulars of dressmaking and millinery establishments for the year 1913 are given in the following table:—

**DRESSMAKING AND MILLINERY ESTABLISHMENTS, 1913.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. A.	Tas.	C'w'lth.
Number of factories ... ..	302	496	61	57	55	24	995
" employees ... ..	4,930	9,671	1,460	897	843	416	18,217
Actual horse-power of engines employed	70	231	49	6	14	6	376
Approx. value of land and buildings	£ 370,821	413,311	43,880	56,810	36,040	18,210	939,072
" plant and machinery	£ 16,796	43,541	3,773	2,506	4,702	939	72,257
Total amount of wages paid during year	£ 210,238	410,671	57,873	34,094	43,945	15,927	772,748
Value of fuel used ... ..	£ 1,395	6,513	109	434	567	220	9,238
Value of raw material worked up	£ 274,766	775,716	88,959	60,999	62,075	24,535	1,287,050
Total value of output ... ..	£ 606,065	1,436,334	177,742	114,438	113,316	44,210	2,492,105
Value added by process of manufacture	£ 331,299	660,618	88,783	53,439	51,241	19,675	1,205,055

*Progress of Industry, 1908 to 1913.* The development of dressmaking and millinery establishments in the Commonwealth during the past five years is shewn in the following table:—

**DEVELOPMENT OF DRESSMAKING AND MILLINERY IN THE COMMONWEALTH  
FROM 1908 to 1913.**

Items.	1908.	1909.	1910.	1911.	1912.	1913.
Number of factories ... ..	983	1,009	1,056	1,050	994	995
" employees ... ..	16,140	16,324	18,040	18,803	18,476	18,217
Actual horse-power of engines used ... ..	157	157	264	319	371	376
Approx. value of land and buildings £	706,709	735,528	811,464	879,098	878,231	939,072
" plant and machinery £	48,991	57,752	60,937	67,307	74,466	72,257
Total amount of wages paid ... ..	£ 473,440	508,501	600,484	695,319	748,222	772,748
Value of fuel used ... ..	£ *6,860	7,076	8,185	8,722	9,143	9,238
Value of raw material worked up £	*849,610	932,509	1,065,979	1,161,260	1,249,930	1,287,050
Value of final output ... ..	£ *1,601,250	1,752,037	2,046,931	2 280,553	2,429,315	2,492,105
Value added in process of manufacture £	*751,640	819,528	980,952	1,119,293	1,179,385	1,205,055

\* Exclusive of Tasmania.

The above table shews the amount of wages paid to have increased over 63 per cent. during the last five years, and the final output of the Commonwealth, exclusive of Tasmania, to have increased 60 per cent. during the same period.

**26. Coach and Wagon Building Works.**—This industry forms the principal branch of manufacture in Class XI. (see § 1, 3 above). The subjoined table gives particulars of factories in this branch of industry in each State during the year 1913. The returns include establishments for the manufacture of wheels, spokes, etc.

**COACH AND WAGON BUILDING WORKS, 1913.**

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
Number of factories ... ..	264	314	93	100	41	24	836
" employees ... ..	2,775	2,941	789	896	357	213	7,971
Actual horse-power of engines employed ... ..	1,049	565	248	452	169	86	2,569
Approx. value of land and buildings £	339,605	250,312	69,233	123,887	49,180	21,700	853,917
" plant and machinery £	84,752	63,088	22,368	28,147	13,440	4,972	216,767
Total amount of wages paid during year £	262,800	241,709	67,530	80,040	40,014	16,289	708,382
Value of fuel used ... ..	£ 9,839	8,590	1,320	3,183	2,261	615	25,811
Value of raw material worked up £	267,575	269,153	58,639	77,958	44,193	18,134	735,652
Total value of output ... ..	£ 672,421	654,929	179,833	207,217	107,339	43,897	1,365,636
Value added in process of manufacture £	404,846	385,776	121,194	129,259	63,146	25,763	1,129,984

**27. Furniture and Cabinet Making and Billiard Table Making.**—These industries constitute the principal manufactures in Class XIII. (see § 1, 3 above). The following table gives particulars for 1913:—

**FACTORIES FOR FURNITURE AND CABINET MAKING AND BILLIARD TABLE  
MAKING, 1913.**

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
Number of factories ... ..	173	193	70	38	26	15	515
" employees ... ..	2,844	2,116	1,085	1,024	387	291	7,747
Actual horse-power of engines employed ... ..	1,347	702	642	851	227	98	3,867
Approx. value of land and buildings £	346,756	251,585	86,993	74,998	44,728	25,567	830,627
" plant and machinery £	53,444	40,417	33,749	34,635	12,669	5,037	179,951
Total amount of wages paid during year £	321,687	214,221	106,484	103,370	51,247	23,765	820,774
Value of fuel used ... ..	£ 5,239	3,030	2,191	2,590	1,359	492	14,901
Value of raw material used ... ..	£ 314,432	257,449	106,326	94,331	65,678	20,171	858,387
Total value of output ... ..	£ 762,364	569,411	264,171	324,884	131,227	56,622	2,008,679
Value added in process of manufacture £	447,932	311,962	157,845	130,553	65,549	36,451	1,150,292

28. **Electric Light and Power Works.**—Particulars of the electric light and power works of the Commonwealth in the year 1913 are given in the subjoined table. In 1908 there were 138 establishments employing 1823 hands whose salaries and wages amounted to £239,410: in 1913 these had increased to 209 establishments, 3046 hands, salaries and wages £447,299, while the value of output in the Commonwealth, exclusive of Tasmania, had increased during the five years from £1,077,441 to £2,150,579.

### ELECTRIC LIGHT AND POWER WORKS, 1913.

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas. *	C'wlth.
Number of factories ... ..	115	51	7	4	19	13	209
employees ... ..	1,118	860	197	403	256	212	3,046
Actual horse-power of engines employed	75,824	26,212	11,772	12,420	19,132	5,569	150,929
Approx. value of land and buildings	£ 520,095	263,023	31,578	124,315	79,217	9,375	1,028,203
plant and machinery	£ 1,391,007	1,165,020	108,435	618,445	453,499	211,393	3,947,849
Total amount of wages paid during year	£ 170,745	114,874	28,045	57,539	49,717	26,379	447,299
Value of fuel used ... ..	£ 219,080	60,161	25,226	32,776	84,725	51,496	475,464
Total value of output ... ..	£ 1,266,801	400,192	98,499	128,401	256,686	142,140	2,292,719

\* Including manufacture of electric apparatus.

29. **Gas and Coke Works.**—There are gas works in operation in nearly all the chief towns in the Commonwealth. In New South Wales there are thirteen and in Queensland two coke factories which are worked as separate industries. The subjoined table gives particulars of gas and coke works in each State:—

### GAS AND COKE WORKS, 1913.

Items.	N.S.W. *	Vic.	Q'land. †	S.A.	W.A.	Tas.	C'wlth.
Number of factories ... ..	65	47	17	5	4	3	141
employees ... ..	1,814	1,973	568	417	113	150	5,035
Actual horse-power of engines employed	3,501	986	174	255	132	33	5,081
Approx. value of land and buildings	£ 553,549	476,320	146,938	11,612	33,859	31,710	1,253,988
plant and machinery	£ 1,303,607	1,308,170	509,580	391,384	76,130	156,220	3,745,091
Total amount of wages paid during year	£ 253,049	302,354	78,463	57,198	19,542	15,929	726,555
Value of fuel used ... ..	£ 70,388	160	3,822	1,920	3,730	1,706	81,726
Value of raw material used ... ..	£ 423,240	285,939	37,965	50,804	15,079	15,039	828,066
Total value of output ... ..	£ 1,244,246	935,910	238,560	183,669	49,482	53,412	2,705,279
Value added in process of manufacture	£ 821,006	649,071	200,595	132,865	34,403	38,373	1,877,213

\* Including 13 coke factories worked as separate industries. † Including 2 coke factories worked as separate industries.

The following table gives particulars regarding the quantity and value of the production of gas and coke works in each State during the year 1913:—

### PRODUCTION OF GAS AND COKE WORKS, 1913.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wlth.
QUANTITY.							
Gas made ... 1000 cub. ft.	5,536,139	3,480,180	723,920	567,066	124,897	178,866	10,611,068
Coke ... .. tons	508,592	176,810	48,904	19,823	5,939	7,987	768,055
VALUE.							
Gas ... .. £	824,073	837,910	190,165	136,829	33,385	43,341	2,065,703
Coke ... .. £	318,833	98,000	36,194	22,750	11,084	6,523	493,384
COAL USED.							
Coal ... .. tons	809,504	294,541	93,742	49,167	10,871	14,161	1,271,986

## SECTION XIV.

## WATER CONSERVATION AND IRRIGATION.

## § 1. Artesian Water.

1. **General.**—In every country in which droughts are recurrent, there are few problems the solution of which is of greater importance than that of an adequate system of water conservation. Much has been done in the Commonwealth so far as the supply of water to centres of population is concerned, and a description of several of the metropolitan water works will be found herein, viz., in the section dealing with "Local Government." In May 1912 an interstate conference on artesian water was held in Sydney, at which it was agreed that combined Governmental action should be taken with reference to delimitation of the artesian basin, hydrographic survey, analyses and utilisation of artesian water, etc. (See map on page 497.)

(i.) *The Great Australian Artesian Basin.* In speaking of the "Great Australian Artesian Basin," the area is understood which includes (a) considerably more than one-half of Queensland, taking in practically all that State lying west of the Great Dividing Range, with the exception of an area in the north-west contiguous to the Northern Territory; (b) a considerable strip of New South Wales along its northern boundary and west of the Great Dividing Range; and (c) the north-eastern part of South Australia proper, together with the extreme south-eastern corner of the Northern Territory. This basin (shewn approximately by the map on page 497) is said to be the largest yet discovered, and is about 569,000 square miles, of which 376,000 square miles are in Queensland, 90,000 square miles in South Australia, 83,000 square miles in New South Wales, and 20,000 square miles in the Northern Territory. The area of the intake beds is estimated at 60,010 square miles, viz., 50,000 square miles in Queensland and 10,010 square miles in New South Wales. A description of the basin and its geological formation will be found in previous issues of the Year Book (see No. 6, p. 569).

(ii.) *The Western Australian Basins.* The Western Australian Basins fall naturally within five distinct groups, viz., the Eucla Basin, in the extreme south-east of the State, and extending well into South Australia along the shores of the Great Australian Bight; the Coastal Plain Basin, west of the Darling Range; the North-West Basin, between the Murchison and Ashburton Rivers; the Gulf Basin, between Cambridge Gulf and Queen's Channel; and the Desert Basin, between the De Grey and Fitzroy Rivers. The boring operations in these basins are referred to hereafter (see page 496).

The Recent and Tertiary strata which enter Western Australia at its eastern border, and which have a prevailing dip towards the Great Australian Bight, form the Eucla artesian water area. But where boring operations have been undertaken, the water has been found to be salt or brackish, and there are other conditions affecting the supply, such as local variations in the thickness of the beds, their relative porosity, and the unevenness of the floor upon which they rest, which, so far, have not been examined with sufficient thoroughness to enable many particulars to be given in regard to this basin.

In the Coastal Plain Basin to the west of the Darling Ranges artesian boring has, on the other hand, been carried on successfully for many years.

(iii.) *The Murray River Basin.* In August 1910 a report was issued by the Government Geologist of South Australia on the geology of the country south and east of the Murray River, with special reference to subterranean water supply in wells and bores along the Pinnaroo and Bordertown railways. The tertiary formation in the district under consideration occupies the western portion of a vast basin or depression, of which the greater part extends eastward into Victoria and northward into New South Wales. This basin is bounded on the west by the azoic and palæozoic rocks of the Mount Lofty and other ranges, extending northwards from near the mouth of the Murray to the Barrier Ranges, and on the east and north-east by the ranges of Victoria and New South Wales. This tertiary water-basin is occupied by a succession of sedimentary formations, both porous and impervious. It is of interest to note that the waters of the Murray River are partly supplied by influx from the water-bearing beds of this basin; this is proved by the fact that, at low water, springs are observed at certain places flowing into it from beneath the limestone cliffs from Pyap Bend downwards. Similar springs must exist along the courses of other branches of the River Murray system, where they cut through the tertiary formation.

(iv.) *Plutonic or Meteoric Waters.* In previous Year Books will be found the theory of Professor Gregory<sup>1</sup> as to the origin of the water in the Australian artesian basin, together with the objections held thereto by the Government Geologist of New South Wales.<sup>2</sup> (See Year Book No. 6, p. 570.)

(v.) *Particulars of Artesian and Sub-artesian Bores, 1913.* The following table gives particulars of artesian and sub-artesian bores in each State and in the Northern Territory up to the end of the year 1913:—

**COMMONWEALTH AND STATES.\*—PARTICULARS OF ARTESIAN AND SUB-ARTESIAN BORES, 1913.**

Particulars.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	N. Ter.	Total.
Bores existing ... No.	476	153	2,259	125	88	62	3,163
Total depth bored ... feet	794,658	194,665	2,351,133	87,714	102,922	20,889	3,551,981
Daily flow ... ,000 gals.	108,083	†	506,502	...	30,961	2,584,461	...
Depth at which artesian water was struck—							
Maximum ... feet	4,338	675	5,045	4,850	4,016	502	5,045
Minimum ... feet	46	131	10	65	175	110	10
Temperature of flow—							
Maximum ... ° Fahr.	148	†	211	208	140	†	211
Minimum ... ° Fahr.	70	†	81	82	60	†	60

\* There are no artesian bores in Tasmania. † Not available.

**2. New South Wales.**—Artesian boring in New South Wales dates from 1879, when a private bore was put down on the Kallara pastoral holding, between Bourke and Wilcannia. The first Government bore was that at Goonery, on the Bourke-Wanaaring road, completed in 1884. At the end of 1913, out of 476 known artesian bores in New South Wales, 196 were Government bores.

1. See J. W. Gregory, F.R.S., D.Sc.: "The Dead Heart of Australia," London, John Murray, 1906; "The Flowing Wells of Central Australia," Geogr. Journ., July and August, 1911.

2. E. F. Pittman, A.R.S.M., Government Geologist of New South Wales: "Problems of the Artesian Water Supply of Australia, with special reference to Professor Gregory's Theory." (Clarke Memorial Lecture, delivered before the Royal Society of New South Wales, 31st October, 1907); also "The Great Australian Artesian Basin," Sydney, 1914.

The distribution of these bores was as follows:—

**NEW SOUTH WALES ARTESIAN BORES ON 31st DECEMBER, 1913.**

Particulars.	State.	Private.	Total.
Bores existing ... .. No.	196	280	476*
Total depth bored ... .. feet	380,805	413,853	794,658*
Daily flow ... .. gallons	60,020,819†	48,062,593	108,083,412
Depth at which water was struck—			
Maximum ... .. feet	4,338	3,578	...
Minimum ... .. „	89	46	...
Temperature of flow—			
Maximum ... .. ° Fahr.	139	148	...
Minimum ... .. „	70	73	...

\* Exclusive of 21 Government and 23 private bores which failed; the total depth bored being 27,566 feet and 30,227 feet respectively. † Excluding the flow from nineteen pumping bores, the particulars of which are not available.

Of the wells at the end of 1913, the depth is stated in 476 cases, ranging from 46 to 4338 feet. There is a preponderance of wells from 1000 to 2000 feet in depth, but neither the shallow wells under 500 feet, nor the very deep wells over 3000 feet are so numerous in proportion as in Queensland. The two deepest wells in New South Wales are those at Boronga, in the County of Stapylton, with a depth of 4338 feet and a daily outflow of 1,062,133 gallons; and at Dolgelly, in the Parish of Careunga, in County Stapylton, with a depth of 4086 feet, and an outflow of 622,185 gallons per day. The largest outflow is stated to be that at the Boobora bore, in the County of Stapylton, which yields 1,133,300 gallons a day, and has a depth of 3225 feet.

The flow from seventy-one of the State Government bores is utilised for supplying water for stock on holdings served in connection with Bore Water Trusts or Artesian Districts under the Water Act of 1912. The total flow from these bores amounts to 39,869,046 gallons per day, watering an area of 4,331,176 acres by means of 2597 miles of distributing drains. The average rating by the Bore Trusts to repay the capital cost with 4 per cent. interest in twenty-eight years, is 1.515d. per acre, including the cost of maintenance and administration.

In the majority of cases the remaining bores are used by pastoralists for stock watering purposes only, but in a few instances the supply is utilised in connection with country towns.

The watering of the north-western country by means of bore water has largely increased the carrying capacity of the land; but, what is of perhaps the greater importance, it has made comparatively small pastoral settlement practicable in country previously confined almost entirely to the operations of companies holding immense areas.

A general yearly decrease in the flow from the bores is still being recorded, and action is being taken to prove whether this observed decrease is due to loss in supply under pressure, or to local causes, such as lateral leakage.

A novel undertaking has been carried out at Moree, 400 miles north-west of Sydney, where the water of a highly mineralised artesian bore is utilised for the supply of municipal swimming baths.

**3. Victoria.**—Victoria lies altogether outside the Great Australian Artesian Basin, and as water is obtainable in most parts of the State at shallow depths, there has not been much occasion for artesian boring. As early as 1884, however, an artesian well was bored at Sale, which for a number of years gave a supply of about 100,000 gallons per day until, either through corrosion of the casing or by choking up with sand from below, the flow ceased. In 1905 a new bore was therefore put down, which at a depth of 277 feet yielded sufficient water to fill Lake Guthridge, a local depression. But as the water was impure, and contained too much sulphuretted hydrogen, boring operations were continued to 520 feet,



when the lowering of the casing shut off the supply of water. A further bore was then put down at some distance from the first, and this, at a depth of 238 feet, yielded a fresh and clear water supply, which at present is stated to be about 145,000 gallons per day. Further trouble, however, has been experienced owing to failure of casing, and a fresh bore is being put down.

In the late eighties a number of bores were put down in the north-western part of the State, varying from 200 to over 2000 feet in depth, but without any notable success. In 1897 a Board reported on boring for artesian water supply in the Mallee country, but this report was adverse, except as regards the extreme northern portion thereof. In 1906 eight bores were put down on the Overnewton Estate, Maribyrnong, to depths varying from 147 to 272 feet; small supplies of good and medium water for stock purposes were obtained, but only one of the wells yielded water fit for domestic purposes. In 1908 boring was commenced in the Mallee country near the Border east of Pinnaroo in South Australia, and a line of bores from the Border to Kow Plains has proved the existence of a large sheet of underground water. Altogether, sixty-eight bores have been successful in striking fresh water, and their depths vary from 150 to 1400 feet, the water rising to within from 200 to 7 feet of the surface. In three instances the bores flow, the water rising from four to seventeen feet above the surface. The fresh water extends nearly as far east as the 142nd meridian, and its northern limit is approximately the 35th parallel. Information as to the geological formation of this district is given on page 492 preceding.

At the end of 1913 the number of existing Government bores in use in Victoria was 81, from which supplies are obtained by pumping. The total depth bored amounted to 32,665 feet, while the maximum and minimum depths at which water was struck were 675 and 131 feet respectively. There are also seventy-two existing private bores, with a total depth of about 162,000 feet.

4. **Queensland.**—A return relating to the 30th June, 1914, classifies the Queensland artesian bores under the following headings:—

**QUEENSLAND ARTESIAN BORES ON 30th JUNE, 1914.**

Sunk by—	Artesian Flows.	Sub-Artesian or Pumped Supplies.	In Progress, Abandoned, or Uncertain.	Total.
Government ... ..	45	30	138	213
Local governing authorities ... ..	14	13	15	42
Private owners ... ..	926	498	580	2,004
Total ... ..	985	541	733	2,259

Of the 985 flowing bores, 81 were of less than 10,000 gallons per day; 191 from 10,001 to 100,000 gallons; 381 from 100,001 to 500,000 gallons; 262 from 500,001 to 1,500,000 gallons; 64 from 1,500,001 to 3,000,000 gallons; and 6 from 3,000,001 gallons upwards. The deepest well was one known as Bimerah Run No. 3, White-wood, lying between the Barcoo and Thomson Rivers; this had a depth of 5045 feet, and was stated to yield 70,000 gallons daily. This flow is, of course, a comparatively small one, many wells yielding, when uncontrolled, from one to three million gallons a day. A well at Cunnamulla is stated to have a daily flow, when uncontrolled, of no less than 4,500,000 gallons. The waters of many of the wells have been analysed, and some found suitable for wool-scouring only, others are suitable for watering stock but not for irrigation, owing to the presence of alkali; others again serve for both stock and irrigation, while some, such as those containing sulphuretted hydrogen, are not of any use. Water fit for stock may generally be said to be "safe" for domestic purposes in spite of its slightly mineral taste. The wells yielding the mineral waters known as "Helidon Spa," "Boonah Spa," and "Junot Spa," which are much in use in Queensland and New South Wales, are shallow wells from 60 to 200 feet in depth.

The following table shews particulars as to Queensland bores at the end of June, 1914:—

**QUEENSLAND ARTESIAN AND SUB-ARTESIAN BORES ON 30th JUNE, 1914.**

Particulars.	State and Local Authorities.	Private.	Total.
Bores existing ... .. No.	255	2,004	2,259
Total depth bored ... .. feet	203,170	2,147,963	2,351,133
Daily flow ... .. gallons	30,911,475	475,591,025	506,502,500
Depth at which artesian water was struck—			
Maximum ... .. feet	4,256	5,045	...
Minimum ... .. "	354	10	...
Temperature of flow—			
Maximum ... .. °Fahr.	198	211	...
Minimum ... .. °Fahr.	85	81	...

5. *South Australia.*—There were in South Australia 125 bores existing at 31st December, 1913, of which 30 were artesian and 95 sub-artesian. There are 97 under 1000 feet in depth, 18 from 1000 to 2000 feet; four from 2000 to 3000 feet; four from 3000 to 4000 feet, and two over 4000 feet. The deepest flowing well was at Goyder's Lagoon, on the Hergott to Birdsville route, measuring 4580 feet, and yielding 600,000 gallons per day. A bore at Patchawarra, 35 miles north of Innamincka, has been sunk to a depth of 5453 feet, where operations have been stopped for the present. Water was struck in this bore at various depths down to 4000 feet. At that depth the water rose and ran over the surface at the rate of 400 gallons daily. Further sinking was carried on in the hope of getting a better supply, but, so far, without success. The maximum flow, viz., 1,250,000 gallons, is obtained at Coonie Creek, east of Lake Frome.

The following table shews particulars as to South Australian bores at the end of December 1913:—

**SOUTH AUSTRALIAN BORES, 1913.**

Particulars.	Artesian and Sub-artesian.
Bores existing ... ..	125
Total depth bored ... .. feet	87,714*
Daily flow ... .. gals.	†
Depth at which water was struck—	
Maximum ... .. feet	4,850
Minimum ... .. feet	233
Temperature of flow—	
Maximum ... .. °Fahr.	208
Minimum ... .. °Fahr.	82
Total cost of construction of bores up to end of year ...	£231,361
Expenditure during year on boring operations ...	£28,802

\* Exclusive of abandoned bores.

† Not available.

(i.) *Bores along Bordertown Railway.* The sinking of bores across the Ninety-mile Desert between the Murray and the Victorian boundary was commenced in 1886 at Coonalpyn; with the exception, however, of salt water at 55 ft., none was reported to have been struck. Ki Ki bore was sunk in 1887, and at 361 ft. a good supply of water fit for stock was struck. Tintinnarra bore was sunk in 1887; it was artesian when first tapped. The water was found to be fit for locomotive engines and is still used for that purpose. The bore at Emu Flat was also sunk in 1887.

In all these bores water was found in porous beds of Eocene (Tertiary) age.

(ii.) *Bores along and near Pinnaroo Railway Line.* Several bores have been successfully put down in the Pinnaroo country. In 1904 the first bore was sunk in this district at Cotton, and numerous successful bores have since been put down by the Public Works Department, and subsequently by the residents of the district. The depth of water level from the surface ranges from 15 to 320 feet, and the maximum outflow is 48,000 gallons per day at the Gosden bore. Several wells, ranging in depth from 55 ft. to 221 ft., have also been sunk in this district.

The latest Government bores are situated in the Hundreds of Molineux, Cotton and Kingsford. Each of these bores has a depth of 250 feet, and the water, which is in large supply, rises to within about 90 ft. of the surface. The water is fresh, containing about  $\frac{3}{8}$  oz. salts and other solid matter per gallon.

(iii.) *Bores West of Oodnadatta.* A series of bores has been sunk, beginning with Broaden bore, 20 miles west of Oodnadatta, which was put down in 1911. The others since put down are Gypsum, Imbitcha, Mirackina and Raspberry Creek; of these the only artesian supply is at Raspberry Creek, where 1,000,000 gallons a day of good water is obtained. The depths of these bores range from 280 feet at Mirackina to 1122 feet at Broaden, and the water from all of them is good.

6. **Western Australia.**—The scheme by which the Government of Western Australia undertook to provide a permanent supply of water for the population on the eastern goldfields of that State comes properly under the heading of "Water Supply Works." A description of the scheme is fully given in previous issues of the Year Book. (See No. 6, p. 576.)

In August 1912 the administration of the Goldfields Water Supply and of the Mines Water Supply was transferred to a new department, the Water Supply, Sewerage and Drainage Department. The statistics in connection with this department will be found in the section of this book dealing with *Local Government*.

The following table shews particulars as to Western Australian artesian bores at 31st December, 1913 :—

**WESTERN AUSTRALIAN ARTESIAN BORES, 1913.**

Particulars.	State.	Private.	Total.
Bores existing ... ..	58	30	88
Total depth ... ..	73,290	29,632	102,922
Daily flow ... ..	22,784,700	8,176,700	30,961,400
Depth at which artesian water was struck—			
Maximum ... ..	4,016	*	...
Minimum ... ..	175	*	...
Temperature of flow—			
Maximum ... ..	140	*	...
Minimum ... ..	60	*	...

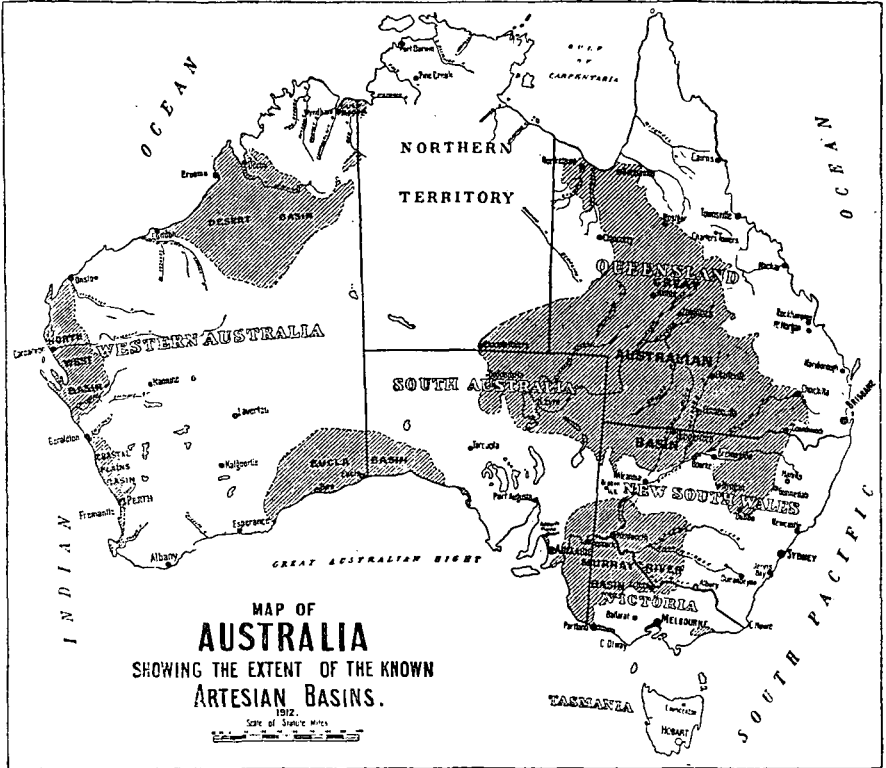
\* Not available.

At the end of the year 1913 the total number of Government bores west of the Darling Range was 58, and there were 30 private bores recorded in addition. The total cost of construction of State bores at the end of the year 1913 was about £128,000, of which amount £4000 was spent in 1913. The maximum outflow, 4,000,000 gallons per day, was obtained at Leederville in connection with the Metropolitan Water Supply at 2097 feet.

The boring operations which have been carried out in the four artesian basins along the West Australian Coast, and which have been specified on page 491 are as follows :—

(i.) *The Coastal Plain Basin or Perth Area*, which, generally speaking, extends from Cape Leeuwin to Dongarra, and from which the Metropolitan Water Supply is largely drawn, yields a supply of water mostly fresh and suitable for domestic purposes, though towards the north it becomes brackish and is only suitable for stock purposes.

MAP SHEWING THE POSITION AND EXTENT OF THE "AUSTRALIAN ARTESIAN BASINS."



This map was prepared by the Interstate Conference on Artesian Water, held in Sydney during May, 1912. It contains the latest facts relative to the various artesian basins of the Australian continent. Of these basins the most important is the Great Australian Basin, which is about 569,000 square miles in extent, viz.:—About 376,000 square miles in Queensland, 90,000 square miles in South Australia, 83,000 square miles in New South Wales, and 20,000 square miles in the Northern Territory. The Murray River Basin extends over South-Western New South Wales, North-Western Victoria, and South-Eastern South Australia. The Western Australian Basins fall naturally within five groups, viz.:—The Eucalyptus Basin, the Coastal Plains Basin, the North-West Basin, the Desert Basin, and the Gulf Basin. (See also pages 491 to 499.)



There are fifty-six bores in the Metropolitan District, several of which have been put down to augment the hills supply, and the domestic supply of the suburbs and Fremantle is largely dependent upon this source.

(ii.) *The North-west Basin or Carnarvon Area* may be said to extend from Gantheaume Bay in the south to Onslow in the north, and embraces a very large tract of ideal sheep country.

Many private bores have been put down on sites which permit of the gravitation of the water for miles, and, by this means, a very considerable area has been put under stock. Some remarkable flows have been obtained and, in one case, at a depth of 300 feet a flow reputed to be 3,000,000 gallons per day was struck, the water being good stock.

In all some 25 bores have been put down.

(iii.) *The Gulf Basin or Broome Area.* So far very little development work has been done. Artesian bores have been put down in the town site, and the domestic requirements of the town are entirely supplied from this source.

The area extends from Condon in the south-west to the Meda River beyond Derby in the north, and for a considerable distance inland.

So far only five bores have been sunk, two being at Broome and two at Derby, and the other on the telegraph line on the road between Derby and Hall's Creek, about 67 miles inland.

(iv.) *Eucla Area.* This area extends from Eucla on the South Australian border, west of Israelite Bay. So far, beyond the bores put down on the survey line of the Trans-Australian Railway, very little has been done in proving the resources of this area.

In 1902 the first bore was sunk, about 35 miles north of Madura, and sub-artesian water struck at 430 feet, at an elevation of 400 feet above sea level.

Following upon this a deep bore was put down at Madura, below the cliffs and nearer the coast, when an artesian supply of stock water was obtained at a depth of 2101 feet, yielding 31,000 gallons per day.

This was followed later with four bores along the survey line of the proposed railway, which runs east and west about 90 miles inland, when two bores were sunk near the 337 mile peg and sub-artesian water struck at 300 feet. One bore was carried down to 1,344 feet and the other to 412 feet. In both instances good stock water was obtained.

Other two bores were sunk on the line about 40 miles west of the South Australian border and similar results obtained, the bores being carried down to 371 feet and 996 feet respectively.

**7. Northern Territory.**—In the Northern Territory, bores to the number of 62 have been put down, seven belonging to the Commonwealth Government and situated in the Darwin district. The 55 private bores are all situated in the Barclay Tableland. The cost of construction to 31st December, 1913, was Government bores £2022, and private bores £71,800.

The following table gives further particulars of the Northern Territory bores at 31st December, 1913 :—

**NORTHERN TERRITORY BORES, 1913.**

Particulars.	State.*	Private.†	Total.
Bores existing ... ..	7	55	62
Total depth bored ... ..	1,206	19,682	20,888
Daily flow ... ..	42,061	2,542,400	2,584,461
Depth at which water was struck—			
Maximum ... ..	213	502	...
Minimum ... ..	110	128	...
Temperature of flow—			
Maximum ... ..	†	†	...
Minimum ... ..	†	†	...

\* Situated in Darwin district.

† Situated in Barclay Tableland.

Not available.

## 2. Irrigation Plants.

1. **General.**—Australia's first experiments in irrigation were made with the object of bringing under cultivation areas in which an inadequate rainfall rendered agricultural and even pastoral occupations precarious and intermittent, and, although these original settlements have for the most part proved fairly successful, most of the States, instead of promoting new settlements in unoccupied regions, are adopting the policy of making existing settlement closer, by repurchasing big estates and large farms, subdividing them into holdings of suitable sizes for cultivation, and selling the land upon easy terms of payment. It is in connection with this Closer Settlement policy that the special value of irrigation is recognised.

2. **New South Wales.**—(i.) *Water Conservation and Irrigation.* Since the 1st January, 1913, irrigation has been recognised in the State of New South Wales as of sufficient importance to warrant the formation of an entirely separate department, the head of which is the Commissioner for Water Conservation and Irrigation.

The provision of an adequate water supply for other than domestic purposes is essential to the well-being of all primary industries, and particularly in a country which is liable to dry seasons which affect extensive areas. Much of the area of the State receives an adequate and regular rainfall, but over a considerable extent of country all the factors exist which are requisite to success in agricultural pursuits except a constant water supply. The recognition of the fact that the area suitable for cultivation might be extended largely by a comprehensive system of water conservation and irrigation has led the State to undertake various schemes in detached groups, which will constitute portion of the ultimate irrigation system necessary to serve the whole State.

(ii.) *Murrumbidgee Irrigation Scheme.* The main features of the work include a storage dam across the Murrumbidgee to retain the floodwaters, which will be released for use lower down the river during the dry summer months; a movable diversion weir, about 220 miles below the dam, to turn the required amount of water from the river into the main canal; a main canal, leaving the river near the weir; a main branch canal; and a series of subsidiary canals and distributing channels through the area to be irrigated.

The site of the storage dam is at Burrinjuck, three miles below the confluence of the Murrumbidgee and Goodradigbee Rivers. The dam wall is being constructed of cyclopean masonry and concrete, and when completed will have a maximum height of 240 feet, and will impound the waters in a lake covering 12,740 acres. Sufficient water is being stored to meet the requirements of the farms already occupied. The reservoir will have a capacity of 33,381 million cubic feet, the catchment area being about 5000 square miles, drained by three principal streams—the Murrumbidgee, Goodradigbee, and Yass Rivers—up which the water will be backed, when the dam is full, to distances of 41 miles, 13 miles, and 11 miles respectively. Direct communication between Burrinjuck and the Main Southern railway has been provided by the construction of a 2-foot gauge line from Goondah, a distance of 26 miles.

The diversion weir being designed for irrigation purposes, the supply is regulated, in the first place, from Burrinjuck dam, and then at the weir, by means of sluices. The weir is situated at Berembed, about 40 miles by river and 19 miles in a direct line above the town of Narrandera. It is founded on a solid granite bar extending across the river, and has a length over all of 270 feet between abutments, divided into a sluiceway 40 feet wide in the clear; a lock chamber, 40 feet wide, capable of taking barges up to 100 feet in length; and 55 movable wickets, manipulated from a punt moored up-stream. The weir and regulating works have been completed.

The main canal branches from the river just above the weir, and, after passing through Narrandera, continues in a north-westerly direction, skirting the hills abutting on the plains. A scheme for enlarging the main canal to double its present capacity is now being investigated by the Public Works Committee. There are two main branch

canals, viz., the Gogeldrie canal, which offtakes at 47 miles from Berembé, and runs approximately parallel to the Narrandera-Hay railway through the Yanco Area, and the Mirrool branch, which offtakes at 78 miles from Berembé and supplies portion of the Mirrool Area.

The scheme, as described above, applies only to the land on the northern side of the Murrumbidgee River. It was originally intended to provide a canal to supply the land on the southern side, but subsequently it was decided to apply all the water available from the Burrinjuck Dam to the northern areas, these lands being eminently suitable for irrigation. For this reason the main canal is to be enlarged, and when complete will be capable of supplying an area of about 250,000 acres, which, in the opinion of the experts, may be worked profitably in small subdivisions devoted to mixed farming, dairying, and stock raising, or fruit and vegetable growing, tobacco culture, etc. In addition, there is an area of about a million acres to be set aside for use as "dry" lands in conjunction with those under irrigation. When the areas are fully settled it is estimated that there will be nearly 7000 farms and 100,000 people. By means of irrigation the soils and climate of these areas are suitable for the production, with most profitable results, of apricots, peaches, nectarines, prunes, pears, nuts, almonds, melons, cantaloups, and citrus fruits, also wine and table grapes, raisins, sultanas, figs, olives, and most varieties of vegetables. Other products are tobacco, lucerne, and fodder crops, such as sorghum, maize and millet. Dairying, pig-raising, mixed farming, and ostrich farming are already being successfully undertaken.

The Murrumbidgee Irrigation Act, passed in December 1910, constituted a trust for the administration of the scheme, and provided the necessary authority for the acquisition of land, construction of improvements, levying rates, and generally for administering the irrigation areas and work. This Act was repealed in December 1912; and the whole scheme is now under the control of a Commissioner of Water Conservation and Irrigation.

The lands acquired for irrigation under the provisions of the Act include the North Yanco estate, the Gogeldrie holding, and various holdings in the Brobenah and Mirrool Creek districts—the total area resumed to 30th June, 1914, being about 312,100 acres, at an estimated cost of £827,430.

The first area made available for settlement was in the vicinity of Yanco Siding on the Hay railway line. The second, which is situated on the northern side of the Mirrool Creek, will be served by an extension of the railway from Barellan, which will be completed early in the year 1915.

There are available farms varying in size from 2 acres to 200 acres. The smaller farms—2 acres to 15 acres—are designed to meet requirements of the vegetable grower, the small orchardist, the farm laborer, and, in some cases, the business man of the adjoining towns. Each acre has a permanent water-right attached to it, *i.e.*, a right to such a quantity of water, 12 inches deep, as would cover an area of one acre. To satisfy the requirements of the man with large capital, and also as a means of providing employment for the man possessed of lesser means, farms with 100 water-rights attached may be obtained under certain special conditions, one of which is that the holder must expend within the first two years of his occupation an amount of not less than £6 per acre in connection with the improvement of his holding—such improvements to be exclusive of the value of his homestead and out-buildings. Although a condition of residence attaches to every lease, suspension of residence may be allowed by the Commissioner. This permits of an intending settler having a farm developed for him for four or five years by the Commissioner or a private contractor. In this way the early preparation work is personally avoided by the lessee, who is thus enabled to take possession when his orchard or vineyard is in full bearing.

Areas of non-irrigable or "dry" lands, in the proportion of double or three times the irrigable area taken up, are available for the depasturing of stock, and may be acquired either as additional holdings for the individual, or as a commonage for the joint use of groups of settlers.

The conditions for the disposal of irrigation blocks are contained in the Crown Lands Consolidation Act of 1913, and the Crown Lands and Irrigation (Amendment) Act of 1914.



Any male over the age of 16 years, or female over 18 years (other than a married woman not living apart from her husband under decree of judicial separation), or two or more such persons jointly, may apply for a farm or block. The tenure is perpetual leasehold, rent being charged at the rate of 2½ per cent. on the capital value.

The improvement conditions attached to the farm holdings include fencing, planting of trees for windbreaks, construction of dwellings, destruction of noxious plants, and the cultivation of a specified area in each year.

The assistance granted to settlers is both practical and liberal. Aid is given in connection with the erection of homesteads, barns and outbuildings, the degree of assistance varying according to the size of the holding. Repayments for assistance in this direction may be spread over 12 years. The construction of head ditches or other work entailed in the actual practice of irrigation is carried out on the settler's behalf; repayments for this form of assistance may be spread over a period of 10 years. Fencing posts are available for purchase on 10 years' terms. Fruit trees and vines may be purchased from the Government Nursery. The terms of repayment for these have been determined, having regard to the time when the settler will obtain revenue from his cultivation work. Lucerne seed is supplied during a settler's first planting season. A settler who may adopt dairying as a "pot-boiler," whilst fruit trees or vines are coming into bearing, or as a permanent revenue producer, is assisted in the purchase of dairy stock. The amount of help given depends on the quantity of planted feed a settler has in sight. A deposit is payable in respect of each cow purchased, the payment of the balance being by monthly instalments spread over two years. Machinery and implements may be hired at reasonable rates, and expert labour will, if desired, be provided at the settler's expense. Pedigree bulls may be leased. The Government Savings Bank Commissioners have statutory power to make loans upon a mortgage of irrigation farm leases, although the condition of the money market, consequent on the state of war now existent in Europe, is restricting advances for the time being. Concessions in railway fares and freights are made on New South Wales railways to *bonâ fide* applicants for land. At present the annual charge for water supply has been fixed at 5s. per water-right, but this charge is reduced to one-half for the first year, and is then increased yearly by sixpence per water-right, so that a settler is not required to pay the full charge until he is in the sixth year of occupation. The assistance granted may be altered from time to time.

Townships have been established at centres of the Yanco and Mirrool areas; the Commissioner is empowered to construct streets, and to provide water supply and other services.

A butter factory, equipped with the latest plant and with the capacity for dealing with the product of 10,000 cows, has been established. Cash payments are there made monthly for cream supplied by the settlers, who are thus assured of an immediate and regular income, and placed in the position to turn their attention to other forms of farming, if they so desire. A large up-to-date vegetable and fruit canning factory has also been provided, at which vegetables and fruits grown by the settlers are purchased from them. A bacon factory and cheese factory are in course of erection. A State demonstration farm and nursery are in operation, and various commercial crops are tested as to their suitability for local cultivation. The process of treatment and the preparation for market of the different products are fully investigated, and the experience thus gained is at the disposal of settlers, free information and instruction being afforded on all agricultural matters and irrigation methods. An electric power-house has been erected near Yanco Siding; electric light and power are supplied to the business people, and are available for settlers when the number of applicants warrants the connections.

From the date of the first subdivision in July 1912 to 31st December, 1914, 805 farms had been granted, representing a total area of 36,015 acres, the settlers on which have a declared capital of £447,029.

In addition, 114 township and village blocks have been granted, and 259 miles of roads, 289 miles of reticulation channels, and 197 miles of drains have been constructed.

In the matter of cultivation, the following particulars indicate the extent of the work performed by the settlers:—750 acres under stone fruits, 200 under vines, 150 under trees, 3750 under lucerne, 10,000 under other fodder crops, and 350 acres under vegetables. The estimated population of the irrigation area is about 4750 persons. The rents payable amount to £14,850; the annual total revenue, including £6900 for water rates, being £21,750.

(iii.) *Other Irrigation Schemes.* The following proposals are under investigation by the Water Conservation and Irrigation Commission:—

- (a) *Murray River.* The Burrinjuck dam on the Murrumbidgee River in New South Wales and the storages on the Upper Goulburn River in Victoria are the only works at present in operation for regulating the flow of the Murray River. The conflicting interests of the three States interested in the use and conservation of the Murray waters are referred to at length in a later part of this section (see page 507).
- (b) *Darling River.* A preliminary investigation has been made of the Darling River, which shows that the most suitable site for the storage of large volumes of water for irrigation purposes is in the Lake system to the east of the river, comprising Lake Boolabooka, Ratecatcher's Lake, and Victoria Lake, and a number of other lakes fed from the river in high floods from the Talywalka Creek, which takes off from the river about 260 miles above Menindie. A large area of high-class land can be commanded from this storage, and this area will be served by the Condobolin-Broken Hill railway when constructed.
- (c) *Lachlan River.* The construction of a storage reservoir at Wyangala, below the confluence of the Abercrombie River, has been investigated with the intention of affording water in the river channel for pastoral purposes and for the irrigation of small areas along the river bank by pumping. In view, however, of the unsatisfactory nature of the run-off from this catchment, it is unlikely that the scheme will be further considered at present; but an alternative proposal is being investigated for the increase of the storage in Lake Cudgellico, which is fed from the Lachlan River, and for the pumping thence of the water for the irrigation of an area adjacent to the lake.
- (d) *Macquarie River.* The construction of a storage reservoir has been proposed on this river at Burrendong, below the confluence of the Cudgegong River, for the purposes of affording water by gravitation for the irrigation of certain lands to the west of Narromine. A smaller scheme, which has received consideration also, is the construction of a storage dam on Campbell's River at Bathurst. The run-off from this catchment is too uncertain to permit of the construction of any large irrigation scheme, but perennial supplies can be made available for the use of individual irrigators by the construction of storage works on this river and also on the Namoi, Peel, Gwydir, and McIntyre Rivers.
- (e) *Hunter River.* A scheme has been prepared for supplementing the water supply of the Hunter River District, and providing water for irrigation, by means of pumping on the area adjacent to the Hunter River, which is one of the most fertile districts in the State, and is capable of carrying a dense population under the conditions of intense culture by irrigation. Alternative proposals have been investigated for the construction of a storage dam, either on the Upper Hunter or Goulburn Rivers, and an examination has been made for storage sites on the whole of the tributaries of the Hunter River. It is probable that this matter will be considered shortly by the Public Works Committee, together with an alternative proposal for supplying water from the Namoi River.

(f) *Warragamba River.* The Warragamba project will serve the dual purpose of amplifying the Sydney water supply, and irrigating the best lands in the Hawkesbury Valley. The percentage increase in the population of the metropolitan area during recent years, if maintained, will, in a short space of time, cause the consumption of water to overtake the capacity of the present catchment area of the Sydney water supply, and the next available source of supply will then be the Warragamba River, a scheme for the storage of water from which has been prepared. It is proposed to construct a large storage dam capable of supplying at least 80 million gallons daily for domestic service, 30 million gallons daily for trade purposes, and 80 million gallons daily for irrigation purposes in the Hawkesbury Valley. The waters made available by this project will be so valuable that they can be applied only to the highest class lands for irrigation purposes, and the area to be served will accordingly be limited to probably about 30,000 acres in the vicinity of the Nepean and Hawkesbury Rivers. Surveys are being made and details prepared of the irrigation portion of the scheme for submission to the Public Works Committee.

(iv.) *Irrigation Settlements.* Irrigation settlements have been established at Hay and at Wentworth, and were, in 1913, placed under the control of the Commissioner for Water Conservation and Irrigation. In Wentworth irrigation area, embracing 10,600 acres, 1520 acres have been subdivided into 107 blocks; 1377 acres are held under lease in 94 blocks; the balance is still available for lease. During 1913-14, 1000 acres were under cultivation, the greater part being devoted to fruit trees, oranges, grapes, sultanas, and currants. In this area is instituted a dual scheme of irrigation and intense cultivation of small areas, and the results of the experiment will be regarded with interest, as of exceptional value from the educational standpoint. The pumping machinery consists of a suction-gas plant, supplying two engines of about 55 brake horse-power each, working two centrifugal pumps, with an average combined capacity of about 4600 gallons per minute. With eight pumpings during the 1913-14 season, 144,172,050 cubic feet of water were supplied, and the results achieved by the settlers on this area have been highly satisfactory. The length of the main channels is about 4 miles 24 chains, and of subsidiary channels 4 miles 31 chains; total length, 8 miles 55 chains. The land may be leased for periods not exceeding 30 years. The rents vary from 1s. to 5s. per acre; the rate for water varies from 10s. to 20s. per acre. Each lessee is entitled to receive a quantity of water equivalent to a depth of 30 inches per annum, limited to 4 inches in any one month.

The Hay irrigation area consists of about 3842 acres, and previous to 1912 was controlled by a Trust appointed in 1897. The area held and used for irrigation purposes is 940 acres by 70 holders. The lands may be leased for periods not exceeding 99 years. The rentals vary from 5s. to 10s. per acre. The water-rate is fixed half-yearly, the present rate being 10s. per acre. The pumping machinery is, however, similar to that employed at Wentworth, the capacity of the pumps being 4000 gallons per minute. During the 1913-14 season 595,212,009 gallons of water were supplied.

(v.) *Water Rights.* The Water Act 1912 consolidates the Acts relating to Water Rights, Water and Drainage, Drainage Promotion and Artesian Wells. Part II. of the Act vests in the Crown the right to the use, flow, and control of the water in all rivers and lakes which flow through or past, or are situate within the land of two or more occupiers. It abolishes "riparian rights," and establishes a system of licenses for works of water conservation, irrigation, and drainage. Prior to the passing of the Act relating to Water Rights, such works on creeks and rivers, constructed by private individuals, were liable to destruction by any person who considered their existence opposed to his interests. It is now illegal to interfere with any work for which a license has been granted. The security provided is stimulating the construction of irrigation works of a better class throughout the State, and up to the end of December 1914, 3294 applications for licenses have been made under the Act.

3. *Victoria.*—(i.) *Classification of Works.* The Water Conservation Works in Victoria naturally divide themselves into those providing mainly a domestic supply, such as the Yan Yean works, controlled by the Melbourne and Metropolitan Board of Works; the Coliban, Broken River, Kerang Lakes, and Mallee Supply Works, which, although now administered by the State Rivers and Water Supply Commission, are properly local government works; other works for domestic supply controlled by Water Works Trusts or Municipal Corporations; and irrigation works proper. With the exception of the last-named class, particulars as to these works will be found in the section on "Local Government" of this book.

(ii.) *Works Controlled by the Commission.* With the exception of the First Mildura Irrigation and Water Supply Trust, all of the irrigation schemes and the more important domestic and stock water-supply works in rural districts are vested in and controlled by the State Rivers and Water Supply Commission, which was created by the Water Act 1905, in force since 1st May, 1906. The works under the control of this body, which is composed of three members, may be classified as follows:—(a) Irrigation schemes; and (b) Domestic and stock schemes, included in which are a number for providing town supplies, the principal being the Coliban system.

(a) *Irrigation Schemes.* This division comprises the schemes constructed and under construction for the supply of water to between twenty to thirty irrigation districts. Up to 1906 these schemes were controlled by local Trusts which had obtained the moneys for their construction on loans from the State. By the Water Act 1905 all local control was abolished and the districts were transferred to the State Rivers and Water Supply Commission. Since that date the Government has adopted a vigorous irrigation policy and the capital expenditure at 30th June, 1913, on water supply in the irrigation and water supply districts under the control of the Commission was £4,699,474. The irrigation works draw their supplies mainly from headworks constructed on the Murray, Goulburn, and Loddon rivers. The cost of these works, which now stands at £1,198,097, is not debited to the districts benefited, but is borne entirely by the State. Within the last four years the State has adopted the policy of purchasing large areas of land commanded by these schemes and subdividing them for intensive culture. The settlement of the areas on these lines will mean a large increase in the population of the State. The management and supervision of these areas were formerly vested in two bodies—the Closer Settlement Board and the Water Supply Commission, but in order to do away with this dual control, the Amending Closer Settlement Act of 1912 was passed, transferring to the Water Supply Commission the entire management, leasing, and general supervision of all lands within irrigation districts. Pending the ratification of the resolutions adopted at the Premiers' Conference 1914, relative to the control, conservation, and use of the Murray River (see page 507), the commission has co-operated with the Water Conservation authorities of New South Wales in testing suitable storage sites on the Upper Murray as recommended by the Interstate Conference of Engineers in July 1913.

(b) *Domestic and Stock Schemes.* The second division takes into account the schemes constructed and under construction for the supply of water for domestic and stock purposes. The area of country lands artificially supplied with water for these purposes is nearly 21,000 square miles. The number of towns supplied, exclusive of the City of Melbourne and its suburbs, is 148, serving an estimated population of 291,000. The principal works of this division are situated in the Wimmera and Mallee districts, and cover an area of over 6000 square miles. In addition to the Commission's districts some large areas are still administered by local authorities.

It should be mentioned that in 1899 the State deemed it advisable to write off the sum of £1,073,000 from capital accounts of the local bodies then controlling the works in each of the above divisions.

(iii.) *Mildura.* The first settlement of Mildura dates from 1884. After being managed until 1887 by Chaffey Bros., and then until 1895 by the Mildura Irrigation Company Limited, it was in that year taken over by the First Mildura Irrigation Trust under special Acts of Parliament, and has since then made great progress. Its population

at the Census of 1911 was 6145. Water is pumped from the Murray River by five pumping stations, collectively raising 8,000,000 gallons per hour. The length of the main irrigation channels is 280 miles. For the year ending 30th June, 1914, the receipts of the Trust aggregated £33,701, and its expenditure £32,908. For the same period the area of land under cultivation and the record of water acres were 12,307 and 39,541 acres respectively, the value of the fruit crops for the year being about £400,000.

No precise figures are available as to the capital cost of the works at Mildura; probably the sum was not less than £180,000. The amount due to Government is £72,451, exclusive of £12,659 for accumulations of interest.

(iv.) *Lands supplied with Water within the State.* The area of country lands within the State artificially supplied with water for domestic and ordinary use and for watering stock is approximately 20,500 square miles, equal to about 13,120,000 acres. The extent of land under irrigated culture, for all kinds of crop, is 249,983 acres, an increase of 20,150 acres over the area irrigated in the previous year. The above total includes about 14,500 acres, watered under yearly permits granting authority to divert water from streams throughout the State. Further progress has been made during the year in bringing all such diversions under the control of the Commission, 719 permits authorising diversions for irrigation, domestic and stock, and power purposes being now in force.

1. **Queensland.**—The main irrigation works in Queensland are as follow:—(a) those at Ayr, which utilise the waters of the Burdekin River, and shallow wells on its banks; (b) those at Bingera, near Bundaberg, which utilise water pumped from the Burnett River just above the point of meeting of the salt and fresh waters, and (c) those at Fairymead, which utilise water pumped from a number of shallow spear wells sunk on the alluvial flats on the north side of the Burnett River and about six miles from Bundaberg. There were 657 irrigators in the State in 1913, chiefly farmers and graziers, and the area irrigated was 11,904 acres.

5. **South Australia.**—(i.) *The Renmark Irrigation Trust.* The Renmark Irrigation Trust was established in 1893 on similar lines to Mildura, but on a smaller scale. At present the extent of the land assessed for the purpose of the trust is approximately 5200 acres, and maintains a population of 2500. The value of Renmark products has now reached the sum of over £135,000 per annum. It is claimed that without irrigation the land would barely feed 500 sheep.

(ii.) *Other Waterworks.* A number of country water works are under the control of the Public Works Department. As, however, they are not irrigation works properly so called, but are used for supplying water for domestic purposes, etc., to several towns, no further reference will be made to them in this chapter. (See Section XXVI., *Local Government*.)

(iii.) *Area under Irrigation.* Until 1910, irrigation in South Australia, with the exception of the schemes already mentioned, made little, if any, progress; but in that year an Irrigation and Reclamation Works Department was created, and the first report of the Director has now been issued. The Government is at present proceeding with the irrigation schemes along the Murray as fast as possible. The Cobdogla station, formerly held under grazing permits, has been resumed by the Crown, and as a result of the surveys to 30th June, 1914, 30,745 acres at Cobdogla and 9645 acres at Berri have been found available for irrigation. The Cobdogla area comprises practically the whole of the original Lake Bonney irrigation scheme, and is contiguous to the Berri irrigation area. The reticulation with channels for an area of 122,000 acres, between the Cobdogla home-stead and Lake Bonney, which lends itself to economical irrigation, is already well advanced. This area will be watered by means of two Humphrey pumps, with a capacity of 500,000 gallons per hour each, and a lift of about 40 feet.

This plant will also supply an additional 7000 acres at the 70-foot level. Other pumping plants will be erected at the north and south ends of Lake Bonney, and at the river at Cobdogla woolshed.

In the section dealing with Closer Settlement (page 251) the subject of irrigation areas in South Australia has already been referred to.

**6. Western Australia.**—An Irrigation Act has been brought into force providing for the constitution of Irrigation Districts. Surveys have been completed and actual work commenced for irrigating about 4000 acres at Harvey. The area is devoted chiefly to fruit growing, principally oranges. Numerous small private irrigation schemes are in full operation on many of the south-west rivers in connection with fruit growing, fodder crops, and potatoes.

**7. Murray Waters.**—The relative rights of the States of New South Wales, Victoria, and South Australia to the waters of the Murray River are undetermined. Territorially the south bank of the Murray was the boundary between the two former States, i.e., the region of the River itself, up to the point where it enters South Australia, was wholly within New South Wales.

At the Federal conventions which preceded the establishment of the Commonwealth, the South Australian representatives expressed their fear lest too much irrigation on the Murray and Darling might impair the navigability of the latter river, and the result was the insertion of a provision in the Commonwealth Constitution which reads as follows:—  
“*Section 100.*—The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the right of a State or the residents therein to the reasonable use of the waters of rivers for conservation and irrigation.”

Under this section negotiations have for several years been in progress between the three interested States. In January 1911 a conference took place in Melbourne between the Premiers of New South Wales, Victoria, and South Australia on the Murray Waters question. Briefly stated, the results of the conference were that South Australia was to be allowed to carry out storage works at Lake Victoria, New South Wales, and lock her own portion of the Murray at her own expense, but New South Wales and Victoria would not recognise the claims of navigation in any way, and would not bind themselves to deliver any quantity of water at the point of intake into South Australia. No rights to navigation were conceded by New South Wales and Victoria, and the upper portions of the river were left free for irrigation.

In 1913 the three States appointed a board of engineers to carry out investigations, with a view to ascertain means which would be conducive to a settlement of the question of the River Murray and its tributaries. The board in its report stated that it was agreed that the interests of irrigation are more important than those of navigation, and that the heavy expense of maintaining the latter is not warranted. In Year Book No. 7 (page 510), will be found the suggestions of the Board relative to the apportionment of the cost of works and of water between the three States. In April 1914, on the occasion of the Premiers' Conference in Melbourne, the following resolutions were agreed to by the Prime Minister of the Commonwealth and the Premiers of New South Wales, Victoria, and South Australia:—

“With a view to the economical use of waters of the River Murray and its tributaries, for irrigation and navigation, and to the reconciling of the interests of the Commonwealth and the riparian States, it is resolved that an agreement between the Commonwealth and States of New South Wales, Victoria, and South Australia (herein called ‘this Agreement’) be entered into, providing:—

(i.) That a system of storages be provided at Cumberoona or some other suitable site on the Upper Murray and at Lake Victoria, and that weirs and locks be constructed in the course of the River Murray from its mouth to Echuca; in the River Murrumbidgee from its junction with the River Murray to Hay, or alternatively to works in the River Murrumbidgee, an equivalent extent of weirs and locks in the River Darling, extending upstream from its junction with the River Murray.

(ii.) That the cost of the undermentioned works required to give effect to Resolution (i.), is estimated as follows:—

Nine weirs and locks from Blanchetown to Wentworth	...	£865,000
Seventeen weirs and locks from Wentworth to Echuca	...	1,700,000
Nine weirs and locks from the junction of the Rivers Murray and Murrumbidgee to Hay, or alternatively an equivalent amount (£540,000) in locks and weirs from the junction of the River Darling with the River Murray upstream	...	540,000
Upper Murray storage	... ..	1,353,000
Lake Victoria storage	... ..	205,000
		<hr/>
		£4,663,000

be borne to the extent of £1,000,000 by the Commonwealth, and as to the remainder in equal shares by the States of New South Wales, Victoria, and South Australia.

(iii.) That, if so desired by the State of New South Wales, there shall be substituted for the proposed weirs and locks in the River Murrumbidgee locks and weirs to the same estimated cost in the River Darling upstream from its junction with the River Murray.

(iv.) That the flow of the River Murray at Albury, including the natural or regulated flow of the Rivers Mitta and Kiewa, and as regulated by the Cumberoona storage, be shared equally by New South Wales and Victoria, subject to any quantity hereby agreed to be sent down the river for riparian use and for supply to South Australia.

(v.) That New South Wales and Victoria each have full use of her own tributaries below Albury, and have the right to store and divert the flows thereof, or alternatively, equivalent volumes from the River Murray below their affluences subject to provision from such tributaries, or her share of the flow at Albury, or both, of contributions towards the share hereby allotted to South Australia, and the allowance for riparian use on the main stream from the affluence of such tributary, or from Albury to Lake Victoria.

(vi.) That the proportion of the contribution by New South Wales and Victoria to the share hereby allotted to South Australia, and for riparian use in the main stream, be that which the mean natural flow of the tributaries of each State below Albury measured at the points of affluence with the River Murray, with half the actual mean flow at Albury added in each case, bear to each other. In calculating the mean flow of the River Darling for this purpose a deduction shall be made to the extent of any water diverted by the State of Queensland.

(vii.) That the minimum quantity to be allowed to pass to South Australia in each year be sufficient to fill Lake Victoria storage once, and in addition to maintain, with the aid of the water returned from Lake Victoria, a regulated supply at Lake Victoria outlet of 134,000 acre feet per month during the months of January, February, November, and December; 114,000 acre feet per month for the months of March, September, and October; 94,000 acre feet per month for the months of April, May, and August, and 47,000 acre feet per month for the months of June and July, these being the provisions for irrigation equivalent to a regulated supply of 67,000 acre feet per month for nine months, and for domestic and stock supply, losses by evaporation and percolation in Lake Victoria, like losses and lockage in the river from Lake Victoria to the river mouth (but not including Lakes Alexandrina and Albert). Provided that these allowances and the allowance to the upstream States be reduced *pro rata* in such abnormal seasons as those of 1902 and 1903.

(viii.) That after the utilisation by South Australia for irrigation of the volumes set forth in Resolution (vii.), or after the utilisation by New South Wales and Victoria of 1,957,000 and 2,219,000 acre feet per annum respectively, whichever may first happen, a further volume may be allotted out of any surplus over the above specified allotments to the State of New South Wales, Victoria or South Australia, as the case may be, such further volumes to be determined by the Commission provided for herein.

(ix.) That the agreement entered into between the Premiers of New South Wales, Victoria, and South Australia, dated the 12th day of January, 1912, respecting storage works at Lake Victoria and certain works in, on, and near the River Murray, be confirmed, subject, however, to the modifications arising out of this agreement.

(x.) That the cost of any works jointly constructed by the States of New South Wales and Victoria in the River Murray above Echuca, for the purpose of diversion of water allotted to them under this agreement, shall be borne by the States of New South Wales and Victoria in proportion to the volume of water proposed to be diverted into each of said States by such works.

(xi.) That a Commission of four members to be called the River Murray Commission be appointed immediately after the ratifying of this agreement by the Commonwealth and States Parliaments concerned, one commissioner to be appointed by the Governor-General of Australia, one by the Governor of New South Wales, one by the Governor of Victoria, and one by the Governor of South Australia. The Commission shall carry into effect the provisions of this Agreement.

(xii.) That the works provided for in Resolution (ii.) be constructed by the State of South Australia from Blanchetown to Wentworth, by the State of New South Wales on the Murrumbidgee or Darling, as the case may be, and by the States of New South Wales and Victoria on the River Murray, under the direction of the Commission provided for herein and subject to the approval of all designs by the said Commission.

(xiii.) That the construction of the works mentioned in Resolution (ii.) of this agreement shall be commenced by each of the States, as provided in Resolution (xii.), as soon as may be after the ratification of this agreement by the Parliaments of the Commonwealth and the States respectively, and vigorously proceeded with until completion.

(xiv.) And that this agreement be submitted for ratification to the Parliaments of the Commonwealth and the States respectively during the next sessions of the said respective Parliaments, and is subject to such ratification."

In accordance with resolution xiv., this agreement is now under consideration of the Commonwealth Parliament and the Parliaments of the three interested States. In New South Wales, pending the results of the investigation of the dam foundations of the proposed storage dam at Cumberoona, surveys are being made by officers of the Water Conservation and Irrigation Commission of the lands on the New South Wales side of the Murray River which are capable of irrigation from that stream. The lands suitable for irrigation are much in excess of the area which can be served by the volumes of water which will be available, and it is therefore necessary that the most suitable and high-class land shall be selected for that purpose. So far as South Australia is concerned, the construction of the first lock at Blanchetown is practically now in progress, as the machinery required in the construction of it is being erected, and the necessary data for determining the sites of the other works included in that State's portion of the general scheme has been obtained.



## SECTION XV.

## COMMERCE.

## § 1. Introductory.

1. **Constitutional Powers of the Commonwealth in regard to Commerce.**—The powers vested in the Commonwealth Parliament by the Commonwealth Constitution Act with respect to trade and commerce will be found on page 25 (section 51 (i.) and pp. 31 to 33 (sections 86-95) of this volume.

## § 2. Commonwealth Commercial Legislation.

1. **Customs Act 1901 (No. 6 of 1901).**—"An Act relating to the Customs," assented to on the 3rd October, 1901, came into operation by proclamation on the 4th October, 1901. This provided for the establishment of the necessary administrative machinery for all matters pertaining to the customs, and prescribed, *inter alia*, the manner in which customs duties shall be computed and paid. It does not, however, determine the rates thereof.

During the interval between the inception of the Commonwealth, viz., on 1st January, 1901, and the coming into operation of the Customs Act 1901, the Customs Acts of the several States were administered by the Executive Government of the Commonwealth, under section 86 of the Constitution.

2. **Customs Tariff Act 1902 (No. 14 of 1902).**—The first Commonwealth Customs Tariff imposing uniform rates of customs duty in all the States was introduced in the House of Representatives on the 8th October, 1901. "An Act relating to Duties of Customs," assented to on the 16th September, 1902, made provision that uniform duties of customs specified in the tariff schedule should be imposed from the 8th October, 1901. From this date trade between the States became free, with, however, the exception, under section 95 of the Constitution Act, of the right of Western Australia to levy duty on the goods from other States for five years. [Repealed by the Customs Tariff Act 1908 (No. 7 of 1908).]

3. **Sea Carriage of Goods Act (No. 14 of 1904).**—"An Act relating to the Sea Carriage of Goods," assented to on the 15th December, 1904, to commence on the 1st January, 1905, defines the responsibility of shipowners, charterers, masters, or agents in regard to goods carried.

4. **Secret Commission Act 1905 (No. 10 of 1905).**—"An Act relating to Secret Commissions, Rebates, and Profits," assented to on the 16th November, 1905, provides that—"Any person who, without the full knowledge and consent of the principals directly or indirectly (a) being an agent of the principal, accepts or obtains, or agrees or offers to

accept or obtain, from any person, for himself, or for any person other than the principal; or (b) gives or agrees to give or offers to the agent of a principal, or to any person at the request of an agent of the principal, any gift or consideration as an inducement or reward for any act done or to be done, or any forbearance observed or to be observed, or any favour or disfavour shewn or to be shewn in relation to the principal's affairs or business or on the principal's behalf, or for obtaining or having obtained, or aiding or having aided to obtain for any person an agency or contract for or with the principal, shall be guilty of an indictable offence."

**5. Commerce (Trade Descriptions) Act 1905 (No. 16 of 1905).**—"An Act relating to Commerce with other Countries," assented to on the 8th December, 1905, and brought into operation by proclamation on the 8th June, 1906, gives power to compel the placing of a proper description on certain prescribed goods, or on packages containing the same, being imports or exports of the Commonwealth.

**6. Australian Industries Preservation Act 1906 (No. 9 of 1906).**—"An Act for the Preservation of Australian Industries and for the Repression of Destructive Monopolies," assented to 24th September, 1906, provides that any person or any corporation making or engaging or continuing in any combination "with intent to restrain trade or commerce to the detriment of the public or with intent to destroy or injure by means of unfair competition any Australian industry the preservation of which is advantageous to the Commonwealth, having due regard to the interests of the producers, workers, or consumers," or any person or corporation monopolising or attempting or conspiring to monopolise any part of the trade of the Commonwealth with intent to control, to the detriment of the public, the supply or price of any service, merchandise, or commodity, is guilty of an offence. (Amended, see Acts No. 5 of 1908 and No. 26 of 1909-1910.)

**7. Customs Tariff 1906 (No. 14 of 1906).**—"An Act relating to Duties of Customs" amends the Customs Tariff of 1902 in relation to the duties on harvesters and agricultural implements and machinery and prescribes the prices to be the maximum prices of Australian harvesters and drills delivered to the purchaser at the railway station or port nearest to the factory where they are made. [Repealed by Customs Tariff Act 1908 (No. 7 of 1908).]

**8. Customs Tariff (South African Preference) 1906 (No. 17 of 1906).**—"An Act relating to Preferential Duties of Customs on certain goods the produce or manufacture of the British Colonies or Protectorates in South Africa which are included within the South African Customs Union," assented to 12th October, 1906, to operate from 1st October, 1906, provides for special preferential rates of duty on certain goods imported from and being the produce of any of the Colonies or Protectorates included within the South African Customs Union.

**9. Australian Industries Preservation Act 1907 (No. 5 of 1908).**—"An Act to amend the Australian Industries Preservation Act 1907," assented to 14th April, 1908, provides additional machinery for procuring evidence of offences against the principal Act.

**10. Customs Tariff 1908 (No. 7 of 1908).**—"An Act relating to Duties of Customs," assented to 3rd June, 1908, repeals Section 5 of the Customs Tariff 1902 (No. 14 of 1902) and the schedule of that Act and the whole of the Customs Tariff 1906 (No. 14 of 1906) as from 8th August, 1907, and imposes new rates of Customs Duties. This Act provides preference rates of customs duties on certain "goods the produce or manufacture of the United Kingdom."

**11. Customs Tariff Amendment Act 1908 (No. 13 of 1908).**—"An Act to amend the Tariff Act of 1908," assented to 10th June, 1908. The purpose of this Act is merely to remove possible doubt as to the intention of the original Acts.

12. **Australian Industries Preservation Act 1909 (No. 26 of 1909).**—"An Act to amend the Australian Industries Preservation Acts 1906-1907" formally repeals Sections 5 and 8 of the parent Act, which were declared by the High Court to be *ultra vires*; also provides that, in relation to trade and commerce with other countries or among the States, the payment of rebates, or the refusal to sell, "either absolutely or except upon disadvantageous conditions," with the purpose of promoting exclusive dealing, shall be an offence.

13. **Customs (Interstate Accounts) Act 1910 (No. 9 of 1910).**—Repeals Sections 272 and 273 of the Customs Act 1901. These sections relate to the passing of dutiable goods from one State to another State of the Commonwealth, and their repeal was consequent on the termination of the book-keeping system of accounts between the Commonwealth Government and the Governments of the States, in favour of a system of payments based on population.

14. **Australian Industries Preservation Act 1910 (No. 29 of 1910).**—"An Act to amend the Australian Industries Preservation Act 1906-1909." This Act removes from the principal Act the obligation to prove *intent* to restrain trade and detriment to the public.

15. **Customs Act 1910 (No. 36 of 1910).**—"An Act to amend the Customs Act 1901" gives the Customs control of all goods for export, the exportation of which is subject to compliance with any condition or restriction under any Act or regulation, extends the machinery provisions for the prevention of the importation or exportation of goods which are prohibited imports or exports respectively, amends the provisions for the payment of duty under protest, gives the Governor-General power to prescribe the nature, size, and material of the coverings for packages, and the maximum or minimum weight or quantity to be contained in any one package of goods imported or exported, or transported coastwise from one State to another; the condition of preparation or manufacture for export of any articles used for, or in the manufacture of, food or drink by man; the conditions as to purity, soundness, and freedom from disease to be conformed to by the goods for export.

16. **Customs Tariff 1910 (No. 39 of 1910).**—"An Act relating to Duties of Customs," amends the Customs Tariff of 1908 by more explicit definition of certain tariff items, and by alteration of some rates of duty.

17. **Customs Tariff 1911 (No. 19 of 1911).**—"An Act relating to Duties of Customs," amends the Customs Tariff 1908-10 by alteration of some rates of duty.

18. **Interstate Commission Act 1912 (No. 33 of 1912).**—In accordance with the provisions of the Commonwealth Constitution Act—Sections 101 to 104 (see page 33 *ante*)—an Act relating to the Interstate Commission was assented to on the 24th December, 1912. This Act provides for the appointment of the Commission, and cognate matters.

19. **Trading with the Enemy Act 1914 (No. 9 of 1914).**—"An Act relating to the control of trade during the war with Germany and Austria-Hungary." This Act was amended by Act No. 17 of 1914.

20. **Customs Act 1914 (No. 19 of 1914).**—Amends the Customs Act 1901-10 by extending the powers of the Governor-General to prohibit the exportation of goods in time of war.

### § 3. Regulation of Trade during the War.

**1. Authority for.**—By the Customs Act 1901-1910 it is enacted that the Governor-General may, by proclamation, prohibit the exportation or transfer from any State to any other State of the Commonwealth of any goods, being arms, explosives, military stores or naval stores, or being goods which, in his opinion, are capable of being used as or in the manufacture of arms, explosives, military stores, or for any purpose of war; and, by the Defence Act 1903-1912, it is enacted that the Governor-General may, subject to the provisions of that Act, do all things deemed by him to be desirable for the efficient defence and protection of the Commonwealth or of any State.

By virtue of the above, proclamations prohibiting or controlling exports from the Commonwealth have been issued from time to time. The items affected are given hereafter, together with (in brackets) the date of the proclamation.

**2. Export items affected by Proclamation.**—Acetone; aeroplanes, airships, balloons of all kinds, and their component parts; animals, pack, saddle, and draught, suitable for use in war; arms, rifled, of all kinds, and their component parts; benzol; blast furnace oil; carbons required for search-lights; cartridges, charges of all kinds and their component parts; chrome and ferrochrome; cloth, hempen; copper, ore or unwrought, all kinds; cotton, suitable for use in the manufacture of explosives; cotton waste; creosote; dimethylaniline; engines and lorries, internal combustion, capable of carrying a load of 25 cwt. and upwards, whole or in parts; fuel oil shale; fulminate of mercury; gunpowder; mineral lubricating oil; nets, torpedo; nickel and ferronickel; oil, coal tar; oil, olive; petroleum, fuel oil; petroleum, gas oil; petroleum, spirit or motor spirit (including shell spirit); projectiles of all kinds and their component parts; sacks, coal; silk cloth, silk braid, silk thread, suitable for cartridges; silk noils; smoothfast and bandages; toluol; zinc. Exportation prohibited. (Proclamation, 6th August, 1914.)

Aluminium; aluminium alloys; armour plate, armour quality castings and similar protective material; asbestos; cables, telegraph and telephone; campe equipment, articles of; cannon and other ordnance, and parts thereof; carbolic acid; carriages and mountings for cannon and other ordnance, and for machine guns, and parts thereof; coal, steam, large; compasses and parts thereof, including fittings, such as binnacles; cresol and nitro-cresol; engine and boiler packings; explosives of all kinds; fuel, manufactured; implements and apparatus designed exclusively for the manufacture of munitions of war, for the manufacture or repair of arms, or of war material for use on land and sea; india-rubber sheet, vulcanised; manganese; mercury; mica; mineral jellies; mines, and parts thereof; molybdenum; nitrates of ammonium; nitrates of potassium; nitrates of sodium; nitric acid; nitrotoluol; picric acid and its components; range finders and parts thereof; rope, steel wire, and hawser; saltpetre; sounding machines and gear; steam vessels, lighters, and barges of all descriptions; sulphur; sulphuric acid; swords, bayonets, and other arms not being firearms, and parts thereof; tin; tin plates; torpedo tubes; torpedoes and parts thereof; tungsten; vanadium; four-wheeled waggons capable of carrying one ton and over; two-wheeled carts capable of carrying 15 cwt. and over; harness and saddlery of all kinds; barbed wire; horse and pony shoes; materials for telegraphs, wireless telegraphs, and telephones; field glasses and telescopes; railway materials, both fixed and rolling stock; men's marching and shooting boots; heliographs; portable forges; farriers', carpenters', wheelers', and saddlers' tools (transport service); glycerine; alcohol, as covering rectified spirits; uniform, clothing, and military equipment; accoutrements; walnut wood of scantling which could be made into rifle butts and fore ends. Exportation prohibited to all foreign ports in Europe and on the Mediterranean and Black Sea, with the exception of those of France, Russia (except the Baltic ports), Spain, and Portugal. (Proclamation, 10th August, 1914.)

In regard to the following items the proclamation prohibits exportation, subject to the limits expressed, except with the consent of the Minister of State for Trade and Customs :—Wheat and flour, to any place outside the United Kingdom (7th September, 1914); meat, to any place outside the British Dominions (8th September, 1914); by proclamation, dated the 23rd September, 1914, the exportation of wheat and flour and meat to the United Kingdom or to British Dominions respectively was prohibited, except with the consent of the Minister; sugar (18th September, 1914); mares (23rd September, 1914); coal (14th October, 1914); wool (23rd October, 1914); hides and sheep skins (28th October, 1914); rubber in any form, and graphite suitable for the manufacture of crucibles (12th November, 1914); acaroid resin, grass tree gum and yacca gum (14th December, 1914); whale oil (21st January, 1915); vessels, craft and boats of all kinds, floating docks and their component parts (29th January, 1915); leather (18th February, 1915).

#### § 4. Method of Recording Imports and Exports.

1. **Value of Imports.**—The recorded value of goods imported from countries beyond the Commonwealth represents the amount on which duty is payable or would be payable if the duty were charged *ad valorem*. The value of goods is taken to be 10 per cent. in advance of the fair market value in the principal markets of the country whence the goods were exported, the increase being intended to represent roughly the cost plus insurance, freight and other charges to the place of landing.

2. **Value of Exports.**—The recorded value of goods exported is taken to represent the value in the principal markets of the Commonwealth in the ordinary commercial acceptance of the term.

3. **Records of Past Years.**—In the years preceding federation each State independently recorded its trade, and in so doing did not distinguish other Australian States from foreign countries. As the aggregation of the records of the several States is, necessarily, the only available means of ascertaining the trade of Australia for comparison with later years, it is unfortunate that past records of values and the direction of imports were not on uniform lines admitting of the preparation of a record for Australia as a whole. On the introduction of the Customs Act 1901, the methods of recording values were made uniform throughout the States, but it was not until September 1903 that a fundamental defect in the system of recording transhipped goods was remedied. Up to this date goods arriving in any Australian port for transshipment to a port in another Australian State were recorded at the latter port only, where they were ordinarily recorded as from the transshipping State, and not as an import from the overseas country.

In recording exports an analogous defect also existed in most of the States, since goods despatched from one Australian State for transshipment in another State to an overseas country were simply recorded in the former as an export to the transshipping State; thus no proper record of the export overseas was made. Owing to this defect the overseas trade prior to September 1903 is understated by an amount which it is impossible to accurately estimate, since it varies with the development of the shipping facilities of the States concerned. To discover the direction of the transhipped trade is not possible. The figures presented in the tables hereinafter are therefore the values as recorded, and must be taken as subject to the defects explained.

4. **Vessels (Ships) Imported and Exported.**—The imports or exports of vessels were not recorded prior to the year 1905. The value of vessels imported during each of the years 1905-1913 were as follows :—1905, £265,957; 1906, £366,300; 1907, £680,700; 1908,

£700,500; 1909, £757,100; 1910, £711,850; 1911, £340,045; 1912, £1,257,655; 1913, £1,662,300. The exports during the same years were:—1905, £79,975; 1906, £51,865; 1907, £90,201; 1908, £82,355; 1909, £38,600; 1910, £72,000; 1911, £17,605; 1912, £66,300; 1913, £418,220.

5. **Ships' Stores.**—Prior to 1906 goods shipped in Australian ports on board oversea ships as ships' stores were included in the general exports. From 1906 ships' stores have been specially recorded as such, and omitted from the return of exports. The value of ships' stores during 1906 amounted to £875,966 (of which bunker coal represented £575,471, or 65.7 per cent.); during 1907 to £998,897 (bunker coal representing £663,724, or 66.45 per cent.), during 1908 to £1,196,106 (bunker coal £867,707, or 72.55 per cent.), during 1909 to £1,071,677 (bunker coal £781,113, or 72.90 per cent.), during 1910 to £1,080,133 (bunker coal £740,567, or 68.57 per cent.), during 1911 to £1,238,446 (bunker coal £858,783, or 69.35 per cent.), during 1912, to £1,431,985 (bunker coal £1,008,259, or 70.41 per cent.), and during 1913 to £1,458,702 (bunker coal £1,018,595, or 69.82 per cent.).

## § 5. Oversea Trade.

1. **Total Oversea Trade.**—The following table shews the total trade of the Commonwealth with oversea countries from the earliest date for which records are available. In consequence of the defects of record, referred to in the preceding section, the results can be only approximate to the actual figures. The very marked rise and sudden fall in the value of imports during the period 1837 to 1842 were contemporaneous with heavy land speculation and a subsequent severe financial crisis. The great increase of trade in the early fifties is due to the discovery of gold. In the State of Victoria the value of imports from oversea countries increased from £500,000 in 1851 to nearly £11,000,000 in 1853, and to £13,000,000 in 1854; while in New South Wales similar imports rose from £1,390,000 in 1851 to £5,500,000 in 1854, when the total imports into the Commonwealth reached the sum of £34 13s. 10d. per head, and the total trade £56 3s. 10d. per head of the population. The rapid influx of persons anxious to share the good fortunes of these times, however, soon reduced the value of the trade per head, till, in 1858, it had declined to £31 19s. 6d. per head. The period 1867-1872 shews a marked reduction in the value of trade per head. For some years prior to this period New South Wales had experienced a succession of indifferent seasons, and Victoria was suffering from a congested labour market consequent on the decline of alluvial gold-mining in that State. This congestion of the labour market during the years 1862 to 1866 gave rise to the agitation for a protective tariff to provide employment in manufactures, and in April 1866, the Tariff Act, which expressed the protective policy since adhered to in Victoria, was assented to.

### OVERSEA TRADE OF COMMONWEALTH, 1826 to 1913.

Year.	Recorded Value.			Value per Inhabitant. <sup>1</sup>			Percentage of Exports on Imports.
	Imports.	Exports.	Total.	Imports.	Exports.	Total.	
	£1,000.	£1,000.	£1,000.	£ s. d.	£ s. d.	£ s. d.	%
1826-30	638	153	791	10 12 5	2 10 11	13 3 4	23.9
1831-35	1,144	613	1,757	11 19 10	6 8 6	18 8 4	53.6
1836-40	2,283	1,112	3,395	14 15 9	7 5 1	21 19 10	48.7
1841-45	1,906	1,378	3,284	9 0 5	6 10 5	15 10 10	72.3
1846-50	2,379	2,264	4,643	6 18 10	6 12 2	13 11 0	95.2
1851-55	11,931	11,414	23,345	19 12 5	18 15 4	38 7 9	95.7
1856-60	18,816	16,019	34,835	18 6 1	15 11 8	33 17 9	85.1

1. Reckoned on mean population of the year.

## OVERSEA TRADE OF COMMONWEALTH, 1826 TO 1913.—Continued.

Year.	Recorded Value.			Value per Inhabitant. <sup>1</sup>			Percentage of Exports on Imports.
	Imports.	Exports.	Total.	Imports.	Exports.	Total.	
	£1,000.	£1,000.	£1,000.	£ s. d.	£ s. d.	£ s. d.	%
1861	17,651	17,413	35,064	15 5 2	15 1 1	30 6 3	98.7
1862	20,599	18,065	38,664	17 7 1	15 4 5	32 11 6	87.7
1863	21,248	19,336	40,584	17 4 7	15 13 7	32 18 2	91.0
1864	20,503	18,977	39,480	15 17 4	14 13 6	30 10 10	92.6
1865	20,660	19,706	40,366	15 4 4	14 10 4	29 14 8	95.4
1866	21,311	18,972	40,283	15 0 10	13 7 10	28 8 8	89.0
1867	15,964	18,334	34,348	10 18 1	12 11 2	23 9 3	115.2
1868	18,436	21,650	40,086	12 3 11	14 6 6	26 10 5	117.4
1869	19,910	20,066	39,976	12 14 4	12 16 4	25 10 8	103.8
1870	17,833	18,012	35,845	11 0 2	11 2 5	22 2 7	101.0
1871	17,017	21,725	38,742	10 3 3	12 19 6	23 2 9	127.7
1872	18,833	22,518	41,351	10 18 9	13 1 7	24 0 4	119.6
1873	24,567	26,370	50,937	13 17 10	14 18 2	28 16 0	107.4
1874	24,554	25,646	50,200	13 9 9	14 1 8	27 11 5	104.5
1875	24,939	24,978	49,917	13 6 2	13 6 7	26 12 9	100.1
1876	23,963	23,540	47,503	12 8 7	12 4 2	24 12 9	98.2
1877	25,797	23,107	48,904	12 18 8	11 11 8	24 10 4	89.6
1878	26,181	23,773	49,954	12 14 0	11 10 8	24 4 8	90.8
1879	24,233	21,184	45,417	11 7 10	9 19 2	21 7 0	87.4
1880	22,939	27,255	50,194	10 8 10	12 8 1	22 16 11	118.8
1881	29,067	27,528	56,595	12 16 2	12 2 8	24 18 10	94.7
1882	36,103	27,313	63,416	15 7 7	11 12 9	27 0 4	75.6
1883	35,454	30,058	65,512	14 9 9	12 5 8	26 15 5	84.8
1884	36,988	28,708	65,696	14 9 6	11 4 8	25 14 2	77.6
1885	36,862	26,667	63,529	13 18 2	10 1 3	23 19 5	72.3
1886	34,179	21,700	55,879	12 9 4	7 18 4	20 7 8	63.5
1887	29,572	23,421	52,993	10 8 8	8 5 3	18 13 11	79.2
1888	36,881	28,900	65,781	12 11 7	9 17 2	22 8 9	78.4
1889	37,577	29,553	67,130	12 8 8	9 15 7	22 4 3	78.6
1890	35,168	29,321	64,489	11 6 4	9 8 9	20 15 1	83.4
1891	37,711	36,043	73,754	11 16 0	11 5 6	23 1 6	95.6
1892	30,107	33,370	63,477	9 4 0	10 3 10	19 7 10	110.8
1893	23,765	33,225	56,990	7 2 7	9 19 4	17 1 11	139.8
1894	21,897	32,131	54,028	6 9 0	9 9 4	15 18 4	146.7
1895	23,195	33,644	56,839	6 14 1	9 14 6	16 8 7	145.0
1896	29,658	32,964	62,622	8 8 5	9 7 2	17 15 7	111.1
1897	31,958	37,783	69,741	8 18 3	10 10 9	19 9 0	118.2
1898	31,481	40,165	71,646	8 12 11	11 0 7	19 13 6	127.6
1899	34,330	48,599	82,929	9 6 0	13 3 5	22 9 5	141.6
1900	41,388	45,957	87,345	11 1 3	12 5 9	23 7 0	111.0
1901	42,434	49,696	92,130	11 3 11	13 2 2	24 6 1	117.1
1902	40,676	43,915	84,591	10 11 4	11 8 3	21 19 7	108.0
1903	37,811	48,250	86,061	9 14 3	12 7 10	22 2 1	127.6
1904	37,021	57,486	94,507	9 7 9	14 11 7	23 19 4	155.3
1905	38,347	56,841	95,188	9 11 9	14 4 1	23 15 10	148.2
1906	44,745	69,738	114,483	11 0 4	17 3 6	28 3 10	155.9
1907	51,809	72,824	124,633	12 11 3	17 13 2	30 4 5	140.6
1908	49,799	64,311	114,110	11 17 5	15 6 8	27 4 1	129.1
1909	51,172	65,319	116,491	11 19 5	15 5 7	27 5 0	127.6
1910	60,014	74,491	134,505	13 14 8	17 0 10	30 15 6	124.1
1911	66,968	79,482	146,450	14 18 3	17 14 0	32 12 3	118.7
1912	78,159	79,096	157,255	16 16 7	17 0 7	33 17 2	101.2
1913	79,749	78,572	158,321	16 12 0	16 7 2	32 19 2	98.5

1. Reckoned on mean population of the year.

The graphs illustrating the movement of the oversea trade of Australia (see pages 523 and 524) shew that periods of depressed trade have been recurrent at more or less regular intervals of from seven to nine years, and measured by population, each succeeding depression since 1855 carried the trade per head lower than the preceding one, until the lowest point was reached in 1894.

The year 1892 marked the beginning of a period of acute financial stress, culminating in the commercial crisis of 1893. The collapse of these years is plainly reflected in the trade records of that period, the trade of 1894 falling to £54,028,227, a decline of no less than 26.75 per cent. in three years. In 1895 there was a slight recovery, and a continuous upward movement until 1901, when the trade reached £92,130,183, or £24 6s. 1d. per head. A decline, due to drought, in the exports of agricultural, pastoral, and dairy produce, reduced the trade of 1902 to £84,591,037, but although in the next year there was a further shrinkage in the exports of agricultural produce, the increase in the value of the exports of metals, specie, butter, and wool was so large as to effect an increase in the total trade. From 1902 the increase in the value of trade continued, till in 1907 it reached the amount of £124,633,280, equal to £30 4s. 5d. per inhabitant.

The imports during 1907 were, doubtless, to some extent inflated by the importation of goods in anticipation of the tariff revision of that year. The trade of 1908 shews a decline of £10,523,000 as compared with 1907, of which £8,513,000 was in the value of exports, notwithstanding an increase of £3,447,767 in the export of gold and specie. This decline in the value of exports was largely due to reduced prices ruling for wool and metals in consequence of the financial crisis in the United States during the previous year, and in lesser degree to the smaller exports of agricultural and pastoral produce, due to the unfavourable season experienced in some of the States.

The trade of 1909 per head of population was slightly more than in 1908, notwithstanding that the gold exports were less by £5,193,587. In 1910 the value of imports per head was higher than in any year since 1885, and the value of exports was—excepting the years 1906 and 1907—the highest since 1857. The high value of exports is particularly striking when considered in conjunction with the exceptionally small exports of gold. The exports of gold, already much reduced in 1909 as compared with 1908, were in 1910 still further reduced by £4,264,368 to £4,108,783, the smallest recorded since 1892. During 1911 the exports of gold bullion and specie again increased to £11,540,782. The continued increase in the value of imports during 1912 and 1913, while the value of exports remained stationary, is referred to in the succeeding paragraph. The particular classes of goods from which the increases in trade arise are shewn in § 7 following.

**2. Ratio between Exports and Imports.**—The foregoing table shews the percentage of exports on imports for each year.\* From this it will be seen that, with few exceptions, due to temporary dislocations of trade, prior to 1892 the balance of trade has been on the side of imports, but from 1891 to 1912 the reverse has been the case. The excess of imports in the earlier years represents the introduction of capital in the form of Government loans and for investment in private undertakings, and the excess of exports represents mainly the interest and profit on the earlier investments, repayment of loans to foreign bondholders, and also freight on trade, which is carried mainly by ships of the United Kingdom and foreign countries.

The marked change in the balance of trade, which is in the direction of that of twenty years ago, is a striking feature of the trade returns for 1912. The decline in the ratio of exports to imports has been due, mainly, to loans raised in London by the Governments of the various States of the Commonwealth. The proceeds of these loans, of course, swell the import returns, but, as no immediate payment beyond an instalment of interest has to be made in return, the export figures are affected to a very minor degree, until such time as the principal of the debt is repaid. The larger number of immigrants had, also, to some extent affected the balance of trade by the introduction of capital. The following table shews for the last twelve years the balance of trade of

\* For individual years 1826 to 1860 see previous issues.



the Commonwealth as shewn by the records of imports and exports for each year, and, also, the modification of these figures as affected by loans raised in London by the States:—

### EFFECT OF LOANS ON THE RECORDED BALANCE OF TRADE.

Year.	Excess of Exports as Recorded.		Net Amount of Debt Raised or Redeemed (—) in London.	Excess of Exports Modified by Elimination of Loans.	
	Amount.	Per cent.	Amount.	Amount.	Per cent.
	£1,000.		£1,000.	£1,000.	
1902 ... ..	3,239	100	5,014	8,253	100
1903 ... ..	10,439	322	1,658	12,097	146
1904 ... ..	20,465	632	753	21,218	257
1905 ... ..	18,494	571	1,968	20,462	248
1906 ... ..	24,993	771	5,308	19,685	238
1907 ... ..	21,015	649	2,259	18,756	227
1908 ... ..	14,512	448	6,088	20,600	249
1909 ... ..	14,147	436	2,562	16,709	202
1910 ... ..	14,477	447	2,904	11,573	140
1911 ... ..	12,514	386	3,123	15,641	189
1912 ... ..	937	29	12,205	13,264	161
1913 ... ..	1,178	36	19,666	18,488	225

The trade balances would be further modified by the loans of local governing bodies, by the imports of capital for private enterprises, and by the addition to or absorption of bank balances held in London on Australian account. Particulars of such transactions are not available. In regard to the importation of private capital, it may not be without significance that the tariff of 1908 was followed by a pronounced diminution in the excess of exports, the suggestion being that industrial enterprise had been augmented by imported capital in consequence of the increased protection to local industries.

The general relationship between the balance of trade of the Commonwealth and the borrowing of money abroad is demonstrated by the following figures:—

### BALANCE OF TRADE AND PUBLIC DEBT.

Period.	Annual Average.				
	Imports.	Exports.	Excess of		New Debt.
			Imports.	Exports.	
	Mill. £.	Mill. £.	Mill. £.	Mill. £.	Mill. £.
1867-1871 ... ..	17.8	20.0	...	2.2	1.7
1872-1876 ... ..	23.4	24.6	...	1.2	2.6
1877-1881 ... ..	25.6	24.6	1.0	...	5.2
1882-1886 ... ..	35.8	26.8	9.0	...	10.6
1887-1891 ... ..	35.4	29.4	6.0	...	7.4
1892-1896 ... ..	25.6	33.0	...	7.4	3.8
1897-1901 ... ..	36.2	44.4	...	8.2	9.2
1902-1906 ... ..	39.6	55.2	...	15.6	0.8
1907-1911 ... ..	56.0	71.2	...	15.2	1.3
1912-1913 ... ..	79.0	79.0	...	...	15.9

\* Subsequent to 1897 these figures relate to moneys raised outside of Australia only. Prior to 1893 the amounts raised locally were insignificant, but it is probable that the amount of new debt raised during 1892-6 is somewhat overstated.

## § 6. Direction of Trade.

1. **Country of Shipment and Country of Origin.**—The following table shews, for the years 1908 and 1913, the value of imports recorded as direct from the principal countries, and also the disposition of the value of imports against the countries where they were produced or manufactured. A similar comparison for the years 1905-12 will be found in previous issues of this work.

### COMMONWEALTH IMPORTS FROM COUNTRIES OF SHIPMENT AND COUNTRIES OF ORIGIN, 1908 and 1913.

Country.	Imports according to—							
	Country of Shipment.				Country of Origin.			
	1908.		1913.		1908.		1913.	
	Value. £	Per cent.	Value. £	Per cent.	Value. £	Per cent.	Value. £	Per cent.
United Kingdom ...	29,930,157	60.10	47,615,561	59.70	25,274,661	50.75	41,327,702	51.82
<b>BRITISH POSSESSIONS—</b>								
Canada ...	321,041	0.64	1,158,833	1.45	532,752	1.07	964,826	1.21
Ceylon ...	683,813	1.37	968,500	1.21	681,950	1.37	951,648	1.19
Hong Kong ...	247,689	0.50	365,697	0.46	7,321	0.01	11,646	0.02
India ...	1,630,246	3.28	2,994,246	3.72	1,658,140	3.33	3,082,754	3.97
New Zealand ...	2,276,597	4.57	2,513,934	3.15	2,196,433	4.41	2,219,879	2.78
Straits Settlements ...	354,567	0.77	715,232	0.90	153,603	0.32	256,457	0.32
Other British Possessions ...	845,671	1.70	1,217,452	1.53	994,755	2.00	1,487,904	1.87
<b>Total British Possessions ...</b>	<b>6,389,624</b>	<b>12.83</b>	<b>9,903,804</b>	<b>12.42</b>	<b>6,229,954</b>	<b>12.51</b>	<b>8,975,114</b>	<b>11.26</b>
<b>Total British Countries ...</b>	<b>36,319,781</b>	<b>72.93</b>	<b>57,519,365</b>	<b>72.12</b>	<b>31,504,615</b>	<b>63.26</b>	<b>50,302,816</b>	<b>63.08</b>
<b>FOREIGN COUNTRIES—</b>								
Austria-Hungary ...	16,947	0.03	70,776	0.09	265,345	0.53	360,649	0.45
Belgium ...	970,187	1.95	2,258,839	2.83	636,450	1.28	1,151,720	1.44
China ...	69,362	0.14	89,746	0.11	315,887	0.63	454,074	0.57
France ...	479,642	0.97	625,397	0.78	1,775,389	3.56	2,222,631	2.79
Germany ...	3,509,120	7.05	4,956,834	6.22	4,482,394	9.00	7,029,331	8.82
Japan ...	543,789	1.09	918,681	1.15	574,906	1.15	950,300	1.19
Netherlands ...	173,528	0.35	259,332	0.33	311,832	0.63	415,037	0.52
Norway ...	314,685	0.63	753,774	0.95	420,470	0.85	896,779	1.12
Spain ...	12,131	0.02	43,719	0.05	108,104	0.22	137,622	0.17
Sweden ...	206,614	0.41	614,725	0.77	348,666	0.70	774,039	0.97
Switzerland ...	38,496	0.08	37,468	0.05	754,110	1.51	1,156,650	1.45
United States ...	6,039,753	12.13	9,522,704	11.94	6,581,846	13.22	10,908,653	13.68
Other Foreign Countries ...	1,105,236	2.22	2,078,293	2.61	1,719,259	3.46	2,989,352	3.75
<b>Total Foreign Countries ...</b>	<b>13,479,492</b>	<b>27.07</b>	<b>22,230,288</b>	<b>27.88</b>	<b>18,294,658</b>	<b>36.74</b>	<b>29,446,837</b>	<b>36.92</b>
<b>Total Imports from all Countries ...</b>	<b>49,799,273</b>	<b>100</b>	<b>79,749,653</b>	<b>100</b>	<b>49,799,273</b>	<b>100</b>	<b>79,749,653</b>	<b>100</b>

The only country from which the value of direct imports exceeds by any large amount the value of the imports of goods which were manufactured or produced therein, that is to say, the only country which shews a balance of any magnitude as a distributor of the goods of other countries to Australia, is the United Kingdom. The records of our imports therefrom during the year 1913 shew that while the total direct imports from that country amounted to £47,615,561, the value of the manufactures or produce of the United Kingdom itself, imported from all countries whatsoever during the same year, was £41,327,702. From the foregoing figures it appears that goods to the value of at least £6,287,859 were received from other countries through the United Kingdom.

Other countries which shew balances as distributors to Australia, though absolutely of much less amount, are Belgium, Canada, Hong Kong, New Zealand, Straits Settlements, and Ceylon. The countries mentioned are, of course, not the only countries through which goods are indirectly imported into Australia, for the direct imports from other countries, notably France and Germany, include considerable values which are not the

produce of those countries. These values, however, are more than balanced by French and German goods received through the United Kingdom and other countries.

2. **Direct Imports according to Country of Shipment.**—The following table, shewing the average yearly value of imports from each of the principal countries during each succeeding quinquennial period from 1893 to 1912, and for the year 1913, shews considerable change in direction of imports during the past twenty years. The countries mentioned in this table are those where the goods were shipped or whence they were directly consigned to Australia.

**IMPORTS INTO THE COMMONWEALTH FROM VARIOUS COUNTRIES, 1893 to 1913.**

Country.	Yearly Average of Quinquennial Periods.				Year 1913.
	1893-7.	1898-1902.	1903-7.	1908-12.	
	£	£	£	£	£
United Kingdom ...	18,216,257	23,336,680	24,774,838	36,634,519	47,615,561
British Possessions—					
Canada ...	120,402	254,301	299,181	689,575	1,158,838
Ceylon ...	271,883	445,080	648,160	759,283	968,500
Fiji ...	97,972	93,097	81,608	313,366	570,550
Hong Kong ...	404,003	303,724	291,403	273,543	365,607
India ...	616,344	949,785	1,416,173	2,102,074	2,964,246
Mauritius ...	210,703	170,661	57,500	51,451	129,597
New Zealand ...	1,042,798	1,874,221	2,446,760	2,600,475	2,513,934
Papua ...	19,123	61,375	67,222	72,943	90,892
South African Union ...	3,675	5,337	12,807	150,694	127,263
Straits Settlements ...	158,703	258,634	216,842	558,946	715,232
Other British Possessions	8,537	32,963	130,834	294,453	299,650
Total British Possessions ...	2,954,143	4,449,178	5,668,490	7,866,803	9,903,804
Total British Countries ...	21,170,400	27,785,858	30,443,328	44,501,322	57,519,365
Foreign Countries—					
Belgium ...	251,706	414,110	689,446	1,467,116	2,258,839
Bismarck Archipelago, Hawaiian Islands, New Caledonia, New Hebrides, and South Sea Islands ...	97,544	152,121	153,673	206,773	207,371
Chile and Peru ...	3,429	33,058	18,111	32,468	105,311
China ...	289,716	252,093	105,849	79,552	89,746
France ...	250,092	501,443	457,441	515,920	625,397
Germany ...	1,215,868	2,418,825	2,882,784	4,040,139	4,956,834
Italy ...	80,115	150,102	182,107	299,546	452,313
Japan... ..	84,147	263,931	417,781	729,368	918,681
Java ...	413,608	509,543	404,697	768,729	713,861
Netherlands ...	14,249	47,876	114,723	217,489	259,332
Norway ...	*180,072	*421,184	292,728	511,983	753,774
Philippine Islands ...	18,676	76,285	77,456	104,869	125,036
Sweden ...	*	*	84,498	407,491	614,725
United States of America	1,965,602	4,708,492	5,189,947	6,947,051	9,522,704
Other Foreign Countries	61,057	322,376	432,029	392,506	626,364
Total Foreign Countries ...	4,925,881	10,271,439	11,503,270	16,721,000	22,230,288
Total ...	26,096,281	38,057,297	41,946,598	61,222,322	79,749,653

Norway and Sweden combined in these years.

Expressing each item as percentage on the total of the imports, the following results are obtained :—

**COMMONWEALTH IMPORTS.—PERCENTAGES OF THE IMPORTS FROM EACH COUNTRY ON THE TOTAL IMPORTS, 1893 to 1913.**

Country.	1893-7.	1898-1902.	1903-7.	1908-12.	1913.
	per cent.	per cent.	per cent.	per cent.	per cent.
United Kingdom ... ..	69.80	61.31	59.06	59.83	59.71
<b>BRITISH POSSESSIONS—</b>					
Canada ... ..	0.46	0.67	0.71	1.13	1.45
Ceylon ... ..	1.04	1.17	1.55	1.24	1.21
Fiji ... ..	0.38	0.24	0.19	0.51	0.72
Hong Kong ... ..	1.55	0.80	0.69	0.45	0.46
India ... ..	2.36	2.50	3.38	3.43	3.72
Mauritius ... ..	0.81	0.45	0.14	0.09	0.16
New Zealand ... ..	4.00	4.93	5.84	4.25	3.15
Papua ... ..	0.07	0.16	0.16	0.12	0.11
South African Union ... ..	0.01	0.01	0.03	0.25	0.16
Straits Settlements ... ..	0.61	0.68	0.52	0.91	0.90
Other British Possessions ... ..	0.03	0.09	0.31	0.48	0.38
<b>Total British Possessions</b> ... ..	<b>11.32</b>	<b>11.70</b>	<b>13.52</b>	<b>12.86</b>	<b>12.42</b>
<b>Total British Countries</b> ... ..	<b>81.12</b>	<b>73.01</b>	<b>72.58</b>	<b>72.69</b>	<b>72.13</b>
<b>FOREIGN COUNTRIES—</b>					
Belgium ... ..	0.97	1.09	1.64	2.39	2.83
Bismarck Archipelago, Hawaiian Islands, New Caledonia, New Hebrides and South Sea Islands ... ..	0.37	0.40	0.37	0.34	0.26
Chile and Peru ... ..	0.01	0.09	0.04	0.05	0.13
China ... ..	1.11	0.66	0.25	0.13	0.11
France ... ..	0.96	1.32	1.09	0.84	0.78
Germany ... ..	4.66	6.36	6.87	6.60	6.21
Italy ... ..	0.31	0.39	0.43	0.49	0.57
Japan ... ..	0.32	0.69	1.00	1.19	1.15
Java ... ..	1.59	1.34	0.97	1.26	0.90
Netherlands ... ..	0.06	0.13	0.27	0.36	0.32
Norway ... ..	0.69*	1.10*	0.70	0.84	0.95
Philippine Islands ... ..	0.07	0.20	0.18	0.17	0.16
Sweden ... ..	*	*	0.20	0.67	0.77
United States of America ... ..	7.53	12.37	12.38	11.34	11.94
Other Foreign Countries ... ..	0.23	0.85	1.03	0.64	0.79
<b>Total Foreign Countries...</b> ... ..	<b>18.88</b>	<b>26.99</b>	<b>27.42</b>	<b>27.31</b>	<b>27.87</b>
<b>Total</b> ... ..	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

\* Norway and Sweden combined in these years.

**3. Imports from the United Kingdom.**—The foregoing tables shew that while the actual value of direct imports from the United Kingdom during 1913 is above the yearly average of the period under review, being double that of the quinquennium 1898-1902, and nearly double that of the quinquennium 1903-7, the proportion to total imports has diminished, having fallen from 69.80 per cent. during the years 1893-7 to 59.71 per cent.

in 1913. The position of the United Kingdom as indicated by her percentage proportion of the total trade is largely affected by the imports of vegetable foodstuffs, a branch of trade in which the United Kingdom cannot participate. The apparent diversion of Australian trade from Great Britain is more fully dealt with in sub-section 12 of this chapter. The values of the principal imports of United Kingdom origin during the year 1913 are as follows:—

Ale and beer, £410,262; apparel and textiles—apparel, £3,210,143, textiles, £8,555,549; arms, ammunition and explosives, £699,866; books and periodicals, £597,459; brushware, £86,014; earthenware, etc., £356,511; clocks and watches, £35,808; cocoa and chocolate, £136,897; confectionery, £335,005; cordage, metal, £123,348; cordage, other, £164,451; cutlery, £247,957; drugs and chemicals—alkalies (soda), £109,742, fertilisers, £34,508, medicines, £210,787, other drugs and chemicals, £547,306; electrical and gas appliances, £272,300; electrical materials, £663,769; fancy goods, £189,472; fish, fresh and preserved, £236,582; furniture, £107,308; glass and glassware, £165,615; indiarubber and manufactures, £243,351; instruments, musical, £83,297; instruments, scientific, surgical, etc., £135,752; iron and steel—pig iron, £162,414, bar, hoop, ingot, etc., £325,096, scrap, £90,988, girders, beams, etc., £290,340, plate and sheet, galvanised or corrugated, £1,864,208, not galvanised or corrugated, £283,429, pipes and tubes, £665,835, rails, fishplates, etc., £1,044,849, tinned plates, plain, £527,390; wire, £98,819; wire netting, £221,645; jewellery and precious stones, £210,252; leather and leather manufactures, £133,837; machines and machinery, £2,547,367; metals, manufactures of, £2,484,584; milk, preserved, £9925; oils (not essential), £268,557; paints and colours, £410,658; paper, £901,099; pickles, sauces, etc., £132,373; soap, £49,127; specie, £377,020; spirits, £880,002; stationery, £291,019; tobacco, £81,665; tools of trade, £306,694; varnishes, £83,610; vehicles—bicycles, etc., £125,799, motors, £678,173, other vehicles, £226,052; vessels (ships), £1,578,452; yarns, £304,008.

**4. Imports Shipped from British Possessions.**—The growth of the value of imports from other British possessions during the past twenty years has been such as to increase the proportion to total imports from 11.32 per cent. in the years 1893-7 to 12.42 per cent. in 1913, the actual values being respectively £2,954,143 and £9,903,804. Of the total imports from British possessions during 1913, 25.39 per cent., or 3.15 per cent. of all imports, was from New Zealand; 29.94 per cent., or 3.72 per cent. of all imports, from India; 11.70 per cent., or 1.45 per cent. of all imports, from Canada; and 9.78 per cent., or 1.21 per cent. of all imports, from Ceylon.

**5. Principal Imports, the Produce of British Possessions, 1913.**—These are as follows:—

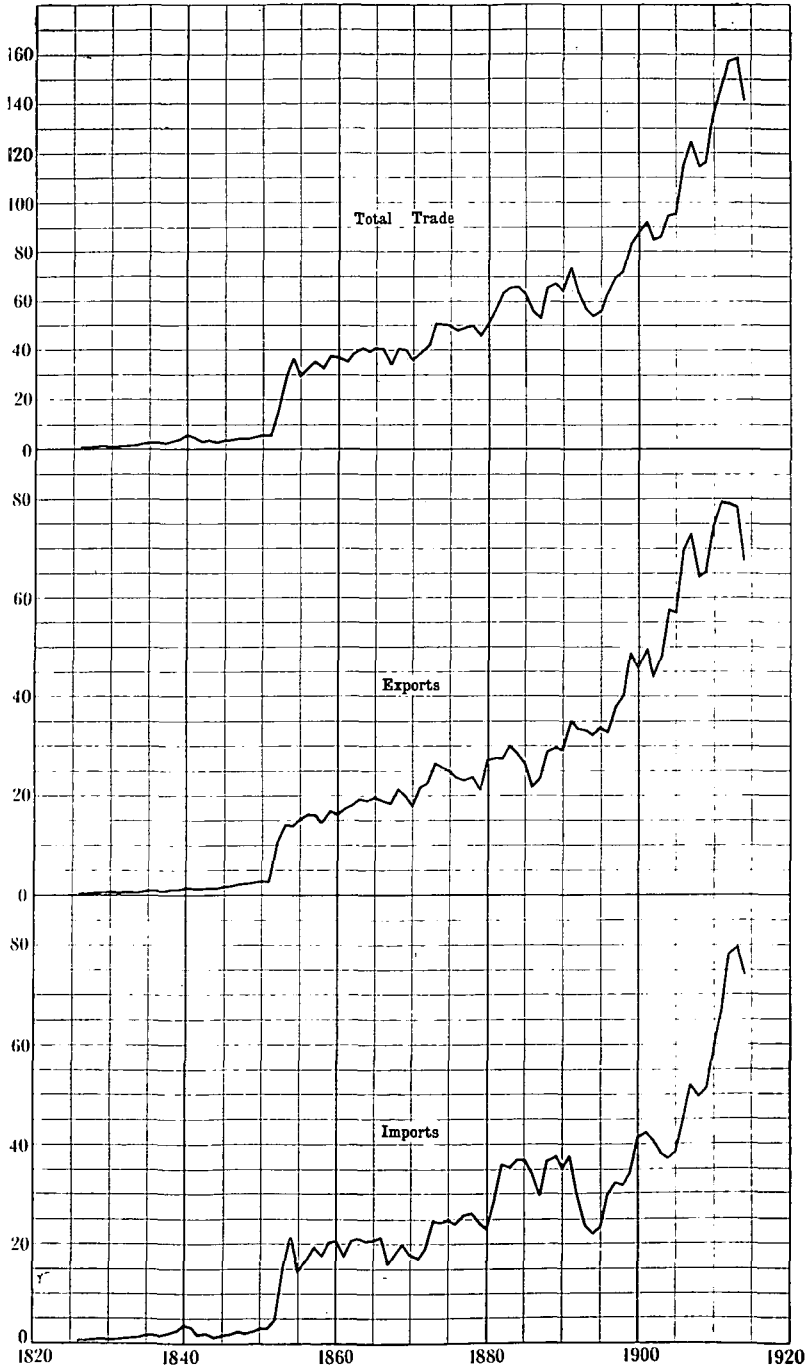
(i.) *Canada.* Apparel and textiles, £22,832; boots and shoes, £14,418; carbide of calcium, £11,578; fish, £53,247; furniture, £23,159; indiarubber and manufactures, £40,485; agricultural implements and machinery, £260,798; other machines and machinery, £16,188; metal manufactures, £25,854; paper, £154,769; timber, £67,982; motor chassis, £158,499, motor bodies, £37,690, other vehicles, £24,935.

i. *Ceylon.* Coir fibre, £2305; nuts, £30,241; rubber and manufactures, £88,797; tea, £813,491. The large increase in the imports from Ceylon—from £271,883 during the years 1893-7, to £968,500 in 1913—is due to the displacement of China teas in the Australian markets by those of India and Ceylon. Of the total imports of tea during the year 1913, 61.24 per cent. was the produce of Ceylon.

(iii.) *Fiji.* Bananas, £236,619; copra, £25,177; sugar—produce of cane, £274,034, molasses, £9886.

(iv.) *India.* Bags and sacks, £1,859,898; hessians, £294,607; cameos, precious stones, unset, £10,734; carpets, mats, etc., £21,178; coffee and chicory, £48,109; cotton, raw, £9813; other unmanufactured fibres, £22,224; iron pig, £30,972; linseed, £36,343; rice, £231,584; shellac, £5407; oils—castor, £37,078, linseed, £2249; skins and hides, £20,018; spices, £15,092; tea, £299,610; timber, £18,513; wax, paraffin, £41,827; yarns, £9756.

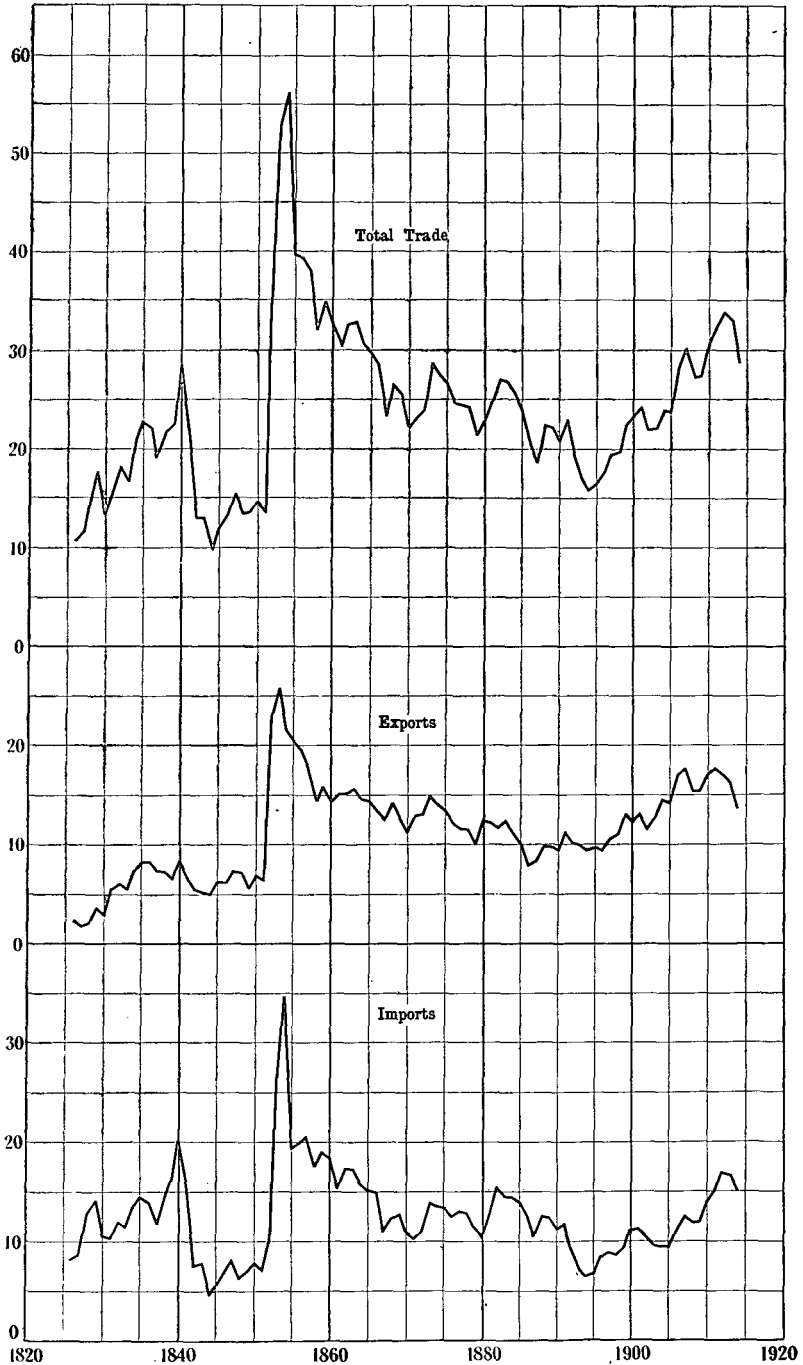
GRAPHS SHEWING VALUES OF TOTAL TRADE, EXPORTS, AND IMPORTS OF  
COMMONWEALTH, 1826 to 1914.



(See pages 515 and 516.)

EXPLANATION OF GRAPHS.—The base of each square represents an interval of five years, and the vertical height five million pounds sterling for Imports and Exports, and ten million pounds sterling for Total Trade.

GRAPHS SHEWING THE VALUES PER HEAD OF POPULATION OF TOTAL TRADE,  
EXPORTS AND IMPORTS OF COMMONWEALTH, 1826 TO 1914.



EXPLANATION OF GRAPHS.—The base of each square represents an interval of five years, and the vertical height five pounds per head of the population.

(v.) *Mauritius*. Sugar, £129,621.

(vi.) *New Zealand*. Apparel and textiles, £12,941; animals—horses, £59,505, sheep, £26,185; military stores, £10,038; flax and hemp, fibre, £117,093; fish, £33,454; gold, bullion and ore, £1,133,735; grain, barley, £120; hops, £15,008; implements and machinery (agricultural), £5540; machines and machinery, £5624; meats, £12,716; seeds, £31,576; skins and hides, £164,952; timber, £436,459; wool £5750.

(vii.) *Papua*. Gold bullion and ore, £61,200.

(viii.) *South African Union*. Bark, tanning, £27,243; explosives, £30,604; precious stones, £162,314; maize, £19,662; tobacco, etc., £7710.

(ix.) *Straits Settlements*. Spices, £59,760; sago and tapioca; £57,284; canes and rattans, etc., unmanufactured, £13,298; rubber and rubber manufactures, £95,900.

**6. Imports Shipped from Foreign Countries.**—The imports direct from foreign countries during the year 1913 represented 27.87 per cent. of the total imports, as compared with 18.88 per cent. during the years 1893-7. Of the total imports into Australia shipped from foreign countries, 22.30 per cent.—6.21 per cent. of all imports—was from Germany, and 42.84 per cent.—11.94 per cent. of all imports—was from the United States.

**7. Principal Imports the Produce of Foreign Countries, 1913.**—(i.) *Austria Hungary*. Apparel and textiles, £153,997; furniture, £28,425; chinaware, £16,125; glassware, £12,855; fancy goods, £14,810; jewellery and precious stones, £6708; manufactures of metals, including machinery, £15,552; paper and stationery, £27,054; pipes, smoking, etc., £12,415.

(ii.) *Belgium*. Apparel, £86,227; textiles, £140,682; cement, £17,131; drugs, chemicals, and fertilisers, £15,377; glass and glassware, £223,424; iron and steel—partly manufactured, £149,649, girders, beams, etc., £4,251; pipes and tubes, £118,911, plate and sheet, £36,821, railway iron, £12,482, wire, £2047; jewellery, £43,762; machines and machinery, £9605; matches and vestas, £12,470; metal manufactures, £78,855; motors and parts, £45,258; paper, £31,478; zinc manufactures, £12,997.

(iii.) *Chile*. Soda nitrate, £37,315.

(iv.) *China*. Apparel and textiles, £119,057; cotton, raw, £25,211; fish, £15,105; fruit, £10,910; ginger, £21,185; rice, £59,586; nuts, £20,639; oils, £12,006; tea, £90,210.

The decline of the value of imports from China during the past twenty years is due to the loss of the tea trade, which now draws its supplies mainly from India and Ceylon.

(v.) *France*. Apparel and textiles, £960,419; cream of tartar, £161,378; other drugs and chemicals, £36,761; fruits, £9904; fancy goods, £15,793; gelatine, £16,191; jewellery, £12,771; cinematographs, films, etc., £39,110; pipes, smoking, etc., £52,331; motor vehicles and parts, £160,169; paper and stationery, £21,930; perfumery, £28,778; resin, £27,185; rubber manufactures, £53,182; leather, £15,564; spirits, £222,769; tartaric acid, £14,203; tiles, £16,273; wine, £138,965; machinery and manufactures of metal, £44,713.

(vi.) *Germany*. Ale and beer, £133,446; apparel and textiles, £1,694,962; arms, ammunition and explosives, £99,922; brushware, £25,524; cement, £159,969; china-ware, etc., £72,711; copper wire and cable, covered, £56,450; earthenware, £26,605; coke, £26,929; dyes, £21,013; fertilisers, £51,546; other drugs, etc., £194,252; fancy goods, £138,032; furniture, £13,102; minor articles for furniture, £4629; glass and glassware, £152,817; hops, £16,151; indiarubber manufactures, £259,346; metals and manufactures of metals—iron and steel: bar, hoop, ingot, etc., £277,493, plate and sheet, £94,142, pipes and tubes, £88,605, railway iron, £56,717, tools of trade, £38,135; wire, £354,211; wire netting, £112,747; machines and machinery, £389,465; lamps and lampware, £40,848; electrical and gas appliances, £76,133; other manufactures of metals, £454,534; jewellery, cameos, etc., £80,246; leather and leather manufactures (excluding boots and shoes), £86,427; musical instruments, £360,257;



paper, £183,130; seeds, £14,069; spirits, £29,371; stationery, £83,353; tobacco, £17,208; paints and varnishes, £21,882; yarns, £13,607; zinc, bar, and manufactures of zinc, £41,080.

(vii.) *Italy*. Apparel and textiles, £201,345; flax and hemp, £18,252; fruits, £40,029; hides, £20,577; matches and vestas, £7375; marble and stone, £41,961; oils, olive, £12,376, essential, £17,942; nuts, £18,721; sulphur, £66,423; motors and parts, £75,962; rubber manufactures, £34,706.

(viii.) *Japan*. Apparel and textiles, £474,803; bags, baskets, etc., £35,590; brushware, £18,377; chinaware, earthenware and glass, £21,392; fancy goods, £13,975; fertilisers (superphosphates), £43,505; furniture, £15,097; rice, £1724; oils and waxes, £62,383; spices, £4897; sulphur, £80,613; timber, etc., £90,141.

(ix.) *Java*. Cotton, raw, £2757; hats and caps, £4086; rice, £14,682; kapok, £128,142; rubber, £7219; sugar, £392,017; tobacco, £3399; tea, £120,075.

(x.) *Netherlands*. Apparel and textiles, £48,331; cocoa and chocolate, £66,121; cameos and precious stones, £5136; metal manufactures, £20,344; paper, £31,123; spirits, £132,832.

(xi.) *Norway*. Calcium carbide, £118,817; fish, £118,654; milk, preserved, £10,931; paper, £153,073; timber, etc., £453,423.

(xii.) *Philippine Islands*. Flax and hemp, £74,561; cigars, £53,868.

(xiii.) *Russia*. Flax, £11,787; furs, £12,118; oils, £19,026; timber, £102,561.

(xiv.) *Spain*. Corks, etc., £47,913; liquorice, £7342; nuts, £16,348; ores, £28,296; wine, £10,468.

(xv.) *Sweden*. Calcium carbide, £43,329; earthenware, glassware, etc., £16,319; electrical machinery and fittings, £12,690; cream separators, £80,556; other machinery, £23,790; manufactures of metals, £48,116; matches and vestas, £16,090; paper, £224,404; telephones, £46,398; timber, £246,668.

(xvi.) *Switzerland*. Apparel and textiles, £800,031; chassis for motor cars, £11,650; cigars, £13,397; cocoa and chocolate, manufactured, £93,924; confectionery, £53,339; milk, £5491; watches, £111,230.

(xvii.) *United States of America*. Apparel and textiles—Boots and shoes, etc., £135,906; other apparel, £235,427; textiles, £242,930; arms, £49,821; ammunition and explosives, £51,933; cameras, magic lanterns, phonographs, etc., £158,284; clocks and watches, £90,221; confectionery, £29,789; fancy goods, etc., £38,416; fish, £201,415; fruit, £118,032; furniture, £114,953; glass and glassware, £33,646; glucose, £46,822; hops, £42,952; indiarubber manufactures, £125,539; leather, £309,532; meats, £87,014; medicines, £97,434; metal manufactures—iron and steel: bars, ingots, hoops, etc., £81,609; girders, beams, etc., £44,697; pipes and tubes, £168,587; plate and sheet, £145,495; railway iron, £168,030; tools of trade, £293,024; wire, £245,822; machines and machinery, agricultural, £202,760; other machines and machinery, £1,232,143; other metal manufactures, £576,431; musical instruments, £59,439; oils, fats and waxes—benzine and gasoline, £258,134, kerosene, £502,186, lubricating oils and greases, £200,363, paraffin wax, £19,062, turpentine, £50,637; paints and varnishes, £80,986; paper, £284,679; resin, £70,865; soap, £63,221; stationery, £119,000; surgical and dental instruments, £64,887; timber, £1,511,692; tobacco, cigars, etc., £802,410; wood and wicker manufactures, £105,793; vehicles, motors and parts, £436,314; other vehicles and parts, £163,078.

8. *Direction of Exports*.—The following table shews the average yearly value of exports to principal countries during each quinquennial period from 1893 to 1912 and for the year 1913. As in the case of the import trade, considerable alteration in the direction of exports is evident. The largest increases in exports to British possessions are shewn to the South African Union and to India and Ceylon. During the South African war large shipments of gold were sent from the Commonwealth to that country, and the decline in the value of the exports to South Africa is due to the cessation of these shipments, together with a decline in the exports of timber. The exports to India and Ceylon are also mainly of gold, of which exceptionally heavy shipments were made during 1904, 1911 and 1912. The large increase in the case of Belgium,

Germany, and France is not entirely due to increased purchases by those countries of Australian goods, but is due in some measure to the larger quantities of wool, skins, etc., shipped direct to the Continent, instead of, as formerly, reaching the Continent through London. The figures given below, however, do not, even now, denote the total purchases by European countries of Australian produce, as large quantities are still distributed from London.

**TRADE OF THE COMMONWEALTH WITH VARIOUS COUNTRIES, 1893 to 1913.**  
**EXPORTS (INCLUDING BULLION AND SPECIE).**

Country.	Yearly Average of Quinquennial Periods.				Year 1913.
	1893-7.	1898-1902.	1903-7.	1908-12.	
	£	£	£	£	£
United Kingdom ...	23,548,355	24,217,276	28,211,904	32,972,110	34,804,548
British Possessions—					
Canada ...	16,816	80,333	190,973	107,931	169,193
Ceylon ...	598,762	1,522,362	4,523,008	3,292,557	1,122,890
Fiji ...	124,905	187,079	269,476	381,190	424,155
Hong Kong ...	459,141	395,740	673,782	721,540	855,903
India ...	418,729	1,371,520	3,584,553	2,325,525	1,355,383
Mauritius ...	48,971	43,063	43,976	34,153	29,347
New Zealand ...	983,231	1,264,154	1,959,000	2,365,267	2,356,990
Papua ...	22,565	47,569	47,938	104,107	137,287
South African Union ...	180,422	3,677,533	2,402,392	1,743,454	1,941,164
Straits Settlements ...	95,305	100,180	297,758	757,586	958,761
Other British Possessions ...	10,069	33,034	68,242	69,198	105,190
Total British Possessions	2,958,916	8,722,617	14,061,098	11,902,508	9,457,263
Total British Countries ...	26,507,271	32,939,893	42,273,002	44,874,618	44,261,811
Foreign Countries—					
Argentine Republic ...	18	21,608	30,878	99,396	201,714
Belgium ...	1,339,356	1,563,915	3,551,674	5,420,700	7,465,742
Bismarck Archipelago, Hawaiian Islands, New Caledonia, New Hebrides and South Sea Is. ...	219,511	365,887	361,802	541,088	683,122
Chile and Peru ...	154,470	263,825	582,483	610,345	571,989
China ...	19,463	228,339	304,454	178,650	194,649
France ...	2,200,648	2,654,485	5,299,720	7,277,405	9,684,362
Germany ...	1,563,102	2,300,735	3,926,038	7,405,115	6,873,441
Italy ...	77,363	168,549	165,975	415,051	893,098
Japan ...	68,793	199,598	638,956	1,162,001	1,429,310
Java ...	70,908	146,602	178,148	395,658	686,976
Netherlands ...	30,726	86,920	271,333	275,997	380,127
Norway ...	*55,876	*1,353	4,411	1,464	3,953
Philippine Islands ...	26,913	190,193	393,690	537,345	545,080
Spain ...	4,935	16,336	59,299	14,754	43,952
Sweden ...	*	*	3,974	3,036	11,287
United States of America ...	1,434,247	3,953,100	2,529,623	2,020,194	2,631,058
Other Foreign Countries ...	175,292	562,354	447,854	1,307,061	2,010,098
Total Foreign Countries	7,441,621	12,723,799	18,754,812	27,665,260	34,309,958
Total ...	33,948,892	45,663,692	61,027,814	72,539,878	78,571,769

\* Norway and Sweden combined in these years.

If each item be expressed as a percentage on the total export, the results will be as follows:—

**COMMONWEALTH EXPORTS.—PERCENTAGES OF THE EXPORTS TO EACH COUNTRY ON THE TOTAL EXPORTS, 1893 to 1913.**

Country.	1893-7.	1898-1902.	1903-7.	1908-12.	1913.
	per cent.	per cent.	per cent.	per cent.	per cent.
United Kingdom ...	69.37	53.03	46.23	45.46	44.30
British Possessions—					
Canada ...	0.04	0.18	0.31	0.15	0.22
Ceylon ...	1.76	3.34	7.41	4.54	1.43
Fiji ...	0.37	0.41	0.44	0.53	0.54
Hong Kong ...	1.35	0.87	1.10	0.99	1.09
India ...	1.27	3.00	5.87	3.21	1.72
Mauritius ...	0.14	0.09	0.07	0.05	0.04
New Zealand ...	2.89	2.77	3.22	3.26	3.00
Papua ...	0.06	0.10	0.08	0.14	0.17
South African Union ...	0.53	8.05	3.93	2.40	2.47
Straits Settlements ...	0.28	0.22	0.49	1.04	1.22
Other British Possessions ...	0.02	0.07	0.12	0.09	0.13
Total British Possessions	8.71	19.10	23.04	16.40	12.03
Total British Countries ...	78.08	72.13	69.27	61.86	56.33
Foreign Countries—					
Argentine Republic ...	0.00	0.05	0.05	0.13	0.26
Belgium ...	3.94	3.42	5.82	7.47	9.50
Bismarck Archipelago, Hawaiian Islands, New Caledonia, New Hebrides and South Sea Is. ...	0.65	0.80	0.60	0.75	0.87
Chile and Peru ...	0.45	0.58	0.95	0.84	0.73
China ...	0.06	0.50	0.50	0.25	0.25
France ...	6.48	5.81	8.69	10.03	12.33
Germany ...	4.60	5.04	6.43	10.22	8.75
Italy ...	0.23	0.37	0.27	0.57	1.14
Japan ...	0.20	0.44	1.05	1.60	1.82
Java ...	0.21	0.32	0.29	0.55	0.87
Netherlands ...	0.09	0.19	0.44	0.38	0.48
Norway ...	0.17*	0.00*	0.01	0.00	0.00
Philippine Islands ...	0.08	0.42	0.65	0.74	0.69
Spain ...	0.01	0.04	0.10	0.02	0.06
Sweden ...	*	*	0.01	0.00	0.01
United States of America ...	4.22	8.66	4.14	2.79	3.35
Other Foreign Countries ...	0.53	1.23	0.73	1.80	2.56
Total Foreign Countries...	21.92	27.87	30.73	38.14	43.67
Total ...	100	100	100	100	100

\* Norway and Sweden combined in these years.

9. **Exports to the United Kingdom.**—Notwithstanding an increase of 47.78 per cent. in the actual value of exports to the United Kingdom during the year 1913 as compared with the yearly average of the period 1893-97, the proportion of the total

exports despatched to the United Kingdom has fallen from 69.37 per cent. in the earlier period to 44.30 per cent. in the year 1913. This decrease is, to some extent, undoubtedly due to the fact that wool and other commodities which were formerly despatched to the United Kingdom, and distributed from that centre, are now to a greater extent shipped direct to continental ports.

The principal exports to the United Kingdom during the year 1913 were as follows:—Butter, £3,180,932; cheese, £37,206; fruit—apples, £171,449, other, including pulp, £41,209; grain and pulse—wheat, £5,222,708, flour, £160,019, other, £18,331; hair, £26,789; jewellery and precious stones, £135,357; lard and refined animal fats, £63,619; leather, £419,904; meat—bacon and ham, £20,958, frozen—beef, £2,037,978, mutton, £1,825,408, lamb, £887,274, rabbits and hares, £479,636, other frozen meat, £90,544, potted meat, £218,626, meat preserved in tins, £820,301; minerals and metals—copper—concentrates, £6078, ingots, £146,539, in matte, £654,720, ore, £80,635; gold—bullion, £437,635, in matte, £263,233, ore, £62,348; silver—bullion, £136,690, in matte, £236,650; silver and silver-lead—concentrates, £688, ore, £67,745; lead—pig, £838,297, in matte, £393,742; tin—ingots and ore, £473,964; zinc—concentrates, £78,203; ores, other, £65,968; oil—cocoanut, £37,903, whale, £79,297; pearlshell, £325,627; skins—hides, £580,195, rabbit and hare, £417,649, sheep, £809,562, other skins, £333,033; specie—gold, £193,443; tallow, £1,500,493; timber, £140,402; wine, £73,198; wool—greasy, £7,646,101; scoured, £1,810,535.

10. **Exports to British Possessions.**—The exports from the Commonwealth to other British Possessions are largely composed of gold despatched to India and Ceylon. Further reference to these gold shipments is made on page 541. Of the total exports to British Possessions during 1913, viz., £9,457,263, as much as £2,366,096 or 25.02 per cent., was gold.

#### 11. Principal Exports to British Possessions, 1913.—

(i.) *Canada.* Butter, £9985; coal, £8374; fruit—dried, £4672; meats, £81,861; oil—cocoanut, £3572; skins, £33,358; timber—undressed, £3028, wool, £5361.

(ii.) *Ceylon.* Butter, £12,327; gold—bullion, £110,319; fodder, £4497; horses, £840; grain—flour, £45,093; lead—pig, £26,000; meats, £10,564; silver—bullion, £275,781; soap, £14,474; specie, £580,000; sugar, £1728; timber, £13,009.

(iii.) *Fiji.* Apparel and textiles—apparel, including boots and shoes, £18,348; textiles, £10,775; bags, sacks, and cordage, £12,731; biscuits, £20,600; coal, £18,291; drugs and chemicals—fertilizers, £9859, other, £6358; grain, prepared—bran, pollard, and sharps, £30,077, flour, £21,249; machines and machinery, £13,654; metal manufactures, £48,722; oils, £38,372; specie, £48,200; timber, undressed, £24,419; vehicles £9732.

(iv.) *Hong Kong.* Butter, £21,711; fish, £37,612; flour, £20,440; lead, pig, £101,280; leather, £13,859; sandalwood, £41,476; soap, £6217; specie, gold, £575,038; copper, ingots, £1638; meats, £14,980.

(v.) *India.* Biscuits, £7526; coal, £33,018; copper, ingots, £71,097; fruit, fresh, £4628; gold, bullion, £420,869, specie, £183,800; horses, £107,925; hay and chaff, £10,143; lead, pig, £13,156; meats, £6787; silver, bullion, £221,580; tallow, £17,517; timber, undressed, £162,834; wool, £30,586; flour, £2441.

(vi.) *New Zealand*. Apparel, textiles, etc.:—apparel—boots and shoes, £1337, other apparel, £28,814, textiles, £38,279; bags and sacks, £3373; bark, tanning, £20,559; books and periodicals, £63,309; cameras, magic lanterns, phonographs, etc., £24,553; coal, £254,565; copper, ingots, £12,137; drugs and chemicals—fertilisers, £103,784, medicines, £41,981, other drugs, etc., £37,293; electrical materials, £8131; foddors, £6863; fruit—fresh, £39,776; dried, £8763; glass and glassware, £7583; grain—flour, £24,900; rice, £33,624; horses, £5319; indiarubber manufactures, £93,683; iron, pig, £1045; jewellery and precious stones, £18,732; lead, pig, £18,201; leather and leather manufactures, £38,428; metals, manufactures of—agricultural implements and machinery, £11,216, other machines and machinery, £65,261, other manufactures of metals, £71,310; motor vehicles and parts, £11,905; oils, etc., £15,447; onions, £9124; plants, trees and bulbs, £9735; paper, £13,098; salt, £9635; seeds, £10,172; soap, £32,560; specie—gold, £440,000; spirits, £24,436; stationery, £13,591; sugar, £21,137; tea, £47,293; timber, £290,539; tin, ingots, £28,501; tobacco, £33,919; wine, £25,731.

(vii.) *Papua*. Apparel and textiles, etc., £14,073; flour, £3552; machinery and manufactures of metal, £21,694; meats, £13,152; rice, £7220; tobacco, £7112; timber, £8323.

(viii.) *South African Union*. Animals, living—sheep, £41,980; butter, £90,043; fruits—fresh, £5201; other, £4602; grain—wheat, £826,696; flour £305,566; jams and jellies, £17,629; leather, £85,482; meats—frozen beef, £65,906, mutton and lamb, £19,936, other meats, £55,907; oil, coconut, £11,344; seeds, £3110; specie, £10,600; tallow, unrefined, £94,067; timber, £233,867.

(ix.) *Straits Settlements*. Butter, £33,840; coal, £81,771; grain, flour, £187,499; horses, £11,614; machines and machinery, £22,257; meats, £59,016; specie, gold, £100; tin ore, £447,875; tin concentrates, £37,172.

**12. Exports to Foreign Countries.**—The foregoing table shows a very great increase in the value of exports to foreign countries, both in actual amounts and in relation to total exports. The value of exports to foreign countries during 1913 shows an increase of 361 per cent. over similar figures for the years 1893-7, thus increasing the proportion per cent. of all exports from 21.92 per cent. in the earlier years to 43.67 per cent. in 1913. This increase is largely due to the direct consignment of wool and other produce to European countries, instead of distributing from London, as in the earlier years. It will be observed that approximately two-thirds of the exports from Australia to foreign countries are shipped to Belgium, France and Germany. Of the exports to these three countries during 1913, wool represented 60 per cent., ores and minerals, 22 per cent., and hides and skins, 11 per cent. The exports to the United States of America do not shew the same expansion as those to the European countries mentioned. This, however, is due largely to the fact that the figures for the earlier years under review include large shipments of gold, whereas, during the later years, gold has not been shipped to the United States from Australia.

**13. Principal Exports to Foreign Countries, 1913.**—These are as follow:—

(i.) *Argentine Republic*. Agricultural implements and machinery, £173,468; timber, £10,958.

(ii.) *Belgium*. Bark, tanning, £14,281; copper, £728,232; grain, wheat, £321,983; lead, £62,913; leather, £6065; silver and silver-lead ore, £10,220; concentrates £1,442,588; hides and skins, £825,523; tallow, £100,136; timber, £17,146; tin, £58,233; wool, £2,386,892; zinc concentrates, £1,403,139.

(iii.) *Chile*. Coal, £369,457.

(iv.) *China*. Butter, £30,993; copper, £8275; flour, £19,780; lead, £50,944; leather, £11,508; sandalwood, £5593; specie, gold, £47,593.

(v.) *Dutch East Indies: Java*. Butter, £83,868; biscuits, £3719; cattle, £23,033; coal, £144,130; fertilisers, £603; flour, £327,311; horses, £21,465; meats, £20,882; gold, specie, £5000; leather and manufactures, £24,632; soap, £5012.

(vi.) *Other East Indies*. Butter, £7497; biscuits, £9328; flour, £88,991; meats, £5508; gold, specie, £2020; soap, £7411.

(vii.) *Egypt*. Butter, £12,125; flour, £313,196; meats—beef, £49,134, mutton and lamb, £9435, other meats, £1986; wheat, £16,926.

(viii.) *France*. Concentrates—silver, £29,270, zinc, £151,283; copper ingots, £157,043; hides and skins, £1,354,549; lead, £45,200; ores, £19,258; tallow, £95,047; wheat, £361,360; wool, £7,429,856.

(ix.) *Germany*. Bark, tanning, £23,653; concentrates—silver, £101,096, zinc, £385,079; copper, £367,235; fruit, fresh, £95,447; grain—wheat, £55,151; hides and skins, £442,021; lead, £37,094; meats, preserved in tins, £16,260; oil, cocoanut, £16,631; ores—silver and silver lead, £84,578, wolfram, £56,701; other ores, £22,298; precious stones, unset, £35,313; sausage casings, £81,627; tallow, £24,203; timber, £16,185; tin ingots, £114,334; wool, £4,693,157.

(x.) *Italy*. Copper matte, £18,575; lead, £3100; meats, preserved, £79,011; skins, £109,025; tallow, £69,400; tin ingots, £9268; wheat, £340,554; wool, £256,718.

(xi.) *Japan*. Bones, £18,694; butter, £4864; grain, wheat, £226,287; hides, £373; lead, £250,978; manures, £44,902; oils, £10,650; tallow, £75,460; wool, £735,018.

(xii.) *Netherlands*. Concentrates—silver, £79,500, zinc, £225,642; tallow, £51,398; wool, £4573; gold ore, £6230.

(xiii.) *Peru*. Coal, £29,303; wheat, £171,905.

(xiv.) *Philippine Islands*. Butter, £34,091; cattle, £25,842; coal, £25,939; flour, £128,311; fodder, £24,254; horses, £2061; machines and machinery, £17,189; meats—bacon and hams, £22,463, beef, £183,047, mutton and lamb, £9649, pork, £2097, other meats, £10,499; milk, concentrated, £28,209; onions, £7101.

(xv.) *United States of America*. Coal, £50,559; copper, £710,086; gold, in matte, £138,704; hides and skins, £622,759; meats, £123,473; pearlshell, £51,371; silver, in matte, £23,464; tin, £24,829; wool, £745,354.

## § 7. Development of Export Trade to Eastern Countries.

1. *Trade with Eastern Countries*.—The following tables shew the value of exports from the Commonwealth to Eastern countries during the last five years in comparison with the year 1901. The principal countries concerned in this trade are China, India, Ceylon, Japan, East Indies, Philippine Islands, Straits Settlements, and Hong Kong, and the particulars given in the tables apply to these countries only:—

**VALUE OF PRINCIPAL ITEMS OF MERCHANDISE EXPORTED FROM THE  
COMMONWEALTH TO EASTERN COUNTRIES, 1901 and 1909 to 1913.**

Article.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
Butter ... ..	64,838	167,649	173,817	185,379	242,561	230,640
Coal ... ..	155,120	293,989	265,011	241,366	291,182	285,853
Copper ... ..	39,375	43,255	29,080	26,296	91,580	84,758
Grain and pulse—						
Wheat ... ..	46,685	68,558	49,596	17,502	8,605	226,641
Flour ... ..	135,092	379,331	446,408	704,070	690,403	825,112
Other (prepd. & unprepd.)	4,806	17,759	21,631	21,790	13,973	15,927
Hay, chaff, and comp. fodder	13,081	30,684	31,924	50,855	50,210	45,679
Horses ... ..	101,866	165,370	227,890	182,736	166,134	146,741
Lead ... ..	10,454	115,311	230,461	343,917	407,475	445,294
Meats ... ..	194,071	210,408	232,809	263,098	308,935	354,557
Sandalwood ... ..	77,237	45,120	88,624	73,366	32,675	57,560
Skins, hoofs, horns, bones, sinews, tallow ... ..	16,419	46,444	28,169	85,732	126,289	108,479
Tin ore ... ..	4,096	186,191	194,066	277,961	387,524	447,875
Timber, undressed ... ..	79,915	447,655	352,175	398,313	221,144	180,329
Wool ... ..	56,618	281,537	444,890	480,850	722,133	765,604
Other merchandise...	226,540	285,646	352,988	434,645	549,114	641,910
<b>Total merchandise ... ..</b>	<b>1,226,213</b>	<b>2,784,907</b>	<b>3,169,539</b>	<b>3,787,896</b>	<b>4,309,937</b>	<b>4,862,959</b>
<b>Specie &amp; gold &amp; silver bullion</b>	<b>3,339,953</b>	<b>4,394,884</b>	<b>1,878,102</b>	<b>8,951,059</b>	<b>10,678,501</b>	<b>2,425,024</b>
<b>Total exports ... ..</b>	<b>4,566,166</b>	<b>7,179,791</b>	<b>5,047,641</b>	<b>12,738,955</b>	<b>14,988,438</b>	<b>7,287,983</b>

It may be mentioned that exports of gold from Australia to eastern countries, chiefly to India and Ceylon, have no bearing upon the business connections of the Commonwealth with those countries, as the destination of these gold shipments, which are merely a contribution towards the liquidation of the international obligations of the Commonwealth, is determined almost entirely by London bankers.

The following tables shew the value of the principal articles exported to each of the undermentioned eastern countries during each of the years 1901 and 1909 to 1913:—

**VALUE OF COMMONWEALTH EXPORTS OF MERCHANDISE TO PRINCIPAL  
EASTERN COUNTRIES, 1901 and 1909 to 1913.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ... ..	33,906	116,236	95,771	133,634	163,891	147,056
East Indies ... ..	204,315	331,421	388,102	568,732	658,430	817,987
India and Ceylon ... ..	417,291	745,629	759,057	773,359	723,007	686,924
Japan ... ..	123,355	432,692	657,057	832,958	1,169,335	1,429,310
Philippine Islands ... ..	302,086	531,438	473,268	512,085	565,345	545,080
Straits Settlements ... ..	113,407	444,611	544,815	703,261	790,043	958,661
Hong Kong ... ..	31,853	182,880	251,469	263,867	239,886	277,941
<b>Total ... ..</b>	<b>1,226,213</b>	<b>2,784,907</b>	<b>3,169,539</b>	<b>3,787,896</b>	<b>4,309,937</b>	<b>4,862,959</b>

**BUTTER.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ... ..	1,987	17,397	19,352	12,345	35,789	30,993
East Indies ... ..	12,172	55,870	63,811	80,579	87,439	91,365
Hong Kong ... ..	8,555	19,696	21,767	21,303	25,570	21,711
India and Ceylon ... ..	9,696	7,373	9,239	8,942	12,381	13,830
Japan ... ..	1,504	4,375	5,383	8,067	5,713	4,864
Philippine Islands ... ..	21,061	42,402	30,865	25,252	40,296	34,091
Straits Settlements...	9,863	20,536	23,400	28,891	35,863	33,786
<b>Total... ..</b>	<b>64,838</b>	<b>167,649</b>	<b>173,817</b>	<b>185,379</b>	<b>243,051</b>	<b>230,640</b>

The exports of butter given above for the year 1913 were shipped from the several States as follows:—New South Wales, £87,917; Victoria, £105,297; Queensland, £34,819; South Australia, £2607.

**COAL.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	...	7,470	1,245	2,700	510	940
East Indies ...	43,280	34,537	47,856	67,173	106,844	144,155
Hong Kong ...	7,653	17,908	5,321	...	192	...
India and Ceylon ...	17,639	34,205	32,753	18,924	66,699	33,018
Japan ...	1	...	63	...	...	...
Philippine Islands...	59,936	121,668	105,195	82,914	54,932	25,939
Straits Settlements...	26,611	78,201	72,578	69,655	62,005	81,771
Total ...	155,120	293,989	265,011	241,366	291,182	285,853

These exports of coal are chiefly from New South Wales.

**COPPER.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	...	23,100	18,469	18,050	28,406	8,275
East Indies ...	...	318	...	...	...	...
Hong Kong ...	...	8,500	1,120	5,426	12,293	1,638
India and Ceylon ...	39,375	6,800	8,959	300	45,403	71,097
Japan ...	...	145	...	2,520	5,478	3,748
Straits Settlements...	...	4,392	...	...	...	...
Philippine Islands ...	...	...	532	...	...	...
Total ...	39,375	43,255	29,080	26,296	91,580	84,758

The copper exported to the East during 1913 was shipped entirely from New South Wales.

**GRAIN AND PULSE—WHEAT.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	...	10	18	...	...	...
East Indies ...	9	34	17	11	22	6
Hong Kong ...	...	...	14	...	...	...
India and Ceylon ...	35,660	22,414	162	228	316	316
Japan ...	11,016	12,694	49,379	17,211	7,844	226,287
Philippine Islands ...	...	33,404	...	29	418	28
Straits Settlements...	...	2	6	23	5	4
Total ...	46,685	68,558	49,596	17,502	8,605	226,641



The exports of wheat given above for the year 1913 were shipped from the following States:—New South Wales, £109,974; Victoria, £116,622; Queensland, £1; South Australia, £16; Western Australia, £28.

## GRAIN AND PULSE—FLOUR.

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	1,147	2,671	6,094	12,615	15,918	19,780
East Indies ...	82,566	152,362	191,141	291,681	326,093	416,302
Hong Kong ...	4,489	15,462	16,144	44,784	17,133	20,440
India and Ceylon ...	22,275	23,412	23,857	32,319	44,715	47,534
Japan ...	7,206	2,946	7,583	2,172	3,990	5,246
Philippine Islands ...	4,046	117,825	87,668	141,498	149,500	128,311
Straits Settlements...	13,363	64,653	113,921	179,001	133,054	187,499
Total ...	135,092	379,331	446,408	704,070	690,403	825,112

The flour exported during 1913, as above, was shipped from the several States as follows:—New South Wales, £370,706; Victoria, £216,120; Queensland, £581; South Australia, £180,889; Western Australia, £56,816.

## GRAIN AND PULSE, OTHER THAN WHEAT AND FLOUR.

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	43	21	759	861	66	677
East Indies ...	...	1,804	2,114	1,532	1,617	1,623
Hong Kong ...	777	149	95	5	129	3
India and Ceylon ...	3,033	7,451	9,687	9,894	6,061	10,448
Japan ...	7	15	12	133	61	67
Philippine Islands ...	946	7,651	8,115	7,881	4,942	2,167
Straits Settlements...	...	668	849	1,484	1,097	942
Total ...	4,806	17,759	21,631	21,790	13,973	15,927

The exports given above for 1913 were shipped from the following States:—New South Wales, £2616; Victoria, £12,415; Queensland, £25; South Australia, £696; Western Australia, £175.

## HAY AND CHAFF, AND COMPRESSED FODDER.

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	2,934	700	45	21	33	69
East Indies ...	14	984	1,197	1,688	1,634	920
Hong Kong ...	28	61	149	989	230	1,350
India and Ceylon ...	5,848	8,321	11,204	14,094	18,621	15,077
Japan ...	57	19	3	591	58	79
Philippine Islands	2,532	18,550	15,037	27,332	23,695	24,254
Straits Settlements	1,618	2,049	4,289	6,140	5,939	3,930
Total ...	13,081	30,684	31,924	50,855	50,210	45,679

The exports given above for the year 1913 were shipped from the several States as follows:—New South Wales, £1037; Victoria, £43,832; Queensland, £209; South Australia, £88; Western Australia, £513.

**HORSES.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	4,460	295	60	390	625	...
East Indies ...	2,105	19,598	10,466	19,235	13,459	21,465
Hong Kong ...	775	888	...	800	40	...
India and Ceylon ...	78,723	128,887	179,348	139,462	132,589	108,765
Japan ...	100	60	1,860	2,115	2,650	2,836
Philippine Islands ...	190	5,303	14,971	7,795	5,449	2,061
Straits Settlements...	15,513	10,339	21,185	12,939	11,322	11,614
Total ...	101,866	165,370	227,890	182,736	166,134	146,741

The horses exported to the above countries during 1913 were shipped from the following States:—New South Wales, £44,757; Victoria, £49,146; Queensland, £47,198; South Australia, £4490; Western Australia, £1150.

**LEAD, PIG.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	6,102	13,716	24,661	48,586	38,481	50,902
East Indies ...	18	199	...	2	232	1,381
Hong Kong ...	1,257	22,062	66,997	63,257	92,199	101,280
India and Ceylon ...	315	27,400	56,717	43,190	41,408	39,156
Japan ...	2,750	47,905	77,493	187,778	233,154	250,978
Philippine Islands ...	12	4,029	4,553	1,104	1,212	547
Straits Settlements...	...	...	40	...	789	1,050
Total...	10,454	115,311	230,461	343,917	407,475	445,294

The above lead is almost entirely from the Broken Hill mines of New South Wales.

**MEATS—PRESERVED BY COLD PROCESS.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	...	1,099	...	...	...	...
East Indies ...	98	966	945	3,556	950	6,118
Hong Kong ...	3,195	5,332	7,373	11,273	9,109	10,347
India and Ceylon ...	5,907	1,916	4,252	5,029	6,864	9,072
Japan ...	19	1,342	445	935	15	433
Philippine Islands ...	153,250	139,260	143,581	135,249	182,724	199,199
Straits Settlements...	...	21,320	25,849	37,593	43,453	45,845
Total...	162,469	171,235	182,445	194,635	243,115	271,014

The exports to the above-mentioned Eastern countries during 1913 of meats preserved by cold process were shipped from the following States:—New South Wales, £40,085; Victoria, £198; Queensland, £230,731.

**MEATS—OTHER THAN MEATS PRESERVED BY COLD PROCESS.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	491	2,841	5,205	6,531	5,902	7,138
East Indies ...	15,035	9,521	11,914	12,495	16,449	20,272
Hong Kong ...	571	1,249	1,853	4,238	3,220	4,633
India and Ceylon ...	11,464	16,267	12,936	14,415	3,143	8,279
Japan ...	893	1,104	1,137	1,659	1,778	1,292
Philippine Islands ...	2,617	6,531	10,707	22,336	29,043	28,758
Straits Settlements	531	1,660	6,612	6,789	6,285	13,171
Total ...	31,602	39,173	50,364	68,463	65,820	83,543

The exports given above for the year 1913 were<sup>o</sup> shipped from the following States:—New South Wales, £13,922; Victoria, £5042; Queensland, £63,858; South Australia, £697; Western Australia, £24.

**SANDALWOOD.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	7,905	12,180	7,332	2,348	16,619	5,593
Hong Kong ...	53,991	25,546	71,672	62,566	11,567	41,476
India and Ceylon ...	...	2,358	6,301	2,505	3,455	4,560
Straits Settlements	15,341	5,036	3,319	5,967	1,034	5,931
Total ...	77,237	45,120	88,624	73,386	32,675	57,560

These exports of sandalwood in 1913 were shipped from Queensland, £9971; and Western Australia, £47,589.

**SKINS, HOOFS, HORNS, BONES, SINEWS, AND TALLOW.**

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	...	36	...	977	661	6
East Indies ...	...	1,321	348	1,327	920	1,149
Hong Kong ...	1,234	779	401	129	403	333
India and Ceylon ...	2,761	2,958	3,485	9,880	13,538	17,523
Japan ...	11,829	40,363	23,145	72,509	109,562	88,193
Philippine Islands ...	165	626	389	577	397	562
Straits Settlements	430	361	401	333	808	713
Total ...	16,419	46,444	23,169	85,732	126,289	108,479

The above exports of skins, etc., in 1913 were shipped from the several States as follows:—New South Wales, £45,250; Victoria, £9064; Queensland, £53,970; Northern Territory, £195.

## TIN ORE.

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
Straits Settlements	4,096	186,191	194,066	277,961	387,524	447,875

The export of tin ore to the Straits Settlements—the centre of the world's tin production—is for the purpose of treatment, and was shipped from the several States during 1913 as follows:—New South Wales, £266,739; Victoria, £1450; Queensland, £133,426; Western Australia, £19,140; Northern Territory, £27,120.

## TIMBER, UNDRESSED.

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	4,090	26,606	2,699	14,250	2	2
East Indies ...	22	364	652	279	1,691	554
Hong Kong ...	...	30,298	19,590	763	3	2,155
India and Ceylon ...	61,246	379,349	307,001	362,549	217,556	175,757
Japan ...	418	1,296	781	476	972	959
Philippine Islands ...	9,278	3,372	21,132	19,616	414	449
Straits Settlements...	4,861	6,370	320	380	506	453
Total ...	79,915	447,655	352,175	398,313	221,144	180,329

The above exports of timber during 1913 from the several States were shipped as follows:—New South Wales, £2647; Victoria, £1284; Queensland, £1252; Western Australia, £175,139; Northern Territory, £7.

## WOOL.

Country.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
China ...	...	250	...	560	...	...
East Indies ...	112	...	...	...	...	...
Hong Kong ...	...	...	...	...	23	...
India and Ceylon ...	7,853	16,657	24,268	21,290	18,739	30,586
Japan ...	48,653	264,630	420,622	459,000	703,371	735,018
Total...	56,618	281,537	444,890	480,850	722,133	765,604

The wool exported to the East by the several States during 1913 was shipped as follows:—New South Wales, £671,269; Victoria, £37,725; Queensland, £56,610.

## § 8. Trade of Commonwealth since Federation.

1. **Classified Summary of Australian Trade.**—The tables hereunder present the trade of the Commonwealth during each of the years 1901 and 1909 to 1913, arranged in classes according to the nature of the goods:—

## STATISTICAL CLASSIFICATION OF IMPORTS AND EXPORTS.

Class.	Articles.
I.	FOODSTUFFS of animal origin, excluding, however, living animals.
II.	FOODSTUFFS of vegetable origin, and common salt.
III.	BEVERAGES, non-alcoholic only, and the substances used in making them.
IV.	SPIRITS AND ALCOHOLIC LIQUORS, including spirits for industrial purposes, and such pharmaceutical preparations as are dutiable as spirits.
V.	TOBACCO, and all preparations thereof.
VI.	LIVE ANIMALS.
VII.	ANIMAL SUBSTANCES, mainly unmanufactured, which are not foodstuffs.
VIII.	VEGETABLE SUBSTANCES and non-manufactured fibres.
IX.	APPAREL, TEXTILES, and various manufactured fibres.
X.	OILS, FATS, AND WAXES.
XI.	PAINTS AND VARNISHES.
XII.	STONES AND MINERALS, used industrially.
XIII.	SPECIE, gold, silver, and bronze.
XIV.	METALS, UNMANUFACTURED, and ores.
XV.	METALS, PARTLY MANUFACTURED.
XVI.	METALS, MANUFACTURED, including machinery.
XVII.	LEATHER AND MANUFACTURES of leather, together with all substitutes therefor, and also INDIARUBBER AND INDIARUBBER MANUFACTURES.
XVIII.	WOOD AND WICKER, both raw and manufactured.
XIX.	EARTHENWARE, CEMENTS, CHINA, GLASS AND STONEWARE.
XX.	PAPER AND STATIONERY.
XXI.	JEWELLERY, TIMEPIECES, AND FANCY GOODS.
XXII.	OPTICAL, SURGICAL, AND SCIENTIFIC INSTRUMENTS.
XXIII.	DRUGS, CHEMICALS, AND FERTILISERS.
XXIV.	MISCELLANEOUS.

## COMMONWEALTH IMPORTS ARRANGED IN CLASSES, 1901 and 1909 to 1913.

Classes.	1901.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£	£
I. Animal foodstuffs, etc. ...	793,365	751,044	873,697	816,915	1,037,692	947,697
II. Vegetable " " ...	2,925,985	2,741,811	1,944,050	2,352,957	4,455,662	3,315,825
III. Beverages (non-alcoholic), etc. ...	1,054,324	1,409,713	1,646,052	1,673,449	1,863,712	1,833,235
IV. Alcoholic liquors, etc. ...	1,845,438	1,496,952	1,654,237	1,920,824	2,022,986	2,095,896
V. Tobacco, etc. ...	717,915	616,221	769,470	899,110	1,045,841	1,114,949
VI. Live animals ...	40,306	113,724	337,040	395,665	243,489	145,215
VII. Animal substances, etc. ...	124,017	336,981	370,634	296,926	337,052	417,039
VIII. Vegetable " " ...	459,361	997,205	1,120,045	1,329,295	1,493,582	1,344,204
IX. Apparel, etc. ...	12,065,367	14,765,738	17,438,605	17,840,496	19,495,762	19,705,768
X. Oils, etc. ...	1,290,252	1,337,429	1,596,643	1,807,983	2,192,317	1,969,628
XI. Paints, etc. ...	385,049	416,418	481,392	485,240	676,861	609,859
XII. Stones, etc. ...	131,095	164,069	469,598	173,533	201,317	218,332
XIII. Specie ...	172,395	54,197	374,484	381,482	542,937	377,220
XIV. Metals, unmanufd., ores, etc. ...	984,327	1,232,610	1,221,721	1,937,723	1,488,167	1,575,734
XV. Metals, part manufactured ...	1,062,309	741,184	1,035,864	1,169,509	1,424,261	1,500,436
XVI. Metals, manufactured ...	7,491,636	10,372,019	12,074,821	14,211,581	16,985,089	16,623,135
XVII. Leather, etc. ...	523,565	1,080,222	1,303,134	1,586,503	1,788,272	1,749,046
XVIII. Wood, etc. ...	1,814,382	2,060,231	2,583,065	3,361,477	3,565,445	3,573,753
XIX. Earthenware, etc. ...	925,101	791,705	1,015,313	1,228,122	1,445,090	1,580,615
XX. Paper, etc. ...	1,731,330	2,098,638	2,457,216	2,831,808	3,116,215	3,134,750
XXI. Jewellery, etc. ...	1,065,348	1,303,528	1,428,029	1,755,583	1,873,917	1,410,555
XXII. Instruments, etc. ...	218,437	412,547	444,990	504,775	517,677	754,589
XXIII. Drugs, etc. ...	1,472,162	1,744,023	2,186,005	2,178,600	2,394,162	2,493,192
XXIV. Miscellaneous ...	3,140,345	4,233,687	5,188,246	5,627,932	7,951,095	11,258,981
Grand total ...	42,433,811	51,171,896	60,014,351	66,967,488	78,158,600	79,749,653

The exports are shewn according to the same classification, and the usual distinction is made between exports of Australian produce and re-exports. It will be seen what

a small proportion of the total exports is made up by re-exports, and that the latter consist largely of specie minted from imported gold.

**COMMONWEALTH EXPORTS ARRANGED IN CLASSES, AND DISTINGUISHING  
AUSTRALIAN AND THE PRODUCE OF OTHER COUNTRIES,  
1901 and 1909 to 1913.**

Classes	1901.	1909.	1910.	1911.	1912.	1913.
<b>AUSTRALIAN PRODUCE.</b>						
I. Animal foodstuffs, etc. ...	£ 4,104,196	£ 5,473,619	£ 8,791,463	£ 9,015,595	£ 7,901,038	£ 11,459,049
II. Vegetable foodstuffs, etc. ...	4,633,926	8,440,099	11,884,299	11,910,303	8,741,065	10,648,506
III. Beverages (non-alcoholic), etc. ...	2,592	3,883	5,826	5,534	4,895	5,742
IV. Alcoholic liquors, etc. ...	134,630	133,992	137,826	167,137	131,850	114,973
V. Tobacco, etc. ...	5,030	76,594	67,226	69,035	78,901	72,374
VI. Live animals ...	473,601	206,485	306,724	298,691	327,524	297,812
VII. Animal substances, etc. ...	16,754,006	28,969,998	33,128,767	29,714,471	81,283,280	32,332,945
VIII. Vegetable substances, etc. ...	142,060	195,951	279,053	245,771	173,685	194,982
IX. Apparel, etc. ...	42,142	78,559	77,217	72,852	76,912	72,307
X. Oils, etc. ...	843,755	1,422,710	2,192,992	2,234,384	1,845,916	2,512,255
XI. Paints, etc. ...	620	4,682	5,871	6,577	6,799	6,188
XII. Stones, etc. ...	1,041,974	874,628	943,195	926,655	1,160,962	1,133,528
XIII. Specie ...	8,884,816	4,267,070	1,199,679	8,210,595	9,037,444	710,120
XIV. Metals, unmanufactured, ores, etc. ...	8,916,269	10,324,317	10,341,849	10,674,748	12,364,321	12,689,990
XV. Metals, part manufactured ...	3,802	7,570	8,922	10,270	18,907	43,262
XVI. Metals, manufactured ...	117,662	207,893	231,037	252,756	303,219	380,299
XVII. Leather, etc. ...	660,692	524,711	576,918	583,556	715,961	688,373
XVIII. Wood, etc. ...	666,024	1,033,336	1,020,917	1,061,582	908,049	1,014,973
XIX. Earthenware, etc. ...	6,600	14,453	13,284	13,967	18,915	12,481
XX. Paper, etc. ...	22,171	58,853	58,066	68,957	71,905	66,806
XXI. Jewellery, etc. ...	67,978	141,950	135,068	161,553	170,962	170,147
XXII. Instruments, etc. ...	507	6,867	6,922	5,623	6,347	5,929
XXIII. Drugs, etc. ...	86,229	211,297	243,886	255,716	267,946	269,337
XXIV. Miscellaneous ...	130,418	164,194	189,189	218,382	234,760	235,649
Total ...	47,741,776	62,843,711	71,836,195	76,205,210	75,961,563	75,138,147

**OTHER PRODUCE.**

I. Animal foodstuffs, etc. ...	£ 35,291	£ 21,872	£ 23,722	£ 25,369	£ 23,486	£ 19,642
II. Vegetable foodstuffs, etc. ...	80,371	201,555	192,832	210,515	170,060	161,886
III. Beverages (non-alcoholic), etc. ...	43,308	82,138	91,514	85,661	78,329	65,030
IV. Alcoholic liquors, etc. ...	55,732	30,736	37,234	40,744	42,407	39,086
V. Tobacco, etc. ...	61,753	52,889	57,133	52,697	52,501	55,155
VI. Live animals ...	105	935	5,335	12,017	5,433	2,806
VII. Animal substances, etc. ...	10,070	3,423	7,363	8,392	5,709	6,892
VIII. Vegetable substances, etc. ...	17,625	19,888	18,483	26,755	65,955	28,262
IX. Apparel, etc. ...	171,014	205,936	200,870	185,412	204,565	197,971
X. Oils, etc. ...	43,292	39,134	38,394	45,960	52,019	62,687
XI. Paints, etc. ...	15,166	6,462	8,135	7,408	8,263	7,818
XII. Stones, etc. ...	2,043	2,941	2,779	1,646	1,846	1,296
XIII. Specie ...	846,921	1,099,221	1,047,758	1,639,951	1,420,151	1,481,765
XIV. Metals, ores, etc. ...	9,744	6,287	8,463	17,820	23,414	34,136
XV. Metals, part manufactured ...	13,806	32,866	32,994	24,952	25,404	7,748
XVI. Metals, manufactured ...	196,334	206,004	261,708	266,681	268,603	269,001
XVII. Leather, etc. ...	13,074	52,053	59,653	65,321	55,210	71,532
XVIII. Wood, etc. ...	32,135	30,095	37,290	34,966	33,627	34,305
XIX. Earthenware, etc. ...	23,337	12,328	16,839	15,237	15,702	16,846
XX. Paper, etc. ...	52,171	62,459	75,103	77,951	111,817	79,512
XXI. Jewellery, etc. ...	54,431	63,095	147,493	148,854	87,186	89,845
XXII. Instruments, etc. ...	13,555	55,742	54,125	66,171	93,072	65,944
XXIII. Drugs, etc. ...	42,976	46,786	51,154	49,658	55,367	60,026
XXIV. Miscellaneous ...	121,122	140,280	178,581	166,910	234,401	574,431
Total ...	1,954,396	2,475,125	2,654,955	3,277,048	3,134,527	3,433,622

EXPORTS ARRANGED IN CLASSES, AND DISTINGUISHING AUSTRALIAN PRODUCE  
AND THE PRODUCE OF OTHER COUNTRIES, 1901 and 1909 to 1913.—Continue.

Classes.	1901.	1909.	1910.	1911.	1912.	1913.
<b>TOTAL EXPORTS.</b>						
I. Animal foodstuffs, etc. ...	£ 4,139,487	£ 5,495,491	£ 8,815,185	£ 9,040,964	£ 8,014,524	£ 11,478,691
II. Vegetable foodstuffs, etc. ...	4,714,297	8,641,654	12,077,131	12,120,818	8,911,125	10,810,392
III. Beverages (non-alcoholic), etc. ...	45,306	86,021	97,340	91,195	83,224	70,772
IV. Alcoholic liquors, etc. ...	190,362	164,728	175,600	207,881	174,257	154,059
V. Tobacco, etc. ...	66,783	129,483	124,359	121,732	131,402	127,529
VI. Live animals ...	473,706	207,420	312,059	310,708	332,957	300,618
VII. Animal substances, etc. ...	16,764,076	28,973,421	33,136,130	29,722,863	31,268,969	32,339,837
VIII. Vegetable substances, etc. ...	159,685	215,639	297,536	272,526	239,640	223,244
IX. Apparel, etc. ...	213,156	284,495	278,087	258,264	281,477	270,278
X. Oils, etc. ...	886,047	1,461,844	2,231,386	2,280,844	1,897,935	2,574,952
XI. Paints, etc. ...	15,806	11,144	14,006	13,985	15,062	14,006
XII. Stones, etc. ...	1,044,017	877,569	945,974	928,301	1,162,808	1,134,824
XIII. Specie ...	9,731,737	5,366,291	2,247,437	9,850,546	10,477,595	2,191,945
XIV. Metals, unmanufactd., ores, etc. ...	8,926,013	10,330,604	10,330,312	10,692,568	12,387,735	12,724,126
XV. Metals, part manufactured ...	17,609	40,436	41,916	35,222	44,311	51,010
XVI. Metals, manufactured ...	313,996	413,897	482,745	519,437	571,822	649,300
XVII. Leather, etc. ...	673,766	576,764	636,571	648,877	771,171	759,905
XVIII. Wood, etc. ...	638,159	1,063,431	1,058,207	1,116,548	941,676	1,049,278
XIX. Earthenware, etc. ...	29,937	26,781	30,123	29,204	34,617	29,327
XX. Paper, etc. ...	74,342	121,312	133,169	146,908	183,722	146,318
XXI. Jewellery, etc. ...	122,409	205,045	282,561	310,407	258,148	259,992
XXII. Instruments, etc. ...	14,062	62,609	61,047	71,794	99,419	71,873
XXIII. Drugs, etc. ...	129,275	258,083	295,039	305,374	323,313	329,413
XXIV. Miscellaneous ...	251,540	304,474	367,770	385,292	469,161	810,080
Total ...	49,696,172	65,318,836	74,491,150	79,482,258	79,096,090	78,571,769

From the above table it will be seen that there has been a very substantial expansion in the principal divisions of the export trade of the Commonwealth. Compared with 1901 the exports in 1913 of animal foodstuffs, principally butter and meat, shew an increase of 177.29 per cent.; vegetable foodstuffs, principally wheat, shew an increase during the same period of 129.31 per cent.; animal substances—wool, skins, etc.—shew an increase of 92.94 per cent.; oils, fats, and waxes—mainly tallow—an increase of 190.58 per cent.; and metals, ores, etc. an increase of 42.54 per cent.

## § 9. Movement of Specie and Bullion.

1. **Specie and Bullion.**—The following tables shew the value of gold and silver bullion and specie, including bronze specie, imported and exported during the years 1901 and 1909 to 1913 :—

### COMMONWEALTH IMPORTS AND EXPORTS OF SPECIE AND BULLION, 1901 and 1909 to 1913.

Items.	1901.	1909.	1910.	1911.	1912.	1913.
<b>IMPORTS.</b>						
Gold—Specie ...	£ 3,710	£ 11,566	£ 26,008	£ 25,534	£ 244,737	£ 187,025
Bullion ...	762,415	999,884	952,436	1,584,036	1,125,807	1,171,382
Total ...	766,125	1,011,450	978,444	1,609,570	1,370,544	1,358,407
Silver—Specie ...	158,656	32,337	332,054	338,765	277,614	177,045
Bullion ...	54	2,294	5,040	4,063	6,496	4,942
Total ...	158,710	34,631	337,094	342,828	284,110	181,987
Bronze—Specie ...	10,029	10,294	16,422	17,183	20,586	13,150
Grand total ...	934,864	1,056,375	1,331,960	1,969,581	1,675,240	1,553,544

## COMMONWEALTH IMPORTS AND EXPORTS OF SPECIE AND BULLION, 1901 AND 1909 TO 1913.—Continued.

Items	1901.	1909.	1910.	1911.	1912.	1913.
EXPORTS.						
Gold—Specie ...	£ 9,708,037	£ 5,349,066	£ 2,178,123	£ 9,829,689	£ 10,440,058	£ 2,092,891
Bullion ...	4,616,039*	3,024,085	1,930,660	1,711,093	1,403,621	972,160
Total ...	14,324,076	8,373,151	4,108,783	11,540,782	11,843,679	3,065,051
Silver—Specie ...	23,370	16,374	69,134	20,823	37,537	99,034
Bullion ...	922,443†	289,908	457,180	485,447	580,384	634,630
Total ...	945,813	306,282	526,314	506,270	617,921	733,664
Bronze—Specie ...	330	851	180	34	...	20
Total { Australian produce	14,423,298	7,580,158	3,587,201	10,403,796	11,039,919	3,300,955
{ Other produce ...	846,921	1,100,126	1,048,076	1,643,290	1,421,681	1,497,780
Grand total ...	15,270,219	8,680,284	4,635,277	12,047,086	12,461,600	3,798,735

\* Includes gold contained in matte. The value of gold contained in matte exported during 1909 was £524,183; 1910, £549,924; 1911, £437,761; 1912, £473,791; and 1913, £403,869. † Includes silver contained in matte. The value of silver contained in matte exported during 1909 was £370,329; 1910, £296,228; 1911, £219,971; 1912, £255,728; and 1913, £266,444.

## COMMONWEALTH IMPORTS AND EXPORTS OF SPECIE AND GOLD AND SILVER BULLION FROM AND TO PRINCIPAL COUNTRIES, 1913.

Country.	Imports.			Exports.		
	Specie.	Bullion.	Total.	Specie.	Bullion.	Total.
United Kingdom ...	£ 188,082	£ 5,254	£ 193,336	£ 264,384	£ 574,325	£ 838,709
Ceylon ...	...	...	...	580,000	386,100	966,100
Fiji ...	...	...	...	48,200	404	48,604
Hong Kong ...	200	...	200	575,038	2,924	577,962
India... ..	...	...	...	183,800	642,449	826,249
New Zealand ...	184,288	1,115,626	1,299,914	440,000	175	440,175
Norfolk Island ...	...	...	...	46	...	46
Ocean Island ...	...	...	...	4,500	...	4,500
Papua ...	...	55,005	55,005	1,920	...	1,920
South African Union ...	...	...	...	10,600	...	10,600
Straits Settlements ...	...	...	...	100	...	100
Total British Countries	372,570	1,175,885	1,548,455	2,108,588	1,606,377	3,714,965
China ...	...	...	...	47,593	...	47,593
Germany ...	...	6	6	...	150	150
Pacific Islands ...	4,650	...	4,650	27,649	...	27,649
Other Countries ...	...	433	433	8,115	263	8,378
Total Foreign Countries	4,650	439	5,089	88,357	413	88,770
Grand total ...	377,220	1,176,324	1,553,544	2,191,945	1,606,790	3,798,735



**2. Imports of Bullion and Specie.**—Of the total imports of bullion and specie into the Commonwealth during 1913, 75.40 per cent. was in the form of gold bullion, and was received almost entirely from New Zealand for the purpose of minting.

**3. Exports of Bullion and Specie.**—Of the total exports of bullion and specie during 1913, gold represented 80.69 per cent., 55.09 per cent. being in the form of specie, and 25.60 per cent. bullion.

The exports of gold during 1913 were the smallest for many years, and the preliminary returns for 1914 shew that in that year they were still less. Notwithstanding a gradual diminution during the last ten years of gold production in Australia, the stocks of gold held in the country have been materially augmented during recent years.

The countries which appear as the largest recipients of gold from Australia are Ceylon, United Kingdom, India, Hong Kong, and New Zealand, in the order named, but as large amounts of gold, recorded as exported to Ceylon, are shipped *under option*, and may be despatched thence to any other country, the actual amount received by each country cannot be stated. Moreover, the dimensions of the gold shipments from Australia to particular countries are without any significance regarding the business transactions between Australia and those countries. Shipments of gold merely represent a contribution towards the liquidation of liabilities or the establishment of credit abroad; and Great Britain being the principal creditor and banker, shipments of gold from the Commonwealth are for the most part directed by London bankers to suit their requirements.

## § 10. Effects of Prices on the Values of Exports.

**1. Significance of Price in Totals.**—In comparing the value of exports from, and also imports into, any country for a series of years, the question naturally arises as to how much any variation in the aggregate value is due to fluctuations in prices, and how much to increase or decrease of actual quantities, for, in aggregates expressed only in value—the only possible method when the commodities differ—the two sources of variation are confused.

The scheme of comparison followed hereinafter is that of the British Board of Trade. This is to select all such articles of export as are recorded by units of quantity, and to apply to the quantities exported during each year the average price per unit ruling in some year, arbitrarily taken for the purposes of comparison as the basic year. The ratio which the total actually recorded for the year under review bears to the total obtained by applying to the quantities of the year under review the average prices ruling during the basic year, may be called the “price-level” of the latter—as compared with the former—for the group of commodities considered, and may be taken (so it is assumed in the method of the British Board of Trade) as a measure of the effect of the change of price in the intervening period. Since the value of the articles used in the calculations represents as much as 82 per cent. of all exports during 1913—after excluding specie and gold bullion, which are not subject to price changes—a fairly extensive basis is afforded on which to found an estimate of the effect of prices over the full range of exports.

**2. Effect of Prices.**—The following table shews the values of exports as actually recorded in each year, together with the values computed on the assumption that the prices of 1901 were maintained. The table also shews the yearly “price-levels,” based upon the results so ascertained.

This table obviously furnishes a measure of the influence of prices on the value of exports of each year since 1901. Column IV.—values computed on 1901 prices—represents the volume of exports (less specie and gold bullion), expressed in the common

denomination of value, and from the figures therein it will be seen that, had the prices of 1901 remained constant, the value of the exports of merchandise during the year 1913, for example, would have been £58,683,007 only, instead of £75,407,664—the value actually recorded. The difference between these amounts (£16,724,657) results from a rise of 28.5 per cent. (i.e., from 1000 to 1285) in the price of commodities for the period intervening between 1901 and 1913.

It will be seen from the column of "Price-Levels" that prices as indicated by the Commonwealth exports rose steadily from the beginning of the decade to the year 1907. The financial crisis in the United States of America caused a pronounced fall in the prices of 1908. Owing to the large proportion of the aggregate value of exports represented by wool and wheat, any change in the price of these commodities has a marked effect on the index-numbers for the total group of exports, and it is to their influence that the fall of prices in 1911 is mainly due.

### EFFECT OF PRICES ON THE VALUE OF COMMONWEALTH EXPORTS AND EXPORT PRICE-LEVELS FOR THE PERIOD 1901 to 1913.

(BASIC YEAR, 1901.)

Year.	Exports of Specie and Gold Bullion.	Other Exports.		Total Exports (including Specie and Gold Bullion).		Price-Levels, <sup>1</sup> Year 1901 = 1000.
		Values as Recorded.	Values Computed on 1901 Prices.	Values as Recorded.	Values Computed on 1901 Prices.	
I.	II. £	III. £	IV. £	V. £	VI. £	VII.
1901 ...	14,347,776	35,348,396	35,348,396	49,696,172	49,696,172	1000
1902 ...	14,568,640	29,346,447	27,875,976	43,915,087	41,944,616	1072
1903 ...	18,403,702	29,841,410	26,697,120	48,250,112	45,105,822	1118
1904 ...	16,914,691	40,571,224	36,139,840	57,485,915	53,054,531	1123
1905 ...	10,977,111	45,863,924	38,465,210	56,841,035	49,442,321	1192
1906 ...	16,895,059	52,842,704	42,295,310	69,737,763	59,190,369	1249
1907 ...	10,571,263	62,252,984	47,557,141	72,824,247	58,128,404	1309
1908 ...	13,608,531	50,702,527	43,072,809	64,311,058	56,681,340	1177
1909 ...	8,390,376	56,928,460	46,973,200	65,318,836	55,363,576	1212
1910 ...	4,178,097	70,313,053	56,571,308	74,491,150	60,749,405	1243
1911 ...	11,561,639	67,920,619	58,104,744	79,482,258	69,666,383	1169
1912 ...	11,881,216	67,214,874	53,175,536	79,096,090	65,056,752	1264
1913 ...	3,164,105	75,407,664	58,683,007	78,571,769	61,847,112	1285

1. These are index-numbers for the total group of exports, excluding specie and gold bullion.

3. **Influence of Quantity and Price on Total Increased Value of Exports.**—The estimated actual and relative effects of the influence of—(i.) increase or decrease in the exports of specie and gold bullion, (ii.) increase or decrease of *quantities* of other exports, (iii.) variation of prices on the value of the exports of each year compared with 1901, are shewn on the next page.

From the following figures it will be seen that exports of 1913, for example, of specie and gold bullion compared with 1901, shew a decrease of 77.95 per cent., other exports (merchandise) shew an increase of 66.01 per cent. in quantities, and an increase of 28.50 per cent. in the group-prices. These several influences effect an aggregate increase of £28,875,597, or 58.10 per cent., over 1901 as follows:—By increased quantities of merchandise, £23,334,611 (80.81 per cent.); by increased prices, £16,724,657 (57.92 per cent.) accompanied by a decrease of £11,183,671 (77.95 per cent.) in the exports of specie and gold. Of the greater value of merchandise exported during 1913 as compared with 1901, 58.25 per cent. represented increased production, and 41.75 per cent. was due to higher prices.

**ANALYSIS OF INFLUENCE OF QUANTITY AND PRICE ON INCREASE OR DECREASE  
IN COMMONWEALTH EXPORTS, 1903 TO 1913, COMPARED WITH 1901.**

Year.	Particulars.	Variation above (+) or below (—) 1901 Exports due to change in:—			Total Variation above (+) or below (—) Value of 1901 Exports.
		Export of Specie and Gold.	Quantity of Export other than Specie and Gold.	Prices of Export other than Specie and Gold.	
1903.	Variation, actual ... .. £	+ 4,060,926	—8,651,276	+ 3,144,290	—1,446,060
	Relative magnitude of variation. Total	+ 280.81	—598.25	+ 217.44	—100
	variation taken as 100 ... ..	+ 28.30	— 24.47	+ 11.78	—2.91
	Variation, per cent. ... ..				
1904.	Variation, actual ... .. £	+ 2,566,915	+ 791,444	+ 4,431,384	+ 7,789,743
	Relative magnitude of variation. Total	+ 32.95	+ 10.16	+ 56.89	+ 100
	variation taken as 100 ... ..	+ 17.90	+ 2.24	+ 12.26	+ 15.67
	Variation, per cent. ... ..				
1905.	Variation, actual ... .. £	—3,370,665	+ 3,116,814	+ 7,398,714	+ 7,144,863
	Relative magnitude of variation. Total	—47.18	+ 43.62	+ 103.56	+ 100
	variation taken as 100 ... ..	—23.48	+ 8.82	+ 19.24	+ 14.37
	Variation, per cent. ... ..				
1906.	Variation, actual ... .. £	+ 2,547,283	+ 6,946,914	+ 10,547,394	+ 20,041,591
	Relative magnitude of variation. Total	+ 12.71	+ 34.66	+ 52.63	+ 100
	variation taken as 100 ... ..	+ 17.76	+ 19.65	+ 24.94	+ 40.32
	Variation, per cent. ... ..				
1907.	Variation, actual ... .. £	—3,776,513	+ 12,208,745	+ 14,695,843	+ 23,128,075
	Relative magnitude of variation. Total	—16.33	+ 52.78	+ 63.54	+ 100
	variation taken as 100 ... ..	—26.32	+ 34.55	+ 30.90	+ 46.56
	Variation, per cent. ... ..				
1908.	Variation, actual ... .. £	—739,245	+ 7,724,413	+ 7,629,718	+ 14,614,886
	Relative magnitude of variation. Total	— 5.06	+ 52.85	+ 52.21	+ 100
	variation taken as 100 ... ..	— 5.15	+ 21.85	+ 17.72	+ 29.43
	Variation, per cent. ... ..				
1909.	Variation, actual ... .. £	—5,957,400	+ 11,624,804	+ 9,955,260	+ 15,622,664
	Relative magnitude of variation. Total	—38.13	+ 74.40	+ 63.73	+ 100
	variation taken as 100 ... ..	—41.52	+ 32.89	+ 21.19	+ 31.43
	Variation, per cent. ... ..				
1910.	Variation, actual ... .. £	—10,169,679	+ 21,222,912	+ 13,741,745	+ 24,794,978
	Relative magnitude of variation. Total	—41.01	+ 85.50	+ 55.42	+ 100
	variation taken as 100 ... ..	—70.88	+ 60.04	+ 24.32	+ 49.90
	Variation, per cent. ... ..				
1911.	Variation, actual ... .. £	—2,786,137	+ 22,756,348	+ 9,815,875	+ 29,786,086
	Relative magnitude of variation. Total	— 9.35	+ 76.40	+ 32.95	+ 100
	variation taken as 100 ... ..	—19.42	+ 64.37	+ 16.89	+ 59.95
	Variation, per cent. ... ..				
1912.	Variation, actual ... .. £	—2,466,560	+ 17,827,140	+ 14,039,338	+ 29,399,918
	Relative magnitude of variation. Total	— 8.39	+ 60.64	+ 47.75	+ 100
	variation taken as 100 ... ..	—17.19	+ 50.43	+ 26.40	+ 59.16
	Variation, per cent. ... ..				
1913.	Variation, actual ... .. £	—11,183,671	+ 23,334,611	+ 16,724,657	+ 28,875,597
	Relative magnitude of variation. Total	—38.73	+ 80.81	+ 57.92	+ 100
	variation taken as 100 ... ..	—77.95	+ 66.01	+ 28.50	+ 58.10
	Variation, per cent. ... ..				

## § 11. External Trade of Australia and other Countries.

1. **Essentials of Comparisons.**—Direct comparisons of the external trade of any two countries are possible only when the general conditions prevailing therein, and the scheme of record, are sensibly identical. For example, in regard to the mere matter of record, it may be observed that in one country the value of imports may be the value at the port of shipment, while in another the cost of freight, insurance, and charges may be added thereto. Or again, the values of imports and exports in the one may be declared by merchants, whereas in the other they may be the official prices, fixed from time to time by a commission constituted for the purpose. The figures relating to the external trade of any country are also affected in varying degree by the extent to which they include transit or re-export trade. Including bullion and specie, the transit trade-

of Belgium, for example, represents approximately 40 per cent. of the gross trade recorded; of Switzerland, 45 per cent.; of France, 20 per cent.; and of the United Kingdom, 15 per cent.; whereas in Australia the same element represents only 4 per cent., and in New Zealand even less.

2. "Special Trade" of Various Countries.—Special trade may be defined, agreeably to the practice of the British Board of Trade, as (a) imports entered for consumption in the country (as distinguished from imports for transshipment or re-export) and (b) exports of domestic products.

In the following table the figures relate, as nearly as is possible, to imports entered for consumption in the various countries quoted, and to exports of their domestic products. It is to be noted, however, that these figures do not unequivocally denote the same thing throughout, since, in the United Kingdom and other manufacturing countries, raw or partly manufactured materials are imported as for home consumption, and, after undergoing some process of manufacture or further modification, are re-exported as domestic production, and further, the statistical records of many countries do not distinguish between bullion and specie imported for the use of the particular country (home consumption) and the amount in transit, nor between the exports of that produced within the country and that re-exported. Nevertheless, a comparison of this character reveals approximately the extent of the external trade which otherwise would not be manifest.

From the following table it may be seen that, for the particular years indicated, the value of the total trade per inhabitant was greatest in Belgium (£48 18s. 1d. per head); the next country in order of value per inhabitant was New Zealand (£41 14s. 3d. per head), followed by Switzerland (£35 17s. 6d. per head). Australia comes fourth (£31 10s. 9d. per head), and is considerably in advance of the next country, viz., Denmark (£27 2s. 1d. per head):—

**TRADE OF VARIOUS COUNTRIES (IMPORTS FOR HOME CONSUMPTION AND EXPORTS OF DOMESTIC PRODUCTS, INCLUDING BULLION AND SPECIE) FOR LATEST AVAILABLE YEAR.**

Country.	Year ended.	Trade.			Trade per Inhabitant.		
		Imports.	Exports.	Total.	Imports.	Exports.	Total.
		£	£	£	£ s. d.	£ s. d.	£ s. d.
C'WEALTH OF AUSTRALIA*	31/12/14	71,149,000	64,564,000	135,713,000	14 9 1	13 2 4	27 11 5
	31/12/13	77,010,000	75,138,000	152,148,000	16 0 8	15 12 10	31 13 6
United Kingdom*	31/12/14	623,052,000	430,231,000	1,053,283,000	13 6 0	9 5 0	22 13 0
	31/12/13	671,046,000	525,245,000	1,196,291,000	14 11 2	11 7 10	25 19 0
Canada	31/3/14	132,019,000	89,915,000	221,934,000	16 13 6	11 7 2	28 0 8
New Zealand	31/12/13	21,879,000	22,578,000	44,457,000	20 10 7	21 3 8	41 14 3
United States of America	30/6/13	342,106,000	436,547,000	778,653,000	3 12 11	4 13 1	8 6 0
Argentine Republic	31/12/12	84,187,000	96,195,000	180,382,000	11 9 2	13 1 8	24 10 10
Austria-Hungary	"	149,026,000	121,345,000	270,371,000	2 19 4	2 8 4	5 7 8
Belgium	"	210,211,000	160,054,000	370,265,000	27 15 3	21 2 10	48 18 1
Brazil	"	63,425,000	74,649,000	138,074,000	2 12 1	3 1 2	5 13 3
Denmark	"	41,954,000	33,940,000	75,894,000	14 19 8	14 2 5	27 2 1
France	"	350,482,000	281,495,000	631,977,000	8 16 9	7 1 11	15 18 8
German Empire	"	541,675,000	447,392,000	989,067,000	8 3 9	6 15 3	14 9 0
Italy	"	149,113,000	97,536,000	246,649,000	4 5 2	2 15 8	7 0 10
Japan	"	66,007,000	57,972,000	123,979,000	1 5 3	1 2 2	2 7 5
Norway	"	28,756,000	18,147,000	46,903,000	11 15 9	7 8 10	19 4 7
Portugal	"	17,035,000	7,867,000	24,902,000	3 0 10	1 8 2	4 9 0
Spain	"	42,089,000	41,826,000	83,915,000	2 2 9	2 2 6	4 5 3
Sweden	"	44,095,000	42,257,000	86,352,000	7 17 4	7 10 10	15 8 2
Switzerland	"	81,577,000	55,629,000	137,206,000	21 6 7	14 10 11	35 17 6
Uruguay	31/12/11	9,333,000	8,840,000	18,173,000	7 18 6	7 10 1	15 8 7

\* Preliminary figures.

3. External Trade as a Measure of Prosperity.—External trade is not necessarily a measure of the prosperity of a country. Comparisons can be accepted as furnishing satisfactory indications of the relative progress or welfare of different countries, only when taken together with all other facts that should be considered in this connection. It is, for example, obvious that the external trade of a community depends not only upon the aggregate of its requirements, but also upon the extent to which it fails to supply requirements from its own resources. A community largely self-contained, for

example, may have but a small external trade per head, and yet, by virtue of its capacity to produce and manufacture its own raw material, may actually enjoy greater prosperity and a higher standard of living than another country whose external trade per head is much greater. The same observation applies equally to comparisons of the trade of the same country at different periods. A young country, the industries and export trade of which are mainly connected with raw or natural products, may, for example, through internal development, find the growth of its external trade diminishing per head of population without necessarily suffering any real diminution in the well-being of its people. And it is further obvious that circumstances may arise when enlargement of both imports and exports is actually a consequence of temporary economic difficulties. For example, in 1903, owing to shortage in the local supply, it became necessary to *import* wheat and flour into Australia to the value of £2,556,968, and to meet the charges for this by equivalent *exports*, the effect, considered *per se*, being to enlarge both. In this case the increase is not an evidence of prosperity.

## § 12. Trade of the United Kingdom with Australia.

1. *Proportion of Trade from United Kingdom.*—The percentages given in the following table shew the proportions of the imports into Australia from the United Kingdom, and from other countries mentioned, during each of the years 1886 to 1913:—

### PROPORTION OF COMMONWEALTH IMPORT TRADE FROM VARIOUS COUNTRIES, 1886 to 1913.

Year.	Percentage Proportions from—					Year.	Percentage Proportions from—				
	United K'dom.	British Poss'ns.	Germ'y.	United States.	Total Foreign C'tries.		United K'dom.	British Poss'ns.	Germ'y.	United States.	Total Foreign C'tries.
1886	73.37	11.23	2.05	6.11	15.40	1900	61.28	11.28	6.54	12.16	27.44
1887	72.26	12.50	2.28	5.37	15.24	1901	59.47	11.22	6.59	13.80	29.31
1888	71.62	12.03	2.71	6.48	16.35	1902	58.64	13.22	6.53	12.27	28.14
1889	68.98	13.45	3.65	6.67	17.57	1903	52.51	13.17	6.24	16.84	34.32
1890	68.08	12.66	4.77	6.54	19.26	1904	60.68	12.22	7.17	12.40	27.10
1891	70.15	11.40	4.53	6.79	18.45	1905	60.17	14.04	6.42	11.70	25.79
1892	70.74	11.37	4.32	6.04	17.89	1906	59.39	15.09	7.16	10.36	25.52
1893	72.78	12.14	3.40	4.98	15.08	1907	61.59	12.93	6.85	11.33	25.48
1894	71.92	11.96	3.78	5.39	16.12	1908	60.10	12.83	7.05	12.13	27.07
1895	71.62	11.46	4.42	5.95	16.92	1909	60.92	13.45	6.51	9.78	25.63
1896	68.28	10.74	5.31	8.59	20.98	1910	61.06	13.11	6.30	10.82	25.83
1897	66.22	10.72	5.75	10.10	23.06	1911	58.98	12.86	6.63	11.57	28.16
1898	66.62	10.88	5.86	10.16	22.50	1912	58.76	12.26	6.58	12.09	28.98
1899	61.85	11.75	6.07	13.00	26.40	1913	59.70	12.42	6.22	11.94	27.88

In order to draw accurate conclusions from the above table, however, special attention must be given to the nature of imports from the United States, since the imports from that country have in some years been increased by imports of breadstuffs, a trade in which the United Kingdom could not participate. The years affected by the imports of breadstuffs were 1886, 1889, 1896, 1897, and 1903. Increased imports of such items as kerosene oil and timber also tend to increase the proportion of imports from the United States without any prejudicial effect on the trade of the United Kingdom. Similar modification is not necessary in regard to Germany, as the nature of the imports from that country is substantially the same as from the United Kingdom.

It has already been pointed out in this chapter that, prior to the year 1905, imports into the Commonwealth were recorded only against the country whence they were directly imported. Although the values of direct imports do not afford satisfactory data, it is necessary for any comparison extending further back than 1905 to use such figures. These figures are unsatisfactory on account of the varying proportions of indirect trade.

In order to furnish a comparison free from the influence of such trade as, from its nature, is not open to the United Kingdom, the following table, shewing the direct imports during the years 1886, 1906, 1912 and 1913 of the principal classes of goods which enter largely into the trade of the countries named, has been prepared. It may be mentioned that the imports for the year 1886 were extracted from the "Statistical Registers" of the

several States for a comparison—published in a previous issue—with the year 1906, and as their compilation involved a large amount of labour they are again utilised for comparison with the later years.

**PRINCIPAL DIRECT IMPORTS INTO THE COMMONWEALTH FROM THE UNITED KINGDOM, GERMANY, AND THE UNITED STATES, 1886, 1906, 1912 and 1913.**

Nature of Imports.	Year.	United Kingdom.	Germany.	United States.	All Countries.
		£	£	£	£
Foodstuffs of animal origin ...	1886	348,950	5,603	70,959	674,296
	1906	293,950	24,819	146,781	697,830
	1912	366,358	69,208	306,072	1,037,692
	1913	385,307	61,096	269,826	947,697
Alcoholic liquors ...	1886	1,801,200	82,185	82,730	2,126,877
	1906	1,053,154	109,426	24,367	1,388,671
	1912	1,507,929	236,691	15,447	2,022,986
	1913	1,571,425	228,028	15,965	2,095,896
Apparel, textiles, etc. (incl. boots)	1886	9,845,182	54,350	15,336	10,316,989
	1906	11,066,201	418,776	221,362	13,508,844
	1912	16,123,368	648,695	459,674	19,495,762
	1913	15,494,151	578,096	394,783	19,705,768
Metalsunmanufactured and partly manufactured* ...	1886	403,809	2,241	...	430,950
	1906	696,331	62,945	34,927	927,785
	1912	1,212,737	113,256	72,008	1,780,125
	1913	1,192,583	113,152	106,731	1,897,846
Manufactures of metal (including machinery) ...	1886	4,616,924	94,832	311,342	5,190,901
	1906	5,144,912	926,314	1,379,662	7,932,675
	1912	11,236,241	1,322,872	3,111,429	16,985,089
	1913	11,262,619	1,235,488	2,847,462	16,623,135
Paper and stationery ...	1886	1,260,531	21,038	39,700	1,340,627
	1906	1,207,729	261,684	288,509	1,838,474
	1912	1,970,405	307,361	264,148	3,116,215
	1913	2,083,736	255,234	230,803	3,134,750
Jewellery, timepieces, fancy goods	1886	659,833	24,206	57,477	789,127
	1906	740,850	140,950	59,151	1,045,164
	1912	1,282,434	205,896	127,795	1,873,917
	1913	964,966	182,040	90,508	1,410,555
Earthenware, cements, etc. ...	1886	755,907	78,762	24,711	938,476
	1906	316,252	227,390	37,344	688,510
	1912	667,301	407,335	67,597	1,445,090
	1913	700,561	459,090	60,203	1,580,615
Drugs, chemicals, fertilisers, etc.	1886	511,216	8,660	33,382	766,243
	1906	887,325	193,615	82,789	1,732,543
	1912	968,579	213,182	111,630	2,394,162
	1913	941,113	233,792	103,308	2,493,192
Leather, and mfs. thereof (excluding boots) and substitutes therefor, including indiarubber ...	1886	285,601	6,357	53,588	363,332
	1906	682,238	70,028	116,356	924,968
	1912	1,090,717	212,068	254,708	1,788,272
	1913	889,970	243,471	289,285	1,749,046
Total above-mentioned imports ...	1886	20,489,153	378,234	689,225	22,937,818
	1906	22,088,942	2,435,447	2,391,248	30,685,464
	1909	25,650,092	2,507,669	2,511,450	35,275,485
	1910	29,641,027	2,883,216	3,366,814	41,660,324
	1911	32,038,457	3,282,974	4,103,528	45,826,196
	1912	36,426,069	3,736,564	4,790,508	51,989,310
	1913	35,486,331	3,589,487	4,408,874	51,638,500
Total imports (less bullion and specie) ...	1886	24,974,939	699,075	2,087,213	33,885,284
	1906	26,437,768	3,202,990	4,633,331	42,413,995
	1909	31,129,940	3,329,641	5,002,923	50,115,521
	1910	36,273,169	3,777,669	6,494,588	58,682,391
	1911	39,145,829	4,427,153	7,747,470	64,934,538
	1912	45,630,869	5,134,594	9,443,643	76,483,360
	1913	47,422,225	4,956,828	9,522,502	78,196,109

\* Mainly pig iron and bar and rod iron.

**PERCENTAGE ON TOTAL COMMONWEALTH IMPORTS OF PRINCIPAL DIRECT  
IMPORTS FROM UNITED KINGDOM, GERMANY, AND UNITED STATES,  
1886, 1906, 1912, and 1913.**

Nature of Imports.	Year.	United Kingdom.	Germany.	United States.	All Countries
Foodstuffs of animal origin ...	1886	51.75	0.83	10.52	100
	1906	42.12	3.48	21.02	100
	1912	35.30	6.38	29.49	100
	1913	40.66	6.45	28.47	100
Alcoholic liquors ...	1886	84.69	3.86	3.89	100
	1906	75.84	7.88	1.75	100
	1912	74.54	11.70	0.76	100
	1913	74.97	10.88	0.76	100
Apparel, textiles, etc. (including boots)	1886	95.44	0.53	0.15	100
	1906	81.93	3.10	1.64	100
	1912	82.70	3.33	2.36	100
	1913	78.62	2.93	2.00	100
Metals unmanufactured and partly manufactured ...	1886	93.72	0.52	—	100
	1906	75.06	6.78	3.76	100
	1912	68.13	6.36	4.04	100
	1913	62.84	5.96	5.62	100
Manufactures of metals ...	1886	88.93	1.83	6.00	100
	1906	64.85	11.68	17.39	100
	1912	66.15	7.79	18.32	100
	1913	67.74	7.43	17.13	100
Paper and stationery ...	1886	94.03	1.57	2.96	100
	1906	65.69	14.23	15.69	100
	1912	63.24	9.86	8.48	100
	1913	66.47	8.14	7.36	100
Jewellery, timepieces, and fancy goods	1886	83.62	3.07	7.28	100
	1906	70.89	13.48	5.66	100
	1912	68.44	10.99	6.82	100
	1913	68.42	12.91	6.42	100
Earthenware, cements, etc. ...	1886	80.55	8.39	2.63	100
	1906	45.93	33.03	5.42	100
	1912	46.18	28.19	4.68	100
	1913	44.32	29.05	3.81	100
Drugs, chemicals, fertilisers, etc. ...	1886	66.71	1.13	4.36	100
	1906	51.22	11.18	4.78	100
	1912	40.46	8.90	4.66	100
	1913	37.75	9.38	4.14	100
Leather and mfs. thereof, and substitutes therefor, including indiarubber	1886	78.60	1.75	15.30	100
	1906	73.75	7.60	12.58	100
	1912	61.00	11.86	14.24	100
	1913	50.88	13.92	16.54	100
Total above-mentioned imports ...	1886	89.31	1.65	3.01	100
	1906	71.98	7.94	7.79	100
	1909	72.70	7.10	7.12	100
	1910	71.04	6.91	8.07	100
	1911	69.91	7.16	8.95	100
	1912	68.20	7.19	9.22	100
	1913	68.72	6.95	8.54	100
Total imports (less bullion and specie)	1886	73.71	2.06	6.16	100
	1906	62.34	7.55	10.92	100
	1909	62.10	6.64	9.98	100
	1910	61.82	6.44	11.07	100
	1911	60.28	6.82	11.93	100
	1912	59.66	6.71	12.35	100
	1913	60.66	6.34	12.18	100

The foregoing table shews that the share of the United Kingdom, as indicated by the records according to "Country of Shipment," in the trade of those classes of goods enumerated—representing over 70 per cent. of the total imports from that country—has declined from 89.31 per cent. of the whole in 1886 to 68.72 per cent. in 1913. The value of these imports from the United Kingdom has increased from £20,489,153 in 1886 to

only £35,486,331 in 1913, or by 73.18 per cent., while the total value of similar imports has increased from £22,937,818 to £51,638,500, or by 125.12 per cent. Had the same proportion of the total trade been shipped from the United Kingdom during 1913 as in 1886 it would have represented £46,125,979 instead of £35,486,331.

The following table gives an analysis of the imports during the years 1909-1913 according to the countries of origin of the goods, and has been extended to include the products of Belgium and France. (See subsequent section dealing with "Preference.")

**IMPORTS INTO THE COMMONWEALTH OF PRODUCTS OR MANUFACTURES OF THE UNITED KINGDOM, BELGIUM, FRANCE, GERMANY, AND THE UNITED STATES OF AMERICA DURING THE YEARS 1909 TO 1913.**

Nature of Imports.	Year.	United Kingdom.	Belgium	France.	Germany.	U.S. of America.	All Countries
		£	£	£	£	£	£
Foodstuffs of animal origin	1909	309,642	4,505	5,431	6,737	181,435	751,044
	1910	313,066	1,141	3,806	6,414	242,427	873,697
	1911	266,740	885	3,199	8,354	226,495	816,915
	1912	268,870	915	3,807	9,775	335,533	1,037,692
	1913	301,025	546	3,093	12,071	289,221	947,697
Alcoholic liquors, etc.	1909	956,883	1,637	250,042	80,283	13,053	1,496,952
	1910	1,052,003	1,502	287,106	95,039	17,330	1,654,237
	1911	1,138,158	327	443,587	112,904	22,758	1,920,624
	1912	1,323,859	1,185	290,159	157,668	21,542	2,022,986
	1913	1,298,717	373	361,734	171,055	22,313	2,085,896
Apparel (including boots), textiles, etc.	1909	9,231,968	155,078	837,808	1,299,041	355,768	14,765,738
	1910	10,896,368	204,370	864,808	1,446,075	429,517	17,438,605
	1911	11,462,927	235,317	861,323	1,608,348	515,806	17,840,496
	1912	12,514,286	255,796	932,798	1,923,217	619,944	19,495,762
	1913	12,057,643	230,876	960,479	1,702,145	624,682	19,705,768
Metals unmanufactured or partly manufactured, excluding gold and silver bullion	1909	667,327	73,495	2,447	116,017	50,015	971,616
	1910	821,626	125,752	2,882	198,946	44,993	1,296,309
	1911	928,172	150,203	2,616	230,180	58,691	1,519,133
	1912	1,217,280	144,362	812	251,710	74,146	1,780,125
	1913	1,202,514	152,468	3,674	302,466	108,000	1,897,846
Manufactures of metals	1909	6,786,806	137,710	47,947	1,190,998	1,732,858	10,372,019
	1910	7,491,624	159,095	48,528	1,369,378	2,460,278	12,074,821
	1911	8,507,499	281,070	57,977	1,724,344	3,029,091	14,211,581
	1912	10,813,092	315,134	67,850	1,808,054	3,340,959	16,985,089
	1913	10,855,417	275,969	44,713	1,735,447	3,076,969	16,623,135
Paper and stationery	1909	1,250,166	23,800	14,889	226,970	231,215	2,096,638
	1910	1,448,938	31,726	17,974	248,102	275,181	2,457,216
	1911	1,651,715	39,638	22,148	311,030	303,015	2,691,808
	1912	1,748,338	37,073	24,657	293,233	367,264	3,116,215
	1913	1,789,577	32,830	21,930	266,483	403,679	3,194,750
Jewellery, timepieces and fancy goods	1909	482,473	38,396	107,915	227,625	97,125	1,203,528
	1910	526,605	49,971	117,831	261,226	140,611	1,428,029
	1911	611,355	63,389	151,788	323,482	202,772	1,755,583
	1912	624,911	35,104	163,776	294,488	234,559	1,873,917
	1913	506,608	46,324	85,430	250,846	136,965	1,410,555
Earthenware, cements, glass, etc.	1909	378,049	119,633	27,312	176,082	41,866	791,705
	1910	492,842	136,138	31,213	234,074	61,123	1,015,313
	1911	553,817	180,445	35,594	318,258	60,043	1,228,122
	1912	617,470	212,208	34,366	413,322	71,236	1,445,090
	1913	655,778	245,471	40,504	453,007	64,482	1,580,615
Drugs, chemicals, fertilisers	1909	735,854	9,847	173,753	168,590	132,596	1,744,023
	1910	939,349	18,767	177,839	185,794	140,957	2,186,005
	1911	896,921	8,390	233,370	212,045	152,413	2,178,600
	1912	929,142	7,603	252,358	235,903	172,070	2,394,162
	1913	902,343	15,377	226,917	266,811	178,501	2,493,192
Leather and manufactures thereof and substitutes thereof, including india-rubber (excluding boots)	1909	383,930	551	54,079	210,307	294,128	1,080,222
	1910	490,154	1,573	64,407	189,660	306,363	1,303,134
	1911	544,583	7,261	57,172	257,117	325,825	1,586,505
	1912	574,325	6,276	71,588	306,297	473,379	1,788,272
	1913	515,169	1,968	68,746	347,550	435,071	1,749,046
Total above-mentioned imports	1909	21,183,097	564,652	1,541,623	3,712,650	3,130,059	35,275,485
	1910	24,472,575	730,035	1,616,394	4,234,708	4,118,780	41,727,366
	1911	26,561,887	971,925	1,868,774	5,106,062	4,894,909	45,889,565
	1912	30,631,573	1,015,856	1,842,171	5,693,662	5,710,632	51,939,310
	1913	30,084,791	1,002,202	1,817,220	5,512,881	5,339,903	51,638,500
Total imports (less bullion and specie)	1909	25,809,347	662,132	1,784,312	4,537,112	5,934,295	50,115,521
	1910	30,048,714	853,708	1,949,735	5,214,149	7,658,878	58,689,391
	1911	32,365,588	1,141,075	2,268,692	6,363,248	9,007,065	64,907,907
	1912	38,589,434	1,192,034	2,293,291	7,153,543	10,763,615	76,483,360
	1913	40,948,603	1,151,720	2,222,631	7,029,325	10,907,512	78,196,109

\* Mainly pig iron and bar and rod iron.

NOTE.—Figures for the years 1905-8 will be found in previous issues.



In the above table, the totals only of the several classes of goods mentioned have been dealt with. On pages 555 *et seq.* will be found a more detailed analysis, shewing the principal items of United Kingdom origin, in which goods favoured by preferential tariff rates are distinguished from other imports.

**COMMONWEALTH PERCENTAGE ON TOTAL IMPORTS, OF IMPORTS OF PRODUCTS OR MANUFACTURES OF THE UNITED KINGDOM, BELGIUM, FRANCE, GERMANY, AND THE UNITED STATES OF AMERICA DURING THE YEARS 1909 to 1913.**

Nature of Imports.	Year.	United Kingdom.	Belgium.	France.	Germany.	U.S.A.	All Countries
Foodstuffs of animal origin	(1909	41.23	0.60	0.72	0.90	24.16	100
	1910	35.83	0.14	0.44	0.73	27.75	100
	1911	32.65	0.11	0.39	1.02	27.73	100
	1912	25.92	0.08	0.37	0.94	32.34	100
	1913	31.77	0.06	0.33	12.74	30.52	100
Alcoholic liquors, etc. ...	(1909	63.92	0.11	16.71	5.36	0.87	100
	1910	63.59	0.09	17.36	5.75	1.05	100
	1911	59.25	0.02	23.09	5.88	1.18	100
	1912	65.42	0.06	14.64	7.79	1.07	100
	1913	61.96	0.02	17.26	8.16	1.06	100
Apparel (including boots), textiles, etc. ...	(1909	62.53	1.05	5.81	8.80	2.41	100
	1910	62.48	1.17	4.96	8.29	2.46	100
	1911	64.25	1.31	4.83	9.02	2.89	100
	1912	64.19	1.31	4.79	9.87	3.18	100
	1913	61.18	1.17	4.87	8.64	3.17	100
Metals unmanufactured or partly manufactured, excluding gold and silver bullion ...	(1909	68.68	7.56	0.25	11.94	3.15	100
	1910	63.38	9.70	0.22	15.35	3.47	100
	1911	61.10	9.89	0.17	15.15	3.86	100
	1912	68.38	8.11	0.05	14.14	4.15	100
	1913	63.36	8.03	0.19	15.94	5.69	100
Manufactures of metals ...	(1909	65.43	1.38	0.46	11.48	16.71	100
	1910	62.04	1.32	0.40	11.34	20.37	100
	1911	59.87	1.98	0.41	12.14	21.32	100
	1912	63.68	1.86	0.40	10.64	19.67	100
	1913	55.30	1.66	0.27	10.44	18.51	100
Paper and stationery ...	(1909	59.97	1.13	0.71	11.29	11.02	100
	1910	58.96	1.29	0.73	10.10	11.20	100
	1911	58.33	1.40	0.78	10.99	10.70	100
	1912	56.05	1.19	0.79	9.47	11.79	100
	1913	57.41	1.05	0.70	8.50	12.88	100
Jewellery, timepieces, and fancy goods ...	(1909	40.09	3.19	8.97	18.92	8.07	100
	1910	36.88	3.50	8.25	18.29	9.85	100
	1911	34.83	3.90	8.64	18.44	11.55	100
	1912	33.35	1.87	8.74	15.71	12.51	100
	1913	35.92	3.28	6.06	17.77	9.71	100
Earthenware, cements, glass, etc. ...	(1909	47.75	15.11	3.45	22.24	5.29	100
	1910	48.54	13.41	3.07	23.05	6.02	100
	1911	45.09	14.69	2.90	25.91	4.88	100
	1912	42.73	14.69	2.38	28.61	4.93	100
	1913	41.49	15.53	2.56	28.98	4.08	100
Drugs, chemicals, and fertilisers ...	(1909	42.20	0.56	9.96	9.67	7.60	100
	1910	42.97	0.86	8.14	8.50	6.45	100
	1911	41.18	0.38	10.71	9.73	6.99	100
	1912	38.81	0.33	10.54	9.85	7.19	100
	1913	36.19	0.62	9.10	10.70	7.16	100
Leather and manufactures thereof and substitutes thereof, including india-rubber (excluding boots)	(1909	35.55	0.05	5.01	19.47	27.23	100
	1910	37.61	0.12	4.94	14.56	23.51	100
	1911	34.32	0.45	3.60	16.21	20.41	100
	1912	32.12	0.35	4.01	17.13	26.50	100
	1913	29.45	0.11	3.93	19.87	24.88	100
Total above-mentioned articles ...	(1909	60.05	1.60	4.37	10.52	8.87	100
	1910	58.65	1.75	3.87	10.15	9.87	100
	1911	57.88	2.12	4.07	11.13	10.67	100
	1912	58.98	1.96	3.65	10.94	10.99	100
	1913	58.26	1.94	3.52	10.75	10.34	100
Total imports...	(1909	51.50	1.32	3.56	9.05	11.84	100
	1910	51.21	1.45	3.32	8.89	13.05	100
	1911	49.80	1.75	3.49	9.79	13.68	100
	1912	50.45	1.56	3.00	9.36	14.07	100
	1913	52.37	1.47	2.84	8.99	13.95	100

A comparison of the results given in the immediately preceding tables with those given on pages 547 and 548 discloses the value of the export trade of other countries which reaches the Commonwealth through the United Kingdom.

**2. Preferential Tariff.**—The Tariff Act of 1908 provided preferential tariff rates in favour of goods produced or manufactured in the United Kingdom. Subsequent amendments of the tariff have extended the list of articles to which the preferential rates apply. In the schedule submitted to Parliament on the 3rd December, 1914, the extension of the operation of preferential rates has been very material, and has been accompanied in many instances by an increase of the margin in favour of the United Kingdom. On the introduction of the preferential treatment of British goods, it was required that British material or labour should represent not less than one-fourth the value of such goods. From the 1st September, 1911, it has been required, in regard to goods only partially manufactured in the United Kingdom, that the final process or processes of manufacture shall have been performed in the United Kingdom, and that the expenditure in material of British production and/or British labour shall have been not less than one-fourth of the factory or works' cost of the goods in the finished state.

In the analyses given in this section the results shewn are those obtained by applying the tariff rates to the imports of the year, whether entered for consumption or re-exported. The re-exports are, however, relatively small.

The following table presents an analysis of the imports during 1913, distinguishing those affected—favourably or adversely—by the preferential provisions of the tariff, from those not affected:—

#### COMMONWEALTH IMPORTS, 1913, PREFERENTIAL AND NON-PREFERENTIAL.

Particulars.	Country of Origin.			
	United Kingdom.	British Possessions.	Foreign Countries.	Total.
Imports affected by preferential tariff	£	£	£	£
Free ... ..	7,512,725	—	—	7,512,725
Dutiable ... ..	17,176,019	500,274	13,610,358	31,286,651
Total ... ..	24,688,744	500,274	13,610,358	38,799,376
Impts. not affected by preferential tariff				
Free ... ..	12,454,039	5,152,283	8,513,407	26,119,729
Dutiable ... ..	3,806,020	2,151,926	7,319,058	13,277,004
Total ... ..	16,260,059	7,304,209	15,832,465	39,396,733
Total merchandise ... ..	40,948,803	7,804,483	29,442,823	78,196,109
Bullion and specie ... ..	378,899	1,170,631	4,014	1,553,544
Total imports ... ..	41,327,702	8,975,114	29,446,837	79,749,653

Of the total imports of merchandise (£78,196,109), £38,799,376, or 49.62 per cent., would be affected by the preferential tariff.

The imports during 1913 of United Kingdom origin, favoured by preference, amounted to £24,688,744, representing 60.29 per cent. of the total imports of merchandise from that country, against £25,257,961 (65.42 per cent.) during 1912. Under the preferential

tariff these imports would be subject to duty equivalent to an average *ad valorem* rate of 13.48 per cent., as compared with an average rate of 18.54 per cent. which the same goods would be required to pay under the general tariff rates—an advantage of £1,248,253 in the amount of duty. The actual amount of rebate allowed on United Kingdom goods entered for home consumption during 1913, under the varying rates of duty, was £1,244,074.

The following tables give the comparative results of an application of the preferential tariff rates and the general tariff rates to the imports from the United Kingdom, British Possessions and foreign countries respectively :—

### IMPORTS AFFECTED BY PREFERENTIAL TARIFF RATES.

#### FROM UNITED KINGDOM.

Particulars.	Imports.	Duty which would be payable under—			
		Preferential Tariff.		General Tariff.	
		£	Rate %	£	Rate %
(A) Free ... ..	7,512,725	...	...	384,481	5.12
(B) Dutiable ... ..	17,176,019	3,327,218	19.37	4,190,990	24.40
Total ... ..	24,688,744	3,327,218	13.48	4,575,471	18.54

#### FROM BRITISH POSSESSIONS.

Particulars.	Imports.	Duty which would be payable under—			
		General Tariff.		Preferential Tariff.	
		£	Rate %	£	Rate %
Imports similar to group A above	205,139	10,257	5.00	...	...
" " " B "	295,135	100,036	33.90	82,012	27.79
Total ... ..	500,274	110,293	22.05	82,012	16.39

#### FROM FOREIGN COUNTRIES.

Particulars.	Imports.	Duty which would be payable under—			
		General Tariff.		Preferential Tariff.	
		£	Rate %	£	Rate %
Imports similar to group A above	2,402,897	121,099	5.04	...	...
" " " B "	11,207,461	2,853,637	25.46	2,249,578	20.07
Total ... ..	13,610,358	2,974,736	21.86	2,249,578	16.53

The proportion of the imports from British Possessions adversely affected by the preference to the United Kingdom is relatively small, representing only 6.41 per cent. of the imports of merchandise from those countries. The surcharge of duty on imports from British Possessions during 1913 amounted to £28,281, as against £22,787 in 1912. The sum of £28,281 would, on the basis of the trade of 1913, represent the loss of revenue involved in an extension of the preference given to the United Kingdom to the rest of the Empire, as in the preferential scheme of New Zealand. The British Possessions chiefly affected are India, Canada, Straits Settlements, and New Zealand.

The surcharge on imports, affected by preference, from foreign countries during 1913 would amount to £725,153, as against £765,098 during 1912.

**3. Effect of Preference.**—It may again be mentioned here that the system of recording imports according to "country of origin," was introduced only from the beginning of 1905, and it is evident that in the earlier period of its operation, some goods,

imported through the United Kingdom, were wrongly described as of United Kingdom origin. Particular instances in which manufactures of foreign countries have obviously been credited to the United Kingdom are alluded to later. When the question of revenue became involved, and a more exact description of the goods was insisted upon, goods which might formerly have been accepted and recorded as British would, more probably, be correctly classed as foreign.

A comparison of the returns of the British Board of Trade (showing the exports of produce or manufacture of the United Kingdom to Australia) with the import returns of the Commonwealth, supports the belief that the proportion of the trade credited to the United Kingdom in this country during the years 1905 and 1906 is too high. If this supposition be correct, the apparent decline in the proportion of British goods, as compared with the years mentioned, indicated by the Commonwealth records, is somewhat misleading.

In regard to imports of United Kingdom origin, it has been shewn in previous issues that, while the results for the later years are in substantial agreement, those ascertained from the Commonwealth import returns for 1905 are 8.35 per cent. above those ascertained from the returns of the British Board of Trade.

If it be conceded that the figures of the British Board of Trade for 1905 and 1906, with 10 per cent. added, are nearer the truth than the Commonwealth records for those years, the proportions of the trade done by the United Kingdom in the preferential group would be 63.98 per cent. in 1905, and 66.80 per cent. in 1906, and in the non-preferential group, 48.18 per cent. in 1905, and 50.02 per cent. in 1906, instead of the larger proportions shewn in the following table.

By the substitution of these smaller proportions, it will be observed that instead of declining rapidly since 1905, as indicated by the Commonwealth records, the position of the United Kingdom has been, on the whole, well maintained up to and including the year 1910. The records for 1911 and 1912, however, shew a very pronounced decline in the preferential group, as compared with the immediately preceding years, while in the non-preferential group a very substantial improvement is apparent.

The effect of industrial troubles in the United Kingdom during 1911 on her relative position in the Commonwealth import trade cannot, of course, be measured, but it is more than probable that it has been material. It is also possible that the revised definition of "origin" (see page 519) has had the apparent effect of reducing the value of United Kingdom goods and correspondingly increasing those of other countries.

The following comparative tables shew the proportion of imports—preferential and non-preferential, respectively—recorded in the Commonwealth as of United Kingdom origin during the years 1905-1913:—

## PREFERENTIAL IMPORTS, 1905 to 1913.

Year.	Country of Origin.							
	United Kingdom.		British Possessions.		Foreign Countries.		Total.	
	£	%	£	%	£	%	£	%
1905	13,251,211	69.56*	151,462	0.80	5,645,007	29.64	19,047,680	100
1906	14,624,826	68.56*	165,654	0.78	6,538,149	30.66	21,328,629	100
1907	17,020,098	66.05	210,543	0.82	8,534,751	33.13	25,765,392	100
1908	15,875,574	65.68	162,091	0.67	8,132,653	33.65	24,170,318	100
1909	16,461,406	66.76	319,897	1.30	7,877,383	31.94	24,658,686	100
1910	19,023,310	65.85	211,670	0.73	9,655,321	33.42	28,890,301	100
1911	21,076,988	63.53	268,487	0.81	11,826,658	35.64	33,172,143	100
1912	25,257,961	62.98	432,732	1.08	14,413,575	35.95	40,104,268	100
1913	24,688,744	63.63	500,274	1.29	13,610,358	35.08	38,799,376	100

\* On the basis of British Board of Trade Returns these proportions would be—1905, 63.98 per cent. and 1906, 66.80 per cent.

## COMMONWEALTH NON-PREFERENTIAL IMPORTS,\* 1905 to 1913.

Year.	Country of Origin.							
	United Kingdom.		British Possessions.		Foreign Countries.		Total.	
	£	%	£	%	£	%	£	%
1905 ...	6,860,850	52.00†	1,625,217	12.31	4,708,939	35.69	13,195,006	100
1906 ...	7,970,500	50.85†	2,019,435	12.88	5,685,438	36.27	15,675,373	100
1907 ...	9,252,647	51.18	2,278,588	12.60	6,548,332	36.22	18,079,567	100
1908 ...	9,026,968	50.76	2,299,796	12.93	6,459,376	36.31	17,786,140	100
1909 ...	9,157,772	50.00	2,500,879	13.65	6,658,131	36.35	18,316,782	100
1910 ...	10,846,875	48.42	3,526,540	15.75	8,025,418	35.83	22,399,833	100
1911 ...	10,997,982	46.90	2,808,430	11.98	9,635,525	41.12	23,444,937	100
1912 ...	13,008,489	50.37	2,919,692	11.31	9,898,383	38.33	25,826,564	100
1913 ...	15,909,593	53.44	3,774,393	12.68	10,086,262	33.88	29,770,248	100

\* In order to obtain a more satisfactory comparison only goods of a character similar to those affected by preferential rates have been included in this table. Articles such as fruits, grain, cocoa beans, raw coffee, tea, sugar, unmanufactured tobacco, hides, fibres, kerosene, timber, etc., which are not produced in the United Kingdom, have been excluded. The proportion of these goods recorded as of United Kingdom origin averages only about 3 per cent. † On the basis of British Board of Trade Returns these proportions would be—1905, 48.18 per cent., and 1906, 50.02 per cent.

The pronounced recovery of the United Kingdom, in the non-preferential group, in 1912 has been largely due to the larger imports of mercantile ships. In 1912 the imports of ships of United Kingdom origin were valued at £1,146,922, representing 92.59 per cent. of the total of such imports. In 1913 the position of the United Kingdom was further improved by the arrival in Australia of warships valued at £2,495,000 which had been built in the United Kingdom for the Commonwealth Government, and of mercantile ships, valued at £1,662,300, of which 94.92 per cent. had been built in the United Kingdom. If these ships be entirely omitted, the share of the United Kingdom would be 46.45 per cent. in 1911, 48.14 per cent. in 1912, and 46.08 per cent. in 1913, instead of 46.90 per cent., 50.37 per cent., and 53.44 per cent. respectively.

The principal classes of imports affected by preference are "apparel, textiles and manufactured fibres," and "manufactures of metals, including machinery." Together these two classes represented 65 per cent. of all imports affected by the preferential tariff during 1913, the former class representing 39 per cent. and the latter 26 per cent. The following analysis gives the particulars of the imports of these groups, as recorded, for the past nine years:—

**COMMONWEALTH IMPORTS OF APPAREL, TEXTILES AND MANUFACTURED  
FIBRES, 1905 to 1913.**  
**PREFERENTIAL.**

Year.	Country of Origin.							
	United Kingdom.		British Possessions.		Foreign Countries.		Total.	
	£	%	£	%	£	%	£	%
1905* ...	7,586,841*	76.98*	42,442	0.42	2,228,104	22.60	9,857,387	100
1906* ...	8,240,338*	75.92*	59,402	0.55	2,554,765	23.53	10,854,505	100
1907 ...	8,725,908	70.20	68,764	0.54	3,637,169	29.26	12,431,841	100
1908 ...	7,716,800	68.35	54,667	0.48	3,519,641	31.17	11,291,108	100
1909 ...	8,038,772	69.26	58,999	0.50	3,509,876	30.24	11,607,247	100
1910 ...	9,511,026	70.31	55,662	0.41	3,960,627	29.28	13,527,315	100
1911 ...	10,022,798	70.06	68,030	0.48	4,214,179	29.46	14,305,007	100
1912 ...	11,052,015	69.11	85,524	0.54	4,853,825	30.35	15,991,364	100
1913 ...	10,594,158	69.26	91,024	0.59	4,611,201	30.15	15,296,383	100

## NON-PREFERENTIAL.

1905* ...	903,653*	42.28*	971,931	45.47	261,815	12.25	2,137,399	100
1906* ...	1,045,608*	39.72*	1,251,056	47.53	335,389	12.75	2,632,053	100
1907 ...	1,153,666	39.66	1,327,829	45.64	427,325	14.70	2,908,820	100
1908 ...	1,074,671	42.08	1,168,473	45.76	310,435	12.16	2,553,579	100
1909 ...	1,193,196	37.77	1,380,056	43.70	585,239	18.53	3,158,491	100
1910 ...	1,385,342	35.42	1,798,895	45.99	727,053	18.59	3,911,290	100
1911 ...	1,440,129	40.73	1,330,974	37.65	764,386	21.62	3,535,489	100
1912 ...	1,462,271	41.72	1,242,937	35.47	799,190	22.81	3,504,398	100
1913 ...	1,463,485	33.19	2,170,615	49.23	775,285	17.58	4,409,385	100

\* The amount credited to the United Kingdom in these years is considered to be in excess of the truth.

If the figures for 1905 and 1906 be ignored (on account of their doubtful accuracy) it will be seen from the above table, referring to preferential imports, that there has been little variation in the distribution of the textile trade as between the United Kingdom and foreign countries, and the same stability is maintained throughout the several lines shewn in the following detailed table.

The large proportion of the trade in non-preferential textiles supplied by British Possessions is almost entirely composed of jute goods from India. Of the £2,170,615 of non-preferential goods of this nature imported from British Possessions during 1913, £2,155,677, or 99.30 per cent., was jute goods from India. The fluctuations in the demand for jute goods so affect the total value of the imports of the non-preferential textile group as to disturb the proportion of the group total supplied by the United Kingdom and by foreign countries respectively, although their trade may in reality be unchanged. Eliminating the trade of British Possessions, the distribution of the non-preferential textile trade between the United Kingdom and foreign countries has been as follows:—

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
	%	%	%	%	%	%	%	%	%
United Kingdom ...	77.53	75.72	72.96	77.59	67.08	65.58	65.32	64.67	65.37
Foreign Countries ...	22.47	24.28	27.04	22.41	32.92	34.42	34.68	35.33	34.63

The increasing share of this trade supplied by foreign countries is largely due to the increased imports of the following items:—Minor articles for apparel from Austria-Hungary and Germany; furs from Germany and Russia; cotton socks and stockings from Germany; canvas and duck from United States of America.

The detailed tables which are appended shew the relative proportions of the various classes of textile goods supplied by the United Kingdom. In regard to those textile goods affected by preference, the figures shew that since 1907 (the first year with which satisfactory comparisons can be made); the share of the United Kingdom has been substantially maintained in nearly all the lines enumerated below, the aggregate result being that in the year 1913, 69.26 per cent. was supplied as against 70.20 per cent. in 1907.

The value and proportion of the more important items, included in the above groups of apparel and textiles, recorded as of United Kingdom manufacture, are given below:—

**COMMONWEALTH IMPORTS OF PREFERENTIAL ITEMS OF APPAREL AND TEXTILES  
RECORDED AS OF UNITED KINGDOM ORIGIN, 1907 and 1910-13.**

Items.	1907.		1910.		1911.		1912.		1913.	
	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.
<b>Apparel—</b>	£		£		£		£		£	
Boots and shoes ...	195,426	66.28	238,597	67.23	264,713	71.17	364,426	68.82	392,820	67.06
Gloves ...	48,168	17.07	31,659	10.78	29,133	8.31	41,653	9.63	34,186	9.29
Hats, caps, & bonnets	260,853	63.87	209,443	67.31	222,486	67.34	296,862	65.29	322,776	64.11
Socks and stockings of wool, &c. ...	348,307	97.23	412,359	95.47	440,318	95.35	509,427	93.05	516,449	90.58
Trimmings & ornaments	86,317	25.73	46,547	25.85	53,762	*13.41	80,091	*13.41	*84,036	18.28
Other apparel ...	1,040,855	67.28	1,044,336	66.08	1,158,403	64.21	1,573,017	65.58	1,517,144	70.71
<b>Textiles, etc. — Piece goods —</b>										
Cotton and linen, n.e.i. ...	3,266,665	89.90	3,936,739	88.36	3,925,997	86.66	4,016,831	86.30	3,025,366	85.81
Woollen or containing wool...	1,849,153	80.62	1,815,245	84.57	1,960,760	85.68	2,053,861	85.32	1,821,389	84.86
Silk or containing silk (not containing wool)	106,008	11.73	115,003	12.19	142,257	13.81	128,100	12.74	101,519	10.40
Velvets, velveteens, plushes, ribbons, lace, etc. ...	235,314	27.67	274,450	22.52	300,520	*34.69	363,003	*34.45	307,389	*33.85
Flannelettes ...	228,240	81.85	138,098	82.50	136,564	84.48	116,553	85.50	109,798	83.85
Other textiles & manufactured fibres ...	1,060,702	85.23	1,248,550	86.38	1,407,885	85.81	1,508,191	84.93	1,461,286	84.57
<b>Total apparel &amp; textiles</b>	<b>8,725,908</b>	<b>70.20</b>	<b>9,511,026</b>	<b>70.31</b>	<b>10,022,798</b>	<b>70.06</b>	<b>11,052,015</b>	<b>69.11</b>	<b>10,594,158</b>	<b>69.26</b>

\* In these years some ribbons, galloons, etc., previously included with Velvets, etc., have been transferred to Trimmings and ornaments.

**COMMONWEALTH IMPORTS OF NON-PREFERENTIAL ITEMS OF APPAREL AND TEXTILES RECORDED AS OF UNITED KINGDOM ORIGIN, 1907 and 1910-13.**

Items.	1907.		1910.		1911.		1912.		1913.	
	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.
	£		£		£		£		£	
Apparel—Socks & stockings of cotton ...	48,207	29.66	48,697	27.37	45,576	23.51	40,019	20.06	40,342	17.02
Other ...	97,228	76.00	57,612	47.71	76,671	48.27	45,109	39.93	50,859	35.44
Minor articles for—										
Boots and shoes ...	33,340	56.73	35,044	51.80	34,875	53.82	33,776	49.45	34,653	54.34
Hats and caps ...	42,937	29.78	59,695	25.54	58,317	31.15	49,899	27.88	50,621	36.01
Umbrellas ...	20,903	96.26	40,211	93.87	32,969	91.97	29,420	95.70	31,956	95.78
Other apparel ...	153,600	65.83	171,461	44.55	178,218	43.25	172,945	40.90	134,301	36.48
Piece goods—Canvas & duck ...	107,792	89.05	212,779	89.62	237,353	89.42	277,182	86.99	304,356	88.38
Hessians ...	47,840	19.14	50,268	21.44	28,185	13.73	39,793	15.55	77,634	20.81
Other ...	69,551	79.28	114,352	69.18	115,434	68.04	122,353	66.52	116,179	66.77
Sewing silks, threads, etc	317,519	87.76	360,900	91.90	402,051	91.86	389,129	91.56	347,520	88.92
Tents and flags ...	4,147	91.49	12,734	98.30	10,608	95.28	2,091	46.96	2,182	67.90
Cordage and twine ...	200,030	90.03	215,371	90.81	208,690	85.37	256,896	87.18	268,730	87.91
Bags and sacks ...	10,573	0.95	6,218	0.39	11,182	0.97	3,659	0.36	4,152	0.22
<b>Total ...</b>	<b>1,153,666</b>	<b>39.66</b>	<b>1,385,342</b>	<b>35.42</b>	<b>1,440,129</b>	<b>40.73</b>	<b>1,462,271</b>	<b>41.72</b>	<b>1,463,485</b>	<b>33.19</b>

**COMMONWEALTH IMPORTS OF METALS AND MANUFACTURES OF METAL,  
(INCLUDING MACHINERY), 1905 to 1913.**

**PREFERENTIAL.**

Year.	Country of Origin.							
	United Kingdom.		British Possessions.		Foreign Countries.		Total.	
	£	%	£	%	£	%	£	%
1905 ...	2,690,043	72.77	13,597	0.37	993,252	26.86	3,696,892	100
1906 ...	3,132,437	73.35	17,492	0.41	1,121,241	26.24	4,271,170	100
1907 ...	4,401,531	75.73	25,926	0.45	1,384,530	23.82	5,811,987	100
1908 ...	4,271,659	75.53	9,765	0.17	1,374,303	24.30	5,655,727	100
1909 ...	4,517,994	76.95	144,933	2.47	1,208,538	20.58	5,871,465	100
1910 ...	4,834,293	73.13	17,384	0.26	1,759,351	26.61	6,611,028	100
1911 ...	5,675,023	70.72	17,360	0.22	2,332,527	29.06	8,024,910	100
1912 ...	7,549,230	73.35	24,696	0.24	2,718,015	26.41	10,291,941	100
1913 ...	7,663,001	76.02	25,577	0.25	2,383,951	23.67	10,072,529	100

**NON-PREFERENTIAL.**

	£	%	£	%	£	%	£	%
1905 ...	1,793,631	51.40	129,747	3.72	1,566,421	44.88	3,489,799	100
1906 ...	2,416,705	53.22	92,978	2.05	2,030,556	44.73	4,540,239	100
1907 ...	3,180,805	51.90	209,725	3.62	2,403,455	41.48	5,793,985	100
1908 ...	2,942,064	53.85	189,632	3.47	2,332,059	42.68	5,463,775	100
1909 ...	2,934,101	53.91	201,511	3.70	2,307,684	42.39	5,443,296	100
1910 ...	3,478,432	51.90	325,299	4.85	2,898,362	43.25	6,702,093	100
1911 ...	3,756,393	49.27	363,234	4.83	3,500,862	45.90	7,625,489	100
1912 ...	4,479,489	53.24	342,190	4.07	3,592,577	42.69	8,414,256	100
1913 ...	4,392,532	52.53	330,427	3.95	3,639,230	43.52	8,362,239	100

In the metal trade, the position of the United Kingdom in both the preferential and non-preferential divisions, has been much improved as compared with 1911, when an unusually large proportion of this trade was supplied by Germany and the United States.

The imports of metals and manufactures of metals afford the most satisfactory data available by which to measure the effects of preference, for the reasons that—(i.) the value of the trade is more evenly divided between the preferential and non-preferential divisions, and (ii.) the goods in both groups are similar in character, and are, consequently, manufactured and distributed under similar conditions. It is, therefore, interesting to observe the general similarity between the variations of the proportions of the trade supplied by the United Kingdom in each of the two divisions of this group. It will be noticed that in each year until 1913 the direction of the movement has been identical, and, although the degree of variation has not been the same year by year, the proportions supplied by the United Kingdom in 1912 were in both divisions identical with those of 1906, the figures being :—Preferential, 73.35, 73.35; non-preferential, 53.22, 53.24. The figures for 1913, however, shew a decided divergence, for, whereas in the preferential division the sales by the United Kingdom were greater than in 1912 by £113,771, those by foreign countries declined by £334,064. On the other hand, in the non-preferential group the imports from foreign countries increased by £46,653, while those from the United Kingdom declined by £86,907. The improved position of the United Kingdom in the preferential branch of this trade was attained by procuring a larger proportion of the orders for corrugated and galvanised sheet and plate iron, rails, fishplates, etc., and tinned plates. With regard to the first-named item, the sales by the United States declined by 47.62 per cent., while those of the United Kingdom were only less than 1912 by 2.20 per cent. In the supply of rails, too, the sales by the United Kingdom were increased by 23.68 per cent., while those by all competitors fell materially. In the non-preferential division largely increased orders for iron bar, rod, etc., went to Belgium, Germany, and the United States, while the value of the imports from the United Kingdom was actually less than in 1912.

The relatively small proportion of the non-preferential division of metal trade, supplied by the United Kingdom, is due chiefly to the following items:—Agricultural implements and machinery, mainly supplied by Canada and the United States; sewing machines, largely supplied by the United States and Germany; iron and steel wire, mainly supplied by the United States and Germany; iron hoop, largely supplied by Germany, the United States, and Belgium; and iron ingots, blooms, etc., which in 1913 were supplied in almost equal proportions by the United Kingdom, Belgium, and Germany.

**COMMONWEALTH IMPORTS OF PRINCIPAL ITEMS OF METALS, Etc., INCLUDING MACHINERY, RECORDED AS OF UNITED KINGDOM ORIGIN, 1907 and 1910-1913.**

**PREFERENTIAL.**

Items.	1907.		1910.		1911.		1912.		1913.	
	Amount.	%	Amount.	%	Amount.	%	Amount.	%	Amount.	%
	£		£		£		£		£	
Iron & steel girders, beams, etc. ....	64,366	68.88	138,588	82.92	182,685	72.18	226,190	79.35	290,340	77.23
Plate & sheet (corrugated or galvd.)	1,279,440	94.36	1,590,746	92.37	1,677,259	94.18	1,905,802	92.79	1,864,208	95.95
Rails, fishplates, etc.	562,610	89.46	399,547	48.69	499,629	46.27	844,733	64.98	1,044,849	84.78
Tinned plates ...	247,650	99.55	355,395	99.99	486,311	100.00	504,257	97.94	527,390	99.90
	2,154,066	92.57	2,484,276	81.04	2,845,884	79.04	3,480,982	83.80	3,726,787	90.25
Machinery ...	775,673	62.15	691,224	63.46	946,182	64.42	1,579,833	65.03	1,629,968	64.08
Other manufactures of metals ...	1,471,792	65.80	1,658,792	67.53	1,882,957	63.71	2,488,415	67.10	2,306,246	67.82
	2,247,465	64.50	2,350,017	66.28	2,829,139	63.94	4,068,248	66.28	3,936,214	66.24
Total ...	4,401,531	75.73	4,834,293	73.13	5,675,023	70.72	7,549,230	73.35	7,663,001	76.08



**COMMONWEALTH IMPORTS OF PRINCIPAL ITEMS OF METALS, ETC.,  
INCLUDING MACHINERY, RECORDED AS OF UNITED KINGDOM  
ORIGIN, 1907 AND 1910-1913.—Continued.**

**NON-PREFERENTIAL.**

Items.	1907.		1910.		1911.		1912.		1913.	
	Amount.	%	Amount.	%	Amount.	%	Amount.	%	Amount.	%
	£		£		£		£		£	
Iron and steel—										
Pig ...	162,815	90.16	105,596	77.10	132,857	66.24	193,486	83.89	162,414	73.08
Bar, rod, angle, and tee ...	475,748	79.31	552,788	70.37	572,569	68.50	787,646	71.07	765,292	64.82
Hoop ...	42,513	62.40	27,604	41.63	33,036	40.14	26,781	36.10	33,707	37.95
Ingots, blooms & slabs ...	10,470	26.23	9,910	19.30	18,220	26.69	23,302	35.80	26,097	35.87
Plate and sheet—										
plain ...	179,928	62.98	201,788	61.03	217,401	55.63	245,889	53.96	283,429	58.67
Scrap ...	44,989	88.64	48,118	98.91	68,816	97.26	74,277	97.28	90,988	95.34
	916,463	74.83	945,804	66.63	1,042,899	63.26	1,351,381	67.23	1,361,927	63.55
Machinery—										
Agricultural, dairying, etc. ...	53,491	10.32	96,029	13.63	74,601	10.52	80,779	13.75	79,063	12.65
Engines—										
Gas and oil ...	113,035	73.70	124,732	73.59	114,224	67.71	127,213	72.76	148,137	76.98
Sewing machines	12,789	6.76	106,849	42.17	91,328	32.00	111,968	36.58	74,646	28.84
Other machinery and mach. tools	324,889	50.55	620,046	53.55	656,451	48.58	610,259	47.91	615,553	50.37
Tools of trade ...	219,907	45.98	287,341	52.48	320,339	48.88	350,705	48.45	313,785	46.74
Wire—Iron & steel	52,365	9.67	115,555	16.51	111,267	14.92	113,316	15.65	89,383	13.97
Other ...	96,335	72.82	104,039	65.82	107,677	62.13	164,137	73.44	219,120	76.85
Wire netting	400,708	68.90	159,291	55.42	179,649	54.30	229,575	56.36	221,645	65.58
Other metals and man'fact. thereof	990,823	74.44	918,746	70.42	1,057,958	67.95	1,340,156	67.58	1,269,323	63.88
	2,264,342	49.55	2,532,628	47.94	2,713,494	45.40	3,128,108	48.85	3,030,655	48.73
Total ...	3,180,805	54.90	3,478,432	51.90	3,756,393	49.27	4,479,489	53.24	4,392,582	52.53

The countries from which the principal supplies of rails, fishplates, etc., were drawn, and the percentage proportion supplied by each, are shewn in the following table:—

**IMPORTS INTO THE COMMONWEALTH OF IRON AND STEEL RAILS, Etc.,**

1907 AND 1910 TO 1913.

Country of Origin.	1907.		1910.		1911.		1912.		1913.	
	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.
	£		£		£		£		£	
United Kingdom ...	562,610	89.46	399,547	48.69	499,629	46.27	844,733	64.98	1,044,849	81.49
Belgium ...	19,599	3.12	14,806	1.80	43,014	3.98	125,033	9.62	12,482	0.97
Germany ...	37,969	6.04	33,864	4.13	210,757	19.51	89,739	6.90	56,717	4.42
Utd. States of America	7,705	1.22	371,561	45.27	309,578	28.67	214,852	16.53	168,030	13.10
Other Countries ...	1,048	0.16	899	0.11	16,955	1.57	25,728	1.97	277	0.02
Total ...	628,931	100.00	820,677	100.00	1,079,928	100.00	1,300,085	100.00	1,262,355	100.00

The imports of steel rails indicate that there are influences, outweighing the effect of tariff preference, affecting the distribution of the trade, for, notwithstanding that the

preference has been in operation throughout the whole of the period, the proportion supplied by the United Kingdom fell from 89.46 per cent. in 1907 to 46.27 per cent. in 1911, rising again to 81.49 per cent. in 1913.

Other classes of goods which furnish useful data for measuring the effects of the preferential tariff are paints and paper. The share of the United Kingdom in the supply of these goods to the Commonwealth during the years 1907 and 1910 to 1913 is given below :—

#### IMPORTS OF PAINTS OF UNITED KINGDOM ORIGIN, 1907 and 1910 to 1913.

	1907.		1910.		1911.		1912.		1913.	
	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.
Preferential ...	£ 36,180	58.88	£ 62,050	64.45	£ 66,591	56.38	£ 89,597	61.45	£ 94,981	65.09
Non-preferential ...	261,721	85.78	249,591	86.72	277,133	88.89	367,106	89.36	315,677	89.45

It will be seen from the above figures that although the gain of the United Kingdom, between the first and last years of the period under review, is somewhat greater in the preferential than in the non-preferential division, there is nothing to indicate an advantage accruing from a constant cause such as tariff preference, for on the 1911 figures the non-preferential division shewed a gain and the preferential division a loss to the United Kingdom.

#### IMPORTS OF PAPER OF UNITED KINGDOM ORIGIN, 1907 and 1910 to 1913.

	1907.		1910.		1911.		1912.		1913.	
	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.
Preferential— Paperhangings ...	£ 38,415	77.78	£ 52,396	84.93	£ 52,045	82.67	£ 49,440	81.06	£ 52,881	84.40
Other ...	242,421	49.75	280,671	53.62	309,349	50.41	357,529	50.82	356,676	52.29
Total ...	280,836	52.33	333,067	56.92	361,394	53.42	406,969	53.23	409,557	54.99
Non-Preferential— Printing ...	167,889	32.98	303,541	41.51	306,630	42.23	329,908	36.40	390,865	39.10
Other ...	87,349	46.49	82,002	39.54	110,388	37.46	97,554	34.60	100,677	42.30
Total ...	255,238	36.63	385,543	41.08	417,018	40.86	427,462	35.97	491,542	39.26

With regard to the paper trade also, there is an absence of satisfactory evidence of benefit from the preferential tariff, inasmuch as there is no greater regularity of movement or greater stability in the share of the United Kingdom in the preferential than in the non-preferential division. It will be observed that in both the preferential and non-preferential divisions of the paper trade the variations of the United Kingdom's share have been very similar. In 1910 the proportions supplied by the United Kingdom in both divisions are considerably greater than in 1907; in both divisions the United Kingdom loses ground until 1913, when, again, there is a material improvement in both divisions.

A further list of items, preferential and non-preferential, recorded as of United Kingdom origin, is appended :—

## PRINCIPAL OTHER PREFERENTIAL IMPORTS, 1907 and 1910 to 1913.

Article.	1907.		1910.		1911.		1912.		1913.	
	Amount	Per cent.	Amount	Per cent.	Amount	Per cent.	Amount	Per cent.	Amount	Per cent.
	£		£		£		£		£	
Milk—Preserved, concentrated, etc. ....	13,727	8.05	124,116	91.72	63,162	84.93	11,495	44.30	9,925	37.36
Confectionery, cocoa, chocolate, etc. ....	270,311	67.59	345,733	70.40	417,887	62.85	490,936	56.09	492,777	63.29
Gelatine, glue, cements	19,115	33.14	25,576	44.92	27,186	45.69	33,748	49.23	38,583	52.37
Yarns ....	128,166	78.42	143,014	84.38	249,543	90.06	309,713	93.00	251,602	91.01
Oils ....	25,226	11.69	33,976	9.29	32,633	6.48	37,647	4.61	40,645	5.18
Varnishes ....	66,387	63.83	81,357	83.58	69,410	77.14	91,945	78.45	83,610	75.32
Slates—roofing ....	26,615	62.65	28,515	71.59	24,834	54.66	48,075	70.85	45,992	66.73
Leather ....	60,550	83.02	69,259	84.32	77,886	85.59	150,180	80.61	144,279	78.55
Rubber, m'factures of	136,463	58.82	182,157	46.34	199,231	37.94	210,654	31.37	200,112	28.35
Furniture, etc. ....	69,200	27.09	63,093	31.98	80,252	30.47	131,316	35.08	109,160	33.73
Wood manufactures. ....	40,229	26.97	37,761	29.60	40,219	26.28	50,958	28.03	48,575	25.67
China & earthenware	216,869	64.38	217,193	65.50	269,360	63.20	278,763	67.42	291,779	67.73
Glass and glassware ....	90,609	27.02	84,005	26.46	95,931	25.73	110,868	25.39	103,256	21.68
Cement (Portland) ....	23,638	46.33	79,032	56.96	62,708	41.44	69,599	26.60	61,062	23.11
Tiles—roofing ....	17,766	46.22	23,498	50.99	25,503	55.24	38,163	64.29	47,267	60.42
Stationery ....	194,555	64.70	186,897	64.54	205,216	61.54	245,003	66.03	242,716	67.79
Timepieces, jewellery, and fancy goods ....	483,120	46.58	473,518	46.00	535,884	43.85	567,541	42.96	478,757	42.89
Arms. ....	28,392	35.34	39,599	45.05	45,687	41.28	44,864	36.62	40,686	37.73
Percussion caps, cartridges, etc. ....	82,999	54.72	69,439	53.32	84,544	57.33	124,495	64.43	105,771	63.73
Detonators and fuse. ....	42,984	98.06	40,087	97.12	43,359	98.55	48,729	98.11	45,403	99.66
Dynamite, gunpowder	277,394	82.39	307,130	70.86	299,351	71.99	371,787	81.17	401,254	95.55
Bags, baskets, etc. ....	42,038	33.59	54,706	29.79	74,361	27.78	97,379	30.82	83,224	28.25
Brushware ....	89,025	53.58	73,194	55.41	80,859	51.51	84,996	51.84	86,014	54.31
Blackings, etc. ....	55,502	66.39	12,444	48.01	10,262	39.21	11,124	38.01	12,040	48.85
Electrical articles and materials ....	233,439	68.72	277,105	77.49	430,016	75.10	586,559	86.59	663,485	82.50
Matches ....	44,848	28.74	59,043	39.89	107,305	57.04	131,246	65.42	126,505	76.23
Pianos and parts. ....	43,663	13.94	46,067	13.58	73,374	15.50	65,234	12.23	50,065	12.94
Oilmen's stores ....	57,124	63.63	78,803	71.04	82,631	71.19	112,423	72.86	134,779	75.67
Vehicles, bicycles, tricycles, etc. ....	418,019	65.32	669,993	56.30	775,699	48.05	1,061,433	44.96	1,016,102	42.71

## PRINCIPAL NON-PREFERENTIAL IMPORTS, 1907 and 1910 to 1913.

Article.	1907.		1910.		1911.		1912.		1913.	
	Amount	Per cent.	Amount	Per cent.	Amount	Per cent.	Amount	Per cent.	Amount	Per cent.
	£		£		£		£		£	
Fish ....	135,420	35.13	147,793	26.50	158,201	27.95	201,364	25.97	236,582	33.19
Meats ....	23,271	49.65	34,260	51.44	34,508	52.75	46,940	51.45	44,347	58.91
Grain, prepared (malt, oatmeal, etc.) ....	61,412	76.81	36,825	67.94	34,360	65.18	44,822	62.49	31,332	57.48
Hops ....	7,604	15.30	9,097	15.12	9,516	19.37	17,415	19.35	12,325	13.31
Oilmen's stores (free)	48,694	82.27	88,500	82.73	89,911	80.47	109,827	79.06	85,578	76.34
Mustard ....	45,956	98.07	48,625	98.80	47,532	97.97	53,243	96.30	49,772	98.37
Tobacco, mfd. (cigars, cigarettes, etc.) ....	35,238	10.76	44,122	13.63	57,366	14.69	70,672	16.32	81,665	19.74
Oils and greases ....	138,834	29.17	231,648	37.89	315,347	39.37	330,025	44.90	260,433	39.92
Marble and stone ....	14,071	26.91	13,445	25.04	18,383	27.41	5,172	13.37	4,342	9.93
Indiarubber manufacts.	41,132	22.10	50,642	17.50	49,362	12.20	50,260	15.55	43,239	12.42
Leather, manufacts. of	114,009	25.44	95,494	21.58	107,325	23.84	61,049	12.18	62,065	14.01
Harness—minor articles for ....	62,148	94.73	92,602	96.39	111,279	95.86	102,182	96.55	65,474	95.16
Furniture—minor articles for ....	34,801	74.10	52,033	77.52	80,763	78.63	77,692	82.10	63,320	77.28
Earth'ware, bricks, etc.	19,321	82.02	37,289	66.19	51,235	61.01	24,364	67.88	26,907	68.43
Glass and glassware ....	28,247	48.15	50,439	50.80	47,739	38.31	66,584	45.94	62,359	42.91
Books, printed ....	424,045	92.02	501,495	88.83	616,657	89.24	613,976	89.54	597,459	88.10
Stationery ....	44,449	62.48	41,936	52.91	51,430	46.42	54,928	51.42	48,303	47.53
Instruments, scientific do., surgical & dental	13,803	66.35	22,707	69.60	27,897	67.89	36,841	71.42	38,197	65.03
Drugs and chemicals—Insecticides, disinfectants, etc. ....	40,136	46.12	45,338	42.56	63,062	44.11	57,510	42.73	91,373	50.49
Medicines ....	35,070	67.72	33,927	63.08	41,811	75.42	48,021	75.90	41,545	70.98
Essential oils ....	146,689	62.63	157,712	61.95	157,316	58.92	181,778	59.52	210,787	63.04
Acids ....	19,092	42.87	11,517	27.01	11,839	23.07	16,934	24.33	15,971	23.71
Cyanide of potassium	11,361	23.08	24,047	40.48	17,279	35.94	38,440	43.71	34,941	43.37
Sodas (exclud. soda nitrate) ....	174,571	34.94	233,110	58.74	196,198	87.52	184,134	85.28	164,236	88.37
Fertilisers ....	82,699	94.80	117,228	94.42	125,301	95.43	142,569	96.40	134,076	95.61
Other drugs ....	100,331	25.79	124,468	18.58	90,163	17.57	52,756	9.33	34,508	5.87
Musical instruments (not pianos) & parts	200,009	31.73	138,943	25.79	161,237	23.08	164,196	22.46	149,736	6.63
Soap ....	29,952	26.74	26,854	24.09	28,431	21.76	37,078	26.11	33,232	26.31
Ships ....	47,692	46.12	45,853	43.69	44,314	41.40	53,001	39.61	49,127	38.41
	655,760	96.34	687,500	96.58	241,245	70.94	1,146,922	92.59	1,572,484	99.82

4. **Preferential Tariff of New Zealand.**—"The Preferential and Reciprocal Trade Act 1903" of New Zealand introduced preferential rates of duty in favour of the produce of the British Dominions by imposing extra duties on certain imports which were the produce or manufacture of other countries. The list of preferential items was materially extended by the New Zealand "Tariff Act 1907," from the 31st March, 1908.

The following tables present an analysis of the imports into New Zealand during 1913, distinguishing those which would be affected by an application of the preferential provisions of the "Tariff Act 1907":—

**NEW ZEALAND—IMPORTS, 1913, PREFERENTIAL AND NON-PREFERENTIAL.**

Particulars.	From United Kingdom and British Possessions.	From Foreign Countries.	Total.
Imports affected by preferential tariff—	£	£	£
Free ... ..	2,252,915	—	2,252,915
Dutiable ... ..	3,853,377	1,325,057	5,178,434
Total ... ..	6,106,292	1,325,057	7,431,349
Imports not affected by preferential tariff—			
Free ... ..	6,935,384	2,086,203	9,021,587
Dutiable ... ..	4,494,367	706,329	5,200,696
Total ... ..	11,429,751	2,792,532	14,222,283
Total merchandise ... ..	17,536,043	4,117,589	21,653,632
Bullion and specie ... ..	627,670	7,000	634,670
Total ... ..	18,163,713	4,124,589	22,288,302

NOTE.—In this table the imports affected by the preferential provisions of the tariff are stated, as far as possible, according to the country of origin; those unaffected by preference according to country of shipment, the country of origin of these not being recorded. Without doubt imports from the United Kingdom and British Possessions include goods of foreign origin.

**NEW ZEALAND—IMPORTS AFFECTED BY PREFERENTIAL TARIFF RATES, 1913.**

**FROM UNITED KINGDOM AND BRITISH POSSESSIONS.**

Particulars.	Imports.	Duty which would be payable under—			
		Preferential Tariff.		General Tariff.	
	£	£	Rate %	£	Rate %
(A) Free ... ..	2,252,915	...	...	400,503	17.78
(B) Dutiable ... ..	3,853,377	765,727	19.87	1,125,354	29.20
Total ... ..	6,106,292	765,727	12.55	1,525,857	24.99

NEW ZEALAND—IMPORTS AFFECTED BY PREFERENTIAL TARIFF RATES,  
1913—Continued.

FROM FOREIGN COUNTRIES.

Particulars.	Imports.	Duty which would be payable under—			
		General Tariff.		Preferential Tariff.	
	£	£	Rate %	£	Rate %
Imports similar to group A above	127,478	19,198	15.06	...	...
" " " B "	1,197,579	366,962	30.64	251,472	21.00
Total ... ..	1,325,057	386,160	29.15	251,472	18.98

5. **Preferential Tariff of South Africa.**—Preference to goods of United Kingdom origin was first granted by the South African Customs Union Convention of 1903 from the 15th August of that year, and similar treatment was extended to Canada from the 1st July, 1904. The preferential tariff of the South African Customs Union (Convention, 1906, and amendments, 1908) applies to produce of United Kingdom, Canada, New Zealand and the Commonwealth.

An analysis of the trade of South Africa is appended :—

SOUTH AFRICA—IMPORTS, 1913, PREFERENTIAL AND NON-PREFERENTIAL.

Particulars.	From United Kingdom and Reciprocating Countries.	From other Countries.	Total.
Imports affected by preferential tariff—	£	£	£
Free... ..	5,413,860	...	5,413,860
Dutiable ... ..	17,053,771	11,193,160	28,246,931
Total ... ..	22,467,631	11,193,160	33,660,791
Imports not affected by preferential tariff—			
Free... ..	3,874,338	1,810,753	5,685,091
Dutiable ... ..	816,028	2,685,898	3,501,926
Total ... ..	4,690,366	4,496,651	9,187,017
Total merchandise ... ..	27,157,997	15,689,811	42,847,808
Bullion and specie ... ..	116,815	804,784	921,599
Total ... ..	27,274,812	16,494,595	43,769,407

NOTE.—Owing to difficulty in applying the tariff rates to the statistical items, the above results must be taken as approximate only.

**SOUTH AFRICA—IMPORTS AFFECTED BY PREFERENTIAL TARIFF RATES, 1913.**

FROM UNITED KINGDOM AND RECIPROCATING BRITISH POSSESSIONS.

Particulars.	Imports.	Duty which would be payable under—			
		Preferential Tariff.		General Tariff.	
	£	£	Rate %	£	Rate %
(A) Free ... ..	5,413,860	...	...	162,416	3.00
(B) Dutiable ... ..	17,053,771	2,406,520	14.11	2,920,396	17.13
Total ... ..	22,467,631	2,406,520	10.71	3,082,812	13.72

## FROM FOREIGN COUNTRIES.

Particulars.	Imports.	Duty which would be payable under—			
		General Tariff.		Preferential Tariff.	
	£	£	Rate %	£	Rate %
Imports similar to group (A) above	4,337,307	130,119	3.00	...	...
" " (B) "	6,855,853	1,211,511	17.67	1,002,978	14.63
Total ... ..	11,193,160	1,341,630	11.25	1,002,978	8.41

**6. Preferential Tariff of Canada.**—Preferential tariff treatment of goods of the United Kingdom and certain British Possessions was first given by Canada in 1897.

The published trade returns of Canada do not permit of an analysis similar to those given for the Commonwealth, New Zealand, and South Africa.

**7. Preferential Tariff Comparisons.**—The following table presents a comparative statement of the imports into the Commonwealth, New Zealand, and South Africa during 1913, the imports of each country having been analysed according to the application of its own tariff :—

**APPLICATION OF PREFERENTIAL TARIFFS.—COMPARATIVE STATEMENT, 1913.**

Particulars.	C'wealth of Australia.	Dominion of New Zealand.	Customs Union of South Africa.
1. Total imports of merchandise ...	£ 78,196,109	21,653,632	42,847,808
2. " " from favoured countries £	40,948,803	17,536,043*	27,157,997
3. Imports from favoured countries, p.c. to item 1	52.37	80.99	63.38
4. Imports affected (favourably or adversely) by preferential rates ...	£ 38,799,376	7,431,349	33,660,791
5. Imports affected (favourably or adversely) by preferential rates, per cent. to total item 1...	49.62	34.32	78.57
6. Imports favoured by preferential rates £	24,688,744	6,106,292*	22,467,631
7. " " " p.c. to item 1	31.57	28.20	52.44
8. " " " " 2	60.20	34.82	82.73
9. Amount of rebate ... ..	£ 1,248,253	760,130	676,292
10. Rate of rebate per cent. <i>ad val.</i> ...	5.06	12.44	3.01

\* See note to table on page 561.

From the foregoing it will be observed that the preferential schemes, as at present in force in the different parts of the Empire, are by no means uniform. The preferential tariff of New Zealand applies to a wider range of countries than that of any other part of the Empire, inasmuch as the advantage of the lower tariff rates is extended to all parts of the British dominions, while those of Canada and South Africa apply to the United Kingdom and reciprocating British Possessions, and that of the Commonwealth to the United Kingdom only. Apart from the British preferential tariff, however, the Commonwealth, in consideration of its participation in the South African preference, gives a preference to certain products of that country. New Zealand and South Africa have also a special reciprocal trade agreement in addition to the main schemes of preference. Canada, under the Customs Tariff Act of 1907, makes provision for an intermediate tariff, which may be applied to the produce of *foreign* countries. Canada already has a reciprocal trade agreement with France.

The margin between the rates of duty applied to British and foreign goods, respectively, is also higher in New Zealand than in the Commonwealth or South Africa, though in the latter countries the preferential tariff affects a greater proportion of the trade. On the basis of the imports into New Zealand during 1913 the average margin of preference was 12.44 per cent. of the value of the goods, while in the Commonwealth the similar margin was 5.06 per cent., and in South Africa 3.01 per cent. The average rate of duty charged in New Zealand on British goods, subject to preferential rates, was 12.55 per cent., while the same goods if of foreign origin would have had to pay 24.99 per cent. In the Commonwealth the collateral rates were 13.48 per cent. and 18.54 per cent. respectively, and in South Africa 10.71 per cent. and 13.72 per cent.

**8. Comparative Results of Preferential Tariffs of Australia, New Zealand, and South Africa.**—The following table shews the apparent aggregate results of the preferential tariffs of the Commonwealth of Australia, the Dominion of New Zealand, and the Union of South Africa. The figures shew the value of preferential and non-preferential imports from favoured countries, and the percentage proportion of such imports in relation to the total imports of similar goods:—

#### IMPORTS FAVOURED BY PREFERENTIAL TARIFFS, 1908 to 1913.

Year.	South Africa. Preference, 3%.		Commonwealth. Preference 5%.		New Zealand. Preference, 12%.	
	Value.	Per cent.	Value.	Per cent.	Value.	Per cent.
	£		£		£	
1908 ...	14,785,678	71.60	15,895,721	65.70	4,999,604	79.94
1909 ...	16,823,568	72.49	16,482,032	66.80	3,791,061	81.81
1910 ...	21,746,920	70.88	19,049,506	65.88	4,268,597	81.02
1911 ...	22,000,161	69.76	21,118,057	63.58	5,712,161	83.10
1912 ...	21,429,518	68.08	25,303,551	63.02	5,769,537	81.18
1913 ...	22,467,631	66.75	24,688,744	63.63	6,106,292	82.17

#### IMPORTS UNAFFECTED BY PREFERENTIAL TARIFFS, 1908 to 1913.

1908 ...	1,826,774	39.60	9,006,821	50.70	9,805,369	84.40
1909 ...	2,075,982	40.77	9,137,146	49.94	8,681,006	85.25
1910 ...	*3,697,588	*51.17	10,820,679	48.37	9,627,786	83.86
1911 ...	3,138,193	46.20	10,956,913	46.81	9,876,257	82.92
1912 ...	4,035,806	49.35	12,962,899	†50.27	10,728,054	79.66
1913 ...	4,690,366	51.05	15,909,593	†53.44	11,429,751	80.37

\* The large increase and improvement in the relative position of favoured countries in this group is due to the large increase in the imports of "Government stores," of which 87 per cent. in 1910 was from favoured countries, principally from the United Kingdom. † Improvement due to imports of ships. See page 554.

From the above table it will be seen that, in regard to the Commonwealth, the proportion of the trade supplied by the United Kingdom has fallen in the preferential division and risen in the non-preferential division. In South Africa the proportion of the trade in the preferential division supplied by favoured countries has also fallen, while, on the other hand, the proportion supplied in the non-preferential division has largely increased. In New Zealand, where the preference amounts to about 12 per cent. on the value of the goods, against 5 per cent. in Australia, and 3 per cent. in South Africa, the position of the favoured countries has been well maintained in the preferential, though it has declined materially in the non-preferential division.

**9. South African Preference.**—Under the Commonwealth Customs Tariff (South African Preference) Act, No. 17 of 1906, preferential rates of duty were prescribed for certain goods “when those goods are imported from and are the manufacture of any of the British South African Colonies or Protectorates which are included within the South African Customs Union.”

Preference to South African States was further confirmed by the Customs Tariff Amendment Act 1908 (No. 13 of 1908).

The imports, during 1913, affected by the above-mentioned Act were as follows:—

**IMPORTS INTO THE COMMONWEALTH DURING 1913 OF ARTICLES ENTITLED TO PREFERENCE UNDER THE SOUTH AFRICAN PREFERENCE ACT AND THE VALUE OF THE PREFERENCE THEREON.**

Particulars.	Rate of Rebate.	Imports.		Amount of Rebate.
		Quantity.	Value.	
			£	£ s.
<b>Fish—</b>				
Fresh, or preserved by cold process lbs.	$\frac{1}{2}$ d. per lb.	8,672	202	9 0
Preserved in tins, etc. ... lbs.	$\frac{1}{2}$ d. per lb.	65,923	2,647	68 13
<b>Grain—</b>				
Maize ... .. cental	6d. per centl.	51,670	19,662	1,291 15
<b>Feathers—</b>				
Undressed ... ..	5 per cent.	—	9,663	483 3
Dressed ... ..	10 per cent.	—	684	68 8
Spirits, n.e.i. ... ..	8d. per gal.	109	82	3 13
<b>Tobacco manufactured—</b>				
Out ... .. lbs.	1/3 per lb.	33,860	4,912	2,116 5
N.E.I. ... .. lbs.	1/- per lb.	5,111	708	255 11
<b>Total ... ..</b>	—	—	38,560	4,296 8

### § 13. Imports of Dutiable and Free Goods.

**1. Classified Statement of Imports.**—The following table shews, classified according to their nature, and distinguishing between dutiable and free goods, the estimated value of imports entered for home consumption during 1913, together with the amount and equivalent *ad valorem* rates of duty collected thereon. As no record is made of the value, entered for home consumption, of goods subject to specified duties, the value has



been estimated on the basis of the value of corresponding imports. The free goods entered for home consumption have been taken to be the total imports of free goods less the value of similar goods re-exported.

**VALUE OF GOODS (EXCLUDING BULLION AND SPECIE) ENTERED FOR CONSUMPTION IN THE COMMONWEALTH, AND DUTY COLLECTED THEREON, 1913.**

Classification of Imports.		Value Entered for Consumption.			Duty Collected, less Refunds.	Equivalent <i>ad valorem</i> rate per cent. on—	
		Dutiable.	Free. (Net Imports.)	Total.		Dutiable Imports.	All Imports.
		£	£	£	£	%	%
I.	Foodstuffs of animal origin (excluding living animals)	872,878	97,915	970,793	152,085	17.42	15.67
II.	Foodstuffs of vegetable origin and salt ...	3,068,112	191,207	3,259,319	1,065,993	34.74	32.70
III.	Beverages (non-alcoholic) & substances used in making	467,579	1,303,929	1,771,508	94,669	20.25	5.34
IV.	Spirits & alcoholic liquors, including industrial spirits and pharmaceutical preparations dutiable as spirits ...	2,038,337	1,128	2,039,465	2,784,542	136.61	136.54
V.	Tobacco and preparations thereof ...	881,733	...	881,733	1,178,918	133.71	133.71
VI.	Live animals ...	12,924	125,097	138,021	91	0.70	0.07
VII.	Animal substances (mainly unmanufactured) not foodstuffs ...	108,977	301,089	410,066	18,960	17.40	4.62
VIII.	Vegetable substances and fibres ...	174,915	1,164,436	1,339,351	46,873	26.79	3.50
IX.	Apparel, textiles, and manufactured fibres ...	11,621,324	8,121,271	19,742,595	2,579,672	22.20	13.07
X.	Oils, fats, and waxes ...	1,318,895	639,996	1,958,891	215,864	16.37	11.02
XI.	Paints and varnishes ...	640,906	26,355	667,261	105,094	16.39	15.75
XII.	Stones and minerals used industrially ...	180,146	35,916	216,062	40,570	22.52	18.78
XIII.	Specie (omitted) ...	...	...	...	...	...	...
XIV.	Metals (unmanufactured) and ores, excluding gold and silver bullion ...	17,164	363,861	381,025	2,604	15.17	0.68
XV.	Metals partly manufactured ...	...	1,492,688	1,492,688	...	...	...
XVI.	Metals manufactured, including machinery ...	10,134,431	6,292,187	16,426,618	1,601,848	15.81	9.75
XVII.	Leather and manufactures of leather and substitutes therefor, also indiarubber and indiarubber manufactures ...	1,242,894	436,640	1,679,534	291,238	23.43	17.34
XVIII.	Wood and wicker, raw and manufactured ...	3,193,756	273,282	3,467,038	534,289	16.73	15.41
XIX.	Earthenware, cements, china, glass, & stoneware ...	1,483,829	111,234	1,595,063	406,480	27.40	25.49
XX.	Paper and stationery ...	958,489	2,119,445	3,077,934	236,944	24.72	7.70
XXI.	Jewellery, timepieces, and fancy goods ...	1,126,148	243,372	1,369,520	287,165	25.50	20.97
XXII.	Optical, surgical, & scientific instruments ...	191,513	544,256	735,769	26,422	13.79	3.59
XXIII.	Drugs, chemicals, and fertilisers ...	565,707	1,894,244	2,459,951	112,030	19.80	4.55
XXIV.	Miscellaneous ...	4,133,119	*6,797,019	10,930,138	865,972	20.95	7.92
	Total merchandise ...	44,433,776	*32,576,567	77,010,343	12,648,323	28.46	16.42
	Merchandise, excluding stimulants and narcotics	41,513,706	*32,575,439	74,089,145	8,684,863	20.92	11.72

\* Including warships valued at £2,495,000.

**2. Comparative Rates of Duty.**—Omitting bullion and specie, the proportion of total merchandise entered for "home consumption" free of duty in the undermentioned countries, and also the equivalent *ad valorem* rates of duty charged, are as follows:—

## PROPORTION OF FREE GOODS AND RATES OF IMPORT DUTY.

Particulars.	Australia.		Canada.	New Zealand.	U.S. of America.
	31/12/06	31/12/13	31/3/14	31/12/13	30/6/12
Year ended ... ..	31/12/06	31/12/13	31/3/14	31/12/13	30/6/12
Percentage of free merchandise ...	35.18	42.30	33.07	52.07	53.73
Equival't <i>ad valorem</i> rates of duty on	%	%	%	%	%
Spirits, wines, and malt liquors	153.23	136.62	116.33	158.68	88.88
Tobacco, and preparations thereof	168.65	133.70	22.21*	130.01	78.76†
Other dutiable merchandise ...	17.04	20.92	23.89	21.53	37.02
Other merchandise dutiable & free	10.75	11.72	15.32	9.79	16.57
Total dutiable merchandise ...	27.14	28.47	26.13	33.36	40.16
Total merchandise dutiable & free	17.59	16.42	16.91	15.99	18.58
Customs duty per head ...	£ s. d. 1 15 10	£ s. d. 2 12 8	£ s. d. 2 16 5	£ s. d. 3 4 1†	£ s. d. 0 13 1

\* Unmanufactured tobacco is admitted to Canada free of duty. † Exclusive of Maoris.

‡ Tobacco is admitted free of Customs duty from the Philippine Islands.

In 1906—the last full year of operation of the 1902 tariff—free goods represented 35.18 per cent. of the total imports of merchandise into the Commonwealth. The tariff of 1908 extended the free list so that in 1908 the proportion of free goods increased to 39.69 per cent. In 1913 the proportion of free goods (42.30 per cent.) was unusually high. This was due to the inclusion in the import returns of warships valued at £2,495,000, and of mercantile ships to the value of over £1,500,000, together with a large increase in the value of bags and sacks for the removal of the wheat crop. The tariff of 1908, while extending the free list, increased the average rates on the goods subject to duty. Excluding drinks and tobacco the average rate of duty on dutiable goods during 1906 was 17.04, in 1908 it was 21.30, and in 1913 it was 20.92 per cent. The combined effect of the extension of the free list with an increase of duties on the remaining goods has been that in 1913 the average rate of duty over the total imports of merchandise was 16.42 per cent., against 17.59 per cent. in 1906.

From the above table it will be seen that, excluding spirits, etc., and tobacco, the average rate of duty charged in the Commonwealth on dutiable goods imported during 1913 was 0.61 per cent. *ad valorem* lower than in New Zealand, and about 2.97 per cent. lower than in Canada, and was only a little more than one half the rate charged in the United States. On the other hand, the proportion of free goods was smaller in the Commonwealth than in New Zealand or the United States, though larger than in Canada. Over the total imports the equivalent *ad valorem* rates range from 15.99 per cent. in New Zealand to 18.58 per cent. in the United States. The influence of the various rates charged on stimulants and tobacco in smoothing out the differences in average *ad valorem* rates on the total imports should not be lost sight of. About 80 per cent. of the value of tobacco imported into Canada is unmanufactured tobacco admitted free of duty, and subject only to excise on manufacture.

## SECTION XVI.

## SHIPPING.

## § 1. General.

1. **Record of Shipping before Federation.**—Prior to Federation it was customary for each State to regard the matter of shipping purely from the State standpoint, and vessels arriving from or departing to countries beyond Australia, via other Australian States, were recorded as if direct from or to the oversea country. Thus a mail steamer from the United Kingdom, which made Fremantle her first port of call in Australia, would be recorded not only there, but also again in Adelaide, Melbourne and Sydney, as an arrival from the United Kingdom. Consequently, any aggregation, especially of the recent shipping records of the different States, would repeatedly include a large proportion of the shipping visiting Australia. In earlier years, when many vessels sailed from the various State ports direct for their destination, the error of repeated inclusion was less serious, but as the commerce of Australia developed, more and more ports of call were included in the voyage of each vessel, and this made the mere aggregation of State records correspondingly misleading. It has, as a matter of fact, led to some erroneous publications of statistical results and deductions.

2. **Shipping since Federation.**—With the inauguration of the Commonwealth, the statistics of its shipping, especially of its oversea shipping, became of greater intrinsic importance. As an index of the position of Australia among the trading countries of the world, such statistics had a constitutional importance commensurate with Commonwealth interests, and correspondingly greater than those of individual States, and the nationality of the shipping trading with Australia became also a matter of greater moment.

3. **Difficulties of Comparisons of Total Shipping.**—From what is said in paragraph 1 above, it is obviously impossible now to obtain results for Australia not subject to the defect of repeated inclusions of the same vessels. Unfortunately, the statistical records of the first three years of Federal history are subject to the same defect, and do not admit of direct comparison with those now kept. A careful estimate of the extent and effect of repeated inclusion has been made and applied to the records of the earlier years, so as to extend the comparative results to those years. The error of such estimation will be negligible for comparative purposes.

4. **Present System of Record.**—The present system of record treats Australia as a unit, and counts, therefore, only one entry and one clearance for each visit to the Commonwealth. Repeated voyages of any vessel are, of course, included.

On arrival of every vessel at a port in the Commonwealth, whether from an oversea country or from another port within the Commonwealth, the master is required to deliver to the Customs officer a form giving all particulars, necessary for statistical purposes, in regard to the ship, passengers and crew. Similarly, on departure from a port, a form containing corresponding information is lodged. These forms, which provide a complete record of the movements of every vessel in Commonwealth waters, are at the end of each month forwarded by the Customs officer at each port to the Commonwealth Bureau of Statistics, and furnish the material for the compilation of the Shipping and Migration Returns.

Under the system previously in force it was found that the estimates of population in so far as they were based on seaward movement, were very unsatisfactory, and it is believed that the method referred to above gives decidedly better results.

## § 2. Oversea Shipping.

1. **Total Oversea Shipping.**—In order to extend, as indicated, the comparison of the oversea shipping to the earliest years for which any records are available, an estimate of its probable amount has been made. This estimate is based on a comparison of the results obtained by merely aggregating State statistics, with the defect of multiple records, and the results obtained under the present system, which avoids the multiple record. From the nature of the case it is obvious that the ratio of repeated inclusion to the total traffic has been continually advancing, and this fact has been duly taken into account in deducing the results in the following table:—

### TOTAL OVERSEA SHIPPING ENTERED AND CLEARED THE COMMONWEALTH, 1822 to 1913 (MULTIPLE RECORD EXCLUDED BY ESTIMATION PRIOR TO 1904).

Year.	Vessels.	Tons.	Year.	Vessels.	Tons.	Year.	Vessels.	Tons.
1822 ...	73	30,683	1853 ...	3,364	1,490,423	1884 ...	4,315	4,064,947
1823 ...	76	30,543	1854 ...	3,781	1,744,251	1885 ...	4,052	3,999,917
1824 ...	71	29,029	1855 ...	3,239	1,449,657	1886 ...	3,793	3,853,246
1825 ...	80	30,786	1856 ...	2,669	1,195,794	1887 ...	3,454	3,764,430
1826 ...	65	23,587	1857 ...	2,842	1,530,203	1888 ...	3,933	4,464,895
1827 ...	95	29,301	1858 ...	2,607	1,378,050	1889 ...	3,897	4,460,426
1828 ...	124	38,367	1859 ...	2,759	1,403,210	1890 ...	3,363	4,150,027
1829 ...	185	56,735	1860 ...	2,464	1,258,518	1891 ...	3,778	4,726,307
1830 ...	195	56,185	1861 ...	2,466	1,149,476	1892 ...	3,432	4,239,500
1831 ...	185	52,414	1862 ...	2,917	1,369,231	1893 ...	3,046	4,150,433
1832 ...	206	59,628	1863 ...	3,378	1,564,369	1894 ...	3,397	4,487,546
1833 ...	241	72,647	1864 ...	3,344	1,537,433	1895 ...	3,331	4,567,833
1834 ...	249	77,068	1865 ...	3,005	1,317,934	1896 ...	3,309	4,631,266
1835 ...	310	96,928	1866 ...	3,378	1,470,728	1897 ...	3,279	4,709,697
1836 ...	310	93,974	1867 ...	2,927	1,277,679	1898 ...	3,222	4,681,398
1837 ...	442	113,432	1868 ...	3,080	1,350,573	1899 ...	3,356	5,244,197
1838 ...	471	132,038	1869 ...	3,107	1,472,837	1900 ...	3,719	5,894,173
1839 ...	652	191,507	1870 ...	2,877	1,361,878	1901 ...	4,028	6,541,921
1840 ...	915	277,335	1871 ...	2,748	1,312,642	1902 ...	3,608	6,234,460
1841 ...	900	278,738	1872 ...	2,788	1,360,466	1903 ...	3,441	6,027,843
1842 ...	862	232,827	1873 ...	3,159	1,609,067	1904 ...	3,700	6,692,011
1843 ...	736	183,427	1874 ...	3,153	1,728,269	1905 ...	4,088	7,444,417
1844 ...	629	155,654	1875 ...	3,437	1,914,462	1906 ...	4,155	7,966,658
1845 ...	735	164,221	1876 ...	3,295	1,863,343	1907 ...	4,394	8,822,866
1846 ...	868	211,193	1877 ...	3,157	1,930,434	1908 ...	4,051	8,581,151
1847 ...	1,083	245,358	1878 ...	3,372	2,127,518	1909 ...	3,910	8,516,751
1848 ...	1,182	305,840	1879 ...	3,344	2,151,398	1910 ...	4,048	9,333,146
1849 ...	1,137	355,886	1880 ...	3,078	2,177,877	1911 ...	4,174	9,984,801
1850 ...	1,300	425,206	1881 ...	3,284	2,549,364	1912 ...	4,052	10,275,314
1851 ...	1,576	515,061	1882 ...	3,652	3,010,944	1913 ...	3,985	10,501,948
1852 ...	1,896	844,243	1883 ...	3,857	3,433,102			

It will be borne in mind that while the above figures in themselves have no absolute significance, nevertheless, on the assumption that the element of duplication has been in fairly constant ratio, they furnish the best available indication of the growth of Australian oversea shipping.

2. **Comparison with other Countries.**—The place of Australia among various countries in regard to oversea shipping is indicated in the following table, both absolutely and in respect of tonnage per head of population:—

### OVERSEA SHIPPING OF VARIOUS COUNTRIES.

Country.	Year.	Tonnage Entered and Cleared.		Country.	Year.	Tonnage Entered and Cleared.	
		Total.	Per Inhabitant.			Total.	Per Inhabitant.
Argentine Rep. ...	1912	23,372,714	3.2	Japan ...	1912	43,492,604	0.8
Belgium ...	1912	32,672,989	4.3	New Zealand ...	1913	3,438,792	3.2
Canada ...	1912	26,231,098	3.4	Norway ...	1912	10,806,050	4.4
Commonwealth ...	1913	10,601,948	2.2	S. African Un. ...	1912	10,039,907	1.6
Denmark ...	1912	18,537,064	6.6	Sweden ...	1912	25,511,890	4.6
France ...	1912	62,775,775	1.6	United K'dom ...	1913	164,809,581	3.6
Germany ...	1912	51,065,940	0.8	United States ...	1912	69,365,104*	0.7
Italy ...	1912	56,889,048	1.6				

\* Exclusive of Northern Border and Lake Ports.

3. **Shipping Communication with various Countries.**—Particulars of the number and tonnage of vessels recorded between Australia and various countries, distinguishing British from foreign countries, are given in the following tables—the table below shewing the tonnage of vessels which were recorded as having entered the Commonwealth from the particular countries mentioned; that on page 572 shews the tonnage of vessels which were recorded as having cleared the Commonwealth for the particular countries, while on page 575 is shewn the total tonnage of vessels recorded as entered and cleared from and to the countries named.

**SHIPPING TONNAGE ENTERED AND CLEARED THE COMMONWEALTH FROM  
AND TO VARIOUS COUNTRIES, 1909 to 1913.**

ENTERED.

Country.	1909.	1910.	1911.	1912.	1913.
United Kingdom ... ..	1,243,115	1,377,151	1,464,057	1,625,733	1,607,943
Canada ... ..	89,990	108,727	107,932	112,729	118,604
Fiji ... ..	54,462	49,493	77,745	73,033	86,442
Hong Kong ... ..	41,521	22,327	17,880	27,440	33,156
India and Ceylon ... ..	99,762	169,800	99,196	93,787	107,721
Mauritius ... ..	35,366	43,133	23,443	27,203	36,092
New Zealand ... ..	737,899	766,777	841,746	926,342	908,484
Papua ... ..	42,803	47,881	78,468	73,010	74,943
South African Union ... ..	207,619	208,140	289,229	96,679	193,505
South Sea Islands ... ..	57,341	64,164	61,983	37,472	58,498
Straits Settlements ... ..	104,284	89,731	97,735	102,598	100,238
Other British Countries ... ..	4,310	13,588	324	3,068	10,826
<b>Total British Countries ... ..</b>	<b>2,718,472</b>	<b>2,960,912</b>	<b>3,159,738</b>	<b>3,199,094</b>	<b>3,341,452</b>
Africa, Portuguese East ... ..	89,506	96,966	74,083	46,751	53,870
Belgium ... ..	11,548	15,273	18,734	11,852	9,563
Chile ... ..	81,433	111,504	182,460	176,416	103,121
Dutch East Indies ... ..	78,203	72,212	43,458	67,761	87,428
France ... ..	113,964	99,308	83,627	47,191	63,632
Germany ... ..	276,021	290,834	314,167	427,320	414,294
Hawaiian Islands ... ..	38,011	32,020	17,167	16,508	10,101
Japan ... ..	136,340	153,547	157,533	157,734	160,241
Mexico ... ..	36,443	24,366	16,481	19,445	9,973
New Caledonia ... ..	63,250	62,542	71,390	77,265	86,702
Norway ... ..	36,094	37,201	40,204	34,715	26,200
Peru ... ..	50,291	27,051	32,922	35,482	21,504
Philippine Islands ... ..	75,977	28,550	56,603	56,216	47,220
South Sea Islands (foreign) ... ..	30,990	37,684	56,878	67,805	66,651
Sweden ... ..	46,317	41,231	77,983	48,060	80,546
United States ... ..	290,520	338,587	389,208	453,354	509,922
Other Foreign Countries ... ..	187,814	178,032	200,584	220,388	264,111
<b>Total Foreign Countries ... ..</b>	<b>1,642,722</b>	<b>1,646,908</b>	<b>1,833,482</b>	<b>1,964,263</b>	<b>2,030,079</b>
<b>Total all Countries ... ..</b>	<b>4,361,194</b>	<b>4,607,820</b>	<b>4,993,220</b>	<b>5,163,357</b>	<b>5,371,531</b>

## SHIPPING TONNAGE ENTERED AND CLEARED, ETC.—(Continued.)

## CLEARED.

Country.	1909.	1910.	1911.	1912.	1913.
United Kingdom ...	1,239,669	1,467,925	1,537,084	1,369,143	1,455,018
Canada ...	53,541	50,510	54,732	54,661	82,849
Fiji ...	49,890	53,713	90,574	85,372	94,958
Hong Kong ...	48,751	31,145	19,155	32,121	27,959
India and Ceylon ...	153,863	139,584	143,632	144,487	126,656
Mauritius ...	5,048	9,396	2,953	4,526	3,505
New Zealand ...	880,668	975,121	1,044,013	1,183,741	1,198,837
Papua ...	43,802	50,552	71,811	66,409	73,923
South African Union ...	48,485	92,070	85,346	75,467	136,986
South Sea Islands ...	31,707	43,539	38,133	55,717	58,267
Straits Settlements ...	139,313	156,704	127,725	137,139	155,364
Other British Countries ...	...	2,924	...	...	2,270
Total British Countries	2,694,737	3,073,183	3,215,158	3,208,783	3,416,592
Africa, Portuguese East ...	19,697	18,716	6,949	3,836	5,447
Belgium ...	128,670	115,121	168,397	169,020	151,718
Chile ...	300,451	342,478	393,642	508,724	393,322
Dutch East Indies ...	61,753	105,293	115,499	155,332	189,499
France ...	63,490	113,226	155,506	94,062	81,240
Germany ...	279,526	312,128	321,502	349,685	385,752
Hawaiian Islands ...	26,253	32,520	26,200	34,009	45,634
Japan ...	90,732	102,183	103,550	96,108	117,472
Mexico ...	9,675	13,146	13,565	12,757	25,735
New Caledonia ...	72,234	47,071	62,165	74,063	86,321
Peru ...	36,568	52,243	70,960	64,881	52,626
Philippine Islands ...	124,816	106,087	102,748	95,120	46,746
South Sea Islands (foreign)	39,175	57,790	50,022	44,875	36,826
Sweden ...	4,084	...	...	...	...
United States ...	142,274	184,153	145,926	149,449	148,754
Other Foreign Countries	61,422	49,988	39,792	51,253	41,733
Total Foreign Countries	1,460,820	1,652,143	1,776,423	1,903,174	1,813,825
Total all Countries ...	4,155,557	4,725,326	4,991,581	5,111,957	5,230,417

The figures in the above table represent the tonnage of shipping recorded as having cleared the Commonwealth for the particular countries named. For the purpose of comment, however, countries have been grouped according to larger geographical divisions in Section 4.

**SHIPPING TONNAGE ENTERED AND CLEARED THE COMMONWEALTH FROM  
AND TO VARIOUS COUNTRIES, 1909 to 1913.**

Country.	1909.	1910.	1911.	1912.	1913.
United Kingdom ... ..	2,482,784	2,845,076	3,001,141	2,994,876	3,062,961
Canada ... ..	143,531	159,237	162,664	167,390	201,453
Fiji ... ..	104,352	103,206	168,319	158,405	181,400
Hong Kong ... ..	90,272	53,472	37,035	59,561	61,115
India and Ceylon ... ..	243,240	309,384	242,828	238,274	234,377
Mauritius ... ..	40,414	52,529	26,396	31,729	39,597
New Zealand ... ..	1,618,567	1,741,898	1,885,759	2,110,083	2,107,321
Papua ... ..	86,605	98,433	150,279	139,419	148,866
South African Union ... ..	256,104	300,210	374,575	172,146	335,491
South Sea Islands ... ..	89,048	107,703	100,116	93,189	116,765
Straits Settlements ... ..	243,597	246,435	225,460	239,737	255,602
Other British Countries ... ..	14,695	16,512	324	3,068	13,096
<b>Total British Countries ... ..</b>	<b>5,413,209</b>	<b>6,034,095</b>	<b>6,374,896</b>	<b>6,407,877</b>	<b>6,758,044</b>
Africa, Portuguese East ... ..	109,203	115,682	81,032	50,587	69,317
Belgium ... ..	140,218	130,394	187,131	180,872	161,281
Chile ... ..	381,884	453,982	576,102	685,140	506,443
Dutch East Indies ... ..	139,956	177,505	158,957	223,093	276,927
France ... ..	177,454	212,534	239,133	141,253	144,872
Germany ... ..	555,547	602,962	635,669	777,005	800,046
Hawaiian Islands ... ..	64,264	64,540	43,367	50,517	55,735
Japan ... ..	227,072	255,730	261,083	253,842	277,713
Mexico ... ..	46,118	37,512	30,046	32,202	35,708
New Caledonia ... ..	135,484	109,613	133,555	151,328	173,023
Norway ... ..	38,506	37,301	40,204	34,715	26,289
Peru ... ..	86,859	79,294	103,882	100,363	74,130
Philippine Islands ... ..	200,793	134,637	159,351	151,336	33,966
South Sea Islands (foreign) ... ..	70,165	95,474	106,900	112,680	103,477
Sweden ... ..	50,401	41,231	77,983	48,060	80,546
United States ... ..	432,794	522,740	535,134	602,803	658,676
Other Foreign Countries ... ..	246,824	228,020	240,376	271,641	305,755
<b>Total Foreign Countries ... ..</b>	<b>3,103,542</b>	<b>3,299,051</b>	<b>3,609,905</b>	<b>3,867,437</b>	<b>3,843,904</b>
<b>Total all Countries ... ..</b>	<b>8,516,751</b>	<b>9,333,146</b>	<b>9,984,801</b>	<b>10,275,314</b>	<b>10,601,948</b>

In respect of these tables it may be pointed out that the statistics for any country do not fully disclose the extent of its shipping communication with particular countries. The reason for this is that vessels are recorded as arriving from, or departing to, a particular country, whereas, as a matter of fact, many regular lines of steamers call and transact business at the ports of several countries in the course of a single voyage. The lines of steamers trading between Australia and Japan, for example, often call at New Guinea, the Philippine Islands, China, etc., but, being intermediate ports, these countries are not referred to in the statistical records. Similarly, in the case of the large mail steamers passing through the Suez Canal, a steamer may call at Colombo, Aden, Port Said, Genoa, Marseilles, London, Antwerp, and Bremerhaven, yet obviously can only be credited as cleared for one of these ports, to the consequent exclusion of all the other ports from the records. Further reference is made in the following paragraphs to the more important of those countries with which the shipping of the Commonwealth is not fully represented in the foregoing tables.

**4. General Trend of Shipping.**—(i.) *General.* A grouping of countries into larger geographical divisions, as in the following tables, shews more readily the general direction of Australian shipping, and to some extent, avoids the limitations of the records in relation to particular countries, by covering more closely the main trade routes.

It has already been shewn in the opening section of this chapter, that direct comparisons of the annual oversea shipping of the Commonwealth are possible only since the beginning of 1904.

A comparison of the total tonnage of shipping which entered and cleared the Commonwealth during 1913 with similar records for 1909 shows an increase of 2,085,197 tons, or 24.48 per cent., vessels with cargo having increased by 2,322,145 tons, or 32.37 per cent., while vessels in ballast decreased by 236,948 tons, or 17.63 per cent.

(ii.) *Shipping with the United Kingdom and European Countries.* The shipping between the Commonwealth and the United Kingdom and European countries during the past five years shows that steady increase which indicates the consistent development of a well-established trade. The shipping in this direction during 1913 amounted to 4,346,901 tons, or 41.0 per cent. of the total oversea shipping of the Commonwealth, and was recorded against the several countries as follows:—United Kingdom, 3,062,961 tons (70.5 per cent.); Germany, 800,046 tons (18.4 per cent.); France, 144,872 tons (3.3 per cent.); Belgium, 161,281 tons (3.7 per cent.); other European countries, 177,741 tons (4.1 per cent.).

The foregoing figures appear to shew that while the tonnage between the Commonwealth and the United Kingdom increased by 580,177 tons, equal to an increase of 23.37 per cent., the tonnage between the Commonwealth and European continental countries has increased by 277,846 tons, or by 27.62 per cent., or, in other words, that 67.62 per cent. of the increase was credited to the United Kingdom and 32.38 to the latter countries. As already explained, however, no real significance can be attached to these figures, for, in many instances, it must be regarded as almost accidental whether tonnage be recorded against the United Kingdom or against Belgium, Germany, or France.

The failure of the statistical records to present, in all cases, the full measure of the shipping communication between particular countries is illustrated by the case of Italy. Although the mail steamers which pass through the Suez Canal call at Naples and Genoa, and during 1913 embarked or landed at those ports 5842 passengers for or from Australia, and also carried a direct trade valued at £1,345,411 between Italy and the Commonwealth, the records for the year shew only four vessels as passing between the two countries.

(iii.) *Shipping with New Zealand.* The tonnage of shipping between the Commonwealth and New Zealand shows a very satisfactory expansion from 1,618,567 tons in 1909 to 2,107,321 tons in 1913, an increase of 488,754 tons, or 30.20 per cent., during the four years. The shipping with New Zealand represented 19.88 per cent. of the total shipping of the Commonwealth during 1913.

(iv.) *Shipping with Asiatic Countries and Islands in the Pacific.* The total tonnage between the Commonwealth and Eastern countries during 1913 amounted to 2,010,709 tons, or 18.97 per cent. of the whole, representing an increase of 283,966 tons, or 16.45 per cent., as compared with 1909. The greater part of this increased tonnage was recorded as between the Commonwealth and (1) Pacific Islands, and (2) Dutch East Indies. The tonnage from the Pacific Islands included a larger amount in ballast than in 1909. The greater tonnage between the Commonwealth and the Dutch East Indies was engaged in the carriage of coal from Newcastle to Java, which has required a steadily increasing tonnage during the past five years. On the other hand, the export of coal to the Philippines has steadily diminished during the same period; consequently the shipping cleared from Newcastle to the Philippines has declined from 102,273 tons in 1909 to 23,342 tons in 1913. This latter figure, however, still represents 49.93 per cent. of the total outward tonnage recorded as from Australia to the Philippines. Of the remainder, 20,994 tons, representing 44.94 per cent. of the whole, cleared with cargoes of cattle from Wyndham in Western Australia. During the years 1912 and 1913 the imports into the Philippines of live cattle for slaughtering have been drawn almost entirely from Western Australia. Owing to the limitation of the records, already alluded to, the figures given in the tables do not represent the full volume of the shipping between the Commonwealth and the Philippines. In addition to the shipping recorded to the Philippine Islands, the



regular steam lines between the Commonwealth and Japan make Manila a regular port of call, and it is by these vessels that the general trade—apart from the coal and cattle trade—is chiefly carried. The whole of the shipping which was recorded as entering the Commonwealth during 1913 from the Philippines (47,220 tons) was in ballast. The tonnage between the Commonwealth and Papua has increased materially during the past four years. In 1909 the tonnage recorded between these two countries was 86,605 tons, and in 1913, 148,866 tons. This increase has been largely due to the fact that many vessels passing between Port Darwin and the eastern ports of Australia call at Papua both ways.

(v.) *Shipping with Africa.* Much of the trade between South Africa and Australia is carried by steamers calling at ports in the former country on their voyages between the Commonwealth and the United Kingdom, and which are not shewn in relation to African ports in the shipping returns. Shipping tonnage with African countries—mainly confined to Cape Colony, Natal, and Portuguese East Africa—has been subject to great fluctuations. From 649,802 tons in 1905 it fell to 225,798 tons in 1908, rose to 501,789 tons in 1911, falling to 258,849 tons in 1912, to rise again in 1913 to 456,342 tons. An inspection of the following tables, however, shews that these figures are of no significance as an index of the transport requirements between the two countries, inasmuch as of the total tonnage passing between the two countries, 307,355 tons were from Africa to Australia, with only 148,987 tons the other way. Moreover, of the 307,355 tons which entered the Commonwealth from Africa, 269,181 tons, or 87.6 per cent., were represented by vessels in ballast seeking freights from Australian ports.

(vi.) *Shipping with North and Central America.* The shipping of the Commonwealth with these countries during 1913 amounted to 895,837 tons (8.4 per cent. of the whole) representing, as compared with 1909, an increase of 273,394 tons. The figures for 1909 were, however, unusually small. The 895,837 tons of shipping with North and Central America during 1913 were recorded against the several countries as follows:—United States, 658,676 tons (73.5 per cent.); Canada, 201,453 tons (22.5 per cent.); and Mexico, 35,708 tons (4.0 per cent.). Of the tonnage from the United States 318,353 tons came from the west coast and 191,569 from the east coast, while of the outward tonnage 145,029 tons cleared for the west coast and only 3735 for the east coast. For Canada the corresponding figures were:—Arrivals, from west coast 76,626 tons and from the east coast 41,978 tons; departures, 82,849 tons were all to the west coast.

(vii.) *Shipping with South America.* The shipping between the Commonwealth and South American countries during 1913—784,838 tons—represented an increase of 17,880 tons as compared with 1909. The outward shipping in this direction has been mainly engaged in the carriage of coal and wheat to Chile and Peru. Of the total shipping tonnage between the Commonwealth and South America during 1913, 669,135 tons, or 85.3 per cent., is credited to the coal port of Newcastle, 166,374 tons having entered and 404,655 tons having cleared at that port, while of the same total 66,908 tons entered and 31,198 tons cleared at the port of Sydney. Of the South American countries, Chile is responsible for 506,443 tons (64.5 per cent.); Brazil, 90,707 tons (11.6 per cent.); Peru, 74,130 tons (9.5 per cent.); Argentine Republic, 60,496 tons (7.7 per cent.); Uruguay, 49,461 tons (6.2 per cent.); and Ecuador, 3601 tons (0.5 per cent.).

An important fact, from its bearing on freight rates and its consequent possible effect on the coal trade of New South Wales with South America, is the absence of return freights from that country. Of the 324,006 tons of shipping which entered the Commonwealth from South America during 1913, only ten vessels, totalling 23,876 tons, carried cargo.

## GENERAL DIRECTION OF THE SHIPPING OF THE COMMONWEALTH, 1909 to 1913.

## TONNAGE ENTERED.

Countries.	—	1909.	1910.	1911.	1912.	1913.
United Kingdom & European Countries	Cargo...	1,604,822	1,770,356	1,953,962	2,152,304	2,216,449
	Ballast	151,792	120,542	68,193	71,746	28,087
New Zealand ... ..	Cargo...	610,135	654,215	676,235	751,759	681,650
	Ballast	127,761	112,562	165,511	174,583	226,834
Asiatic Countries & Islds. in the Pacific	Cargo...	620,599	706,226	765,373	761,854	785,031
	Ballast	215,111	156,165	100,500	104,197	163,620
Africa ... ..	Cargo...	27,676	30,038	26,718	23,561	38,174
	Ballast	336,605	323,360	368,759	151,459	269,181
North and Central America	Cargo...	350,074	429,021	479,332	560,933	624,275
	Ballast	66,879	43,529	34,239	24,595	14,224
South America ... ..	Cargo...	6,189	14,698	13,114	31,291	23,876
	Ballast	243,548	246,508	341,243	355,075	300,150
		Cargo...	3,219,498	3,604,554	3,914,784	4,281,702
		Ballast	1,141,696	1,003,266	1,078,436	881,655
Total ... ..	...	4,361,194	4,607,820	4,993,220	5,163,357	5,371,531

## TONNAGE CLEARED.

United Kingdom & European Countries	Cargo...	1,732,264	2,019,567	2,190,650	2,006,275	2,102,203
	Ballast	—	—	—	44	162
New Zealand ... ..	Cargo...	807,791	920,939	981,126	1,148,166	1,166,598
	Ballast	73,877	54,182	62,887	35,575	32,239
Asiatic Countries & Islds. in the Pacific	Cargo...	841,078	856,486	932,061	984,375	995,644
	Ballast	49,955	76,409	24,093	42,738	66,414
Africa ... ..	Cargo...	89,650	136,042	106,321	83,829	148,750
	Ballast	152	—	—	—	237
North and Central America	Cargo...	144,491	194,697	182,440	204,116	251,739
	Ballast	60,999	53,112	31,783	12,751	5,509
South America ... ..	Cargo...	338,304	407,911	476,355	592,248	460,832
	Ballast	17,996	5,981	3,805	1,340	...
		Cargo...	3,953,578	4,535,642	4,869,013	5,019,509
		Ballast	201,979	189,684	122,568	92,448
Total ... ..	...	4,155,557	4,725,326	4,991,581	5,111,957	5,230,417

## TONNAGE ENTERED AND CLEARED.

Countries.	1909.	1910.	1911.	1912.	1913.	1913 Compared with 1909.
United Kingdom & European Countries ... ..	3,488,878	3,910,465	4,212,905	4,230,369	4,346,901	+ 858,023
New Zealand ... ..	1,618,567	1,741,898	1,885,759	2,110,063	2,107,321	+ 488,754
Asiatic Countries and Islands in the Pacific ... ..	1,726,743	1,795,256	1,822,057	1,893,664	2,010,709	+ 283,966
Africa ... ..	454,083	490,040	501,789	258,549	456,342	+ 2,259
North and Central America ... ..	622,443	720,359	727,844	802,395	895,837	+ 273,394
South America ... ..	606,037	675,038	834,547	979,954	764,838	+ 178,801
Cargo ... ..	7,173,076	8,140,196	8,763,797	9,301,211	9,495,221	+ 2,322,145
Ballast ... ..	1,343,675	1,192,950	1,201,004	974,103	1,106,727	— 236,948
Total ... ..	8,516,751	9,333,146	9,984,801	10,275,314	10,601,948	+ 2,085,197

5. Nationality of Oversea Shipping.—As will be seen from the following table, the greater part of the shipping visiting the Commonwealth is of British nationality. During 1913 British shipping represented 72.83 per cent. of the total tonnage which entered and cleared the Commonwealth.

**NATIONALITY OF ALL VESSELS WHICH ENTERED AND CLEARED THE COMMON-WEALTH FROM AND TO OVERSEA COUNTRIES, 1909 to 1913.**

Nationality.	Tonnage.				
	1909.	1910.	1911.	1912.	1913.
<b>BRITISH—</b>					
Australian ... ..	720,183	742,772	848,240	889,285	851,931
United Kingdom... ..	4,470,679	5,252,308	5,511,504	5,299,157	5,590,966
New Zealand ... ..	988,006	968,551	1,008,036	1,274,584	1,247,742
Other British ... ..	10,628	26,223	38,871	51,199	30,459
Cargo ... ..	5,426,643	6,295,935	6,656,932	6,949,115	6,915,261
Ballast ... ..	762,853	693,919	749,719	565,110	805,837
Total British ... ..	6,189,496	6,989,854	7,406,651	7,514,225	7,721,098
Per cent. to total ...	72.67	74.89	74.18	73.13	72.83
<b>FOREIGN—</b>					
Austro-Hungarian ...	—	30,059	—	28,689	32,940
Danish ... ..	8,848	4,010	10,510	5,573	10,138
Dutch ... ..	132,954	153,255	139,606	120,864	193,880
French ... ..	559,383	457,676	424,461	356,207	366,730
German ... ..	845,758	868,263	1,005,986	1,211,738	1,211,404
Italian ... ..	86,521	93,978	65,415	51,098	55,898
Japanese ... ..	79,120	89,358	158,047	252,081	224,293
Norwegian ... ..	440,727	482,637	582,352	527,121	471,914
Russian ... ..	46,041	33,145	38,463	63,286	75,303
Swedish ... ..	49,587	51,601	50,207	37,330	59,484
United States ... ..	56,148	48,477	67,745	92,605	154,486
Other Foreign ... ..	22,168	30,833	35,358	14,497	24,380
Cargo ... ..	1,746,433	1,844,261	2,126,865	2,352,096	2,579,960
Ballast ... ..	580,822	499,031	451,285	408,993	300,890
Total Foreign ... ..	2,327,255	2,343,292	2,578,150	2,761,089	2,880,850
Per cent. to total ...	27.33	25.11	25.82	26.87	27.17
Cargo ... ..	7,173,076	8,140,196	8,783,797	9,301,211	9,495,221
Per cent. to total... ..	84.22	87.22	87.97	90.52	89.56
Ballast ... ..	1,343,675	1,192,950	1,201,004	974,103	1,106,727
Per cent. to total... ..	15.78	12.78	12.03	9.48	10.44
<b>Grand Total ... ..</b>	<b>8,516,751</b>	<b>9,333,146</b>	<b>9,984,801</b>	<b>10,275,314</b>	<b>10,601,948</b>

The tonnage of Australian-owned vessels engaged in the oversea trade represents 8.04 per cent. of the total, and the tonnage of New Zealand vessels 11.77 per cent. Both are engaged mainly in the trade with New Zealand and eastern countries. An examination of the figures in the above table shews that, of the increase in tonnage in 1913 as compared with 1909, viz., 2,085,197 tons, 1,531,602 tons (73.45 per cent.) were British, and 553,595 tons (26.55 per cent.) were foreign, or, in other words, the British tonnage in 1913 shewed an increase of 24.66 per cent. over 1909, while that of foreign countries increased by 23.80 per cent. The proportion of British tonnage in the total shipping which entered and cleared the Commonwealth, though shewing a decline during the last three years, was slightly larger in 1913 than in 1909.

The relative proportion of British and foreign tonnage which entered and cleared the Commonwealth during the last five years, apart from tonnage in ballast, is given below. From these figures, which may be considered to indicate more closely the proportion of the actual carrying trade done, than does the total tonnage, it will be seen that the proportion of British tonnage was lower during 1913 than in any other year shewn. In fact, since 1904, when the shipping statistics were first compiled in their present form, the proportion of British ships entered and cleared with cargo has never been so low as in 1913.

**PROPORTION OF TONNAGE OF BRITISH AND FOREIGN NATIONALITY ENTERED  
AND CLEARED THE COMMONWEALTH WITH CARGO, 1909 to 1913.**

Nationality.	1909.	1910.	1911.	° 1912.	1913.
British ... ..	75.65	77.94	75.79	74.71	72.83
Foreign ... ..	24.35	22.66	24.21	25.29	27.17
Total ... ..	100.00	100.00	100.00	100.00	100.00

That the proportion of foreign tonnage should increase is to be expected as the natural corollary of the extension of the trade of the Commonwealth with foreign countries. This is particularly patent in regard to Germany and France. Both of these countries desire to increase their mercantile marine, and it is therefore natural that the increased direct trade between themselves and Australia should be carried by their own vessels rather than by the vessels of a third country. The Royal Dutch Packet Company has established a line of steamers between Java and other islands of the East Indies and Australia. The Hungarian Levant Steamship Company also maintains a cargo service between the Commonwealth and Adriatic ports. More recently, the East Asiatic Company of Copenhagen has inaugurated a monthly service between the Scandinavian, English, and Mediterranean ports and the ports of Fremantle, Adelaide, Melbourne, and Sydney. The pioneer ship in this service, the *Annam*, 3325 tons net, which arrived at Fremantle on the 9th December, 1914, was the first ocean-going motor-driven vessel to visit Australia.

The principal increases in foreign tonnage in the Australian trade have been German, Japanese, United States of America, Norwegian, and Dutch. The greater amount of German and Japanese tonnage is due to the extension of services between those countries and the Commonwealth, while the revival of the service between this country and San Francisco, which was discontinued after the great earthquake in that city in 1906, accounts for the larger American tonnage. The Norwegian tonnage, which is largely composed of sailing ships, is chiefly engaged under charter in the carriage of coal, wheat, ore, etc. The apparent increase in Dutch tonnage requires special explanation. During recent years the vessels of the Royal Dutch Packet Company, on their voyages between Java and the eastern Australian ports, have been frequently, but unavoidably, counted twice on what was practically the same voyage, first on arrival from Java and again on arrival from Papua.

The more important competitors for the Australian shipping trade among the foreign nations are France, Germany, and Norway, and it is therefore of interest to consider the general direction of their activity. It is well to bear in mind, when comparing the figures in the table on the next page, that the French shipping from and to France and to New Caledonia is practically identical with the steamers of the Messageries Maritimes, which maintain a regular service between France and New Caledonia via Australian ports, and that the German shipping from and to Germany consists mainly

of the vessels of two lines, the Norddeutscher Lloyd, and the German-Australian Steamship Company, which have had regular and frequent services to Australian ports for many years.

### SHIPPING OF PRINCIPAL FOREIGN NATIONS BETWEEN AUSTRALIA AND OTHER COUNTRIES DURING 1913.

Countries.	Nationality.					
	French.		German.		Norwegian.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
<b>EUROPEAN COUNTRIES—</b>	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
United Kingdom ...	17,421	29,957	...	39,284	2,061	66,513
Belgium ...	...	...	6,777	15,537	...	16,895
France ...	52,959	44,078	...	3,715	1,619	...
Germany ...	...	...	414,294	374,298	...	...
Norway ...	5,637	...	2,542	...	14,487	89
Sweden ...	...	...	13,923	...	25,929	...
Other European Countries ...	5,954	3,082	2,778	...	7,168	...
<b>NEW ZEALAND</b> ...	...	6,302	17,651	17,651	16,846	13,956
<b>ASIATIC COUNTRIES AND ISLANDS IN THE PACIFIC—</b>						
Japan ...	...	...	24,639	21,775	...	...
New Caledonia ...	60,264	64,679	3,725	3,725	46	1,393
South Sea Islands ...	12,434	10,247	2,156	2,228	15,808	8,457
Straits Settlements ...	...	1,045	...	38,993	...	2,329
Other Asiatic Countries ...	...	...	11,207	32,111	9,725	15,971
<b>AFRICAN COUNTRIES—</b>						
Africa, Portuguese East ...	...	...	1,991	...	6,426	...
South African Union ...	3,082	...	4,155	1,231	25,560	30,823
Other African Countries ...	...	...	...	...	3,659	110
<b>NTH. AMERICAN COUNTRIES—</b>						
United States ...	9,964	...	62,721	3,725	41,428	5,951
Other Nth. Amer. Countries... ..	...	...	...	...	1,738	...
<b>STH. AMERICAN COUNTRIES—</b>						
Chile ...	1,702	22,215	5,142	41,362	7,213	52,716
Peru ...	...	2,025	3,507	2,912	3,464	6,750
Other South American Countries ...	10,105	3,578	35,649	...	53,377	13,407
With Cargo ...	163,596	184,126	533,841	594,816	117,833	233,595
In Ballast ...	15,926	3,082	79,016	3,731	118,721	1,765
<b>Total</b> ...	<b>179,522</b>	<b>187,208</b>	<b>612,857</b>	<b>598,547</b>	<b>236,554</b>	<b>235,360</b>

A further analysis is appended, distinguishing between steam and sailing vessels of British and foreign nationality, which entered and cleared the Commonwealth during the years 1909-13. Steam tonnage during 1913 was 2,639,629 tons greater than in 1909, 1,791,661 tons (*i.e.*, 67.88 per cent.) of the increase being British, and 847,968 tons (*i.e.*, 32.12 per cent.) being foreign. The tonnage of sailing vessels shews a decrease during the same period of 554,432 tons, British tonnage having fallen by 260,059 tons, and that of foreign nations by 294,373 tons.

As might be expected, the proportion of sailing vessels engaged in carrying the trade of the Commonwealth is shewn to be rapidly decreasing, having fallen during the period under review from 19 per cent. to 10 per cent. of the total tonnage. In this branch of shipping the foreign element is stronger than the British.

## STEAM AND SAILING VESSELS ENTERED AND CLEARED, 1909 to 1913.

Description and Nationality of Vessels.	1909.		1910.		1911.		1912.		1913.	
	Ton-nage.	Percen-tages.	Ton-nage.	Percen-tages.	Ton-nage.	Percen-tages.	Ton-nage.	Percen-tages.	Ton-nage.	Percen-tages.
Steam—										
British ...	5,583,448	81	6,432,290	82	6,912,085	81	7,084,126	79	7,375,109	77
Foreign ...	1,325,523	19	1,436,917	18	1,609,048	19	1,908,888	21	2,173,491	23
Total steam	6,908,971	100 (81)	7,869,207	100 (84)	8,521,133	100 (85)	8,993,014	100 (88)	9,548,600	100 (90)
Sailing—										
British ...	606,048	38	557,564	38	494,566	34	430,099	34	345,989	33
Foreign ...	1,001,732	62	906,375	62	969,102	66	852,201	66	707,359	67
Total sailing	1,607,780	100 (19)	1,463,939	100 (16)	1,463,668	100 (15)	1,282,300	100 (12)	1,053,348	100 (10)
Steam and Sailing—										
British ...	6,189,496	73	6,989,854	75	7,406,651	74	7,514,225	73	7,721,098	73
Foreign ...	2,327,255	27	2,343,292	25	2,578,150	26	2,761,089	27	2,880,850	27
Total ...	8,516,751	100	9,333,146	100	9,984,801	100	10,275,314	100	10,601,948	100

**6. Tonnage in Ballast.**—The following table shews the tonnage of oversea vessels which entered and cleared the Commonwealth in ballast during the years 1909-13. Of the total British tonnage which entered during 1913, 18.39 per cent. was in ballast, and of foreign tonnage 19.37 per cent. was in similar condition. Of the total tonnage which entered the Commonwealth during 1913, 18.66 per cent. was in ballast, while of the tonnage cleared, 2.00 per cent. only was without cargo.

## TONNAGE ENTERED AND CLEARED IN BALLAST, 1909 to 1913.

Year.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.
1909 ...	667,478	474,218	1,141,696	95,375	106,604	201,979
1910 ...	603,511	399,755	1,003,266	90,408	99,276	189,684
1911 ...	668,599	409,837	1,078,436	81,120	41,448	122,568
1912 ...	503,041	378,614	881,655	62,069	30,379	92,448
1913 ...	721,124	280,952	1,002,076	84,713	19,938	104,651

## PROPORTION OF TOTAL BRITISH AND FOREIGN TONNAGE WHICH ENTERED AND CLEARED IN BALLAST, 1909 to 1913.

Year.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
1909 ...	21.06	39.80	26.18	3.16	9.39	4.86
1910 ...	17.52	34.38	21.77	2.55	8.41	4.01
1911 ...	18.09	31.61	21.60	2.19	3.23	2.46
1912 ...	13.31	27.24	17.08	1.66	2.21	1.81
1913 ...	18.39	19.37	18.66	2.23	1.39	2.00

Vessels in search of freights arrive in Australia from all parts of the world. The tonnage which entered each State of the Commonwealth, in ballast, during 1913, was as follows:—

**TONNAGE OF OVERSEA VESSELS IN BALLAST WHICH ENTERED EACH STATE AND THE  
NORTHERN TERRITORY DURING THE YEAR 1913.**

State ...	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Terr.	C'wealth.
Tonnage ...	600,050	14,382	19,758	135,323	227,601	4,863	99	1,002,076
Percentage of total ...	59.88	1.44	1.97	13.50	22.71	0.49	0.01	100.00

The large exports of coal from New South Wales afford special inducements to vessels in search of freights. During 1913, 600,050 tons, or 59.88 per cent. of all ballast tonnage arriving in Australia, entered in New South Wales, 463,134 tons having entered at the coal port of Newcastle. The tonnage in ballast into New South Wales is mainly for coal cargo, into South Australia for wheat and ore, and into Western Australia for timber and cattle.

### § 3. Shipping of Ports.

**1. Shipping of Ports.**—Appended is an abstract of the total shipping tonnage—over-sea and coastwise—which entered the more important ports of Australia during the year 1913, together with similar information in regard to some of the ports of New Zealand and and of the United Kingdom for the same year :—

**SHIPPING OF PORTS, AUSTRALIA, NEW ZEALAND AND THE UNITED KINGDOM, 1913.**

Port.	Tonnage Entered.	Port.	Tonnage Entered.
<b>AUSTRALIA—</b>		<b>ENGLAND AND WALES—</b>	
Sydney ...	9,018,785	London ...	20,088,071
Melbourne ...	6,128,266	Liverpool (inc. Birkenhead) ...	15,574,989
Newcastle ...	4,661,703	Cardiff ...	12,603,349
Port Adelaide ...	3,505,443*	Tyne ports ...	11,701,605
Brisbane ...	2,832,819	Southampton ...	8,268,860
Fremantle ...	2,899,275	Hull ...	5,904,698
Townsville ...	1,597,173	Plymouth ...	4,717,738
Albany ...	1,403,135	Newport ...	3,630,681
Mackay ...	1,067,835	Middlesbrough ...	3,416,582
Rockhampton ...	1,000,302	Swansea ...	3,374,439
Hobart ...	850,424	Sunderland ...	3,288,949
Cairns ...	763,694	Grimsby ...	3,056,578
Bowen ...	725,116	Bristol ...	2,732,832
Port Pirie ...	724,126	Manchester ...	2,685,184
Geelong ...	582,578	Dover ...	2,606,277
Thursday Island ...	421,925	<b>SCOTLAND—</b>	
Walleroo ...	378,031	Glasgow ...	6,101,819
<b>NEW ZEALAND—</b>		Leith ...	2,344,195
Wellington ...	3,006,439	<b>IRELAND—</b>	
Lyttelton ...	2,068,038	Cork (inc. Queenstown) ...	4,317,966
Auckland ...	1,865,037	Belfast ...	3,345,779
Dunedin ...	982,180	Dublin ...	2,495,854

\* Exclusive of coastal shipping, particulars of which are not available.

From the figures above it may be seen that the shipping business of the port of Sydney is only exceeded by that of four ports in the United Kingdom, viz., London, Liverpool, Cardiff, and the Tyne.

### § 4. Vessels Built and Registered.

1. **Vessels Registered.**—The following table shews the number and net tonnage of steam, sailing, and other vessels not self-propelled, on the registers of the various States and of the Northern Territory of the Commonwealth of Australia:—

#### VESSELS ON THE REGISTER, 31st DECEMBER, 1913.

State.	Steam.				Sailing.				Barges, Hulks, Dredges, etc., not Self-propelled.	Total.		
	Dredges and Tugs.		Other.		Fitted with Auxiliary Power.		Other.					
	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.
New South Wales ...	47	1,701	591	99,981	87	1,492	365	32,137	51	8,397	1,141	143,708
Victoria ...	37	5,032	159	113,239	16	605	112	3,887	86	27,946	410	150,769
Queensland ...	23	2,563	82	11,601	18	182	131	2,554	44	6,212	298	23,112
South Australia ...	23	736	94	57,206	4	97	97	4,920	72	13,246	290	76,205
Western Australia ...	13	247	34	20,079	3	135	295	4,834	26	3,683	371	28,978
Tasmania ...	4	295	61	7,072	25	744	127	4,099	2	563	219	12,773
Northern Territory	...	...	4	66	...	...	38	525	...	...	42	591
Total ...	147	10,574	1,025	309,304	153	3,255	1,165	52,956	281	60,047	2,771	436,136

2. **Vessels Built.**—The following tables shew the number and tonnage of vessels built in the Commonwealth during each of the years 1901-1913, so far as such information can be ascertained from the Shipping Registers of the various States. The Merchant Shipping Act, under which vessels are registered in Australia, however, does not make it compulsory to register vessels under 15 tons burthen if engaged in river or coastal trade. Larger vessels are also exempt from registration if not engaged in trade. Yachts and small trading vessels may be, and frequently are, registered at the request of the owners. As the Shipping Registers have been, and are, the source of information, it follows that the figures given below will be subject to additions in the future, inasmuch as vessels already built may be added to the register at some future date.

#### VESSELS BUILT IN THE COMMONWEALTH, 1901 to 1913.

##### NUMBER.

Year.	Steamers Built of—					Oil Motor Vessels.	Sailing.	Pontoon, Dredges, etc.	Total.
	Wood.	Iron.	Steel.	Composite.	Total.				
1901 ...	18	...	1	...	19	4	39	...	62
1902 ...	29	...	...	1	30	8	74	1	113
1903 ...	15	1	2	...	18	17	156	2	193
1904 ...	14	...	1	1	16	12	74	...	102
1905 ...	15	...	4	...	19	22	16	2	59
1906 ...	12	1	1	...	14	22	19	3	58
1907 ...	17	...	...	1	18	12	94	1	65
1908 ...	13	...	3	...	16	18	17	2	53
1909 ...	10	...	...	...	10	12	34	1	57
1910 ...	9	3	2	...	14	11	35	2	62
1911 ...	13	1	2	1	17	7	36	4	64
1912 ...	9	...	3	2	14	10	27	1	52
1913 ...	9	...	2	...	11	10	11	...	32



## VESSELS BUILT IN THE COMMONWEALTH, 1901 TO 1913—continued.

## TONNAGE.

Year.	Steamers.		Oil Motor Vessels.		Sailing.		Pontoons, Dredges, etc.		Total.	
	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.
1901 ...	2,270	1,251	41	33	1,083	958	...	...	3,394	2,242
1902 ...	3,166	1,849	96	82	2,409	2,087	64	64	5,735	4,082
1903 ...	1,569	956	624	455	3,179	2,731	385	350	5,757	4,492
1904 ...	2,094	1,240	140	105	1,607	1,388	...	...	3,841	2,733
1905 ...	2,444	1,462	291	214	335	287	967	896	4,037	2,859
1906 ...	1,426	735	268	189	489	418	546	536	2,729	1,878
1907 ...	2,381	1,305	108	93	791	736	152	145	3,432	2,279
1908 ...	2,492	1,317	265	199	493	418	260	260	3,510	2,194
1909 ...	1,351	735	184	151	772	649	98	98	2,405	1,633
1910 ...	1,944	1,105	137	124	807	691	405	363	3,293	2,283
1911 ...	2,092	1,116	139	111	774	689	762	720	3,767	2,636
1912 ...	2,592	1,592	375	293	624	541	78	78	3,669	2,504
1913 ...	1,554	776	246	172	199	184	...	...	1,999	1,132

## § 5. Interstate Shipping.

1. **Total Vessels and Tonnage.**—In the following tables are shewn the number and tonnage of vessels recorded as having entered each State of the Commonwealth from any other State therein, and similarly, the number and tonnage clearing from each State to other Commonwealth States. The table gives results for the quinquennial intervals since 1891 and for 1913. The shipping on the Murray River, between the States of New South Wales, Victoria and South Australia, is not included:—

## INTERSTATE SHIPPING, 1891 to 1913.—NUMBER OF VESSELS.

## ENTERED.

State.			1891.	1896.	1901.	1906.	1911.	1913.
New South Wales ...	...	...	1,692	1,470	1,611	1,575	1,791	2,000
Victoria ...	...	...	1,525	1,280	1,502	1,561	1,648	1,783
Queensland ...	...	...	376	439	430	478	567	566
South Australia ...	...	...	611	823	650	752	789	849
Western Australia ...	...	...	149	520	446	335	415	452
Tasmania ...	...	...	680	567	713	840	864	897
Northern Territory ...	...	...	*	*	*	*	39	47
Total ...	...	...	5,033	5,099	5,352	5,541	6,113	6,594

## CLEARED.

New South Wales ...	...	...	1,415	1,275	1,473	1,417	1,728	1,931
Victoria ...	...	...	1,733	1,380	1,569	1,610	1,765	1,934
Queensland ...	...	...	389	455	395	431	572	576
South Australia ...	...	...	716	918	756	802	900	912
Western Australia ...	...	...	158	496	456	363	394	432
Tasmania ...	...	...	679	573	694	809	836	867
Northern Territory ...	...	...	*	*	*	*	40	44
Total ...	...	...	5,090	5,097	5,343	5,432	6,235	6,696

## INTERSTATE SHIPPING, 1891 TO 1913.—NUMBER OF VESSELS—contd.

## TOTAL.

State.	1891.	1896.	1901.	1906.	1911.	1913.
New South Wales ...	3,107	2,745	3,084	2,992	3,519	3,931
Victoria ...	3,258	2,660	3,071	3,171	3,413	3,717
Queensland ...	765	894	825	909	1,139	1,142
South Australia ...	1,327	1,741	1,406	1,554	1,689	1,761
Western Australia ...	307	1,016	902	698	809	884
Tasmania ...	1,359	1,140	1,407	1,649	1,700	1,764
Northern Territory ...	*	*	*	*	79	91
Total ...	10,123	10,196	10,695	10,973	12,348	13,290

\* Included with South Australia.

## INTERSTATE SHIPPING, 1891 to 1913.—TONNAGE.

## ENTERED.

State.	1891.	1896.	1901.	1906.	1911.	1913.
New South Wales	1,617,559	1,589,753	2,031,089	2,456,269	3,318,605	4,132,887
Victoria ...	1,392,818	1,486,624	1,956,900	2,473,771	2,959,551	3,509,138
Queensland ...	267,753	343,026	545,469	692,354	840,052	1,020,516
South Australia ...	658,600	1,051,893	1,124,499	1,582,802	1,970,490	2,407,362
Western Australia	237,708	683,918	973,474	968,664	1,378,800	1,666,709
Tasmania ...	371,205	281,029	485,023	721,240	895,546	917,216
North'n Territory	*	*	*	*	64,518	95,357
Total ...	4,545,643	5,436,243	7,116,454	8,895,100	11,427,562	13,749,185

## CLEARED.

State.	1891.	1896.	1901.	1906.	1911.	1913.
New South Wales	1,314,339	1,341,635	1,856,501	2,177,496	3,209,723	3,955,012
Victoria ...	1,692,189	1,599,065	2,038,424	2,617,966	3,233,531	3,897,363
Queensland ...	302,723	359,046	440,659	578,561	855,776	1,022,753
South Australia ...	829,616	1,203,830	1,365,668	1,772,356	2,343,269	2,627,858
Western Australia	269,256	687,632	977,846	1,051,629	1,303,359	1,532,037
Tasmania ...	352,406	250,557	433,735	636,944	728,170	788,500
North'n Territory	*	*	*	*	66,357	86,037
Total ...	4,760,529	5,441,765	7,112,833	8,834,952	11,740,185	13,909,560

## TOTAL.

State.	1891.	1896.	1901.	1906.	1911.	1913.
New South Wales	2,931,898	2,931,388	3,887,590	4,633,765	6,528,328	8,087,899
Victoria ...	3,085,007	3,085,689	3,995,324	5,091,737	6,193,082	7,406,501
Queensland ...	570,476	702,072	986,128	1,270,915	1,695,828	2,043,269
South Australia ...	1,488,216	2,255,723	2,490,167	3,355,158	4,313,759	5,035,220
Western Australia	506,964	1,371,550	1,951,320	2,020,293	2,682,159	3,198,746
Tasmania ...	723,611	531,586	918,758	1,358,184	1,623,716	1,705,716
North'n Territory	*	*	*	*	130,875	181,394
Total ...	9,306,172	10,878,008	14,229,287	17,730,052	23,167,747	27,658,745

\* Included with South Australia.

The figures presented in the above table include overseas vessels—largely mail boats—passing from one State to another. • This renders the results somewhat unsatisfactory.

In the earlier part of this section attention was drawn to the custom in vogue prior to Federation of recording vessels from or to "oversea countries via other Commonwealth States" as *direct* from or to the oversea country. At each port in Australia these vessels were, on the inward voyage (to Australia), entered as from the oversea country, and cleared to the next Australian port as "interstate"; on the return journey—the outward voyage—they were entered as "interstate," and cleared as for the oversea country. In order to preserve the continuity of the records of the shipping communication of the several States with oversea countries this method has been followed in continuation of the pre-existing practice, excepting that vessels arriving or departing via other Commonwealth States are now so recorded instead of as "direct."

From the above it will be seen that while certain movements of the vessels referred to are included in the interstate shipping, other movements of the same vessels, between the same ports, are not so included.

To ascertain the aggregate movement of shipping between the States during the year 1913, including the total interstate movements of oversea vessels, the figures in the following table must be added to those of the preceding one :—

**SHIPPING ENTERED AND CLEARED FROM AND TO OVERSEAS COUNTRIES VIA  
OTHER COMMONWEALTH STATES, 1913.**

State.	Entered.		Cleared.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales ...	604	2,212,820	503	1,918,660	1,107	4,131,480
Victoria ...	434	1,698,048	436	1,744,717	870	3,442,765
Queensland ...	219	890,842	215	904,467	434	1,795,309
South Australia ...	230	951,213	228	926,197	458	1,877,410
Western Australia ...	14	27,698	13	42,171	27	69,869
Tasmania ...	8	22,951	25	132,706	33	155,657
Total ...	1913 1,509	5,803,572	1,420	5,668,918	2,929	11,472,490
	1906 1,045	3,349,036	1,107	3,442,747	2,152	6,791,783

2. **Total Interstate Movement of Shipping.**—From the foregoing it has been seen that the interstate movement of shipping includes two very different elements, viz.:—(i.) Oversea ships moving from State to State, and (ii.) the movement of ships engaged solely in the interstate carrying trade. These two elements are approximately as follows:—

**TOTAL INTERSTATE MOVEMENT OF SHIPPING, 1909 to 1913.**

	1909.	1910.	1911.	1912.	1913.
	Tons.	Tons.	Tons.	Tons.	Tons.
Oversea vessels moving interstate ...	8,204,858	9,223,166	10,049,659	10,711,434	11,472,490
Vessels solely interstate ...	5,850,749	6,384,108	6,548,069	6,809,428	8,080,267
Total ...	14,055,607	15,607,274	16,597,728	17,520,862	19,552,757

The following table shews the number and tonnage of vessels which entered and cleared each State during 1913, including the coastal movements of oversea vessels :—

### INTERSTATE SHIPPING OF EACH STATE, 1913.

State.	Entered.		Cleared.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales	2,604	6,345,707	2,434	5,873,672	5,038	12,219,379
Victoria	2,217	5,207,186	2,370	5,642,080	4,587	10,849,266
Queensland	785	1,911,358	791	1,927,220	1,576	3,838,578
South Australia	1,079	3,358,575	1,140	3,554,055	2,219	6,912,630
Western Australia	466	1,694,407	445	1,574,208	911	3,268,615
Tasmania	905	940,167	892	921,206	1,797	1,861,373
Northern Territory	47	95,357	44	86,037	91	181,394
Total...	1913 8,103	19,552,757	8,116	19,578,478	...	...
	1906 6,586	12,244,136	6,539	12,277,699	...	...

3. **Vessels Engaged Solely in Interstate Trade.**—The elimination of the element of oversea vessels, included in the interstate shipping returns, cannot be accurately effected; nevertheless, a close approximation is furnished if it be assumed that vessels *entered* in the several States as from “oversea countries via other Commonwealth States” have really been *cleared* from other States as “interstate,” and further, that the vessels *cleared* to “oversea countries via other Commonwealth States” have likewise been *entered* as “interstate.” Applying this suggestion, and so eliminating all interstate movements of oversea vessels, the number and tonnage of vessels engaged solely in the interstate trade during the years 1909 to 1913 will be found to be as follows:—

### NUMBER AND TONNAGE OF VESSELS ENGAGED SOLELY IN INTERSTATE TRADE, 1909 to 1913.

Year.	Entered.		Cleared.	
	No.	Tons.	No.	Tons.
1909	4,375	5,850,749	4,353	5,854,313
1910	4,645	6,384,108	4,674	6,471,566
1911	4,794	6,548,069	4,811	6,570,019
1912	5,000	6,809,428	4,990	6,809,426
1913	5,174	8,080,267	5,187	8,105,988

This treatment cannot be extended to the individual States, as the records do not disclose the particular relationship of the States concerned.

4. **Interstate and Coastal Services.**—The foundation of the coastal steamship services in Australia dates back to the year 1851, when a regular trade was established between Melbourne and Geelong by the small screw steamer *Express*. Early in the fifties a company was formed in Tasmania with a capital of £40,000 for the purpose of purchasing steamboats, and employing them in the carriage of passengers and goods between Hobart

and Melbourne. This service was commenced in 1852, and was thus the first regular interstate service in Australia. About this time the great influx of population and the increase in commerce, caused chiefly by the gold discoveries, emphasised the desirability of establishing more regular and quicker means of communication between the principal ports of Australia, and in 1862 the regular interstate service between New South Wales and Victoria was inaugurated by the s.s. *You Yangs*, which was put into commission in regular service between Melbourne, Sydney, and Newcastle. In 1875 a company was formed in Adelaide for the purpose of supplying suitable steamers for the requirements of the trade between Adelaide and Melbourne. The first two steamers of the company were named the *South Australian* and the *Victorian*, and were small vessels of only 400 tons burthen. From the start, success attended these enterprises, and the services thus initiated were rapidly extended and their operations broadened. Numerous other companies were formed to cope with the increasing trade between ports in the Commonwealth, and the companies engaged from time to time added to their fleets of steamers by the acquisition of more modern and rapid vessels, until at the end of the year 1913 the total net tonnage owned by the twenty-three companies from whom returns have been received amounted to 206,340 tons. A summary of the various mail services carried on during the year 1913 is given in Section XVIII. of this work.

The subjoined table gives particulars, so far as they are available, of all steamships engaged in regular interstate or coastal services at the end of each of the years 1901 and 1909 to 1913. The figures for 1909 and subsequent years include particulars relating to a number of smaller companies which did not supply returns for 1901, though they were, for the most part, carrying on business in that year.

**PARTICULARS OF STEAMSHIPS ENGAGED IN REGULAR INTERSTATE AND  
COASTAL SERVICES IN THE COMMONWEALTH, 1901 and 1909 to 1913.**

Particulars.	1901.	1909.	1910.	1911.	1912.	1913.
Number of companies making returns ...	11	23	24	24	24	*23
Number of steamships ...	113	181	180	178	180	190
Tonnage { Gross ...	184,574	283,276	291,470	288,181	311,144	364,937
{ Net ...	114,080	168,206	172,410	170,062	179,996	206,340
Horse-power { Nominal ...	18,237	28,477	29,128	29,456	32,520	37,865
{ Indicated ...	123,519	238,610	245,698	249,388	276,703	321,794
Number of passengers { 1st class ...	4,617	7,087	7,041	8,616	9,084	9,826
{ 2nd class and						
{ 3rd class ...	4,490	6,460	6,395	6,256	6,376	7,635
Complement { Masters and officers ...	403	598	600	590	604	649
{ Engineers ...	332	495	499	491	509	559
{ Crew ...	2,875	4,347	4,440	4,369	4,609	5,509

\* See letterpress above.

5. **Lighthouses and Lights on the Coast of the Commonwealth.**—See Year Book No. 2.

6. **Ports of the Commonwealth.**—See Year Book No. 3.

## § 6. Shipwrecks.

The following statement shews the number and tonnage of vessels wrecked, or otherwise lost, on the coast of the Commonwealth, or under the jurisdiction of the several States, during the years 1901 and 1905 to 1913 :—

## NUMBER AND TONNAGE OF VESSELS WRECKED,\* 1901 and 1905 to 1913.

Year.	Class of Vessel.	Number and Tonnage of Vessels.										Passengers and Crew.	Lives Lost.
		Under 50 tons.		50 to 500 tons.		500 to 2000 tons.		Over 2000 tons.		Total.			
		No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.		
1901	Steam ...	7	189	5	949	2	2,811	...	...	14	3,949	250	40
	Sailing ...	11	217	6	785	5	5,800	...	...	22	6,802	172	10
	Total ...	18	406	11	1,734	7	8,611	...	...	36	10,751	422	50
1905	Steam ...	3	49	2	594	...	...	1	3,325	6	3,968	417	...
	Sailing ...	10	160	5	775	3	3,678	1	2,176	19	6,789	160	57
	Total ...	13	209	7	1,369	3	3,678	2	5,501	25	10,757	577	57
1906	Steam ...	4	89	2	154	...	...	1	2,415	7	2,658	60	12
	Sailing ...	5	77	3	276	1	1,725	2	5,022	11	7,100	105	1
	Total ...	9	166	5	430	1	1,725	3	7,437	18	9,758	165	13
1907	Steam ...	3	71	4	916	3	3,572	...	...	10	4,559	204	16
	Sailing ...	8	162	6	421	5	6,895	...	...	19	7,478	170	29
	Total ...	11	233	10	1,337	8	10,467	...	...	29	12,037	374	45
1908	Steam ...	6	137	7	816	2	2,930	2	5,585	17	9,468	299	37
	Sailing ...	56	775	3	276	3	4,074	1	2,062	63	7,187	348	219
	Total ...	62	912	10	1,092	5	7,004	3	7,647	80†	16,655	647	256
1909	Steam ...	1	48	3	359	1	1,382	1	2,286	6	4,075	131	40
	Sailing ...	6	163	3	362	2	2,681	...	...	11	3,206	88	6
	Total ...	7	211	6	721	3	4,063	1	2,286	17	7,281	219	46
1910	Steam ...	1	34	5	941	1	958	2	9,307	0	11,240	624	2
	Sailing ...	5	115	2	205	2	3,095	...	...	9	3,415	94	20
	Total ...	6	149	7	1,146	3	4,053	2	9,307	18	14,655	718	22
1911	Steam ...	4	109	5	681	3	5,194	...	...	12	5,984	275	161
	Sailing ...	7	103	4	642	4	5,100	...	...	15	5,845	128	25
	Total ...	11	212	9	1,323	7	10,294	...	...	27	11,829	403	186
1912	Steam ...	1	11	6	866	...	...	1	2,182	8	3,059	227	151
	Sailing ...	4	44	3	407	5	7,836	...	...	12	8,287	111	19
	Total ...	5	55	9	1,273	5	7,836	1	2,182	20	11,346	338	170
1913	Steam ...	1	25	2	237	...	...	...	...	3	262	23	...
	Sailing ...	10	175	5	359	...	...	...	...	15	534	51	7
	Total ...	11	200	7	596	...	...	...	...	18	796	74	7

\* In some cases the vessels included in the above return were subsequently recovered. † The large number of wrecks during 1908 was due to cyclones on the north-west coast of Western Australia destroying a large number of the pearling vessels.

## SECTION XVII.

## ROADS AND RAILWAYS.

## § 1. Roads and Bridges.

1. **Introduction.**—In Year Books No. 1 (pages 541 to 551) and No. 2 (pages 675 to 685), a brief historical account was given of the construction and development of roads in Australia. It is not proposed to repeat that account in the present issue of the Year Book.

2. **Expenditure on Roads and Bridges.**—Figures shewing the total expenditure on roads and bridges in the States are not available. The subjoined statement, however, gives the amounts of total loan expenditures by the State Governments up to the 30th June, 1914:—

**ROADS AND BRIDGES.—TOTAL LOAN EXPENDITURE OF EACH STATE AND OF THE COMMONWEALTH UP TO THE 30th JUNE, 1914.**

State, etc. ...	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.*	C'wealth.
Expenditure	£1,862,629	£176,475	£923,656	£1,482,574	£301,244	£4,214,702	£8,961,280

\* Including harbours, rivers, and lighthouses.

The following table shews the annual expenditure from loans on roads and bridges by the central Governments in each State and in the Commonwealth during the year 1901 and from 1909 to 1914:—

**ROADS AND BRIDGES.—LOAN EXPENDITURE BY STATE GOVERNMENTS, 1901-2 and 1909-14.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
	£	£	£	£	£	£	£
1901-2 ...	150,777	47,104	...	185	740	77,536 <sup>1</sup>	276,342
1909-10 ...	...	50	...	...	24,117	... <sup>2</sup>	24,167 <sup>3</sup>
1910-11 ...	...	183	...	...	52,296	80,816	133,295
1911-12 ...	...	...	...	...	35,414	145,556	180,970
1912-13 ...	53,263	...	...	...	37,037	183,625 <sup>4</sup>	273,925
1913-14 ...	23,553	...	...	17,838	...	191,428 <sup>4</sup>	232,819

1. For the calendar year 1902. 2. Not available. 3. Exclusive of Tasmania.  
4. See note \* to previous table.

The two tables given above shew only a small proportion of the actual expenditure upon roads and bridges in the different States, for the reason that (a) there have been large expenditures from revenue, both by the central Governments and by local authorities, and (b) the State Governments have in many cases voted grants and subsidies on the amount of rates collected, and have issued loans to local authorities either for the express purpose of the construction of roads and bridges or for the general purpose of public works construction. Returns of expenditure, where available, are given below for each State. Although no revenue is now derived directly from roads and bridges, they are indirectly of great value to the community, forming, next to railways and public lands, the most considerable item of national property.

3. **New South Wales.**—The control of all roads, bridges, and ferries in New South Wales is now regulated by the Local Government Act 1906, which came into force on the 1st January, 1907 (see Section xxvi. *Local Government*). Under the provisions of this Act, the eastern and central divisions of the State are divided into shires and municipalities for the general purposes of local government, for the endowment of which a sum of not less than £150,000 is payable annually out of the consolidated revenue on the basis of a percentage subsidy on the proceeds of the general rates received by the District Councils. The control of all roads, bridges, and ferries (except those proclaimed "National" and those in the unincorporated areas of the Western Division) has been transferred from the Roads Department to the respective shires and municipal councils, who are now responsible for their construction and maintenance. Up to December, 1913, 38 miles of roads, 273 bridges, 54 wharves, 99 jetties, and 14 ferries have been proclaimed as "National" works. Power is given to construct new roads, to widen or close existing roads, to make by-laws for the regulation of traffic, etc.; in the case of the acquisition of land for the purpose of constructing new roads or of widening existing roads, the provisions of the Roads Act 1902 are incorporated. The Minister for Works is empowered to pay subsidies to the local authorities to maintain the roads. The roads leading to and within areas of lands which are made available for closer settlement will be constructed by the Government prior to transfer to the shires, as also will roads required mainly for tourists in districts not likely to produce revenue in rates to the local authorities.

(i.) *Principal Main Roads.* The four principal main roads in New South Wales run in the same direction as, and are roughly contiguous to, the four state-owned main railway lines. (a) *The Southern Road*, 385 miles in length, runs from Sydney to Albury, and before the days of railway construction, formed part of the highway over which the interstate traffic between Melbourne and Sydney used to flow. (b) *The South Coast Road*, 250 miles long, runs from Campbelltown along the top of the coast range and across the Illawarra district as far as Bega, from which place it extends as a minor road to the southern limits of the State. (c) *The Western Road*, 513 miles long, runs through Bathurst, Orange, and many other important towns as far as Bourke, on the Darling River. (d) *The Northern Road*, 405 miles in length, runs from Morpeth, near Newcastle, as far as Maryland, on the Queensland border.

(ii.) *Length and Classification of Roads and Bridges.* The length of roads in the State (exclusive of 38 miles proclaimed as "National works") in 1914 was approximately 94,796 miles, of which 9762 miles were controlled by municipalities, 79,079 by the shires, and 5945 miles were in the unincorporated areas of the Western Division. The following table gives particulars for the year 1913-14 of roads classified according to whether metalled, etc., formed only, cleared only, or natural surface:—

NEW SOUTH WALES.—APPROXIMATE LENGTH OF ROADS, 1913-14.

Classification.				Metalled, Ballasted, Gravelled etc.	Formed only.	Cleared only.	Natural surface.	Total.
				Miles.	Miles.	Miles.	Miles.	Miles.
Metropolitan...	...	...	...	1,172	353	216	244	1,985
Country municipalities	...	...	...	2,553	1,549	1,851	1,824	7,777
Shires	...	...	...	12,631	9,247	22,076	35,135	79,089
Western Division	...	...	...	91	145	3,160	2,549	5,945
Total	...	...	...	16,447	11,294	27,303	39,752	94,796

(iii.) *Bridges, Culverts, and Ferries.* The more important bridges have been proclaimed under the provisions of the Local Government Act as "National works" (see above), and these, together with the bridges, etc., in the Western Division, remain under the



control of, and are maintained by, the Public Works Department. Particulars of bridges, culverts, and ferries in the State in 1913-14 are given in the following table:—

**NEW SOUTH WALES.—BRIDGES, CULVERTS, AND FERRIES, 1913-14.**

Particulars.	Bridges.		Culverts.		Ferries.
	No.	Length.	No.	Length.	No.
		ft.		ft.	
National works ... ..	273	*	...	...	13
Metropolitan... ..	127	5,486	748	46,173	...
Country municipalities ... ..	647	37,704	3,335	89,943	13
Shires ... ..	3,435	202,704	32,394	285,989	99
Western Division (unincorporated) ... ..	117	20,576	88	845	3
Total ... ..	4,599	*	36,565	422,950	128

\* Not available.

(iv.) *Expenditure on Roads and Bridges.* Since the year 1857 the total expenditure by the Roads Department and Roads Trust on roads and bridges is £25,053,883. In this expenditure is included the cost of administering the Department, services for other Departments, and payments on account of punt approaches and similar works incidental to the road traffic of the country. The amount expended from 1857 to the 30th June, 1900, for the next decennium, and for each succeeding financial year up to 1914, is given below. Until recent years, the expenditure on these works increased at a much faster rate than the population.

**NEW SOUTH WALES.—EXPENDITURE BY ROAD DEPARTMENTS AND ROAD TRUSTS, 1857 to 1914.**

Period.	Expenditure by Roads Department.	Expenditure by Trustees.	Total.
	£	£	£
1857 to 30th June, 1900 ... ..	18,714,078	1,258,027	19,972,105
1900-09 ... ..	4,605,766	30,664	4,636,430
1910-11 ... ..	125,326	...	125,326
1911-12 ... ..	126,111	...	126,111
1912-13 ... ..	120,719	...	120,719
1913-14 ... ..	73,192	...	73,192
Total ... ..	23,765,192	1,288,691	25,053,883

The expenditure by the Department is now limited to the construction of roads in closer settlement areas and to the construction and maintenance of national bridges and ferries, and of works in the unincorporated areas of the Western Division.

4. **Victoria.**—Under the Local Government Act 1903, the control, construction, and maintenance of all roads, streets, and bridges are in the hands of Municipal Councils, who are empowered to open new roads, and to close, divert, or increase the width of any existing street or road, provided that no new road less than one chain in width may be opened without the consent of the Minister. The councils are also authorised to make and repair streets, lanes, or passages on private property, or to form means of back access to private property, and may compel the owners of such property to pay the cost of so doing. Footways in front of houses or grounds may be kerbed, flagged, paved, or asphalted, and the owners of such houses or grounds must bear

half the cost of so doing. The revenue of the councils is derived from rates which may be either ordinary or special. The councils are empowered to raise loans for the purpose of making or opening new streets and roads, and for diverting, altering, or increasing the width of streets and roads, provided that the amount of such loan must not exceed ten times the average income of the council during the three years immediately preceding.

(i.) *Country Roads Board.* With the object of improving the main roads of the State, an Act (No. 2415) was passed on—23rd December, 1912, which empowers the Governor-in-Council to appoint a board, to consist of three members.

The duties of the board are to ascertain by survey and investigation what roads are main roads; the nature and extent of the resources of Victoria in metals, minerals, and materials suitable for the purposes of road-making and maintenance, and the most effective and economical methods for dealing with the same, and for supplying and utilising the material in any part of Victoria; the most effective methods of road construction and maintenance; what deviations (if any) in existing roads or what new roads should be made so as to facilitate communication and improve the conditions of traffic; and to record, publish, and make available for general information the results of all such surveys and investigations. The duty of furnishing information that may be required is imposed on the municipal authorities.

The construction of permanent works and the maintenance of main roads are likewise to be carried out by the municipalities to the satisfaction of the board. The total cost of the works, in the first instance, is to be paid by the Treasury, but subsequently half the amount expended on permanent works and maintenance is to be refunded by the municipalities affected.

For the purpose of making permanent works, power is given to the Governor-in-Council to issue stock or debentures to the amount of £400,000 a year for five years, and the principal and interest are a charge upon the Consolidated Revenue of the State. The money so raised is to be placed to the credit of an account to be called "the Country Roads Board Loan Account," which will be debited with all payments made by the Treasurer towards the cost of permanent works. A sinking fund of 1 per cent. per annum on half the amount borrowed is authorised to be paid out of the Consolidated Revenue until half the amount borrowed is redeemed. An annual payment to the Treasurer of 6 per cent. on the amount due by each municipality in respect of permanent works is provided for, and the cost of maintenance, allocated to each municipality, must be paid before the 1st July in each year. A special rate, not to exceed 6d. in the £1 on the net annual value of rateable property to meet the cost of permanent works and maintenance, may be levied in any ward or riding of a municipality as the council may direct. In the event of default of payment by a municipality, the board may levy a rate to meet the amount owing. All fees and fines paid under the Motor Car Act, all moneys standing to the credit of the Municipal Fees and Fines Trust Fund, all fees paid on the registration or renewal of the registration of traction engines, and all fees received by the Crown after the 30th June, 1912, under the Unused Roads and Water Frontages Act 1903, are to be credited to the Country Roads Board Fund.

Up to the 30th June, 1914, there were 2017 miles of declared main roads, agreed to by the councils, and gazetted. In addition, there were 943 miles of proposed main roads not yet gazetted. The total amount of contracts for permanent works was £94,877, of which £23,440 represented contracts let directly by the board, and £71,473 by the municipalities. The net receipts for the year ending 30th June, 1914, were £49,279, of which amount the chief items were: motor registration fees, £26,011, and unused roads and water frontage license fees, £19,193.

(ii.) *General and Local Government Expenditure.* The gross amount expended directly by the State Government of Victoria on roads and bridges was £7,958,212 up to the end of June, 1902. The annual expenditure from ordinary revenue by municipalities is not

returned separately, but is included in Public Works Construction and Maintenance (see Section xxvi., *Local Government*). The subjoined table shews the cost from general revenue of municipalities of private streets, roads, etc., and also shews the amounts of municipal loan expenditure in 1901 and from 1909 to 1913:—

**VICTORIA.—EXPENDITURE ON ROADS AND BRIDGES, 1901 and 1909 to 1913.**

Financial Year. <sup>1</sup>	Annual Ex- penditure by State Govern- ment.	Municipal Loan Expenditure.		Formation of Private Roads, Streets, Lanes, etc. <sup>2</sup>	
		Cities, Towns, and Boroughs.	Shires.	Cities, Towns, and Boroughs.	Shires.
	£	£	£	£	£
1901 ... ..	72,890	16,844	12,928	18,829	4,521
1909 ... ..	99,572	21,389	9,058	34,285	3,603
1910 ... ..	102,309	25,311	18,077	29,304	2,859
1911 ... ..	67,001	41,247	24,978	41,167	5,682
1912 ... ..	58,917	28,237	31,940	59,845	6,890
1913 ... ..	73,374	49,743	30,758	51,034	5,566

1. The financial years of Melbourne and Geelong end on the 31st December and the 31st August respectively; those of all other municipalities on the 30th September.

2. Including the cost of flagging, asphaltting footpaths, etc., but exclusive of loan expenditure.

5. **Queensland.**—In Queensland the construction and maintenance of public roads are controlled under a system of local self-government, for the purposes of which the whole State is divided into (a) towns and (b) shires. The duties, rights, and responsibilities of the local authorities with regard to roads, streets, and bridges are regulated by the Local Authorities Act of 1902. The councils are invested with full powers to open, close, divert, or widen streets, roads, and bridges, and to make by-laws for the regulation of traffic, etc. The members of the councils are elected by the ratepayers, and with the aid of executive officers they undertake the supervision and control of all necessary constructions and improvements of roads and bridges within their district. The rates which the councils are empowered to levy are supplemented by Government grants. Separate returns as to the expenditure by towns and shires on roads and bridges are not available, the amounts being included in the returns of expenditure on public works, particulars as to which expenditure may be found in the section of this book on *Local Government*.

6. **South Australia.**—Under the provisions of the District Councils Acts 1887 to 1904, and the Municipal Corporations Acts 1890 to 1903, and of the Roads Acts 1884 to 1908, the councils are invested with full powers as to the opening and making of new streets and roads, and the diverting, altering, or increasing the width of existing roads; as to raising, lowering, or altering the ground or soil of any street or road; and as to the construction, purchase, and management of bridges, culverts, ferries, and jetties.

(i.) *Main Roads and District Roads.* All the roads in each district are classified either as main roads or as district roads. Both classes of roads are under the direct control either of Municipal Corporations or of District Councils, but in the case of main roads the expenditure on construction and maintenance is chiefly provided for by Government grants, which are paid into a main road fund, while the expenditure on district roads is paid for out of general rates, and out of subsidies on the amount of such rates, granted by the central Government. Under the Main Roads Act 1908, a number of roads were declared to be main roads.

The total estimated length of streets and roads in South Australia up to the 30th June, 1913, was as follows:—

**SOUTH AUSTRALIA.—ESTIMATED LENGTH OF ROADS AND STREETS, 1913.**

Particulars.				Woodblocked.	Macadamised.	Other.	Total.
Miles	...	...	...	$\frac{1}{2}$	8,319	25,766 $\frac{1}{2}$	34,086

(ii.) *Expenditure by Corporations on Main and District Roads.* The following table shows the expenditure by municipal corporations on both main and district roads during 1901-2, and each year from 1909 to 1913 inclusive:—

**SOUTH AUSTRALIA.—EXPENDITURE BY CORPORATIONS ON STREETS, ROADS, AND BRIDGES, 1901-2 and 1909-13.**

Year. <sup>1</sup>			District Roads		Main Roads Fund.			
			Expenditure.		Receipts.		Expenditure.	
			Con- struction.	Main- tenance.	From Main Road Grants.	Total.	Con- struction.	Main- tenance.
			£	£	£	£	£	£
1901	...	...	4,906	50,628	7,403	8,738	159	7,745
1909	...	...	9,218	63,474	9,679	12,312	258	11,849
1910	...	...	4,031	70,660	14,392	16,000	1,178	13,999
1911	...	...	5,673	63,897	12,935	14,294	1,053	13,634
1912	...	...	10,907	59,609	11,477	11,865	322	12,590
1913	...	...	31,797	89,830	11,817	13,128	463	13,142

1. Up to and including the year 1903 the financial year ended on the 31st December, but after that date ends on the 30th November.

(iii.) *Expenditure of District Councils on Main and District Roads.* The following table gives similar information with respect to main and district roads under the control of District Councils:—

**SOUTH AUSTRALIA.—EXPENDITURE BY DISTRICT COUNCILS ON STREETS, ROADS, AND BRIDGES, 1901 and 1909-13.**

Year ended 30th June.			District Roads.		Main Roads Fund.			
			Expenditure.		Receipts.		Expenditure.	
			Con- struction.	Main- tenance.	From Main Road Grants.	Total.	Con- struction.	Main- tenance.
			£	£	£	£	£	£
1901	...	...	18,026	47,379	72,980	100,077	11,861	67,487
1909	...	...	35,922	60,328	79,194	79,554	10,610	69,387
1910	...	...	33,853	64,079	106,096	106,221	10,752	76,150
1911	...	...	44,289	63,811	110,397	111,182	24,660	82,115
1912	...	...	54,342	68,108	119,331	123,154	20,414	102,759
1913	...	...	56,128	76,880	106,482	108,489	14,915	96,673

7. *Western Australia.*—In Western Australia the construction, maintenance, and management of roads and bridges throughout the State, except those within the boundaries of municipalities, are under the control of District Road Boards, constituted by the Roads Act 1911.

(i.) *District Roads and Bridges.* Under the provisions of this Act any part of the State, not within a municipality, may be constituted by the Governor-in-Council into a Road District, under the control of a board of not less than five, nor more than eleven members elected by the ratepayers. The board is

invested with full powers for controlling and managing all roads and bridges within the district, and is empowered to make by-laws for the general regulation of traffic, to control the weight of engines and machines permitted to cross any bridge or culvert, to regulate the speed limits of vehicles, lights to be carried by vehicles, the lighting of streets and roads, and the licensing of bicycles and motor cars. A District Road Board may not, however, construct any road or street less than sixty-six feet wide, nor any bridge or culvert at a greater cost than £100, without the consent of the Minister. The construction of the more important bridges and culverts is generally carried out by the Government, the work, after completion, being handed over to the Road Board for maintenance. In case of land being required for the purpose of constructing a new street or road, or for widening an existing street or road, the provisions of the Public Works Act of 1902 are incorporated in the Roads Act. A board may levy general rates within its district not exceeding two shillings and sixpence nor less than ninepence in the £ on the annual ratable value, and, if valued on the basis of unimproved values of lands, the general rate must not be over threepence nor under one penny in the £ on the capital unimproved value. Boards are also empowered to raise loans for works or undertakings or to liquidate existing loans, but the amount of such loans must not be greater than seven times the average ordinary revenue of the board. In the case, however, of boards already indebted, borrowing power to the extent of ten times the said average is given, less the amount of existing loan indebtedness at time of borrowing. For the purpose of paying the interest on money borrowed a board may levy a special rate. District Road Boards may also exercise the powers of Drainage Boards under the provisions of the Land Drainage Act of 1900.

(ii.) *Municipal Streets, Roads, and Bridges.* As regards roads, streets, and bridges within municipalities, these are under the control of local authorities elected under the provisions of the Municipal Corporations Act 1906. The municipal councils are invested with full powers for making, maintaining, and managing all streets, roads, and bridges within the municipal area, and may request the Governor to declare any such land reserved, used, or by purchase or exchange acquired for a street or way, to be a public highway, and on such request the Governor may, by notice in the *Gazette*, proclaim such highway absolutely dedicated to the public.

(iii.) *Length of Roads, Number of Bridges, and Expenditure on Roads and Bridges.* The following table gives particulars of the operations of the Road District Boards since the 1st January, 1908 :—

**WESTERN AUSTRALIA.—PARTICULARS OF ROADS UNDER CONTROL OF DISTRICT ROADS BOARDS, 1908 to 1912.**

Year ended the 30th June.	Area.	Revenue.					Expenditure.	Length of Roads.*				No. of Bridges and Culverts.	
		From General Rates.	From Grants and Subsidies.	From other Sources.	Total.	Cleared only.		Formed only.	Metalled or otherwise Constructed.	Total.	Bridges.	Culverts.	
Sq. m.	£	£	£	£	£	Miles.	Miles.	Miles.	Miles.	No.	No.		
1908 ...	975,780	40,491	58,311	14,707	113,509	120,088	10,821	4,760	2,337	17,918	509	4,148	
1909 ...	975,781	46,034	52,382	15,869	114,285	116,723	13,085 <sup>1</sup>	4,645 <sup>1</sup>	2,797	20,527	554 <sup>2</sup>	4,574 <sup>3</sup>	
1910 ...	975,793	54,115	61,301	14,201	129,617	114,947	14,167	4,622	2,958	21,747	678 <sup>3</sup>	4,853 <sup>3</sup>	
1911 ...	975,800	59,302	100,126	16,474	175,902	141,015	15,169	4,874	3,119	23,162	653	5,211	
1912 ...	975,809	70,397	64,774	36,497	171,668	196,576	16,484	4,555	3,432	24,471 <sup>4</sup>	719 <sup>4</sup>	5,806 <sup>4</sup>	

\* Approximate only.

1. Exclusive of seven Boards which have not supplied the information. 2. Exclusive of three Boards. 3. Exclusive of two Boards. 4. Exclusive of five Boards.

The following table gives similar information with reference to roads controlled by municipalities under the Municipal Institutions Act 1900 and the Municipal Corporations Act 1906:—

**WESTERN AUSTRALIA.—PARTICULARS OF STREETS, ROADS, AND BRIDGES UNDER  
THE CONTROL OF MUNICIPALITIES, 1901 and 1908-12.**

Year ended the 31st October.	No. of Municipalities.	Length of Streets and Roads.*					Revenue.		Expenditure.	
		Paved, M't'll'd or Gr'v'll'd	Form'd only.	Clear'd only.	Not Clear'd	Total.	From Rates.	From Grants.	Works and Impr'v- ments.	Street Light'g and Wat'r'g
		Miles.	Miles.	Miles.	Miles.	Miles.	£	£	£	£
1901 ... ..	42	195	30	149	137	511	78,021	66,850	111,256	15,969
1908 ... ..	47	474	90	323	271 <sup>1</sup>	1,158	139,228	67,315	103,943	31,683
1909 ... ..	46	486	88	322	321	1,217	138,445	37,301	83,283	30,626
1910 ... ..	42 <sup>2</sup>	525	104	309	297	1,235	138,719	13,336	87,998	30,965
1911 ... ..	42	521	105	292	284	1,202	144,993	27,944	75,697	30,341
1912 ... ..	38 <sup>3</sup>	528	103	278	312	1,221	148,538	25,902	78,576	27,322

\* Approximate only.

1. Exclusive of three municipalities which have not supplied the information. 2. Exclusive of three municipalities. 3. Including also particulars of four municipalities which were dissolved during the year.

8. *Tasmania.*—In 1906 all the existing Road Trusts and Main Road Boards were abolished by the Local Government Act, which provided that the councils of all municipalities constituted under the Act should exercise all powers conferred upon, and should be liable to all the obligations imposed upon Road District Trusts and Main Road Boards by the Roads Act of 1884. The whole State is divided into municipal districts, 49 rural and 2 cities, each rural district being under the control of a warden and councillors, and deemed to be a road district and a main road district for the purposes of the Roads Act 1884.

(i.) *Mileage of Roads and Number of Bridges.* The following table gives particulars for the year 1913 as to length of roads and number of bridges and culverts under the control of the municipalities :—

**TASMANIA.—ROADS AND BRIDGES IN MUNICIPALITIES, 1913.**

Roads.			Bridges.	Culverts.
Macadamised or Gravelled.	Other.	Total.		
Miles. 5,587	Miles. 5,283	Miles. 10,875	No. 1,120*	No. 19,702*

\* Last available figures.

(ii.) *Revenue and Expenditure.* The following table gives particulars for the year 1913 of the revenue and expenditure of municipal councils in respect of roads and bridges :—

**TASMANIA.—ROADS AND BRIDGES, REVENUE AND EXPENDITURE, 1913.**

Revenue.				Expenditure. †
From Government.	Rates.	All other.*	Total.	
£	£	£	£	£
17,510	54,231	107,302	179,043	197,057

\* Including current receipts from loans. † Municipal "Works and Services," not including £9,844 from Revenue by State Government.

## § 2. Railways.

### (A) General.

1. **Introduction.** In previous issues of the Commonwealth Year Book, the statistics of all Government Railway systems were treated under the head of *Government Railways*. In the present and succeeding issues the greater part of those statistics relating to State-owned lines will be dealt with separately from those under the control of the Commonwealth Government. The former are referred to throughout as "State" and the latter as "Federal" railways.

2. **Railway Statistics.**—In previous issues of the Year Book will be found a condensation of the report issued in 1909 by the Commonwealth Statistician to the Minister for Home Affairs on the subject of *The Desirability of Improved Statistics of Government Railways in Australia* (Year Book No. 7, page 598).

3. **Railway Communication in the Commonwealth.**—An account of the progress in railway construction in Australia since the opening of the first line in 1854 will be found in previous issues of the Year Book (No. 6, p. 681). In the eastern, south-eastern, and southern parts of Australia there now exists a considerable network of railway lines converging from the various agricultural, pastoral and mining districts towards the principal ports, which are themselves connected by systems of lines roughly running parallel to the coast. These are shewn on the map on page 621. In the east, lines radiating from Townsville, Rockhampton, Brisbane, and Sydney extend inland in various directions for distances ranging up to over 600 miles; in the south-east there are numerous lines, those in Victoria converging towards Melbourne, while others in New South Wales have their terminus in Sydney; in the south there are four main lines, with numerous branches, running from Melbourne, while from Adelaide one main line, with several branches to the coastal towns, runs inland in a northerly direction for a distance of nearly 700 miles, and another line runs in a south-easterly direction to various ports and meeting the main line from Melbourne on the border of South Australia and Victoria. The main interstate line (indicated by a heavier line in the map), which permits of direct communication between the four capital cities—Brisbane, Sydney, Melbourne, and Adelaide—covers a distance from end to end of 1790½ miles. This journey occupies just over three days, including one stop of 9 hours and 15 minutes at Sydney, and another of 3 hours 39 minutes at Melbourne. The distance between the capitals and the times occupied are as follow:—

Brisbane to Sydney	...	...	725 miles	...	26 hours 45 min.
Sydney to Melbourne	...	...	582½ "	...	16 " 51 "
Melbourne to Adelaide	...	...	482½ "	...	17 " 25 "

The longest railway journey which can be undertaken in Australia, on one continuous line of railway, is from Longreach in Queensland to Oodnadatta in South Australia, a total distance of 3303 miles. In Western Australia there is a connected system of main or trunk lines between the ports of the State and the agricultural, pastoral, and mining districts.

In the northern parts of Queensland and in the Northern Territory there are also a number of disconnected lines running inland from the more important ports. In Tasmania the principal towns are connected by a system of lines, and there are also, more especially in the western districts, several lines which have been constructed for the purpose of opening up mining districts.

4. **Non-conformity of Gauge.**—With but few exceptions, all the railway lines in the Commonwealth open for general traffic are now owned and managed by the respective States in whose territory they run, but, unfortunately for the purpose of interstate

traffic, the construction of the various systems in different parts of Australia has proceeded without uniformity of gauge. In 1846 Mr. Gladstone, then Colonial Secretary, recommended in a despatch to the Governor of New South Wales that the 4-ft. 8½-in. gauge should be adopted. In 1850, however, the engineer to the Sydney Railroad and Tramway Company strongly advocated the adoption of the 5 ft. 3 in. gauge, and in 1852 an Act was passed making it compulsory that all railways in New South Wales should be constructed to the wider gauge, the Governors of Victoria and South Australia being duly advised of the step that had been taken. In 1852, however, the company mentioned having changed its engineer, also changed its views as to the gauge question, and in the following year succeeded in obtaining the repeal of the Act of 1852 and in passing another, under the provisions of which the narrower gauge was made imperative. This step was taken without the concurrence of the other States concerned, and a considerable amount of ill-feeling arose, especially in Victoria, where two private companies had already placed large orders for rolling stock constructed to the broad gauge originally chosen. The result was that it was decided in Victoria to adhere to the 5 ft. 3 in. gauge as the standard gauge for the State, while the Sydney Railroad and Tramway Company proceeded with the construction of its lines to the 4 ft. 8½ in. gauge, and these two gauges have since been adhered to as the standard gauges of the respective States. The Queensland Government had, at the outset, adopted a gauge of 3 ft. 6 in. as being best suited to the requirements of the colony, and has since adhered to that gauge throughout the State, so that all goods have to be discharged and reloaded at the boundary between that State and New South Wales. In South Australia the broad gauge of Victoria was at first adopted, and the part of the interstate line between Adelaide and the Victorian boundary was constructed to that gauge, so that the line from Melbourne to Adelaide is uniform. In the lines which have been constructed more recently, however, and in the Northern Territory, the South Australian Government has, with a view to economy in construction, adopted a gauge of 3 ft. 6 in. In Western Australia and Tasmania the 3 ft. 6 in. gauge was also adopted. It was recognised in both these States that the construction of railways was essential to their proper development, but as their financial resources would not bear a heavy initial expenditure in connection with the establishment of railway lines, it was decided to adopt the narrow gauge. In Victoria, light railways have been constructed in recent years to a gauge of 2 ft. 6 in., whilst in Tasmania short lengths have been laid down to a 2 ft. gauge.

**5. Interstate Communication.**—Until the railway systems of the eastern States were connected at the common boundaries the inconvenience of non-conformity of gauge was not felt. Since then, however, the necessary transshipments of both passengers and goods have been a source of trouble, delay, and expense. On the 14th June, 1883, a railway bridge over the River Murray at Wodonga was opened for traffic, and communication was then established between Melbourne and Sydney. On the 19th January, 1887, the last section of the Victorian line to Serviceton, on the South Australian border, was completed, and a junction was thus effected with the South Australian line to Adelaide. On the 16th January, 1888, a junction was effected between the New South Wales and Queensland lines at Wallangarra, but there was still a break in the line from Sydney at the Hawkesbury River, thirty-six miles from Sydney. This last link was, however, completed on the 1st May, 1889, by the opening of the Hawkesbury River bridge, 2900 feet in length, and railway communication was thus established between the four capital cities, Brisbane, Sydney, Melbourne, and Adelaide.

The effect of the east to west transcontinental railway now under construction by the Commonwealth Government and to which reference will be made in "B," will be that Western Australia will also be linked to the other States, and an unbroken line of communication established from one end of the continent to the other. The construction, moreover, of lines, recently decided upon, connecting Victoria with the Riverina district in New South Wales and with the wheat growing districts of South Australia, will undoubtedly facilitate interstate exchange and will allow the produce of inland areas to find its natural outlet at the nearest port.



**6. Unification of Gauge.**—The development of the railway systems of the Commonwealth has shewn that the adoption of different gauges on the main lines in the several States was a serious error. The extra cost, delay, and inconvenience incurred by the necessity of transferring through-passengers and goods at places where there are breaks of gauge, though not at present of any appreciable magnitude, are becoming more serious as the volume of business increases. As an indication of the extra cost thus involved, the junction charges on interstate traffic between New South Wales and Victoria range from 1s. 6d. to 2s. 6d. per ton.

Although the cost of alteration to a uniform gauge would be great, many propositions have from time to time been put forward with the object of securing such a gauge, and attention has been drawn to the importance of the unification of gauges before further expenditure on railway construction is incurred by the States. The problem is, however, one which is by no means easy of solution, and the difficulties are increased by the introduction of what may be called questions of local or State policy.

The first question that naturally arises in considering the problem is as to which gauge should be adopted as the universal gauge of the Commonwealth. As regards Government railways only, the New South Wales gauge has a mileage of 3967; Victoria and South Australia have a combined mileage of 4506 of 5 ft. 3 in. gauge; while Queensland, South Australia, Western Australia, and the Northern Territory have together 9213 miles of 3 ft. 6 in. gauge. By far the greater part of the mileage of private railways open for general traffic has also been constructed to the 3 ft. 6 in. gauge. The mere question of preponderance of mileage, therefore, indicates the 3 ft. 6 in. gauge for adoption. But this question is obviously subordinate to those involving engineering and economic considerations. Thus, the relative efficiency from the widest point of view, the relative costs of alterations of permanent way and rolling stock, of carrying capacity and speed, that is to say, questions of a technical nature about which figures are not available, enter into the grounds for decision. As regards the unification of the New South Wales and Victorian gauges, the advantage of reducing the broad gauge to the 4 ft. 8½ in. gauge is that there would be no necessity for the alteration of tunnels, cuttings, bridges, or viaducts.

In 1897 a conference was held between the Railway Commissioners of New South Wales, Victoria, and South Australia to consider and report upon the unification of the railway gauges of these States. In their report the Commissioners estimated the cost of converting all the lines in the three States to a 5 ft. 3 in. gauge at £4,260,000, and to one of 4 ft. 8½ in. at £2,360,500. In 1903 the question was again brought up, more particularly with regard to the proposed transcontinental line, and the Engineers-in-Chief reported in favour of a gauge of 4 ft. 8½ in. At the Premiers' Conference, held in January 1912, the subject was again under consideration, but no decision was come to.

In November 1912, another conference of railway engineers, representing the six States and the Federal Government, was held, and the question of unification of gauge was again discussed. The necessity for such a step was emphasised, and a conclusion was come to that the relative advantages of the 5 ft. 3 in. and 4 ft. 8½ in. gauges, from the point of view of efficiency and economy of working, were approximately equal, and that the determination of the most suitable gauge should be made on the basis of cost. Owing, however, to the fact that track mileage, ton mileage, and wage, had at the time increased 90, 200, and 50 per cent. respectively since 1897, together with a correspondingly large increase in the cost of material, the Conference estimated the cost of converting all lines to a 5 ft. 3 in. gauge at £51,659,000 and to a 4 ft. 8½ in. gauge at £37,164,000. It recommended that the latter gauge should be adopted, and pointed out that the longer the work of conversion was delayed, the greater the cost would become. An alternative scheme by which the main trunk lines and more important branches should be converted was also proposed, as possibly meeting immediate requirements, and being, from a Federal point of view, perhaps a more attractive proposition than any other which could be suggested at the present time. The estimated cost of this limited scheme was £12,142,000. The subject was again under discussion at the Premiers'

Conference, held in Melbourne in April 1914, when it was decided to refer the matter to the Interstate Commission, that the latter body might furnish a report as to the benefits of unification, its cost, and the apportionment of such cost.

**7. Mileage Open for Traffic.**—In all the States of the Commonwealth the principle that the control, construction, and maintenance of the railways should be in the hands of the Government has long been adhered to, excepting in cases presenting unusual circumstances. In various parts of the Commonwealth, lines have been constructed and managed by private companies, but at the present time practically the whole of the railway traffic in the Commonwealth is in the hands of the various State Governments. A large proportion of the private lines which are at present running have been laid down for the purpose of opening up forest lands or mining districts, and are not generally used for the conveyance of passengers or the public conveyance of goods. (See E. *Private Railways*, hereinafter.)

(i.) *Mileage of Government and Private Lines, 1855 to 1914.* The subjoined table shews the mileage of Commonwealth Government, State Government, and private lines open for traffic (exclusive of sidings and cross-overs) in each State at different periods since the inauguration of railways in Australia in 1854 up to the year 1914. The railway mileage given for each State includes both Commonwealth and State Government Railways in that State, and in this table and in those on the following page, is estimated from the geographic point of view and not from that of ownership. The figures from 1855 to 1881 are given to the end of the calendar year; later figures are to the end of the financial year ended on the 30th June, unless otherwise stated, excepting the mileages for private lines, which are in all cases taken for the calendar year:—

**GOVERNMENT AND PRIVATE RAILWAYS.—MILEAGE OPEN, 1855 to 1914.**

Year.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Ter.	C'wlth.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1855 ...	14	2½	*	†6½	*	*	*	*	23½
1861 ...	73	114	*	56	*	*	*	*	243
1871 ...	358	276	218	133	12	45	*	*	1,042
1881 ...	1,040	1,247	800	845	92	168	*	*	4,192
1890-1 ...	2,263	2,763	2,205	1,666	1,656	1,425	145	*	10,123
1900-1 ...	2,926	3,238	2,904	1,736	1,984	\$618	145	*	13,551
1910-11 ...	4,027	3,574	4,390	1,993	3,208	675	145	*	18,012
1912-13 ...	4,197	3,698	4,936	2,202	3,827½	729	145	*	19,734½
1913-14 ...	4,246	3,886	5,213	2,357	3,910	766½	146	5	20,529½

\* No railways in operation. † To the 31st December. The line between Goolwa and Port Elliot was opened in 1854 as a horse tramway, but now forms part of the railway system. † To the 31st December, 1891. § To the 31st December, 1901.

It will be seen from the above table that the rate of construction up to the year 1871 was very slow, the average annual length of lines opened from 1861 to 1871 being only 80 miles for the whole Commonwealth. By the middle of the following decade, however, the principal mountain ranges had been crossed, and the work of construction could be proceeded with at a greater rate, and at a less cost per mile. The greatest period of activity was from 1881 to 1891, when the average annual length opened for traffic was 593 miles for the whole Commonwealth; the corresponding figures for the following periods from June 1891 to June 1901, and from June 1901 to June 1911, were 343 and 452 miles respectively.

**8. Comparative Mileage of Government and Private Lines, 1914.**—The subjoined table shews for each State (a) the length of lines owned by the State Government, and by the Commonwealth Government in that State, all of which lines are of course open for

general use by the public, (b) the length of private lines available for general use by the public, and (c) the length not so available. The mileages specified in the case of Government lines are to the 30th June, 1914; those given for private lines are to the 31st December, 1913 :—

**GOVERNMENT AND PRIVATE RAILWAYS.—COMPARATIVE MILEAGE OF GOVERNMENT LINES, OF PRIVATE LINES AVAILABLE FOR GENERAL TRAFFIC, AND OF PRIVATE LINES NOT SO AVAILABLE, 1913-14.**

State or Territory.	Government Lines.	Private Lines available for General Traffic.	Total Open for General Traffic.	Private Lines used for Special Purposes only.	Grand Total.
	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales	3,972*	155	4,127	124	4,251
Victoria...	3,835	14	3,849	37	3,886
Queensland ...	4,570	527½	5,097½	115½	5,213
South Australia ...	2,323†	...	2,323	34	2,357
Western Australia	2,967	277	3,244	666	3,910
Tasmania ...	519	164½	683½	83	766½
Northern Territory	146	...	146	...	146
Total ...	18,332	1,138	19,470	1,059½	20,529½

\* Including the Queanbeyan-Canberra Line (5 miles). † Including the Port Augusta-Oodnadatta Line (478 miles).

**9. Comparative Railway Facilities in Different States, 1914.**—The area of territory and the population per mile of line open to the public for general traffic (including both Government and private lines) on the 30th June, 1914, are shewn in the subjoined statement for each State and also for the Commonwealth :—

**GOVERNMENT AND PRIVATE RAILWAYS.—COMPARISON OF RAILWAY FACILITIES IN DIFFERENT STATES, 1914.**

State or Territory.	Population, 30th June, 1914.	Area.	Per Mile of Line Open.	
			Population.	Area.
	Number.	Sq. miles.	Number.	Sq. miles.
New South Wales* ...	1,858,429	310,372	449	75.1
Victoria ...	1,421,985	87,884	369	22.8
Queensland ...	678,864	670,500	133	131.4
South Australia ...	438,173	380,070	188	163.5
Western Australia ...	323,952	975,920	99	300.8
Tasmania ...	196,758	26,215	277	36.9
Northern Territory ...	3,664	523,620	25	3,586.4
Total ...	4,921,825	2,974,581	252	152.4

\* Including Federal Territory.

**10. Classification of Lines according to Gauge, 1913-14.**—The subjoined tables shew the total mileage, exclusive of sidings and cross-overs, of (i.) Commonwealth Government railways, given in the State in which situated; (ii.) State Government railways; (iii.) Private railways open to the public for general traffic; and (iv.) Private lines used for special purposes, classified according to gauge. Particulars of Government railways are up to 30th June, 1914, of private railways open for general traffic to the 31st December, 1913, and of private railways open for special purposes to the 31st December, 1912.

**GOVERNMENT AND PRIVATE RAILWAYS.—CLASSIFICATION ACCORDING TO  
GAUGE, 1913-14.**

State or Territory in which situated.	Mileage having a Gauge of—					Total.
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	2 ft. 6 in.	2 ft.	
FEDERAL RAILWAYS.						
South Australia ...	Miles. ...	Miles. ...	Miles. 478	Miles. ...	Miles. ...	Miles. 478
Northern Territory...	...	...	146	...	...	146
Federal Territory ...	...	5	...	...	...	5
Total... ..	...	5	624	...	...	629
STATE RAILWAYS.						
New South Wales ...	...	3,927	40	...	...	3,967
Victoria ...	3,713	...	...	122	...	3,835
Queensland ...	...	...	4,570	...	...	4,570
South Australia ...	793	...	1,052	...	...	1,845
Western Australia ...	...	...	2,967	...	...	2,967
Tasmania ...	...	...	495	...	24	519
Total... ..	4,506	3,927	9,124	122	24	17,703
PRIVATE RAILWAYS OPEN FOR GENERAL TRAFFIC.						
New South Wales ...	45	74	36	...	...	155
Victoria ...	14	...	...	...	...	14
Queensland ...	...	...	424½	...	103	527½
South Australia ...	...	...	...	...	...	...
Western Australia ...	...	...	277	...	...	277
Tasmania ...	...	...	154½	...	10	164½
Total... ..	59	74	892	...	113	1,138
PRIVATE RAILWAYS OPEN FOR SPECIAL PURPOSES.						
New South Wales ...	...	120½	3½	...	...	124
Victoria ...	37	...	...	...	...	37
Queensland ...	...	...	66½	...	48½	115½
South Australia ...	...	...	34	...	...	34
Western Australia ...	...	...	598½	...	67½*	666
Tasmania ...	...	...	68½	...	14½	83
Total... ..	37	120½	771½	...	130½	1,059½
ALL RAILWAYS.						
New South Wales ...	45	4,121½	79½	...	...	4,246
Victoria ...	3,764	...	...	122	...	3,886
Queensland ...	...	...	5,058	...	155	5,213
South Australia ...	793	...	1,564	...	...	2,357
Western Australia ...	...	...	3,842½	...	67½	3,910
Tasmania ...	...	...	718	...	48½	766½
Northern Territory...	...	...	146	...	...	146
Federal Territory ...	...	5	...	...	...	5
GRAND TOTAL ...	4,602	4,126½	11,408	122	271	20,529½

\* Including 21 miles of 1 ft. 8 in. gauge.

**(B) Federal Railways.**

1. **General.**—On the 1st January, 1911, the Commonwealth Government took over the Northern Territory from the South Australian Government, and at the same time the railways from Darwin to Pine Creek, in the Northern Territory, and from Port Augusta to Oodnadatta, in South Australia, came under its control. Subsequently, the construction of a transcontinental line from Port Augusta, in South Australia, to Kalgoorlie, in Western Australia, was undertaken by the Commonwealth Government, while a line has also been constructed connecting Canberra, in the Federal Territory, with the New South Wales railway system.

2. **Darwin to Pine Creek Railway.**—This line comes under the jurisdiction of the Department of External Affairs, and is being worked under the Administrator of the Northern Territory.

Particulars as to the working of this line prior to its passing into the control of the Commonwealth Government will be found in section (C) State Government Railways. The following table gives the annual cost, revenue, and expenditure of the line since 1st January, 1911:—

**DARWIN-PINE CREEK RAILWAY, 1911-13.**

Year.*	Cost of Construction.	Revenue.	Working Expenses.	No. of Passenger Journeys.	Tonnage of Goods and Live Stock.
1911 ...	1,040,734	11,363	13,398	1,791	1,895
1912 ...	1,040,734	14,703	13,845	1,249	2,781
1913 ...	1,040,734	17,566	16,643	2,739	3,615

\* To 31st December.

In the Northern Territory Acceptance Act, the construction of a transcontinental line from South Australia is provided for. The extension of the line from Pine Creek to Katherine River is now under construction, while the connecting line from Katherine River to Oodnadatta is in course of survey.

3. **Port Augusta to Oodnadatta Line.**—This line was taken over by the Commonwealth Government from 1st January, 1911, but was held under lease by the South Australian Government until 31st December, 1913. It is provided in the Northern Territory Acceptance Act that the Commonwealth shall annually reimburse the State with the interest payable on the amount of loans raised by the State for the purpose of constructing the railway, and the agreement for working the line prescribes that the Commonwealth is responsible to the State for any financial loss incurred by the State in the working and management of the railway, but is entitled to receive from the State any profit made in such working and management. The excess of the working expenses over the earnings of the line for the six months ended 30th June, 1914, and which is payable to the South Australian railways, is £16,347, the revenue being £28,945, and the working expenses £45,292.

The cost of construction at that date, and on which interest has to be paid, was £2,116,834.

4. **Port Augusta-Kalgoorlie Line.**—The Transcontinental Railway Bill, passed in 1907 by the Federal Houses of Parliament, provided for the expenditure of a sum of £20,000 for a preliminary survey of a railway line connecting Western Australia with the eastern States. This survey was commenced in 1908, and was completed in March, 1909. The route of the preliminary survey may be seen on reference to the map on page 621 hereof; the route *via* Tarcoola was, for several reasons, chosen in preference to that *via* Gawler Range and Fowler's Bay. The estimated cost of construction and equipment of the line on the basis of a 4 ft. 8½ in. gauge, from Port Augusta in South Australia to Kalgoorlie in the Western Australian goldfields, a distance of 1063 miles, was £3,988,000. In September, 1911, a Bill was introduced into the Commonwealth Parliament to authorise the construction of the line, and became law in December following. In

South Australia an Act was passed enabling the Commonwealth to acquire lands for the railway in South Australia not exceeding one-eighth of a mile wide on either side of the line, but no town lands are to be included at any time. In Western Australia, an Act was also passed by which all necessary lands are to be granted to the Commonwealth for railway purposes. A Railway Construction Department was created by the Federal Government to carry out the work, which was commenced at Port Augusta in September, 1912. A commencement was also made at Kalgoorlie, and it is estimated that the line, which is being built from both ends, and will have a gauge of 4 ft. 8½ in., will be completed in three years. At the 1st March, 1915, 201 miles had been laid in the South Australian division, and 190½ miles in the Western Australian division.

**5. Queanbeyan-Canberra Railway.**—This line was built by the Railway Construction Branch of the Public Works Department, New South Wales, and was completed and taken over by the Chief Commissioner of Railways for that State, who has, for the time being, agreed with the Commonwealth to work it. The line was opened for Commonwealth departmental goods traffic on 25th May, 1914.

The Queanbeyan-Canberra railway connects with the New South Wales railway system at Queanbeyan, and is 4 miles 75 chains in length, in addition to which the sidings cover 2½ miles. The total cost of the main line, sidings, etc., was £33,568.

**6. Summary of Federal Railways.**—The following table shews the railway lines under the control of the Commonwealth at 30th June, 1914, together with the lines under construction and those which have been or are being surveyed :—

**COMMONWEALTH GOVERNMENT RAILWAYS, 30th JUNE, 1914.**

Terminals.	Miles.
<b>OPENED FOR TRAFFIC.</b>	
Darwin to Pine Creek (Northern Territory) ... ..	146
Port Augusta to Oodnadatta (South Australia) ... ..	478
Queanbeyan (New South Wales) to Canberra (Federal Territory) ...	5
Total opened for traffic ... ..	629
<b>UNDER CONSTRUCTION.</b>	
Kalgoorlie (Western Australia) to Port Augusta (South Australia) ...	1,063½
Pine Creek to Katherine River (Northern Territory) ... ..	54½
Total under construction ... ..	1,118
<b>SURVEYED OR BEING SURVEYED.</b>	
Katherine River to Bitter Springs (Northern Territory) ... ..	65
Bitter Springs (Northern Territory) to Oodnadatta (South Australia) ...	965
Pines to Coward Springs (South Australia) ... ..	148
Newcastle Waters (Northern Territory) to Camooweal (Queensland) ...	360
Canberra (Federal Territory) to Jervis Bay (New South Wales) ...	135
Canberra (Federal Territory) to Yass (New South Wales) ... ..	40
Total surveyed or being surveyed ... ..	1,713

In addition to these railways situated in the Commonwealth, the Federal Government is constructing a line in Papua, from Sapphire Creek to Port Moresby, 19½ miles in length.

## (c) State Railways.

1. **Mileage Open, 1901 to 1914.**—The following table shews the length of State railways open for traffic on the 30th June in the years 1901-2 and 1909-14 :—

**STATE RAILWAYS.—MILEAGE OPEN FOR TRAFFIC FOR 1901-2 and 1909-14.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1901-2 ...	3,026	3,302	2,801	1,736	1,360	*462	145	12,832
1908-9 ...	3,623	3,410	3,498	1,888	2,045	463	145	15,072
1909-10 ...	3,641	3,491	3,661	1,912	2,145	469	145	15,464
1910-11 ...	3,758	3,523	3,868	1,935	2,376	470	145	16,075
1911-12 ...	3,832	3,622	4,123	1,938	2,598	496	†	16,609
1912-13 ...	3,930	3,647	4,381	2,168	2,854	507	†	17,487
1913-14 ...	3,967	3,835	4,570	†1,845	2,967	519	†	17,703

\* To the 31st December. † Excluding the mileage (478) of the Port Augusta to Oodnadatta line (see page 602). ‡ Taken over by Commonwealth Government, 1st January, 1911 (see page 602).

The following statement shews the actual mileage opened for traffic in the year 1913-14, and also the annual average increase in mileage opened since 1904 in each State:—

**STATE RAILWAYS.—MILEAGE OPENED ANNUALLY.**

Mileage.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	C'with
Mileage opened during 1913-14 ...	36½	187½	189	155	112½	12	692½
Average annual mileage increase (1905 to 1914) ...	68½	45	164	59	142½	5½	424

(i.) *New South Wales.* During the year ended 30th June, 1914, the following line was opened for traffic :—Moree to Garah (36½ miles).

(ii.) *Victoria.* The following lines were opened for traffic during 1913-14 :—Geringhap to Maroona (99½ miles); Chillingollah to Manangatang (18½ miles); Crowland to Navarre (23 miles); Sea Lake towards Pier-Millan (17½ miles); Rainbow towards Nyppo (10½ miles); and Benalla to Tatong (18 miles), a total of 187½ miles.

(iii.) *Queensland.* The increase of 189 miles in the mileage opened for traffic in 1913-14 was due to the opening of the following lines :—Glenmore Road to Jardine (20 miles); Malvernton to Benlidi (16 miles); Paget Junction to Sarina (20 miles); Bobawaba to Homehill (15 miles); Homehill to Ayr (7 miles); Jardine to Yaamba (2 miles); Gayndah to Boomerang (14 miles); Pinalba to Urangan (4 miles); Miles to Gilligulgul (24 miles); Woodford to Kilcoy (17 miles); Monkland to Kandanga (16 miles); and Townsville to Kurukan (24 miles).

(iv.) *South Australia.* The lines opened for traffic in this State during the year 1913-14 were on the 3 ft. 6 in. gauge from Ungarra to Kimba (84½ miles), and on the 5 ft. 3 in. gauge from Meribah to Paringa (40 miles); Alawoona to Loxton (22 miles), and Goodwood to Marino (8 miles).

By the transfer on 1st January, 1911, to the Commonwealth Government of the line from Port Augusta to Oodnadatta, the railways of the State have undergone a reduction to the extent of 478 miles. This line, however, was leased to the State by the Commonwealth Government until 31st December, 1913, since which date it has been worked on behalf of the Commonwealth under agreement. (See page 602).

(v.) *Western Australia.* The following new sections of railway were taken over from the Public Works Department during the year 1913-14 and opened for public traffic :—Holyoake to Dwarda (41 miles); Merredin to Bruce Rock (31½ miles); and Wickepin to Corrigin (40½ miles).

(vi.) *Tasmania.* During the year 1913-14 an extension from Wynyard to Myalla (11 miles) was opened for traffic.

**2. Average Mileage Worked, Train Miles Run, Number of Passenger Journeys, and Tonnage of Goods and Live Stock Carried, on State Government Railways.**—The table at head of page 604 gives the actual mileage open for traffic at the end of each financial year, but, in considering the returns relating to revenue and expenditure, and other matters, it is desirable to know the average number of miles actually worked during each year. The next table shews the average number of miles worked, the total number of train miles run, the number of passenger journeys, and the tonnage of goods and live stock carried by the Government railways of each State during the years 1901-2 and 1909-14 inclusive:—

**STATE RAILWAYS.—AVERAGE MILEAGE WORKED, TRAIN MILES RUN, NUMBER OF PASSENGER JOURNEYS, AND TONNAGE OF GOODS AND LIVE STOCK CARRIED, 1901 and 1909-14.**

Year.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	West. Aust.	Tasmania.	N. Ter.	All States.
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**AVERAGE MILEAGE WORKED.**

1901-2	2,953	3,265	2,801	1,736	1,356	468*	145	12,724
1909-10	3,623	3,441	3,533	1,893	2,102	474	145	15,211
1910-11	3,710	3,505	3,795	1,915	2,286	478	145	15,834
1911-12	3,799	3,543	4,144	1,938	2,471	503	...(a)	16,398
1912-13	3,872	3,639	4,351	2,012	2,783	508	...(a)	17,165
1913-14	3,959	3,747	4,507	1,815†	2,910	525	...(a)	17,463

**TRAIN MILES RUN (,000 OMITTED).**

1901-2	11,649	11,285	5,666	4,196	4,508	903*	30	38,237
1909-10	15,468	11,706	8,157	5,420	4,398	1,050	30	46,239
1910-11	17,007	12,973	9,367	5,946	4,963	1,041	30	51,327
1911-12	18,521	13,836	10,327	6,244	5,227	1,047	...(a)	55,202
1912-13	19,184	14,235	11,464	6,625	5,623	1,007	...(a)	58,138
1913-14	20,550	15,029	11,346	6,731†	5,565	1,001	...(a)	60,222

**NUMBER OF PASSENGER JOURNEYS (,000 OMITTED).**

1901-2	20,885	57,465	8,421†	9,643	8,158	762*	4	115,338
1909-10	53,644	85,280	13,259	15,282	13,171	1,351	3	182,290
1910-11	60,920	93,796	14,791	16,620‡	14,838	1,682	2	202,639
1911-12	70,707	104,235	17,081	18,353†	16,390	1,715	...(a)	228,481
1912-13	79,490	111,514	19,999	19,382†	17,920	1,650	...(a)	249,855
1913-14	86,328	116,612	22,253	19,810†	19,208	1,708	...(a)	265,919

**TONNAGE OF GOODS AND LIVE STOCK CARRIED (,000 OMITTED).**

1901-2	6,468	3,434	1,882	1,392	1,888	4407*	2	115,473
1909-10	8,393	4,468	2,831	2,481	2,242	439	2	20,856
1910-11	10,355	4,968	3,295	2,731‡	2,489	364	2	24,204
1911-12	10,910	5,298	3,494	2,782†	2,542	470	...(a)	25,496
1912-13	11,666	5,150	3,798	3,016†	2,866	465	...(a)	26,961
1913-14	13,246	5,816	4,301	3,103†	3,170	409	...(a)	30,045

\* For the calendar year 1902. The average mileage worked is larger than the actual mileage open, owing to the fact that the Government railways have running powers over certain private lines. † Exclusive of Port Augusta-Oodnadatta line. ‡ These figures are partly estimated, the actual returns excluding journeys by season ticket holders. § Exclusive of Port Augusta-Oodnadatta line for six months ended 30th June, 1911. || Exclusive of live stock. ¶ Exclusive of live stock returns for Tasmania. (a) See note ‡ page 604.

**3. Length and Gauge of Railway Systems in each State.**—A map shewing the State railway lines, and also some private lines open to the public for general traffic, in the different States of the Commonwealth is given on page 621 hereafter. In all the States the Government railways are grouped, for the convenience of administration and management, into several divisions or systems, some of which have already been briefly referred to above in dealing with the history of construction of the railways. The subjoined summary shews concisely the gauge and length of the main and branch lines included in each division or system of the different States of the Commonwealth for the year ended the 30th June, 1914:—



## STATE RAILWAYS, 1913-14.

Particulars.				Length.	Gauge.
				Miles.	ft. in.
<b>1. NEW SOUTH WALES.</b>					
(i.) The Northern line and branches—					
(a) Main line. Strathfield-Wallangarra ...				486½	4 8½
(b) Branch lines ...				512	4 8½
(ii.) The North Coast line and branches—					
(a) Main line. West Maitland-Murwillumbah ...				266½	4 8½
(b) Branch lines ...				18	4 8½
(iii.) The Western line and branches—					
(a) Main line. Granville-Bourke ...				495	4 8½
(b) Branch lines ...				781	4 8½
(iv.) The Southern line—					
(a) Main line. Granville-Wodonga ...				381	4 8½
(b) Branch lines ...				840½	4 8½
(v.) The South-coast (Illawarra) line—					
(a) Main line. Sydney to Nowra... ..				93	4 8½
(b) Branch lines ...				7	4 8½
(vi.) Suburban lines ...				47	4 8½
(vii.) Broken Hill line. Broken Hill-Tarrawingee ...				40	3 6
Total ... ..				3,967	...
<b>2. VICTORIA.</b>					
(i.) The South-eastern system—					
(a) Main lines. Dandenong-Port Albert, Aspendale-Stony Point ...				145	5 3
(b) Branch lines ...				43½	5 3
(ii.) The Eastern system—					
(a) Main lines. Dandenong-Bairnsdale, Bayswater-Gembrook, Croydon-Healesville ...				{ 18	2 6
				{ 202	5 3
(b) Branch lines ...				{ 97	5 3
				{ 29	2 6
(iii.) The North-eastern system—					
(a) Main line. Craigieburn-Wodonga ...				171	5 3
(b) Branch lines ...				{ 30	2 6
				{ 464½	5 3
(iv.) The Northern system—					
(a) Main line. Digger's Rest-Echuca ...				135	5 3
(b) Branch lines ...				1,057½	5 3
(v.) The North-western system—					
(a) Main line. Rockbank-Serviceton ...				266	5 3
(b) Branch lines ...				293	5 3
(vi.) The Western and South-western system—					
(a) Main line. Werribee-Portland ...				272	5 3
(b) Branch lines ...				{ 44½	2 6
				{ 373	5 3
(vii.) The Suburban system—					
Including the lines to Aspendale, Dandenong, Bayswater, Croydon, Hurst's Bridge, Craigieburn, Digger's Rest, Rockbank, and Werribee ...				194½	5 3
Total ... ..				3,835	...

Particulars.				Length.	Gauge.
<b>3. QUEENSLAND.</b>				Miles.	ft. in.
(i.) The Southern division—					
(a)	The Southern line.	Ipswich-Wallangarra	...	221	3 6
(b)	The Western line.	Gowrie Junction-Cunnamulla	...	569	3 6
(c)	The South-western line.	Warwick-Dirranbandi	...	256	3 6
(d)	The Nth.-coast line.	Northgate Junction-235 mls. 14 chs.	...	234	3 6
(e)	The South-coast line.	Sunnybank-Tweed Heads	...	62	3 6
(f)	Suburban lines	...	...	73	3 6
(g)	Branch lines	...	...	849	3 6
(ii.) The Central division—					
(a)	The Coast line.	235 miles 14 chains-Rockhampton	...	183	3 6
(b)	The Central line.	Archer Park-Longreach	...	445	3 6
(c)	Branch lines	...	...	385	3 6
(iii.) The Northern division—					
(a)	Mackay line	...	...	83	3 6
(b)	Bowen line	...	...	70	3 6
(c)	The Great Nthn. Rlwy.	Townsville-Selwyn branches	...	790	3 6
(d)	Cairns line	...	...	186	3 6
(e)	Cooktown line	...	...	68	3 6
(f)	Normanton line	...	...	96	3 6
Total				4,570	...
<b>4. SOUTH AUSTRALIA.</b>					
(i.) The Midland system—					
(a)	Main line.	Adelaide-Terowie	...	140	5 3
(b)	Branch lines	...	...	128	5 3
(ii.) The Northern system—					
(a)	Terowie-Quorn	...	...	94½	3 6
(b)	Other lines	...	...	455½	3 6
				5	5 3
(iii.) The Southern system—					
(a)	Main line.	Adelaide to Serviceton	...	194½	5 3
(b)	Branch lines	...	...	166½	5 3
(iv.) The South-eastern system—					
(a)	Wolseley-Mount Gambier	...	...	112	3 6
(b)	Branch lines	...	...	113	3 6
(v.)	Port Broughton line	...	...	10	3 6
(vi.) The Western system—					
	Port Lincoln-Kimba	...	...	267½	3 6
(vii.) Murray Lands lines. Tailm Bend to Paringa, and branch line				158½	5 3
Total				1,845	...
<b>5. WESTERN AUSTRALIA.</b>					
(i.) Eastern railway—					
(a)	Main line.	Fremantle-Beverley	...	111	3 6
(b)	Branch lines	...	...	178	3 6
(ii.) Eastern Goldfields railway—					
(a)	Main line.	Northam-Laverton	...	520	3 6
(b)	Branch lines	...	...	346½	3 6
(iii.) South-western railway—					
(a)	Main line.	Perth-Bunbury	...	115	3 6
(b)	Branch lines	...	...	409½	3 6
(iv.) Great Southern railway—					
(a)	Beverley-Albany Jetty	...	...	243	3 6
(b)	Branch lines	...	...	353½	3 6
(v.) Northern railway—					
(a)	Main line.	Geraldton-Meekatharra	...	333½	3 6
(b)	Branch lines	...	...	208½	3 6
(vi.)	Hopetoun-Ravensthorpe railway	...	...	34	3 6
(vii.) Port Hedland-Marble Bar				114½	3 6
Total				2,967	...

Particulars.				Length.	Gauge.
6. TASMANIA.				Miles.	ft. in.
(i.)	Main line.	Hobart-Evandale Junction	...	124½	3 6
(ii.)	Derwent Valley line.	Bridgewater-Glenora	...	30½	3 6
(iii.)	Apsley line.	Brighton Junction-Apsley	...	26	3 6
(iv.)	Parattah-Oatlands line	...	...	4½	3 6
(v.)	Fingal line.	St. Mary's-Conara	...	46½	3 6
(vi.)	Western line.	Launceston-Burnie	...	134½	3 6
(vii.)	Chudleigh line	...	...	12½	3 6
(viii.)	North-eastern line.	Launceston-Scottsdale	...	71½	3 6
(ix.)	Sorell-Bellerive line	...	...	14½	3 6
(x.)	Zeehan line.	Regatta Point-Zeehan	...	29½	3 6
(xi.)	North-east Dundas tramway.	Zeehan-Williamsford	...	20½	2 0
(xii.)	Comstock tramway	...	...	4½	2 0
Total				519	...
GRAND TOTAL OF STATE RAILWAYS				17,703	...

4. **Administration and Control of State Railways.**—In each State of the Commonwealth the policy has now been established that the railways should be kept under the control of the Government. This policy, as has been shewn, was early actualised in Australia, and, excepting in cases presenting unusual circumstances, may be regarded as the settled policy of the country. In previous Year Books (see No. 6, p. 693) will be found a description of the methods adopted by the various State Governments in the control and management of their railways.

5. **Lines under Construction, and Authorised and Proposed Lines, 1914.**—The following statement gives particulars up to the 30th June, 1914, of the mileage of State railways (a) under construction, and (b) authorised for construction but not commenced:—

#### MILEAGE UNDER CONSTRUCTION AND AUTHORISED, 30th JUNE, 1914.\*

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	All States.
Mileage under construction	880½	278½	294	328½	478	14	2,273½
Mileage authorised	516½	67.	1,423	107½	308	...	2,421½

\* For similar statistics of Federal Railways see page 603.

(i.) **Lines under Construction.** In spite of the great extension of State railways which has taken place since the year 1875 throughout the Commonwealth, there are still, in some of the States, tracts of country of immense area which are as yet practically undeveloped, and in which little in the nature of permanent settlement has been accomplished; the general policy in the States is to extend the existing lines inland, in the form of light railways, as settlement increases, and although it is true that lines which were not likely to be commercially successful in the immediate future have been constructed from time to time, for the purpose of encouraging settlement, the general principle that the railways should be self-supporting is kept in view. (a) In *New South Wales* the lines under construction are chiefly of the "pioneer" class, and are made with a view to affording railway communication over level country to districts in which the traffic would not warrant the expenditure necessary to provide thoroughly equipped lines. As the traffic increases, the permanent way is strengthened in order to allow the heavy types of engines to run over it. It is probable that railway extension in New South

Wales, in the near future, will be mainly confined to lines of the "pioneer" class. The lines under construction on 30th June, 1914, were those from Taree to Wauchope (47½ miles), Wauchope to Kempsey (30½ miles), Kempsey to Macksville (30½ miles), Coff's Harbour to Raleigh (13½ miles), and Glenreagh to South Grafton (27½ miles). These lines, when completed, will form an alternative main route between Newcastle and Brisbane. Other lines under construction are as follow:—Garah to Mungindi (40½ miles), Forbes to Stockinbingal (83½ miles), Wagga to Tumbarumba (76½ miles), Parkes to Peake Hill (31 miles), Muswellbrook to Merriwa (51 miles), Dunedoo to Coonabarabran (77 miles), Finley to Tocumwal (11½ miles), Galong to Burrowa (17½ miles), Wyalong to Lake Cudgellico (70½ miles), Dubbo to Werris Creek (157½ miles), Barellan to Mirool (32 miles), Tullamore to Tottenham (33 miles), Nimmitabel to Bombala (39½ miles), and Flemington to Belmore, and Wardell Road to Glebe Island (11½ miles). (b) *Victoria*. In this State the following lines were under construction by the Board of Land and Works on the 30th June, 1914:—5 ft. 3 in. gauge: White Cliffs to Yelta (9½ miles), Bairnsdale to Orbst (60 miles), Rushworth to Colbinabbin (12 miles), Heywood to Mumbannar (39½ miles), Tallangatta to Cudgewa (42½ miles), Swan Hill to Piangil (27½ miles), Elmore to Cohuna (57½ miles), Hamilton to Cavendish (15½ miles), and Linton to Skipton (12½ miles), making in all 278½ miles. (c) *Queensland*. In December, 1910, the North Coast Railway Act was passed. Under this Act a series of lines, when constructed, will link up a number of existing lines in such a way that a through line will be obtained from Rockhampton to Cairns, *via* Mackay and Townsville, a total distance of 569 miles. By the completion of this line it will be possible to travel from Cairns to the southern border of the State at Wallangarra, a total distance of about 1198 miles. At the same time the Great Western Railway Act was passed. Under this Act provision is made for the extension in a westerly or south-westerly direction of the lines already constructed to Wallal, Blackall, Winton, and Malbon, in such a manner that they will form junctions with a line to be made running north-westerly from Tobermory to Camooweal. These extensions, together with the north-westerly line, will make an aggregate distance of 1282 miles to be constructed. With the completion of both these schemes the railways of this State will be brought into direct communication with each other on both their east and west boundaries. On the 30th June, 1914, the following lines were under construction:—Monkland to Imbil (8 miles), Logan to Canungra (21 miles), Miles to Juandah (20 miles), Malanda to Millaa Millaa (9 miles), Dimbulah Junction to Mount Mulligan (29 miles), Mount Morgan to Dawson Valley (15 miles), Munbilla to Mount Edwards (16 miles), Kingaroy to Tarong (19 miles), Drayton deviation (11 miles), and Oakley to Mount Russell (19 miles). Of the Great Western Railway the following parts are under construction:—Section A: From Cheespie to Bulloo River (45 miles); Section B: From Benlidi south-west (26 miles); Section D: From Duchess to Wills River (11 miles). The following parts of the North Coast Railway are under construction:—Section A: From Yaamba to Marlborough (23 miles); Section B: From Sarina to Kelvin Grove (13 miles); Section D: From Kurukan to Armidale (10 miles). (d) *South Australia*. In this State the lines under construction on the 30th June, 1914, were as follow:—Marino to Willunga (21½ miles), Eudunda to Robertstown (13½ miles), Karoonda to Peebinga (69 miles), Karoonda to Waikerie (76½ miles), Mount Gambier to the Victorian Border (12 miles), and Pinnaroo to the Victorian Border (3½ miles), 5 ft. 3 in. gauge; Minnipa Hill to Cape Thevenard (108 miles), and Yeelanna to Mount Hope (23½ miles), 3 ft. 6 in. gauge. (e) In *Western Australia* the following lines were in course of construction by the Public Works Department on the 30th June, 1914:—Wongan Hills to Mullewa (198 miles), Brookton to Corrigin (55½ miles), Yilliminning to Kondinin (73 miles), Corrigin to Bruce Rock (37 miles), Wyalkatchem to Mount Marshall (52 miles), and Wagin to Bowelling (62½ miles). (f) *Tasmania*. At 31st June, 1914, the line from Railton to Staverton (14 miles) was almost completed.

(ii.) *Lines Authorised for Construction*. (a) *New South Wales*. In addition to the North coast railway extension between Glenreagh and Dorriggo (42 miles), the

construction of lines from Condobolin to Broken Hill (373 miles), Coonabarabran to Burren Junction (95 miles), and Sydenham to Botany (6 miles) had been authorised up to 30th June, 1914. (b) In *Victoria* the following lines were authorised, but their construction had not been commenced up to the end of June, 1914 :—5 ft. 3 in. gauge: Cavendish to Toolondo (44 miles), Neerim South to Toorongo River (14 miles), and from both Murrayville and Mumbannar to the South Australian border ( $3\frac{1}{2}$  and  $5\frac{1}{2}$  miles respectively). (c) *Queensland*. In addition to the new lines upon which work has been commenced, lines from Roma to Oralla (29 miles), Tomoulin to Cedar Creek (5 miles), and Rannes towards Dawson River (25 miles), have been approved of by Parliament, which has also authorised the construction of the following parts of the Great Western Railway: Section A, from Bulloo River (123 miles); Section B, from 65 Miles (283 miles); Section C, from Winton (361 miles); and Section D, from Wills River (281 miles); and in the North Coast Railway, Section A, from Marlborough to St. Lawrence (79 miles); Section B, from 33 Miles south and Mackay northward (89 miles); Section C, from Midge Point to Proserpine (13 miles); Section D, from Armidale to near Cardwell (52 miles); Section E, from Mooliba to near Cardwell (83 miles). (d) In *South Australia* the construction of lines from Riverton to Spalding ( $51\frac{1}{2}$  miles), and Salisbury to Long Plain ( $34\frac{1}{2}$  miles), on the 5 ft. 3 in. gauge, and from Booleroo Centre to Wilmington ( $22\frac{1}{2}$  miles), on the 3 ft. 6 in. gauge, has been authorised during the year 1913-14. It is proposed to electrify the Adelaide-Glenelg ( $6\frac{1}{2}$  miles) line at an estimated cost of £115,000, and also in newly settled districts to construct light lines to be run by District Councils. (e) In *Western Australia* the following lines were authorised for construction up to the 30th June, 1914 :—Toodyay-Bolgart Extension (34 miles), Busselton-Margaret River (38 miles), Esperance northward (60 miles), Dwarda-Narrogin (40 miles), Kondinin-Merredin (89 miles), Kukerin-Lake Grace (21 miles), and Nyabing-Pingerup (26 miles). (f) In *Tasmania* the construction of a line, 20 miles long, from Burnie to Flowerdale, was authorised by Parliament.

6. **Cost of Construction and Equipment of State Railways.**—The total cost of construction and equipment of the State railways of the Commonwealth at the 30th June, 1914, amounted to £176,774,292, or to an average of £9986 per mile open for traffic. Particulars as to the capital expenditure incurred in each State on lines open for traffic are given in the following table :—

**STATE RAILWAYS.—COST OF CONSTRUCTION AND EQUIPMENT TO  
30th JUNE, 1914.**

State.			Length of Line Open.	Total Cost of Construction and Equipment.	Average Cost per Mile Open.	Cost per Head of Population.
			Miles.	£	£	£
New South Wales	...	...	3,967	60,128,491	15,157	32.96
Victoria	...	...	3,835	49,216,744	12,834	34.96
Queensland	...	...	4,570	31,817,792	6,692	45.40
South Australia	...	...	1,845	15,240,779	8,260	35.83
Western Australia	...	...	2,967	15,873,852	5,350	49.00
Tasmania	...	...	519	4,496,634	8,664	22.85
Total	...	...	17,703	176,774,292	9,986	36.14

It will be seen that the lowest average cost per mile open is in Western Australia, and is only £5350, which is less than one-half of the highest average cost, namely, £15,157 in New South Wales, compared with an average of £9986 for all the State Government railways. In Western Australia there have been comparatively few engineering

difficulties to contend with, and also the system has been adopted in that State of giving contractors the right to carry traffic during the period of their contracts, with the result that, at all events in all goldfields railway contracts, the cost of construction has been considerably lessened.

In the above table the figures for Queensland relating to cost of construction and equipment do not agree with those contained in the report of the Railway Commissioner for that State. The amount in the report is given as £33,845,676, which includes discount and flotation charges on loans allocated to railways, but as no other State includes this depreciation of loan capital, it is necessary to exclude it in order to place the cost of railway construction in all States on the same basis.

(i.) *Reduction of Cost per Mile in Recent Years.* The average cost per mile of the lines constructed lately in the Commonwealth is very much less than the figure given in the above table, in consequence of the construction of light "pioneer" lines, which have already been referred to, and which it was originally considered in New South Wales could be laid down at a cost of £1750 per mile (exclusive of stations and bridges). It should also be remembered that in the early days of railway construction there were considerable engineering difficulties to overcome, and that labour was scarce and dear. Since 1892 over one thousand four hundred miles of the "pioneer" lines have been opened in New South Wales, the average cost ranging from about £2000 to £7500 per mile, according to the difficulties met in the country traversed. The lowest cost per mile for any line previously constructed had been that of the line from Nyngan to Cobar, the average cost of which, to the end of June, 1914, was £3802. In Victoria also the cost of construction has been greatly reduced in recent years. The total cost to the 30th June, 1914, of the narrow gauge (2 ft. 6 in.) lines, having a length of one hundred and twenty-two miles, was only £329,655, which gives an average cost per mile of only £2693. In the other States also the cost of construction per mile has been reduced by building light railways as cheaply as possible. Fairly substantial permanent way is laid down with reduced ballast, and, as settlement progresses and traffic increases, the road is strengthened, and the stations and siding accommodation enlarged. The subjoined table gives examples of some of the more expensive lines, most of which were built in the early days:—

**STATE RAILWAYS.—EXAMPLES OF LINES CONSTRUCTED AT LARGE CAPITAL  
EXPENDITURE PER MILE OPEN.**

Line.	Gauge.	Length.				Total Cost.	Average Cost per Mile.	Date of Opening.
		Double Line.	Single Line.	Third Line.	Total.			
	ft. in.	m. ch.	m. ch.	m. ch.	m. ch.	£	£	
NEW SOUTH WALES—								
Penrith to Bathurst ...	4 8½	60 26½	50 64½	...	111 10½	3,435,982	31,368	1876
Sydney to Kiama ...	4 8½	24 11½	48 36½	0 63½	73 31½	2,404,955	33,126	1887
Homebush to Waratah	4 8½	74 23½	21 12	2 22½	97 57½	3,420,247	36,004	1889
VICTORIA—			Miles.	Miles.	Miles.			
Melbourne to Bendigo	5 3	100.89*	...	...	100.89	4,374,518	48,315	1862
N. Geelong to Ballarat	5 3	41.45*	11.76	...	53.41	1,915,030	35,990	1862

\* Double lines and over.

The next table gives instances of lines which have been constructed in more recent years at a comparatively small cost per mile.

The average cost per mile of the 436.35 miles comprised in the above table was £36,907, whereas the average cost of the 365 miles referred to in the next table was £1840.

**STATE RAILWAYS.—EXAMPLES OF LINES CONSTRUCTED AT SMALL CAPITAL  
EXPENDITURE PER MILE OPEN.**

Line.	Gauge.	Length.	Total Cost.	Average Cost per Mile.	Date of Opening.
	ft. in.	Miles.	£	£	
<b>NEW SOUTH WALES—</b>					
Parkes to Condobolin ...	4 8½	62½	131,584	2,097	1898
Burren Junction to Collarenebri	4 8½	42½	103,586	2,434	1906
<b>VICTORIA—</b>					
Wangaratta to Whitfield ...	2 6	30½	39,327	1,290	1899
Wycheproof to Sealake ...	5 3	48	76,406	1,595	1895
Ultima to Chillingollah ...	5 3	20½	30,539	1,516	1909
<b>QUEENSLAND—</b>					
Dalby to Bell ...	3 6	23½	35,500	1,511	1906
Jericho to Blackall ...	3 6	71½	152,158	2,137	1908
<b>SOUTH AUSTRALIA—</b>					
Wandilo to Glencoe ...	3 6	9	11,454	1,255	1904
Cummins to Yeelanna ...	3 6	8½	14,104	1,598	1909
<b>WESTERN AUSTRALIA—</b>					
Southern Cross to Bullfinch ...	3 6	22	36,821	1,674	1911
Narrogin to Wickopin ...	3 6	26½	40,142	1,515	1909

The comparisons afforded in the two preceding tables are subject to certain limitations, inasmuch as the cost is naturally greater in the case of the older lines. Further, the figures given represent the cost of construction only (i.e., are exclusive of cost of equipment), and cannot therefore be directly compared with the average cost per mile open given in the preceding table.

(ii.) *Capital Cost of Construction and Equipment, Total and per Mile Open.* The increase in the total capital cost of construction and equipment of Government railways in each State for 1901-2 and for each year from 1909 to 1914 is shewn in the following table:—

**STATE RAILWAYS.—CAPITAL COST OF CONSTRUCTION AND EQUIPMENT,  
1901-2 and 1909-14.**

TOTAL COST (£,000 OMITTED).

Year.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	West. Aust.	Tas.	N. Ter.	All States
	£	£	£	£	£	£	£	£
1901-2	40,565	40,614	20,119	12,770	7,410	†3,841	1,019	126,338
1909-10	48,925	43,033	24,336	13,863	11,377	4,049	1,041	146,624
1910-11	50,863	43,882	25,899	14,375	12,020	4,080	1,041	152,160
1911-12	53,140	45,543	27,751	14,928	13,233	4,253	†	158,848
1912-13	57,003	46,989	29,895	16,152	14,913	4,400	†	169,352
1913-14	60,128	49,217	31,818	*15,241	15,874	4,497	†	176,775

COST PER MILE OPEN.

	£	£	£	£	£	£	£	£
1901-2	13,405	12,300	7,183	7,428	5,449	†8,313	7,124	9,860
1909-10	13,437	12,327	6,647	7,250	5,304	8,632	7,177	9,482
1910-11	13,534	12,456	6,696	7,428	5,060	8,675	7,177	9,466
1911-12	13,867	12,574	6,731	7,701	5,094	8,583	†	9,716
1912-13	14,505	12,884	6,824	7,450	5,225	8,679	†	9,833
1913-14	15,157	12,834	6,962	*8,260	5,350	8,664	†	9,986

\* Exclusive of Port Augusta-Oodnadatta line (see page 602). † To the 31st December, 1902.  
‡ Transferred to Commonwealth Government 1st January, 1911 (see page 602).

(iii.) *Loan Expenditure on Railways.* The subjoined table shews the total loan expenditure on Government railways and tramways (including lines both open and unopen) in each State during the financial year 1901-2, and on railways only for the years 1909-10 to 1913-14. Figures shewing loan expenditures on railways only are not available for years prior to 1908-9.

## STATE RAILWAYS.—LOAN EXPENDITURE, 1901-2 and 1909-14.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£,000.	£,000.	£,000.	£,000.	£,000.	£,000.	£,000.
1901-2*	2,244	483	751	122	579	81†	4,260
1909-10	2,064	657	1,263	383	529	100	4,996
1910-11	2,127	1,230	1,686	591	748	82	6,464
1911-12	2,851	1,703	2,855	789	1,317*	120*	9,635
1912-13	3,614	1,231	2,067	1,207	1,949	116*	10,184
1913-14	4,903	2,362	1,679	1,489	1,228*	146*	11,807

\* Including Tramways. † For the calendar year 1901.

The following statement shows the total loan expenditure to the 30th June, 1914 :—

## STATE RAILWAYS.—TOTAL LOAN EXPENDITURE IN EACH STATE TO 30th JUNE, 1914.

State, etc.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
Expenditure ...	64,211,861	47,314,912	33,675,184	17,518,431	16,497,211	4,816,097	184,033,696

\* Including Tramways.

## 7. Gross Revenue, Total, per Average Mile Worked, and per Train-mile Run.—

The following table shows the total revenue from all sources, the revenue per average mile worked, and the revenue per train-mile run in each State during 1901-2 and each financial year from 1909 to 1914 inclusive :—

## STATE RAILWAYS.—GROSS REVENUE, TOTAL, PER AVERAGE MILE WORKED, AND PER TRAIN MILE RUN, 1901-2 and 1909-14.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
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## TOTAL GROSS REVENUE (£,000 OMITTED).

	£	£	£	£	£	£	£	£
1901-2 ...	3,669	3,368	1,383	1,085	1,521	*233	13	11,271
1909-10 ...	5,486	4,444	2,338	1,841	1,637	284	12	16,042
1910-11 ...	6,042	4,896	2,731	2,045	1,844	278	12	17,848
1911-12 ...	6,491	5,219	3,033	2,148	1,885	313	†	19,069
1912-13 ...	6,749	5,205	3,322	2,298	2,038	327	†	19,939
1913-14 ...	7,742	5,561	3,660	†2,337	2,257	330	†	21,887

## GROSS REVENUE PER AVERAGE MILE WORKED.

	£	£	£	£	£	£	£	£
1901-2 ...	1,242	1,031	493	625	1,122	*498	85	886
1909-10 ...	1,514	1,291	662	972	779	599	84	1,055
1910-11 ...	1,629	1,397	719	1,068	807	582	79	1,127
1911-12 ...	1,709	1,473	732	1,108	763	622	†	1,164
1912-13 ...	1,743	1,430	763	1,142	732	644	†	1,162
1913-14 ...	1,956	1,484	812	†1,287	776	629	†	1,253

## GROSS REVENUE PER TRAIN-MILE RUN.

	d.	d.	d.	d.	d.	d.	d.	d.
1901-2 ...	75.58	71.62	58.55	62.07	81.00	*61.99	99.27	70.74
1909-10 ...	85.12	91.11	68.80	81.49	89.35	64.33	97.05	83.26
1910-11 ...	85.27	90.58	69.96	82.55	89.19	64.06	90.59	83.45
1911-12 ...	84.12	90.53	70.48	82.93	86.53	71.73	†	82.40
1912-13 ...	84.43	87.77	69.54	83.61	86.98	78.00	†	83.31
1913-14 ...	90.42	88.80	77.42	†83.33	97.34	79.18	†	87.23

\* For the calendar year 1902.

† Excluding Port Augusta-Oodnadatta line (see page 602).

‡ See Commonwealth Government Railways (page 602).



8. **Coaching, Goods, and Miscellaneous Receipts.**—The gross revenue is composed of (a) receipts from coaching traffic, including the carriage of mails, horses, parcels, etc., by passenger trains; (b) receipts from the carriage of goods and live stock, and (c) rents and miscellaneous items. The subjoined table shews the gross revenue for 1901-2 and 1910-14, classified according to the three chief sources of receipts. The total of the three items specified has already been given in the preceding paragraph hereof.

**COACHING, GOODS, AND MISCELLANEOUS RECEIPTS, 1901-2 and 1909-14.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.*	N. Ter.	All States.
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**COACHING TRAFFIC RECEIPTS (£,000 OMITTED).**

	£	£	£	£	£	£	£	£
1901-2	1,368	1,580	435	373	443	110	...	4,309
1909-10	2,124	2,143	816	582	507	139	4	6,315
1910-11	2,386	2,355	935	650	596	144	4	7,070
1911-12	2,692	2,624	1,069	713	631	152	†	7,881
1912-13	2,940	2,762	1,153	749	646	161	†	8,411
1913-14	3,236	2,869	1,257	†752	667	165	†	8,946

**GOODS AND LIVE STOCK TRAFFIC RECEIPTS (£,000 OMITTED).**

1901-2	2,264	1,720	862	689	1,037	116	...	6,688
1909-10	3,291	2,222	1,500	1,208	1,043	134	7	9,405
1910-11	3,585	2,458	1,772	1,341	1,155	124	5	10,440
1911-12	3,716	2,507	1,940	1,384	1,154	148	†	10,849
1912-13	3,705	2,353	2,140	1,496	1,270	155	†	11,119
1913-14	4,398	2,603	2,360	1,534	1,454	155	†	12,504

**MISCELLANEOUS RECEIPTS (£,000 OMITTED).**

1901-2	37	68	84	36	42	7	...	274
1909-10	71	79	22	50	87	11	2	322
1910-11	71	83	24	54	93	10	3	338
1911-12	84	87	23	52	100	12	†	358
1912-13	103	91	28	53	122	12	†	409
1913-14	108	89	43	51	136	10	†	437

\* Tasmanian figures for 1902 are for year ended the 31st December. † Exclusive of Port Augusta-Oodnadatta line (see page 602). ‡ See Commonwealth Government Railways (page 602).

(i.) *New South Wales.* The total earnings for the past year amounted to £7,742,241, an increase over the previous year of £993,256. A very satisfactory increase is shown in the receipts from all sources, the goods traffic returns having increased by no less than £692,622.

(ii.) *Victoria.* In Victoria, coaching traffic receipts shew an increase of £106,542 over the previous year, while goods traffic, which last year decreased by £153,344, has this year increased by £250,777.

(iii.) *Queensland.* In Queensland the increase in 1913-14 in gross earnings, £338,350 above 1912-13, is to some extent accounted for by the opening of new lines, but it is stated that the expansion of traffic upon the older established lines has been enormous. The chief increases in earnings were in respect of passengers £83,299, and general merchandise £73,648.

(iv.) *South Australia.* In this State every item of traffic with the exception of wheat and live stock gave an increased return on the figures of the previous year, the principal increases being in minerals (£78,548), and general goods (£50,806). These figures are exclusive of £6562, the net profit from the Port Augusta-Oodnadatta line for the six months ending 31st December, 1913.

(v.) *Western Australia.* In this State the earnings in 1913-14 shewed an increase of £219,158 as compared with 1912-13. The increase is chiefly due to a magnificent harvest, although revision in fares and freights accounts for £44,300.

(vi.) *Tasmania.* The gross revenue in 1913-14 shews an increase of £3055 as compared with the previous year. The increase is confined to passenger traffic, the earnings from goods and live stock traffic being the same as in the previous year.

The following table shews for the year 1913-14 the percentage which each class of receipts bears to the total gross revenue:—

**PERCENTAGE OF REVENUES FROM VARIOUS SOURCES ON TOTAL REVENUE,  
1913-14.**

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	All States.
	%	%	%	%	%	%	%
Coaching traffic receipts ...	41.79	51.59	34.34	31.75	29.55	50.00	40.87
Goods and live stock traffic receipts	56.80	46.81	64.49	66.07	64.42	46.96	57.14
Miscellaneous receipts ...	1.41	1.60	1.17	2.18	6.03	3.04	1.99

**9. Coaching Traffic Receipts per Average Mile Worked, per Passenger-train Mile, and per Passenger Journey.**—The subjoined table shews the receipts from coaching traffic per average mile of line worked, per passenger-train mile, and per passenger journey in each State and for all States for the year ended the 30th June, 1914:—

**STATE RAILWAYS.—COACHING TRAFFIC RECEIPTS PER MILE WORKED, PER  
PASSENGER-TRAIN MILE, AND PER PASSENGER JOURNEY, 1913-14.**

State.	Number of Passenger-Train Miles.*	Number of Passenger Journeys.	Coaching Traffic Receipts.			
			Gross.	Per Average Mile Worked.	Per Passenger-Train Mile.	Per Passenger Journey.
	No. ,000.	No. ,000	£ ,000.	£	d.	d.
New South Wales ...	10,081	86,328	3,236	817	77.04	8.92
Victoria ...	8,365	116,611	2,869	765	82.31	5.90
Queensland ...	3,450	22,252	1,257	278	87.44	13.55
South Australia ...	2,951	19,809	752	414	61.15	9.11
Western Australia ...	2,405	19,208	667	229	66.56	8.33
Tasmania ...	446	1,708	165	314	88.78	23.18
Total ...	27,698	265,916	8,946	505	77.51	8.07

\* The returns include the undermentioned mixed-train mileage, which has been divided between passenger-train miles and goods-train miles in the proportion of one-third and two-thirds respectively in the case of the following States:—

New South Wales ...	1,408,969	Western Australia ...	1,160,285
Victoria ...	2,516,974	Tasmania ...	665,046

The preceding table shews that, in all the States, there is a considerable difference in the amount of the average receipts per passenger journey. This amount ranges from 5.90 pence in Victoria, where there is a large metropolitan suburban traffic, to 23.18 pence in Tasmania. The difference in these amounts cannot be accounted for by the amounts of rates charged, which are fairly uniform in the several States (see paragraph 17), but is largely due to the different traffic conditions which prevail on various lines in the Commonwealth (see paragraph 14). In order to adequately analyse these figures it would be necessary to have particulars regarding the number of passenger-miles, *i.e.*, the total distance travelled by passengers, in each State, which particulars are not generally available (see paragraph 15.)

The preponderance in the number of passenger journeys in Victoria is accounted for, to a great extent, by the large number of metropolitan suburban passengers in that State. Of the total number of passengers carried in Victoria, 107,694,977 were metropolitan suburban passengers, *i.e.*, were carried between stations within twenty miles of Melbourne, while in New South Wales the number of suburban passengers (between stations within thirty-four miles of Sydney and Newcastle, and including Richmond and Branxton lines) was 77,431,809. In Sydney a large proportion of the metropolitan suburban traffic is carried on the electric and steam tramways, the number of passenger journeys during the year 1913-14 being 293,483,703. In Melbourne, on the other hand, the number of passengers carried on the cable tramways systems during the same period was 91,438,777; the number carried on the St. Kilda-Brighton, Prahran-Malvern and the North Melbourne tramways 21,518,738, and the number carried by motor-bus services 3,828,548, making a total of 116,786,063. This matter is referred to hereinafter. (See paragraph 14.)

**10. Goods and Live-Stock Traffic Receipts per Mile Worked, per Goods-train Mile, and per Ton Carried.**—The following table shews the gross receipts from goods and live-stock traffic per mile worked, per goods-train mile, and per ton carried, for the year ended the 30th June, 1914:—

**STATE RAILWAYS.—GOODS AND LIVE-STOCK TRAFFIC RECEIPTS PER MILE WORKED, PER GOODS-TRAIN MILE, AND PER TON CARRIED, 1914.**

State.	Number of Goods-Train Miles. *	Goods and Live-Stock Tonnage.	Goods and Live-Stock Traffic Receipts.			
			Gross.	Per Average Mile Worked.	Per Goods-Train Mile.	Per Ton Carried.
	No. ,000.	Tons ,000.	£ ,000.	£	d.	d.
New South Wales ...	10,469	13,246	4,398	1,111	100.82	79.67
Victoria ...	6,663	5,816	2,603	694	93.75	107.41
Queensland ...	7,896	4,301	2,360	523	71.73	131.69
South Australia ...	3,780	3,103	1,534	844	97.39	118.64
Western Australia ...	3,160	3,539	1,454	500	110.43	98.60
Tasmania...	554	409	155	295	67.01	90.95
Total...	32,522	30,414	12,504	706	92.27	98.67

\* The returns include the undermentioned mixed-train mileage, which has been divided between passenger-train miles and goods-train miles in the proportion of one-third and two-thirds respectively in the case of the following States:—

New South Wales ...	1,408,969	Western Australia ...	1,160,285
Victoria ...	2,516,974	Tasmania ...	665,046

From the preceding table it may be seen that the average cost of freight per ton ranges from 79.67 pence in New South Wales to 131.69 pence in Queensland. The remarks made in the preceding paragraph (9) hereof with regard to the average fare paid per passenger and to passenger-miles, apply equally to the average amount of freight paid per ton and to ton-miles.

11. **Working Expenses.**—In order to make an adequate comparison of the working expenses of the Government railways in the several States, allowance should be made for the variation of gauges and of physical and traffic conditions, not only on the railways of the different States, but also on different portions of the same system. Where traffic is light, the percentage of working expenses is naturally greater than where traffic is heavy; and this is especially true in Australia, where ton-mile rates are in many cases based on a tapering principle—i.e., a lower rate per ton-mile is charged upon merchandise from remote interior districts—and where on many of the lines there is but little back-loading. Further, though efforts have been made from time to time to obtain a uniform system of accounts in the several States, the annual reports of the Commissioners do not yet comprise fully comparable data of railway expenditure.

The following table shews the total annual expenditure, comprising expenses on (a) maintenance of way, works, and buildings; (b) locomotive power—repairs and renewals; (c) carriages and wagons—repairs and renewals; (d) traffic expenses; (e) compensation; and (f) general and miscellaneous charges; and also the percentage of these expenditures upon the corresponding gross revenues in each State for 1901-2 and for each year 1909-14.

**STATE RAILWAYS.—TOTAL WORKING EXPENSES AND PERCENTAGES OF WORKING EXPENSES UPON GROSS REVENUES, 1901-2 and 1909-14.**

Year.	N.S.W.	Victoria.*	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
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**TOTAL WORKING EXPENSES (£,000 OMITTED).**

	£	£	£	£	£	£	£	£
1901-2 ...	2,342	2,166	993	690	1,256	173†	35	7,655
1909-10 ...	3,276	2,818	1,414	1,069	1,097‡	212	13	9,899
1910-11 ...	3,691	3,099	1,563	1,256§	1,216	216	13	11,054
1911-12 ...	4,170	3,442	1,917	1,366§	1,344	221	†	12,460
1912-13 ...	4,645	3,589	2,151	1,483§	1,507	217	†	13,592
1913-14 ...	5,410	3,865	2,371	1,506¶	1,572	223	†	14,947

**PERCENTAGE OF WORKING EXPENSES TO GROSS EARNINGS.**

	%	%	%	%	%	%	%	%
1901-2 ...	63.85	64.32	71.83	63.54	82.68	74.31†	276.70	67.92
1909-10 ...	59.73	63.41	60.48	58.09	66.99	74.52	101.53	61.70
1910-11 ...	61.09	63.30	57.25	61.39§	65.95	77.55	113.67	61.94
1911-12 ...	64.23	65.95	63.22	63.61§	71.31	70.71	†	65.33
1912-13 ...	68.82	68.95	64.76	64.52§	73.93	66.45	†	68.11
1913-14 ...	69.87	69.51	64.79	64.42¶	69.65	67.45	†	68.29

\* Including amounts paid for pensions and gratuities, and also special expenditures and charges for belated repairs and in reduction of deficiencies. † For the calendar year 1902. ‡ See Commonwealth Government railways, page 602. § Including the Port Augusta-Oodnadatta line (see page 602). || Including the cost of the replacement of rolling stock destroyed by fire (£22,649 in 1909-10 and £12,657 in 1910-11). ¶ Exclusive of the Port Augusta-Oodnadatta line.

(i.) *New South Wales.* In this State the total working expenses in 1913-14 amounted to £5,409,820, an increase of £764,938 over the previous year. This increase was mainly owing to the large additional traffic, heavy repairs, and increased locomotive power.

(ii.) *Victoria.* In Victoria the increase in working expenses, £276,304, was mainly due to the additional train mileage, to advances in salaries and wages of the staff, and to additional locomotives and other rolling stock.

(iii.) *Queensland.* In this State the working expenses increased from £2,150,991 in 1912-13 to £2,371,261 in 1913-14. The increase is mainly due to the advances in salaries and wages, and to the expenditure which is being incurred by the additional mileage in course of construction.

(iv.) *South Australia.* In South Australia the working expenses in 1913-14 shewed an increase of £22,922, viz., from £1,482,843 to £1,505,765. This was to a large extent due to increased expenditure in the locomotive branch. The figures for 1913-14 are exclusive of the working expenses incurred on the Port Augusta-Oodnadatta line, £97,081, of which amount £40,810 was paid by the South Australian Government, and £56,271 by the Commonwealth.

(v.) *Western Australia.* The increased expenditure (£65,408) in 1913-14 as compared with 1912-13 is mainly due to increased maintenance and traffic expenses.

(vi.) *Tasmania.* The working expenses in 1913-14 were £222,713, as compared with £217,357 in the previous year, being an increase of £5356.

From the preceding table it may also be seen that during the last five financial years there have been for the whole Commonwealth increases in the percentages of working expenses to gross earnings.

(vii.) *Working Expenses per Average Mile Worked and per Train Mile Run.* The following table shews the working expenses per average mile worked and per train mile run in each State for the years 1901-2 and 1909-14:—

**STATE RAILWAYS.—WORKING EXPENSES PER AVERAGE MILE WORKED AND  
PER TRAIN MILE RUN, 1901-2 and 1909-14.**

Year.	N.S.W.	Victoria.*	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
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**WORKING EXPENSES PER AVERAGE MILE WORKED.**

	£	£	£	£	£	£	£	£
1901-2 ...	793	663	354	397	927	†370	238	602
1909-10 ...	904	819	400	565	522	447	86	651
1910-11 ...	994	884	412	656	532	451	90	698
1911-12 ...	1098	971	463	705	544	440	†	759
1912-13 ...	1200	986	494	737	541	428	†	791
1913-14 ...	1367	1032	526	830§	540	424	†	856

**WORKING EXPENSES PER TRAIN MILE RUN.**

	d.	d.	d.	d.	d.	d.	d.	d.
1901-2 ...	48.26	46.07	42.05	39.44	66.89	†46.06	274.67	48.05
1909-10 ...	50.84	57.77	41.61	47.34	59.86	47.94	98.54	51.38
1910-11 ...	52.09	57.34	40.05	50.68	58.82	49.68	102.98	51.69
1911-12 ...	54.03	59.70	44.55	52.75	61.71	50.72	†	54.15
1912-13 ...	58.11	60.52	45.03	53.94	64.30	51.83	†	56.06
1913-14 ...	63.18	61.73	50.16	53.69§	67.80	53.41	†	59.56

\* Including special expenditure and charges referred to in paragraph 10 hereof. † For the calendar year 1902. ‡ See Commonwealth Government Railways (page 602). § Excluding the Port Augusta-Oodnadatta line (see page 602).

12. **Distribution of Working Expenses.**—The subjoined table shews the distribution of working expenses, among four chief heads of expenditure, for the years 1901-2 and 1909-14:—

**STATE RAILWAYS.—DISTRIBUTION OF WORKING EXPENSES, 1901-2 and 1909-14.**

Year	N.S.W.	Victoria.*	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
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**MAINTENANCE (£,000 OMITTED).**

	£	£	£	£	£	£	£	£
1901-2 ...	554	490	356	167	247	158	29	1,901
1909-10 ...	699	644	441	289	243	64	7	2,387
1910-11 ...	810	803	500	343	272	66	8	2,802
1911-12 ...	906	893	562	346	291	64	†	3,062
1912-13 ...	1,024	930	602	329	322	59	†	3,266
1913-14 ...	1,110	936	650	308‡	362	58	†	3,424

**LOCOMOTIVE, CARRIAGE, AND WAGON CHARGES (£,000 OMITTED).**

1901-2 ...	1,102	845	390	344	670	164	3	3,418
1909-10 ...	1,616	1,226	562	512	545	85	3	4,549
1910-11 ...	1,771	1,264	604	585	593	85	3	4,905
1911-12 ...	1,985	1,390	794	653	656	88	†	5,566
1912-13 ...	2,162	1,466	915	758	747	86	†	6,134
1913-14 ...	2,687	1,636	1,016	803	747	97	†	6,986

**TRAFFIC EXPENSES (£,000 OMITTED).**

1901-2 ...	589	672	226	163	306	142	2	2,000
1909-10 ...	852	684	385	242	282	52	2	2,499
1910-11 ...	968	767	429	302	317	54	1	2,838
1911-12 ...	1,133	901	517	335	359	57	†	3,302
1912-13 ...	1,344	948	586	357	397	61	†	3,693
1913-14 ...	1,491	1,067	656	366	416	58	†	4,054

**OTHER CHARGES (£,000 OMITTED).**

1901-2 ...	97	158	21	17	33	18	...	334
1909-10 ...	109	264	27	26	27	11	...	464
1910-11 ...	142	265	31	26	34	11	...	509
1911-12 ...	145	257	45	29	38	12	...	526
1912-13 ...	115	245	49	27	40	12	...	488
1913-14 ...	122	226	49	28	47	11	...	483

\* Including special expenditure and charges referred to in paragraph 10 hereof. † For the calendar year 1902. ‡ See Commonwealth Government Railways, page 602. § Excluding the Port Augusta-Oodnadatta line (see page 602).

13. **Net Revenue, Total and per Cent. of Capital Cost.**—The following table shews the net sums available to meet interest charges, and also the percentage of such sums upon the capital cost of construction and equipment of lines opened for traffic in each State for the years 1901-2 and 1909-14:—

**STATE RAILWAYS.—NET REVENUE AND PERCENTAGE OF NET REVENUE  
UPON CAPITAL COST OF LINES OPEN, 1901-2 and 1909-14.**

Year.	N.S.W.	Victoria.*	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
NET REVENUE (£,000 OMITTED).								
1901-2 ...	£ 1,326	£ 1,202	£ 389	£ 396	£ 265	£ 160	£ —22	£ 3,616
1909-10 ...	2,309	1,626	924	771	541	72	...	6,143
1910-11 ...	2,351	1,797	1,167	789	628	62	—1	6,793
1911-12 ...	2,322	1,777	1,115	782	541	92	†	6,629
1912-13 ...	2,104	1,616	1,171	816	531	110	†	5,348
1913-14 ...	2,332	1,696	1,289	\$832	685	107	†	6,941

**PERCENTAGE OF NET REVENUE TO CAPITAL EXPENDITURE.**

1901-2 ...	% 3.27	% 2.96	% 1.94	% 2.98	% 3.58	% 11.56	% —1.91	% 2.87
1909-10 ...	4.52	3.77	3.80	5.56	4.75	1.79	...	4.18
1910-11 ...	4.61	4.07	4.51	5.49	5.22	1.53	—0.15	4.45
1911-12 ...	4.32	3.88	3.95	5.23	4.09	2.15	†	4.16
1912-13 ...	3.69	3.40	3.93	5.05	3.56	2.49	†	3.73
1913-14 ...	3.85	3.44	4.05	\$5.46	4.32	2.39	†	3.93

\* In addition to ordinary working expenses, special expenditures and charges paid out of each year's gross revenue have been deducted; see paragraph 10 above. † For the calendar year 1902. ‡ See Commonwealth Government railways, page 602. § Exclusive of Port Augusta-Oodnadatta line (see page 602).

Note.—The minus sign (—) denotes net loss.

(i.) *Net Revenue per Average Mile Worked and per Train Mile Run.* Tables shewing the gross earnings and the working expenses per average mile worked and per train mile run have been given above. The net earnings, i.e., the excess of gross earnings over working expenses, per average mile worked and per train mile run are shewn in the following tables:—

**STATE RAILWAYS.—NET REVENUES PER AVERAGE MILE WORKED AND PER  
TRAIN MILE RUN, 1901-2 and 1909-14.**

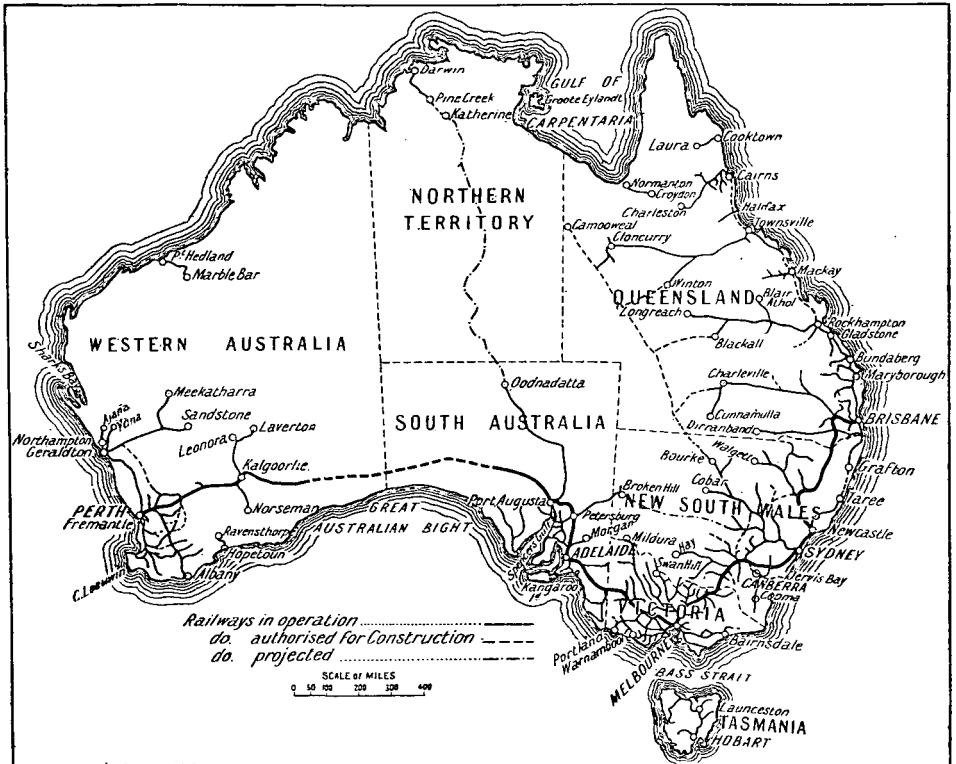
Year.	N.S.W.	Victoria.*	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
NET REVENUE PER AVERAGE MILE WORKED.								
1901-2 ...	£ 449	£ 368	£ 139	£ 228	£ 195	£ †128	£ —152	£ 284
1909-10 ...	610	473	262	407	257	153	— 1	404
1910-11 ...	634	513	308	412	275	131	— 11	429
1911-12 ...	611	502	269	403	219	182	†	404
1912-13 ...	543	444	269	405	191	216	†	370
1913-14 ...	589	452	286	\$458	235	205	†	397

**NET REVENUE PER TRAIN MILE RUN.**

1901-2 ...	d. 28.87	d. 25.56	d. 16.50	d. 22.53	d. 14.11	d. †15.93	d. 175.40	d. 23.16
1909-10 ...	34.28	33.34	27.19	34.15	29.49	16.39	...	31.89
1910-11 ...	33.18	33.24	29.91	31.87	30.37	14.38	— 12.39	31.77
1911-12 ...	30.09	30.83	25.93	30.18	24.82	21.01	†	28.83
1912-13 ...	26.32	27.25	24.51	29.67	22.67	26.17	†	26.25
1913-14 ...	27.24	27.07	27.26	\$29.64	29.54	25.77	†	27.66

\* See footnote \* to preceding table. † See footnote † to preceding table. ‡ See footnote ‡ to preceding table. § See footnote § to preceding table.

## THE GOVERNMENT RAILWAY SYSTEMS OF THE COMMONWEALTH.



**EXPLANATION OF MAP.**—The continuous lines denote the existing railway lines of Australia, the heavier lines being the main routes.

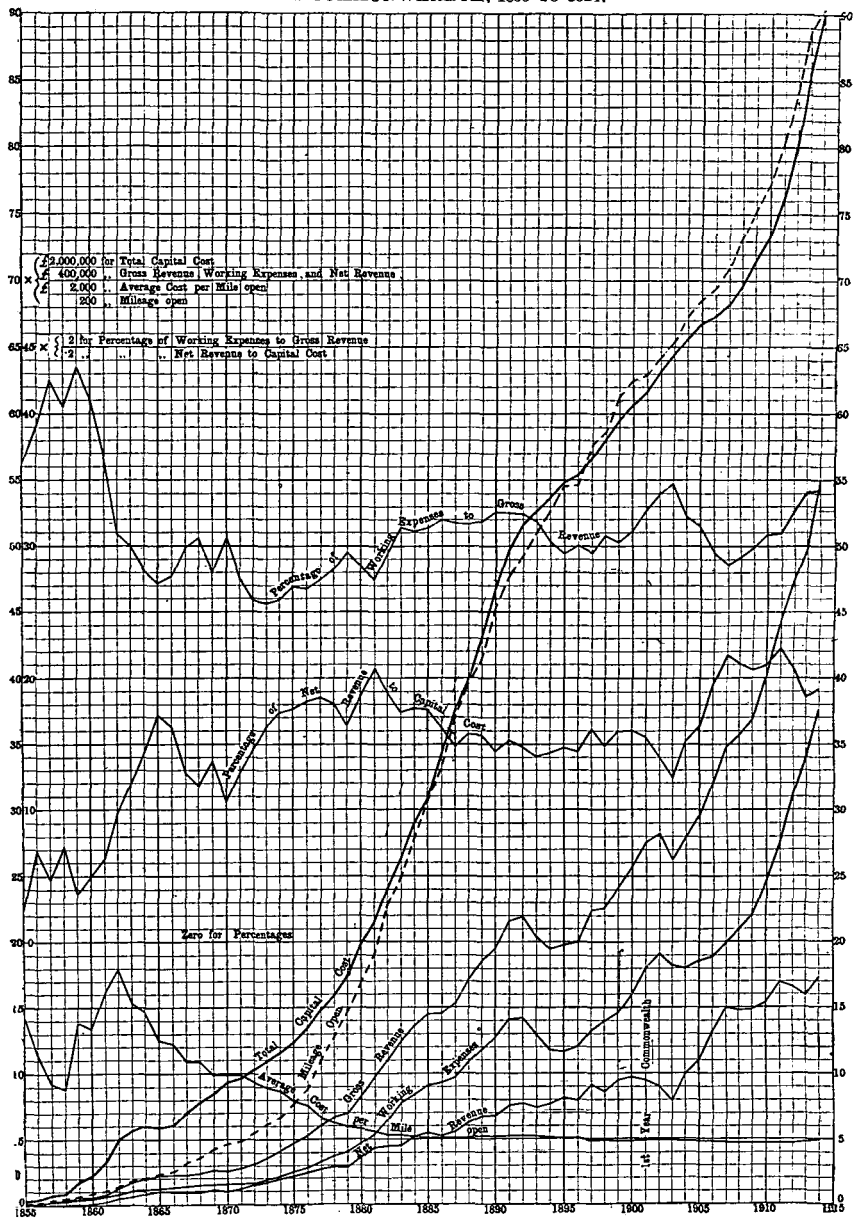
Of the two transcontinental lines, viz., one joining the railways of South and Western Australia—and thus connecting continuously by railway Queensland, New South Wales, Victoria, South Australia, and Western Australia, and one connecting Oodnadatta in South Australia with Pine Creek in the Northern Territory, the former has been commenced, and is shewn — — —; while the latter, the construction of which is to be deferred for the present, is shewn - - - -.

## LIST OF PRINCIPAL SECTIONS OF RAILWAYS.

	Miles.		Miles.		Miles.
Townsville to Winton	368	Sydney to Hay	460	Adelaide to Broken Hill	335
Townsville to Selwyn	552	.. Nimmitabel	291	.. Oodnadatta	688
Rockhampton to Longreach	428	.. Melb'rne (17 hrs.)	582½	Perth to Laverton	566
Brisbane to Cunnamulla	604	Adelaide to Melb. (17 hrs.)	482½	.. Meekatharra	640
Brisbane to Sydney (26½ hrs.)	725	Melbourne to Merbein	358	.. Albany	340
Newcastle to Inverell	405	.. Swan Hill	215	Hobart to Launceston	133
Sydney to Bourke	508	.. Murrayville	357		



# GRAPHS SHEWING THE FINANCIAL POSITION OF THE GOVERNMENT RAILWAYS OF THE COMMONWEALTH, 1855 TO 1914.



(See pages—total capital cost, 610; mileage open, 603-4; gross revenue, 613; working expenses, 617; net revenue, 620; average cost per mile, 612; percentage of net revenue to capital cost, 620.)

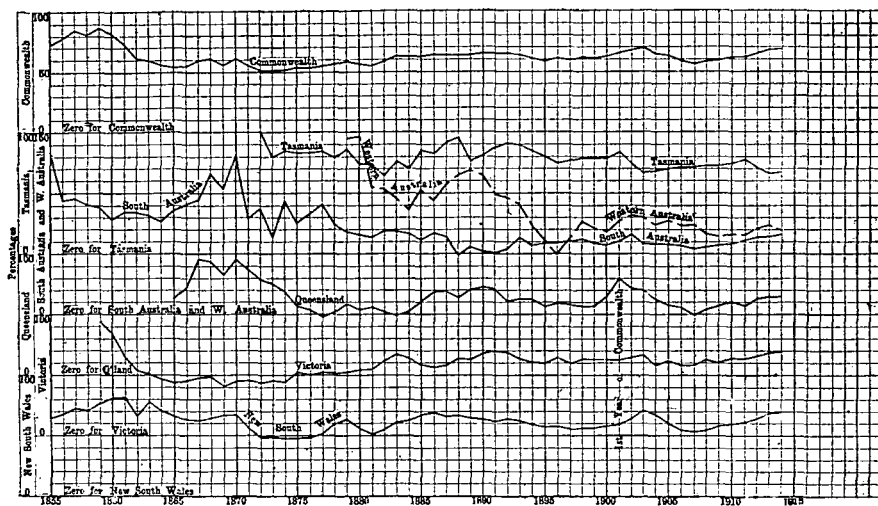
**EXPLANATION OF GRAPHS.**—In the above diagram the base of each small square represents throughout one year. The significance of the vertical height of each square varies, however, according to the nature of the several curves.

In the heavy curve denoting the total capital cost of the railways of the Commonwealth, the vertical side of each square denotes £2,000,000.

In the three lighter curves, representing (i.) gross revenue, (ii.) working expenses, and (iii.) net revenue, the vertical height of each single square denotes £400,000. For the curve of average cost per mile open, the vertical side of the small square denotes £2,000. The mileage open is shown by a dotted curve, the vertical side of each square representing 200 miles.

For the percentages a new zero is taken at "20" on the scale for the general diagram. The vertical height of each square represents 2 percent, in the curve shewing the percentage of working expenses to gross revenue. For the curve of percentage of net revenue to capital cost, the vertical height of each square represents only 0.2, that is to say, the vertical scale is ten times that of the preceding curve.

GRAPHS SHEWING PERCENTAGES OF WORKING EXPENSES TO GROSS REVENUE FOR  
GOVERNMENT RAILWAYS FOR STATES AND COMMONWEALTH, 1855 to 1914.

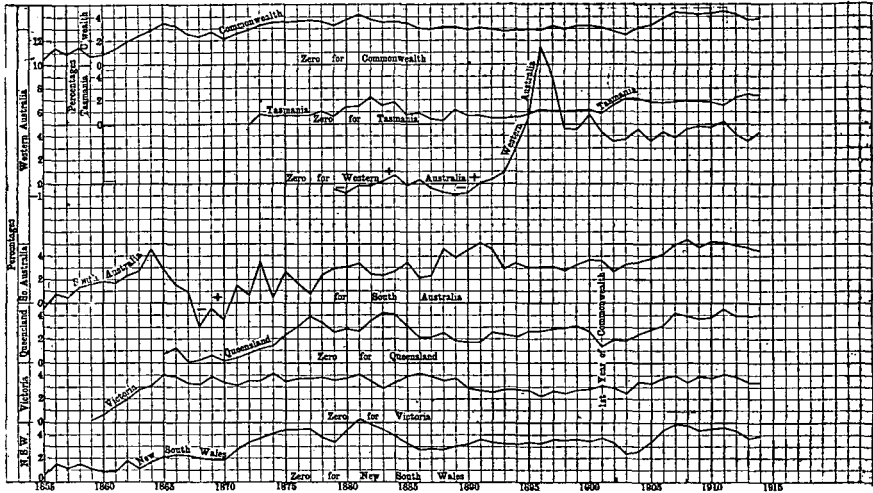


(See page 617.)

**EXPLANATION OF GRAPHS.**—In the above diagram the base of each small square represents throughout one year. The vertical side of a small square denotes throughout 10 per cent., the heavy zero lines being different for each State and the Commonwealth, with, however, one exception, viz., that the zero line for South Australia and Western Australia is identical.

The curve for Victoria commences in 1859; that for Queensland in 1865; that for Tasmania in 1872; and that for Western Australia in 1879, these being the years in which the Government Railway systems of the several States were inaugurated.

GRAPHS SHEWING PERCENTAGES OF NET REVENUE TO CAPITAL COST OF GOVERNMENT RAILWAYS FOR STATES AND COMMONWEALTH, 1855 to 1914.



(See page 620.)

**EXPLANATION OF GRAPHS.**—In the above diagram the base of each small square represents throughout one year. The vertical side of a small square denotes 1 per cent., the thick zero lines, however, for each State and for the Commonwealth being different. This was necessary to avoid confusion of the curves.

Where the curve for any State falls below that State's zero line, loss is indicated, the working expenses having exceeded the gross revenue.

The curve for Victoria commences in 1859; that for Queensland in 1865; that for Tasmania in 1872; and that for Western Australia in 1879, these being the years in which the Government railway systems of the several States were inaugurated.

**14. Traffic Conditions.**—Reference has already been made to the difference in the traffic conditions on many of the lines of the Commonwealth (see paragraphs 9, 10, and 11 hereof). These conditions differ not only in the several States, but also on different lines in the same State, and this is true with regard to both passenger and goods traffic. By far the greater part of the population of Australia is confined to a fringe of country near the coast, more especially in the eastern and southern districts. A large proportion of the railway traffic between the chief centres of population is therefore carried over lines in the neighbourhood of the coast, and is thus, in some cases, open to sea-borne competition. On most of the lines extending into the more remote interior districts traffic is light; the density of population diminishes rapidly as the coastal regions are left behind; there is a corresponding diminution in the volume of traffic, while, in comparison with other more settled countries, there is but little back-loading.

As an indication of the different traffic conditions prevailing in the several States, the following table is given shewing the numbers of passenger journeys and the tons of goods carried (a) per 100 of the mean population; and (b) per average mile worked in each State during the financial year 1913-14:—

**PASSENGER JOURNEYS AND TONNAGE OF GOODS AND LIVE STOCK, 1913-14.**

Particulars.				N.S.W.	Vic.	Q'land.	S.A.*	W.A.	Tas.	Total.
(a) PER 100 OF MEAN POPULATION.										
Passenger journeys	...	...	No.	4,713	8,257	3,522	4,502	5,989	846	5,258
Goods and live stock	...	...	Tons	723	411	651	705	1,103	200	624
(b) PER AVERAGE MILE OF LINE WORKED.										
Passenger journeys	...	...	No.	21,811	31,123	4,869	10,914	6,600	3,253	15,174
Goods and live stock	...	...	Tons	3,681	1,578	941	1,709	1,216	779	1,735

\* Exclusive of the returns of the Port Augusta to Oodnadatta line.

Particulars of the actual numbers of passengers and tons of goods and live stock carried have already been given (see paragraph 2 hereof).

(i.) *Metropolitan and Country Passenger Traffic.* A further indication of the difference in passenger traffic conditions might be obtained from a comparison of the volume of metropolitan, suburban, and country traffic in each State. Particulars are, however, available only for the States of New South Wales and Victoria. The subjoined table shews the number of metropolitan and country passengers carried in each of the States mentioned and the revenue derived therefrom during the year 1913-14:—

**METROPOLITAN, SUBURBAN, AND COUNTRY PASSENGER TRAFFIC, 1913-14.**

Particulars.	Number of Passenger Journeys.			Revenue.		
	Metropolitan.	Country.	Total.	Metropolitan.	Country.	Total.
N.S.W. ...	*77,431,809	8,896,612	86,328,421	£935,887	£1,896,563	£2,832,450
Victoria ...	†107,694,977	8,916,471	116,611,448	†1,096,887	1,423,938	2,520,825

\* Within 34 miles of Sydney and Newcastle, and including Richmond and Braxton lines.

† Within 20 miles of Melbourne, but exclusive of St. Kilda-Brighton tramway.

From this table it may be seen that the number of passenger-journeys in country districts in Victoria is slightly more than the corresponding number in New South Wales, while the number of metropolitan passenger-journeys in Victoria is far greater

than in New South Wales, although in the latter State both Sydney and Newcastle are included. In Sydney a larger proportion of the suburban traffic is carried by the tramway systems than in Melbourne.

For several years it has been recognised that the suburban passenger transport, both in Sydney and in Melbourne, was increasing so rapidly that it must eventually become impossible to cope with under the existing systems. A scheme for the electrification of the Melbourne suburban lines was under the consideration of the Victorian Government in 1908, but owing chiefly to a doubt as to its success from a financial standpoint, its adoption was for a time deferred. In November, 1912, however, a Commission was appointed by Parliament to again consider the 1908 scheme, and, acting on its report, the Government decided to at once proceed with the electrification of the suburban lines. Contracts for the construction of power-houses and the necessary equipment are already in hand at an estimated cost of £2,250,299. It was anticipated that a portion of the suburban railway system would be electrically operated by the end of 1915, but, owing to delays in the delivery of plant, due to the war in Europe, the date of opening is uncertain. In Sydney, a Metropolitan Railway Construction Branch of the Railway Department has been created to deal specially with this matter. The Minister has approved of the construction of an underground city railway, and the plans are in course of preparation. The preliminary work in the location of a system of electric railways for the eastern, western and northern suburbs is also in hand.

(ii.) *Goods Traffic.* The differing conditions of the traffic in each State might also, to some extent, be analysed by an examination of the tonnage of various classes of commodities carried and of the revenue derived therefrom. Comparative particulars regarding the quantities of some of the leading classes of commodities carried on the Government railways are available for all the States; corresponding information regarding the revenue derived from each class of commodity is not, however, generally available in a comparable form. In this connection it may be stated that the following resolution was passed at the Interstate Conference of Railway Commissioners held in Melbourne in May 1909:—"That in view of the variations in the character and classification of the goods traffic in the different States, the sub-divisions of tonnage carried and revenue in each State shall be those which best suit local conditions."

The following table shows the number of tons of various representative commodities carried, and the percentage of each class on the total tonnage carried during the financial year 1913-14:—

#### CLASSIFICATION OF COMMODITIES CARRIED, 1913-14.

State.	Minerals.	Fire-wood.	Grain and Flour.	Hay, Straw, and Chaff.	Wool.	Live Stock.	All other Commodities.	Total.
TONS CARRIED.								
New South Wales ...	Tons. 8,291,486	Tons. 224,124	Tons. 1,078,322	Tons. 314,678	Tons. 133,298	Tons. 621,619	Tons. 2,237,056	Tons. 12,900,583
Victoria ...	1,047,844	502,566	1,042,413	304,544	80,526	470,122	2,368,073	5,816,088
Queensland ...	1,484,655	273,159	333,785	333,463	77,854	417,012	1,681,482	4,301,410
South Australia† ...	1,617,604	128,385	348,602	92,832	26,089	110,762	778,797	3,103,471
Western Australia...	599,014	677,944	392,717	111,604	6,945	68,226	1,313,694	3,170,144
Tasmania ...	118,034	24,718	**	42,565	5,073	19,613	198,861	408,864
PERCENTAGE ON TOTAL TONNAGE CARRIED.								
New South Wales ...	*64.27	% 1.74	% 18.36	% 2.44	% 1.03	% 4.82	% 17.34	% 100.00
Victoria ...	18.02	3.64	17.92	5.24	1.38	8.08	40.72	100.00
Queensland ...	34.52	6.35	30.79	7.75	1.81	9.69	39.09	100.00
South Australia† ...	52.13	4.14	11.24	2.99	0.84	3.57	25.09	100.00
Western Australia...	18.90	21.38	12.39	3.52	0.22	2.15	41.44	100.00
Tasmania ...	28.87	6.04	**	10.41	1.24	4.80	48.64	100.00

\* Exclusive of 345,259 tons of coal, on which only shunting and haulage are collected. † Up journey. ‡ Coal, stone, gravel, and sand. § Flour only. || Sugar cane. ¶ Exclusive of the returns of the Port Augusta to Oodnadatta line. \*\* Included in all other commodities.

**15. Passenger-Mileage and Ton-Mileage.**—The useful comparisons and analyses which can be made with regard to the operations of the Government railways in the Commonwealth are to some extent limited by the absence in the annual reports of the Railway Departments of some of the States, of particulars relating to "passenger-mileage" (*i.e.*, the total distance travelled by passengers) and "ton-mileage" (*i.e.*, the total distance for which goods and live stock are carried), and it is not possible to furnish totals for the Commonwealth in respect of these important particulars. The following resolution in regard thereto was passed at the Interstate Conference of Railway Commissioners held in Melbourne in May, 1909:—"That, in view of the differing conditions in each State, and of the expense involved, it is undesirable to include passenger-mile and ton-mile statistics in the annual reports." The general question as to the desirability of collecting and publishing "passenger-mile" and "ton-mile" statistics by railway companies in the United Kingdom has been made the subject of inquiry by a departmental committee appointed by the President of the Board of Trade. The report of this committee has been published in England as a parliamentary paper.\*

Information regarding "passenger-miles" and "ton-miles" is available either wholly, or in part, for three of the States only, *viz.*, New South Wales, South Australia, and Tasmania, but is not available at all for either Victoria, Queensland, or Western Australia. Of the three States which give particulars of the nature indicated, New South Wales is the only one which furnishes the information in a classified form according to class of passengers and nature of commodities carried. The other two States supply particulars for all classes of passengers and goods together respectively. Western Australia furnished particulars as to ton-miles for the years 1907-12, but has since discontinued to record them. The mere record of the total number of passenger-miles and ton-miles for all classes of passengers and for all classes of goods respectively, although of considerable value, would appear to be insufficient to enable the whole field of railway operations to be adequately analysed, or the extent to which efficiency has been secured and improvements in working have been effected to be accurately gauged.

(i.) *Passenger-Miles.* Particulars for the whole of the Commonwealth period regarding total "passenger-miles" are available for one State only, namely, Tasmania. For New South Wales to the end of 1909-10, particulars are only available for suburban and extended-suburban traffic—*i.e.*, including all stations within 22 miles of Newcastle, within 34 miles of Sydney, and including Richmond and Braxton, but since that date all passenger traffic is included. For South Australia particulars are available for each year since 1904. No particulars are available for other States. In the tables given below the average number of passengers carried per "train," etc., is obtained by dividing the number of "passenger-miles" by the number of "passenger-train-miles." The averages given for New South Wales prior to 1911 are naturally smaller than those for the other States, since the figures for that State refer to suburban and extended-suburban traffic only.

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\* See Cd. 4697. This report is also published at length in "The Statist," London, 19th June, 1909, Vol. LXII., No. 1634. In this report it is stated that ton-mile statistics have been used in India for forty years and for a longer period in America. They are now compiled by the railways of nearly all foreign countries; in England, however, they are not generally compiled. Among the more important statistics deduced from ton-miles and passenger-miles the following are mentioned:—(a) The average Train Load of goods and of passengers, obtained by dividing the ton-mileage and the passenger-mileage respectively by the train-mileage. (b) The average Wagon Load and Carriage Load, obtained by dividing the ton-mileage by the wagon-mileage and the passenger-mileage by the carriage-mileage. (c) Ton-miles per Engine Hour. (d) The average Length of Haul for goods and passengers respectively, obtained by dividing the ton-mileage and the passenger-mileage by the tonnage and the total number of passengers conveyed. (e) The average Receipts per Ton per Mile and per Passenger per Mile, obtained by dividing the goods receipts by the ton-mileage and the passenger receipts by the passenger-mileage. (f) The average Density of Traffic per mile of road or per mile of track, obtained by dividing the ton-mileage and passenger-mileage by the length of road or by the length of track.

## SUMMARY OF "PASSENGER MILES," 1901-2 and 1910-14.

Year ended the 30th June.	Passenger Train Mileage.	Number of Passenger Journeys.	Total Passenger Miles.	Amount Received from Passengers.	Average Number of Passengers carried per Train.	Average Mileage per Passenger-journey.	Average Receipt per Passenger-mile.	Average Fare per Passenger-journey.	Density of Traffic per Average Mile Worked.
	Miles. (,000 omitted.)	No. (,000 omitted.)	No. (,000 omitted.)	£	No.	Miles.	d.	d.	No.

## NEW SOUTH WALES.\*

1902*	†	27,999	184,064	361,849	†	6.57	0.47	2.92	†
1910*	2,569‡	48,147	341,498	564,463	133‡	7.09	0.40	2.81	94,206
1911	8,094	60,920	906,217	2,074,860	112	14.88	0.55	8.17	244,066
1912	8,978	70,707	1,091,088	2,349,279	121	15.43	0.51	7.97	287,204
1913	9,667	79,490	1,192,584	2,571,446	123	15.00	0.54	7.76	308,002
1914	10,081	86,328	1,240,897	2,832,450	123	14.37	0.55	7.87	312,804

## SOUTH AUSTRALIA.

1910	2,117	15,282	177,801	482,676	84	11.63	0.65	7.58	93,901
1911§	2,405	16,620	195,216	535,527	81	11.75	0.65	7.73	101,940
1912	2,614	18,353	213,262	589,045	81	11.62	0.67	7.70	110,042
1913	2,804	19,382	228,707	619,094	81	11.80	0.64	7.66	135,321
1914	2,951	19,809	236,717	635,967	80	11.95	0.64	7.70	128,301

## TASMANIA.

1902	336	761	19,444	88,541	58	25.60	1.09	27.91	42,086
1910	375	1,650	34,066	115,181	91	20.65	0.81	16.75	71,869
1911	381	1,682	34,758	119,454	91	20.66	0.82	17.04	72,716
1912	396	1,715	34,292	126,886	86	19.99	0.87	17.75	68,174
1913	438	1,650	35,607	135,545	81	21.58	0.91	19.71	70,092
1914	446	1,708	36,028	140,185	81	21.09	0.91	19.69	68,624

\* Suburban lines only for years 1902-1910; includes distances within 34 miles of Sydney and including Richmond and Braxton. † Not available. ‡ Partly estimated. § Exclusive of the returns of the Port Augusta to Oodnadatta line for the six months ended 30th June, 1911. || Exclusive of the returns of the Port Augusta-Oodnadatta line.

(ii.) *Ton-Miles.* Particulars regarding total "ton-miles" are available for each year since 1901 for the States of New South Wales, South Australia, and Tasmania. Corresponding particulars for Western Australia are available for the years 1907 to 1912; figures for 1913 and 1914 are not available. The average freight-paying load carried per "train" is obtained by dividing the total "ton-miles" in the fourth column by the goods-train mileage in the second column. In New South Wales the tonnage carried is exclusive of coal, on which only shunting and haulage charges are collected, and the amount of earnings specified excludes terminals. In South Australia and Tasmania they include terminals, while in Western Australia they exclude wharfage and jetty dues, but include all other charges.

## SUMMARY OF "TON MILES," 1901-2 and 1910-14.

Year ended the 30th June.	Goods Train Mileage.	Total Tons Carried.	Total "Ton-Miles."	Earnings.	Average Freight-paying Load carried per "Train."	Average Miles per Ton.	Earnings per "Ton-mile."	Density of Traffic per Average Mile Worked.
	No.	No. (,000 omitted.)	No. (,000 omitted.)	£	Tons.	Miles.	d.	No.

## NEW SOUTH WALES.

1902	6,586	6,164	436,814	1,947,305	66.32	70.87	1.07	148,464
1910	8,198	8,149	690,150	2,866,070	84.19	84.69	0.99	190,386
1911	8,913	10,055	810,949	3,079,783	90.98	80.65	0.91	218,408
1912	9,543	10,632	862,016	3,181,771	90.32	81.08	0.89	226,906
1913	9,518	11,402	861,940	3,153,626	90.57	75.60	0.88	222,608
1914	10,469	13,246	1,037,345	3,760,384	99.09	80.45	0.87	262,053

## SOUTH AUSTRALIA.

1902	2,468	1,392	170,523	681,045	69.09	122.48	0.96	98,803
1910	3,304	2,481	303,361	1,203,373	91.82	122.27	0.96	160,212
1911*	3,451	2,731	328,181	1,322,339	95.09	120.15	0.97	171,374
1912†	3,415	2,782	334,146	1,345,879	97.87	120.11	0.97	172,418
1913‡	3,539	3,016	355,405	1,441,859	100.42	117.84	0.97	176,642
1914†	3,780	3,103	400,387	1,534,187	105.93	129.65	0.92	217,012

## ‡ WESTERN AUSTRALIA.

1907	1,940	2,091	144,856	964,653	74.67	69.26	1.60	49,647
1910	2,281	2,242	163,651	1,042,789	71.75	73.00	1.53	77,812
1911	2,548	2,489	182,733	1,154,662	71.71	73.42	1.52	76,967
1912	2,747	2,542	184,748	1,154,087	67.25	72.67	1.49	79,938

## § TASMANIA.

1902	567	407	14,331	109,266	25.26	35.30	1.82	31,019
1910	684	423	18,966	124,675	27.71	44.84	1.58	40,013
1911	660	346	16,332	115,008	24.83	47.32	1.68	34,271
1912	651	452	17,672	138,184	27.16	39.09	1.87	35,133
1913	569	447	17,325	144,073	31.17	39.67	1.94	34,104
1914	554	389	18,309	142,642	32.13	48.06	1.82	35,826

\* Exclusive of the returns of the Port Augusta to Oodnadatta line for the six months ended 30th June, 1911. † Exclusive of the returns of the Port Augusta to Oodnadatta line. ‡ Particulars for 1913 and 1914 and for years prior to 1907 not available. § Exclusive of live stock. || To 31st December for year 1902, to 30th June for succeeding years.

(iii.) *Classification of Commodity Ton Mileage.* New South Wales is the only State for which particulars, specifying the ton-mileage and the earnings per ton-mile for various classes of commodities, are available. It is hoped that in future years it will be possible to give corresponding particulars for the other States.

The subjoined statement gives particulars for the last financial year. Miscellaneous traffic consists of timber, bark, firewood, bricks, drain-pipes, coal, road-metal in eight-ton lots, agricultural and vegetable seeds in five-ton lots, and traffic of a similar nature.



A and B classes consist of lime, vegetables, tobacco leaf, caustic soda and potash, cement, copper ingots, fat and tallow, water and mining plant in six-ton lots, leather in one and three-ton lots, agricultural implements in five-ton lots, and other traffic of a similar nature. The table does not include 345,259 tons of coal on which only shunting and haulage charges were collected, nor does it include £63,008 for haulage, tonnage dues, etc.

**NEW SOUTH WALES.—SUMMARY OF TON-MILEAGE FOR THE YEAR ENDED  
30th JUNE, 1914.**

Particulars.	Total Tons Carried.	Total Miles.	Average Miles per Ton.	Earnings (exclusive of Terminals).	Earnings per Ton-Mile.	Percentage on Total Tonnage.
	1000 Tons.	1000 Miles.	Miles.	£	d.	per cent.
Coal, coke, and shale ...	7,409	195,548	26.39	397,551	0.49	57.43
Other mineral ...	658	26,757	40.66	64,158	0.57	5.10
Crude ores ...	225	25,812	114.78	52,818	0.49	1.74
Miscellaneous ...	848	83,183	98.10	212,577	0.61	6.57
Firewood ...	224	6,857	30.59	21,230	0.74	1.74
Fruit ...	82	10,285	124.65	44,070	1.03	0.64
Grain and flour ...	1,078	272,357	252.57	431,646	0.38	8.36
Hay, straw, and chaff ...	315	64,832	206.03	101,473	0.38	2.44
Frozen meat ...	44	4,780	108.84	18,110	0.91	0.34
General goods ...	2	843	358.84	9,256	2.64	0.02
A Class ...	484	49,166	101.65	205,023	1.00	3.75
B „ ...	370	39,974	107.92	273,201	1.64	2.87
C „ ...	29	2,309	79.15	22,991	2.39	0.23
1st Class ...	137	19,924	145.60	250,666	3.02	1.06
2nd „ ...	240	38,620	160.76	614,051	3.82	1.86
Wool ...	133	40,540	304.13	326,136	1.93	1.03
Live stock ...	622	156,124	251.16	715,427	1.10	4.82
Total ...	12,900	1,037,911	80.45	3,760,384	0.87	100.00

16. **Interest Returned on Capital Expenditure.**—It may be seen from the figures given in the table in paragraph 13 hereof, that the State Government railways in Australia have, on the whole, made a substantial profit during each year since the inception of the Commonwealth, but, unfortunately, the community does not get the full benefit of this profit, owing to the high rates of interest at which money for railways was borrowed in the early days. Though the average rate of interest for the year ended the 30th June, 1914, was 3.6 per cent., an average does not accurately express the position. At an early period the need of constructing railways for the sole purpose of opening up undeveloped districts was recognised, and the money had to be raised at a very high rate of interest. It may be noted, however, that although the loans made for expenditure on railway construction and equipment very largely increase the amount of the public debt of the Commonwealth, forming, in fact, three-fifths of the total debt, the money borrowed has not been sunk in undertakings which give no return, but has been expended on works which are increasingly reproductive, yielding in most cases a direct return on the capital expended, and representing a greater value than their original cost. In Europe the national debts of various countries have been incurred principally through the expenses of prolonged wars, and the money has gone beyond recovery, but in Australia the expenditure is represented to a large extent by public works which pay a direct return. In addition to the purely commercial aspect of the figures relating to the revenue and expenditure of the State railways, it is of great importance that the object with which many of the lines were constructed should be kept clearly in view; the anticipated

advantage in building these lines has been the ultimate settlement of the country rather than the direct returns from the railways themselves, and the policy of the State Governments has been to use their railway systems for the development of the country's resources to the maximum extent consistent with the direct payment by the customers of the railways of the cost of working and interest charges.

(i.) *Profit or Loss after Payment of Working Expenses and Interest.*—The net revenue of the Government railways of each State after payment of working expenses is shewn in paragraph 13 hereof. The following table shews the amount of interest payable on expenditure from loans on the construction and equipment of the railways of each State, the actual profit or loss after deducting working expenses and interest and all other charges from the gross revenue, and the percentage of such profit or loss on the total capital cost of construction and equipment. Railways owned by the Commonwealth are not included in this return (see page 602).

It will be seen that all the States, with the exception of Queensland and Tasmania, have shewn for several years a net profit after paying working expenses and interest.

**STATE RAILWAYS.—INTEREST ON LOAN EXPENDITURE, PROFIT OR LOSS, AND PERCENTAGE OF PROFIT OR LOSS ON TOTAL COST, 1901-2 and 1913-14.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
AMOUNT OF INTEREST ON RAILWAY LOAN EXPENDITURE (£,000 OMITTED).							
1901-2	1,435	1,493	837	470	235	140	4,610
1909-10	1,687	1,471	973	508	387	152	5,178
1910-11	1,797	1,515	953	520	404	156	5,345
1911-12	1,901	1,511	1,070	542	439	159	5,622
1912-13	1,904	1,592	1,171	572	506	164	5,909
1913-14	2,089	1,674	1,251	*567	557	169	6,307

**PROFIT OR LOSS AFTER PAYMENT OF WORKING EXPENSES, INTEREST, AND OTHER CHARGES (£,000 OMITTED).†**

	£	£	£	£	£	£	£
1901-2	—108	—291	—448	—74	+30	—81	—972
1909-10	+522	+155	—49	+263	+153	—80	+964
1910-11	+554	+283	+214	+270	+224	—93	+1,451
1911-12	+421	+266	+46	+240	+101	—68	+1,009
1912-13	+200	+24	—1	+243	+25	—54	+449
1913-14	+243	+21	—38	+265	+128	—62	+633

**PERCENTAGE OF PROFIT OR LOSS TO CAPITAL COST OF CONSTRUCTION AND EQUIPMENT.†**

	%	†	%	%	%	%	%
1901-2	—0.27	—0.71	—2.22	—0.59	+0.41	—2.10	—0.82
1909-10	+1.07	+0.36	—0.20	+1.90	+1.35	—1.97	+0.63
1910-11	+1.09	+0.64	+0.83	+1.88	+2.87	—2.29	+0.92
1911-12	+0.79	+0.58	+0.16	+1.61	+0.77	—1.59	+0.60
1912-13	+0.35	+0.05	—0.00	+1.51	+0.17	—1.24	+0.23
1913-14	+0.40	+0.04	+0.12	+1.74	+0.81	—1.37	+0.36

\* Exclusive of Port Augusta-Oodnadatta line. † The positive sign indicates a profit, the negative a loss. ‡ Allowing for payment of special expenditure and charges (see paragraph 10 above).

**17. Passenger Fares and Goods Rates.**—Considerable reductions have been made in recent years in passenger fares and in freight rates. These fares and rates are not only changed from time to time to suit the convenience and varying necessities of the railways, but, as traffic is developed and revenue increased, they are also in many cases reduced to an extent consistent with the direct payment by the customers of the railways of the cost of working and interest charges.

(i.) *Passenger Fares.* On the Australian Government railways two classes are provided for passenger traffic. The fares charged may be classified as follows:—(a) Fares between specified stations (including suburban fares). (b) Fares computed according to mileage rates. (c) Return, season, and excursion fares. (d) Special fares for working-men, school pupils, and others. Fares in class (a) are issued at rates lower than the ordinary mileage rates. Fares in class (b) are charged between stations not included in class (a). Generally, it may be said that mileage-rate fares are computed on the basis of about twopence per mile for first-class and about  $1\frac{1}{2}$  pence per mile for second-class single tickets. In Tasmania, however, the fares are computed on the general basis of  $1\frac{1}{2}$  pence per mile first-class, one penny per mile second-class, with a terminal charge of one penny, with one-sixth added to total. In New South Wales, Victoria, and Queensland the mileage rates are based upon a tapering principle, *i.e.*, a lower charge per mile is made for a long journey than for a short journey. With the exception of New South Wales and Tasmania first-class return fares are generally about  $1\frac{1}{2}$  to  $1\frac{1}{2}$  times the single fare, and the second-class are about 30 to 45 per cent. lower than the first-class fares. In Tasmania the issue of return tickets has been discontinued except in a few special cases. In April, 1913, the New South Wales Government decided to discontinue the issue of return tickets for interstate railway journeys, and consequently these tickets are no longer available between State and State, except between Victoria and South Australia.

The following table shews the passenger fares for different distances charged in each State, between stations for which specific fares are not fixed:—

#### ORDINARY PASSENGER MILEAGE RATES ON STATE RAILWAYS, 1914.

State.	For a journey of—					
	50 Miles.	100 Miles.	200 Miles.	300 Miles.	400 Miles.	500 Miles.

##### FIRST-CLASS SINGLE FARES.

	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
New South Wales* ...	4	6	10	9	23	3	35	9	48	3	58	0
Victoria ...	7	6	15	0	30	0	44	6	58	2	72	0
Queensland ...	8	6	16	0	31	0	45	1	58	2	71	4
South Australia† ...	8	4	16	8	33	4	50	0	66	8	83	4
Western Australia ...	8	4	16	8	33	4	50	0	66	8	83	4
Tasmania ...	7	5	14	8	29	3	...	...	...	...	...	...
Average‡ ...	7	5	14	11	30	0	45	1	59	7	73	7
Average per passenger-mile‡ d.	1.78	1.79	1.80	1.80	1.78	1.77						

##### SECOND-CLASS SINGLE FARES.

	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
New South Wales* ...	2	0	7	1	14	9	22	1	25	8	33	6
Victoria ...	5	0	10	0	20	0	29	8	38	10	47	10
Queensland ...	5	8	10	4	19	9	28	2	35	8	43	2
South Australia† ...	5	3	10	5	20	10	31	3	41	8	52	1
Western Australia ...	5	3	10	5	20	10	31	3	41	8	52	1
Tasmania ...	5	0	9	10	19	7	...	...	...	...	...	...
Average‡ ...	4	8	9	8	19	4	28	6	36	8	45	9
Average per passenger-mile‡ d.	1.12	1.16	1.16	1.14	1.10	1.10						

\* Inclusive of suburban rates for 34 miles. † Ordinary mileage rates are not published; the amounts given are therefore computed from fares between specified stations. ‡ Exclusive of Tasmania for hauls of 300 miles and upwards.

(ii.) *Parcel Rates.* In all the States parcels may be transmitted by passenger train upon payment of the prescribed rates, which are based upon weight and distance carried. The rates vary slightly in the different States. In New South Wales they range from threepence for a parcel not exceeding 3 lbs. for any distance up to 75 miles, to eleven shillings and threepence for a parcel weighing from 84 lbs. to 112 lbs., for a distance of 500 miles. In Victoria the charge for a parcel weighing from 84 lbs. to 112 lbs. for a distance over 450 miles is twelve shillings. The rate in Queensland for a parcel weighing from 85 to 112 lbs. for 500 miles is twelve shillings and sixpence; in South Australia eleven shillings and threepence; in Western Australia thirteen shillings; and in Tasmania for a distance of 250 miles the rate is five shillings and sixpence.

(iii.) *Goods Rates.* The rates charged for the conveyance of goods and merchandise may generally be divided into three classes, viz.:—(a) Mileage rates, (b) District or "development" rates, and (c) Commodity rates. In each of the States there is a number—ranging from 8 in Victoria to 15 in Tasmania—of different classes of freight. Most of the mileage rates are based upon a tapering principle, i.e., a lower charge per ton-mile is made for a long haul than for a short haul; but for some classes of freight there is a fixed rate per mile irrespective of distance. District rates are charged between specified stations and are somewhat lower than the mileage rates, excepting in Western Australia, where the terms refer to a special toll of 1s. per ton on goods travelling over certain "district" railways as part payment of the extra cost of working lines laid for developmental purposes through sparsely settled districts. In addition to the ordinary classification of freights under class (a), certain commodities, such as wool, grain, agricultural produce, and crude ores, are given special rates, lower than the mileage rates, under class (c).

Space will not permit of anything like a complete analysis of goods rates in the several States being here given. As an indication of the range and amount of such rates the subjoined tables are given. The first table shews for each State the truck-load rates charged for hauls of different distances in respect of agricultural produce not otherwise specified; these special rates are here given for this class of produce, since it is generally forwarded in truck-loads.

#### RATES FOR AGRICULTURAL PRODUCE IN TRUCK-LOADS ON STATE RAILWAYS, 1914.

State.	Charge per Ton in Truck-loads for a Haul of—					
	50 Miles.	100 Miles.	200 Miles.	300 Miles.	400 Miles.	500 Miles.
New South Wales ...	s. d. 5 0	s. d. 7 6	s. d. 9 6	s. d. 10 6	s. d. 11 4	s. d. 12 0
Victoria ...	5 6	8 6	10 6	12 4	14 0	15 8
Queensland ...	4 7	8 9	11 0	12 0	13 0	14 0
South Australia ...	6 2	8 9	12 11	17 1	21 3	25 5
Western Australia ...	6 3	8 11	12 1	17 0	22 0	24 0
Tasmania ...	6 9	9 8	13 0	...	...	...
Average* ...	5 8	8 8	11 6	13 9	16 3	18 3
Average per ton-mile* d.	1.36	1.04	0.69	0.55	0.48	0.43

\* Exclusive of Tasmania for hauls of 300 miles and upwards.

The next tables shew for each State the ordinary mileage rates charged per ton for hauls of different distances in respect of (a) the highest-class freight, and (b) the lowest-class freight:—

## ORDINARY GOODS MILEAGE RATES ON GOVERNMENT RAILWAYS, 1914.

State.	Charge per Ton for a Haul of—					
	50 Miles.	100 Miles.	200 Miles.	300 Miles.	400 Miles.	500 Miles.

## HIGHEST-CLASS FREIGHT.

	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
New South Wales ...	23	0	44	11	78	3	99	1	107	5	115	9
Victoria ...	21	3	42	0	79	6	108	9	133	9	158	9
Queensland ...	41	8	75	0	133	4	191	8	220	10	235	5
South Australia ...	27	1	52	1	97	11	134	7	166	8	194	2
Western Australia ...	32	1	54	2	97	6	135	5	167	11	195	0
Tasmania ...	33	9	54	0	100	0	...		...		...	
Average* ...	29	9	53	8	97	9	133	11	159	4	179	9
Average per ton-mile*	d.	7.14	d.	6.44	d.	5.86	d.	5.35	d.	4.88	d.	4.31

## LOWEST-CLASS FREIGHT.

	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
New South Wales ...	2	6	3	7	5	8	7	9	9	10	11	11
Victoria ...	4	3	6	8	10	0	11	10	13	6	15	2
Queensland ...	4	7	8	9	15	0	19	2	23	4	27	6
South Australia †	4	2	7	10	13	7	17	9	21	11	26	1
Western Australia ...	5	0	8	4	14	2	19	2	23	4	27	6
Tasmania ...	5	0	6	9	8	6	...		...		...	
Average* ...	4	2	7	0	11	1	15	1	18	5	21	7
Average per ton-mile*	d.	1.00	d.	0.84	d.	0.66	d.	0.60	d.	0.55	d.	0.51

\* Exclusive of Tasmania for hauls of 300 miles and upwards. † Less 20 per cent. for artificial manures.

The classification of commodities varies in the several States. Generally, the highest-class freight includes expensive, bulky, or fragile articles, while the lowest-class comprises many ordinary articles of merchandise, such as are particularly identified or connected with the primary industries of each State.

In New South Wales, for example, the highest-class freight comprises such articles as boots, drapery, drugs, groceries, furniture, liquors, crockery and glassware, cutlery, ironmongery, confectionery, and carpets. In the same State the lowest-class freight includes agricultural produce, ores, manures, coal, coke, shale, firewood, limestone, stone, slates, bricks, screenings, rabbit-proof netting, timber in logs, and posts and rails.

18. **Numbers and Description of Rolling Stock, 1914.**—The following table shews the number of locomotives and rolling stock in use on the Government railways in each State, classified according to gauge:—

## CLASSIFICATION OF LOCOMOTIVES AND ROLLING STOCK, 1913-14.

STATE.	GAUGE.					
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	2 ft. 6 in.	2 ft. 0 in.	Total.

## LOCOMOTIVES.

New South Wales	...	...	1,065	...	...	...	1,065
Victoria...	...	721	...	...	14	...	735
Queensland	...	...	...	608	...	...	608
South Australia	...	194	...	209	...	...	403
West Australia	...	...	...	416	...	...	416
Tasmania	...	...	...	75	...	7	82
Total	...	915	1,065	1,308	14	7	3,309

## PASSENGER VEHICLES.

New South Wales	...	...	1,478	...	...	...	1,478
Victoria...	...	1,427	...	...	25	...	1,452
Queensland	...	...	...	689	...	...	689
South Australia	...	340	...	132	...	...	472
West Australia	...	...	...	368	...	...	368
Tasmania	...	...	...	167	...	6	173
Total	...	1,767	1,478	1,356	25	6	4,632

## ALL OTHER VEHICLES.

New South Wales	...	...	21,054	...	...	...	21,054
Victoria...	...	17,968	...	...	246	...	18,214
Queensland	...	...	...	12,604	...	...	12,604
South Australia	...	3,680	...	5,291	...	...	8,971
West Australia	...	...	...	10,064	...	...	10,064
Tasmania	...	...	...	1,666	...	77	1,743
Total	...	21,648	21,054	29,625	246	77	72,650

19. **Number of Railway Employees.**—The following table shews the number of employees in the Railway Departments of each State in the year 1901 and in each year from 1909 to 1914 inclusive, classified according to (a) salaried staff, and (b) wages staff.

From these figures it will be seen that there has been a steady increase in the number of persons engaged in the Railway Departments of the several States. During the period from 1901 to 1914, the total for the Commonwealth has increased from 42,321 to 89,286—an increase of 46,965, or about 110 per cent. The largest numerical increase for the individual States was that of New South Wales, viz., 22,113.

Separate returns for salaried and wages staff are not available for South Australia; the number of salaried staff is therefore included in the wages staff.

**STATE RAILWAYS.—NUMBER OF EMPLOYEES IN RAILWAY DEPARTMENTS,  
1901 and 1909-14.**

State.	1900-1.		1909-10.		1910-11.		1911-12.		1912-13.		1913-14.	
	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.
New South Wales*	1,372	11,747	2,369	17,854	2,799	21,388	2,977	25,984	3,180	28,566	3,422	31,810
Victoria ...	1,432	10,524	1,831	14,735	2,111	17,622	2,243	19,910	2,471	21,115	2,604	22,256
Queensland ...	994	4,633	1,471	5,769	1,664	6,364	1,877	7,131	2,136	8,114	2,301	8,502
South Australia†	...	3,855	...	7,066	...	7,552	...	8,569	...	8,754	...	8,995
Western Australia	876	5,407	779	5,147	872	6,079	935	6,627	1,016	6,734	1,079	6,913
Tasmania ...	178	1,252	195	1,292	203	1,232	200	1,147	204	1,131	224	1,180
All States ...	4,852	37,469	6,645	51,974	7,655	60,298	8,239	69,424	9,014	74,489	9,630	79,656

\* Exclusive of gate-keepers with free house only. † Separate returns for salaried and wages staffs are not available; the number of salaried staff is included with the wages staff.

**20. Accidents.—Number of Killed and Injured.**—The subjoined table gives particulars of the number of persons killed and injured through train accidents and the movement of rolling stock on the Government railways in each State for the year 1900-1, and for each of the years 1909-10 to 1913-14 inclusive:—

**STATE RAILWAYS.—TOTAL NUMBER OF PERSONS KILLED AND INJURED,  
1901 and 1909-14.**

State.	1900-1.		1909-10.		1910-11.		1911-12.		1912-13.		1913-14.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales	*	*	50	338	46	368	68	513	84	582	112	570
Victoria ...	45	371	21	353	49	829	67	362	36	723	45	473
Queensland ...	13	100	14	382	16	104	25	235	27	349	32	454
South Australia...	8	50	10	243	13	215	16	186	18	226	19	215
Western Australia	5†	205†	13	99	13	114	20	121	15	139	25	154
Tasmania ...	1	8	...	21	1	34	...	37	...	43	1	42
All States ...	...	...	108	1,436	138	1,664	196	1,454	180	2,062	234	1,908

\* Not available. † Including all accidents which occurred on railway premises as well as those caused through train accidents and movement of rolling stock.

**(D) Graphical Representation of Government Railway Development.**

**1. General.**—Its railways are so important a factor in the development of Australia that it has been deemed desirable to graphically represent the main facts of their progress from their beginning, viz., from 1855 onwards. To this end the graphs shewn on pages 622 to 624 have been prepared. The distribution of the railways is shewn on the map on page 621.

**2. Capital Cost and Mileage Open** (page 622).—The graph shows that the ratio between these elements was, naturally enough, very variable from 1855 to 1870, consequent upon progressive decrease in cost of construction. It then became subject to a more regular change, implying reduction of average cost.

3. **Cost per Mile Open.**—The fluctuations in cost per mile open are clearly indicated by the graph on page 622. In 1855 the cost per mile open was no less than £28,430; by 1858 it had fallen to £17,752, when it rose again to a maximum of £35,958 in 1862. It then diminished rapidly till 1883—when it reached £10,496 per mile—then slowly till 1887, when it amounted to £10,017 per mile. Again rising, this rate attained to £10,537 in 1892, since when it has, on the whole, been declining, reaching its lowest value, £9466, in 1911.

4. **Gross Revenue.**—This graph (page 622) exhibits considerable irregularities, the most striking of which are the maxima at 1892 and 1902. The fall commencing in 1892 was in consequence partly of the commercial crisis and partly of the then droughty conditions of several of the States, while that of 1902-3 was due to drought. In the latter case the recovery was very rapid.

5. **Working Expenses and Net Revenue.**—The characteristics of these graphs (page 622), are similar to those of "Gross Revenue," and the same remarks apply. It may be noted, however, that the working expenses are increasing at a faster rate than gross and net revenue.

6. **Percentage of Working Expenses to Gross Revenue.**—This is shown for each State and for the Commonwealth on page 623, and for the Commonwealth only, on a larger scale, on page 622. The curve shews considerable fluctuations, but points also to the fact that, although a slight rise occurred in 1908, there was from 1903 to 1907 a rapid, and therefore very satisfactory, decline in the percentage of working expenses to gross revenue; since 1907, however, there has been a steady increase. The fluctuations of this percentage, for the individual States, call for no special comment.

7. **Percentage of Net Revenue on Capital Cost.**—For the Commonwealth this graph is shown on a large scale on page 622 and on page 624 both for Commonwealth and States. After exhibiting somewhat remarkable oscillations in the earlier years, and less marked ones between 1885 and 1900, and also a rapid fall to 1903, the curve from that year shews a well marked increase until the year 1908, a slight fall occurring in that year and in 1909. Maxima were reached in 1865, 1877, 1881, 1907, and 1911—viz., 3.44, 3.71, 4.14, 4.37 and 4.43 per cent.

For the individual States the results are in general very satisfactory, every State being able to record an increase over the previous year, with the exception of Tasmania, the figures for that State, however, having only once been exceeded, viz., in 1913.

The remarkable maximum for Western Australia in 1896 is consequent upon the large use made of the western railways at the time of the development of the Western Australian goldfields.

8. **General Indications of Graphs.**—Reviewing the cost of railways, as a whole, it may be noted that for the periods indicated the average cost per mile open is as follows:—

**STATE RAILWAYS.—AVERAGE COST PER MILE OF LINE OPEN, COMMONWEALTH,  
1855 to 1912.**

Period ...	1855-1872.	1873-1882.	1883-1892.	1893-1902.	1903-1912.
	£	£	£	£	£
Cost per mile ...	24,561	13,700	10,286	10,010	9,614



While the sinister influence of the drought of 1902 is strikingly shewn in the curves (a) by the fall in the gross and net revenue in 1902-3, (b) by the fall in the percentage of net revenue on capital cost, and (c) by the increase of working expenses on gross revenue, the rapidity of recovery is even more striking, and goes to indicate the great elasticity of the economic condition of the Commonwealth. Although the percentage of net revenue on capital cost during the year 1913-14 has been exceeded in previous years, nevertheless it is satisfactory that the Government Railways, necessarily constructed largely in accordance with a policy of widespread development of Australia's resources rather than as mere commercial enterprises, and costing so large a sum as £179,921,828 for construction and equipment up to the 30th June, 1914, should yield a return of no less than 3.85 per cent.

### (E.)—Private Railways.

1. **Total Mileage Open, 1914.**—As has been stated in a previous part of this Section (see A. 7) a number of private railway lines have from time to time been constructed in the Commonwealth. By far the greater proportion of such lines, however, has been laid down for the purpose of hauling timber, coal, or other minerals, and is not generally used for the conveyance of passengers or for public traffic; in many cases the lines are often practically unballasted and are easily removable, running through bush and forest country in connection with the timber and sugar-milling industries, and for conveying firewood for mining purposes. Many of these lines may perhaps be said to be rather of the nature of tramways than of railways. Private railways referred to herein include (a) lines open to the public for general passenger and goods traffic; and (b) branch lines from Government railways and other lines which are used for special purposes and which are of a permanent description. Other lines are referred to in the part of this Section dealing with Tramways (see § 3, *Tramways*).

The following table gives particulars of private railways in the Commonwealth open for traffic up to the 30th June, 1914. A classification of these lines according to their gauge has already been given (see page 601).

**MILEAGE OF PRIVATE RAILWAYS OPEN, 1914.**

Particulars.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	C'wealth.
For general traffic ...	155	14	527½	...	277	164½	1,138
For special purposes ...	124	37	115½	34	666	83	1,059½
Total ...	279	51	643	34	943	247½	2,197½

2. **Classification of Private Railways.**—The subjoined statement gives particulars regarding private railways, so far as returns are available, in each State for the year 1913. In this statement the lines inset are sub-branches from the main branches specified.

## CLASSIFICATION OF PRIVATE RAILWAYS IN AUSTRALIA, 1913.

Railway Lines.	Gauge.	Length	Nature of Traffic Carried, etc.
NEW SOUTH WALES.			
1. BRANCHES FROM NORTHERN LINE, N.S.W. GOVT. RLYS.—	ft. in.	Miles.	
Aberdare Junction to Cessnock ... ..	4 8½	12	Coal and passengers
" " " E. Greta and Stanford-Merthyr ... ..	4 8½	4½	Coal
Hexham-Minmi ... ..	4 8½	8	Coal and passengers
Brown's line to Richmond Vale ... ..	4 8½	6	"
Three other sub-branches ... ..	4 8½	11½	Coal
Newcastle Wallsend Co.'s lines ... ..	4 8½	5	"
Five sub-branches... ..	4 8½	4½	"
Waratah Coal Co.'s line ... ..	4 8½	4	"
Old Burwood Pit ... ..	4 8½	4½	"
Gunnedah Coal Co.'s line ... ..	4 8½	7½	"
Other branches ... ..	4 8½	4½	"
Total ... ..	4 8½	27	Coal, coke, ores & stone
2. BRANCHES FROM NORTH-COAST LINE GOVT. RAILWAYS—			
New Redhead Coal Co.'s lines, Adamstown to Burwood	4 8½	9	Coal and passengers
Extended, and Dudley lines ... ..	4 8½	6	"
Seaham Coal Co.'s lines, Cockle Creek to West Wallsend and Seaham collieries ... ..	4 8½	9	Coal
Nine other branches ... ..	4 8½	9	"
Total ... ..	4 8½	24	
3. BRANCHES FROM SOUTHERN LINE, N.S.W. GOVT. RLYS.—*			
Liverpool-Warwick Farm ... ..	4 8½	¾	Racecourse traffic
4. BRANCHES FROM S. COAST LINE, N.S.W. GOVT. RLYS.—†			
Mount Kembla Coal Co. ... ..	4 8½	7½	Coal
Corrimal and Balgownie ... ..	4 8½	3½	"
Australian Smelting Co., Dapto ... ..	4 8½	2½	Ores
Mount Keira Coal Co., Belmore Basin ... ..	4 8½	3	Coal
Nine other branches ... ..	4 8½	14	"
Mount Pleasant Coal Co. ... ..	3 6	3½	"
Total ... ..	4 8½	31½	
5. BRANCHES FROM WESTERN LINE, N.S.W. GOVT. RLYS.—			
Commonwealth Oil Corporation's line from Newnes Junction ... ..	4 8½	33	General
Eleven other branches ... ..	4 8½	6½	Coal, metal, and ores
Total ... ..	4 8½	39½	
6. SILVERTON TRAMWAY—			
Broken Hill and Cockburn ... ..	3 6	36	General
7. DENILIQUIN-MOAMA LINE ... ..	5 3	45	"
Total for State ... ..	4 8½	194½	
	3 6	39½	
	5 3	45	

\* Three other branch private lines having a total length of 24 miles have been constructed for the conveyance of minerals, but are now closed. † The Illawarra Harbour and Land Corporation's line, 6½ miles long, constructed for general traffic is not now working.

## CLASSIFICATION OF PRIVATE RAILWAYS IN AUSTRALIA, 1913 (Continued).

Railway Lines.	Gauge.	Length	Nature of Traffic Carried, etc.
VICTORIA.*			
1. KERANG TO KOONDRICK TRAMWAY ... ..	ft. in. 5 3	Miles. 14	General
2. ALTONA BAY RAILWAY— Williamstown racecourse and pit at Altona ... ..	5 3	2½	Sand and stone
3. TOOBORAC into bush ... ..	5 3	24	Firewood
4. TRAWALLA to WATERLOO ... ..	5 3	8	" and gravel
5. CARISBROOK to NEW HAVILAH MINE ... ..	5 3	2½	" & mining timber
Total for State... ..	5 3	51	

\* The Rosstown railway, running between Elsternwick and Oakleigh railway stations, about .5 miles in length, is not in use.

## QUEENSLAND.

	ft. in.	Miles.	
1. BRANCHES FROM GREAT NORTHERN LINE, GOVT. RLYS. Three branch lines ... ..	3 6	2½	Mineral traffic
Wee McGregor Tramway ... ..	3 6	22	"
2. BRANCHES FROM NORTH-COAST LINE, GOVT. RAILWAYS Bundaberg to Millaquin ... ..	3 6	2	Sugar
Avondale to Invicta Mill ... ..	3 6	8½	General (chiefly sugar)
Woongarra Tramway ... ..	3 6	12	Sugar
Mount Bauple ... ..	3 6	7	"
Plane Creek ... ..	2 0	44½	"
3. BRANCH FROM WESTERN LINE, GOVT. RAILWAYS— Munro's tramway to Perseverance ... ..	3 6	10	Timber & farm produce
Gulland's lines to coal mines ... ..	3 6	1½	Coal
Stafford's lines to coal mines ... ..	3 6	½	"
Mount Crosby ... ..	3 6	5	Water Conservation
4. BRANCHES FROM CAIRNS LINE, GOVT. RAILWAYS— Greenhill branch ... ..	2 0	4½	Sugar
Chillagoe railway, Mareeba to Mungana ... ..	3 6	103	General (chiefly coal and
Mount Garnet tramways, Lappa Jn'tn to Mt. Garnet ... ..	3 6	33	" " (minerals)
Stannary Hills tramway, Boonmoo to Rocky Bluffs ... ..	2 0	21	" " "
Mount Molloy tramway ... ..	3 6	20	" " "
† Etheridge Railway, Alma-den to Forsayth ... ..	3 6	143	General " "
5. BRANCH FROM SOUTH-COAST LINE, GOVT. RAILWAYS— Beaudesert tramway to Rathdowney, Tabooba Junction to Lamington ... ..	3 6	33	" (chiefly timber
6. INGHAM TRAMWAY— East Ingham to Mount Fox ... ..	2 0	31	General (chiefly sugar)
Lucinda to East Ingham ... ..	2 0	17	"
7. GERALDTON TRAMWAY—* Geraldton towards Herberton... ..	2 0	16½	" (chiefly sugar)
8. MOSSMAN TRAMWAY— Port Douglas to S. Mossman and Mowbray Rivers ... ..	2 0	17	"
9. BRANCH FROM BOWEN LINE— Bowen to Proserpine... ..	3 6	38½	"
10. BRANCH FROM CENTRAL LINE GOVT. RAILWAYS— Bacaldine to Aramac ... ..	3 6	41	" (chiefly stock)
11. BRANCH FROM CLEVELAND LINE GOVT. RAILWAYS— Norman Park to Belmont ... ..	3 6	4½	"
12. BRANCH FROM SOUTH WESTERN LINE, GOVT. RLYS.— Tannymorell Tramway ... ..	3 6	4	Coal
Total for State... ..	3 6 2 0	491½ 151½	

\* Taken over by Queensland Government, September, 1914.

† Worked by Queensland Government.

## SOUTH AUSTRALIA.

	ft. in.	Miles.	
BROKEN HILL PROPRIETARY CO.'S LINE— Iron Knob to Hammock Hill, Spencer's Gulf ... ..	3 6	34	Carriage of ironst'ne flux

## CLASSIFICATION OF PRIVATE RAILWAYS IN AUSTRALIA, 1913 (Continued).

Railway Lines.	Gauge.	Length	Nature of Traffic Carried, etc.
WESTERN AUSTRALIA.*			
1. MIDLAND RAILWAY— Joining Govt. lines at Midland Junction & Walkaway	3 6	277	General
2. W.A. GOLDFIELDS FIREWOOD SUPPLY CO.'S LINE— From Kurrawang into bush	3 6	87	Firewood
3. KALGOORLIE AND BOULDER FIREWOOD CO.'S LINE— Goodwood railway, from Lake Side into bush	3 6	24	"
Lancefield railway into bush	2 0	26	"
Laverton to junction Lancefield railway	2 0	6½	"
4. W.A. TIMBER AND FIREWOOD CO. LTD. LINE— Kurrarnia railway, from Kalgoorlie-Kanowna railway to bush	3 6	60	"
5. SONS OF GWALIA GOLD MINING CO.'S LINE— Railway into bush	1 8	21	"
6. MURCHISON FIREWOOD CO.'S LINE— Nallan wood railway, from Nallan siding to bush	3 6	27½	"
7. W.A. JARRAH SAWMILLS LINE— From Kirup to mills and into bush	3 6	32	Timber
8. TIMBER CORPORATION CO.'S LINE— From Greenbushes to mills and into bush	3 6	18½	"
9. S.-WEST TIMBER HEWERS' CO-OP. SOCIETY'S LINE— From Holyoake and Lucknow into bush	3 6	17½	"
10. MILLAR'S TIMBER TRADING CO.'S LINES— Upper Darling Range railway, from Pickering Brook to Canning mills and bush	3 6	9	"
Jarrahdale and Rockingham railway, from Mundijong to Rockingham and bush	3 6	50½	"
Yarloop railway to mills and bush	3 6	58½	"
Mornington mills rly., from Wokalup to mills & bush	3 6	41½	"
Ferguson River railway, from Dardanup to mills and into bush	3 6	39½	"
Collie Mills railway, from Worsley into bush	3 6	18½	"
Kirup Saw mills into bush	3 6	27	"
Marrinup saw mills into bush	3 6	7½	"
Jarrahdale saw mills into bush	3 6	11½	"
11. BUNNING BROS. LTD. LINES— From Lion Mill, Argyle, Cardiff & Preston Valley to bush	3 6	35½	"
12. NORTH DANDALUP S.M. RAILWAY— To mill and bush	3 6	11	"
13. SWAN SAW MILL RAILWAY— From Lowden to mill and bush	3 6	12	"
14. BUCKINGHAM BROS. S.M. RAILWAY— From Muja to bush	3 6	4½	"
15. WILGARRUP KARRI AND JARRAH CO.'S LINE— Railway into bush	3 6	5	"
16. WHIM CREEK RAILWAY TO BALLA BALLA	2 0	14	Copper Ore
Total for State...	3 6 2 0 1 8	875½ 46½ 21	

\* To the 31st December, 1913.

## TASMANIA.

Railway Lines.	ft. in.	Miles.	Nature of Traffic
1. EMU BAY RAILWAY CO.'S LINES— Burnie to Waratah	3 6	104½	General
Guildford to Zeehan	3 6		
Bayna to Dundas	3 6		
9. MOUNT LYELL MINING AND RAILWAY CO.'S LINES— Strahan to Queenstown	3 6	22	"
Gormanston to Kelly Basin	3 6	28	"
3. SANDELY COLLIERY CO.'S LINE— North-west Bay Co.'s jetty to mine	2 0	12	Minerals
4. HUON TIMBER CO.'S LINE*	3 6	30*	Timber
5. TASMANIAN GOLD MINING CO.'S LINE— Beaconsfield to Beauty Point†	3 6	3½	Minerals and occasionally passengers
6. ZEEHAN TRAM CO.'S LINE— Emu Bay railway to British Queen	2 0	2½	Minerals and occasionally passengers
7. DUCK RIVER RAILWAY— Leesville to Parish of Williams†	3 6	8	Chiefly timber
8. MAGNET SILVER MINING CO.'S LINES— Magnet Junction to Magnet	2 0	10	Minerals and passengers
9. SMITHTON TO PELICAN POINT	3 6	2	Produce
10. MABAWAH TRAM	3 6	25	" & occasionally passengers
Total for State...	3 6 2 0	223 24½	

\* Approximate. † Also branch lines as follows:—Electric railway, 1½ miles long, to reduction works, 2 ft. gauge; surface railways, horse, ½ mile long, 2 ft. gauge. ‡ Extension under construction.

3. **New South Wales.**—In this State the mileage of private railways open to the public for general traffic at the end of 1913 was 155, and of lines used for special purposes, 124 miles. Most of these lines were constructed primarily for the purpose of conveying coal from the mines to the Government railway systems. Particulars for the year 1913 of the operations of lines open for general traffic are given, so far as available, in the table on page 644.

(i.) *Private Railways Open for General Traffic.* The most important of the lines open for general traffic are as follows :—(a) *The Deniliquin-Moama Line.* In 1874 permission was granted by the New South Wales Government to a private company to construct a line forty-five miles long from Deniliquin, in the Riverina district, to Moama, connecting with the Victorian Railway system at the Murray Bridge, near Echuca. The line was opened in 1876, the land required being granted by the Government. (b) *The Cockburn-Broken Hill Line.* This line is owned by the Silverton Tramway Company. It was opened in 1888, and connects Broken Hill with the South Australian railway system, having a total length of 36 miles. (c) *East Greta Line.* This line, belonging to the East Greta Coal Mining Company, runs from East Greta Junction, on the Northern line of the Government railways, to Stanford Merthyr, a distance of 8 miles. (d) *The New Redhead Coal Company's Railway.* The lines owned by this company branch from the Northern line of the Government railways, and run from Adamstown to Burwood Extended Colliery, and from Adamstown to Dudley Colliery, a total distance of 9 miles. The lines are worked by the Railway Department, coal waggons being supplied in part by the coal companies using the line. The colliery companies using the line pay a way-leave for right to run their coal over the line, and the Railway Commissioners allow the New Redhead Company a proportion of the revenue from the passenger and goods traffic. (e) *The Seaham Coal Company's Railways.* This line runs from Cockle Creek to West Wallsend and Seaham Collieries, and has a total length of 6 miles. (f) *Hexham-Minmi Railway.* This line branches from the Northern line of the Government railways and has a length of 6 miles. Further particulars are not available. (g) *The Commonwealth Oil Corporation's Railway.* This line runs from Newnes Junction on the Great Western line of the Government railways to the company's refinery, a distance of 33 miles. The Shay geared type of locomotive is in use on this line. (h) *The Warwick Farm Line* is a short line, three-quarters of a mile in length, connecting the Government line near Liverpool with the Warwick Farm Racecourse. Government rolling-stock is used.

In addition to the lines referred to above, legislative sanction was obtained in 1890 for the construction of a private line from the flux quarries at Tarrawingee to the Broken Hill line, a distance of 36 miles. The line was purchased by the Government in 1901, and is operated by the Silverton Tramway Company under lease from the Chief Commissioner, who pays the working expenses and receives the ordinary earnings and one-half the net receipts on special and holiday traffic.

4. **Victoria.**—In Victoria the only private railway open for general traffic is the Kerang-Koondrook tramway, opened in 1889. The cost of construction of this line to the end of September, 1914, was £39,229, paid out of a loan advanced by the Victorian Government. The total length is  $14\frac{1}{2}$  miles. The line is at present controlled by the Kerang Shire Council, but proposals have recently been made for its transfer to the Railway Department.

A line running from Elsternwick to Oakleigh, a distance of about 5 miles, has been constructed by a private company, but is not in use.

5. **Queensland.**—In this State private railways open for general traffic may be grouped under two heads :—(i.) Lines constructed primarily for mining purposes or for the transport of sugar-cane, and (ii.) Shire tramways.

(i.) *Mining Railways.* (a) *The Chillagoe Railway.* The most important of these is the Chillagoe railway, constructed under the Mareeba to Chillagoe Railway Act 1897, and opened in 1901. This line runs from Mareeba, on the Cairns railway, to Mungana,

a distance of 103 miles. (b) *The Stannary Hills Line*. This line branches from the Chillagoe railway at Boonmoo and runs to Rocky Bluff, via Stannary Hills, a total distance of 21 miles. The gradients on this line, which has a gauge of 2 feet, range as high as 1 in 27, while the radius of some of the curves is as low as  $1\frac{1}{4}$  chains. An additional length of 8 miles has been surveyed with a view to extending the line. (c) *The Mount Garnet Railway*. This line also branches from the Chillagoe railway at Lappa Junction and runs for a distance of 33 miles, as far as Mount Garnet.

(ii.) *Shire Tramways*. Under Part XV. of the Local Authorities Act of 1902 provision is made whereby not less than one-third of the ratepayers in any district may petition the local authority to apply to the Governor for the constitution of a tramway area. The Governor may define the area and may also approve of the plans and specifications of the proposed tramway. The amount which may be advanced by the Government for the construction or purchase of a tramway may not exceed a sum equal to £3000 for every mile of its length. As regards repayment of loans, no sum need be paid during the first three years, but after the expiration of that period the principal and interest must be repaid by half-yearly instalments on the basis provided for by the 'Local Works Loans Act, 1880 to 1899.' For the purpose of raising the money to pay these instalments the local authority may levy a rate upon all ratable property within the tramway area. The money required for the tramway may be raised by the local authorities by the issue of debentures.

6. **South Australia.**—In this State there are no private railways open for general traffic. The only private line is that owned by the Broken Hill Proprietary Company, running from Iron Knob to the seaboard near the head of Spencer's Gulf, a distance of 34 miles. The line is utilised for the carriage of flux for use in connection with the smelting works at Port Pirie.

7. **Western Australia.**—Owing to the Government's past difficulty in constructing lines urgently required for the development of the country, private enterprise was encouraged to undertake the work of construction on the land-grant principle, and two trunk lines were thus constructed. The greater part of the private lines now open, however, have been constructed in connection with the timber industry. (i.) *The Midland Railway*. This line is 277 miles in length, and runs from the Midland Junction, ten miles from Perth, to Walkaway, where it joins the Government line running to Geraldton. It was constructed under a concession of 12,000 acres of land per mile of line constructed, to be selected along the entire route of the railway. (ii.) *The Great Southern Railway*. This line, which was built by private enterprise under the land-grant system, is 242 miles in length, and was acquired by the Government by purchase on the 1st January, 1897. The total price paid, with all the interests of the private company and of the original concessionaire, was £1,100,000, which was divided by the Government for book-keeping purposes into £300,000 for the land and £800,000 for the railway. (iii.) *Millar's Timber Trading Company's Lines*. These lines have mostly been built under special timber concessions and leases. There were, at latest date available, in all nine lines situate in various parts of the State extending into the bush, whence logs are brought to the mills. The total length of these lines was approximately 260 miles. (iv.) *Other Lines*. There are also a number of other lines in various parts of the State used chiefly in connection with the timber industry. These are specified in the tabular statement on page 641.

8. **Tasmania.**—In this State there are three private lines open for general traffic. They are all situated in the western part of the island.

(i.) *The Emu Bay Railway Company*. The lines owned by this company run from Burnie to Waratah, from Guildford to Zeehan, and from Rayna to Dundas, and have a total length of 104 miles.

(ii.) *The Mount Lyell Mining and Railway Company*. The Mount Lyell railway runs from Regatta Point, Strahan, to Queenstown, and the North Mount Lyell line from Kelly Basin to Linda. The former line, 22 miles in length, was constructed in 1895-6,

while the latter line, 28 miles long, was taken over from the North Mount Lyell Copper Company on the amalgamation of the two companies in 1903. The line from Kelly Basin to Linda is now run only intermittently.

(iii.) *The Magnet Silver Mining Company's Railway.* This line runs from Magnet Junction, near Waratah, on the Emu Bay Company's line to Magnet, a distance of 10 miles.

9. **Operations of Private Railways, 1913.**—The tabular statement given below shews particulars, so far as returns are available, for the year 1913, of all private railways open to the public for general traffic in the Commonwealth:—

**PARTICULARS OF PRIVATE RAILWAYS OPEN FOR GENERAL TRAFFIC, 1913.**

Line.	Miles Open.	Capital Cost.	Gross Revenue.	Expenses.		Train Miles.	Passenger Journeys.	Tons of Goods, etc.	No. of Employees.	Rolling Stock.		
				Working.	Interest, etc.					Locos.	Coaches.	Wagons.
	No.	£	£	£	£	No.	No. '000.	Tons '000.	No.	No.	No.	No.
NEW SOUTH WALES.												
Deniliquin-Moama	45	162,672	22,849	10,927	372	43,149	14	48	50	4	6	63
Silverton Tramway	36	461,242	218,154	74,605	...	172,346	68	1,170	314	18	c	680
East Greta Railway	20	171,317	59,239	40,314	8,565	384,446	844	53	230	16	28	40
Seaham Colliery Co.	6	16,000	974	b	b	5,915	11	7	9	2	4	c
New Redhead Co. ...	8	90,000	4,584	2,121	1,882	b	b	b	12	c	c	c
Hexham-Minni	6	b	992	1,024	...	9,048	12	2	9	1	4	1
C'wlth. Oil Corp'n	33	194,590	281	2,917	15,823	9,566	...	1	10	f 6	2	95
<b>Total (a)</b>	154	1095 821	307,073	131,908	26,642	624,470	949	1,231	634	47	44	879
VICTORIA.												
Kerang-Koondrook	14	39,229	4,523	2,817	1,805	19,208	12	b	12	2	2	6
QUEENSLAND.												
Chillagoe Railway	103	420,276	86,516	34,510	...	131,478	33	136	111	8	2	161
Stannary Hills	21	63,320	5,464	5,353	...	21,593	4	20	8	2	2	76
Mount Garnet	33	b	2,399	2,919	...	12,203	3	3	12	1	1	3
Invicta Mill	8½	19,446	1,654	1,326	975	b	b	b	b	c	c	c
Beaudesert	33	91,000	9,673	5,319	3,599	30,644	17	18	33	1	3	c
Douglas-Mossman	17	40,615	7,296	3,319	2,518	20,156	8	8	15	2	3	22
E. Ingham-Mt. Fox	31	56,197	3,407	655	2,757	24,760	2	124	b	7	5	99
Lucinda-E. Ingham	17	b	d 1,012	939	b	24,760	10	b	1	b	2	b
Bowen-Proserpine	38½	104,694	6,897	2,723	1,442	10,529	b	b	9	c	c	c
Geraldton Tramway	16½	34,850	2,003	1,695	2,339	14,888	1	5	7	2	2	21
Mt. Molloy	20	45,813	2,022	b	b	9,187	2	1	6	c	c	7
Belmont Tramway	4½	18,307	902	1,675	421	9,166	12	95	b	c	c	c
Aramac-Barcaldine	41	82,800	8,390	9,681	2,466	27,696	7	7	19	2	1	1
Etheridge (h)	143	457,175	20,539	20,794	11,250	78,785	5	22	h	c	c	c
<b>Total (a)</b>	527½	1436 496	158,174	90,308	27,767	391,085	104	349	221	25	21	390
WESTERN AUSTRALIA.												
Midland Railway	277	1287 252	147,223	79,525	...	472,685	76	121	290	17	20	400
TASMANIA.												
Emu Bay Railway	104½	611,119	67,386	29,871	19,626	150,538	34	84	128	10	10	151
Mt. Lyell Railway	23	216,086	30,991	23,925	...	51,307	25	101	161	7	7	129
Nth. Mt. Lyell Rly.	28	316,638	3,675	4,870	b	8,346	3	14	18	4	3	56
Magnet Railway	10	18,750	388	2,334	...	7,280	1	1	8	3	1	8
<b>Total (a)</b>	164½	1162 593	102,440	60,300	19,626	217,471	63	200	315	24	21	344
<b>Total for Cwlth. (a)</b>	1136½	5021 391	719,433	364,858	75,840	1724 921	1,204	1,951	1,466	115	108	2,019

(a) Incomplete. (b) Not available. (c) Government rolling-stock used. (d) Salaries and wages only. (e) Maintenance only. (f) Including one motor car. (g) Exclusive of live stock. (h) Worked by Queensland Government railways.

### § 3. Tramways.

1. **General.**—Tramway systems are in operation in all the States of the Commonwealth, and in recent years considerable progress has been made in the adoption of electrical traction, the benefit of which is now enjoyed by a number of the principal towns of the Commonwealth.

There are also in many parts of Australia private tramway lines which are used for special purposes, usually in connection with the timber, mining, or milling industries. Though efforts have been made to collect particulars of these lines, the returns are generally too incomplete for publication.

(i.) *Total Mileage Open and Classification of Lines.* The following table shows the total mileage of tramway lines open for general passenger traffic in each State and in the Commonwealth at the end of the year 1913-14, classified (a) according to the motive power utilised and (b) according to the nature of the authority by which the lines are controlled:—

#### TRAMWAYS.—CLASSIFICATION OF MILEAGE OPEN FOR PASSENGER TRAFFIC, 1913-14.

Nature of Motive Power and Controlling Authority.	N.S. Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tas.	C'wealth.
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##### ACCORDING TO MOTIVE POWER.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Electric ... ..	145½	62	34½	51½	48¾	16¾	359½
Steam ... ..	70	1	...	...	...	...	71
Cable ... ..	...	46	...	...	...	...	46
Horse ... ..	...	13	...	19½	29	...	61½
<b>Total ... ..</b>	<b>215½</b>	<b>122</b>	<b>34½</b>	<b>71</b>	<b>77¾</b>	<b>16¾</b>	<b>537¾</b>

##### ACCORDING TO CONTROLLING AUTHORITY.

Government ... ..	211	5½	...	17¼	52	...	285½
Municipal ... ..	...	23½	...	51½	11	16¾	102¾
Private ... ..	4¾	93½	34½	2¼	14¾	...	149½
<b>Total ... ..</b>	<b>215½</b>	<b>122</b>	<b>34½</b>	<b>71</b>	<b>77¾</b>	<b>16¾</b>	<b>537¾</b>

2. **New South Wales.**—In this State the Tramways, with but few comparatively unimportant exceptions, are the property of the Government, and are under the control of the Railway Commissioners.

(i.) *Government Tramways.* In Sydney and suburbs the Government tramways are divided into distinct systems. There were in June, 1914, seven such systems in operation within the metropolitan area, the most important being the city and suburban lines, 105½ miles in length (193 miles single track); the North Shore line, 19½ miles in length



(33½ miles single track); the Ashfield to Mortlake line, (8½ miles); Manly to the Spit (11 miles); and Rockdale to Brighton-le-Sands (1½ miles). The last-mentioned line was purchased from a private company and opened for traffic on 7th June, 1914. All of these systems are now operated by electricity. There are two systems on which the motive power used is steam, namely—(a) from Kogarah to Sans Souci, 5½ miles in length, and (b) from Arncliffe to Bexley, 2½ miles long.

There are also Government steam tramways in operation at Newcastle, Broken Hill, Parramatta, from East to West Maitland, and from Sutherland to Cronulla. The gauge of line on all the Government tramways is 4 feet 8½ inches.

(a) *Sydney Tramways.* In the early sixties a horse tramway, 1½ miles long, was constructed in Sydney. Owing to the rails being laid higher than the road surface the inconvenience thus caused to other traffic necessitated its removal, and it was not until September, 1879, that the first steam tramway was opened, running from Bridge-street to Hay-street *via* Hunter-street. In the following few years these steam tramways were considerably extended. The electric system was not introduced into the city until the close of the year 1899, though it had at that time been in operation for some years in North Sydney. The tramways in the heart of the city, running along King-street to the suburb of Woollahra, as well as those in North Sydney, were originally worked by underground cables, and have since been converted into electric lines on the overhead trolley system. The whole of the steam tramways in Sydney and suburbs, with the exception of the Kogarah-Sans Souci, and the Arncliffe-Bexley, have now been converted into electric lines, and provision for the extra power required for the electrification of the former of these lines has been made at the central power station.

(b) *Other Tramway Systems.* In Newcastle the first section of the tramways, from Perkins-street to Plattsburg, was opened in 1887; the total length open on the 30th June, 1914, was 29½ miles. At Broken Hill and Parramatta the first sections of the tramways were opened in 1902. On the 30th June, 1914, the mileage open at Broken Hill amounted to 10, and at Parramatta to 6½ miles. The line from East to West Maitland, 4½ miles long, was opened in February, 1909. Further particulars are given below.

(c) *Particulars of all Government Tramways.* The following table shews the total length, the capital cost, the gross revenue, working expenses, and net earnings, and the percentages of working expenses on gross revenue, and of net earnings on capital cost, for the financial years 1901-2 and 1909-14:—

**NEW SOUTH WALES.—PARTICULARS OF WORKING OF GOVERNMENT TRAMWAYS,  
1901-2 and 1909-14.**

Year ended the 30th June.	Total Length of Lines Open (Route).	Capital Expended on Lines Open.	Gross Revenue.	Working Expenses.	Net Earnings.	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.
	Miles.	£	£	£	£	per cent.	per cent.
1901-2	104	2,829,363	631,757	541,984	89,773	85.79	3.19
1909-10	165½	4,668,797*	1,185,568	983,587	201,981	82.96	4.33
1910-11	190	5,121,586*	1,365,631	1,143,949	221,682	83.77	4.33
1911-12	195½	5,664,324*	1,581,393	1,331,413	249,980	84.19	4.41
1912-13	208	6,699,305*	1,754,566	1,572,190	182,376	89.61	2.94
1913-14	212½	7,628,653*	1,934,164	1,669,033	265,131	86.29	3.66

\* £47,455 of this sum has been paid from the Consolidated Revenue, and no interest is payable thereon.

The net result, after providing for all working expenses and £263,451 for interest on the capital invested, was a surplus of £1680 in 1913-14, as compared with a deficit of £32,456 in the preceding year. During the year 1913-14, 310,592,698 passengers were carried, an increase of 16,137,246 over the previous year.

(d) *Particulars of Different Systems of Government Tramways.* In the subjoined statement particulars are given of the working of the electric and steam tramways in Sydney, and of other tramways under Government control.

**NEW SOUTH WALES.—PARTICULARS OF THE WORKING OF THE VARIOUS  
GOVERNMENT TRAMWAYS, 1913-14.**

Line.	Length.		Total Cost.	Gross Revenue.	Working Expenses.	Interest.	Profit or Loss.*
	Route.	Track.					
	Miles.	Miles.	£	£	£	£	£
Sydney and Suburban—							
Electric ...	145 $\frac{3}{4}$	252 $\frac{1}{4}$	7,054,832	1,781,063	1,520,185	242,694	+ 18,184
Steam ...	8 $\frac{1}{4}$	8 $\frac{1}{4}$	41,716	9,994	13,459	1,508	— 4,973
Total...	154	260 $\frac{1}{2}$	7,096,548	1,791,057	1,533,644	244,202	+ 13,211
Parramatta Steam	6 $\frac{3}{4}$	6 $\frac{3}{4}$	37,624	7,196	8,016	1,380	— 2,200
Sutherland to Cronulla,,	7 $\frac{1}{2}$	7 $\frac{1}{2}$	49,653	12,096	8,996	1,812	+ 1,288
Newcastle ,,	29 $\frac{1}{2}$	38	320,056	94,855	84,877	11,483	— 1,505
East to West Maitland,,	4 $\frac{1}{2}$	4 $\frac{1}{2}$	38,650	5,606	6,270	1,417	— 2,031
Broken Hill ,,	10	11 $\frac{1}{2}$	86,122	23,354	27,230	3,157	— 7,033
Total...	212 $\frac{1}{4}$	328 $\frac{3}{4}$	7,628,653	1,934,164	1,669,033	263,451	+ 1,680

\* The positive sign indicates a profit, the negative a loss.

The total capital cost shown in the preceding table was made up as follows:—

**CAPITAL COST OF NEW SOUTH WALES GOVERNMENT TRAMWAYS AS AT  
30th JUNE, 1914.**

Permanent Way.	Rolling Stock.	Power-house, Sub-stations, and Plant.	Machinery.	Workshops.	Furniture.	Total.
£3,730,523	£1,783,969	£1,644,703	£117,777	£209,289	£2,392	£7,628,653*

\* Includes £140,000 for Store Advance Account.

The average cost per mile open was £17,583 for permanent way and £18,372 for all other charges, making a total of £35,955 per mile.

During the year 1913-14, four new extensions, amounting in all to a length of 3 $\frac{1}{2}$  miles, were opened for traffic, and the Rockdale-Brighton line (1 $\frac{1}{4}$  miles) was taken over by the Department. On the 30th June, 1914, six extensions, having a total length of eight miles, were under construction.

(e) *Sydney Electric Tramways.* The current for the operation of the city and suburban tramways is generated at the power-house at Ultimo, which has been erected at a total cost of £1,644,703, including the cost of the sub-stations and plant. The total output of the power-house, for both lighting and traction purposes, during the year 1913-14, was

97,070,321 kilowatt-hours, of which the direct-current supply was 1,380,081, and the alternating current 95,690,240 kilowatt-hours. The following table gives particulars of the working of the electric tramways for the financial years 1909-10 to 1913-14 :—

**NEW SOUTH WALES.—PARTICULARS OF SYDNEY ELECTRIC TRAMWAYS,  
1909-10 to 1913-14.**

Year ended 30th June.	Mileage Open for Traffic		Total Cost of Construction and Equipment.	Output of Power-house for Traction Purposes.	Tram Miles Run.	Passengers Carried.
	Route.	Track.				
	Miles.	Miles.	£	Kilowatt-hours 000	No. 000.	No. 000.
1910 ...	111	184½	4,235,170	45,500	19,394	187,574
1911 ...	114	201½	4,585,240	61,163	21,120	214,975
1912 ...	131½	223	5,153,321	70,920	23,016	250,786
1913 ...	141½	242½	6,162,063	79,840	25,480	275,977
1914 ...	145½	252½	7,054,833	86,187	26,974	290,547

Year ended 30th June.	Gross Revenue.	Working Expenses.	Net Revenue.	Number of Cars in Use.	Number of Persons Employed.
	£	£	£		
1910 ...	1,092,582	888,415	204,167	939	6,065
1911 ...	1,256,672	1,033,229	223,443	985	6,667
1912 ...	1,460,625	1,209,321	251,304	1,048	8,138
1913 ...	1,616,686	1,433,972	182,714	1,220	9,048
1914 ...	1,781,063	1,520,185	260,878	1,396	9,195

(ii.) *Private Tramways.* An electric tramway runs from Rockdale to Brighton-le-Sands, a distance of one and a-quarter miles, with a gauge of 4 ft. 8½ in. This line was originally opened as a steam tramway in 1885, but was subsequently converted into electric. The total cost to the end of 1913 was £13,400. During that year the number of tram-miles run was 37,000. This tramway was taken over by the New South Wales Government in June, 1914. A private steam tramway passes through the township of Parramatta. Commencing at the park gates, it runs as far as the Duck River, a distance of 3¼ miles, where it connects with the Parramatta River steamers, conveying passengers and goods to and from Sydney. This line, the gauge of which is 4 ft. 8½ in., was opened for traffic in 1883. In 1913 the number of tram miles run was about 18,100, and the number of passengers conveyed about 114,000.

Particulars regarding private tramways used for special purposes are not available.

(iii.) *Sydney Harbour Ferries.* As the ferry services on the waters of Port Jackson are mainly subsidiary to the suburban railway and tramway systems, it has been thought advisable to include them here rather than under Shipping. Returns for the year 1913 were received from four companies, and shew that these companies had 71 boats in commission, which were licensed to carry a total of 45,975 passengers, or an average of 647 per boat and per trip. The total number of passengers carried during the year is stated as 34,593,000, an average of 94,780 per day. In addition to the ordinary passenger traffic there are two lines providing for vehicular traffic, which afford the only rapid means of transit between the city and the northern suburbs. The four companies employed during the year a total of 942 persons. The gross revenue during 1913 amounted to £318,179, and the expenditure to £230,467, thus giving

a net revenue of £87,712. The services are well managed, and the boats constructed during recent years—double-ended screwboats—are claimed to be superior in size and equipment to boats employed on similar service in any part of the world.

3. **Victoria.**—In Melbourne there is a number of tramway systems carried on under the control of various authorities, the most important being the cable system worked by the Melbourne Tramway and Omnibus Company. There are also three lines of electric tramways, one running from St. Kilda to Brighton, a distance of five and one-eighth miles, belonging to the Government, and under the control of the Railway Commissioners; one from Flemington Bridge to the Saltwater River and Keilor Road, a distance of seven and a-quarter miles, run by a private company; and one connecting the southern suburbs of Prahran, Malvern, Caulfield, St. Kilda, Hawthorn and Kew. This system has a track mileage of 40.4 miles and is controlled by a joint municipal trust. There is also a private cable tramway, two and a-quarter miles in length, between Clifton Hill and Preston. There are also two tramways worked by horses—one, seven miles in length, running from Sandringham to Cheltenham *via* Beaumaris, and privately owned, the other, one and a-half miles long, from Brunswick to Coburg, and owned by the Coburg municipality, while two similar services are worked by the Melbourne Tramway and Omnibus Company, viz., Richmond Bridge to Hawthorn, and the Zoological Gardens lines. It is intended to electrify the Brunswick-Coburg line at an early date. There is a short steam tramway, about one mile long, at Sorrento, and there are also systems of electric tramways at Ballarat, Bendigo, and Geelong, constructed and run by private companies. A number of tramways has been constructed for special purposes in various parts of the State under the provisions of the Tramway Act 1890.

(i.) *Melbourne Cable Tramways.* A short account of the formation of the Melbourne Tramway and Omnibus Company, and of the Tramway Trust, will be found in previous issues of this book. (See Year Book No. 7, page 652.) The company was required by the original Act, as amended in 1892, to complete the tramways by the end of the year 1893, and in return a thirty-two years' lease of the tramways was granted to it, dating from the 1st July, 1884—when the liability for interest on the loans commenced—and expiring on the 1st July, 1916. The company is required to find sufficient capital to build the rolling-stock and to equip the lines and engine-houses with all necessary working requisites. The company pays to the Trust annually the interest due upon the loans raised, and also a sufficient sum as a sinking or redemption fund, to repay by its accumulation the principal of the loans raised by the Trust, and at the expiration of the lease must hand back the lines in good working order to the Trust. The expenses of the Trust were paid out of the loan up to the end of the year 1903, but since that date have been paid by the company to an amount not exceeding £1000 per annum, the municipalities being liable for the remainder. The total amount the Trust was empowered to borrow was £1,650,000, which has been raised in London by means of debentures bearing interest at  $4\frac{1}{2}$  per cent. The premiums received amounted to £55,794, making a total of £1,705,794. This amount had been expended by the end of the year 1893, when further loan expenditure ceased. The first line—that to Richmond—was opened to traffic in November, 1885, and the work being rapidly pushed on, the others were opened at short intervals, and the whole system was completed in 1891. The complete system consists of forty-three and a half miles of double-track cable lines, using constantly over ninety miles of wire rope, and four and a half miles of double-track horse lines. The gauge of track is 4 feet  $8\frac{1}{2}$  inches.

(a) *Particulars of Working.* The subjoined statement shows the tram mileage, the number of passengers carried, and the revenue and expenditure for the years 1901-2 and 1910 to 1914:—

**MELBOURNE CABLE TRAMWAYS.—PARTICULARS OF WORKING, 1901-2 and  
1910 to 1914.**

Year ended the 30th June.	Tram Mileage.	Number of Passengers Carried.	Revenue.	Working Expenses.	Percentage of Working Expenses to Revenue.
	No.	No.	£	£	
1902 ... ..	9,226,883	47,261,572	474,835	269,554	56.7
1910 ... ..	10,010,975	68,695,853	626,697	304,518	48.6
1911 ... ..	10,636,440	76,295,825	684,327	320,784	46.8
1912 ... ..	11,313,212	84,926,712	760,792	343,919	45.2
1913 ... ..	11,839,473	89,359,248	795,091	386,603	48.6
1914 ... ..	12,056,510	91,438,777	823,567	400,202	48.5

(ii.) *Electric Tramways.* There are in Melbourne three electric tramway systems, namely (a) the St. Kilda-Brighton line, (b) the North Melbourne tramways, and (c) the Prahran-Malvern system.

(a) *The St. Kilda-Brighton Line.* Under the St. Kilda and Brighton Electric Street Railways Act 1904 the Board of Land and Works was authorised to construct a tramway from St. Kilda to Brighton. The amount of interest payable on the cost of the land acquired for the tramway was guaranteed by the municipalities of St. Kilda and Brighton for a period of twenty years, and authority was given by the Act to the municipalities to levy either a general or special rate not exceeding one shilling in the pound for the purpose of paying the guarantee. The profit, if any, during the first twenty years is to be set off in reduction of the guarantee. The line was opened for traffic in May, 1906, and the extension to Brighton Beach was opened in the following year. A proposal has been made to extend the line along the foreshore as far as Mordialloc. The capital cost to the 30th June, 1914, exclusive of rolling-stock, was £69,892, and of rolling-stock was £25,602, making a total of £95,494. The gauge of track is 5 ft. 3 in. The subjoined statement gives particulars of the working of this line for the financial years ended the 30th June, 1909 to 1914:—

**ST. KILDA-BRIGHTON ELECTRIC STREET TRAMWAY, 1909-14.**

Year ended 30th June.	Mileage Open (Route).	Capital Cost.	Car Mileage.	Passengers Carried.	Gross Revenue.	Working Expenses.	Interest.	Net Profit or Loss.*
		£			£	£	£	£
1909	5.13	58,054	338,214	1,265,492	10,941	9,075	2,038	— 172
1910	5.13	58,612	340,254	1,361,925	11,885	9,860	2,092	— 67
1911	5.13	59,007	346,849	1,410,907	12,852	9,819	2,107	+ 926
1912	5.13	60,590	367,306	1,674,918	15,012	13,283	2,078	— 349
1913	5.13	88,193	413,939	1,916,618	16,829	15,808	3,093	—2,072
1914	5.16	95,494	541,449	2,390,949	20,516	20,850	3,333	—3,667

\* Profit is indicated by +, loss by —.

The average fare paid per passenger was 2.05 pence in 1913-14 as against 2.09 pence in 1912-13. The gross revenue in 1913-14 was 9.09 pence per passenger car mile and £3976 per mile of track open.

(b) *The North Melbourne Tramways*, extending through the northern suburbs to the Saltwater River and to Keilor Road, were constructed by a private company, and were opened for traffic towards the end of the year 1906. The track mileage for year ended 30th September, 1914, was 11½ miles, the gauge of line being 4 feet 8½ inches. The number of passengers carried during the same period was 2,874,021. The current used during the year for traction purposes was 636,565 kilowatt hours, while the number of persons employed was 95.

(c) *The Prahran-Malvern Tramway.* This line has been constructed under the control of a trust, which consists of five members appointed from the councils of Prahran, Malvern, St. Kilda, and Caulfield. The municipalities of Hawthorn and Kew have now been included in the scheme and have equal representation on the trust. The total track mileage to 30th September, 1914, was 40½ miles, and the route mileage 22 miles, the total capital cost being £473,516. The gauge of the track is 4 ft. 8½ in. The horse tramway from Victoria Bridge to Kew has been taken over from the Melbourne Tramway and Omnibus Company, and the current is supplied by the Melbourne Electric Supply Company Limited at a price varying according to the consumption of current and the price of fuel. Any surplus revenue, after providing for operating expenses, interest, sinking fund and renewal reserve, is to be paid to the municipal councils interested in proportion to the car mileage run in their respective districts. The lines were opened for traffic on 31st May, 1910. During the year ended 30th September, 1914, the current used for traction purposes was 3,698,142 kilowatt hours, and the number of tram miles run was approximately 1,781,515, the number of passengers carried 16,253,768, the gross revenue £108,340, and the working expenses (including interest and renewals reserve) £106,044. The number of cars in use was 63, and the number of persons employed 350.

(d) *The Ballarat and Bendigo Electric Tramways* are under the control of a private company, and run along the main streets and to and from the outlying suburbs of the two cities. The total length of lines open for traffic is 22 miles, the gauge being 4 ft. 8½ in. During 1913, 5,613,445 passengers were carried, the gross revenue being £51,150, and the working expenses £37,351.

(e) *The Geelong Electric Tramways.* This line, which is privately owned, was opened for traffic in January, 1912, and up to the 31st August, 1914, the cost of construction and equipment was £46,312. The system has a length of 5½ miles of single track, the gauge being 4 ft. 8½ in. The car mileage was for the year ending on that date 235,342 miles, and the number of passengers carried 1,135,709. For the same period the revenue was £11,980, and the expenditure £9784.

(f) *Particulars of Working of all Electric Tramways.* The following table gives particulars of the working of all electric tramways in Victoria for each year from 1909 to 1914 inclusive:—

**VICTORIA.—PARTICULARS OF WORKING OF ELECTRIC TRAMWAYS, 1909-14.**

Year.	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Generated for Traction Purposes at Central Stations.	Tram Miles Run.	Number of Passengers Carried.	Gross Revenue.	Working Expenses.	Number of Cars in Use.	Number of Employees.
	Miles.	£	Kilowatt-hrs. (000 omitted.)	No. (000 omitted.)	No. (000 omitted.)	£	£	No.	No.
1909	34½	290,815	2,185	1,904	7,497	66,148	50,820	95	312
1910†	34½	275,458*	2,314	1,930	7,889	54,727*	40,087*	97	317
1911	43½	406,815†	2,998	2,376	12,198	84,545†	56,562†	117	408
1912	52	497,100†	3,504	2,703	15,343	106,478†	73,436†	119	501
1913	57	771,204†	4,569	3,210	20,305	140,566†	101,098†	167	625
1914	57	846,759†	6,617	4,166	23,318	193,306	144,308	183	730

\* Incomplete. † Exclusive of Prahran-Malvern Tramway, which was opened for traffic on 31st May, 1910. ‡ Exclusive of North Melbourne Tramway.

(iii.) *Private Tramways for Special Purposes.* There is in Victoria a number of tramways used for special purposes, chiefly in connection with the timber, mining, and milling industries. These lines have been constructed either under authority of the Department of Public Works, pursuant to Section 36 of the Tramway Act 1890, or under leases or licenses issued by the Department of Lands and Survey, pursuant to Sections 144 and 145 of the Land Act 1901. Particulars of these lines are too incomplete for publication.

4. **Queensland.**—In this State there is a system of electric tramways running through the streets of the city and suburbs of Brisbane and controlled by a private company which has its head office in London. The total length of the Brisbane system was thirty-four and one-half route miles at the end of the year 1914. There is also a number of tramways, having a total length of about 640 miles, run in connection with sugar mills. Particulars of Shire tramways have been given in the part of this section dealing with private railways (see p. 643).

(i.) *Brisbane Electric Tramways.* These tramways are run on the overhead trolley system, the voltage of the line current being 550. The total cost of construction and equipment to the end of the year 1909 was approximately £1,250,000, the gauge of line being 4 ft. 8½ in. The following table gives particulars of these tramways for the calendar years 1901 and 1909-13.

**QUEENSLAND.—BRISBANE ELECTRIC TRAMWAYS, PARTICULARS OF WORKING,  
1901 and 1909-13.**

Year.	Mileage Open for Traffic (Route).	Current Generated.	Tram Miles Run.	Number of Passengers Carried.	Gross Revenue.	Working Expenses.	No. of Cars in Use.	Number of Persons Employed
	Miles.	Kilowatt-hrs.	No.	No.	£	£	No.	No.
1901...	21	3,192,955	2,756,443	16,183,801	111,483	64,710	79	375
1909...	30½	5,099,663	3,321,803	29,732,338	192,371	*	*	614
1910...	30½	5,441,032	3,524,036	32,419,276	214,265	*	119	654
1911...	34½	*	3,671,963	36,443,222	243,344	*	128	736
1912...	34½	5,798,622	3,508,410	36,375,652	243,668	*	128	762
1913...	34½	7,013,962	3,979,443	44,690,950	300,195	*	149	803

\* Not available.

(ii.) *Rockhampton Municipal Tramways.* These tramways were opened for traffic in 1909, the motive power being steam. The length of track is 7½ miles, and the gauge 3 ft. 6 in. The capital cost to 31st December, 1914, was £41,730. During the year 1,335,407 passengers were carried, the revenue being £9763, and working expenses £7844.

(iii.) *Sugar-Mill Tramways.* There is a number of tramways in various parts of Queensland used in connection with the sugar-milling industry, chiefly for the purpose of hauling cane to the mills. Some of these lines are of a permanent nature, running through sugar-cane plantations, while others are portable lines running to various farms.

5. **South Australia.**—Up to the year 1906 there was a number of horse tramways in the principal streets of Adelaide and suburbs run by various private companies. Power to acquire part of these lines, with a view to their electrification, was given to the Adelaide Corporation by the Municipal Tramways Trust Act 1906. In accordance with the provisions of the Act, a Trust consisting of eight members, of whom two were nominated by the Governor, two elected by the City Corporation, and two each by the Suburban Corporations and the District Councils, was formed in 1907, and a length of forty-nine route miles of horse traction tramways was purchased from the private companies at a cost of £283,357. On the 9th March, 1909, the electric car system was inaugurated on the Kensington route. At the end of July, 1914, a length of 51½ route miles had been electrified and opened for traffic, the corresponding length of track opened being 92½ miles. The cost of construction and equipment on the 31st July, 1914, was £1,396,638. The following table gives particulars of the tramways for the year ended 31st July, 1914:—

**SOUTH AUSTRALIA.—ADELAIDE ELECTRIC TRAMWAYS.—PARTICULARS OF  
WORKING, 1913-14.**

Year.	Mileage Open for Traffic (Route)	Capital Cost.	Current Generated.	Tram Miles Run.	Number of Passengers Carried.	Gross Revenue.	Working Expenses.	No. of Cars in Use.	No. of Persons Em- ploy'd
1914	Miles. 51.9	£ 1,396,638	Kil'w'tt-hrs. 9,838,252	No. 5,325,659	No. 43,797,227	£ 328,810	£ 202,503	No. 170	No. 1,073

\* Inclusive of price of current, but exclusive of interest charges (£60,049).

There are also in South Australia nineteen and three-quarter miles of Government horse tramways in country districts, worked in connection with the railway system, and six and one-quarter miles of private tramways used for passenger service. The subjoined statement gives various particulars of these lines:—

**SOUTH AUSTRALIA.—PARTICULARS OF HORSE TRAMWAYS, 1913-14.**

Particulars.	Length.	Gauge.	Nature of Traffic.
<b>GOVERNMENT TRAMWAYS.</b>			
	Miles.	ft. in.	
Moonta, Moonta Bay, and Hamley Flat	5½	5 3	Passengers and goods.
Gawler ... ..	1½	5 3	" "
Victor Harbour and Breakwater	1	5 3	" "
Dry Creek and Magazine	1	2 0	Explosives.
Magazine and Broad Creek	1½	2 0	" "
Port Broughton and Mundoorra	10	3 6	Passengers and goods.
<b>PRIVATE TRAMWAYS.</b>			
Port Adelaide and Alberton	2½	5 3	Passengers.
Glenelg and Brighton	4	4 8½	" "

6. **Western Australia.**—In this State there are a number of horse tramways, amounting in all to a length of 26½ miles, which are the property of the Government. Of these the most important is the line between Roeburne and Cossack, constructed on a 2 ft. gauge and under the control of the Colonial Secretary's Department. The length of this line is 12½ miles. The remaining 14½ miles belonging to the Government are made up of ten short lengths, varying from two and a half chains to four and a quarter miles, worked in connection with the jetties at various ports for the purpose of providing the necessary communication between such jetties and the goods sheds or warehouses. Most of these short lines are leased at annual rentals, and are under the supervision of the Harbour Master. Their maintenance and improvement is in the hands of the Public Works Department. In addition to these Government lines there are electric tramway systems at Perth, Kalgoorlie and Boulder City, carried on by private companies, and at Fremantle and Leonora, under municipal control.

(i.) *Government Tramways.* Particulars as to the working of the Government horse-tramways or as to the rents received therefrom are not generally available. The returns of the Roeburne-Cossack line for the year ended 30th June, 1914, shew that the capital cost of the line to that date was £49,308, the gross revenue for the year being £2874, and the working expenses £2199.

(ii.) *Electric Tramways.* There are now five towns in Western Australia which enjoy the benefits of electric tramway systems, namely, Perth, Fremantle, Kalgoorlie, Boulder City, and Leonora.



(a) *The Perth Electric Tramways* were opened for traffic by a private company in 1899, and the system has since been extended to many of the outlying suburbs. This tramway system was taken over by the Government on 1st July, 1913, and is now running in conjunction with the Government railways. On the 30th June, 1914, there were 23½ route miles of line open, the total cost of construction and equipment to that date being £506,364. During the year 10,700,915 passengers were carried, the gross revenue being £116,774 and the working expenses £74,708. Sixty-three motors were in use, and the number of employees was 268. The gauge of line is 3 ft. 6 in.

(b) *The Kalgoorlie and Boulder City Tramways* are run by a private company, the first line being opened in 1902. At the beginning of 1904 legislative authority was given for the construction of lines in Boulder City and suburbs, and in November, 1904, the last section of the Boulder system was completed. At the end of the year 1913 the total mileage of the whole system—in Kalgoorlie and Boulder City—amounted to 14½ route or 20½ track miles, the total cost of construction and equipment being £449,238. During the year, 2,266,361 passengers were carried, the gross revenue being £34,510 and the working expenses £23,463. Twenty-five motors were in use, and the number of employees was 65. The gauge of this line is 3 ft. 6 in.

(c) *The Fremantle Tramways* were opened in November, 1905, under the control of the municipality. On the 31st August, 1914, there were 8½ miles of line open for traffic, the cost of construction and equipment at that date being £104,210. This line has a gauge of 3 ft. 6 in. During the year 4,456,622 passengers were carried, the gross revenue being £34,150 and the working expenses £27,029.

(d) *The Leonora-Gwalia Tramway*, three miles in length, formerly a steam tramway, was opened for traffic by electrification on 5th October, 1908. This tramway is under municipal control, and has a gauge of 3 ft. 6 in. The cost of construction is approximately £5500, and during the year ended 31st October, 1914, 49,348 passengers were carried. Revenue for the year amounted to £1343 and expenditure to £2295.

(e) *Particulars of Working of all Electric Tramways.* The subjoined table shews, so far as returns are available, particulars of the working of all electric tramway systems in the State for the years 1901 and 1909-13.

**WESTERN AUSTRALIA.—PARTICULARS OF ELECTRIC TRAMWAYS,  
1901 and 1909-13.**

Year.	Mileage Open for Traffic.*	Total Cost of Construc- tion and Equip- ment	Current Generated.	Tram Miles Run.	Number of Passengers Carried.	Gross Revenue.	Working Expenses.	No. of Cars in Use.	No. of Persons Em- ployed.
	Miles.	£	Kilowatt-hrs.	No.	No.	£	£	No.	No.
1901	16½	367,037	†	721,056	†	46,270	26,673	30	†
1909	50	1,018,548	3,952,386	2,304,616	13,579,603	144,320	98,236	101	366
1910	53	1,035,357	3,741,628	2,139,524	12,420,830	139,824	88,110	106	381
1911	53	1,039,421	4,395,044	2,360,341	14,399,558	158,657	93,003	104	359
1912	53	1,042,474	4,535,424	2,527,155	16,947,301	172,474	103,927	105	431
1913	49	1,065,312	4,902,247	2,703,093	17,473,246	186,757	127,049	119	449

\* For the years 1909 to 1913 inclusive, miles of route are given; for 1901 the figures represent miles of single track. † Not available. ‡ Exclusive of Leonora Tramway.

(iii.) *Perth Ferries.* As the Perth ferry services are mainly subsidiary to the suburban railway and tramway systems, they are referred to in this section rather than under *Shipping*. Of the eight boats in service, four are under the control of the Western Australian Government, the other four belonging to a private company. The number of passengers carried during the year 1913 was 924,000, and the revenue and expenditure for the same period were £8313 and £5805 respectively.

7. *Tasmania.*—(i.) *Tramways.* In Hobart there is a system of electric tramways, opened for traffic in 1893, amounting in all to a length of nine and a quarter miles. This was originally owned by a private company, but is now the property of the Hobart Municipal Council. Under the authority of the Launceston Tramway Act of 1906 the Launceston City Council entered into an agreement with a private company for the construction of a system of electric tramways in the city and suburbs of Launceston. The agreement provided that the company was to run the tramways for a period of twenty-five years, when the Council could purchase the lines and stock at cost price; the electric power required was to be supplied by the Council. This agreement, however, lapsed, and the Council has constructed the tramways, and is running them as a municipal undertaking. The system, which was opened on the 16th August, 1911, has a route mileage of about  $7\frac{1}{4}$  miles. The gauge of track in both these systems is 3 ft. 6 in.

The following table gives particulars of the working of the two systems for the years 1901 and 1909-13 :—

**TASMANIA.—PARTICULARS OF WORKING OF ELECTRIC TRAMWAYS,  
1901 and 1909-13.**

Year.	Mileage Open for Traffic (Route.)	Total Cost of Construction and Equipment.	Current Generated	Tram Miles Run.	Number of Passengers Carried.	Gross Revenue.	Working Expenses.	Number of Cars in Use.	Number of Persons Employed.
	Miles.	£	Kilowatt-hours	No.	No.	£	£	No.	No.
1901*	9	90,000	†	321,633	1,734,120	16,097	11,735	20	90
1909*	9	90,824	748,848	490,410	2,772,047	27,502	15,682	25	105
1910	9	91,788	746,377	518,024	3,074,782	29,490	16,820	25	108
1911	15	147,538	1,323,295	750,393	5,349,099	47,563	29,719	42	181
1912	16 $\frac{1}{4}$	162,993	1,405,799	820,570	5,990,938	53,536	34,090	45	161
1913	16 $\frac{3}{4}$	180,790	1,561,884	848,571	6,525,732	56,605	33,972	47	259

\* Hobart Tramways only.

† Not available.

(ii.) *Ferries.* The Hobart ferry service, being of a suburban character, is referred to here rather than under *Shipping*. The one company operating controls a fleet of seven boats, and during the year 1913 carried over 100,000 passengers.

8. *Electrical Traction in Commonwealth, 1913-14.*—The subjoined table gives particulars of electric tramways for each State and the Commonwealth. The returns for the Hobart tramways in Tasmania, for the Ballarat and Bendigo tramways in Victoria, for the Kalgoorlie tramways in Western Australia, and for the Brisbane tramways, are for the calendar year 1913; and for other tramways the returns are, generally, for the financial year 1913-14 :—

**ELECTRIC TRAMWAYS IN COMMONWEALTH, 1913-14.**

State.	Mileage (Route) open for Traffic.	Capital Cost.	Current Generated.	Tram Miles Run.	No. of Passengers Carried.	Gross Revenue.	Working Expenses.	No. of Cars, Motors, and Trail'rs	No. of Employees
	Miles.	£	Kilowatt-hours (,000 omitted).	No. (,000 omitted).	No. (,000 omitted).	£	£	No.	No.
N.S.W. ....	145 $\frac{3}{4}$	7,054,832	86,297	27,008	£290,512	1,783,620	1,522,489	1,396	9,203
Victoria ....	62	*841,071	6,617	4,166	28,268	193,306	144,306	183	730
Queensland ...	34 $\frac{1}{2}$	†	7,014	3,979	44,691	300,195	†	149	803
South Australia	51 $\frac{1}{2}$	1,396,638	9,838	5,326	43,797	328,810	202,503	170	1,073
West. Australia	48 $\frac{1}{2}$	1,065,312	4,902	2,703	17,473	186,757	127,049	119	449
Tasmania ...	16 $\frac{3}{4}$	180,790	1,562	849	6,526	56,605	33,972	47	259
Commonwealth	359 $\frac{1}{2}$	10,538,643	116,230	44,031	431,267	2,849,293	2,030,321	2,064	12,517

\* Exclusive of North Melbourne Tramway.  
of Brighton-le-Sands Tramway.

† Not available.

‡ Incomplete.

§ Exclusive

## SECTION XVIII.

## POSTS, TELEGRAPHS, AND TELEPHONES.

## § 1. Posts.

**1. The Commonwealth Postal Department.**—Under the provisions of section 51 of the Commonwealth Constitution Act the Commonwealth Parliament was empowered to make laws with respect to the control of the postal, telegraphic, and telephonic services in Australia, and by proclamation, made under section 69 of the same Act, the six separate State Post and Telegraph Departments were amalgamated and taken over by the Federal Executive on the 1st March, 1901. On the 1st December following, the Commonwealth Post and Telegraph Act 1901 came into operation, and the provisions of the various State Acts referring to the postal and telegraphic services thereby ceased to apply; it was, however, specially provided by the Act of 1901 that, until such provisions should be revoked by the Governor-General, all regulations in force, and all rates and charges levied under any State Act, should continue in force and be applied in the same manner as if such State Act were not affected by the Commonwealth Act. The administration of the Act of 1901 was placed in the hands of a Postmaster-General, a responsible Minister with Cabinet rank, and of a Secretary having chief control of the Department throughout the Commonwealth under the Postmaster-General, whilst a principal officer in each State was provided for under the style of Deputy Postmaster-General. The rates and charges levied in each State for the transmission of letters, telegrams, and postal articles at the date of Federation remained in force until the Post and Telegraph Rates Act came into operation on the 1st November, 1902. This Act secured uniformity throughout the Commonwealth in the rates charged for the conveyance of newspapers by post, and for the transmission of telegrams, but did not alter the charges made in the individual States for the transmission of letters, cards, parcels, and packets. Uniform postage rates now exist in all the States under the Postal Rates Act of 1910, which came into operation by proclamation on the 1st May, 1911. (See paragraph 6 hereof.)

In previous issues of the Year Book will be found a brief description of the postal services in the earlier period of Australian history. (See Year Book No. 5, page 754.)

**2. Development of Postal Services.**—In 1841 the number of post offices open in Australia was 102, situated mainly in New South Wales and Tasmania. At the end of ten years 101 post offices were open in New South Wales, 44 in Victoria, 72 in South Australia, and 51 in Tasmania. From the year 1851 onwards a remarkable increase in the number of post offices in Australia took place, until, in 1891, the number open on the mainland and Tasmania totalled 4463, of which 1384 were situated in New South Wales, 1729 in Victoria, 307 in Queensland, 629 in South Australia, 86 in Western Australia, and 328 in Tasmania.

On the 31st December, 1913, the postal business had increased to such an extent that 5853 post offices were open for business, of which number 2025 were situated in New South Wales, 1749 in Victoria, 614 in Queensland, 672 in South Australia, 398 in Western Australia, and 395 in Tasmania.

3. State, Interstate and Oversea Postages for whole Commonwealth.—In the following table the matter dealt with is divided into (i.) matter posted in the Commonwealth for delivery within the Commonwealth, (ii.) matter received from places outside the Commonwealth, (iii.) matter despatched to places outside the Commonwealth, and (iv.) total postal matter dealt with by the Commonwealth Postal Department in 1901 and from 1909 to 1913, but excluding interstate excess.

**STATE, INTERSTATE, AND OVERSEA POSTAGES FOR WHOLE COMMONWEALTH,  
1901 and 1909-13.**

Year.	Letters and Postcards.	Newspapers.	Packets.	Parcels.
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**POSTED FOR DELIVERY WITHIN THE COMMONWEALTH (,000 OMITTED).**

1901	...	210,205	92,383	36,395	1,253
1909	...	347,594	107,516	76,348	2,741
1910	...	363,893	118,674	76,991	2,956
1911	...	416,353	122,020	70,975	3,205
1912	...	431,996	122,373	60,439	3,583
1913	...	449,928	115,662	62,731	3,976

**OVERSEA RECEIVED (,000 OMITTED).**

1901	...	5,682	7,283	2,876	81
1909	...	14,092*	9,145	3,620	106
1910	...	15,729	10,042	3,852	119
1911	...	19,445	11,691	4,568	142
1912	...	24,266	13,565	5,275	196
1913	...	37,986	13,043	4,424	213

**OVERSEA DESPATCHED (,000 OMITTED).**

1901	...	4,945	3,055	1,319	35
1909	...	11,279	5,712	2,406	70
1910	...	13,039	6,003	3,076	79
1911	...	17,265	7,926	3,120	83
1912	...	24,146	9,364	3,357	89
1913	...	30,569	10,658	4,131	108

**TOTAL POSTAL MATTER DEALT WITH BY THE COMMONWEALTH POSTAL  
DEPARTMENT 1901 AND 1909-13, BUT EXCLUDING INTERSTATE EXCESS  
(,000 OMITTED).**

1901	...	220,853	102,727	40,161	1,369
1909	...	372,496	119,931	81,909	2,898
1910	...	392,351	132,415	83,599	3,155
1911	...	453,975	139,603	79,017	3,419
1912	...	479,677	138,170	70,609	3,764
1913	...	520,518	136,195	69,771	4,286

\* The increase is partly due to the fact that in New South Wales the method of counting was different in previous years.

4. **State, Interstate, and Oversea Postages for each State.**—The following table shews separately for each State the postage matter dealt with in 1913 under the same classification adopted in the preceding paragraph :—

**STATE, INTERSTATE, AND OVERSEA POSTAGES FOR EACH STATE, 1913.**

State.	Letters and Postcards.	Newspapers.	Packets.	Parcels.
POSTED FOR DELIVERY WITHIN COMMONWEALTH (,000 OMITTED).				
New South Wales ...	161,309	46,579	29,936	2,053
Victoria ...	150,186	29,529	14,821	722
Queensland ...	50,995	20,268	8,053	749
South Australia ...	38,888	6,987	4,463	222
Western Australia ...	28,930	5,063	3,813	183
Tasmania ...	19,620	7,236	1,645	47
Commonwealth...	449,928	115,662	62,731	3,976

**OVERSEA RECEIVED (,000 OMITTED).**

New South Wales ...	15,136	5,798	2,413	64
Victoria ...	14,006	3,327	810	52
Queensland ...	3,029	1,196	184	50
South Australia ...	2,434	824	159	17
Western Australia ...	2,543	1,454	581	24
Tasmania ...	838	444	277	6
Commonwealth...	37,986	13,043	4,424	213

**OVERSEA DESPATCHED (,000 OMITTED).**

New South Wales ...	14,721	6,054	2,498	56
Victoria ...	7,587	3,332	1,150	23
Queensland ...	2,234	460	187	10
South Australia ...	1,961	233	153	7
Western Australia ...	2,494	354	73	9
Tasmania ...	1,572	225	70	3
Commonwealth...	30,569	10,658	4,131	108

5. **Postal Facilities.**—The subjoined statement shews the number of post and receiving offices, the area in square miles and the number of inhabitants to each post office (including receiving offices) in each State and in the Commonwealth at the end of the year 1913. It will be observed that the most sparsely populated States have the greatest number of offices in comparison with their population, but in order to judge the relative extension of postal facilities the area of country to each office must also be taken into account. The returns given for South Australia in this and all succeeding tables include those for the Northern Territory. Similarly, the returns for the Federal Territory are included in those for New South Wales.

**SQUARE MILES OF TERRITORY AND NUMBER OF INHABITANTS TO EACH POST  
AND RECEIVING OFFICE, 1913.**

State.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
Number of post and receiving offices...	2,596	2,632	1,386	796	544	455	8,409
Number of square miles of territory to each post office in State ...	120	33	484	1,135	1,794	58	349
Number of inhabitants to each office...	697	529	490	549	577	431	564
Number of inhabitants per 100 sq. miles	583	1,585	97	48	32	747	161

\* Including Federal Territory.

† Including Northern Territory.

**6. Rates of Postage.**—Prior to the operation of the Postal Rates Act of 1910, the charges made for the postage of newspapers and parcels, and of interstate and foreign letters, were the same in all the States of the Commonwealth. The rates for the transmission of inland letters, however, were not uniform, the Post and Telegraph Act 1901 having specially provided that the rates and charges levied in any State should continue in force. The last-mentioned provision, however, was repealed by the Postal Rates Act of 1910, which came into force by proclamation on 1st May, 1911.

The following rates on letters, newspapers, and certain other postal articles posted in the Commonwealth for delivery therein came into force on the 1st May, 1911, the date of proclamation of the operation of the Postal Rates Act of 1910 :—

**POSTAL RATES OF CERTAIN ARTICLES POSTED IN THE COMMONWEALTH FOR  
DELIVERY THEREIN ON AND AFTER 1st MAY, 1911.**

Postal Articles.	Rates of Postage.
LETTERS ... ..	1d. per $\frac{1}{2}$ ounce.
LETTER-CARDS ... ..	{ Single, 1d. each. Reply, 1d. each half.
POST CARDS ... ..	{ Single, 1d. each. Reply, 1d. each half.
PRINTED PAPERS AS PRESCRIBED ... ..	$\frac{1}{2}$ d. per 2 ounces or part of 2 ounces.
BOOKS PRINTED OUTSIDE AUSTRALIA ... ..	$\frac{1}{2}$ d. per 4 ounces or part of 4 ounces.
BOOKS PRINTED IN AUSTRALIA ... ..	$\frac{1}{2}$ d. per 8 ounces or part of 8 ounces.
MAGAZINES.—That is to say—	
(a) magazines, reviews, serials, and other similar publications printed and published in Australia in numbers at intervals not exceeding three months ... ..	$\frac{1}{2}$ d. per 8 ounces or part of 8 ounces.
(b) magazines, reviews, serials, and other similar publications (including newspapers) printed and published outside Australia in numbers at intervals not exceeding three months ... ..	$\frac{1}{2}$ d. per 4 ounces or part of 4 ounces.
HANSARD.—That is, reports of Parliamentary Debates printed and published by the authority of the Commonwealth or of a State ... ..	$\frac{1}{2}$ d. per 12 ounces or part of 12 ounces.
COMMERCIAL PAPERS, PATTERNS, SAMPLES, AND MERCHANDISE AS PRESCRIBED ... ..	1d. per 2 ounces or part of 2 ounces.
NEWSPAPERS (without condition as to the number contained in each addressed wrapper) posted by registered newspaper proprietors, or by newsvendors, or returned by an agent or newsvendor to the publishing office ... ..	1d. per 20 ounces on the aggregate weight of newspapers so posted by any one person at any one time.
ALL OTHER NEWSPAPERS ... ..	For each newspaper, $\frac{1}{2}$ d. per 10 ounces or part of 10 ounces.

Whilst the bookkeeping sections of the Constitution Act (see Section XIX., § 1, hereinafter) were in force, each State had necessarily to use its own postage stamps, and stamps sold in one State were only allowed to be used on letters posted in that State. The necessity for this arrangement disappeared with the change in the keeping of the Commonwealth accounts, and since the 14th October, 1910, stamps of any State can be affixed to letters, irrespective of the State in which they are posted. Stamps of a uniform design are now used throughout the Commonwealth.

(i.) *Letters.* Under the Postal Rates Act of 1910, the charge (1d. for every  $\frac{1}{2}$ -oz.) for letters posted for delivery within the Commonwealth is now uniform throughout all States. Previous to the 1st May, 1911, various local and interstate rates were in operation within the States. The postage to the United Kingdom was reduced in January, 1891, from sixpence per half-ounce *via* the Red Sea, and fourpence *via* the Cape of Good Hope, to the uniform rate of twopence halfpenny. In 1891 the States were represented at the Congress of the Universal Postal Union held in Vienna, and on the 4th July a convention was signed on their behalf, by which they joined the Union from the 1st October of that year. On that date the rate of postage to all British possessions and to foreign countries included in the Union was reduced to twopence halfpenny. The present charge for postage of interstate letters and of letters to the United Kingdom and to British possessions is now uniformly one penny per half-ounce throughout the Commonwealth; the rate on letters to foreign countries (with the exception of New Hebrides, Banks and Torres Islands, where the rate is a penny per half-ounce) is twopence halfpenny for each half-ounce.

(ii.) *Newspapers.* The different rates charged for the carriage of newspapers in the various States, prior to Federation, continued after the control of the Postal Departments had been taken over by the Commonwealth, until the 1st November, 1902, when a uniform rate was imposed by the Post and Telegraph Rates Act 1902. At present the rates on all newspapers posted for delivery in the Commonwealth (without condition as to the number contained in each addressed wrapper posted) by registered newspaper proprietors, or by newsvendors, or returned by newsvendor or agent to the publishing office, is one penny per twenty ounces on the aggregate weight. On all other registered newspapers posted within the Commonwealth for delivery therein, the charge is a halfpenny per ten ounces for each newspaper. At the end of the year 1914 there were in all 1947 publications registered in the Commonwealth under section 29 of the Post and Telegraph Act 1901 for transmission by post as newspapers. The charge on postage of registered newspapers for transmission to the United Kingdom is one penny for each newspaper not exceeding eight ounces in weight by the ordinary route, and one penny for each newspaper not exceeding sixteen ounces in weight by the All-Sea route. To other parts of the world the rate is one penny up to four ounces, and a halfpenny for every additional two ounces. Newspapers which are not registered are charged at the same rates as other printed papers.

(iii.) *Parcels.* Parcels may not exceed 11 lbs. in weight, 3 ft. 6 in. in length, or 6 ft. in length and girth combined. The rate for the inland postage of parcels is sixpence up to 1 lb., and then threepence for every additional pound. For interstate transmission the rate is eightpence up to 1 lb., and then sixpence per lb., and for transmission to the United Kingdom the rate is one shilling up to 1 lb., and sixpence for every additional pound.

(iv.) *Packets.* The ordinary rate for the conveyance of packets is one penny for each two ounces. Packets must not as a rule exceed 2 ft. in length, 1 ft. in breadth or depth; or, if in a roll, 2 ft. 6 in. in length. Special rates are allowed for the conveyance of commercial papers, patterns, samples, etc.

**7. Registered Letters.**—Under section 38 of the Post and Telegraph Act 1901 provision is made for the registration of any letter, packet, or newspaper upon payment of the prescribed fee, and any person who sends a registered article by post may obtain

an acknowledgment of its due receipt by the person to whom it is addressed by paying the prescribed fee (see hereunder) in advance at the time of registration in addition to the registration fee.

(i.) *Registration Fees.* The fee payable upon registration of an article is threepence, and the fee payable in order to obtain an acknowledgment of the delivery of the registered article is twopence halfpenny in addition. Registered letters must, as a rule, be handed in at least half-an-hour before the closing of the mails.

(ii.) *Number of Registered Articles Posted.* The subjoined table shews the number of registered articles posted in each State during the year 1913, classified according to the places to which they were despatched for delivery:—

#### NUMBER OF REGISTERED ARTICLES POSTED DURING 1913.

(,000 OMITTED.)

State.	Posted in each State for Delivery within that State.	Posted in each State for Delivery in other States.	Posted in each State for Delivery in Places outside the C'wealth.	Total.
New South Wales ...	1,263	168	127	1,558
Victoria ...	854	125	100	1,079
Queensland ...	499	71	41	611
South Australia ...	219	38	29	286
Western Australia ...	319	31	45	395
Tasmania ...	137	26	8	171
Commonwealth ...	3,291	459	350	4,100

**8. Ocean Mail Services.**—Regular steamship communication between Australia and Europe was established in 1852 by a service run by the Peninsular and Oriental Company between Singapore and Sydney, *via* King George's Sound, Adelaide, and Melbourne. This service was inaugurated in September, 1852, by the arrival at Melbourne of the *Chusan*, and was continued until 1854, when it was stopped in consequence of the Crimean War; in 1856 a line of steamers was again started, and the service was carried on by the Peninsular and Oriental Company, in conjunction with the Royal Mail Company, for some years.

(i.) *Mail Route via San Francisco.* The service *via* the Red Sea did not at that time give much satisfaction to the public, and was looked upon with a certain amount of disfavour in New South Wales and New Zealand. The effect was to stimulate the colonists to agitate for an improved service, and proposals were made for the establishment of a line of mail packets from Sydney to Panama *via* Wellington, by rail across the isthmus, and thence to Great Britain. The result was that in 1866 the line was started, and continued in operation until the end of 1868, when it was terminated through the failure of the company by which it had been carried out. The completion of the railway across the American continent in 1869, with its western terminus at San Francisco, opened up a new and agreeable route, and in that year a monthly service was inaugurated by the Union Steamship Company, in conjunction with the Pacific Steamship Company, from Sydney to San Francisco *via* Auckland. This service was subsidised to the extent of £37,000 per annum, of which New South Wales paid £25,750 and New Zealand £11,250, and was continued until November, 1890, when a new contract was entered into and the amount of the subsidy largely reduced, the amount of the contribution being based upon the weight of mail matter carried. Various extensions of the contract were made, but the last agreement made between the New Zealand Government and the Oceanic Steamship Company of San Francisco expired on the 10th



November, 1906, and has not since been renewed. From that date mails were carried at Postal Union rates until the 12th April, 1907, when the service was discontinued. At present mails to and from Europe *via* San Francisco are carried by the Union Steamship Company, which receives a subsidy from the New Zealand Government, and by the Oceanic Company. Each of these companies carries Australian mails at poundage rates, with a four-weekly service.

(ii.) *Route via Suez Canal.* The establishment of a mail route *via* America had the effect of stimulating the steamship owners who were engaged in the service *via* Suez, and from that time there was a marked improvement in the steamers, as well as in the punctuality and speed with which the mails were delivered. The Peninsular and Oriental Company, and, at a little later date, the Orient-Pacific Company, have carried mails to and from Australia almost since the inception of ocean steam services. Postal matter was carried by contract until 1905, when the contract between the Peninsular and Oriental Company and the Commonwealth Government ceased, although that between the company and the Imperial Post Office is still in force. Mails are still carried from Australia by the Peninsular and Oriental Company, but are carried at Postal Union rates and not under contract with the Commonwealth. On the 25th April, 1905, the Orient-Pacific Company concluded a new contract with the Commonwealth Government for a fortnightly service between England and Australia. The subsidy was at the rate of £124,880 per annum. This contract has now been replaced by the new mail contract referred to in the next sub-section hereof. Fremantle has, since the year 1900, been the first and last port of call for European mail steamers, in lieu of Albany, the original port of call. The Peninsular and Oriental and Orient-Pacific Companies' steamers sail alternately every week, both from London and Australia, conveying the outward and homeward mails. This service has to some extent been disorganised since the outbreak of war in August, 1914.

(a) *The New Mail Contract.* On the 1st January, 1906, tenders were invited by the Commonwealth Postmaster-General for a fortnightly mail service between Adelaide and Brindisi, to alternate with a similar service to be provided by the Imperial Government, and a contract was entered into with Sir James Laing and Company Limited, providing for a service at an annual subsidy of £125,000. This contract, however, fell through, and new tenders were accordingly called for. On the 15th November, 1907, an agreement was entered into with the Orient Steam Navigation Company Limited providing for a fortnightly service for a period of ten years, commencing in February, 1910. The mail service was to be carried out by existing vessels belonging to the company and by five new mail ships, which have been specially built, and which are each over 12,000 tons gross registered tonnage and of not less than seventeen knots speed. An additional new vessel was to be added within eighteen months, and another within six years, from February, 1910, and the first of these—the *Orama*—entered into running during November, 1911. The vessels are to call at Fremantle, Adelaide, Melbourne, Sydney, and Brisbane, and at least six of them at Hobart during the months of February to May inclusive. The voyage from Taranto to Adelaide is to be completed within twenty-six days fourteen hours, and from Adelaide to Taranto within twenty-seven days two hours, but the latter period may be exceeded by thirty-six hours during the prevalence of the south-west monsoon. The amount of the subsidy is fixed at £170,000 per annum; but, if the earnings of the company be decreased, or the expenses increased, by reason of any Commonwealth shipping legislation passed subsequently to the date of the agreement, to the extent of not less than £5000 a year, the contractors have the right to terminate the agreement unless the subsidy is increased. Insulated space of not less than 2000 tons of forty cubic feet is to be provided in each of the new vessels, and the freights are not to exceed one halfpenny per lb. for butter and sixty shillings per ton for fruit. White labour only is to be employed, and no discrimination is to be made between unionists and non-unionists. If before or during the sixth year of the period of the contract an accelerated service is provided by any competing line of mail ships, the contractors must, if so required by the Postmaster-General, provide a service equal to the

competing service, at an increased subsidy, to be determined by agreement or arbitration. The Commonwealth flag must be flown on the mail ships, which the Commonwealth has the right to purchase at a valuation at any time. Within six months of the Postmaster-General establishing a permanent wireless telegraphy station at Rottnest Island, or at any point on the coast between Fremantle and Brisbane, the company must fit the mail ships with wireless telegraphy installations. The new service was inaugurated on the 11th February, 1910.

(b) *French and German Subsidised Mail Services.* Vessels belonging to the Messageries Maritimes and the Norddeutscher Lloyd, which are under contract respectively with the French and German Governments to convey mails monthly between Marseilles and New Caledonia and between Bremen and Sydney, *via* Genoa, also carry mails for the Commonwealth Government from Australia to Europe at Postal Union rates. The Messageries Maritimes service commenced in November, 1882; the amount of the annual subsidy granted by the French Government is £120,000. The first contract for the establishment and maintenance of a mail steamship line between Germany and Australia was made between the Imperial German Government and the Norddeutscher Lloyd in 1885, and the service was inaugurated in July, 1886, with the steamer *Salier*. The service afforded by German vessels was, however, interrupted by the outbreak of hostilities in Europe in August last.

(iii.) *Route via Vancouver and Canadian-Pacific Railway.* During the year 1893 a direct monthly service was started between Sydney and Vancouver, in British Columbia, *via* Wellington, in New Zealand, and thence to Liverpool *via* the Canadian-Pacific Railway, the New South Wales Government paying an annual subsidy of £10,000 for the maintenance of this service for a period of three years. In 1896 the agreement was renewed for a further period of three years, and in 1899, was again renewed for four years, subject to the same terms and conditions, except that the route was *via* Brisbane instead of Wellington. The contract was further extended, at an increased subsidy, from time to time until the 31st July, 1911, at a subsidy of £26,626 per annum. This subsidised service has now been discontinued. Mails for Canada are forwarded *via* New Zealand through Sydney at poundage rates.

(iv.) *Other Ocean Mail Services.* In addition to the mails *via* the Suez Canal, a number of other services, both regular and irregular, are maintained between the Commonwealth and various parts of the world, and also between the principal ports in the various States and a number of small ports in the less settled parts of the Commonwealth which are inaccessible by rail. The following statement gives a summary, in so far as returns are available, of all mail services maintained between the Commonwealth and other countries and between ports in the Commonwealth. The amounts of subsidies specified are the amounts payable per annum unless otherwise stated:—

**SUMMARY OF MAIL SERVICES, COMMONWEALTH OF AUSTRALIA, AT BEGINNING OF YEAR 1915.**

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
1. <i>To and from Europe, via Suez—</i>			
(a) Peninsular and Oriental* ...	Fortnightly	Adelaide, Fremantle and London, <i>via</i> Brindisi and Marseilles	Subsidised by Imperial Govt. Mails from Aust. at Postal Union rates.
(b) Orient-Pacific* ...	"	Adelaide, Fremantle & London, <i>via</i> Taranto	Subsidised. Date of agreement, 15th Nov., 1907. Term, from Feb., 1910. Amt. of subsidy £170,000.
(c) Messageries Maritimes ...	Every four weeks	New Caledonia and Marseilles, <i>via</i> Fremantle and Adelaide	Subsidised by French Govt. Mails from Aust. at Postal Union rates.

\* Mails carried also to India *via* Colombo.

## SUMMARY OF MAIL SERVICES.—(Continued.)

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
2. <i>To and from Europe, via Vancouver</i> — Union Steamship Co. ...	Every four weeks	Sydney and Vancouver, B.C., via Auckland, Fiji, Honolulu, and once every eight weeks to Fanning Island	Poundage rates.
3. <i>To and from Europe, via San Francisco</i> — (a) Union Steamship Company ...	"	Sydney, Wellington and San Francisco	Subsidised by New Zealand Govt. Mails from Aust. at Poundage rates
(b) Oceanic Steamship Co. ...	"	Sydney, Apia, Honolulu, and San Francisco	Poundage rates.
4. <i>To and from New Zealand</i> — (a) Conjointly by Union S.S. Co. and Huddart, Parker Ltd.	Weekly	Sydney, Melbourne, Hobart, Bluff, Dunedin, Christchurch and Wellington	Poundage rates.
(b) Conjointly by Shaw, Savill and Albion Co. & N.Z. Shipping Co.	Fortnightly	Hobart, Bluff, Dunedin, and Wellington	" "
(c) Conjointly by Union S.S. Co. and Huddart, Parker Ltd.	Bi-weekly	Sydney and Wellington	" "
(d) Other Steamers ...	Irregularly, when convenient	Sydney and Auckland, Auckland, and Lyttleton	" "
5. <i>To and from ports in N.S. Wales</i> — (i.) NORTHERN PORTS— (a) North Coast S.N. Co. ...	Weekly	Sydney, Manning River, Macleay, Nambucca, Bellinger Rivers.	" "
(b) Cain's Co-Operative S.S. Co....	Twice weekly	Coffs Harbour, Clarence River, Byron Bay, and Richmond River	" "
(ii.) SOUTH COAST PORTS— Illawarra and S. Coast S.N. Co....	Six times a month Twice weekly	Sydney & Port Macquarie Sydney, Eden, Bega and Tathra	" "
6. <i>To and from Northern Ports of Qld.</i> — (a) Australian Steamships Limited	Weekly	Gladstone, Mackay, Bowen, Townsville, Cairns, Cardwell, Mourilyan, Innisfail, Pt. Douglas & Cooktown	Subsidised by agreement dated 29th Nov., 1914, for three years. Amount of subsidy, £17,950.
(b) Australian United Steam Navigation Co. Ltd.	Once every three weeks	Brisbane, Normanton & Burketown, via Townsville, Cooktown, and Thursday Island	Subsidised by agreement dated 16th Jan., 1915, for five years. Amount of subsidy, £6500. Subsidies under 6 (a) and (b) paid by Queensland.
(c) Other steamers ...	Irregularly	Various...	Poundage rates.
7. <i>To and from Ports in S. Australia</i> — (a) Coast Steamship Co. ...	Weekly	Pt. Adelaide & Kingscote	Subsidised to 31st December, 1916. Amount of subsidy, (a) £650; (b) £250; (c) £350; (d) £300.
(b) " " ...	Twice a wk.	" Edithburgh	
(c) " " ...	"	" Stansbury	
(d) " " ...	Weekly	" Pt. Vincent	
(e) Adelaide Steamship Co. ...	"	" Pt. Lincoln	Subsidised for three years from 1st January, 1914. Amount of subsidy, £2100.
(f) Adelaide Steam Tug Co. ...	As required	Port Pirie & Hummocks Hill	Subsidised without agreement. Amount of subsidy, £36. Subsidies under 7 (a), (b), (c), (d), (e), (f), paid by South Australia.
8. <i>Western Australia</i> — (i) INTERSTATE— (a) By P. & O. and Orient Lines	Weekly	Fremantle and Adelaide	P. and O. at Postal Union rates. Orient line subsidised. See above 1 (a) and (b).
(b) Adelaide Steamship, the Australian United S. Navigation, Huddart Parker, Howard Smith, Melb. S.S. Co., and McIlwraith, McEacharn lines	Conjointly, six times monthly	Fremantle, Albany, and Adelaide	Poundage rates.

† Carries also mails to Canada and the United States.

## SUMMARY OF MAIL SERVICES.—(Continued.)

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
<i>Western Australia—continued—</i>			
(c) Messageries Maritimes ...	Every four weeks	Fremantle and Adelaide	Postal Union rates.
(d) White Star line ...	Monthly	Albany and Adelaide	Poundage rates.
(ii.) TO & FROM PORTS ON N.W. COAST			
(a) State Steamship Service ...	"	Fremantle and Derby	Subsidised by agreement dated 28th February, 1913, for three years. Amount of subsidy, £5500. Subsidy paid by Western Australia.
(b) " " ...	Once each sixty days	Fremantle & Darwin	Poundage rates.
(c) West Aust. & Ocean S. Co.'s	Fortnightly	Fremantle and Broome	" "
(d) Ausn. United S. Navigation and Adelaide S. Co.'s	Irregularly during the cattle season	Fremantle, Derby, and Wyndham	" "
(iii.) TO AND FROM PORTS ON S. COAST			
(a) State Steamship Service ...	Weekly	Albany and Esperance	Subsidised by agreement dated 26th August, 1912, for three years. Amount of subsidy, £3250.
(b) " " ...	Fortnightly	Albany & Israelite Bay	
(c) " " ...	Quarterly	Albany and Eucla	
9. <i>Tasmania—</i>			
(a) Union S.S. Co. and Huddart, Parker Proprietary	Three times a week	Melb'rne & Launceston	Subsidised by agreement dated 27th October, 1913, for five years. Amount of subsidy, £15,000, provided new steamer similar to t.s. <i>Loongana</i> is run on Launceston-Melbourne service. £13,000 only to be paid prior to running of new steamer.
(b) Do. do. do. ...	Twice a wk.	" Burnie	Poundage rates.
(c) Do. do. do. ...	Weekly	Sydney, Hobart, and Wellington	" "
(d) Union Steamship Co. ...	Fortnightly	Sydney, Eden, Launceston, and Devonport	" "
(e) New Zealand mail services, see previous page ...	Twice a wk.	Sydney, Melb'rne, Hobart, Bluff, Dunedin, Christchurch, Wellington and Auckland	" "
(f) To and from ports in Western districts	Weekly	Hobart and Strahan	" "
(g) Ellerker and Co. ...	"	Melbourne, Burnie, etc.	" "
(h) Huon Channel and Peninsula Steamship Co. Ltd.	Twice a wk.	Hobart and Tasman Peninsula Ports	Subsidised by agreement dated 1st January, 1913, for three years. Amount of subsidy £255 per annum.
(i) Holyman and Sons Ltd. ...	"	Hobart & Maria Island	Subsidised by agreement dated 1st January, 1913, for three years. Amount of subsidy £25 per annum.
(j) " " ...	Thrice weekly	Launceston and Furneaux group of Islands	Subsidised by agreement dated 1st January, 1914, for two years. Amount of subsidy £550 per annum, paid equally by the Tasmanian and Commonwealth Governments.
(k) Stephenson & Gunn ...	"	Launceston and King Island	Subsidised by agreement dated 1st January, 1914, for two years. Amount of subsidy £300 per annum.
10. <i>To and from Northern Territory—</i>			
(a) The Eastern and Ausn., and the China Navigation Co. ...	Irregularly	To and from Adelaide, Melb'rne, and Sydney, via North Queensland ports, extending to China and Japan	Poundage rates.
(b) Burns, Philp and Co. ...	Monthly		
(c) Royal Dutch Packet S.N. Co. ...	Every two months	Melbourne to Darwin, via North Queensland ports en route to Java	Poundage rates
(d) State Steamship Service of Western Australia	Every two months	Fremantle and Darwin	Subsidised by Western Australian Government.

## SUMMARY OF MAIL SERVICES.—(Continued.)

Description of Service.	Frequency of Service.	Ports between which Service is maintained	Particulars regarding Subsidies.
<b>11. To Eastern Ports—</b>			
(a) Burns, Philp & Co. ...	Monthly	Sydney, Sourabaya, Samarang, Batavia, and Singapore	Subsidised by N.S.W. Govt. Mails at poundage rates.
(b) China Navigation, Eastern & Ausn., and Burns, Philp Co.'s	About three times a month	Sydney, to Hong Kong, Manila, etc., via North Queensland ports	Poundage rates.
(c) Nippon Yusen Kaisha ...	Monthly	Sydney to Manila, China, and Japan, via N. Queensland ports	Postal Union rates.
(d) Royal Dutch Packet S. N. Co.	Monthly	Melbourne to Java, via Sydney and Queensland ports	Poundage rates.
(e) Various other steamers ...	About monthly	Sydney or Newcastle and ports in Borneo, Java, Sumatra, and Malay Peninsula	" "
(f) W.A.S.N. Co. & Ocean S.S. Co.	Fortnightly	W.A. Ports, Java, and Singapore	" "
<b>12. South Africa—</b>			
White Star, P. & O. Branch Service, and other Companies	Irregularly	Various ...	" "
<b>13. North America—</b>			
(a) Various steamers ...	"	Sydney or Newcastle to San Francisco	Poundage rates.
(b) Various steamers ...	"	Sydney to Guaymas (Mexico)	" "
(c) Union S.S. Co. ...	13 voyages yearly	Syd., Wellington, Tahiti and San Francisco	" "
(d) " " ...	Every four weeks	Sydney, Auckland, Fiji and Vancouver	" "
<b>14. South America—</b>			
Various steamers ...	About weekly	Sydney or Newcastle via N. Zealand to ports in Chile, Brazil, Peru, Uruguay, and Argentine	Poundage rates.
<b>15. Pacific Islands—</b>			
(a) Burns, Philp and Co. ...	Monthly	Sydney to Lord Howe & Norfolk Islands, N. Hebrides	Subsidised by Commonwealth at £19,850 per annum.
(b) " " ...	Every two months	Sydney to Gilbert and Marshall Islands	
(c) " " ...	Every six weeks	Papua	
(d) " " ...	"	Solomon Islands	
(e) Royal Dutch Packet S. N. Co.	Monthly	Melbourne to Papua via Sydney and Queensland ports	Poundage rates.
<b>16. Noumea—</b>			
(a) Messageries Maritimes ...	Fortnightly	Sydney and Noumea and to Vila (New Hebrides) once a month	Postal Union rates.
(b) Other steamers ...	About fortnightly	Sydney and Noumea	Poundage rates.
<b>17. Fiji—</b>			
(a) Union S.S. Co. ...	Monthly	Sydney and Suva	" "
(b) " " ...	"	Sydney, Auckland, Suva, Tonga, and Samoa	" "
<b>18. Fiji and Noumea—</b>			
Burns, Philp and Co. ...	"	Sydney and Suva	" "
<b>19. Ocean and Pleasant Islands—</b>			
Various steamships ...	"	Sydney, Ocean and Pleasant Islands	" "

9. **Amount of Mail Subsidies Paid.**—The following table shews the amounts of subsidies for ocean and coastal mail services as existing at the beginning of the year 1915, which are paid by the Commonwealth Postal Department :—

**MAIL SUBSIDIES.—OCEAN AND COASTAL SUBSIDIES AT THE BEGINNING OF THE YEAR 1915.**

Service... ..	Orient Pacific.	Queensl'd Ports.	South Australian Ports.	Western Australian Ports.	Tasmanian Ports.
Annual Subsidy ... ..	£ 170,000	£ 24,450	£ 3,686	£ 8,750	£ 13,855

During the year 1913 the amount paid by the Commonwealth for conveyance of mails at poundage rates by non-contract vessels was £33,537; by road services, £388,523; and by railway services, £356,109.

10. **Average and Fastest Time of Mails to and from London.**—Great progress has been made in regard to the means of postal communication with the United Kingdom and the continents of Europe and America. In 1857 there was an unsatisfactory ocean mail service, which nominally brought monthly mails, with news nearly sixty days old; at the present time, though but fifty years have elapsed, there are four lines of modern ocean steamships, which bring the mails in about twenty-nine days to Adelaide, in addition to services by way of New Zealand, *via* San Francisco and Vancouver. After leaving Fremantle, where the Western Australian mails are landed, the outward mail steamers *via* the Suez Canal all call at Adelaide, where the remaining mails are landed and conveyed to their ultimate destination by rail. The subjoined table shews the average and the fastest times occupied in the conveyance of mails from London to Adelaide and *vice versa* during the year 1913 :—

**AVERAGE AND FASTEST TIME OCCUPIED IN CONVEYANCE OF MAILS VIA SUEZ CANAL BETWEEN LONDON AND ADELAIDE, AND VICE VERSA, DURING 1913.**

Service.	London to Adelaide.				Adelaide to London.			
	Average Time.		Fastest Time.		Average Time.		Fastest Time.	
	Days.	Hours.	Days.	Hours.	Days.	Hours.	Days.	Hours.
Orient Pacific S. N. Co., <i>via</i> Naples ... ..	28	13	28	11	29	16	28	4
Peninsular and Oriental S.N. Co., <i>via</i> Brindisi ... ..	28	14	28	9	29	9	28	20

The journey by rail from Adelaide, where the mails for the eastern States are landed, to Melbourne takes 17½ hours; from Adelaide to Sydney, 42 hours, including a stop of about seven hours at Melbourne; while the through journey from Adelaide to Brisbane takes just over three days. The journey from Melbourne to Hobart occupies about 29 hours, *via* Launceston, and about 32 hours direct.

The average time occupied in the conveyance of mails from London to Sydney *via* Vancouver is a little over 37 days, and from Sydney to London by the same route nearly 35. A table shewing the average and fastest times of this service was given in previous issues (see Year Book No. 5, p. 766), but the discontinuance of the contract with the company operating between Australia and Vancouver renders the table no longer desirable.

**11. Money Orders and Postal Notes.**—The issue of money orders and postal notes in the Commonwealth is regulated by sections 74 to 79 of the Post and Telegraph Act 1901. A money order, which may be issued for payment either within the Commonwealth or abroad, may not be granted for a larger sum than £20, nor a postal note, which is payable only within the Commonwealth, for a larger sum than twenty shillings. Money orders are sent direct from the Commonwealth to the United Kingdom, and to most of the British colonies and possessions; to the German Empire and German colonies; to Italy; and to the United States of America. Money orders, payable in Japan and China, are sent *via* Hong Kong; orders payable in all other countries are sent through the General Post Office in London, where new orders are issued and forwarded to the addresses of the payees, less threepence for every £5, or part thereof. In order that the full amount of the original order may be forwarded to the payee, this extra commission must be paid by the remitter. Money order conventions with the following countries are under consideration:—France, Japan, Philippine Islands, Hungary, British Solomon Islands Protectorate, and Gilbert and Ellice Islands Protectorates.

(i.) *Value of Orders Issued and Paid and of Notes Sold.*—The following table shews the total value of money orders issued and paid, and of postal notes sold in each State and in the Commonwealth during the year 1913, together with the total amount of commission on money orders and poundage on postal notes received by the Postal Department:—

**VALUE OF MONEY ORDERS ISSUED AND PAID AND OF POSTAL NOTES SOLD, TOGETHER WITH THE TOTAL AMOUNTS OF COMMISSION AND POUNDAGE RECEIVED IN EACH STATE DURING 1913.**

State.	Value of Money Orders Issued.	Value of Money Orders Paid.	Net Money Order Commission Received.	Value of Postal Notes Sold.	Poundage Received on Postal Notes
	£	£	£	£	£
New South Wales ...	3,765,207	3,582,659	26,864	1,438,884	27,383
Victoria ...	1,673,878	1,922,665	11,084	1,058,018	20,721
Queensland ...	1,223,204	984,711	10,606	379,933	7,406
South Australia ...	543,872	481,047	4,528	242,329	4,861
Western Australia ...	1,180,558	862,659	8,914	298,650	5,313
Tasmania ...	363,328	299,508	2,881	132,967	2,571
Commonwealth ...	8,750,047	8,133,249	64,877	3,550,781	68,255

(ii.) *Rates of Commission on Money Orders.* The rates of commission chargeable on the issue of money orders are as follows:—

**RATES OF COMMISSION, MONEY ORDERS.**

If Payable in—	For sums—								
	Not exceeding £2.	Exceeding £2, but not exceeding £5.	Exceeding £5, but not exceeding £7.	Exceeding £7, but not exceeding £10.	Exceeding £10, but not exceeding £12.	Exceeding £12, but not exceeding £15.	Exceeding £15, but not exceeding £17.	Exceeding £17, but not exceeding £20.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
The Commonwealth...	0 6	0 6	1 0	1 0	1 6	1 6	2 0	2 0	
New Zealand and Fiji ...	0 6	1 0	1 6	2 0	2 6	3 0	3 6	4 0	
Papua ...	0 9	0 9	1 6	1 6	2 3	2 3	3 0	3 0	
U. Kingdom & other countries	Sixpence for any amount up to £2 and 3d. for each additional £1 or fraction thereof.								

Remittances may also be made by telegraph to and from money order offices in the Commonwealth which are also telegraph or telephone offices, and to New Zealand.

The charge for a telegraph money order is the cost of the telegram of advice in addition to the ordinary commission. The remitter must also send a telegram to the payee advising the transmission of the money, which telegram must be produced by the payee when applying for payment.

(iii.) *Rates of Pounds on Postal Notes.* The values of the notes issued have been so arranged that any sum of shillings and sixpences up to £1 can be remitted by not more than two of these notes. Broken amounts not exceeding fivepence (but not fractions of a penny) may be added by affixing postage stamps. The poundage or commission charged on notes of different denominations is as follows:—

**POUNDAGE RATES, POSTAL NOTES.**

Denomination of Note ...	6d. to 1s. 6d.	2s. to 4s. 6d.	5s.	7s. 6d.	10s. to 20s.
Poundage charged ...	$\frac{1}{2}$ d.	1d.	1 $\frac{1}{2}$ d.	2d.	3d.

**12. Number and Value of Money Orders and Postal Notes Issued and Paid.**—The following table shows the total number and face value of money orders and postal notes issued and paid in the Commonwealth during 1901 and from 1909 to 1913:—

**NUMBER AND VALUE OF MONEY ORDERS AND POSTAL NOTES ISSUED AND PAID  
1901 and 1909-13.**

Year.	Money Orders.				Postal Notes.			
	Issued.		Paid.		Issued.		Paid.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
	No. (,000).	£ (,000).	No. (,000).	£ (,000).	No. (,000).	£ (,000).	No. (,000).	£ (,000).
1901 ...	1,318	4,193	1,339	4,081	3,515	1,292	3,522	1,293
1909 ...	1,460	6,093	1,425	6,041	6,872	2,598	6,867	2,595
1910 ...	1,500	6,368	1,424	6,254	7,447	2,796	7,446	2,796
1911 ...	1,583	6,584	1,448	6,455	8,042	3,017	8,042	3,017
1912 ...	1,822	7,417	1,557	6,886	8,608	3,259	8,533	3,235
1913 ...	2,091	8,750	1,814	8,133	9,425	3,551	9,341	3,527

**13. Classification of Money Orders Issued and Paid.**—The following table shows the number and value of money orders issued in each State during the year 1913 and classified according to the country where payable:—

**MONEY ORDERS ISSUED IN EACH STATE, CLASSIFIED ACCORDING TO COUNTRY  
WHERE PAYABLE, 1913.**

State in which Issued.	Where Payable.				Total.
	In the Commonwealth.	In New Zealand.	In the United K'dom.	In Other Countries.	
NUMBER.					
New South Wales	703,462	13,786	151,065	15,677	883,990
Victoria ...	280,891	6,962	78,955	10,153	376,961
Queensland ...	255,719	2,292	50,477	8,339	316,827
South Australia ...	105,093	1,365	33,563	6,107	146,128
Western Australia	213,429	1,347	48,372	6,414	269,562
Tasmania ...	84,584	2,191	9,003	1,428	97,206
Commonwealth	1,643,178	27,943	371,435	48,118	2,090,674



## MONEY ORDERS ISSUED IN EACH STATE, Etc.—(Continued).

State in which Issued.	Where Payable.				Total.
	In the Com- monwealth.	In New Zealand.	In the United Kingdom.	In Other Countries.	
VALUE.					
	£	£	£	£	£
New South Wales	3,321,167	42,547	338,660	62,832	3,765,206
Victoria ...	1,470,688	19,916	149,978	33,296	1,673,878
Queensland ...	1,051,971	8,166	117,351	45,716	1,223,204
South Australia ...	450,102	4,639	66,305	22,826	543,872
Western Australia	1,001,443	5,380	115,756	57,979	1,180,558
Tasmania ...	331,255	8,284	20,552	3,237	363,328
Commonwealth	7,626,626	88,932	808,602	225,886	8,750,046

The following table shows the number and value of money orders paid in each State during the year 1913, and classified according to the country where issued :—

## MONEY ORDERS PAID IN EACH STATE, CLASSIFIED ACCORDING TO THE COUNTRY OF ISSUE, 1913.

State in which paid.	Where Issued.				Total.
	In the Com- monwealth.	In New Zealand.	In the United K'dom.	In Other Countries.	
NUMBER.					
New South Wales	713,594	34,495	24,178	13,717	785,984
Victoria ...	360,537	23,211	16,980	8,260	408,988
Queensland ...	229,524	2,450	8,132	3,062	243,168
South Australia ...	103,431	1,647	4,755	1,496	111,329
Western Australia	175,240	1,644	7,308	1,468	185,660
Tasmania ...	68,839	5,486	2,281	2,080	78,686
Commonwealth	1,651,165	68,933	63,634	30,083	1,813,815

## VALUE.

New South Wales	£ 3,353,541	£ 91,986	£ 79,281	£ 57,851	£ 3,582,659
Victoria...	1,781,176	56,485	55,576	29,428	1,922,665
Queensland ...	935,870	8,340	28,304	12,197	984,711
South Australia ...	454,886	5,476	15,231	5,454	481,047
Western Australia	823,697	4,957	27,076	6,929	862,659
Tasmania ...	276,449	12,110	6,197	4,752	299,508
Commonwealth	7,625,619	179,354	211,665	116,611	8,133,249

In the above tables money orders payable or issued in foreign countries, which have been sent from or to the Commonwealth through the General Post Office at London, are included in those payable or issued in the United Kingdom.

**14. Classification of Postal Notes Paid.**—The subjoined table shews the number and value of postal notes paid during the year 1913 in each State and in the Commonwealth, classified according to the State in which they were issued.

Particulars regarding the total number and value of postal notes issued and paid during previous years since the inauguration of the Commonwealth have already been given in paragraph 12 hereof.

**NUMBER AND VALUE OF POSTAL NOTES PAID, CLASSIFIED ACCORDING TO STATE OF ISSUE, 1913.**

State in which Paid.	Postal Notes Issued in—						
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
<b>NUMBER.</b>							
New South Wales	2,980,921	118,344	139,930	41,091	23,905	24,430	3,328,621
Victoria ...	206,562	2,272,001	40,527	65,048	44,158	60,617	2,688,913
Queensland ...	51,641	10,204	790,505	2,334	1,419	1,060	857,163
South Australia ...	39,821	26,059	2,386	501,583	13,449	1,490	584,788
Western Australia	7,626	12,899	1,144	5,866	543,020	940	571,495
Tasmania ...	478,044	456,834	35,838	62,463	10,515	266,502	1,310,196
Commonwealth	3,764,615	2,896,341	1,010,330	678,385	636,466	355,039	9,341,176
<b>VALUE.</b>							
New South Wales	£ 1,132,916	£ 50,698	£ 54,532	£ 15,467	£ 11,512	£ 8,448	£ 1,273,573
Victoria ...	88,860	849,014	15,214	26,332	23,606	23,954	1,026,980
Queensland ...	22,291	4,469	294,611	957	766	476	323,570
South Australia ...	19,373	11,405	1,041	176,224	7,724	637	216,404
Western Australia	3,432	6,013	502	2,704	249,640	391	262,682
Tasmania ...	144,973	142,810	14,099	21,313	4,945	95,975	424,115
Commonwealth	1,411,845	1,064,409	379,999	242,997	298,193	129,881	3,527,324

**15. The Value Payable Post.**—This is a system under which the Postal Department undertakes to deliver registered articles sent by parcel post within the Commonwealth, or between Papua and the Commonwealth, and to recover from the addressee on delivery a specified sum of money fixed by the sender, and to remit the sum to the sender by money order, for which the usual commission is charged. The object of the system is to meet the requirements of persons who wish to pay at the time of receipt for articles sent to them, and also to meet the requirements of traders and others who do not wish their goods to be delivered except on payment. In addition to the ordinary postage, commission on the value of the articles transmitted at the rate of twopence on sums not exceeding ten shillings, and one penny for each additional five shillings or part thereof, must be prepaid by postage stamps affixed to the articles, distinct from the postage, and marked "commission." The registration fee (threepence) and the proper postage must also be prepaid. If the addressee refuse delivery, the parcel is returned to the sender

free of charge. Any article that can be sent by parcel post may be transmitted as a value-payable parcel. Letters may also be sent as value-payable parcels, if prepaid at the letter rate of postage and handed to the parcels clerk in the same manner as in the case of parcels. The subjoined statement gives particulars of the number and value of parcels sent through the Value Payable Post in each State during the years 1909 to 1913. From these figures it will be seen that the business in Queensland is greatly in excess of the combined transactions of all the other States, owing to the fact that the system has been established in that State for some years, but was only extended to the whole Commonwealth with the advent of Federal control of the post office. Western Australia is the only other State to make use of this system to any extent, the business transacted by that State and Queensland amounting to 84 per cent. of the total for the Commonwealth.

**VALUE PAYABLE PARCELS POST.—NUMBER POSTED, VALUE COLLECTED,  
AND REVENUE, 1909 to 1913.**

	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
NUMBER OF PARCELS POSTED.							
	No.	No.	No.	No.	No.	No.	No.
1909	7,585	1,051	31,765	149	19,250	42	59,842
1910	7,901	894	34,917	214	21,940	110	65,976
1911	9,198	1,142	37,803	195	21,391	66	69,795
1912	10,210	1,072	44,973	395	21,821	41	78,512
1913	12,175	1,691	39,434	255	22,335	8	75,898

VALUE COLLECTED.

	£	£	£	£	£	£	£
1909	10,926	1,697	39,351	234	30,712	93	83,013
1910	14,736	1,656	43,478	288	34,697	344	95,199
1911	15,314	2,312	52,628	413	35,659	165	106,491
1912	13,053	2,160	53,061	827	37,307	92	106,500
1913	14,881	2,857	53,461	435	35,945	20	107,599

REVENUE, INCLUDING POSTAGE, COMMISSION ON VALUE, REGISTRATION AND  
MONEY ORDER COMMISSION.

	£	£	£	£	£	£	£
1909	937	164	4,112	22	2,603	6	7,844
1910	1,201	162	4,634	19	3,178	18	9,212
1911	1,087	225	5,241	28	2,943	9	9,533
1912	1,147 <sup>a</sup>	143	5,418	54	3,027	6	9,795
1913	1,343	261	5,113	30	3,124	1	9,872

**16. Agricultural Produce Parcels Post.**—On the 1st July, 1914, the Postal Department, acting in conjunction with the Railway Department, inaugurated a system under which parcels of agricultural produce, fish, cut flowers, etc., might be transmitted at cheap rates from places in the country to persons living within six miles of the General Post Office, Melbourne. The service was introduced into the State of Victoria only, and is regarded as an experiment. Up to the present, however, the financial results have not been of an encouraging nature.

**17. Transactions of the Dead Letter Office.**—Under sections 45 to 53 of the Post and Telegraph Act 1901 the Postmaster-General may cause all unclaimed and undelivered postal articles originally posted within the Commonwealth which have been returned from the place to which they were forwarded to be treated as unclaimed

articles and opened. Every unclaimed letter and postal article must be kept for the prescribed period at the office to which it has been transmitted for delivery, and must then be sent to the General Post Office. Letters and packets originally posted elsewhere than in the Commonwealth are returned to the proper authorities in the country in which they were so posted, or, if originally posted in another State, are returned to the General Post Office of that State; but unclaimed or undelivered newspapers may be forthwith sold, destroyed, or used for any public purpose. Opened postal articles not containing anything of value are returned to the writer or sender if his name and address can be ascertained, but may otherwise be destroyed forthwith. As regards opened letters and packets containing valuable or saleable enclosures, a list and memorandum of the contents are kept, and a notice is sent to the person to whom the letter or packet is addressed if he be known, or otherwise to the writer or sender thereof if he be known. Upon application within three months of the date of such notice the letter or packet may be claimed by the addressee, or, failing him, by the writer or sender. If unclaimed within three months, the letter and contents may be destroyed or sold, and the proceeds paid into the consolidated revenue fund. The following table shows the total number of letters, postcards, and packets dealt with by the Dead Letter Offices in the Commonwealth during the year 1913, together with the number of inland, interstate, and international letters either returned to writers, delivered, etc., destroyed, or returned as unclaimed:—

#### TRANSACTIONS OF DEAD LETTER OFFICES IN THE COMMONWEALTH, 1913.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	C'wlth.
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##### LETTERS (,000 OMITTED).

Returned to writers, delivered, etc. ...	466	417	182	97	137	60	1,359
Destroyed in accordance with Act ...	134	90	19	23	16	7	289
Returned to other States or Countries as unclaimed ...	137	76	45	32	42	16	348
<b>Total ...</b>	<b>737</b>	<b>583</b>	<b>246</b>	<b>152</b>	<b>195</b>	<b>83</b>	<b>1,996</b>

##### POSTCARDS (,000 OMITTED).

Returned to writers, delivered, etc. ...	8	7	4	7	16	3	45
Destroyed in accordance with Act ...	19	10	2	2	2	1	36
Returned to other States or Countries as unclaimed ...	7	4	2	3	3	1	20
<b>Total ...</b>	<b>34</b>	<b>21</b>	<b>8</b>	<b>12</b>	<b>21</b>	<b>5</b>	<b>101</b>

##### PACKETS (,000 OMITTED).

Returned to writers, delivered, etc. ...	525	175	169	38	105	22	1,034
Destroyed in accordance with Act ...	50	561	22	44	6	...	663
Returned to other States or Countries as unclaimed ...	5	23	49	26	36	10	149
<b>Total ...</b>	<b>580</b>	<b>759</b>	<b>240</b>	<b>108</b>	<b>147</b>	<b>32</b>	<b>1,866</b>
<b>Grand Total (letters, postcards, &amp; packets)</b>	<b>1,351</b>	<b>1,363</b>	<b>494</b>	<b>272</b>	<b>363</b>	<b>120</b>	<b>3,963</b>

18. **Post Offices and Receiving Offices and Employees.**—The following tables shew, as far as returns are available, the numbers of post and receiving offices and the corresponding numbers of employees in each State and in the Commonwealth at the end of the year 1901, and from 1909 to 1913 inclusive :—

#### NUMBER OF POST OFFICES AND RECEIVING OFFICES, 1901 and 1909-13.

State.	1901.		1909.		1910.		1911.		1912.		1913.	
	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.
New South Wales ...	1,684	524	1,884	513	1,911	526	1,948	542	2,000	559	2,025	571
Victoria ...	1,637	18	1,642	728	1,655	765	1,720	824	1,730	844	1,749	883
Queensland* ...	411	823	522	856	558	822	576	786	593	770	614	772
South Australia ...	699	...	631	92	648	90	662	84	668	95	672	124
Western Australia ...	187	28	331	82	343	87	372	107	390	130	398	146
Tasmania† ...	376	...	377	40	391	38	386	47	391	55	395	60
Commonwealth ...	4,994	1,393	5,387	2,311	5,506	2,328	5,664	2,390	5,772	2,453	5,853	2,556

\* For the year 1901 the number of receiving offices is included in post offices in the official returns, and separate figures here given are estimated. † The return for 1901 includes both post offices and receiving offices.

#### NUMBER OF EMPLOYEES AND NUMBER OF MAIL CONTRACTORS, 1901 and 1909-13.

State.	1901.		1909.		1910.		1911.		1912.		1913.	
	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.
New South Wales ...	5,636	984	7,469	1,553	8,622	1,602	10,844	1,733	12,614	1,798	10,823	2,376
Victoria ...	3,962	890	6,285	804	7,043	848	8,533	866	7,845	1,060	8,437	1,123
Queensland* ...	2,616	—	3,146	589	3,247	720	4,455	747	3,942	768	4,134	812
South Australia† ...	1,945	—	1,896	259	1,905	268	2,298	361	2,173	364	2,364	382
Western Australia ...	1,303	140	1,736	234	1,894	233	2,621	251	2,246	251	2,444	355
Tasmania† ...	865	—	874	186	969	189	1,178	260	1,094	217	1,141	294
Commonwealth ...	16,327	2,014	21,406	3,625	23,680	3,860	29,929	4,218	29,914	4,458	29,343	5,342

\* Country postmasters and receiving officers included in employees. † Non-official postmasters are included in employees. ‡ The return for 1901 includes all persons in the pay of the Postal Department.

19. **Postal Routes.**—The following table shews the length of postal routes and the number of miles travelled by mail conveyances during the year 1913 :—

#### POSTAL ROUTES, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
MILES OF ROUTE.							
Railway ...	3,948	3,607	4,788	2,290	3,298	689	18,620
Water ...	2,820	63	2,267	7,579	3,397	914	17,040
Other ...	43,900	11,959	28,325	8,966	16,394	2,229	111,773
Total... ...	50,668	15,629	35,380	18,835	23,089	3,832	147,433

## POSTAL ROUTES, 1913—Continued.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
MILES TRAVELLED BY MAIL CONVEYANCES (,000 omitted.)							
Railway ...	5,609	4,411	3,931	1,809	1,916	848	18,524
Water ...	1,737	23	180	292	317	212	2,761
Other ...	9,878	4,027	4,151	1,626	999	922	21,603
Total ...	17,224	8,461	8,262	3,727	3,232	1,982	42,888

20. **Gross Revenue of Postal Department.**—The following table shews the gross revenue of the Postal Department for the years ended 30th June, 1901 and 1909 to 1914 inclusive, under three heads, viz., the Postal, the Telegraph, and the Telephone branches. In the Postal branch is included the revenue derived from money-order commissions, poundage on postal notes, private boxes and bags, and miscellaneous sources. It was the practice, prior to the year 1912-13, to use the figures supplied by the Treasury relating to revenue and expenditure, but as the Postal Department have, since that date, furnished a balance sheet of the working of the department, prepared on a commercial basis, the latter figures have accordingly been adopted herein.

## GROSS REVENUE OF POSTAL DEPARTMENT, 1901 and 1909-13.

Year ended 30th June.	Postal Branch.	Telegraph Branch.	Telephone Branch.	Total.
	£	£	£	£
1901* ...	516,181	224,484†	†	740,665
1909 ...	2,325,326	642,548	441,551	3,409,425
1910 ...	2,541,080	681,038	509,623	3,731,741
1911 ...	2,646,730	740,428	518,857	3,906,015
1912 ...	2,382,967	781,101	752,531	3,916,599
1913 ...	2,564,270	816,450	862,572	4,243,292
1914 ...	2,691,812	836,668	994,888	4,523,368

\* Period from 1st March to 30th June, 1901. † Including telephone revenue. ‡ Included in telegraph revenue.

The following table gives an analysis of the gross earnings of the Postal Department in each State and in the Commonwealth during the year ended 30th June, 1914:—

## ANALYSIS OF GROSS REVENUE OF POSTAL DEPARTMENT, 1913-14.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'with.
	£	£	£	£	£	£	£
Postage ...	952,375	696,830	323,207	194,200	153,015	92,898	2,418,528
Telegraphs ...	298,399	167,756	137,336	126,237	82,741	24,199	836,665
Telephones ...	389,018	281,274	135,942	85,776	71,133	31,745	994,888
Money order commission	26,691	11,890	10,198	4,656	8,407	2,723	64,565
Poundage on postal notes	28,721	21,331	7,758	4,978	5,161	2,618	70,597
Private boxes and bags	10,413	5,126	5,947	3,088	2,240	1,128	27,942
Miscellaneous ...	48,088	12,620	18,067	15,128	8,920	7,360	110,183
Total ...	1,753,705	1,196,827	644,485	434,063	331,617	162,671	4,523,368

21. **Expenditure in respect of the Postal Departments.**—The subjoined table shews the total expenditure in respect of the Postal Department in the Commonwealth for each of the years ended 30th June, 1903 and 1909 to 1914 inclusive. The figures given include certain items of expenditure, such as rent, repairs and maintenance of buildings, fittings and furniture, sanitation, water supply, new buildings and additions which are under the control of the Department of Home Affairs, and interest on transferred properties.

**TOTAL EXPENDITURE IN RESPECT OF POSTAL DEPARTMENT, 1902-3 and 1909-14.**

Year.	1902-3.	1908-9.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
Expenditure ... ..	£ 2,568,846	3,611,678	3,786,756	4,343,231	5,344,421	6,435,039	6,599,104

The following table shews the distribution of expenditure on various items in each State during the year ended 30th June, 1914. The table is not to be regarded as a statement of the working expenses of the Department, since items relating to new works, interest, etc., are included therein.

**DISTRIBUTION OF EXPENDITURE OF POSTAL DEPARTMENTS, 1913-14.**

Particulars.	Central Office.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'with
	£	£	£	£	£	£	£	£
Salaries and Contingencies—								
Salaries ... ..	17,090	975,150	603,710	300,169	204,605	225,665	78,802	2,405,191
Conveyance of mails ...	...	326,064	154,356	182,248	80,040	78,401	45,450	866,559
Contingencies ... ..	5,416	445,876	317,820	240,716	96,841	139,384	51,463	1,297,516
Cables ... ..	14,757	...	...	...	...	...	...	14,757
Ocean mails ... ..	170,000	...	...	...	...	...	...	170,000
Miscellaneous ... ..	2,815	5,471	7,339	1,581	2,539	1,518	582	21,845
Pensions & retiring allowances ...	...	20,931	20,703	2,229	...	4,306	...	48,169
Rent, repairs, maintenance ...	863	41,935	18,397	12,126	5,656	10,125	1,498	90,600
Supervision of works ... ..	...	3,947	301	1,658	1,348	2,052	327	9,633
Proportion of Audit Office exps. ...	...	1,257	967	453	304	220	139	3,340
Unforeseen expenditure ... ..	46	116	133	73	20	42	9	439
New Works—								
Telegraph and telephone ...	310	517,964	346,930	137,918	59,082	143,010	20,332	1,226,116
New buildings, etc. ... ..	...	65,603	51,199	10,933	16,296	18,352	2,815	165,198
Interest on transferred properties ...	...	81,764	46,776	32,327	29,366	19,975	7,522	217,730
Purchase of sites* ... ..	48,523	...	...	...	...	...	...	48,523
Other ... ..	13,488	...	...	...	...	...	...	13,488
Total ... ..	273,308	2,486,078	1,568,631	922,431	496,097	643,050	209,509	6,599,104

\* Particulars of apportionment to each State not yet available.

22. **Balance Sheet of the Postmaster-General's Department.**—The first complete balance sheet and profit and loss account of the Postmaster-General's Department was presented in November, 1913, for the year ending 30th June, 1913. The balance sheet for the year 1913-14 has now become available, and discloses the fact that the working of the Postmaster-General's Department for that year resulted in a deficit of £53,547, to which must be added £147,909 for interest on capital, pensions and retiring allowances, making a total deficit of £501,456.

Tables shewing the results of the working of the Department for the year 1913-14, as compared with 1912-13, are appended :—

**GENERAL PROFIT AND LOSS ACCOUNT (POSTMASTER-GENERAL'S DEPARTMENT),  
1912-13 and 1913-14.**

Items.	1912-13.	1913-14.
	£	£
Total earnings ... ..	4,243,292	4,523,368
Total working expenses ... ..	4,263,373	4,576,915
Deficit ... ..	20,081	53,547
Interest on capital ... ..	376,409	435,223
Pensions and retiring allowances ... ..	10,612	12,686
	387,021	447,909
Total deficit .... ..	407,102	501,456

**PROFIT OR LOSS OF THE VARIOUS BRANCHES OF THE DEPARTMENTS,  
1912-13 and 1913-14.**

Branch.	1912-13.		1913-14.	
	Loss.	Profit.	Loss.	Profit.
	£	£	£	£
Postal ... ..	...	23,132	...	24,155
Telegraph ... ..	164,108	...	151,446	...
Telephone ... ..	221,757	...	296,424	...
Wireless Telegraph ... ..	11,599	...	35,656	...
Pensions and retiring allowances and interest on general assets... ..	32,770	...	42,086	...
	430,234	23,132	525,612	24,155

**PROFIT OR LOSS OF THE DEPARTMENT IN THE VARIOUS STATES,  
1912-13 and 1913-14.**

State.	1912-13.		1913-14.	
	Loss.	Profit.	Loss.	Profit.
	£	£	£	£
New South Wales ... ..	190,332	...	228,949	...
Victoria ... ..	...	8,426	...	13,683
Queensland ... ..	100,480	...	110,221	...
South Australia ... ..	...	4,687	...	327
Western Australia ... ..	104,132	...	148,244	...
Tasmania ... ..	25,271	...	28,053	...
	420,215	13,113	515,467	14,010

**23. Royal Commission on Postal Services.**—In 1908 a Royal Commission was appointed to report on the Postal, Telegraphic, and Telephonic Services of the Commonwealth. An account of the work done by the Commission will be found in previous issues of the Year Book. (See Year Book No. 6, p. 766.)



## § 2. Telegraphs.

1. **First Lines Constructed.**—The electric telegraph was first introduced into Australia for use by the public in the year 1854, when a line from Melbourne to Williamstown was opened. The first line in South Australia, from Adelaide to Port Adelaide, was opened in 1856, while the first line in New South Wales was brought into operation in 1858, when the line from Sydney to Liverpool, twenty-two miles in length, was opened. In Tasmania the first telegraphic line was completed in 1857, while in the following year communication was established between Sydney, Melbourne, and Adelaide. The first line to be constructed in Queensland was that between Brisbane and Rockhampton, a distance of 396 miles, which was opened in 1864. In Western Australia the first telegraph constructed was from Perth to Fremantle, a distance of twelve miles, which was brought into use in 1869, and in the same year the cable joining Tasmania with the continent of Australia was completed.

2. **Development of Services.**—During the period from 1871 to 1881 great progress was made throughout Australia in the way of telegraphic construction, over 14,000 miles of line, exclusive of railway telegraph lines, being opened for use during the period mentioned, making the total length of the line open at the end of the year 1881, 25,470 miles. At the present time the systems of telegraph lines throughout Australia are well developed. The longest line extends from Thursday Island, in Torres Strait, by submarine cable to Paterson, on the mainland of Cape York Peninsula; from Paterson the line runs in a southerly direction as far as Brisbane, where it joins the main interstate line to Sydney, Melbourne, and Adelaide; from Adelaide it runs to Port Augusta, then on to Port Lincoln, on Eyre's Peninsula, and thence to Eucla, on the Western Australia boundary; from Eucla the line extends along the coast of the Great Australian Bight to Albany, and thence it runs adjacent to the west coast of Western Australia as far as Onslow, *via* Perth, Geraldton, and Carnarvon. From Onslow connection extends to Broome, in Roebuck Bay, from which place communication is made to Singapore by the Eastern Extension Company's cable. From Roebuck Bay the line crosses the Kimberley district in an easterly direction, and then runs north as far as the terminus at Wyndham. In Queensland a line runs to Burketown, near the coast of the Gulf of Carpentaria, *via* Normanton; another line extends to Cloncurry and Urundangi, in the extreme west of the State. Branch lines extend to all important coastal and inland towns, while considerable networks of lines converge from the country districts towards the centres of population. From Adelaide the transcontinental line runs in a northerly direction to Darwin, from which place communication is provided with Europe by submarine cable by way of Batavia, Singapore, and Madras. In Western Australia a line runs from Eucla to the Coolgardie goldfields *via* Balladonia and Dundas, and from Coolgardie communication is provided with Perth and with Sir Samuel, in the East Murchison district.

3. **Number of Telegraph Offices and Length of Lines and Wire Open.**—The following table shews the number of telegraph offices and the length of telegraphic lines and of telegraph wire, exclusive of railway telegraphs, available for use in the Commonwealth from 1909 to 1913 inclusive:—

NUMBER OF TELEGRAPH OFFICES, LENGTH OF LINE AND WIRE, AVAILABLE FOR USE, 1908-13.

Particulars.			1908.	1909.	1910.	1911.	1912.	1913.
No. of Offices	...	No.	3,445	3,597	3,883	4,041	4,180	4,624
Length of Line	...	miles	43,455	43,849	44,100	44,013*	47,923	46,218†
„ Wire	...	„	90,646	92,909	96,825	97,053†	101,218	108,931

\* Prior to 1911 the railway pole mileage over which the Department's wire runs was included in Tasmania. † Prior to 1911 the mileage of wire erected for railways was included in New South Wales. ‡ Prior to 1913 mileage of telephone lines was included in New South Wales.

The following table gives corresponding particulars for each State for the year 1913. The figures are exclusive of railway telegraphs :—

**NUMBER OF TELEGRAPH OFFICES, LENGTH OF LINE AND WIRE IN EACH STATE, 1913.**

Particulars.		N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'with.
No. of Offices	No.	1,602	1,187	701	444	401	289	4,624
Length of Line	miles	16,076	4,256	10,745	5,780	7,677	1,684	46,218
„ Wire	„	37,762	14,063	25,310	14,584	13,472	3,740	108,931

**4. Revenue and Expenditure.**—Particulars as to the revenue from the telegraph systems for the years 1901 and 1909-14 are given on page 675, while particulars as to the expenditure on telegraph works for the year 1913-14 are given on page 676.

**5. Number of Telegrams Despatched.**—The following table shows the total number of telegrams despatched in the Commonwealth in 1901 and in each of the years 1909 to 1913 inclusive :—

**NUMBER OF TELEGRAMS DESPATCHED (,000 OMITTED), 1901 and 1909-13.**

Year	...	...	...	...	1901.	1909.	1910.	1911.	1912.	1913.
Number*	...	...	...	...	8,003	11,345	12,238	12,821	13,343	13,556

\* Including interstate cablegrams.

The following table shows the number of telegrams despatched in each State in 1913 for delivery in that State, and the number despatched in each State for delivery in other States, and also the total number of telegrams—exclusive of cablegrams—despatched in each State :—

**NUMBER OF TELEGRAMS DESPATCHED IN EACH STATE, 1913 (,000 OMITTED).**

State, etc.	...	...	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
Inland (counted once)			3,765	1,970	1,825	903	1,428	328	10,219
Interstate*	...	...	1,021	903	514	397	339	163	3,337
Total	...	...	4,786	2,873	2,339	1,300	1,767	491	13,556

\* Including interstate cablegrams.

**6. Rates for Transmission of Telegrams.**—The present rates for the transmission of telegrams within the Commonwealth were fixed by section 7 of the Post and Telegraph Rates Act 1902, and came into force on the 1st November, 1902. Under this Act charges are made for telegrams according to whether they are “ordinary” or “press” telegrams. “Press” telegrams are defined to mean those the text of which consists of political, commercial, etc., information, and of news intended for publication in a newspaper. The telegram must be sent by an authorised correspondent, and must be addressed to a registered newspaper or recognised news agency. The subjoined tables shew the scales of charges :—

**SCALE OF CHARGES FOR ORDINARY TELEGRAMS, 1914.**

Particulars.		Town and Suburban, within Prescribed Limits, or within 15 Miles from the Sending Station.	Other Places within the State, except Town and Suburban.	Interstate.
		s. d.	s. d.	s. d.
Including address and signature—				
Not exceeding 16 words	...	0 6	0 9	1 0
Each additional word	...	0 1	0 1	0 1

Double the foregoing rates are imposed for the transmission of telegrams on Sunday, Christmas Day, and Good Friday, and between the hours of 8 p.m. and 9 a.m., and of telegrams sent on "urgent" forms.

#### SCALE OF CHARGES FOR PRESS TELEGRAMS, 1914.

Particulars.	Within any State.		Interstate.		Relating to Parliamentary, Executive, Departmental, and other Commonwealth Proceedings as may be prescribed.
	s.	d.	s.	d.	
Not exceeding 25 words ... ..	0	6	1	0	...
From 26 to 50 words ... ..	0	9	1	6	...
From 51 to 100 words ... ..	1	6	3	0	...
Every additional 50 words ... ..	0	6	1	0	...
Within the Commonwealth.					
Not exceeding 25 words ... ..	...	...	...	...	1 0
From 26 to 100 words ... ..	...	...	...	...	1 6
Every additional 50 words ... ..	...	...	...	...	0 6

**7. Letter-telegrams.**—Commencing in February, 1914, the Postal Department instituted a system of letter-telegrams, between all telegraph offices which are open between 7 p.m. and midnight. The letter-telegrams are forwarded during the night by telegraph to the office of destination and are delivered as ordinary letters by the first letter delivery, or are despatched by mail to the address in the ordinary way. The rates charged throughout the Commonwealth are one shilling for the first 40 words, and one half-penny for each additional word, double these rates being charged on Sundays. At present the service extends to 59 offices in the Commonwealth.

**8. Wireless Telegraphy.**—Under the Wireless Telegraphy Act 1905 the Postmaster-General is given the exclusive privilege of establishing and using stations and appliances for receiving and transmitting messages by wireless telegraphy within Australia. While he is empowered to grant licenses to establish and use stations and appliances for wireless telegraphy, the only licenses issued have been for experimental work. At the commencement of the war, however, all experimental licenses were cancelled and all private installations were ordered to be forthwith dismantled. The Act does not apply to ships belonging to the King's Navy. Viewing the insular position of Australia, it was evident that, for an effective system of radio-telegraphic communication to be given, not only must the service offered be continuous, but the distances separating the stations must to a great extent be governed by the normal working range of the vessels with which communication would have to be established. With this object in view, the Commonwealth Government have constructed and erected nineteen stations at or near the following localities:—Port Moresby, Thursday Island, Cooktown, Townsville, Rockhampton, Brisbane, Sydney, Flinders Island, Melbourne, Hobart, Mount Gambier, Adelaide, Esperance, Perth, Geraldton, Broome, Roeburne, Wyndham, and Darwin. To these must be added the station installed at Macquarie Island (used chiefly for meteorological purposes). In the Pacific, the Commonwealth controls stations at Woodlark Island, Rabaul, Wilhelmshaven, Nauru, and Bougainville; all these, with the exception of Woodlark Island, being on former German territory now occupied by Australia. The rates for messages forwarded between the foregoing stations in the Pacific and the Commonwealth are 3d. per word, plus the ordinary land

line charges of the Commonwealth. To complete the external scheme of radio-telegraphic communication, and so form the Australian unit of the Imperial scheme, high-power stations were essential. The stations at Sydney, Perth, and Woodlark Island are of this nature, the first-named being capable of communication with New Zealand and the radio-telegraphic stations in the Pacific, and the Perth station with Cocos Island. A fourth high-power station will, in the near future, be erected at Darwin, and will operate with Singapore and the islands of the Pacific.

All the other stations are of a lower power, and constitute the internal scheme of inter and ship-to-shore communication. The working range by day—and under unfavourable conditions—of the low-power stations is 500 miles; that of the high-power stations being 1250 miles, though the proposed installation at Darwin will have a day range of over 2000 miles. Under more favourable conditions, however, messages can be transmitted over much greater distances, extending in the case of low-power stations to over 1500 miles.

The ordinary ship-to-shore communication rates for ships registered by the Commonwealth or New Zealand are 5d. per word, allocated as follows:—3d. for land station and 2d. for ship station charge, while for vessels registered by other administrations the rates are 10d. per word, allocated as follows:—6d. for land station, and 4d. for the ship station charge. In all cases must be added the inland forwarding charge of 1d. per word. Between Port Moresby and Thursday Island the rate is 2d. per word (plus the inland forwarding rate), which rate is also charged between the mainland and Flinders Island or Macquarie Island, no forwarding charge being made at these two stations.

In December, 1909, a conference of representatives of the Commonwealth, New Zealand, the High Commissioner for the Western Pacific, Fiji, the Admiralty, and the Pacific Cable Board was convened at Melbourne to report upon the establishment of wireless telegraphy in the Pacific. The chief recommendations of this Conference were:—(a) That high-power stations be established at Sydney, Doubtless Bay (New Zealand), Suva (Fiji), and Ocean Island, and (b) that medium-power stations be established at Tulagi (Solomon Islands), and Vila (New Hebrides). The total cost of construction of the scheme covered by these recommendations was £42,000, while the total annual cost was estimated at £13,820 for a continuous service, and £9970 for a restricted service. It was proposed to apportion the cost between Great Britain, New Zealand, Fiji, and Australia. These recommendations were adopted by the Commonwealth Government, but the British Government would not agree to the erection of high-power stations at Suva and Ocean Island. Up to the present no further concerted action has taken place, but radio-telegraphic stations have been erected at Suva, Vila, and Tulagi, under the control of the High Commissioner of the Pacific, while the New Zealand Government has erected high-power stations at Awanui (Auckland), and Awarua (Bluff), and low power stations at Auckland, Chatham Island and Wellington, and is also considering the erection of stations at Gisborne, New Plymouth, and Christchurch.

On the termination of the war, the Postal Department will proceed with an inland radio-telegraph scheme, under which isolated homesteads may be linked up with the ordinary land service.

### § 3. Submarine Cables.

**1. First Cable Communication with the Old World.**—In previous issues of the Year Book (No. 6, p. 770) will be found a detailed account dealing with the connection of Australia with the old world by means of submarine cables.

**2. The Tasmania - Victoria Cables.**—A submarine cable joining Tasmania to the continent of Australia was opened for use in 1869, the total length being 170 miles. The line was owned by the Eastern Extension Telegraph Company, and was subsidised by the Tasmanian Government until the year 1909. On the 28th February, 1908, the Postmaster-General entered into an agreement with Messrs. Siemens Brothers and Company Ltd., of London, for the manufacture and laying of two submarine cables between Tasmania and Victoria. The new cables were taken over on the

24th March, 1909, and opened to the public on the 1st May, 1909, the day following the expiration of the agreement with the Eastern Extension Company. Their aggregate length is approximately 350 nautical miles of main cable, and 20 nautical miles each of intermediate and shore-end cable, making a total of 390 nautical miles. The contract price was £52,447.

**3. The Eastern Extension Company's Cables.**—In addition to the first Victoria-Tasmania cable and the original cable from Darwin (see Year Book No. 6, p. 770), the Eastern Extension Company has constructed several other cables connecting with various places in the Commonwealth. (a) In 1879 the original cable *via* Banjoewangie was duplicated, the States of New South Wales, Victoria, South Australia, Western Australia and Tasmania having agreed to pay the above company a subsidy of £32,400 per annum for a period of twenty years, the amount to be divided between the States on a population basis. (b) In 1881 a cable was constructed connecting Broome, in Roebuck Bay, W.A., with Banjoewangie; from Broome there is direct telegraphic communication with Perth, from which place communication is made with the Eastern States by the interstate line *via* Albany, Eucla, and Port Augusta. (c) In July, 1899, the company offered to lay a cable direct to Great Britain *via* the Cape of Good Hope, and also offered reductions in the rates charged, if the States would agree to certain conditions giving the company the right of direct dealing with the public. The States of South Australia, Western Australia and Tasmania accepted the terms offered, and New South Wales entered into the agreement in January, 1901. The cable was opened *via* Fremantle and Durban in October, 1901. (d) Another submarine cable from Fremantle to Adelaide forms an alternative line of communication between the eastern States and Western Australia. (e) There is an alternative route, partly belonging to the Eastern Extension Company and connecting the Port Darwin-Singapore cable with London, *via* Hong Kong, Shanghai, Possiet Bay (Pacific Russia), Libau (Russian Baltic), and Newbiggin (England). (f) In 1909 a cable was laid from Java to Cocos Island, thus affording another route from Australia to South Africa, whilst in April, 1911, a radio-telegraphic station was opened at Cocos Island, thus strengthening the line of communication between Australia and the East.

**4. The Pacific Cable.**—In July, 1898, a conference of representatives of Great Britain, Canada, New South Wales, Victoria, Queensland, South Australia and New Zealand was held for the purpose of considering a project for a cable to be laid across the Pacific Ocean, touching only British territory on its way from Australia to Canada, thus providing an "All Red" route, as it is termed, for a cable system between England and Australia. In the following year it was agreed at a meeting held by representatives of the countries interested that the cable should be laid and that Great Britain and Canada should each pay five-eighteenths of the cost, and the States of New South Wales, Victoria, Queensland, and the Dominion of New Zealand should each pay one-ninth. The construction and management of the cable were placed under the control of a Board composed of seven members—two each from Great Britain, Canada, and Australia, and one from New Zealand—called the Pacific Cable Board. The Australian shore-end of the cable was landed at Southport, Queensland, in March, 1902, and the cable was completed on the 31st October, 1902, and opened for traffic on the 7th December of the same year. There are cable-stations at Norfolk Island, Fiji, and Fanning Island, and a branch cable runs from Norfolk Island to New Zealand. In 1910 the Board leased a wire from Bamfield, British Columbia, to Montreal, thus extending the Pacific cable system from Queensland to Montreal. The traffic is then carried across the Atlantic to the United Kingdom by the cables of the Anglo-American and Commercial Companies. The following table shows particulars of the revenue, expenditure, total loss, and the proportion of the loss payable by the Commonwealth for each financial year since the opening of the cable:—

**REVENUE, EXPENDITURE, AND LOSS ON WORKING OF PACIFIC CABLE,  
1903 to 1914.**

Year ended the 31st March.	Revenue.	Expenditure (in- cluding Annuities and Renewal Fund).	Loss.	Commonwealth Proportion of Loss.
	£	£	£	£
1903 ...	...	...	90,518	30,514
1904 ...	80,118	167,869	87,751	29,250
1905 ...	87,446	163,296	75,850	25,283
1906 ...	91,952	164,508	72,556	24,185
1907 ...	113,516	167,439	53,923	18,307
1908 ...	110,160	172,523	62,363	20,787
1909 ...	113,093	173,981	60,888	20,295
1910 ...	111,724	171,312	59,588	19,862
1911 ...	138,678	186,888	48,210	16,071
1912 ...	159,150	199,649	40,499	13,500
1913 ...	167,901	200,171	32,270	10,757
1914 ...	197,848	217,798	19,950	6,650

\* To 30th June in each year.

5. **New Zealand Cables.**—A submarine cable joining New Zealand to the Australian Continent was laid in 1876. The line is 1191 miles in length. The Australian shore-end of the cable is at Botany Bay, while the New Zealand terminus is at Wakapuaka, near Nelson, in the Middle Island, from which place another cable, 109 miles in length, is laid to Wanganui, in the North Island. For a period of ten years after its opening the cable was subsidised by the New South Wales and New Zealand Governments, the total contributions amounting to £10,000 a year. The branch from Norfolk Island to New Zealand of the Pacific cable was opened on the 23rd April, 1902. The length of this cable is 597 miles, the New Zealand terminus being at Doubtless Bay in the north of the North Island. During 1911 a scheme to lay a second cable between New Zealand and Australia (Auckland to Sydney) was adopted by the various Governments concerned, and the laying of the new cable was completed on the 24th December, 1912, the cable being opened for traffic on the 31st December, 1912.

6. **The New Caledonian Cable.**—In April, 1892, a French company, known as the Compagnie Française des Câbles Télégraphiques, entered into an agreement with the French, the New South Wales, and the Queensland Governments to lay down a submarine cable between New Caledonia and Queensland in return for guarantees by the French Government to the extent of £8000, and by the Governments of New South Wales and Queensland to the amount of £2000 each annually for a period of thirty years. The cable was opened for use in October, 1893, the Australian shore-end being at Bundaberg. The guarantees of the Governments of New South Wales and Queensland have now been transferred to the Commonwealth Government.

7. **Number of Cablegrams Received and Despatched.**—The subjoined table shows the number of cablegrams received and despatched in the Commonwealth from 1911 to 1913:—

**CABLEGRAMS RECEIVED AND DESPATCHED, COMMONWEALTH, 1911-13.**

Particulars.	Cablegrams Received.			Cablegrams Despatched.			Total Cablegrams Received and Despatched.		
	1911.	1912.	1913.	1911.	1912.	1913.	1911.	1912.	1913.
Number...	256,912	288,678	301,621	271,540	297,806	309,140	528,452	586,484	610,761

The following table shows the total number of cablegrams received and despatched in each State during the year 1913. The figures given are exclusive of interstate cablegrams, which are classed as interstate telegrams (see § 2 hereof):—

## NUMBER OF CABLEGRAMS RECEIVED AND DESPATCHED IN EACH STATE, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.*	C'wealth.
Number received ...	154,004	92,456	13,116	19,943	16,142	5,960	301,621
„ despatched ...	149,318	98,320	16,508	18,551	19,805	6,638	309,140
Total ...	303,322	190,776	29,624	38,494	35,947	12,598	610,761

\* Exclusive of interstate cablegrams, which are included with interstate telegrams (see § 2 ante).

8. **Lengths of Cable Routes.**—The following table gives the lengths of various cable routes :—

## LENGTHS OF CABLE ROUTES.

Via Roebuck Bay.		Via Darwin.		Via South Africa.	
	Miles.		Miles.		Miles.
Perth to Roebuck Bay ...	1,485	Adelaide to Darwin ...	2,134	Perth to Mauritius ...	4,417
Roebuck Bay to Banjoewangie ...	970	Darwin to Banjoewangie ...	1,150	Mauritius to Durban ...	1,786
Banjoewangie to London ...	9,841	Banjoewangie to London ...	9,841	Durban to Cape Town ...	800
				Cape Town to Madeira ...	5,715
				Madeira to Penzance ...	1,341
				Penzance to London ...	260
Total ...	12,296	Total ...	13,125	Total ...	14,319

Via Vancouver.		Via Russia.	
	Miles.		Miles.
Southport (Queensland) to Norfolk Island ...	963	Sydney to Darwin ...	2,993
Norfolk Island to Suva (Fiji) ...	1,129	Darwin to Hong Kong ...	4,237
Suva to Fanning Island ...	2,351	Hong Kong to Possiet Bay ...	2,647
Fanning Island to Bamfield (Canada) ...	3,980	Possiet Bay to Libau ...	6,399
Across Canada ...	3,450	Libau to Newbiggin (England) ...	1,657
Canada to Ireland ...	2,450		
Total ...	14,323	Total ...	17,932

9. **Cable Rates.**—In 1872 the cable rate to England was nine guineas for twenty words, but when word rates were brought into general use in 1875, the rate between Great Britain and Australia was fixed at ten shillings and sixpence, subsequently altered to ten shillings and eightpence. In 1886 the Eastern Extension Telegraph Company reduced the rate to nine shillings and fourpence a word for ordinary messages, to seven shillings and a penny for Government messages, and to two shillings and eightpence a word for press messages. At a conference of the postal and telegraphic authorities held in March, 1891, the proposal to reduce the rates to four shillings a word for ordinary messages, three shillings and eightpence for Government, and one shilling and tenpence for press messages was agreed to, the States of New South Wales, Victoria, South Australia, Western Australia, and Tasmania undertaking to make good half the loss which the Eastern Company might suffer through such reductions. The States guaranteed to the company one-half of the amount of receipts short of the sum of £237,736—the amount received by the company in 1889 in respect of cable charges—the other half to be borne by the company. The Government of South Australia was also guaranteed by the other contracting States against any loss to the revenue which the lower cable rates might cause in the working of the overland lines. Queensland subsequently joined the other States in these guarantees. In 1893, however, owing to the heavy losses incurred,

the rates for ordinary messages were increased to four shillings and ninepence per word, and at the same time New Zealand joined the guarantees to the company and to South Australia.

(i.) *Present Rates to Great Britain.* On the acceptance by three of the States of the terms offered by the Eastern Extension Telegraph Company for the construction of a cable *via* South Africa the rate for ordinary messages was reduced in May, 1900, to four shillings a word. It was further reduced to three shillings and sixpence in January, 1901, and to three shillings in January, 1902, at which amount the standard rate by all routes for cablegrams to Great Britain has since remained. The scale of reductions is governed by a revenue standard, and when the latter averages £930,000 per annum a further reduction to two shillings and sixpence will be made. In September, 1912, the "through" charge for press cables was reduced from ninepence to sevenpence-halfpenny per word.

(ii.) *Deferred Cablegrams.* With a view to affording additional cable facilities and to keeping the Pacific cable fully occupied during the whole twenty-four hours, proposals were made by the Postmaster-General's Department for the adoption of a system of deferred cablegrams. A meeting of representatives of the Administrations and companies concerned was held in London in November, 1910, and the new rates came into force on the 1st January, 1912. Under this system a reduction of 50% in the charges is made, providing the message is written in plain language, and conveys no other meaning than that which appears on the face of it. Messages can only be transmitted after non-urgent private cablegrams and press cablegrams. Those which have not reached their destination within a period of twenty-four hours from the time of handing in are transmitted in turn with cablegrams charged full rate. They may be sent *via* the Pacific or Eastern routes to all countries to which the ordinary rate exceeds tenpence per word. The arrangement at present extends to some sixty countries, and has become very popular. The number of deferred ordinary words transmitted to and received from all countries with which the system is in operation, in 1913, was 764,870, the resulting Commonwealth revenue being £8011. A comparison with the previous year's results discloses an increase in the number of words of 342,197, and in the revenue of £3608. This service, together with that of the week-end cable letters, has to some extent affected the ordinary cable business. On the 15th December, 1911, a system of deferred press cablegrams between Vancouver and Australia was instituted. The rate charged is one penny three-farthings per word, and the conditions of despatch are the same as those for private deferred cablegrams. Since the commencement of the war, it has been found necessary on several occasions owing partly to the interruption to the Pacific cable from September to November, 1914, and partly to the pressure of other cable matter, to temporarily suspend the operation of the deferred cablegram service, as well as that of the week-end cable messages.

(iii.) *Week-End Cable Letters.* The service of week-end cable letters between the Commonwealth and the United Kingdom was introduced on the 4th January, 1913. Under this arrangement, messages, written in plain language, might be lodged at any post office in the Commonwealth or the United Kingdom in time to reach the forwarding cable office by post or telegraph by midnight on Saturday. The messages, which were deliverable by post on Tuesday morning, were charged at the rate of ninepence per word, plus ordinary telegraph rates if required to be forwarded by land telegraph in either the country of despatch or destination.

The system has since been extended to apply to messages between the Commonwealth and the Union of South Africa, India, Ceylon, Canada (to places to which the ordinary rate is 2s. 4d. per word) and Portugal. A further benefit has lately been conferred on users, and week-end cables to the countries enumerated may now be transmitted by telegraph throughout without extra charge. The rates to these countries and to the United Kingdom are shewn hereunder :—



## RATES FOR WEEK-END CABLE LETTERS.

Country.	Rate per Word.	Minimum Charge per Telegram.
United Kingdom ...	9d.	15/-
Union of South Africa ...	7d. (plus 3d. for those lodged in Tasmania)	11/8
India, Ceylon, and Burma ...	7½d.	12/6
Canada ...	7d.	11/8
Portugal... ..	9d.	15/-

Week-end cable letters may also be sent to the United Kingdom or Canada for transmission by registered post to other countries at an extra charge of 5d. per message. As in the case of deferred cablegrams, the pressure on the cables during the war has, on several occasions, necessitated the temporary suspension of this service.

(iv.) *Rates to New Zealand.* As a result of the completion of the New Zealand branch of the Pacific cable in 1902, the rates charged for cablegrams between Australia and New Zealand, except to and from Tasmania, were uniformly reduced to fourpence-halfpenny per word. Between New Zealand and Tasmania the charge was fixed at fivepence-halfpenny a word, but it has since been reduced to fourpence-halfpenny. The charge for ordinary cablegrams from New Zealand to Great Britain was reduced from the 1st June, 1902, from five shillings and twopence to three shillings and fourpence a word, and has since been further reduced to three shillings a word.

**10. Subsidised Press Cable Service.**—In October, 1909, a Select Committee of the Commonwealth Senate was appointed to report upon the question of the supply, conditions of sale, and distribution, which control the Press Cable Service within and from outside the Commonwealth. A majority report of this Committee was issued in December, 1909, and recommended (a) the completion of an "All Red" cable route via Canada, (b) the conditional subsidisation of a press cable association, (c) the utilisation of the High Commissioner's office for the dissemination in Australia of Empire news, and (d) the amendment of the Copyright Act in regard to cables.

In accordance with the recommendations of this Committee the Commonwealth granted a total subsidy of £6000, extending over a period of three years, to the Independent Press Cable Service, on the conditions that at least 6000 cable words were supplied each week, to be sent *via* Pacific, and that any newspaper proprietary in the Commonwealth was permitted to become a subscriber at rates approved by the Government. This terminated on the 1st July, 1912, and a new arrangement was entered into under which the Commonwealth agrees to grant a subsidy of £2000 per annum, providing that not less than 26,000 words are sent each month. This agreement is to remain in force till the 30th July, 1916.

**11. Cable Subsidies paid by each State.**—The agreement between the State Governments and the Eastern Extension Telegraph Company expired on the 30th April, 1900. Since the year 1895 the amounts guaranteed—£237,736 to the company and £37,552 to South Australia—have been met by the receipts, and the contracting States have, therefore, not been called upon to contribute.

(i.) *Total Subsidies Paid.* The following table shews the total amounts paid by way of cable subsidies for the years 1907-8 to 1913-14:—

## TOTAL AMOUNT OF CABLE SUBSIDIES PAID, 1907-14.

Year.	1907-8.	1908-9.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
Amount ... £	28,937	28,495	23,862	20,093	17,522	14,779	10,650

(ii.) *Subsidies Paid by each State.* The total amount of cable subsidies paid prior to the year 1908-9 included the subsidy paid in respect of the Tasmania-Victoria cable service.

As the agreement in connection with the Tasmanian cable expired in 1909, and as new cables have been laid by the Commonwealth Government (see page 681 *ante*), the guarantees were, in the course of the year 1910, reduced to those in connection with the New Caledonia and Pacific cables. The amount of cable subsidies paid by the Commonwealth in 1913-14 was £4000 in respect of the New Caledonian cable guarantee, and £6650 in respect of the loss on the Pacific cable.

## § 4. Telephones.

1. *Development of Telephone Services.*—The Postal Department has established telephone services in all the capital towns and in many of the important centres of population throughout the Commonwealth. Particulars as to the revenue from telephone services in each State for the years 1901 and 1909-14 are given on page 675 *ante*, while particulars of the expenditure on telephone works in each State for the year 1913-14 are given in a table on page 676.

(i.) *Number of Telephone Exchanges, etc., in Commonwealth.* The following table shews the number of telephone exchanges, and the number of telephone connections in the Commonwealth at the end of the year 1901 and from 1909 to 1913 inclusive:—

### NUMBER OF TELEPHONE EXCHANGES AND CONNECTIONS, 1901 and 1909-13.

Particulars.	1901.	1909.	*1910.	*1911.	*1912.	*1913.
Telephone Exchanges ... No.	119	328	678	927	1,032	1,181
„ Connections ... „	24,583	63,264	74,190	85,458	95,965	107,553

\* Including all places at which two or more subscribers are connected and which are now classified as "telephone exchanges." Prior to 1910 the classification in the several States was not uniform.

(ii.) *Number of Telephone Exchanges, etc., in each State.* The following table gives corresponding particulars for each State at the end of 1913:—

### TELEPHONE EXCHANGES AND CONNECTIONS IN EACH STATE, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wlth.
Tel. Exchanges* No.	451	295	189	106	70	70	1,181
„ Connections „	43,135	30,640	14,096	8,174	7,965	3,543	107,553

\* See note to previous table.

2. *Telephone Rates.*—The charges mentioned in the table hereunder are payable for the different classes of telephone services specified therein:—

### TELEPHONES.—RENTAL CHARGES, 1913-14.

In Telephone Networks having a Population of—	Radius of Network with Main Exchange as Centre.	Minimum Annual Charge—		
		For an Exclusive Service.	For each Subscriber or Instrument on a Two-party Line	For each Subscriber or Instrument on a Three or more party Service.
	Miles.	£ s. d.	£ s. d.	£ s. d.
From 1 to 10,000 ...	5	3 0 0	2 10 0	2 0 0
„ 10,001 to 100,000 ...	10	3 10 0	2 15 0	2 5 0
„ 100,001 upwards ...	10	4 0 0	3 0 0	2 10 0

It is provided that for all effective calls originated the subscriber will be charged the following rates:—(a) For calls not exceeding 2000 half-yearly, two calls for one penny; and (b) for calls above 2000 half-yearly, three calls for one penny.

Another regulation permits persons occupying offices in the same building, or occupying the same private residence, to subscribe jointly under one exchange number (in addition to rental as for one person at the respective rates prescribed) on payment of £1 per annum for each additional subscriber. This fee covers the insertion of the additional subscriber's name in the telephone list. If additional instruments are required the subscribers must pay the rates prescribed for party lines.

3. **Miscellaneous Particulars.**—The following table gives various interesting particulars of the operation of the telephone services in each State for the year 1913:—

### PARTICULARS OF OPERATION OF TELEPHONE SERVICES, 1913.

Particulars.				N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	C'wlth.
Telephone Exchanges*	...	...	No.	451	295	189	106	70	70	1,181
Public Telephones†	...	...	No.	916	793	474	416	219	265	3,083
<b>Extension Lines—</b>										
Metropolitan	...	...	No.	6,616	6,179	1,241	476	309	70	14,891
Country	...	...	No.	1,215	1,370	2,148	125	143	102	5,103
Total	...	...	No.	7,831	7,549	3,389	601	452	172	19,994
<b>Private Lines—</b>										
Metropolitan	...	...	No.	550	324	99	304	117	38	1,432
Country	...	...	No.	540	224	178	111	68	50	1,171
Total	...	...	No.	1,090	548	277	415	185	88	2,603
<b>Connections—</b>										
Subscribers' Lines	...	...	No.	43,023	30,092	13,488	7,966	7,562	3,455	105,586
Other Local Lines	...	...	No.	112	548	608	208	403	88	1,967
Total	...	...	No.	43,135	30,640	14,096	8,174	7,965	3,543	107,553
<b>Telephone instruments connected—</b>										
Subscribers' instruments	...	...	No.	52,068	37,641	15,636	10,879	9,568	4,180	129,972
Other Local instruments	...	...	No.	112	1,096	784	235	457	43	2,727
Total	...	...	No.	52,180	38,737	16,420	11,114	10,025	4,223	132,699
Total Revenue‡	...	...	£	389,018	281,274	135,942	85,776	71,133	31,745	994,888
Total cost to end of year‡	...	...	£	1,741,094	1,663,514	501,788	345,521	411,656	108,111	4,771,684

\* See note to first table on previous page. † Comprises slot machines within telephone networks. The information furnished under this heading for 1909 (see Year Book No. 4, page 793) included public telephone stations, i.e., trunk line offices. The latter have since been omitted, as it is thought that they do not rightly come under the heading of "public telephones." ‡ For the year ended 30th June, 1914.

In 1913 the mileage of telephone cables (aerial and underground) was 1981½, the length of telephone conduits in duct miles 1277.46, whilst the mileage of telephone tunnels was 12.3. The total mileage of telephone trunk lines for the Commonwealth for the same period was 52,052, of which number 13,220 were composed of single wire circuits, 16,855 of metallic circuits, and 21,977 of superimposed circuits.

## SECTION XIX.

## COMMONWEALTH FINANCE.

## § 1. General.

**1. Financial Provisions of the Constitution.**—The main provisions of the Constitution as originally drafted relating to the initiation and development of the financial system of the Commonwealth are those contained in Chapter IV., "Finance and Trade," being sections 81 to 105 of the Constitution Act. Two other sections which have a most important bearing on questions of Commonwealth finance are sections 69 and 51.

**2. Departments Transferred or Transferable under Constitution.**—In section 69 it is provided that the Departments of Customs and Excise in each State should become transferred to the Commonwealth on its establishment, and that on a date or dates to be proclaimed by the Governor-General after the establishment of the Commonwealth the following departments should become transferred:—

- (i.) Posts, telegraphs, and telephones.
- (ii.) Naval and military defence.
- (iii.) Lighthouses, lightships, beacons and buoys.
- (iv.) Quarantine.

Under proclamation dated 12th February, 1901, and published in the *Commonwealth Gazette* of the 14th of that month, the Departments of Posts, Telegraphs, and Telephones in each State became transferred to the Commonwealth as from the 1st March, 1901, while under a similar proclamation dated 19th February, 1901, and gazetted on the 20th, the Departments of Naval and Military Defence in each State also became transferred to the Commonwealth as from 1st March, 1901. In the case of Quarantine, an Act (No. 3 of 1908) has been passed and control has been assumed by the Commonwealth.

The requisite proclamation of transfer has not yet been made in the case of departments dealing with "Lighthouses, lightships, beacons, and buoys," although legislation relative thereto has been passed by the Federal Parliament (Act No. 14, 1911). It is expected that the proclamation will be made on 1st July, 1915.

**3. Departments Transferable by Means of Commonwealth Legislation.**—In addition to the departments here mentioned which pass to the Commonwealth either automatically or by proclamation, there are several others whose duties the Commonwealth is empowered to undertake after the passing by the Commonwealth of the legislation necessary to authorise the assumption of such duties. These are referred to in section 51 of the Constitution, which contains a statement of all matters respecting which power is (subject to the Constitution) conferred on Parliament "to make laws for the peace, order and good government of the Commonwealth." The matters contained in this section include those already mentioned as being covered by section 69. The principal matters involving for the due performance of the duties connected therewith the creation or transfer of departments of the Public Service are:—

- (i.) Trade and commerce.
- (ii.) Taxation.
- (iii.) Bounties on production or export of goods.

- (iv.) Postal, telegraphic, telephonic, and other like services.
- (v.) Naval and military defence.
- (vi.) Lighthouses, lightships, beacons, and buoys.
- (vii.) Astronomical and meteorological observations.
- (viii.) Quarantine.
- (ix.) Census and statistics.
- (x.) Bankruptcy and insolvency.
- (xi.) Copyrights, patents, and trade marks.
- (xii.) Naturalisation and aliens.
- (xiii.) Marriage.
- (xiv.) Divorce and matrimonial causes.
- (xv.) Invalid and old-age pensions.
- (xvi.) Immigration and emigration.
- (xvii.) Conciliation and arbitration.

**4. Commonwealth Departments.**—As a result of legislation passed from time to time in accordance with section 51, various departments and sub-departments have been transferred from the States to the Commonwealth, whilst other departments necessary for the due performance of the Commonwealth functions have been brought into existence. In the former class are such departments as those of Patents, Trade Marks, Copyrights, Designs, Naturalisation and Meteorology, while in the latter are the Ministerial Departments of External Affairs, Home Affairs, Treasury, Trade and Customs, Defence, Attorney-General and Postmaster-General, as well as such general departments as Public Service Commissioner's Office, Treasury, Audit Department, Crown Law Department, Bureau of Census and Statistics, Federal Land Tax Office, Prime Minister's Office, and Interstate Commission. It may, therefore, be said that, so far as its financial aspect is concerned, the effect of Federation up to the present time has been the transfer from States to Commonwealth of the revenue obtainable from the great revenue-producing Departments of Customs and Excise, and of the expenditure connected with various departments whose number is gradually increasing, and that, in addition, the various functions of the Commonwealth have necessitated further new expenditure.

**5. Financial Relations between Commonwealth and States.**—For the first ten years after Federation the financial relations between the Commonwealth and State Governments were regulated by section 87 of the Constitution, known generally as the "Braddon Clause." This provided that the Commonwealth should, until 31st December, 1910—and thereafter as long as Parliament should decide—retain for its own use an amount not exceeding one-fourth of the net revenue from Customs and Excise duties, the balance being returned to the States. The framers of the Constitution only contemplated a moderate Federal expenditure, and doubtless considered that one-fourth of the Customs and Excise revenue would be sufficient, as, indeed, it was in the earlier years. It began to be realised, however, later on, that if the Commonwealth was to undertake large national duties such as Defence, a greatly increased expenditure must be faced. Consequently, on the expiry of the "Braddon Clause" in 1910, it was replaced by an agreement much more favourable to the Commonwealth. This agreement, known as the "Commonwealth Surplus Revenue Act 1910," was passed by the Fisher Administration for a period of at least ten years. It provided that the Commonwealth was to retain the whole of the Customs and Excise revenue, and to make to the Government of each State (by monthly instalments) an annual payment, equal to 25s. per head of the population of the State. The population of a State in any financial year was considered, for the purposes of this Act, to be the number estimated by the Commonwealth Statistician as existing in the State on the 31st December falling in that financial year.

**Special Assistance.**—By the same Act provision was made that, during the period of ten years succeeding 1st July, 1910, a special payment should be made to Western Australia of an annual sum, starting at £250,000 for the first year, and progressively diminishing by £10,000 each subsequent year. One half of the amount was to be debited to all the States (including Western Australia) in proportion to population.

Assistance has also been granted to Tasmania, partly by means of the "Tasmania Grant Act of 1912," and partly by means of a special sum allocated by the Budget of 1913. According to the "Grant Act" a sum of £500,000 was set aside to be paid to Tasmania by ten annual instalments, starting at £95,000, and progressively diminishing by £10,000 until £5000 is reached. In the Budget of 1913 a further sum of £400,000 was allotted to Tasmania, to be paid in nine annual instalments, starting at £5000 and progressively increasing by £10,000 until the last payment, which will, however, be £80,000 instead of £85,000. As the result of these two grants Tasmania will have a first annual instalment of £95,000, then eight instalments of £90,000 each, and a final one of £85,000.

These concessions to Western Australia and Tasmania have been granted in consideration of the sacrifices made by these States, when yielding control of their Customs revenue to the Commonwealth. The whole question of the financial relations between the Commonwealth and States since Federation has been fully treated in the chapters on Commonwealth Finance, in all previous issues of the Year Book, up to and including No. 6.

## § 2. Consolidated Revenue Fund.

### (A) Nature of Fund.

The provisions made for the formation of a Commonwealth Consolidated Revenue Fund, and the means to be adopted for operating on that fund, are contained in sections 81, 82, and 83 of the Constitution. In section 81 it is provided that "All revenues or moneys raised or received by the Executive Government of the Commonwealth shall form one Consolidated Revenue Fund, to be appropriated for the purposes of the Commonwealth in the manner and subject to the charges and liabilities imposed by this Constitution." A strictly literal interpretation of this section would appear to require all loan and trust moneys received by the Commonwealth Executive to be paid to Consolidated Revenue. It is, however, held by Quick and Garrahan, in their "Annotated Constitution," that the "generic word *moneys* must be controlled by the preceding specific word *revenues*, and limited to moneys in the nature of revenue." This is the view of the matter which has been adopted by the Commonwealth Treasury in the preparation of its accounts. At present certain moneys received by the Commonwealth, which are not of the nature of revenue, are paid to Trust Account. As regards expenditure from the Consolidated Revenue Fund, section 82 provides that the costs, charges, and expenses incident to the collection, management, and receipt of the Consolidated Revenue Fund should form the first charge thereon, while section 83 stipulates that "no money shall be drawn from the Treasury of the Commonwealth except under appropriation made by law." Such appropriations are either special, and as such are provided for by means of a permanent Act, or are annual, and provided for in an annual Appropriation Act.

### (B) Revenue.

**1. Total Collections.**—The consolidated revenue of the Commonwealth, which in 1901-2, the first complete financial year under the new régime, amounted to £11,296,985, had, in 1913-14, reached a total of £21,741,775, an increase in the period of £10,444,790.

Particulars concerning the total amount of revenue collected by the Commonwealth Government from 1st July, 1909, to 30th June, 1914, are contained in the following table:—

### CONSOLIDATED REVENUE OF THE COMMONWEALTH, 1909-10 to 1913-14.

	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Commonwealth ...	15,540,669	18,806,237	20,548,520	21,907,084	21,741,775

For 1909-10 the total for the Commonwealth shews a substantial excess over any previous year. Since 1909-10 the revenue has increased steadily every year, except that 1913-14 shews a slight decline from 1912-13.

2. *Collections per Head.*—In the table given hereunder particulars are furnished of the amount of revenue per head of population collected in respect of the Commonwealth for the last five years :—

### COMMONWEALTH REVENUE PER HEAD OF POPULATION, 1909-10 to 1913-14.

	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Commonwealth ...	3 11 11	4 5 0	4 9 11	4 12 7	4 9 3

3. *Sources of Revenue.*—The following table furnishes particulars concerning the Commonwealth revenue derived from each source during the years 1909-10 to 1913-14 :—

### SOURCES OF COMMONWEALTH REVENUE, 1909-10 to 1913-14.

Sources of Revenue.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Customs ... ..	9,505,855	10,507,080	12,071,434	13,055,925	12,652,737
Excise ... ..	2,087,310	2,473,364	2,638,702	2,497,109	2,325,333
Postal ... ..	3,731,741	3,906,015	3,916,254	4,226,313	4,511,307
Defence ... ..	21,847	57,520	74,298	39,193	28,936
Patents ... ..	16,644	21,295	19,081	18,355	22,393
Trade Marks, Copyrights, and Designs	4,790	5,265	5,639	5,637	5,932
Quarantine ... ..	4,724	7,068	9,875	13,162	15,173
Coinage ... ..	69,646	198,893	156,489	122,647	208,348
New revenue ... ..	63,076	...	...	...	...
Public Service Pension Funds, Repayments and Transfers	35,036	61,405	39,027	42,006	36,824
Land Tax ... ..	...	1,370,344	1,366,457	1,564,794	1,609,836
Northern Territory ... ..	...	10,521	31,225	40,084	54,777
Credit Balance Northern Territory Funds	...	151,513	...	24,456	...
Miscellaneous ... ..	...	35,954	220,039	257,403	270,179
Total ... ..	15,540,669	18,806,237	20,548,520	21,907,084	21,741,775

The only feature of this table calling for remark is the rapid annual rise of the Customs revenue between 1909-10 and 1912-13. The Excise and Postal revenues have only shewn a comparatively small upward tendency during the period under review.

4. **Customs Revenue for Past Five Years.**—Particulars for the Commonwealth as a whole, for the five years 1909-10 to 1913-14, are furnished in the following table:—

**COMMONWEALTH CUSTOMS REVENUE, 1909-10 to 1913-14.**

Classes.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Stimulants ... ..	2,330,215	2,564,101	2,706,058	2,777,492	2,810,222
Narcotics ... ..	994,077	1,089,932	1,150,990	1,206,782	1,175,404
Sugar ... ..	506,385	170,822	275,077	691,568	209,375
Agricultural products ... ..	855,313	869,708	996,953	1,072,203	1,002,363
Apparel and textiles ... ..	1,872,832	2,068,922	2,385,786	2,367,945	2,514,170
Metals and machinery ... ..	997,973	1,264,986	1,554,983	1,639,749	1,672,125
Oils, paints, etc. ... ..	199,377	239,229	285,737	313,348	310,847
Earthenware, etc. ... ..	247,491	334,834	375,403	490,983	426,134
Drugs and chemicals ... ..	76,898	92,857	104,341	109,619	122,960
Wood, wicker, and cane ... ..	324,197	463,289	501,278	535,576	555,843
Jewellery, etc. ... ..	222,749	263,818	309,309	281,631	272,214
Leather, etc. ... ..	253,376	303,988	386,624	435,801	470,382
Paper and stationery ... ..	167,531	204,009	230,212	237,943	234,504
Vehicles ... ..	122,212	170,940	279,828	328,001	343,633
Musical instruments ... ..	82,949	109,423	176,009	165,839	166,059
Miscellaneous articles ... ..	220,580	258,953	313,505	361,350	330,548
Other receipts ... ..	31,700	37,269	39,141	40,095	35,954
<b>Total Customs ... ..</b>	<b>9,505,855</b>	<b>10,507,080</b>	<b>12,071,434</b>	<b>13,055,925</b>	<b>12,652,737</b>

It will be seen that throughout the period here dealt with, the Customs revenue from stimulants and narcotics has represented, approximately, one third of the total Customs revenue. The other principal articles from which Customs revenue was derived were "apparel and textiles," and "metals and machinery." The most marked increase in the amount of duty collected is in the class of "metals and machinery," the revenue under this head for 1913-14 exceeding that for 1909-10 by £674,152. The absolute increase in "apparel and textiles" is about the same, but the proportionate increase not so great.

5. **Excise Collections, 1909-10 to 1913-14.**—Particulars concerning the amount of Excise collected under each head during each of the years ending 30th June, 1910 to 1914, are given hereunder:—

**COMMONWEALTH EXCISE REVENUE, 1909-10 to 1913-14.**

Particulars.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Beer ... ..	584,503	617,178	694,001	718,869	792,243
Spirits ... ..	267,877	331,024	376,440	411,192	421,506
Starch ... ..	3,897	507	...	...	...
Sugar ... ..	548,716	794,645	748,670	518,508	179,149
Tobacco ... ..	673,437	720,305	810,242	840,012	927,293
Licenses ... ..	8,880	9,705	9,349	8,528	5,142
<b>Total Excise ... ..</b>	<b>2,087,310</b>	<b>2,473,364</b>	<b>2,638,702</b>	<b>2,497,109</b>	<b>2,325,333</b>



Comparing the Excise collections for 1913-14 with those for 1909-10 it will be seen that the increase in the revenue from tobacco was about 38 per cent., that from beer about 35 per cent., and that from spirits about 60 per cent., while the revenue from sugar decreased to one third of the original value, and decreases were also experienced in the return from starch and licenses.

**6. Commonwealth Taxation.**—Under section 51, sub-section (ii.) of the Constitution, power is given to the Commonwealth Parliament to make laws with respect to taxation, but so as not to discriminate between States or parts of States. Section 90 of the Constitution makes the power of the Commonwealth Parliament to impose Customs and Excise duties an exclusive one, but it would appear that as regards all other forms of taxation the States and Commonwealth possess concurrent powers. The question of the imposition by the Commonwealth Parliament of direct taxes such as land and income taxes is one which has been the subject of considerable discussion, and the opinion has been expressed that the intention of the framers of the Constitution was that of restricting the powers of taxation of the Commonwealth to the imposition of Customs and Excise duties except in cases of great national peril. Whatever the intention of the framers may have been in this matter, the Constitution itself contains no such provision, and the Commonwealth Parliament is given an absolutely free hand in the imposition of taxation. Up to the end of the financial year 1909-10 the only taxes so levied were those of Customs and Excise, referred to in detail in the foregoing paragraphs. During the 1910 session of the Federal Parliament, however, an Act—assented to on 17th November, 1910—was passed, giving to the Commonwealth the power of levying a tax upon the unimproved value of all lands within the Commonwealth which were owned by taxpayers, and not specially exempted. Detailed reference to this Act will be found in Commonwealth Year Books Nos. 5 and 6.

**7. Commonwealth Taxation: Budget of 1914-15.**—The fact stated in the previous paragraph, that there was nothing in the Constitution itself to restrain the Federal Government from entering the field of direct taxation, received further exemplification by the Budget of 1914-15. In the first place the Land Tax was raised by altering the graduation so that the increase in rate over the whole taxable value of the estate, for each succeeding pound of taxable value between £5000 and £75,000, was one eighteenthousand seven-hundred and fiftieth of a penny, instead of one thirty-thousandth of a penny, as hitherto. The maximum rate for resident owners now becomes 9d. in the £, on estates whose taxable value is more than £75,000. Corresponding increases in the rates payable by absentee owners were made, rising to a maximum of 10d. in the £ on estates whose taxable value is more than £80,000. These advances are estimated as likely to increase the annual yield of the Land Tax by £1,000,000. In addition to this substantial increase in an already existing tax, the Federal Government has, for the first time, introduced succession duties on estates of deceased persons, in addition to those already imposed by the State Governments. The new Commonwealth scale of succession duty, after starting by the exemption of all estates of less than £1000, ranges from a minimum of 1 per cent., to a maximum of 15 per cent. on estates of a higher taxable value than £71,000. The rate of duty for any estate may be found by the following rule. Divide the number of thousands of pounds in the estate by five, and to the quotient thus obtained add  $\frac{2}{5}$  per cent. in the case of an exact thousand, and  $\frac{1}{5}$  per cent. in every other case. Thus for an estate of £43,000 the duty would be  $9\frac{1}{5}$  per cent. (i.e.  $\frac{43}{5} + \frac{2}{5}$ ), but for an estate of £43,001 the duty would be  $9\frac{2}{5}$  per cent. (i.e.  $\frac{43}{5} + \frac{3}{5}$ ). The succession duties thus outlined are expected by the Federal Treasurer to yield about £1,000,000 per annum, but as the Budget for 1914-15 was not introduced until nearly the middle of the financial year, it is not likely that the revenue for the year will much exceed half of this sum, provided that the estimate is substantially correct.

**8. Commonwealth Land Tax.**—Particulars as to the Land Tax assessment for each State for the year ending 30th June, 1913, will be found in the following table:—

**PARTICULARS OF LAND TAX ASSESSMENT FOR EACH STATE OF THE  
COMMONWEALTH FOR THE YEAR ENDING 30th JUNE, 1913.**

State.	Number of Taxable Returns.	Unimproved Value as ascer- tained by Department.	Tax Assessed.		
			Town.	Country.	Total.
		£	£	£	£
Central—					
Resident ...	1,231	33,323,053	192,119	245,866	437,985
Absentee ...	240	552,927	7,562	2,664	10,226
	1,471	33,875,980	199,681	248,530	448,211
New South Wales—					
Resident ...	4,026	67,690,653	180,753	302,131	482,884
Absentee ...	531	1,841,278	13,307	10,119	23,426
	4,557	69,531,931	194,060	312,250	506,310
Victoria—					
Resident ...	4,119	48,830,539	88,547	163,969	252,516
Absentee ...	763	1,353,299	11,593	4,753	16,346
	4,882	50,183,838	100,140	168,722	268,862
Queensland—					
Resident ...	833	10,831,325	18,347	40,698	59,045
Absentee ...	269	441,247	1,892	1,869	3,761
	1,102	11,272,572	20,239	42,567	62,806
South Australia—					
Resident ...	1,557	17,453,763	29,127	66,036	95,163
Absentee ...	334	502,564	3,249	2,779	6,028
	1,891	17,956,427	32,376	68,815	101,191
Western Australia—					
Resident ...	465	6,272,399	21,473	17,327	38,800
Absentee ...	413	356,270	1,828	749	2,577
	878	6,628,669	23,301	18,076	41,377
Tasmania—					
Resident ...	433	5,421,210	5,690	24,054	29,744
Absentee ...	161	225,558	385	1,076	1,461
	594	5,646,768	6,075	25,130	31,205
Grand Total—					
Resident ...	12,664	189,822,942	536,056	860,081	1,396,137
Absentee ...	2,711	5,273,243	39,816	24,009	63,825
	15,375	195,096,185	575,872	884,090	1,459,962

9. **Details of Postal Revenue, 1909-10 to 1913-14.**—Particulars concerning the postal revenue of the Commonwealth for each of the financial years from 1909-10 to 1913-14 are contained in the following table:—

**COMMONWEALTH POSTAL REVENUE, 1909-10 to 1913-14.**

Particulars.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Private boxes and bags ...	19,078	20,993	23,383	25,618	27,744
Commission—					
Money orders & postal notes	104,457	112,568	121,432	129,653	134,834
Telegraphs ...	681,038	740,428	788,441	811,592	834,316
Telephones ...	509,623	518,857	752,423	860,726	996,047
Postage ...	2,253,500	2,363,385	2,088,866	2,260,000	2,391,424
Miscellaneous ...	164,045	149,784	141,709	138,724	126,942
<b>Total ...</b>	<b>3,731,741</b>	<b>3,906,015</b>	<b>3,916,254</b>	<b>4,226,313</b>	<b>4,511,307</b>

10. **Revenue from Patents.**—Under the Commonwealth Patents Act 1903, which was assented to on 22nd October, 1903, and came into force on 1st June, 1904, the complete control of the Patents administration of Australia passed from the several State Governments to that of the Commonwealth, which, under section 19 (a) of the Act mentioned, was authorised to collect for each State the fees to which it was entitled under the State Act in respect of proceedings then pending.

The revenue collected since the financial year 1909-10 is shewn in the following table:—

**COMMONWEALTH PATENTS REVENUE, 1909-10 to 1913-14.**

	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Revenue ...	16,644	21,295	19,081	18,355	22,393

11. **Revenue from Trade Marks, etc.**—Under the several Acts of the Commonwealth Legislature relating to trade marks, copyrights, and designs, the Commonwealth Government has assumed the exclusive administration of such matters, and now collects all revenue accruing therefrom. The following table gives particulars of the amounts since this item first appeared in the Commonwealth accounts:—

**COMMONWEALTH TRADE MARKS, COPYRIGHTS AND DESIGNS REVENUE, 1909-10 to 1913-14.**

	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Revenue ...	4,790	5,265	5,639	5,637	5,932

12. **Defence Revenue.**—The revenue appearing under the head of "Defence" comprises the receipts derived from the sale of stores and clothing, from fines, etc., and for 1913-14 amounted to £28,936.

13. **Coinage.**—The revenue for the Commonwealth under this head is derived from the profit on coin issued, and is made up of £198,453 from silver coin and £9895 from bronze coin.

**(C) Expenditure.**

1. **Nature of Commonwealth Expenditure.**—The disbursements by the Commonwealth Government of the revenue collected by it fell naturally, under the "book-keeping" system, into three classes, viz.:—

\* For a discussion of the "book-keeping system" see Commonwealth Year Book. No. 6. p. 780.

- (a) Expenditure on transferred services.
- (b) Expenditure on new services.
- (c) Payment to States of surplus revenue.

Of these three, only the first two were actual expenditure, the last being merely a transfer, the actual expenditure being incurred by the States. In accordance with the provisions of the Constitution the expenditure on transferred services was, under the "book-keeping" system, debited to the several States in respect of which such expenditure was incurred, while the expenditure on new services was distributed *per capita*. Surplus Commonwealth revenue was paid to the States monthly. During the earlier years of Federation, viz., until the end of the year 1903-4, new works, etc., for transferred departments were treated as transferred expenditure, and were charged to the States on whose behalf the expenditure had been incurred. In subsequent years all such expenditure was regarded as expenditure on new services, and was distributed amongst the States *per capita*. Under the new system of keeping the accounts there is no further debiting of expenditure to the several States.

2. **Total Expenditure.**—The total expenditure by the Commonwealth Government during the period 1909-10 to 1913-14 is shewn in the following table:—

**COMMONWEALTH EXPENDITURE, 1909-10 to 1913-14.**

	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Commonwealth ...	7,499,516	13,158,529	14,724,097	15,787,154	15,458,776

The largely increased expenditure of recent years is due partly to old age and invalid pensions, partly to fleet construction, and partly to such public works as the Transcontinental Railway, Federal Capital, etc.

3. **Expenditure per Head.**—Particulars concerning the Commonwealth expenditure per head are furnished hereunder:—

**COMMONWEALTH EXPENDITURE PER HEAD, 1909-10 to 1913-14.**

	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Commonwealth ...	1 14 8	2 19 6	3 4 6	3 6 8	3 3 5

4. **New Works, etc.**—As previously mentioned, the Commonwealth expenditure on new works, etc., for transferred departments was, prior to 1904-5, included under the head of "transferred" expenditure, but in that and subsequent years up to 1909-10 has been treated as "other" expenditure, and debited to the States *per capita*. Particulars of the expenditure on new works, etc., during the last five years are given in the following table:—

**COMMONWEALTH EXPENDITURE ON NEW WORKS, etc., 1909-10 to 1913-14.**

Departments.	1909-10.	1910-11.	1911-12.	1912-13. (a)	1913-14. (b)
	£	£	£	£	£
Trade and Customs ...	5,124	...	...	...	...
Defence ...	337,961	...	...	...	...
Postal ...	555,557	...	...	...	...
Sundry departments ...	2,526	2,452,960	3,566,367	2,653,282	2,576,000
Total ...	901,168	2,452,960	3,566,367	2,653,282	2,576,000

(a) In addition, the following amounts were spent from Trust Funds:—£475,342 for Fleet construction, and £413,097 for Telegraphs and Telephones. (b) In addition, the following amounts were spent from Trust Funds: £721,487 for Fleet construction, and £16,493 for Telegraphs and Telephones.

It will be seen that the Commonwealth expenditure under this head has increased considerably in recent years, the total for 1913-14 being nearly three times as great as that for 1909-10. The main cause of the great increase in recent years is the large expenditure on fleet construction.

5. **Cost of Departments, etc.**—Arranged in such a manner as to shew under each Department the expenditure on behalf of that Department, the cost of the several branches of the Commonwealth service for the years 1909-10 to 1913-14 was as follows:—

**COST OF COMMONWEALTH DEPARTMENTS, etc., 1909-10 to 1913-14.**

Departments, etc.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Governor-General ... ..	21,908	20,884	23,842	21,648	17,815
Parliament ... ..	220,233	211,558	189,550	281,261	243,163
Prime Minister ... ..	...	...	14,863	57,559	82,847
External Affairs ... ..	80,469	454,128	494,010	539,722	678,974
Attorney-General ... ..	32,349	35,329	62,899	66,517	82,442
Home Affairs ... ..	88,112	179,097	155,628	128,972	152,299
Treasury ... ..	74,108	1,960,318	2,368,596	2,910,224	2,787,034
Trade and Customs ... ..	777,788	1,051,497	1,024,389	875,784	730,458
Defence ... ..	1,534,881	1,335,798	2,128,649	2,612,687	2,950,722
Postmaster-General ... ..	3,786,755	3,559,785	4,380,896	4,781,524	5,157,022
All other Expenditure ... ..	882,915	4,290,135	3,990,865	5,510,256	2,576,000
Total ... ..	7,499,516	13,158,529	14,724,097	15,787,154	15,458,776

The largeness of the expenditure under the head of Parliament in the years 1909-10 and 1912-13 was in great measure due to the fact that the general elections were held in those years, while the expenditure in connection with the sugar bounties is mainly responsible for the variations which have taken place in the cost of the Department of Trade and Customs. The amount paid in Old-Age and Invalid Pensions is included in Treasury expenditure for the first time in 1910-11. It may be noted that the great increase in the item "all other expenditure," for the year 1910-11 and subsequent years, is owing to the inclusion for the first time of the expenditure on "new works," which had formerly been debited to the departments in which it had been incurred. More detailed reference to the items included under the above general heads is furnished in the succeeding paragraphs.

6. **Governor-General.**—In section 3 of the Constitution it is enacted that, until the Commonwealth Parliament otherwise provides, there shall be payable out of the Consolidated Revenue Fund for the salary of the Governor-General an annual sum of ten thousand pounds, and a proviso is made that the salary of the Governor-General shall not be altered during his continuance in office. The total expenditure in connection with the Governor-General and his establishment for the five years 1909-10 to 1913-14 is as follows:—

**EXPENDITURE, GOVERNOR-GENERAL AND ESTABLISHMENT, 1909-10 to 1913-14.**

Details.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Salary ... ..	10,000	10,000	9,973	10,000	10,000
Governor-General's Establishment ... ..	7,754	6,848	10,113	6,983	5,118
Contingencies ... ..	4,154	4,036	3,756	4,665	2,697
Total ... ..	21,908	20,884	23,842	21,648	17,815

7. **Parliament.**—Under this head have been grouped all the items of expenditure connected with the Parliamentary Government of the Commonwealth, including the salaries of the Ministers and the allowances to senators and members of the House of Representatives. Details for the five years 1909-10 to 1913-14 are furnished in the table given hereunder:—

**EXPENDITURE, COMMONWEALTH PARLIAMENT, 1909-10 to 1913-14.**

Details.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Salaries of Ministers ... ..	12,000	12,000	12,000	12,000	12,000
Allowances to Senators ... ..	21,368	21,519	20,997	20,950	21,004
Allowances to Members of House of Representatives ... ..	37,112	43,205	43,257	39,198	43,745
Officers, staff, contingencies, etc. ... ..	31,458	30,938	30,985	32,873	36,703
Repairs, maintenance, etc. ... ..	2,636	1,939	1,814	3,172	2,808
Printing ... ..	15,660	16,507	16,829	19,341	20,078
Travelling expenses of Members and others	9,767	9,153	10,029	9,252	10,627
Insurance ... ..	342	342	342	342	342
Electoral Office ... ..	6,191	5,288	5,578	6,764	11,716
Election expenses ... ..	49,958	5,364	1,435	82,370	28,252
Referendum ... ..	...	47,487	4,183	...	...
Administration of Electoral Act ... ..	33,602	17,437	39,863	54,441	54,541
Miscellaneous ... ..	139	379	2,238	558	1,347
<b>Total ... ..</b>	<b>220,233</b>	<b>211,558</b>	<b>189,550</b>	<b>281,261</b>	<b>243,163</b>

In section 66 of the Constitution provision is made that there shall be payable out of the Consolidated Revenue Fund of the Commonwealth, for the salaries of Ministers of State, an annual sum which, until Parliament otherwise provides, shall not exceed £12,000. This provision is still in force. Allowances to senators and members of the House of Representatives are also provided for in the Constitution, section 48 of which specifies that until Parliament otherwise provides each such allowance shall consist of £400 a year, reckoned from the day on which the member takes his seat. During the second session of the Commonwealth Parliament in 1907 the question of allowances to members came under consideration, and an Act was passed raising the annual allowance from £400 to £600, such increase to date from 1st July, 1907.

**8. Prime Minister's Department.**—This is a new department created during the financial year 1911-12. In addition to the Prime Minister's Office it includes the Audit Office taken from the Treasury, the Executive Council taken from the External Affairs Department, and the Public Service Commissioner's Office taken from the Home Affairs Department. The expenditure for the three years of its existence is shewn in the following table :—

**EXPENDITURE, PRIME MINISTER'S DEPARTMENT, 1911-12 to 1913-14.**

Details.	1911-12.	1912-13.	1913-14.
	£	£	£
Salaries, Contingencies, etc. ... ..	4,447	21,685	8,961
Executive Council ... ..	109	128	152
Audit Office... ..	9,454	10,663	12,167
Rent, Repairs, etc. ... ..	761	3,381	2,552
Public Service Commissioner's Office ... ..	...	20,683	22,303
Miscellaneous ... ..	92	1,019	36,712
<b>Total ... ..</b>	<b>14,863</b>	<b>57,559</b>	<b>82,847</b>

**9. External Affairs.**—Under the control of the Department of External Affairs is placed the expenditure in connection with the London Office, Papua and the Northern Territory. The expenditure in connection with the Northern Territory is exclusive of the Customs and Postal expenditure. Particulars for the five years 1909-10 to 1913-14 are as follows :—

## EXPENDITURE, EXTERNAL AFFAIRS DEPARTMENT, 1909-10 to 1913-14.

Details.				1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
				£	£	£	£	£
High Commissioner	...	...	...	...	3,000	3,000	3,000	3,000
Chief Office	...	...	...	13,882	13,862	15,684	16,486	18,320
Executive Council	...	...	...	781	737	...	...	...
London Office	...	...	...	4,647	17,286	14,282	21,351	24,606
Papua	...	...	...	28,549	30,615	30,280	64,987	60,640
Rents, repairs, etc.	...	...	...	820	655	1,298	1,500	1,466
Northern Territory	...	...	...	...	326,347	248,758	231,140	335,850
Port Augusta Railway	...	...	...	...	...	119,426	95,965	102,394
Miscellaneous	...	...	...	31,790	61,626	61,282	65,293	132,698
Total	...	...	...	80,469	454,128	494,010	539,722	678,974

10. **Northern Territory.**—The Department of External Affairs assumed control of the administration of the Northern Territory from 1st January, 1911, and separate accounts were issued for the first time in the Treasurer's statement for the financial year ending 30th June, 1911. The chief sources of revenue for the year ending 30th June, 1914, were the Customs and Excise, amounting to £12,628, and railways £18,034. The Postal revenue amounted to £5290, whilst the total revenue was £73,657. The chief items of expenditure were as follows:—Postal Department, £17,303; goldfields and mining, £23,267; railways, £22,991; and police, £10,614. The total expenditure was £286,264. In addition to this expenditure the Commonwealth is liable for interest on loans and redemption, which for this financial year totalled £246,271. The deficiency for the year was £458,878.

11. **Papua.**—The sums shewn in the above table as expenditure in connection with Papua represent the Commonwealth grants towards the cost of administering that territory, as well as certain additional amounts. The ordinary revenue and expenditure of Papua are kept distinct from those of the Commonwealth. Apart from the Commonwealth contribution, the principal source of revenue is the Custom House. Details for the five years 1909-10 to 1913-14 are as follows:—

## PAPUAN REVENUE, 1909-10 to 1913-14.

Details.				1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
				£	£	£	£	£
Customs dues	...	...	...	24,901	32,554	37,751	33,453	37,341
Other collections	...	...	...	11,017	13,418	13,284	18,882	17,363
Commonwealth grant	...	...	...	26,000	30,000	30,000	48,000*	30,000
Total	...	...	...	61,918	75,972	81,035	100,335	84,704

\* Including £18,000 for special purposes.

The expenditure for 1913-14 totalled £81,095, out of which £36,045 was spent on the Government Secretary's Department, and £22,712 on the Departments of Agriculture, Lands, Survey, and Mines. The total expenditure for each of the five years 1909-10 to 1913-14 was as follows:—

PAPUAN EXPENDITURE, 1909-10 to 1913-14.

Particulars.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Total expenditure ...	64,874	70,699	85,636	89,170	81,095

12. **Attorney-General's Department.**—The extra expenditure connected with this Department from 1907-8 was brought about in large measure by the extension of the Federal High Court, the total cost of which, including the Court of Conciliation and Arbitration, for the year 1913-14, amounted to £39,159. The expenditure on Patents, Trade Marks, Copyrights, and Designs was included for the first time in 1911-12. Details for the five years 1909-10 to 1913-14 are furnished hereunder:—

EXPENDITURE, ATTORNEY-GENERAL'S DEPARTMENT, 1909-10 to 1913-14.

Details.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Attorney-General's Office ...	3,684	3,805	4,449	5,279	6,302
Crown Solicitor's Office ...	3,458	4,472	4,829	6,046	7,565
Salaries of Justices of High Court ...	15,500	15,500	15,500	16,495	21,500
High Court expenses ...	6,888	7,459	6,772	6,839	11,209
Court of Conciliation and Arbitration ...	1,289	2,891	4,047	4,690	6,450
Rent, repairs, etc. ...	1,530	1,202	3,411	3,745	3,733
Patents, Trade Marks, etc. ...	...	...	23,291	22,768	24,439
Miscellaneous ...	...	...	600	655	1,244
Total ...	32,349	35,329	62,899	66,517	82,442

13. **Home Affairs Department.**—The creation of new departments such as the Bureau of Census and Statistics, and the Meteorological Bureau, and the extension of the field of operations of the Public Works branch, all of which are grouped for general administrative purposes under the Department of Home Affairs, have led to a considerable increase in the expenditure. The heaviness of the expenditure of this department for 1910-11 was mainly due to the appropriation for the census. The large increase in "Miscellaneous" for 1913-14 was due to an item of £32,916, representing interest on that portion of the Commonwealth Inscribed Stock, which was allocated to the expenditure of this department. Particulars for the five years 1909-10 to 1913-14 are as follows:—

EXPENDITURE, HOME AFFAIRS DEPARTMENT, 1909-10 to 1913-14.

Details.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Chief Office ...	11,454	14,178	15,684	22,606	26,337
Public Service Commissioner ...	15,952	16,989	17,881	*	*
Public Works ...	17,738	11,505	17,192	26,054	11,546
Census and Statistics ...	15,137	106,567	68,857	29,886	21,662
Meteorological Bureau ...	16,414	17,389	22,389	22,729	23,639
Rents, repairs, etc. ...	5,882	4,845	6,111	7,796	12,070
Miscellaneous ...	5,535	7,624	7,514	20,901	57,045
Total ...	88,112	179,097	155,628	129,972	152,299

\* Now included in Prime Minister's Department.

14. **Treasurer's Department.**—The sub-departments under the control of the Commonwealth Treasurer are the Treasury, the Old Age Pensions Department, and



the Land Tax Office. The Audit Office was transferred to the Prime Minister's Department in 1911-12. During the financial year 1909-10 the expenditure under this department was swelled by the increased expenditure on salaries, etc., in the Old Age Pensions Department. The statements in previous Year Books, up to No. 5 inclusive, have been rearranged so as to include expenditure on Invalid and Old Age Pensions from 1908-9; consequently, for the years 1909-10 and 1910-11 the amounts given below differ from those on page 698 by the item "Invalid and Old Age Pensions." Details of the expenditure of this department for each of the five years 1909-10 to 1913-14 are furnished hereunder:—

### EXPENDITURE, TREASURER'S DEPARTMENT, 1909-10 to 1913-14.

Details.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Treasury ... ..	11,862	12,273	13,708	17,052	22,696
Old-age pensions—Salaries, etc. ...	36,423	37,492	39,810	42,543	44,942
Audit ... ..	8,593	8,819	...	...	...
Rents, repairs, etc. ... ..	3,410	5,293	7,206	7,101	6,294
Invalid and Old-age pensions ...	841,181	1,874,568	2,143,212	2,288,388	1,881,794*
Land Tax ... ..	...	...	60,686	73,452	79,525
Maternity Allowance ... ..	...	...	...	412,375	674,990
Miscellaneous ... ..	13,820	21,873	43,884	69,313	76,793
Total ... ..	915,289	1,960,318	2,308,506	2,910,224	2,787,034

\* In addition, £697,471 was spent from Trust Funds.

15. **Trade and Customs.**—Under this head have been included the expenditure of all the sub-departments under the control of the Minister of Trade and Customs, as well as the amounts payable as sugar and other bounties and the expenses in connection therewith. The Administration of Patents, Trade Marks, and Copyright is now entrusted to the Attorney General's Department. The fluctuations in the total expenditure of this department in recent years have been mainly due to variations in the amount payable in respect of sugar bounties. Particulars for the five years 1909-10 to 1913-14 are given in the following table:—

### EXPENDITURE, TRADE AND CUSTOMS DEPARTMENT, 1909-10 to 1913-14.

Details.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Chief Office ... ..	11,954	13,260	12,698	13,582	14,429
Customs (ordinary) ... ..	255,779	286,410	301,278	347,657	341,116
Patents ... ..	19,284	20,140	...	...	...
Trade Marks and Copyrights ... ..	...	...	...	...	...
Fisheries ... ..	5,605	5,354	6,688	6,754	7,443
Analyst ... ..	1,995	2,511	3,235	2,523	3,441
Audit (proportion) ... ..	7,426	7,281	7,057	7,763	8,144
Quarantine ... ..	23,355	21,246	22,973	23,371	44,063
Pensions and retiring allowances ...	8,058	10,308	12,049	14,099	13,318
Rents, repairs, etc. ... ..	9,994	12,068	17,969	13,371	14,872
Sugar bounties and expenses ... ..	407,777	630,762	543,503	370,125	149,244
Bounties ... ..	5,885	11,740	22,941	18,171	14,304
New works, etc. ... ..	5,124	...	...	...	...
Iron Bonus ... ..	32,579	29,427	23,048	18,098	51,810
Miscellaneous ... ..	15,552	990	50,950	40,270	68,274
Total ... ..	810,367	1,051,497	1,024,389	875,784	730,458

16. **Defence.**—The Commonwealth expenditure in connection with Defence, which in 1901-2 amounted to £861,218, had by 1909-10 grown to £1,534,881. A slight fall was experienced in 1910-11 owing to the loss of the item "new works." The largeness of the expenditure for recent years has been in the main the consequence of the new defence system. Particulars for the five years 1909-10 to 1913-14 are as follows:—

**EXPENDITURE, DEFENCE, 1909-10 to 1913-14.**

Details.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Chief Office ... ..	26,366	32,609	54,004	74,480	86,191
Military ... ..	853,420	1,040,981	1,409,398	1,557,443	1,547,921
Naval ... ..	263,143	273,076	449,701	790,750	979,554
Audit (proportion) ... ..	954	1,142	1,180	1,298	1,362
Pensions and retiring allowances	781	965	2,269	1,121	1,103
Rents, repairs, etc. ... ..	29,621	42,863	46,257	58,746	70,471
New works, etc. ... ..	337,961	...	...	...	...
Miscellaneous ... ..	22,635	4,162	165,840	128,849	264,120
<b>Total ... ..</b>	<b>1,534,881</b>	<b>1,395,798</b>	<b>2,128,649</b>	<b>2,612,687</b>	<b>2,950,722</b>

17. **Postal.**—From a total of £3,786,755 in 1909-10 the cost of the department under the control of the Postmaster-General advanced to £5,157,022 in 1913-14, an increase of £1,370,267. The large increase in "Miscellaneous" since 1910-11 is due, in the main, to the payment of interest on transferred properties, which is discussed in detail in the next paragraph. Details for the five years 1909-10 to 1913-14 are furnished hereunder:—

**EXPENDITURE, POSTAL DEPARTMENT, 1909-10 to 1913-14.**

Details.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Chief Office ... ..	12,324	14,208	18,515	20,154	22,506
Postal Department (ordinary) ...	3,123,357	3,441,720	3,796,157	4,145,803	4,567,895
Audit (proportion) ... ..	2,398	2,704	2,894	3,184	3,340
Pensions and retiring allowances	32,083	31,209	36,812	42,757	48,400
Rents, repairs, etc. ... ..	54,484	62,454	72,222	84,883	88,884
New works, etc. ... ..	555,557	...	...	...	...
Miscellaneous ... ..	6,552	7,490	404,296	484,743	425,997
<b>Total ... ..</b>	<b>3,786,755</b>	<b>3,559,785</b>	<b>4,330,896</b>	<b>4,781,524</b>	<b>5,157,022</b>

18. **Interest on Transferred Properties.**—At the time of Federation, when the Commonwealth undertook control of a great many departments which had previously been worked by the States, a great deal of property was handed over to the Commonwealth Government. This consisted mainly of Post Offices, Customs Houses, Defence works, and other buildings necessary to the effective working of the transferred departments. In the early days of the "Braddon Clause," when the Commonwealth Government was spending less than its statutory proportion of the Customs revenue, the question of suitable compensation to the States did not become acute; but, when the "Braddon Clause" was replaced by another arrangement between Commonwealth and States, much less favourable to the latter, the matter was put upon a more definite footing. In the Commonwealth accounts for 1911-12 and 1912-13, definite amounts (independent entirely of the subsidy) have been paid to the States under the heading "Interest on Transferred Properties." These amounts have been substantially based upon a valuation made by the Home Affairs Department, with the following result:—

## VALUATION OF TRANSFERRED PROPERTIES.

State.	Department.				Total.
	Postmaster-General.	Defence.	Trade and Customs.	Home Affairs.	
	£	£	£	£	£
New South Wales ...	2,337,316	1,182,003	154,009	1,320	3,674,648
Victoria ...	1,332,862	805,389	190,657	1,266	2,330,174
Queensland ...	925,628	386,802	202,082	7,356	1,521,868
South Australia ...	842,281	161,140	28,486	815	1,032,722
Western Australia ...	600,895	64,842	37,714	885	704,286
Tasmania ...	214,906	121,490	48,212	143	384,751
Commonwealth ...	6,253,888	2,721,666	661,160	11,735	9,648,449

Since the valuation a few transfers and re-transfers have been made. Making allowances for these, the following tables shew particulars of the payments made:—

## STATES.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Totals.
	£	£	£	£	£	£	£
Interest—							
Calculated on original valuation ...	385,838	244,668	159,796	108,436	73,950	40,399	1,013,087
Added for further transfers	71	381	...	...	...	...	452
	385,909	245,049	159,796	108,436	73,950	40,399	1,013,539
Deducted for properties re-transferred ...	300	407	639	271	2,837	42	4,496
Balance due 30th June, 1913	385,609	244,642	159,157	108,165	71,113	40,357	1,009,043
Paid during year 1911-12 ...	220,296	138,941	90,781	61,769	36,147	23,061	570,995
Paid during year 1912-13 ...	165,313	105,701	63,376	46,396	34,966	17,296	438,048
Paid during year 1913-14 ...	144,453	87,068	53,989	36,032	27,357	13,450	362,349

## DEPARTMENTS.

Particulars.	Postmaster-General.	Defence.	Trade and Customs.	Home Affairs.	Totals.
	£	£	£	£	£
Interest—					
Calculated on original valuations ...	656,658	285,775	69,422	1,232	1,013,087
Added for further transfers	377	59	16	...	452
	657,035	285,834	69,438	1,232	1,013,539
Deducted for properties re-transferred ...	3,291	1,141	64	...	4,496
Balance due to 30th June, 1913	653,744	284,693	69,374	1,232	1,009,043
Paid during year 1911-12 ...	368,645	162,131	39,515	704	570,995
Paid during year 1912-13 ...	285,099	122,562	29,859	528	438,048
Paid during year 1913-14 ...	217,730	94,859	49,350	410	362,349

Interest has been paid as from 1st July, 1910. In the year 1911-12, interest at the rate of 3 per cent. for two years was paid. In the year 1912-13, interest at the rate of  $3\frac{1}{2}$  per cent. was paid, together with two yearly payments at the rate of  $\frac{1}{2}$  per cent., thus completing payment for the full period at the rate of  $3\frac{1}{2}$  per cent. In 1913-14 the interest on account of the Customs Department was swelled by a four years' payment on the transferred Quarantine buildings.

19. **Miscellaneous.**—In addition to the foregoing there are certain items which do not come under any of the heads enumerated. For 1913-14 the total expenditure under this heading was £2,576,000, made up entirely of expenditure on new works. The entire expenditure for new works now appears as a separate item instead of being debited to the different departments, and has already been discussed on p. 697.

#### (D) Subsidy Paid to States.

1. **Net Revenue.**—As mentioned in sub-section 1 of this section, the Constitution provided under sections 87, 93 and 95 for the payment to the States of all surplus revenue of the Commonwealth, such payment to amount in the aggregate during the continuation of the Braddon clause to not less than three-fourths of the net revenue from Customs and Excise. The expression "net revenue" used in section 87 has been taken to mean the gross revenue less drawbacks and refunds, and less also cost of collection. This view, adopted by the Commonwealth Government, was that indicated by Quick and Garran in their "Annotated Constitution of the Australian Commonwealth," in which they say: "The net revenue from duties of Customs and Excise is the total receipts from these sources after deducting the cost of collection. No attempt was made in the Constitution to define the deductions which may be made in order to arrive at the net revenue; this is a matter of book-keeping, which is left wholly to the Executive Government." In actual practice the statutory three-fourths of net Customs and Excise revenue was ascertained by the Commonwealth Treasury by deducting from the total Customs and Excise revenue (less drawbacks and refunds) the "transferred" expenditure of the Department of Trade and Customs and the expenditure on new works for that department, and taking three-fourths of the result.

2. **Payments to the Several States.**—In the following table are furnished particulars relative to the amounts actually paid to the several States on account of each of the financial years 1909-10 to 1913-14:—

#### COMMONWEALTH SUBSIDY PAID TO STATES, 1909-10 to 1913-14.

State.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
New South Wales ...	3,480,314	1,954,986	2,046,993	2,178,683	2,248,241
Victoria ...	2,109,379	1,617,572	1,667,657	1,692,121	1,733,229
Queensland ...	1,099,383	691,625	761,302	780,051	810,274
South Australia ...	842,508	514,622	511,719	527,151	540,113
Western Australia ...	707,672	591,243	599,991	605,215	613,606
Tasmania ...	253,180	233,143	236,761	(a) 241,709	(b) 247,536
Total ...	8,492,436	5,603,191	5,824,423	(a) 6,024,930	(b) 6,192,999

(a) Not including special grant of £95,000 to Tasmania.

(b) " " " " £90,000

In 1909-10 the surplus revenue returned to the States was higher in every case than in 1908-9. In 1910-11, owing to the new system of allotting the Commonwealth subsidy, the amounts received by each State, except South Australia, were the smallest for the period under review, but they all rose, with the exception of South Australia, in 1911-12, and again, without exception, in 1912-13 and 1913-14. The amounts allotted to Tasmania in the last two years are exclusive of the first instalments of the special payment to which reference has already been made (see page 691).

**3. Commonwealth Subsidy per head of Population.**—The following table furnishes particulars concerning the amount of surplus Commonwealth revenue per head of population which the several States received during the financial years 1905-6 to 1909-10, and is of interest in connection with the present financial agreement, under which the Commonwealth pays 25s. per head of population, to all the States, for a period of ten years, subject to a special arrangement in favour of Western Australia (see page 691).

**COMMONWEALTH SUBSIDY PER HEAD OF POPULATION PAID TO STATES,  
1905-6 to 1909-10.**

State.	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
New South Wales ...	1 16 10	1 19 9	2 6 4	2 2 0	2 3 1
Victoria ...	1 14 7	1 16 1	1 18 7	1 11 9	1 13 0
Queensland ...	1 12 3	1 14 10	1 18 1	1 16 10	1 18 1
South Australia ...	1 10 8	1 14 10	2 1 11	1 16 10	2 2 6
Western Australia ...	3 9 9	3 0 9	2 19 1	2 8 4	2 13 3
Tasmania ...	1 7 5	1 8 2	1 9 6	1 5 6	1 6 3
Commonwealth ...	1 16 8	1 18 4	2 2 7	1 17 6	1 19 3

**4 Proportion Actually Paid.**—For the period of nine and a-half years from the 1st January, 1901, to 30th June, 1910, the percentage of net revenue from Customs and Excise duties paid to the several States was as follows:—New South Wales, 84 per cent.; Victoria, 80 per cent.; Queensland, 74 per cent.; South Australia, 84 per cent.; Western Australia, 86 per cent.; Tasmania, 78 per cent.

### § 3. Trust Fund.

**1. Trust Accounts.**—The Trust Fund credit balance on 30th June, 1914, amounted to £13,116,293, as compared with £13,838,381 for the corresponding date in the year ending 30th June, 1913. These enormous amounts are due mainly to the Australian Notes Account referred to in detail in paragraph 3. Details concerning the various trust accounts contributing to this amount are as follows:—

## COMMONWEALTH TRUST FUND, 30th JUNE, 1914.

Trust Accounts.	Balance at 30th June, 1914.	Trust Accounts.	Balance at 30th June, 1914.
	£		£
Small Arms Ammunition ...	24,077	Officers' Assurance... ..	1,706
Defence Clothing Material ...	38,117	Defalcations ... ..	209
Small Arms... ..	3,382	Guarantee Fund ... ..	3,218
Unclaimed Militia Pay—Military	3,106	Naval Defence ... ..	561
"                    "      Naval	398	Repatriation of Pacific Islanders	40
Military Expenses ... ..	4,080	London Liabilities ... ..	1,302,197
Deferred Pay—Naval ... ..	98,611	Quarantine ... ..	60
Customs Officers' Overtime ...	954	Other Trust Moneys ... ..	92,568
Money Order ... ..	40,000	Minerals Account ... ..	2,549
International Postal & Money		Australian Notes Account ...	10,091,201
Order ... ..	10,051	Miscellaneous ... ..	84,861
Invalid and Old Age Pensions...	1,314,347		
		Total ... ..	13,116,293

2. **Distribution.**—The amounts to credit of Trust Fund in the several States on 30th June, 1914, were as follows:—New South Wales, £594,699; Victoria, £11,929,152; Queensland, £163,420; South Australia, £175,744; Western Australia, £126,114; and Tasmania, £127,164.

3. **Australian Notes Account.**—After the passage of the Australian Notes Act, Australian notes began to appear in circulation in December 1910. For the first half of the calendar year 1911, they circulated side by side with bank notes and Queensland Treasury notes. After 30th June, 1911, the penal clauses of the Notes Act came into operation, and the banks and the Queensland Government began to withdraw their notes from active circulation. By the end of the year the process was virtually complete. On 30th June, 1914, the notes issued and unredeemed amounted to £9,595,551. Against this there was a reserve in gold coin of £4,144,581 and other assets, of which the most important were investments in Government Stock and fixed deposits, totalling £5,860,000, and returning an annual income of £210,285.

The position, according to a Treasury return issued at the end of March, 1915, was as follows:—

## COMMONWEALTH NOTES ISSUED AND UNREDEEMED AT 31st MARCH, 1915.

	£	s.	d.
10s. ... ..	414,611	0	0
£1 ... ..	7,056,173	0	0
£5 ... ..	4,382,795	0	0
£10 ... ..	1,851,650	0	0
£20 ... ..	429,580	0	0
£50 ... ..	1,322,550	0	0
£100 ... ..	1,729,900	0	0
£1000 ... ..	9,479,000	0	0
	26,666,259	0	0

The amount of the gold reserve was £10,111,101, representing 37.91 per cent. of the liability.

The subject is also dealt with at some length in Section XXI., Sub-section 2, Banking.

4. **Advances by Commonwealth Government to States.**—Reference has been made in the previous paragraph to the investments of the gold reserve from the Australian Notes Account. A large proportion has been advanced to the respective State Governments for short periods, sometimes as low as one year. This is a novel and interesting

departure in Australian Public Finance, and in view of the new financial relations thus brought about between the Commonwealth and State Governments, the following table is appended, giving full particulars of the investments of £5,860,000, to which reference has already been made:—

**AUSTRALIAN NOTES ACCOUNT.—PARTICULARS OF INVESTMENT AS AT  
30th JUNE, 1914.**

Investment.	Amount.	Rate of Interest.	Date of Maturity.	Annual Amount of Interest.
	£	%		£
Commonwealth Inscribed Stock ...	3,076,000	3½	1/4/1962 to 1/4/1972	107,660
<b>STATE GOVERNMENT SECURITIES</b>				
New South Wales Funded Stock	800,000	3½	10/8/1919	30,000
Victorian Government Debentures	784,000	3½	1/5/1921	28,000
Western Australian Stock ...	590,000	3½	1/1/1926	22,125
Tasmanian Inscribed Stock ...	460,000	3½	1/4/1921 to 1/10/1921	17,250
<b>FIXED DEPOSIT—</b>				
Commonwealth Bank ...	150,000	3½	31/7/1914 to 30/9/1914	5,250
<b>Total ...</b>	<b>5,860,000</b>	<b>£3 11 9</b>	<b>—</b>	<b>210,285</b>

In the financial year 1913-14 the Commonwealth Government called in as far as possible its outstanding advances to the State Governments. The money lent on fixed deposit was taken up as the term expired; and furthermore, the Commonwealth Government, requiring further money for the expenditure on Public Works, etc., induced some of the State Governments to discount a portion of their securities held by the Commonwealth. The money thus obtained was spent in the purchase of further Commonwealth Inscribed Stock, thus increasing the Loan Fund, to which reference is made in the next section.

#### § 4. Commonwealth Public Debt.

Although the Federal Government has never gone to the public as a borrower there still exists a Commonwealth debt. The first portions were contracted at the beginning of 1911, when the Federal Government assumed responsibility for the outstanding liabilities of the Northern Territory and the Port Augusta-Oodnadatta Railway. Another item was added to the list later on in the year by the passage of two Acts (Nos. 20 and 24 of 1911), relating to the issue of Inscribed Stock, the former being permissive, and the latter specifying the fixed sum of £2,460,476. This amount was to be raised for the following purposes:—

- (1) Construction of Kalgoorlie-Port Augusta Railway.
- (2) Acquisition of land in Federal Territory.
- (3) Purchase of site for High Commissioner's Office in London.
- (4) Redemption of certain Treasury Bills issued by the South Australian Government on behalf of the Northern Territory.
- (5) Repayment to South Australia of amount paid out of revenue towards construction of Oodnadatta Railway.

On 18th April, 1912, an order was passed in pursuance of these Acts, creating Inscribed Stock to the value of £700,000. The money was taken from the Trust Fund, and the stock sold to the Commonwealth Treasurer at par. Interest is at the rate of  $3\frac{1}{2}$  per cent. per annum, with a provision for a sinking fund of  $\frac{1}{2}$  per cent. The money was spent as follows:—£400,000 in London; £226,000 in reduction of Northern Territory Debt; £34,476 to the Government of South Australia on account of the Oodnadatta Railway. There was a balance of £39,524 unexpended on 30th June, 1912. The loan is repayable at par, at any time between 1st April, 1962, and 1st April, 1972, at the option of the Commonwealth Treasurer. The amount of stock sold under this Act was subsequently increased, and at 30th June, 1913, stood at £2,000,000. The unexpended balance on 30th June, 1913, was £151,498. The amount of this stock was still further increased in the financial year 1913-14, under circumstances referred to in the previous paragraph, and on 30th June, 1914, amounted to £4,100,000. The particulars of the expenditure from this fund, for the three years during which it has been in operation, are given in the following table:—

### LOAN EXPENDITURE OF COMMONWEALTH FOR THREE FINANCIAL YEARS.

	1911-12.	1912-13.	1913-14.
	£	£	£
<b>ACT 24 OF 1911.</b>			
No. 1. For the construction of a railway from Kalgoorlie to Port Augusta ... ..	...	595,614	404,386
2. For the acquisition of land in the Federal Territory ... ..	...	179,525	180,488
3. For the purchase of land and erection of buildings in London ... ..	400,000	19,784	64,887
4. To redeem South Australian Treasury Bills on account of Northern Territory ... ..	226,000	...	...
5. To pay South Australia amount expended from revenue towards construction of railway from Port Augusta to Oodnadatta ... ..	34,476	...	...
<b>ACT 22 OF 1912.</b>			
No. 1. For the acquisition of property in Perth ... ..	...	152,205	...
2. To redeem loans raised by South Australia on account of the Northern Territory ... ..	...	71,945	...
3. To redeem loans raised by South Australia on account of Port Augusta Railway ... ..	...	168,954	135,627
<b>ACT 24 OF 1913.</b>			
No. 1. For the construction of a railway from Kalgoorlie to Port Augusta ... ..	...	...	941,654
2. For the construction of a railway from Pine Creek to Katherine River ... ..	...	...	126,529
3. For the construction of a railway from Port Moresby to Astrolabe, and the construction of wharves at Port Moresby and Samarai ... ..	...	...	685
4. For the purchase of land for postal purposes ... ..	...	...	42,598
5. For the construction of conduits and underground wires ... ..	...	...	258,407
<b>Total</b> ... ..	<b>660,476</b>	<b>1,188,027</b>	<b>2,155,261</b>

The following is a statement of the Public Debt of the Commonwealth at 30th June, 1914:—

### COMMONWEALTH PUBLIC DEBT, 30th JUNE, 1914.

Inscribed Stock ... ..	£4,100,000
Balance of Loans, Northern Territory ... ..	3,359,891
Balance of Loans, Port Augusta-Oodnadatta Railway ... ..	1,935,431
Value of Transferred Property ... ..	9,787,011*
<b>Total</b> ... ..	<b>£19,182,333</b>

\* This is slightly in excess of the value of £9,648,449 given in the table on p. 704. In the interval since that valuation was made there have been further small transfers.



Of the amount of the Public Debt, exclusive of the value of the Transferred Properties, £3,510,921 is repayable in London, and £5,884,401 in Australia. The average rate of interest on the entire Public Debt is £3 11s. 10d. per annum.

## § 5. War Finance.

The following statement summarises the measures taken to maintain the stability of Australian finance during the crisis which occurred upon the outbreak of the European war of 1914. A conference was convened in Melbourne, and attended by the leading members of the Commonwealth Government of the time, the two leading members of the Opposition, and five of the State Premiers. Two objects were kept prominently in view—firstly, the vigorous prosecution, and financing, of Australia's share in the war; and secondly, the prevention of unemployment and distress by enabling the States to continue a vigorous public works and developmental policy. Such a policy would obviously receive a severe check if anything should occur to prevent the continued inflow of capital which was such a marked feature of recent years. Ultimately two arrangements were entered into, which were explained in some detail by the Federal Treasurer when introducing the Budget of 1914-15. The first was between the Federal Government and the Imperial Government, by means of which the latter undertook to advance to the former the sum of £18,000,000 in monthly instalments of £1,500,000, the first payable on 15th December, 1914. This loan—which is for military purposes only—was advanced by the Imperial Government out of the proceeds of the British national war loan.

The second arrangement, which was entirely independent of the first, was between the Federal Government and five of the States, Queensland standing out of the agreement. The Federal Government advanced to these States for the purpose of maintaining the expenditure on public works a sum also of £18,000,000, which must not be confused with the former. The money was allotted as follows:—New South Wales, £7,400,000; Victoria, £3,900,000; South Australia, £2,600,000; Western Australia, £3,100,000; Tasmania, £1,000,000. The rate of interest was to be regulated by the rate which the Commonwealth of Australia had to pay for the money raised for its own purposes, but was to be at least 4 per cent. In return for this assistance the States undertook not to borrow otherwise for a period of twelve months, except for the purpose of renewing loans on the point of maturity. The Federal Government, in undertaking this loan, received considerable assistance from the Associated Banks, which advanced £10,000,000 in gold, receiving in exchange an equivalent amount in Australian notes, which they undertook not to present for payment until the termination of the war.

## SECTION XX.

## STATE FINANCE.

## § 1. General.

**1. Functions of State Governments.**—In any comparison of the finances of the several States due recognition must be made of the actual functions assumed by the respective Governments, and also of the local conditions and requirements in each case. Direct comparisons of public expenditure are thus rendered difficult, owing to the fact that functions which in one State are assumed by the Central Government are in another State relegated to local governing bodies, and further by the fact that costly developmental work may, under certain conditions, be not only economically justifiable, but may be an essential of progress, whilst parsimonious expenditure may be a serious economic blunder. A large expenditure may, therefore, be an indication either of gross extravagance and bad economy on the one hand or healthy and vigorous progress and good economy on the other.

Similarly, as regards revenue, imposts which in some States are levied by the Central Government are in others considered as matters to be dealt with locally. Under these circumstances care is needed in instituting comparisons between the several States, and the particulars contained in this section should be read in connection with those contained in the section dealing with Local Government. It should also be noted that in many ways the budgets of the Australian Governments differ materially from those of most European countries, owing to the inclusion therein of the revenue and expenditure of departments concerned in rendering public services, such for instance as railways, tramways, water supply, etc., which, in the other countries referred to, are often left to private enterprise.

**2. Accounts of State Governments.**—The various financial transactions of the States are in each case concerned with one or other of three Funds—the “Consolidated Revenue Fund,” the “Trust Funds,” and the “Loan Funds.” All revenue collected by the State is placed to the credit of its Consolidated Revenue Fund, from which payments are made under the authority of an Annual Appropriation Act passed by the Legislature, or by a permanent appropriation under a special Act. The hypothecation of the revenue from a specific tax to the payment for some special service is not practised in Australia, all statutory appropriations ranking on an equality as charges on the Consolidated Revenue Fund. The Trust Funds comprise all moneys held in trust by the Government, and include such items as savings bank funds, sinking funds, insurance companies’ deposits, etc. The Loan Funds are credited with all loan moneys raised by the State, and debited with the expenditure therefrom for public works or other purposes.

**3. Inter-relation of Commonwealth and State Finance.**—The principal alteration in State finance, brought about by Federation, has been that the States have transferred to the Commonwealth the large revenue received by the Customs and Postal Departments, and have been relieved of the expenditure connected with these and the Defence Departments, while, on the other hand, a new item of State revenue has been introduced, viz., the payment to the States of a Commonwealth subsidy. Provision for the taking over by the Commonwealth of certain of the public debts of the States is made

in section 105 of the Constitution, and a proposed law extending this provision to the whole of the State indebtedness, which passed both Houses of the Federal Legislature by the statutory majority, was submitted to a referendum at the election in April, 1910, and received the requisite endorsement by the electorate.

## § 2. State Consolidated Revenue Funds.

### (A) Receipts.

#### 1. Sources of Revenue.—The principal sources of State revenue are:—

- (a) Taxation.
- (b) The public works and services controlled by the State Governments.
- (c) Sale of and rental from Crown lands.
- (d) The Commonwealth subsidy.
- (e) Miscellaneous sources, comprising fines, fees, interest, etc.

Of these sources, that yielding the largest revenue for the States as a whole is the group of public works and services, the principal contributor being the Government railways and tramways. Next in magnitude comes the payment of the subsidy by the Commonwealth, followed in order by Taxation and Land Revenue.

2. Amount Collected.—The following table furnishes particulars of the total amount of consolidated revenue received by the several States during the ten years 1904-5 to 1913-14:—

STATE REVENUE, 1904-5 to 1913-14.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
1904-5 ...	11,336,918	7,515,742	3,595,399	2,798,849	3,615,340	852,681	29,714,929
1905-6 ...	12,283,082	7,811,475	3,853,523	2,866,308	3,558,939	900,657	31,273,984
1906-7 ...	13,392,435	8,345,534	4,307,912	3,252,705	3,401,354	970,843	33,670,783
1907-8 ...	13,960,763	8,314,480	4,488,398	3,722,090	3,376,641	1,005,274	34,867,646
1908-9 ...	13,646,126	8,247,684	4,769,172	3,591,260	3,268,993	934,405	34,457,640
1909-10	14,540,073	8,597,992	5,119,254	4,032,891	3,657,670	1,008,932	36,956,812
1910-11	13,839,139	9,204,503	5,320,008	4,181,472	3,850,439	970,092	37,365,653
1911-12	15,776,816	10,009,796	5,989,347	4,450,739	3,966,673	1,084,663	41,278,034
1912-13	16,057,298	10,287,285	6,378,213	4,506,698	4,596,659	1,206,292	43,032,445
1913-14	18,298,625	10,730,961	6,973,259	4,822,766	5,205,343	1,238,065	47,269,039

The figures given in this table relate in each instance to the financial year ended 30th June.

During the nine years from 30th June, 1905, to 30th June, 1914, the aggregate revenues of the States increased by no less a sum than £17,554,110, or about 59 per cent. Increases were in evidence in all the States, the largest increase being that of £6,961,707 in New South Wales.

It will be noticed that in all the States, except Queensland, the revenue for 1908-9 was lower than that of the preceding year, largely owing to the fact that the revenue for 1907-8 was swelled by the payment of Customs duties in anticipation of, or in consequence of, the new tariff imposed on 8th August, 1907.

3. Revenue per Head.—Details concerning the revenue per head of population, collected in the several States of the Commonwealth during the ten years 1904-5 to 1913-14, are furnished in the table given hereunder. It will be seen that throughout the period Western Australia has collected by far the largest amount per head, and that Tasmania has collected the least.

## STATE REVENUE PER HEAD OF POPULATION, 1904-5 to 1913-14.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1904-5 ...	7 15 9	6 4 8	6 17 0	7 14 0	15 2 0	4 15 1	7 9 6
1905-6 ...	8 5 1	6 9 1	7 5 0	7 16 4	14 4 7	4 16 8	7 15 1
1906-7 ...	8 16 0	6 16 10	7 19 10	8 15 7	13 16 7	5 4 8	8 4 7
1907-8 ...	8 18 10	6 14 11	8 4 6	9 17 3	13 5 9	5 6 0	8 7 7
1908-9 ...	8 12 4	6 11 11	8 11 3	9 4 5	12 11 9	4 17 6	8 2 10
1909-10 ...	9 0 2	6 14 8	8 17 2	10 3 6	13 15 4	5 4 6	8 10 11
1910-11 ...	8 8 5	7 1 5	8 17 8	10 3 11	13 18 2	5 0 1	8 8 11
1911-12 ...	9 8 5	7 6 11	9 12 6	10 12 10	13 9 8	5 12 1	9 0 8
1912-13 ...	9 0 6	7 9 0	10 0 5	10 9 6	15 0 3	6 2 4	9 1 10
1913-14 ...	9 19 10	7 12 0	10 11 3	10 19 2	16 4 8	6 2 9	9 14 1

In all the States, during the period, there has been a marked increase in the State revenue collections per head, the most noticeable advances being £3 5s. 2d. in the case of South Australia and £3 14s. 3d. in that of Queensland. The Western Australian decline was continuous until 1908-9, though recovering in 1909-10, and for 1913-14 the revenue per head in that State exceeded the Commonwealth average by nearly 67 per cent.

4. Details for 1913-14.—Classifying the revenue of the several States in the manner indicated in § 2 (A) 1 above, particulars for the year 1913-14 are as follows:—

## DETAILS OF STATE REVENUE, 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	All States.
	£	£	£	£	£	£	£
Taxation ...	2,330,005	1,598,876	887,798	730,640	386,104	371,413	6,304,836
Public Works & Services ...	11,402,667	6,142,818	3,822,091	2,933,555	3,419,464	375,362	28,095,957
Land ...	1,828,887	306,862	973,343	299,315	398,404	108,759	3,910,570
Commonwealth Subsidy ...	2,248,241	1,733,280	807,053	540,113	(a) 640,964	(b) 337,536	6,307,187
Miscellaneous ...	488,825	949,125	482,974	319,143	360,407	50,015	2,650,489
Total ...	18,298,625	10,730,961	6,973,259	4,822,766	5,205,343	1,238,085	47,269,039

(a) Including interest on transferred properties, £27,358. (b) Including special grant of £90,000.

It will be noted that the amounts returned under the heading "Commonwealth subsidy" do not quite agree with those given in the chapter on Commonwealth Finance, page 705. This arises from the fact that the State figures shew the amount for which credit was taken by the State during the financial year 1913-14, whilst the Commonwealth figures shew the amounts paid to State Treasurers on account of that financial year.

5. Revenue per Head, 1913-14.—Particulars concerning the revenue per head of population in each State derived from the several sources enumerated in the preceding paragraph are given hereunder:—

## STATE REVENUE PER HEAD, 1913-14.

Particulars.	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tas.	C'wealth.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Taxation ...	1 5 5	1 2 8	1 6 11	1 13 2	1 4 1	1 16 10	1 5 11
Public Works & Services ...	6 4 6	4 7 0	5 15 9	6 13 4	10 13 3	1 17 3	5 15 4
Land ...	1 0 0	0 4 4	1 9 6	0 13 7	1 4 10	0 10 2	0 16 0
Commonwealth Subsidy ...	1 4 7	1 4 7	1 4 5	1 4 7	2 0 0	1 13 6	1 5 11
Miscellaneous ...	0 5 4	0 13 5	0 14 8	0 14 6	1 2 6	0 5 0	0 10 11
Total ...	9 19 10	7 12 0	10 11 3	10 19 2	16 4 8	6 2 9	9 14 1

The magnitude of the revenue per head from public works and services in the case of Western Australia is mainly due to the fact that the number of miles of railway in that State is large compared with the population, and that the revenue-earning power of the railways is also high.

6. **Relative Importance of Sources of Revenue.**—The following table furnishes an indication of the relative importance of the different sources of revenue in the several States, the figures given being the percentage which each item of revenue bore to the total for the State for the year 1913-14:—

PERCENTAGE OF TOTAL STATE REVENUE, 1913-14.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wlth.
	%	%	%	%	%	%	%
Taxation ... ..	12.73	14.90	12.73	15.15	7.42	30.00	13.34
Public Works and Services ...	62.31	57.24	54.81	60.83	65.69	30.32	59.44
Land ... ..	10.00	2.86	13.96	6.21	7.65	8.38	8.27
Commonwealth Subsidy ...	12.29	16.15	11.57	11.20	12.31	27.26	13.34
Miscellaneous ... ..	2.67	8.85	6.93	6.61	6.93	4.04	5.61
Total ... ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00

One of the most noticeable features of the figures here given is the comparatively low percentage for "public works and services" and the high percentage for "taxation" in the case of Tasmania. In New South Wales and Queensland land revenue is an important item, while in Queensland the revenue from "public works and services" falls considerably below the Commonwealth average.

7. **State Taxation.**—(a) *Details, 1913-14.* Prior to the inauguration of Federation the principal source of revenue from taxation was the imposition of duties of Customs and Excise. At the present time the most productive forms of State taxation are the income tax, which is now imposed in all the States (Western Australia, the last of the States to adopt this method of taxation, having passed the necessary legislation during the Parliamentary session of 1907), and probate and succession duties. For 1913-14 stamp duties occupied third place. In addition to these a State land tax is now collected in all the States except Queensland, and license fees of various kinds are collected in all the States, while a dividend tax is collected in Western Australia. The total revenue from taxation collected by the States during the year 1913-14 was £6,304,836, details of which are set forth in the table given hereunder:—

STATE REVENUE FROM TAXATION, 1913-14.

Taxation.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.A.	Tas.	All States
	£	£	£	£	£	£	£
Probate and succession duties	512,529	457,042	89,835	226,367	30,662	99,094	1,345,529
Other stamp duties ... ..	377,707	278,240	205,635	101,094	77,051	83,202	1,122,929
Land tax ... ..	4,693	302,224	...	136,502	46,201	79,085	568,804
Income tax ... ..	...	...	...	...	81,991	...	...
Dividend tax ... ..	1,290,370	527,705	472,918	240,996	92,567	162,458	2,869,005
Licenses ... ..	144,707	23,218	92,407	25,581	45,551	14,467	344,941
Other taxation ... ..	...	11,447	27,003	...	12,071	3,107	53,628
Total ... ..	2,330,005	1,598,876	887,798	730,640	386,104	371,413	6,304,836

The most productive form of taxation in the several States during the year 1913-14 was income tax, except in Queensland, where it was exceeded by the kindred dividend tax,

(b) *Summary, 1904-5 to 1913-14.* The total amount raised by means of taxation by the several State Governments during the ten years 1904-5 to 1913-14 is given in the following table:—

#### STATE REVENUE FROM TAXATION, 1904-5 to 1913-14.

Year.	New South Wales.	Victoria.	Queensland.	S. Australia.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
1904-5	1,114,408	897,870	454,574	442,030	221,738	216,953	3,347,573
1905-6	1,297,776	990,735	494,165	369,756	260,609	248,799	3,661,840
1906-7	1,381,305	1,110,411	540,737	411,867	266,152	276,450	3,986,922
1907-8	1,077,534	977,620	525,540	477,637	277,463	265,656	3,601,450
1908-9	907,249	1,072,228	535,194	450,250	296,599	250,835	3,512,355
1909-10	1,223,521	1,088,353	584,997	481,003	336,396	303,390	4,017,660
1910-11	1,027,519	1,344,573	667,196	545,986	325,246	284,965	4,195,485
1911-12	1,885,653	1,501,696	787,577	551,994	352,314	340,434	5,419,668
1912-13	1,405,360	1,577,878	806,677	536,401	393,615	345,282	5,065,213
1913-14	2,330,005	1,598,876	887,798	730,640	386,104	371,413	6,304,836

During the period between 30th June, 1904-5, and 30th June, 1913-14, the aggregate State revenue from taxation increased by about 88 per cent., the increase varying considerably in the several States. The total increase in State taxation for the year amounted to £1,239,623.

The revenue from State taxation per head of population, collected in the several States during each of the years 1904-5 to 1913-14, was as follows:—

#### STATE TAXATION PER HEAD, 1904-5 to 1913-14.

Year.	New South Wales.	Victoria.	Queensland.	S. Australia.	W. Aust.	Tasmania.	C'wealth.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1904-5	0 15 4	0 14 11	0 17 4	1 4 4	0 18 6	1 3 5	0 16 10
1905-6	0 17 5	0 16 4	0 18 7	1 0 2	1 0 10	1 6 8	0 18 2
1906-7	0 18 2	0 18 2	1 0 1	1 2 3	1 0 10	1 9 10	0 19 6
1907-8	0 13 9	0 15 10	0 19 3	1 5 3	1 1 10	1 8 0	0 17 3
1908-9	0 11 6	0 17 2	0 19 2	1 3 1	1 2 10	1 6 2	0 16 7
1909-10	0 15 2	0 17 0	1 0 3	1 4 3	1 5 4	1 11 5	0 18 7
1910-11	0 12 6	1 0 8	1 2 3	1 6 8	1 3 6	1 9 5	0 19 0
1911-12	1 2 6	1 2 1	1 5 4	1 6 2	1 3 11	1 15 2	1 3 9
1912-13	0 15 10	1 2 10	1 5 4	1 4 9	1 5 8	1 15 0	1 1 5
1913-14	1 5 5	1 2 8	1 6 11	1 13 2	1 4 1	1 16 10	1 5 11

Taking the States as a whole the State taxation increased by nine shillings and one penny per head during the period from 1904-5 to 1913-14, the most marked increase being that of thirteen shillings and fivepence per head in the case of Tasmania. State taxation per head is at present highest in Tasmania and lowest in Victoria.

8. *Commonwealth and State Taxation.*—For the purpose of obtaining an accurate view of the extent of taxation imposed on the people of the Commonwealth by the central governing authorities it is necessary to add together the Commonwealth and State collections. This has been done in the table given hereunder, which contains particulars

concerning the total taxation for each of the years 1909-10 to 1913-14, as well as the amount per head of population:—

### COMMONWEALTH AND STATE TAXATION, 1909-10 to 1913-14.

Particulars.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Commonwealth taxation ...	11,593,164	14,350,788	16,076,593	17,117,828	16,587,906
State taxation ...	4,017,660	4,195,485	5,419,668	5,065,213	6,304,836
Total... ..	15,610,824	18,546,273	21,496,261	22,183,041	22,892,742
Taxation per head ...	£3 11 2	£4 3 10	£4 14 1	£4 13 9	£4 14 0

Whilst the Commonwealth taxation increased during the period by £4,994,742, the State taxation advanced by £2,287,176, the aggregate increase being £7,281,918. The amount has, however, fluctuated somewhat during the period, and has ranged between a minimum of £3 11s. 2d. per head in 1909-10 and a maximum of £4 14s. 1d. per head in 1911-12. The large increase in Commonwealth taxation in recent years is mainly due to the appearance of the Federal Land Tax.

**9. Public Works and Services.**—A very large proportion of the revenue of all the States of the Commonwealth is made up of the receipts from the various public works and services under the control of the several Governments. The principal of these are railways and tramways, harbour works, and water supply and sewerage, while in addition, State batteries for the treatment of auriferous ores exist in Western Australia, and various minor revenue-producing services are rendered by the Governments of all the States. For the year 1913-14 the aggregate revenue from this source totalled £28,095,957, or nearly 60 per cent. of the revenue from all sources. Details of revenue from public works and services for the year 1913-14 are as follows:—

### STATE REVENUE FROM PUBLIC WORKS AND SERVICES, 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Railways and Tramways ...	9,684,877	5,568,039	3,675,562	2,401,987	2,382,022	330,447	24,042,934
Harbour Services ...	601,489	120,241	50,435	115,031	163,848	...	1,051,044
Public Batteries ...	...	482	...	...	52,708	...	53,190
Water Supply and Sewerage ...	794,001	(a)194,857	...	(a)195,038	415,605	...	1,599,501
Other Public Services ...	322,300	259,199	96,094	221,499	405,281	44,915	1,349,288
Total ... ..	11,402,667	6,142,818	3,822,091	2,933,555	3,419,464	375,362	28,095,957

(a) Water supply only.

**10. Land Revenue.**—The revenue derived by the States from the sale and rental of Crown lands has, with few exceptions, been treated from the earliest times as forming part of their respective Consolidated Revenue Funds, and has been applied to meet ordinary current expenses. Where the rentals received are for lands held for pastoral or for residential purposes, such application of the revenue appears perfectly justifiable. On the other hand, where the rentals are those of mineral and timber lands, and in all cases of sales of lands, such a proceeding is essentially a disposal of capital in order to defray current expenses. As a matter of financial procedure such a course is open to criticism. In the following table particulars of revenue derived from sales and rental of Crown lands are given for the year 1913-14:—

## STATE LAND REVENUE, 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
Sales ...	990,477	160,690	322,539	162,545	249,182	67,983	1,953,416
Rentals ...	838,410	146,172	650,804	136,770	149,222	35,776	1,957,154
Total ...	1,828,887	306,862	973,343	299,315	398,404	103,759	3,910,570

11. **Commonwealth Subsidy.**—The payments to the States of Commonwealth subsidy represent in each instance a considerable proportion of the State's revenue, and for the year 1913-14 aggregated £6,307,187. This represents a great decline from the amounts received up to 1910, owing to the new system of allotting the subsidy. The percentage which the subsidy received by each State for 1913-14 was of the total revenue of that State is shewn in the following table:—

## COMMONWEALTH SUBSIDY PAID TO STATES DURING 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Commonwealth subsidy ...	2,248,241	1,733,280	807,053	540,113	640,964	(a) 337,536	6,307,187
Total revenue ...	18,298,625	10,730,961	6,973,259	4,822,766	5,205,343	1,238,085	47,269,039
Percentage of subsidy on revenue ...	% 12.29	% 16.15	% 11.57	% 11.20	% 12.31	% 27.26	% 13.34

(a) Including special grant of £90,000.

The amount of subsidy here shewn is that for which the several States took credit during the year 1913-14. (See also page 713.)

12. **Miscellaneous Items of Revenue.**—In addition to the foregoing sources of revenue there are in each State several miscellaneous ones, including such items as interest, fines, fees, etc., which for the year 1913-14 aggregated £2,650,489.

## (B) Disbursements.

1. **Heads of Expenditure.**—The principal heads of State expenditure from Consolidated Revenue Funds are:—

- (a) Interest and sinking funds in connection with public debt.
- (b) Working expenses of railways and tramways.
- (c) Justice.
- (d) Police.
- (e) Penal establishments.
- (f) Education.
- (g) Medical and charitable expenditure.
- (h) All other expenditure.

Of these items that of working expenses of railways and tramways was the most important, and for the year 1913-14 represented about 36 per cent. of the aggregate expenditure from the Consolidated Revenue Fund. Next in order for that year was the item of interest and sinking fund in connection with the public debt, then education, medical and charitable expenditure, police, other public works, and lands and surveys in the order named.



2. **Total Expenditure.**—The total expenditure from Consolidated Revenue Funds in the several States during each of the years 1904-5 to 1913-14 is furnished in the table given hereunder:—

**STATE EXPENDITURE, CONSOLIDATED REVENUE FUNDS, 1904-5 to 1913-14.**

Year.	N.S. Wales.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
1904-5 ...	11,195,075	7,343,742	3,581,403	2,860,894	3,745,224	840,184	29,566,522
1905-6 ...	11,386,864	7,261,475	3,725,712	3,004,974	3,632,318	853,147	29,864,490
1906-7 ...	11,876,657	7,679,143	3,911,797	3,394,999	3,490,182	913,762	31,266,540
1907-8 ...	12,095,593	7,862,246	4,373,097	3,862,336	3,379,006	929,885	32,502,163
1908-9 ...	12,893,662	8,240,177	4,759,231	3,760,005	3,370,530	960,237	33,983,842
1909-10 ...	13,038,150	8,579,980	5,113,578	4,196,493	3,447,732	997,321	35,373,254
1910-11 ...	13,807,538	9,194,157	5,314,737	4,181,472	3,734,448	1,016,963	37,249,315
1911-12 ...	15,277,001	9,999,342	5,965,692	4,450,739	4,101,082	1,064,725	40,858,581
1912-13 ...	16,798,500	10,258,081	6,372,097	4,506,698	4,787,063	1,095,883	43,818,322
1913-14 ...	17,701,851	10,717,642	6,962,516	4,604,130	5,340,754	1,235,014	46,561,907

As in the case of the table previously given for revenue, the above figures relate to the year ended 30th June.

3. **Expenditure per Head.**—Owing to the varying conditions of the several States and the extent to which the different functions of Government are distributed therein between central and local governing authorities, the expenditure per head from Consolidated Revenue Funds differs materially in the several States, being highest in the case of Western Australia and lowest in that of Tasmania. The expenditure per head of population for each State for the years 1904-5 to 1913-14 is as follows:—

**STATE EXPENDITURE PER HEAD, 1904-5 to 1913-14.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1904-5 ...	7 13 10	6 1 10	6 16 5	7 17 4	15 12 10	4 10 9	7 8 9
1905-6 ...	7 13 1	6 0 0	7 0 2	8 3 11	14 10 5	4 11 6	7 8 1
1906-7 ...	7 16 1	6 5 11	7 5 2	9 3 4	13 13 7	4 18 6	7 12 10
1907-8 ...	7 14 11	6 7 6	8 0 3	10 4 8	13 5 6	4 18 1	7 16 2
1908-9 ...	8 2 10	6 11 9	8 10 10	9 13 1	12 19 7	5 0 2	8 0 7
1909-10 ...	8 1 7	6 14 4	8 17 0	10 11 9	12 19 6	5 3 3	8 3 7
1910-11 ...	8 8 0	7 1 3	8 17 5	10 3 11	13 9 9	5 4 11	8 8 4
1911-12 ...	9 2 5	7 6 9	9 11 9	10 12 10	13 18 10	5 10 1	8 18 10
1912-13 ...	9 9 0	7 8 8	10 0 3	10 9 6	15 12 9	5 11 2	9 5 2
1913-14 ...	9 13 3	7 11 10	10 10 11	10 9 3	16 13 1	6 2 6	9 11 2

In all the States except South Australia increases in the expenditure per head took place during the year 1913-14, ranging from 20s. 4d. per head in the case of Western Australia to 3s. 2d. per head in that of Victoria.

4. **Details of Expenditure for 1913-14.**—The following table furnishes for the year 1913-14 particulars as to the expenditure of the several States under each of the principal heads:—

## DETAILS OF STATE EXPENDITURE, 1913-14.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Public debt (int., sink'g fund, &c.)	3,908,853	2,502,750	1,972,826	1,260,892	1,384,096	497,252	11,526,669
Rlwys. & tramways (work'g exps.)	7,123,569	3,781,671	2,391,145	1,585,286	1,658,276	224,407	16,764,354
Justice ... ..	350,305	197,099	91,026	42,048	59,187	11,921	751,586
Police ... ..	563,962	363,692	275,614	124,362	122,796	45,237	1,495,663
Penal establishments	91,227	56,555	28,383	19,274	20,850	6,104	222,393
Education ... ..	1,607,324	1,146,600	537,242	307,325	334,461	111,964	4,044,916
Medical and charitable	733,387	550,552	379,373	175,022	233,348	70,396	2,142,080
All other expenditure	3,323,224	2,118,723	1,286,907	1,089,921	1,527,740	267,731	9,614,246
Total ... ..	17,701,851	10,717,642	6,962,516	4,604,130	5,340,754	1,235,014	46,561,907

(a) Including construction, £2617.

5. **Expenditure per Head, 1913-14.**—The expenditure per head of population of the several States for the year 1913-14, under each of the principal items, is given hereunder :—

## STATE EXPENDITURE PER HEAD, 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Public debt. (interest, sink- ing fund, &c.) ... ..	2 2 8	1 15 5	2 19 9	2 17 3	4 6 4	2 9 4	2 7 3
Railways and tramways (working expenses) ... ..	3 17 9	2 13 8	3 12 6	3 12 0	5 3 5	1 2 3	3 8 10
Justice ... ..	0 3 10	0 2 9	0 2 9	0 1 11	0 3 8	0 1 2	0 3 1
Police ... ..	0 6 2	0 5 2	0 8 4	0 5 8	0 7 8	0 4 6	0 6 2
Penal establishments	0 1 0	0 0 10	0 0 10	0 0 11	0 1 3	0 0 7	0 0 11
Education ... ..	0 17 7	0 16 3	0 16 3	0 14 0	1 0 11	0 11 1	0 16 7
Medical and charitable	0 8 0	0 7 9	0 11 6	0 8 0	0 14 7	0 7 0	0 8 10
All other expenditure	1 16 3	1 10 0	1 19 0	2 9 6	4 15 3	1 6 7	1 19 6
Total ... ..	9 13 3	7 11 10	10 10 11	10 9 3	16 13 1	6 2 6	9 11 2

In four of the States, viz., Western Australia<sup>a</sup>, South Australia, Queensland, and New South Wales, the average State expenditure per head exceeded that for the Commonwealth as a whole, falling short of it in the other two States.

6. **Relative Importance.**—The relative importance of the items of expenditure enumerated above varies considerably in the several States. This will readily be seen from the following table, giving for each State the percentage of the expenditure under the various items, on the total expenditure for the State :—

## PERCENTAGE OF TOTAL STATE EXPENDITURE, 1913-14.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
	%	%	%	%	%	%	%
Public debt (interest, sink- ing fund, &c.) ... ..	22.08	23.35	28.33	27.39	25.92	40.26	24.76
Railways and tramways (working expenses) ... ..	40.24	35.28	34.34	34.43	31.05	18.17	36.00
Justice ... ..	1.98	1.84	1.31	0.91	1.11	0.97	1.61
Police ... ..	3.19	3.39	3.96	2.70	2.30	3.66	3.21
Penal establishments	0.52	0.53	0.41	0.62	0.39	0.49	0.48
Education ... ..	9.08	10.70	7.72	6.68	6.26	9.07	8.69
Medical and charitable	4.14	5.14	5.45	3.80	4.37	5.70	4.60
All other expenditure...	18.77	19.77	18.48	23.67	28.60	21.68	20.65
Total ... ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Taken together, the interest and sinking fund on the public debt, and the working expenses of the railways and tramways, represented for the year 1913-14 about 60 per cent. of the aggregate State expenditure.

## (c) Balances.

1. **Position on 30th June, 1914.**—On various occasions in each of the States the revenue collected for a financial year has failed to provide the funds requisite for defraying the expenditure incurred during that year, the consequence being a deficit which is usually liquidated either by cash obtained from trust funds, or by the issue of Treasury bills. In some of the States a number of such deficits has occurred, interspersed with occasional surpluses, the result being an accumulating overdraft, which in certain instances assumed very large proportions. Thus, during the period of financial stress resultant upon the crisis of 1893 and the drought conditions of succeeding years, the accumulated overdrafts of several of the States grew very rapidly. The very favourable financial conditions of recent years have enabled the various Treasurers to considerably reduce such liabilities from time to time, and at 30th June, 1914, the position of the balances of the several Consolidated Revenue Funds was as set forth in the table hereunder:—

## STATE CONSOLIDATED REVENUE FUND BALANCES, 30th JUNE, 1914.

State.	Cash Credit Balances.	Debit Balance.		Net Result.
		Cash Overdraft.	Overdraft liquidated by Treasury Bills	
	£	£	£	£
New South Wales ... ..	...	793,978	...	Dr. 793,978
Victoria ... ..	...	251,652	...	Dr. 251,652
Queensland ... ..	10,742	...	...	Cr. 10,742
South Australia ... ..	218,636	...	...	Cr. 218,636
Western Australia ... ..	...	446,926	...	Dr. 446,926
Tasmania ... ..	61,365	...	...	Cr. 61,365
Total ... ..	290,743	1,492,556	...	Dr. 1,201,813

## (D) Principal State Taxes.

## (a) Probate and Succession Duties.

1. **General.**—Probate duties have been levied for a considerable time in all the States of the Commonwealth. From the provisions of the several State Acts governing the payment of duty, it will be seen that both the ordinary rates and those which apply to special beneficiaries differ widely in several cases. In the following table the amount under which the estates of deceased persons were sworn, is shewn for the years 1909 to 1913:—

## VALUE OF ESTATES OF DECEASED PERSONS, 1908-9 to 1912-13.

State.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£
New South Wales ... ..	11,142,068	8,834,934	13,138,068	13,389,806	8,443,068
Victoria ... ..	6,480,376	7,430,949	8,469,163	8,533,502	8,367,862
Queensland ... ..	1,508,883	1,652,691	2,409,495	2,730,039	2,640,017
South Australia ... ..	1,939,509	2,422,519	2,855,089	(a) 2,383,238	2,214,241
Western Australia ... ..	939,318	868,638	844,151	(a) 841,800	607,972
Tasmania ... ..	722,011	797,439	596,870	983,618	680,477
Total ... ..	22,732,165	22,007,170	28,312,836	28,862,003	22,953,637

(a) Gross values.

The duty collected in the several States for the financial years 1909-10 to 1913-14 is as follows:—

**AMOUNT OF PROBATE AND SUCCESSION DUTIES COLLECTED, 1909-10 to 1913-14.**

State.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
New South Wales ...	650,202	357,750	849,405	365,250	512,529
Victoria ...	358,173	433,104	448,233	443,682	457,042
Queensland ...	61,193	71,637	144,309	108,367	89,835
South Australia ...	84,651	109,693	95,667	58,811	226,367
Western Australia ...	57,416	23,124	22,276	47,929	30,662
Tasmania ...	44,267	27,459	35,012	25,980	29,094
Total ...	1,255,902	1,022,772	1,594,952	1,050,019	1,345,529

For particulars relating to the legislation of the different States on probate and succession duties see Year Book No. 6, pp. 815-818.

**(b) Stamp Duties.**

1. **Revenue.**—The revenue derived by the several States of the Commonwealth from the imposition of stamp duties for the years 1909-10 to 1913-14 is shewn in the accompanying table:—

**STAMP REVENUE (EXCLUSIVE OF PROBATE AND SUCCESSION DUTIES),  
1909-10 to 1913-14.**

State.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
New South Wales ...	222,720	268,091	255,085	233,940	377,707
Victoria ...	250,358	275,314	285,212	252,407	278,240
Queensland ...	145,556	174,051	187,533	186,083	205,635
South Australia ...	97,877	109,274	106,910	101,498	101,094
Western Australia ...	62,714	79,404	74,828	70,652	77,051
Tasmania ...	54,741	61,118	64,236	75,171	83,202
Total ...	833,966	967,252	973,804	919,751	1,122,929

2. **Bank Notes.**—Promissory notes issued by any bank are not required to bear a duty stamp either impressed or adhesive, and may be re-issued as often as thought fit. An annual composition was, however, paid in lieu of stamp duty up to 1910. This composition was payable quarterly, and was the same in all States, being at the rate of £2 per annum on every £100 or part thereof of the average annual amount of bank notes in circulation. On 2nd June, 1893, the Treasury Notes Act of Queensland was assented to, by which the issue of Treasury notes payable on demand was authorised. These notes were used exclusively by the banks in that State, but their issue has been prohibited by the Federal Bank Note Tax Act, and they have now almost passed out of circulation. (See Section xxi., Private Finance.)

The issue of bank notes by the banks has practically ceased owing to this Act, which passed the Federal Parliament in the session of 1910, and was assented to on 10th October, 1910. Further reference is made to the Act in the section dealing with Private Finance. It is enough to say here that it imposes a tax of 10 per cent. per annum on all bank notes issued or re-issued by any bank in the Commonwealth after the commencement of the Act and not redeemed.

For further details concerning Stamp Duty Legislation, see Year Book No. 7, p. 723.

## (c) Land Tax.

1. **General.**—Queensland is the only State in the Commonwealth in which a State land tax is not levied, although it was as recently as 1907 that the first tax on land was imposed in Western Australia. In all of the other States the tax dates back to a much earlier period.

The following table shews the amount collected by means of such taxes during the financial years 1909-10 to 1913-14 in the States in which a land tax was imposed:—

## LAND TAX COLLECTIONS, 1909-10 to 1913-14.

State.				1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
				£	£	£	£	£
New South Wales	...	...	...	9,066	7,438	6,479	5,738	4,692
Victoria	...	...	...	114,357	210,640	293,823	308,275	302,224
South Australia	...	...	...	94,126	135,614	118,725	141,807	136,602
Western Australia	...	...	...	34,344	37,871	45,166	46,519	46,201
Tasmania	...	...	...	79,021	64,932	81,234	79,276	79,085
Total	...	...	...	330,914	456,495	545,427	581,615	568,804

For details relating to State Land Tax legislation see Year Book No. 6, pp. 821-823.

## (d) Income Tax.

1. **General.**—A duty on the income of persons, whether it be derived from personal exertion or from the produce of property, is now imposed in all the States of the Commonwealth. As might be expected in dealing with the different States, the rates, exemptions, etc., are widely divergent, but the general principle of the several Acts is strikingly consistent. The Dividend Duties Acts of Queensland and Western Australia—the former of which is now repealed—supplied to a certain extent the place of an income tax in those States in former years, but, with the increasing demands upon the State Treasury, the levying of a direct income tax has been resorted to.

In the following table particulars are furnished concerning the total amount collected in the several States during the years 1909-10 to 1913-14. In the case of Queensland and Western Australia the amount of dividend duty collected is included, this tax being closely allied to the income tax.

## INCOME AND DIVIDEND TAXES, 1909-10 to 1913-14.

State.				1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
				£	£	£	£	£
New South Wales	...	...	...	219,977	269,142	644,571	662,625	1,290,370
Victoria	...	...	...	338,585	395,998	443,248	542,236	527,705
Queensland	...	...	...	304,693	348,513	372,497	421,507	472,918
South Australia	...	...	...	180,923	168,707	207,416	210,034	240,996
Western Australia	...	...	...	132,180	134,075	154,442	171,239	174,558
Tasmania	...	...	...	110,258	115,836	143,875	148,413	162,458
Total	...	...	...	1,286,616	1,432,271	1,966,049	2,156,054	2,869,005

For details relating to Income Tax legislation in the various States see Year Book No. 6, pp. 823-829.

### § 3. Trust Funds.

1. **Nature.**—In addition to the moneys received by the several State Governments as revenue, and paid to the credit of their respective Consolidated Revenue Funds, considerable sums are held by the Governments in trust for various purposes. One of the chief sources of these trust funds is the State Savings Bank, which exists in each State, either as a Government department or under the control of a Board acting under Government supervision or Government guarantee. In most of the States also, sinking funds for the redemption of public debt are provided, and the moneys accruing thereto are paid to the credit of the appropriate trust funds. A similar course is followed in the case of municipal sinking funds placed in the hands of the Government. In all the States except New South Wales, life assurance companies carrying on business are required to deposit a substantial sum in cash or approved securities with the Government, and these deposits go to further swell the trust funds. Various other deposit accounts, superannuation funds, suspense accounts, etc., find a place in these funds. The trust funds have at various times enabled the several State Treasurers to tide over awkward financial positions, but the propriety of allowing deficits to be frequently liquidated in this manner is worthy of very serious consideration.

2. **Extent of Funds.**—The amount of such funds held by the several State Governments on 30th June, 1914, was as follows:—

#### TRUST FUNDS ON 30th JUNE, 1914.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Amount of trust funds	5,341,000	8,501,156	6,989,479	2,019,206	9,862,256	797,108	33,510,205

### § 4. Loan Funds.

1. **Nature.**—As early in the history of Australia as 1842 it was deemed expedient to supplement the revenue collections by means of borrowed moneys, the earliest of the loans so raised being obtained by New South Wales for the purpose of assisting immigration, at rates of interest varying from 2½d. to 5½d. per £100 per diem, or approximately from 4½ per cent. to 8 per cent. per annum. The principal reason for Australian public borrowing, however, has been the fact that the Governments of the several States have, in addition to ordinary administrative duties, undertaken the performance of many functions which, in other countries, are usually entrusted to local authorities, or left to the initiative of private enterprise. Principal amongst these have been the construction of railways and the control of the railway systems of the several States, while the assumption by the State Governments of responsibilities in connection with improvements to harbours and rivers, and the erection of lighthouses, as well as the construction of works for the purposes of water supply and sewerage, have materially swelled the amounts which it has been considered expedient to obtain by means of loans. The Australian loan expenditure and public debt thus differ very materially from those of most European countries, where such expenditure is very largely incurred for purposes of defence, or absorbed in the prosecution of war. The debt of Australia, on the other hand, consists in the main of moneys raised and expended with the object of assisting the development of the resources of the Commonwealth, and is, to a very large extent, represented by tangible assets such as railways, tramways, waterworks, etc.

2. **Loan Expenditure, 1913-14.**—During the year ended 30th June, 1914, the actual expenditure of the Australian States from loan funds amounted to £20,737,984, New South Wales with a total of £9,126,844 being the principal contributor to this amount, while Victoria, whose expenditure amounted to £3,276,994, ranked second. The chief item of expenditure for the year was that of railways and tramways, which represented a total of £12,619,040, water supply and sewerage works contributing the amount of £2,989,268; the expenditure on harbours, rivers, etc., and roads and bridges totalling £1,297,102, and land purchases for settlement, loans to local bodies, etc., £1,507,824, were the most important of the remaining items. Details for the year for each State are given in the following table:—

#### STATE LOAN EXPENDITURE, 1913-14.

Heads of Expenditure.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Railways and tramways ...	5,714,964	2,361,660	1,679,482	1,489,168	1,227,711	146,055	12,619,040
Water supply and sewerage ...	1,942,497	229,127	1,654	484,670	331,320	...	2,989,268
Harbours, rivers, etc. ...	886,630	44,717	3,833	153,035	17,459	191,428	1,297,102
Roads and bridges ...	338,782	84,786	68,818	60,337	57,944	50,504	661,171
Public buildings ...	...	69,992	...	...	35,096	...	105,088
Development of mines, etc. ...	...	62,428	...	415,040	641,194	20,550	1,507,824
Advances to settlers ...	...	303,935	...	64,677	...	...	371,961
Land purchases for settlement ...	...	...	371,961	...	...	...	36,965
Loans to local bodies ...	2,318	...	31,653	2,994	...	...	1,149,565
Rabbit-proof fences ...	241,653	120,349	32,749	92,765	572,445	89,604	...
Other public works and purposes	...	...	...	...	...	...	...
<b>Total ...</b>	<b>9,126,844</b>	<b>3,276,994</b>	<b>2,190,150</b>	<b>2,762,686</b>	<b>2,883,169</b>	<b>498,141</b>	<b>20,737,984</b>

3. **Aggregate Loan Expenditure.**—The total loan expenditure of the Australian States from the initiation of the borrowing system to the 30th June, 1914, has amounted to no less a sum than £316,605,552. The manner in which this sum has been spent in the several States is furnished in the following table:—

#### AGGREGATE STATE LOAN EXPENDITURE TO 30th JUNE, 1914.

Heads of Expenditure.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Railways and tramways ...	72,338,546	47,342,737	33,675,184	17,518,431	16,497,211	4,816,097	192,188,206
Telegraphs & telephones ...	1,761,845	...	996,587	991,773	332,118	142,410	4,234,733
Water supply & sewerage ...	19,434,604	11,133,689	365,391	7,389,480	4,288,692	...	42,611,856
Harbours, rivers, etc. ...	11,929,069	638,105	2,444,755	2,641,493	3,006,719	4,214,702	29,738,314
Roads and bridges ...	1,862,629	194,899	928,123	1,482,574	395,246	...	2,389,782
Defence ...	1,457,536	149,323	363,084	291,615	...	128,224	13,229,339
Public buildings ...	6,468,133	1,996,815	1,613,988	1,247,186	850,376	1,052,841	3,935,851
Immigration ...	569,930	...	2,763,070	...	367,851	235,000	1,658,709
Development of mines, &c. ...	...	351,656	...	...	1,307,053	...	...
Advances to settlers ...	...	352,072	...	1,397,849	...	...	...
Land purchases for settle- ment ...	789,000	4,693,879	...	1,830,125	2,611,728	177,481	16,849,203
Loans to local bodies ...	...	...	3,635,198	...	...	924,417	...
Rabbit-proof fences ...	57,733	...	(b)	379,721	...	...	...
Other public works & pur- poses ...	674,226	1,867,376	1,569,736	2,342,736	988,824	470,493	7,913,391
<b>Total ...</b>	<b>117,343,251</b>	<b>70,586,719</b>	<b>48,355,116</b>	<b>37,512,983</b>	<b>30,645,818</b>	<b>12,161,665</b>	<b>316,605,552</b>
		(a)					(a)

(a) Including £1,866,168 for loans in aid of revenue.

(b) Included in loans to local bodies.

It must be noted that the figures furnished in this table represent the amounts actually spent, and consequently differ somewhat from those given later in the statements relating to the public debt, which represent amount of loans still unpaid at a given date. The loan expenditure statement includes all such expenditure, whether the loans by means of which the necessary funds were raised have been repaid or are still in existence. On the other hand, in the public debt statement loans repaid are excluded,

but in the case of loans still outstanding each is shewn according to the amount repayable at maturity, not according to the amount originally available for expenditure.

**4. Relative Importance of Loan Items.**—The relative importance of the different items of loan expenditure given in the foregoing table varies considerably in the several States, but in each instance the expenditure on railways and tramways predominates, the percentage of this item on total expenditure ranging between the limits of 40 per cent. in the case of Tasmania and 70 per cent. in that of Queensland. The following table gives for each State the percentage of each item on the total loan expenditure of that State to 30th June, 1914:—

**PERCENTAGE OF EACH ITEM ON TOTAL LOAN EXPENDITURE OF THE STATES  
TO 30th JUNE, 1914.**

Heads of Expenditure.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	%	%	%	%	%	%	%
Railways and tramways ...	61.65	67.07	69.64	46.70	53.83	39.60	60.70
Telegraphs and telephones ...	1.50	...	2.06	2.64	1.08	1.17	1.33
Water supply and sewerage ...	16.56	15.77	0.76	19.70	13.99	...	13.46
Harbours, rivers, etc. ...	10.17	0.90	5.06	7.04	9.82	} 34.66	9.39
Roads and bridges ...	1.59	0.28	1.92	3.95	1.29		
Defence ...	1.24	0.21	0.75	0.78	...	1.05	0.75
Public buildings ...	5.51	2.83	3.34	3.32	2.77	8.66	4.18
Immigration ...	0.49	...	5.71	...	1.20	1.93	1.24
Development of mines, etc. ...	...	0.50	...	...	4.27	...	0.52
Advances to settlers ...	...	0.50	...	3.73	} 8.52	...	} 5.32
Land purchases for settlement	0.67	6.65	...	4.88		1.46	
Loans to local bodies ...	...	...	7.52	...		7.61	
Rabbit-proof fences ...	0.05	...	...	1.01		...	
Other public works & purposes	0.57	2.64	3.24	6.25	3.23	3.86	2.50
Total ...	100.00	100.00 (a)	100.00	100.00	100.00	100.00	100.00 (b)

(a) Including 2.65 per cent. for loans in aid of revenue.

(b) Including 0.61 " " " "

**5. Loan Expenditure in Successive Years.**—In the following table are given particulars relative to the loan expenditure of the several States during each of the years 1904-5 to 1913-14:—

**STATE LOAN EXPENDITURE, 1904-5 to 1913-14.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
1904-5 ...	1,571,257	373,191	225,466	449,214	654,353	150,994	3,424,475
1905-6 ...	1,367,022	932,966	297,624	449,930	372,442	136,971	3,556,955
1906-7 ...	1,058,553	595,658	683,570	499,132	900,964	156,945	3,894,822
1907-8 ...	1,965,329	783,538	1,033,676	495,928	733,745	224,954	5,237,170
1908-9 ...	2,906,507	1,098,360	1,247,821	832,114	1,012,452	334,200	7,431,454
1909-10 ...	3,246,640	1,209,505	1,486,216	978,082	1,028,995	435,104	8,384,542
1910-11 ...	3,921,758	2,657,271	1,995,301	1,567,210	1,484,367	300,216	11,926,123
1911-12 ...	5,491,103	2,974,149	3,324,248	1,756,050	2,344,070	435,557	16,325,177
1912-13 ...	7,703,594	2,202,697	2,448,066	2,247,337	3,423,020	404,560	18,429,274
1913-14 ...	9,126,844	3,276,994	2,190,150	2,762,686	2,883,169	498,141	20,737,984

Throughout the ten years under review the loan expenditure of New South Wales exceeded that of any other of the States, and for the year 1904-5 represented nearly half of the aggregate of Australia. The large loan expenditure of New South



Wales in 1908-9, 1909-10 and 1910-11 was incurred chiefly in connection with railway construction and the resumption of the fore-shores and adjoining properties of Darling Harbour. In Victoria the large expenditure of 1905-6 resulted in large measure from the purchase of lands for closer settlement, while the construction of railways and water supply and sewerage works was mainly responsible for the high amounts of 1908-9 and 1909-10. In 1910-11 the large amount was mainly accounted for by heavy expenditure on railways and land purchased for settlement. In the case of the large loan expenditure of Queensland in 1906-7, 1908-9, 1909-10 and 1910-11, railway construction was the principal contributing item. In Western Australia the heavy loan expenditure of 1908-9 was principally in connection with railway construction and water supply.

**6. Loan Expenditure per Head.**—The loan expenditure per head of population varies materially in the different States and in different years, reaching its highest point for the ten years under review in Western Australia in 1912-13 with £11 3s. 7d. per head, and its lowest in Victoria in 1904-5 with 6s. 2d. per head. Particulars concerning the loan expenditure per head for the ten years 1904-5 to 1913-14 are given hereunder:—

**LOAN EXPENDITURE PER HEAD, 1904-5 to 1913-14.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1904-5	1 1 7	0 6 2	0 8 7	1 4 8	2 14 8	0 16 3	0 17 3
1905-6	0 18 4	0 15 5	0 11 2	1 4 6	1 9 9	0 14 8	0 17 8
1906-7	0 13 10	0 9 9	1 5 4	1 7 0	3 10 7	0 16 11	0 19 0
1907-8	1 5 2	0 12 9	1 17 11	1 6 3	2 17 8	1 3 9	1 5 2
1908-9	1 16 8	0 17 7	2 4 10	2 2 9	3 18 0	1 14 10	1 15 1
1909-10	2 0 3	0 18 11	2 11 5	2 9 4	3 17 6	2 5 1	1 18 9
1910-11	2 7 9	2 0 10	3 6 7	3 16 5	5 7 3	1 11 0	2 13 11
1911-12	3 5 7	2 3 8	5 6 10	4 4 0	7 19 4	2 5 0	3 11 6
1912-13	4 6 8	1 11 10	3 16 11	5 4 6	11 3 7	2 1 0	3 17 10
1913-14	4 19 8	2 6 5	3 6 4	6 5 6	8 19 10	2 9 5	4 5 1

## § 5. Public Debt.

**1. The Initiation of Public Borrowing.**—The earliest of the loans raised in Australia for Government purposes was that obtained by New South Wales in 1842. This and nine other loans raised prior to 1855 were all procured locally. In the last-mentioned year Australia's first appearance on the London market occurred, the occasion being the placing of the first instalment of the New South Wales 5 per cent. loan for £683,300. Victoria first appeared as a borrower in 1854, and made its first appearance on the London market in 1859. In the remaining States the first public loans were raised in the following years:—Queensland 1861, South Australia 1854, Western Australia 1845, and Tasmania 1867.

**2. Nature of Securities.**—All the earlier loans raised by the Australian States were obtained by the issue of debentures, some of which were repayable at fixed dates, and others by annual or other periodical drawings. In more recent years, however, the issue of debentures has given place to a great extent to that of inscribed stock, the inscription in the case of local issues being carried out by the State Treasuries, and in the cases of loans floated in London being mainly performed by the Bank of England and the London and Westminster Bank. The issue of debentures has not, however, been entirely discontinued, for within recent years debentures to a large amount have been placed on the market by the Government of New South Wales. In other States also, recent issues of debentures have taken place, the occasions usually being those in which the term of the loan is less than that ordinarily attaching to issues of

inscribed stock. Another form of security is that variously known as the Treasury bill or Treasury bond. This is usually merely a short term debenture having a currency in most instances of from three to five years. The bonds are issued in certain cases to liquidate deficiencies in revenue, and in others to obtain moneys for the purpose of carrying on public works at a time when it is deemed inexpedient to place a permanent loan on the market. The amount of the public debt of the several States held in each of these forms of security is furnished in the table hereunder:—

## PUBLIC DEBT OF THE AUSTRALIAN STATES, 30th JUNE, 1914.

State.	Debentures.	Inscribed Stock.	Treasury Bills.		Total Amount Outstanding.
			For Public Works and Services.	In aid of Revenue.	
	£	£	£	£	£
New South Wales ...	6,636,450	106,808,581	3,250,000	...	116,695,031
Victoria ...	13,922,007	45,475,359	6,733,360	...	66,190,726
Queensland ...	14,575,989	38,822,067	...	1,125,450	54,523,506
South Australia ...	498,266	29,909,934	3,156,132	...	33,564,332
Western Australia ...	372,700	33,614,411	433,070	...	34,420,181
Tasmania ...	1,154,733	11,103,779	...	6,500	12,265,012
<b>Total ...</b>	<b>37,160,145</b>	<b>265,734,131</b>	<b>13,572,562</b>	<b>1,131,950</b>	<b>317,593,788</b>

The manner in which the amount of public debt of the Australian States held under these various forms of security has grown during the past nine years will be seen from the following table:—

## PUBLIC DEBT OF THE AUSTRALIAN STATES, 1904-5 to 1913-14.

Date.	Debentures.	Inscribed Stock.	Treasury Bills.		Total Amount Outstanding.
			For Public Works and Services.	In aid of Revenue.	
	£	£	£	£	£
30th June, 1905 ...	39,158,744	175,047,336	12,045,100	4,487,491	230,738,671
" 1906 ...	39,587,224	181,279,045	12,194,464	5,367,087	238,427,820
" 1907 ...	38,061,799	184,157,771	13,571,985	4,358,172	240,149,727
" 1908 ...	37,665,279	190,377,823	12,131,871	3,660,516	243,835,489
" 1909 ...	31,218,229	203,640,152	13,620,561	3,294,591	251,773,533
" 1910 ...	29,765,929	213,599,894	12,393,503	1,864,337	257,623,663
" 1911 ...	31,148,162	222,343,184	8,939,771	3,946,166	(a) 267,127,283
" 1912 ...	31,576,656	230,170,271	13,962,002	1,265,166	(b) 277,124,095
" 1913 ...	39,044,995	241,819,896	12,345,935	1,161,660	(c) 294,472,486
" 1914 ...	37,160,145	265,734,131	13,572,562	1,131,950	317,593,788

(a) Includes an advance of £750,000 from South Australian Government to Victorian Government. (b) Includes £150,000, balance of £750,000 referred to in Note (a). (c) Includes £100,000 advance from Queensland to Victorian Government.

During the period between 30th June, 1905, and 30th June, 1914, the public debt of the States increased by £86,860,117, or at the rate of about £9,650,000 per annum. The amount of debentures comprised in the total debt decreased by £1,993,599 during the period, while the amount held as inscribed stock increased by £90,686,795, and that held as Treasury bills decreased by £1,828,079.

3. Increase in Indebtedness of the Several States.—The table given hereunder furnishes particulars of the increase which has taken place during the past nine years in the public debts of the several States:—

## PUBLIC DEBT OF THE AUSTRALIAN STATES, 30th JUNE, 1905 to 1914.

Date.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
30th June, 1905 ...	82,321,998	51,763,767	41,764,467	28,773,695	16,642,773	9,471,971	230,738,671
" 1906 ...	85,641,734	53,079,800	41,764,467	30,082,635	18,058,553	9,800,631	238,427,820
" 1907 ...	85,607,832	53,104,989	41,764,467	30,526,718	19,222,638	9,923,083	240,149,727
" 1908 ...	87,635,826	53,305,487	42,264,467	29,985,856	20,493,618	10,150,233	243,835,489
" 1909 ...	90,307,419	54,667,197	44,276,067	30,436,183	21,951,753	10,134,914	251,773,533
" 1910 ...	92,525,095	55,576,725	44,276,067	31,387,870	23,287,453	10,570,453	257,623,663
" 1911 ...	95,523,926	57,983,764	44,613,197	34,224,653	23,703,953	11,077,790	267,127,283
" 1912 ...	100,052,635	60,737,216	47,068,186	31,680,124	26,283,523	11,302,411	277,124,095
" 1913 ...	106,170,747	62,776,724	53,604,733	30,147,883	30,276,436	11,495,963	294,472,486
" 1914 ...	116,695,031	66,130,726	54,523,506	33,564,332	34,420,181	12,265,012	317,598,788

The States in which the greatest increase in indebtedness was experienced during the period are New South Wales and Western Australia, the former advancing by £34,373,033, the latter by £17,777,408. On the other hand the public debt of Tasmania increased by less than £3,000,000.

**4. Indebtedness per Head.**—The indebtedness per head of population varies considerably in the several States, being highest in the case of Western Australia, and lowest in that of Victoria. Details for the period from 30th June, 1905, to 30th June, 1914, are as follows:—

## PUBLIC DEBT OF AUSTRALIAN STATES PER HEAD, 30th JUNE, 1905 to 1914.

Date.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
30th June, 1905 ...	55 19 4	42 18 5	78 19 2	79 18 10	67 9 4	51 8 3	57 13 9
" 1906 ...	56 18 3	43 14 8	77 17 9	82 16 11	70 19 11	53 3 8	58 14 5
" 1907 ...	55 9 2	43 6 8	76 19 0	83 0 4	75 4 8	53 14 0	58 4 9
" 1908 ...	55 14 0	42 19 5	76 6 10	79 6 7	79 9 9	54 2 9	58 2 8
" 1909 ...	56 10 3	43 6 11	77 13 8	78 7 1	83 7 7	53 5 7	58 18 0
" 1910 ...	56 13 2	43 6 8	74 16 10	78 18 6	85 18 6	55 6 10	58 19 0
" 1911 ...	57 9 4	43 18 3	72 12 4	83 4 6	82 13 0	58 4 2	59 9 9
" 1912 ...	57 11 9	44 16 11	74 5 0	75 5 8	86 18 8	59 9 7	59 13 5
" 1913 ...	58 13 4	45 3 0	81 13 4	68 18 5	96 8 0	59 0 2	61 6 5
" 1914 ...	62 17 9	46 10 1	80 6 4	76 12 0	106 5 0	62 6 9	64 10 5

**5. Flotation of Loans.**—The early loans of the Australian States, usually for comparatively small amounts, were raised locally, but, with the increasing demand for loan funds and the more favourable terms offering in the London than in the local money market, the practice of placing Australian public loans in London came into vogue, and for many years local flotations, except for short terms or small amounts, were comparatively infrequent. In more recent years, however, the accumulating stocks of money in Australia seeking investment have led to the placing of various redemption and other loans locally, with very satisfactory results. In the following table are given particulars of loans of the several States outstanding on 30th June, 1914, which had been floated in London and Australia respectively:—

## PUBLIC DEBT OF AUSTRALIAN STATES, 30th JUNE, 1914.

State.	Floated in London.		Floated in Australia.		Total Public Debt.
	Amount.	Percentage on Total Debt.	Amount.	Percentage on Total Debt.	
	£	%	£	%	£
New South Wales	83,499,113	71.55	33,195,918	28.45	116,695,031
Victoria...	39,275,178	59.39	26,855,548	40.61	66,130,726
Queensland ...	46,167,347	84.67	8,356,159	15.33	54,523,506
South Australia ...	19,971,465	59.50	13,592,867	40.50	33,564,332
Western Australia	26,441,853	76.82	7,978,328	23.18	34,420,181
Tasmania ...	8,706,500	70.99	3,558,512	29.01	12,265,012
Total ...	224,061,456	70.55	93,537,332	29.45	317,598,788

The following table, giving corresponding particulars for the aggregate indebtedness of the Australian States at the end of each of the financial years 1904-5 to 1913-14, furnishes an indication of the rapidity with which the local holdings of Australian securities have grown in recent years:—

## PUBLIC DEBT OF AUSTRALIAN STATES, 30th JUNE, 1905 to 1914.

Date.	Floated in London.		Floated in Australia.		Total Public Debt.
	Amount.	Percentage on Total Debt.	Amount.	Percentage on Total Debt.	
	£	%	£	%	£
30th June, 1905 ...	188,918,820	81.88	41,819,851	18.12	230,738,671
" 1906 ...	190,887,001	80.06	47,540,819	19.94	238,427,820
" 1907 ...	185,579,389	77.28	54,570,338	22.72	240,149,727
" 1908 ...	183,321,256	75.18	60,514,233	24.82	243,835,489
" 1909 ...	189,410,036	75.23	62,363,497	24.77	251,773,533
" 1910 ...	191,972,479	74.52	65,651,184	25.48	257,623,663
" 1911 ...	189,067,671	70.78	78,059,612	29.22	267,127,283
" 1912 ...	192,190,771	69.35	84,933,324	30.65	277,124,095
" 1913 ...	204,395,129	69.41	90,077,357	30.59	294,472,486
" 1914 ...	224,061,456	70.55	93,537,332	29.45	317,598,788

It will be seen that in the course of nine years the London indebtedness of the States has increased by £35,142,636, while the local indebtedness has increased by no less than £51,717,481. In other words, whilst on 30th June, 1905, the Australian portion of the debt represented only about 18 per cent. of the total, the proportion had on 30th June, 1914, grown to nearly 30 per cent.

6. **Rates of Interest.**—As mentioned above, the highest rate of interest paid in connection with the earliest Australian public loans was fivepence farthing per £100 per diem or, approximately, 8 per cent. per annum. At the present time the principal rates of interest payable on Australian public securities are 4 per cent., 3½ per cent., 3¼ per cent., and 3 per cent. The average rate payable on the aggregate indebtedness of the Australian States is about 3½ per cent. For the separate States the average rate payable varies considerably, being lowest in the case of Victoria and highest in that of Tasmania; the difference between these two average rates is ½ per cent. In the table given hereunder particulars are furnished of the rates of interest payable on the public debt of the several States of the Commonwealth on 30th June, 1914:—

## RATES OF INTEREST PAYABLE ON PUBLIC DEBT OF STATES, 30th JUNE, 1914.

Rate of Interest.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
%	£	£	£	£	£	£	£
6 ...	...	...	...	74,900	...	...	74,900
5 ...	2,700	...	...	140,000	...	...	142,700
4½ ...	...	...	...	...	39,300	...	39,300
4 ...	34,320,711	18,207,001	27,914,120	13,242,053	12,482,666	5,605,035	111,771,586
3½ ...	(a) 14,264,098	267,883	2,550,050	7,672,524	1,912,070	1,013,345	27,679,770
3¼ ...	51,056,302	37,354,586	18,569,053	6,508,122	12,636,145	5,167,846	131,292,054
3 ...	...	...	...	...	...	24,718	24,718
3 ...	17,047,072	10,300,456	5,480,383	5,926,733	7,350,000	454,068	46,567,712
Not bearing interest	4,148	1,000	900	...	...	...	6,048
<b>Total public debt ...</b>	<b>116,695,031</b>	<b>66,130,726</b>	<b>54,523,506</b>	<b>33,564,332</b>	<b>34,420,181</b>	<b>12,265,012</b>	<b>317,593,788</b>
<b>Average rate per cent. payable ...</b>	<b>£ s. d.</b> <b>3 12 0</b>	<b>£ s. d.</b> <b>3 11 2</b>	<b>£ s. d.</b> <b>3 14 4</b>	<b>£ s. d.</b> <b>3 13 7</b>	<b>£ s. d.</b> <b>3 11 10</b>	<b>£ s. d.</b> <b>3 14 7</b>	<b>£ s. d.</b> <b>3 12 6</b>

(a) Includes £750,000 at £3 13s. 9d.

The rapid increase which has taken place in recent years in the amount of Australian Government securities, bearing interest at 4 per cent., is clearly shewn in the table hereunder, which gives particulars concerning the aggregate amount of the Australian indebtedness, at the several rates of interest, on 30th June, in each of the years 1910 to 1914 :—

**RATES OF INTEREST PAYABLE ON PUBLIC DEBT OF STATES, 30th JUNE,  
1910 TO 1914.**

Rate of Interest.	30th June, 1910.	30th June, 1911.	30th June, 1912.	30th June, 1913.	30th June, 1914.
%	£	£	£	£	£
6 ... ..	209,500	191,200	156,200	109,900	74,900
5 ... ..	242,700	192,700	142,700	142,700	143,700
4½ ... ..	52,800	49,700	46,400	42,900	39,300
4 ... ..	...	...	...	100,000	...
3½ ... ..	76,983,242	71,433,697	70,204,092	87,511,852	111,771,586
3 ... ..	10,896,757	21,587,696	26,251,486	27,855,439	27,679,770
3½ ... ..	121,987,932	126,678,118	133,631,321	132,108,659	131,292,054
3 ... ..	75,000	74,718	49,718	24,718	24,718
3 ... ..	47,161,895	46,909,879	46,636,728	46,560,798	46,567,712
Not bearing interest ... ..	13,837	9,575	4,550	15,520	6,048
<b>Total public debt</b> ... ..	<b>257,623,663</b>	<b>267,127,283</b>	<b>277,124,095</b>	<b>294,472,486</b>	<b>317,598,788</b>
<b>Average rate % payable</b> ... ..	<b>£3 11 5</b>	<b>£3 11 4</b>	<b>£3 11 4</b>	<b>£3 11 11</b>	<b>£3 12 6</b>

During the four years between 30th June, 1910, and 30th June, 1914, the Australian State Government 4 per cent. securities increased by £34,788,344, and the 3 per cent. securities decreased by £594,183, while the 3½ per cents. advanced by £9,304,122, and the 3¾ per cents. by £16,783,013. During the same period the total amount at all other rates than the four here mentioned declined to about one-half their former amount.

**7. Interest Payable per Head.**—The relative burden of the debts of the several States in respect of interest payments will be seen from the following table, which gives for the 30th June, 1914, the amount of interest payable annually on the debt of each State as outstanding at that date, and also the corresponding amount per head of population :—

**ANNUAL INTEREST PAYABLE ON PUBLIC DEBT OUTSTANDING AT  
30th JUNE, 1914.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Total annual interest payable ...	3,861,011	2,260,852	1,972,826	1,137,474	1,133,996	432,638	10,818,797
Annual interest payable per head	£2 2 4	£1 12 0	£2 19 9	£2 11 8	£3 10 9	£2 2 11	£2 4 5

**8. Dates of Maturity.**—An important point of difference between the securities of the Australian Governments, whether in the form of inscribed stock, debentures, or Treasury bills, and such a well-known form of security as British consols, is that whereas the latter are interminable, the Australian Government securities have in almost all cases a fixed date for repayment, the exceptions being the State of New South Wales, which includes in its public debt an amount representing interminable securities totalling on 30th June, 1913, £532,889; and also £7,395,208 redeemable by Government on giving 12 months' notice; the State of Victoria, which includes £4,781,956 due in 1917 and £349,018 due in 1931, payable at the option of the Government at any time after 29th September, 1917; and the State of South Australia, which includes £5,089,084 similarly repayable. The terms of the loans raised by the issue of debentures and inscribed stock have varied considerably in the different States, ranging between fifteen and fifty years, while loans obtained by means of Treasury

bills have usually been for such short terms as from six months to five years. In the case of the majority of the loans the arrival of the date of maturity means that arrangements for renewal are necessary in respect of the greater portion of the loan, as it is only in exceptional cases that due provision for redemption has been made. The condition of the money market at the date of maturity has an important bearing on the success or otherwise with which the renewal arrangements can be effected, and consequently, in order to obviate the necessity for making an application to the market at an unfavourable time, several of the States have now adopted the practice of specifying a period of from ten to twenty years prior to the date of maturity within which the Government, on giving twelve, or in some cases six, months' notice, has the option of redeeming the loan. By such means advantage may be taken by the Government during the period of opportunities that may offer for favourable renewals. Particulars concerning the due dates of the loans of the several States outstanding on 30th June, 1914, are given in the following table:—

**DUE DATES OF THE PUBLIC DEBTS OF THE SEVERAL STATES OF THE  
COMMONWEALTH OUTSTANDING ON 30th JUNE, 1914.**

Due Dates.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
Overdue ...	4,148	1,000	900				6,048
1914 ...	2,500,000	12,500		231,258	...	143,326	2,886,084
1915 ...	4,631,081	537,750	11,728,800	303,854	...	221,084	17,428,569
1916 ...	...	2,795,500	...	2,472,662	195,840	409,697	5,874,699
1917 ...	1,270,350	3,044,860	...	2,148,162	262,070	401,400	7,126,842
1918 ...	19,826,200	163,050	...	2,487,529	311,000	330,936	16,118,715
1919 ...	11,083,945	5,221,850	...	924,919	...	186,109	17,416,823
1920 ...	...	6,021,500	...	789,273	...	303,353	7,114,126
1921 ...	4,872,843	4,504,050	...	1,344,390	...	697,396	11,358,679
1922 ...	4,500,000	3,063,000	1,124,750	745,188	...	17,326	9,450,264
1923 ...	5,221,747	8,586,738	...	277,681	556,550	68,495	14,711,211
1924 ...	16,686,065	71,281	12,973,834	953,410	568,570	11,507	31,276,667
1925 ...	222,255	...	...	11,224	...	5,050	238,529
1926 ...	...	5,103,000	...	1,024,764	1,922,305	39,600	8,089,669
1927 ...	...	203,000	...	570,651	2,500,000	...	3,272,651
1928 ...	...	897,500	...	856,308	...	...	1,753,808
1929 ...	...	597,500	...	215,895	...	300,000	1,113,395
1930 ...	...	1,754,850	3,704,800	300,275	...	100	5,760,025
1931 ...	...	1,061,648	...	450	...	...	1,062,098
1932 ...	...	976,350	...	1,225	1,380,540	...	2,358,115
1933 ...	9,686,300	...	...	368,912	716,708	39,207	10,811,127
1934 ...	...	...	...	1,043,421	1,496,998	39,207	2,579,626
1935 ...	12,500,000	...	...	1,478,499	8,280,000	39,207	22,297,706
1936 ...	...	...	...	4,250,380	1,100,000	39,207	5,389,587
1937 ...	...	...	...	15,586	...	39,207	54,793
1938 ...	...	...	...	92,383	...	39,207	131,590
1939 ...	...	...	...	2,560,999	...	39,207	2,600,206
1940 ...	...	3,228,600	...	6,000	...	5,645,707	8,880,307
1941 ...	...	324,380	...	...	...	39,207	363,587
1942 ...	...	485,100	...	...	...	39,207	524,307
1943 ...	...	3,600	...	...	...	39,207	42,807
1944 ...	...	400	...	...	...	39,207	39,607
1945 ...	...	...	6,397,720	...	...	39,207	6,436,927
1946 ...	...	165,900	...	...	...	39,207	205,107
1947 ...	...	51,500	4,498,693	...	2,000,000	39,207	6,589,400
1948 ...	...	...	...	...	...	39,207	39,207
1949 ...	...	11,699,471	...	...	...	39,207	11,738,678
1950 ...	12,250,000	...	6,946,600	...	...	2,539,207	22,035,807
1951 ...	...	...	999,600	...	...	39,207	1,038,807
1952 ...	...	...	...	...	...	39,200	39,200
1953 ...	...	...	2,147,809	...	...	...	2,147,809
1954 ...	...	123,874	...	...	...	...	123,874
1955 ...	...	...	...	...	4,437,000	...	4,437,000
1956 ...	...	300,000	...	...	...	...	300,000
1960 ...	...	...	2,000,000	...	1,000,000	...	3,000,000
1962 ...	10,500,000	...	...	...	6,000,000	...	16,500,000
1964 ...	...	...	...	...	1,566,000	...	1,566,000
1970 ...	...	...	2,000,000	...	...	...	2,000,000
Interminable ...	532,889	...	...	...	...	...	532,889
Annual drawings ...	...	...	...	3,000,000	126,600	...	3,126,600
Indefinite ...	7,395,208	5,130,974	...	5,089,034	...	...	17,615,216
<b>Total</b> ...	<b>116,695,031</b>	<b>66,130,726</b>	<b>54,523,506</b>	<b>33,564,332</b>	<b>34,420,181</b>	<b>12,265,012</b>	<b>317,598,788</b>

In the above table those loans in the case of which the Government has the option of redemption during a specified period, have been in each instance classified according to the latest date of maturity.

9. **Sinking Funds.**—The practice of providing for the ultimate extinction of the public debt by means of the creation of sinking funds, receiving definite annual contributions from Consolidated Revenue, and accumulating at compound interest, has only been consistently adopted in the case of Western Australia. This State has established, in connection with each of its loans, sinking funds varying from 1 per cent. to 3 per cent. per annum of the nominal amount of the loan. These funds are placed in the hands of trustees in London, by whom they are invested in the securities of the British, Indian, and Colonial Governments, and applied from time to time in the redemption of loans falling due. In the remaining States the sinking fund provision made is varied, consisting in certain instances of the revenues from specified sources, in others of the Consolidated Revenue Fund surplus, and in others again of fixed annual amounts. In the following table are given particulars of the sinking funds of each State, and the net indebtedness of each after allowance for sinking fund has been made, the details given being those for 30th June, 1914 :—

#### STATES SINKING FUNDS AND NET INDEBTEDNESS, 30th JUNE, 1914.

State.	Gross Indebtedness.	Sinking Fund.	Net Indebtedness.	Net Indebtedness per head.
	£	£	£	£ s. d.
New South Wales ...	116,695,031	391,349	116,303,682	62 13 5
Victoria ...	66,130,726	1,439,511	64,691,215	45 9 10
Queensland ...	54,523,506	100,056	54,423,450	80 3 4
South Australia ...	33,564,332	1,608,265	31,956,067	72 18 2
Western Australia ...	34,420,181	3,692,103	30,728,078	94 17 2
Tasmania ...	12,265,012	553,677	11,711,335	59 10 5
Total ...	317,598,788	7,784,961	309,813,827	62 18 11

10. **London Prices of Australian Stocks.**—In examining the prices quoted for Australian State Government securities, particularly if the examination is made with the object of comparing the prices at a given time of different stocks, or the prices at different times of the same stock, several points in connection with the securities need to be kept in view; the principal of these are—(a) the rate of interest payable, (b) the date of maturity, and (c) the date at which interest is payable.

In the following table particulars are given of the London prices of some of the principal  $3\frac{1}{2}$  per cent. stocks of the several States during 1914. The quotations given are the middle prices, taken from the *Economist*, and are for the last Friday in each quarter :—

#### LONDON QUOTATIONS FOR AUSTRALIAN $3\frac{1}{2}$ PER CENT. STOCKS DURING 1914.

State.	Rate of Interest Payable.	Year of Maturity.	Months in which Interest is Payable.	London Prices (cum dividend) on—			
				28th Mar. 1914.	27th June 1914.	26th Sept. *1914.	26th Dec. *1914.
	%						
New South Wales	$3\frac{1}{2}$	1918	Mar.—Sept.	99 $\frac{1}{2}$	99 $\frac{1}{2}$	...	...
Victoria ...	$3\frac{1}{2}$	1923	Jan.—July	98	96	...	...
Queensland ...	$3\frac{1}{2}$	1945	Jan.—July	91	89	...	...
South Australia ...	$3\frac{1}{2}$	1939	Jan.—July	93	90	...	...
Western Australia	$3\frac{1}{2}$	1915-35	May—Nov.	93	92	...	...
Tasmania ...	$3\frac{1}{2}$	1920-40	Jan.—July	92	90	...	...

\* No public quotations owing to closing of Stock Exchange.

## SECTION XXI.

## PRIVATE FINANCE.

## § 1. Currency.

1. **The Three Australian Mints.**—Soon after the discovery of gold in Australia steps were taken for the establishment of a branch of the Royal Mint in Sydney. The formal opening took place on the 14th May, 1855, the mint being located in the southern part of the building once known as the "rum hospital," where it has remained up to the present. It is now proposed, however, to erect more suitable buildings for its accommodation in some other part of the city. The Melbourne branch of the Royal Mint was opened on the 12th June, 1872, and the Perth branch on the 20th June, 1899. The States of New South Wales, Victoria, and Western Australia provide an annual endowment, in return for which the mint receipts are paid into the respective State Treasuries, and it may be said that, apart from expenditure on buildings, new machinery, etc., the amounts paid into the Treasuries fairly balance the mint annuities.

2. **Receipts and Issues in 1913.**—(i.) *Assay of Deposits Received.* The number of deposits received during 1913 at the Sydney Mint was 1004, of a gross weight of 617,844 ozs.; at the Melbourne Mint, 2874, of a gross weight of 607,455 ozs.; and at the Perth Mint, 4762, of a gross weight of 1,488,875 ozs. The average composition of these deposits in Sydney was, gold 874.5, silver 86.0, base 39.5 in every 1000 parts; Melbourne, gold 914.2, silver 43.4, base 42.4 in every 1000 parts; and Perth, gold 823.8, silver 115.6, base 60.6 in every 1000 parts. As many parcels have, however, undergone some sort of refining process before being received at the mint, the average assay for gold shews higher in these figures than for gold as it naturally occurs.

(ii.) *Receipts.* Practically all the gold coined at the Australian mints is the produce of either the Commonwealth or of the Dominion of New Zealand. The following table shews the origin of the gold received at the three mints during 1913:—

## ORIGIN OF GOLD RECEIVED AT MINTS DURING 1913.

Origin of Gold.	Sydney Mint.	Melbourne Mint.	Perth Mint.
	OZS.	OZS.	OZS.
New South Wales ... ..	124,011.82	7,177.03	...
Victoria ... ..	316.13	481,557.94	...
Queensland... ..	280,635.60	5,738.35	...
South Australia ... ..	...	9,593.39	...
Western Australia ... ..	331.88	6,771.33	1,488,125
Tasmania ... ..	202.56	24,471.80	...
Northern Territory ... ..	506.57	...	15
New Zealand ... ..	211,197.21	62,959.90	...
Other countries, origin not stated, and light gold coin ... ..	642.61	9,185.84	735
<b>Total ... ..</b>	<b>617,844.38</b>	<b>607,455.08</b>	<b>1,488,875</b>



It will be seen that practically all gold produced in New South Wales and Queensland, and about seven-tenths of that produced in New Zealand, found its way to the Sydney Mint, while the Melbourne Mint received all Victorian and South Australian gold, together with nearly all of the Tasmanian and about three-tenths of the New Zealand production, and the Perth Mint coined practically all Western Australian gold with the exception of a small portion sent to Sydney and Melbourne.

(iii.) *Issues.* The Australian mints, besides issuing gold coin in the shape of sovereigns and half-sovereigns, also issue gold bullion, partly for the use of local manufacturers (jewellers and dentists), and partly for export, India taking annually a considerable quantity of gold cast into 10-oz. bars. The issues during 1913 are shewn in the table below:—

#### ISSUES OF GOLD FROM MINTS DURING 1913.

Mint.	Coin.			Bullion.	Total.
	Sovereigns.	Half-sovereigns.	Total.		
	£	£	£	£	£
Sydney ...	2,249,000	...	2,249,000	25,740	2,274,740
Melbourne ...	2,323,180	...	2,323,180	37,085	2,360,265
Perth ...	4,635,287	...	4,635,287	571,379	5,206,666
Total ...	9,207,467	...	9,207,467	634,204	9,841,671

In addition to the issue of gold the Mints are also charged with the issue of silver and bronze coin struck in London. There was, however, no issue of either Imperial silver or bronze coin in 1913. (See page 736, par. 5 (iii)

(iv.) *Withdrawals of Worn Coin.* The mints receive light and worn coin for recoinage, gold being coined locally, while silver is forwarded to London. The value of gold coin so received in 1913 amounted to £6649, viz.:—Sydney, £1740; Melbourne, £4909; and Perth, *nil*. The value of worn silver coins received during 1913 was £173,847, viz.:—Sydney, £86,463; Melbourne, £78,913; and Perth, £8471.

**3. Total Receipts and Issues.** (i.) *Receipts.* The total quantities of gold received at the three mints since their establishment are stated in the gross as follows:—Sydney, 36,346,186.62 ozs.; Melbourne, 35,627,187.33 ozs.; and Perth, 19,239,532.78 ozs. As the mints pay for standard gold (22 carats) at the rate of £3 17s. 10½d. per oz., which corresponds to a value of £4 4s. 11½d. per oz. fine (24 carats), it is possible to arrive at the number of fine ounces received from the amounts paid for the gold received. These amounts were:—Sydney, £134,062,610; Melbourne, £140,236,049; Perth, £67,721,124; corresponding to—Sydney, 31,561,021 ozs. fine; Melbourne, 33,014,372 ozs. fine; and Perth, 15,942,931 ozs. fine. Silver found in assaying is paid for if it exceeds 8 per cent.; in Sydney it has been paid for at the rate of one shilling and sixpence per oz. fine since 12th May, 1902; in Melbourne the price is fixed monthly by the Deputy-master of the Mint; and in the Perth accounts it has been taken at one shilling per oz.

(ii.) *Issues.* The total values of gold coin and bullion issued by the three mints were as shewn in the table on page 735. It may be said that rather more than one-half of the total gold production of Australasia has passed through the three Australian mints, the production of the Commonwealth States to the end of 1913 being valued at £555,453,482, and that of New Zealand at £82,058,543, or a total of £637,512,025.

## TOTAL ISSUES OF GOLD FROM MINTS TO END OF 1913.

Mint.	Coin.			Bullion.	Total.
	Sovereigns.	Half-sovereigns.	Total.		
	£	£	£	£	£
Sydney ...	123,606,500	3,950,000	127,556,500	6,507,413	134,063,913
Melbourne ...	128,955,520	883,948	129,839,468	10,400,248	140,239,716
Perth ...	60,992,453	189,235	61,181,688	6,522,681	67,704,369
Total ...	313,554,473	5,023,183	318,577,656	23,430,342	342,007,998

The total issues of silver coins to the end of 1913 were £2,415,200, viz.:—Crowns, £3500; double florins, £4585; half-crowns, £722,600; florins, £528,215; shillings, £606,200; sixpences, £253,220; and threepences, £296,880.

Bronze coins to the value of £180,150 have been issued, viz.:—Pence, £126,640; half-pence, £53,310; and farthings, £200.

(iii.) *Withdrawals of Worn Coin.* Complete figures as to the withdrawal of gold coin can be given for the Sydney Mint, where they amounted to £1,082,950; at the Melbourne Mint the coins withdrawn since 1890 were worth £514,711. In the case of Perth the withdrawal of worn gold coin since the opening of the Mint amounted to £422.

Withdrawals of worn silver coin amounted to £412,953 in Sydney, to £446,642 in Melbourne, and to £29,359 in Perth.

**4. Standard Weight and Fineness of Coinage.**—The coinage of the Commonwealth is the same as that of the United Kingdom, and the same provisions as to legal tender hold good, viz., while gold coins are legal tender to any amount, silver coins are only so for an amount not exceeding forty shillings, and bronze coins up to one shilling. As will be seen from the table below, the standard weights of the sovereign and half-sovereign are respectively 123.27447 grains and 61.63723 grains, but these coins will pass current if they do not fall below 122.5 grains and 61.125 grains respectively.

## STANDARD WEIGHT AND FINENESS OF COMMONWEALTH COINAGE.

Denomination.	Standard Weight.	Standard Fineness.
<b>GOLD—</b>	Grains.	
Sovereign ...	123.27447	Eleven-twelfths fine gold, viz.:— Gold ... 0.91667 } 1.00000 Alloy ... 0.08333 }
Half-sovereign ...	61.63723	
<b>SILVER—</b>		
Crown ...	436.36363	Thirty-seven-fortieths fine silver, viz.:— Silver ... 0.925 } 1.000 Alloy ... 0.075 }
Double florin ...	349.09090	
Half-crown ...	218.18181	
Florin ...	174.54545	
Shilling ...	87.27272	
Sixpence ...	43.63636	
Threepence ...	21.81818	
<b>BRONZE—</b>		
Penny ...	145.83333	Mixed metal, viz.:— Copper ... 0.95 } 1.00 Tin ... 0.04 Zinc ... 0.01 }
Half-penny ...	87.50000	
Farthing ...	43.75000	

**5. Prices of Silver and Australian Coinage.**—(i.) *Prices of Silver.* The value of silver has greatly decreased since its demonetisation and restricted coinage in almost the whole of Europe. Its average price in the London market in recent years is shewn in the subjoined table:—

## AVERAGE PRICE OF SILVER IN LONDON MARKET, 1875 to 1913.

Year.	Price per Standard Oz.	Year.	Price per Standard Oz.	Year.	Price per Standard Oz.
	d.		d.		d.
1875 ...	56.8125	1888 ...	42.8750	1901 ...	27.2500
1876 ...	53.0000	1889 ...	42.6875	1902 ...	24.1250
1877 ...	54.7500	1890 ...	47.7500	1903 ...	24.7500
1878 ...	52.5625	1891 ...	45.0625	1904 ...	26.3750
1879 ...	51.1875	1892 ...	39.8125	1905 ...	27.8125
1880 ...	52.2500	1893 ...	35.6250	1906 ...	30.8750
1881 ...	51.7500	1894 ...	29.0000	1907 ...	30.1875
1882 ...	51.8125	1895 ...	29.8750	1908 ...	24.3750
1883 ...	50.5625	1896 ...	30.7500	1909 ...	23.6875
1884 ...	50.6875	1897 ...	27.5625	1910 ...	24.6875
1885 ...	48.6250	1898 ...	26.9375	1911 ...	24.5625
1886 ...	45.3750	1899 ...	27.5000	1912 ...	28.0625
1887 ...	44.6250	1900 ...	28.3125	1913 ...	27.5625

The monthly fluctuations during the year 1913 were as follows :—

## AVERAGE PRICE OF SILVER IN LONDON MARKET, 1913.

Month.	Price per Standard Oz.	Month.	Price per Standard Oz.	Month.	Price per Standard Oz.
	d.		d.		d.
January ...	28.6875	May ...	27.3125	September ...	27.9375
February ...	28.4375	June ...	26.6250	October ...	28.0625
March ...	26.1875	July ...	26.6250	November ...	27.2500
April ...	27.4375	August ...	27.3125	December ...	26.6875

(ii.) *Profits on Coinage of Silver.* As sixty-six shillings are coined out of one pound troy of standard silver, the silver required to produce £3 6s. of coin was only worth £1 7s. 7d. during 1913; the difference of £1 18s. 5d. represents, therefore, the gross profit or seignorage made on the coinage of every £3 6s. This represents a rate of seignorage of 139.45 per cent., but the expenses of coining (including interest on cost of machinery) and of withdrawals of worn coin must be deducted. Still, given a large annual demand for new silver coin, even the net profit amounts to a considerable sum. Negotiations, therefore, took place for a number of years between the Imperial authorities and the Governments of New South Wales and Victoria, which in 1898 resulted in permission being granted to the two Governments named to coin silver and bronze coin at the Sydney and Melbourne Mints for circulation in Australia. No steps were, however, taken in the matter, and as section 51 of the Commonwealth Constitution makes legislation concerning "currency, coinage, and legal tender" a federal matter, the question remained in abeyance until the latter part of 1908, when the Commonwealth Treasurer announced his intention of initiating the coinage of silver in the future.

(iii.) *Coinage Bill.* In 1909 a Coinage Bill was introduced in the Commonwealth Parliament, which provided that the future Australian coinage should consist of the following coins :—In gold, £5, £2, £1, and 10s.; in silver, 2s., 1s., 6d., and 3d.; and in bronze, 1d. and  $\frac{1}{2}$ d. Gold was to be legal tender up to any amount, silver up to 40s., and bronze up to 1s. Ultimately the coinage was to be undertaken in Australia, but for the time an agreement was made with the authorities of the Royal Mint in London, under the terms of which the coinage was to be done in London on account of the Commonwealth Government. Orders were given for the immediate coinage of £200,000 worth of silver, viz., one million florins, one million shillings, one million sixpences, and two million threepences. The coins were to bear on the obverse H.M. the King's head, with the Latin inscription which appears on the British coins, and on the reverse the Australian coat-of-arms, with the denomination and the date. The Imperial authorities

undertook to withdraw £100,000 worth of the existing silver-coinage per annum at its face value. The first consignment of the new coinage arrived in Australia early in 1910, and in a short time all the silver coins contracted for were supplied to the Royal mints, Australia. Copper coins of the value of £10,000, viz., 1,560,000 pennies and 1,680,000 half-pennies, of a design similar to that of the silver coins, were ordered. It was not, however, intended to withdraw any of the existing copper coins, but merely to make good the "leakage," which was considerable. Possibly the time is not far distant when the copper coinage will be replaced by a nickel coinage.

The issue of Australian coin in 1913 was as follows:—Sydney, £141,600 silver, and £4050 bronze; Melbourne, £193,550 silver, and £4710 bronze; and Perth, £24,200 silver, and £360 bronze. In Melbourne, the coin is distributed from the Federal Treasury.

6. For information concerning the imports into the Commonwealth and exports from the Commonwealth of coin and bullion during the year 1913, the enquirer is referred to the tables on pages 540 to 542.

## § 2. Banking.

1. **Banking Facilities.**—(i.) *Head Offices of Banks.* Of the twenty-four banks trading in the Commonwealth, four have their head offices in London, viz., the Bank of Australasia; the Union Bank of Australia Limited; the English, Scottish and Australian Bank Limited; and the London Bank of Australia Limited. The head offices of the following five banks are in Sydney—The Commonwealth Bank of Australia, The Bank of New South Wales, the Commercial Banking Company of Sydney Limited, the Australian Joint Stock Bank Limited (now the Australian Bank of Commerce Limited), and the City Bank of Sydney. Five banks have their head offices in Melbourne, viz., the National Bank of Australasia Limited, the Commercial Bank of Australia Limited, the Bank of Victoria Limited, the Colonial Bank of Australasia Limited, and the Royal Bank of Australia Limited. Brisbane is the headquarters of three banks, viz., the Queensland National Bank Limited, the Royal Bank of Queensland Limited, and the Bank of North Queensland Limited. Only one bank has at present its head office in Adelaide, viz., the Bank of Adelaide; and one in Perth, viz., the Western Australian Bank. Of the two Tasmanian banks the Commercial Bank of Tasmania Limited has its head office in Hobart, and the National Bank of Tasmania Limited in Launceston. The Bank of New Zealand has its headquarters in Wellington. Of the two remaining banks—the Comptoir National d'Escompte has its head office in Paris, and the Ballarat Banking Company in Ballarat. It is proposed, in the few instances where the banks are referred to by name, to arrange them in the order just given, except that the Commonwealth Bank comes first.

2. **Banking Legislation.**—Under Section 51 of the Commonwealth Constitution Act the Commonwealth Parliament has power to legislate with respect to "Banking, other than State banking, also State banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money." Until quite recently the only Commonwealth banking legislation passed was Act No. 27 of 1909, "An Act relating to Bills of Exchange, Cheques, and Promissory Notes," which came into force on the 1st of February, 1910. In the session of 1910, however, two Acts relating to banking were passed by the Federal Parliament. The first was the Australian Notes Act No. 11 of 1910, assented to on the 16th September, 1910, and proclaimed 1st November, 1910; and the second the Bank Notes Tax Act No. 14 1910, assented to on 10th October, 1910, and proclaimed 1st July, 1911. Under the first of these Acts the Commonwealth Treasurer is empowered to issue notes which shall be legal tender throughout the Commonwealth, and redeemable at the seat of Federal Government. The notes are issued in denominations of 10s., £1, £5, £10, £20, £50, and £100. The Act directs the Treasurer to hold the following reserve of gold coin:—

- (a) An amount not less than one-fourth of the amount of Australian notes issued up to seven million pounds;
- (b) An amount equal to the amount of Australian notes issued in excess of seven million pounds.

For the purpose of estimating the reserve, notes which have been redeemed are not included amongst those issued.

The portion of the Act relating to the reserve has been amended by Act No. 21 of 1911, which was assented to on 22nd December, 1911. According to this amending Act the clause relating to the reserve now reads as follows:—"The Treasurer shall hold in gold coin a reserve of not less than one-fourth of the amount of Australian notes issued." It was intended that this amendment should come into force on 1st July, 1912, but the Federal Treasurer afterwards announced that its operation would be deferred until after the Commonwealth elections of 1913. These elections resulted in the return to power of another administration, and the new Treasurer, Sir John Forrest, announced his intention of maintaining the reserve at the rate provided for in the original Act during his tenure of office. This only lasted until September, 1914, but there has not, as yet, been any great alteration in the proportionate gold reserve, which on 31st March, 1915, stood at about 38 per cent.

The Australian Notes Act prohibits the circulation of notes issued by a State six months after the commencement of the Act, and such notes will then cease to be legal tender. In addition the Bank Notes Act imposes a tax of 10 per cent. per annum in respect of all bank notes issued or re-issued by any bank in the Commonwealth after the commencement of this Act and not redeemed.

The Notes Act and the Bank Notes Act were supplemented in the following year by the passing of No. 18 of 1911, "An Act to provide for a Commonwealth Bank," which passed both Houses and was assented to on 22nd December, 1911. The bank thus authorised has no power to issue notes, but in every other respect it has the functions of an ordinary bank of issue. It is managed by a governor and a deputy-governor, who are appointed by the Governor-General and will hold office during good behaviour for a period of seven years, after which they will be eligible for reappointment. A novel feature is the establishment of a department dealing with savings bank business only. No further reference need be made here to this department, which is dealt with in detail in § 5. The framers of the Act have largely followed the lines laid down by the respective State Savings Bank Acts, particularly the Western Australian Act No. 9 of 1906. The capital of the bank is one million pounds, to be raised by the issue and sale of debentures. During the session of 1914 authority was obtained from Parliament to increase the capital of the bank to ten million pounds, with the object, it was understood, of acquiring the entire business of another bank. No such acquisition has, as yet, taken place, and no capital has, so far, been actually advanced by the Commonwealth Government to the bank. The debentures previously referred to are for ten pounds or some multiple of ten pounds and redeemable at par, the Commonwealth guaranteeing interest and principal. All expenses incidental to the establishment of the bank are met by an advance from the Consolidated Revenue Fund, such advance to be ultimately repaid with interest at the rate of three-and-a-half per cent.

The first step in the organisation of the Bank was the appointment as Governor, from 1st June, 1912, of Mr. Denison Miller, of the Bank of New South Wales. Mr. James Kell, of the Bank of Australasia, was subsequently appointed Deputy-Governor, and the Bank was formally opened on 20th January, 1913, for the transaction of all general banking business. The result of the first day's operations was the deposit of £2,341,720, the bulk of which consisted of funds belonging to various departments of the Commonwealth Government. The opening of branches simultaneously at Sydney, Melbourne, Brisbane, Adelaide, Perth, Hobart, Townsville, Canberra, and London, marked the accomplishment of the provisions of the Commonwealth Bank Act of 1911. The Savings Bank Department, which came into existence six months previously, is dealt with in detail in the section on Savings Banks.

Under the existing laws, banks are required to furnish quarterly statements of their average assets and liabilities, but these statements are not equally complete

in all the States. Until the close of 1907 these quarterly statements, together with the periodical balance-sheets of the banks (generally half-yearly, but in a few cases yearly), were the only information available in regard to banking business. During the year 1908 the Commonwealth Statistician, under the provisions of the Census and Statistics Act, asked the banks for quarterly returns giving slightly more detailed information than had previously been obtained. As, however, a few of the banks have found it impossible up to the present to give all the particulars required, while promising to do so in future, the returns for the years subsequent to 1907 have been practically left in the same condition as those for 1907 and previous years.

The Acts under which the various banks are incorporated are not all of the same nature, but it may be stated that while most of the older banks were incorporated by special Acts, *e.g.*, the Bank of New South Wales, by Act of Council 1817; the Bank of Australasia, by Royal Charter; the Bank of Adelaide, by Act of the South Australian Parliament; and the Bank of New Zealand, by Act of the General Assembly of New Zealand, the newer banks are generally registered under a "Companies Act," or some equivalent Act. This is also the case with those banks which, after the crisis of 1893, were reconstructed.

**3. Capital Resources of Banks.**—The paid-up capital of the cheque-paying banks, together with their reserve funds, the rate per cent., and the amount of their last dividends, is shewn in the table hereunder. The information relates to the balance-sheet last preceding the 30th June, 1914. In regard to the reserve funds it must be stated that in the case of some of the banks these are invested in Government securities, while in other cases they are used in the ordinary business of the banks, and in a few instances they are partly invested and partly used in business.

#### CAPITAL RESOURCES OF CHEQUE-PAYING BANKS, 1913-14.

Bank.	Paid-up Capital.	Rate per cent. per annum of last Dividend and Bonus.	Amount of last 3-yrly. Dividend & Bonus.	Amount of Reserved Profits.
	£	%	£	£
Commonwealth Bank of Australia ...	2,000,000	14 & 12/- bonus ps.	170,000	2,690,000
Bank of Australasia ...	2,000,000	14	105,000	1,574,427
Union Bank of Australia Limited ...	539,493	8	43,155 <sup>a</sup>	392,588
English, Scottish and Australian Bank Limited ...	548,393 <sup>1</sup>	{ Preferen. 7 } { Ordinary 6 }	34,131 <sup>a</sup>	295,072
London Bank of Australia Limited ...	3,500,000	10	87,500 <sup>a</sup>	2,450,000
Bank of New South Wales ...	2,000,000	10	99,258	1,730,000
Commercial Banking Company of Sydney Limited ...	1,195,592	3	17,932	39,875
Australian Bank of Commerce Limited ...	400,000	6	12,000	32,649
City Bank of Sydney ...	1,498,220 <sup>2</sup>	7	52,437	500,000
National Bank of Australasia Limited ...	2,212,594 <sup>3</sup>	8	31,760	7,690
Commercial Bank of Australia Limited ...	1,478,010 <sup>4</sup>	6	44,340	363,115
Bank of Victoria Limited ...	439,280	7	15,375	220,000
Colonial Bank of Australasia Limited ...	300,000	8	12,000	210,000
Royal Bank of Australia Limited ...	480,000	...	...	...
Queensland National Bank Limited ...	545,635	5½	14,970	78,500
Royal Bank of Queensland Limited ...	162,500	7	5,687	35,263
Bank of North Queensland Limited ...	500,000	10	25,000	510,000
Bank of Adelaide ...	250,000	20	25,000	694,435
Western Australian Bank ...	200,000	14	14,000	254,305
Commercial Bank of Tasmania Limited ...	152,040	7	5,321	4,987
National Bank of Tasmania Limited ...	2,655,481	{ 4 Preferen. } { 6 & 3 bonus } { Ordinary }	65,000	1,601,608
Bank of New Zealand ...	8,000,000	8	640,000 <sup>a</sup>	1,636,108
Comptoir National d'Escompte de Paris ...	85,000	8	3,400	82,000
Ballarat Banking Company Limited ...	...	...	...	...
<b>Total</b> ...	<b>31,142,583</b>	...	...	<b>15,342,622</b>

1. £171,930 preferential, £376,463 ordinary. 2. £305,780 preferential, £1,192,440 ordinary.  
3. £2,117,350 preferential, £95,644 ordinary. 4. £416,760 preferential, £1,061,250 ordinary. 5. For 12 months. 6. Dividend for quarter.

4. **Liabilities and Assets of Banks.**—(i.) *Liabilities of Banks for Quarter ended 30th June, 1914.* As already stated, the banks transacting business in any State are obliged, under the existing State laws, to furnish a quarterly statement of their assets and liabilities, which contains the averages of the weekly statements prepared by the bank for that purpose, and they have, during the years 1908-14, furnished quarterly statements to the Commonwealth Statistician. As all other financial returns in this work embrace, so far as possible, a period ended 30th June, 1914, it seems advisable to give the banking figures for the quarter ended on that date, and, where they are shewn for a series of years, similarly to use the figures for the June quarter of each year. The liabilities are those to the general public, and are exclusive of the banks' liabilities to their shareholders, which are shewn in the preceding table:—

**AVERAGE LIABILITIES OF BANKS IN EACH STATE OF THE COMMONWEALTH AND THE NORTHERN TERRITORY FOR THE QUARTER ENDED 30th JUNE, 1914.**

State.	Notes in Circulation, not bearing interest.	Bills in Circulation, not bearing interest.	Balances Due to other Banks.	Deposits.			Total Liabilities.
				Not Bearing Interest.	Bearing Interest.	Total.	
	£	£	£	£	£	£	£
New South Wales	111,929	510,811	1,177,365	29,944,029	32,983,404	62,927,433	64,727,548
Victoria ...	113,668	192,645	582,261	19,022,083	33,005,741	52,027,824	52,916,398
Queensland ...	(a)	278,344	218,853	10,657,870	13,586,613	24,244,483	24,730,680
South Australia	37,592	18,622	345,254	4,447,140	7,800,875	12,248,015	12,649,483
West. Australia	29,585	67,159	343,103	3,851,438	3,007,518	6,858,956	7,298,803
Tasmania ...	14,025	23,920	82,638	2,196,015	3,219,447	5,415,462	5,536,045
North. Territory	...	47	1,314	76,887	55,495	132,382	133,743
Total ...	306,809	1,089,548	2,750,788	70,195,462	93,659,093	163,854,555	168,001,700

(a) In Queensland, Treasury notes were used instead of bank notes.

(ii.) *Assets of Banks for Quarter ended 30th June, 1914.* The average assets of the banks are shewn in the following table:—

**AVERAGE ASSETS OF BANKS IN EACH STATE OF THE COMMONWEALTH AND THE NORTHERN TERRITORY FOR THE QUARTER ENDED 30th JUNE, 1914.**

State.	Coined Gold and Silver and other Metals.	Gold and Silver in Bullion or Bars.	Government and Municipal Securities.	Landed and House Property.	Notes and Bills of other Banks.	Balances Due from other Banks.	Discounts Over-drafts, and all other Assets.	Australian Notes.	Total Assets.
	£	£	£	£	£	£	£	£	£
N.S.W.	15,364,464	123,810	4,257,774	1,953,112	498,760	1,571,433	43,423,580	1,841,719	69,034,652
Victoria	9,205,728	246,769	1,148,163	1,228,705	556,334	1,388,626	35,667,449	1,002,225	50,543,999
Q'land	4,010,864	95,886	365,069	751,170	405,626	781,988	17,114,230	992,936	24,517,819
S. Aust.	2,807,190	808	184,053	314,679	181,376	357,056	8,142,197	552,546	12,539,927
W. Aust.	2,993,018	554,258	404,802	217,684	101,097	259,520	8,024,452	433,580	12,988,411
Tas. ...	900,427	113	1,017,384	126,401	27,764	377,902	3,132,985	206,335	5,783,314
Nor-Ter.	4,233	2,456	...	1,200	14,519	1,337	4,314	8,125	36,184
Total	35,385,924	1,024,100	7,377,245	4,592,951	1,785,498	4,737,862	115,509,210	5,036,516	175,449,306

(iii.) *Liabilities of Banks for June Quarter, 1905 to 1914.* In the subjoined table, which shews the average liabilities of the banks for the quarters ended 30th June, 1905 to 1914, for the Commonwealth as a whole, it will be seen that the growth in total liabilities is almost entirely due to an increase in the deposits, and that deposits not bearing interest and deposits bearing interest have shared in that increase very equally:—

**AVERAGE LIABILITIES OF BANKS IN THE COMMONWEALTH FOR THE QUARTER  
ENDED 30th JUNE IN THE YEARS 1905 to 1914.**

Year.	Notes in Circulation not Bearing Interest.	Bills in Circulation not Bearing Interest.	Balances due to other Banks.	Deposits.			Total Liabilities.
				Not Bearing Interest.	Bearing Interest.	Total.	
	£	£	£	£	£	£	£
1905 ... ..	3,036,879	555,256	446,555	36,847,610	61,295,775	98,143,385	102,182,075
1906 ... ..	3,244,256	568,670	577,094	41,036,116	65,479,150	106,515,266	110,905,286
1907 ... ..	3,563,181	801,878	444,460	46,781,234	65,916,735	112,697,969	117,507,488
1908 ... ..	3,535,227	707,903	796,447	46,015,448	67,678,940	113,694,388	118,734,965
1909 ... ..	3,510,629	720,853	555,806	46,812,632	70,945,623	117,758,255	122,545,543
1910 ... ..	3,748,482	521,758	570,115	55,233,862	74,687,274	129,891,136	135,031,491
1911 ... ..	3,718,458	528,663	741,188	62,226,897	81,220,013	143,446,910	148,835,219
1912 ... ..	536,984	1,002,062	872,946	65,408,841	84,397,756	149,806,597	152,218,589
1913 ... ..	368,975	894,095	2,492,229	62,012,773	87,814,795	149,827,568	153,582,867
1914 ... ..	306,809	1,089,548	2,750,788	70,195,462	93,669,093	163,864,555	168,001,700

(iv.) *Assets of Banks for June Quarter, 1905 to 1914.* A similar table shewing the average assets of the banks for the June quarters of each of the years 1905 to 1913 is shewn below. Bullion, in the case of the Tasmanian banks, is included with coin in the years 1905 to 1907.

**AVERAGE ASSETS OF BANKS IN THE COMMONWEALTH FOR THE QUARTER  
ENDED 30th JUNE IN THE YEARS 1905 to 1914.**

Year.	Coined Gold and Silver and other Metals.	Gold and Silver in Bullion or Bars.	Landed and other Property.	Notes and Bills of other Banks.	Balances Due from other Banks.	All other Debts Due to the Banks. (a)	Total Assets.
	£	£	£	£	£	£	£
1905	19,988,465	1,501,890	5,212,799	705,089	809,929	85,766,259	113,984,431
1906	21,268,679	1,412,763	5,160,875	802,225	1,234,921	87,889,121	117,768,584
1907	22,420,395	1,291,033	5,028,379	840,217	1,170,276	94,990,435	125,740,735
1908	23,578,293	1,353,267	4,938,212	889,377	1,131,612	101,647,044	133,537,805
1909	24,943,910	1,353,933	4,852,471	932,354	1,153,611	98,481,421	131,717,700
1910	28,826,729	1,322,899	4,919,991	973,161	1,343,669	101,371,817	138,758,266
1911	32,330,705	1,140,065	4,937,437	1,279,714	1,698,097	118,179,425	159,565,443
1912	27,581,368	1,104,644	4,956,593	1,168,958	1,761,701	129,197,992	165,771,256
1913	30,135,187	1,118,879	4,983,882	1,334,182	3,211,812	123,772,972	164,554,914
1914	35,385,924	1,024,100	4,592,951	1,785,498	4,737,862	127,922,971	175,449,306

(a) Including Government and Municipal securities, and Australian notes.

The figures do not call for much comment. As the table shews, the increase in the total amount of assets is partly due to an increase in the amount of specie held by the banks against liabilities at call, partly to advances, and, to a lesser extent, to an increase in the "balances due."

**5. Percentage of Coin, Bullion, and Australian Notes to Liabilities at Call.—**

(i.) *Commonwealth.* Although it is not strictly correct to assume that the division of deposits into those bearing interest and not bearing interest would in every case coincide with a division into fixed deposits and current accounts, the division, in default of a better one, must be adopted, and in the following table "liabilities at call" are therefore understood to include the note circulation of the banks and the deposits not bearing interest. From 1912 onwards, however, the former item will tend to become negligible.



**PERCENTAGE OF COIN, BULLION AND AUSTRALIAN NOTES TO LIABILITIES  
AT CALL, COMMONWEALTH BANKS, 1905 to 1914.**

Year.				Liabilities at Call.	Coin, Bullion, and Australian Notes.	Percentage to Liabilities at Call.
				£	£	%
1905	...	...	...	39,884,489	21,490,355	53.88
1906	...	...	...	44,280,372	22,681,442	51.22
1907	...	...	...	50,344,415	23,711,428	47.10
1908	...	...	...	49,551,675	24,931,560	50.31
1909	...	...	...	50,323,261	26,297,843	52.26
1910	...	...	...	58,982,344	30,149,628	51.12
1911	...	...	...	65,945,355	33,470,770	50.76
1912	...	...	...	65,945,825	34,120,831	51.74
1913	...	...	...	62,381,748	36,105,775	57.88
1914	...	...	...	70,502,271	41,446,540	58.79

It would appear from the figures just given that the banks generally consider it advisable to hold about half the amount of liabilities at call in coin and bullion. In the last two years under review the ratio has risen to more than four-sevenths. The drop to 47.10 per cent. in 1907 was due to the very large increase in the amount of deposits during the year, and to the fact that the increase in the coin and bullion held, considerable though it was, did not keep pace therewith. The large rise in 1913 was due to a decrease in the deposits, coupled with a simultaneous advance in coin, bullion, and Australian notes.

(ii.) *Queensland Treasury Notes.* No bank notes are issued by any of the banks in Queensland, where a Treasury note took the place of bank notes from 1893. These Treasury notes are disregarded in the quarterly statements of the banks; according to Treasury returns the amount outstanding on 30th June, 1914, was £34,208, partly in circulation, and the balance held by the banks. Under the Australian Notes Act, previously referred to, the issue of notes by a State is now prohibited.

(iii.) *States.* The proportion of coin, bullion and Australian notes to liabilities at call varies considerably in the different States, and is generally highest in Western Australia, and lowest in Queensland and Tasmania. A table is appended shewing the percentages for each State for the quarter ended 30th June in each of the years 1905 to 1914 :—

**PERCENTAGE OF COIN, BULLION AND AUSTRALIAN NOTES TO LIABILITIES  
AT CALL, COMMONWEALTH BANKS, 1905 to 1914.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
	%	%	%	%	%	%	%	%
1905}	50.51	58.01	45.78	55.66	67.35	44.25	...	53.88
1906	48.49	53.55	40.43	51.25	73.98	42.39	...	51.22
1907	44.81	49.17	37.20	46.73	71.14	39.84	...	47.10
1908	47.70	54.68	41.09	45.63	76.09	40.06	...	50.31
1909	50.38	56.57	39.68	46.90	83.29	41.48	...	52.26
1910	51.33	51.66	39.78	48.27	81.09	37.77	...	51.12
1911	52.28	45.05	43.60	51.64	86.55	35.13	16.27	50.76
1912	50.79	50.42	47.53	56.98	72.82	44.63	32.95	51.74
1913	51.93	59.87	54.18	70.75	94.23	47.23	20.98	57.88
1914	57.66	55.16	47.85	74.93	102.60	50.04	19.53	58.79

**6. Deposits and Advances.**—(i.) *Total Deposits.* The total amount of deposits held by the banks shews a steady advance during the period under review, although there was a slight check in the advance during 1913.

## TOTAL DEPOSITS IN COMMONWEALTH BANKS, 1905 to 1914.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	All States.
	£	£	£	£	£	£	£	£
1905 ...	35,972,265	33,642,092	12,987,859	6,892,103	4,999,650	3,649,416	...	98,143,385
1906 ...	39,099,630	36,764,392	13,665,110	7,513,802	5,645,701	3,826,631	...	106,515,266
1907 ...	41,967,265	38,393,179	14,852,584	8,247,366	5,500,112	3,737,463	...	112,697,969
1908 ...	43,616,984	37,538,723	15,328,056	8,644,346	4,894,639	3,671,641	...	113,694,388
1909 ...	44,626,194	38,611,731	16,138,931	9,727,879	4,987,894	3,665,626	...	117,758,255
1910 ...	50,018,885	41,809,708	17,420,034	10,782,890	6,129,668	3,729,951	...	129,891,136
1911 ...	55,222,458	46,363,615	19,633,309	11,128,300	7,280,392	3,759,486	59,350	143,446,910
1912 ...	58,229,571	48,453,808	20,311,907	11,600,180	6,900,758	4,236,207	74,166	149,806,597
1913 ...	57,282,179	47,690,128	21,504,588	11,714,785	6,350,055	5,188,274	97,559	149,827,568
1914 ...	62,927,433	52,027,824	24,244,483	12,248,015	6,858,956	5,415,462	132,382	163,854,555

(ii.) *Deposits per Head of Population.* To shew the extent to which the population makes use of the banking facilities afforded to it, a table is given hereunder shewing the amount of total deposits per head of mean population for each of the years 1905 to 1914. The figures must not be taken as representative of the savings of the people, as a large proportion of the deposits is non-interest-bearing and therefore presumably used in the business of the banks' customers, together with a small part of the interest-bearing deposits.

## DEPOSITS PER HEAD OF POPULATION IN COMMONWEALTH BANKS, 1905 to 1914.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Northern Territory.	All States.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1905	24 10 7	27 18 6	24 12 1	18 19 0	20 7 1	19 16 4	...	24 11 8
1906	26 1 4	30 6 8	25 10 10	20 10 1	22 5 0	20 15 8	...	26 5 10
1907	27 5 8	31 7 2	27 9 1	22 5 0	21 10 8	20 6 6	...	27 7 11
1908	27 15 6	30 6 8	27 15 0	22 14 11	19 0 8	19 12 10	...	27 3 5
1909	28 0 4	30 14 0	28 8 6	24 17 5	19 0 4	19 6 1	...	27 12 8
1910	30 13 5	32 14 9	29 11 6	27 1 2	22 14 10	19 11 0	...	29 16 5
1911	33 9 1	35 1 10	32 2 2	27 3 7	25 11 0	19 7 7	17 17 0	32 1 8
1912	34 15 5	35 11 1	32 13 0	27 14 10	23 9 2	21 17 11	22 16 8	32 15 10
1913	31 14 9	34 6 10	33 1 3	27 1 8	20 6 11	26 15 0	26 17 10	31 6 1
1914	34 18 10	37 5 4	36 14 11	28 17 2	22 12 6	28 0 0	36 7 8	34 4 7

(iii.) *Total Advances.* In the quarterly statements furnished by the banks the column headed "all other debts due to the banks," which usually average about 75 per cent. of the total assets, is made up of such miscellaneous items as bills discounted, promissory notes discounted, overdrafts on personal security, overdrafts secured by deposit of deeds or by mortgage, etc. The quarterly returns furnished to the Commonwealth Statistician in 1908 and 1909 provided for a division of the amounts contained under this heading into a number of sub-headings, but all the banks were not in a position to make the necessary division, so that under present circumstances it is impossible to separate these items, and the total amounts contained in the column must, therefore, be treated as advances. The following table shews the totals for each State during the years 1905 to 1914. It will be noted that between the consecutive years 1908-9 and 1912-13 there was a marked decrease in the advances. In each case this was roughly concurrent with a slackening in the increase of deposits, and was due partly to this slackening, and partly to international causes.

## ADVANCES BY COMMONWEALTH BANKS, 1905 to 1914.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Northern Territory.	All States.
	£	£	£	£	£	£	£	£
1905 ...	31,965,017	28,593,201	13,590,333	4,793,936	4,172,983	2,650,789	...	85,766,259
1906 ...	32,057,192	29,699,683	13,850,921	5,053,184	4,635,624	2,592,517	...	87,889,121
1907 ...	34,460,963	31,894,070	15,076,455	5,545,346	5,140,911	2,872,660	...	94,990,435
1908 ...	37,948,889	33,254,780	15,245,537	5,805,575	5,581,001	3,008,237	...	100,844,019
1909 ...	34,853,220	31,455,141	14,499,669	5,699,546	5,394,518	2,715,648	...	94,607,742
1910 ...	34,809,345	33,064,881	14,167,480	6,426,809	5,899,061	2,722,645	...	97,080,221
1911 ...	39,001,933	35,792,928	15,639,657	8,018,597	7,327,529	2,796,045	2,085	108,578,774
1912 ...	43,575,784	37,843,367	17,765,880	8,565,340	8,360,993	2,897,565	3,755	118,972,677
1913 ...	41,740,849	35,914,898	16,748,341	7,893,585	8,124,242	3,056,852	2,279	113,481,046
1914 ...	43,423,580	35,667,449	17,114,230	8,142,197	8,024,452	3,132,988	4,314	115,509,210

(iv.) *Proportion of Advances to Deposits.* The percentage borne by advances to total deposits shews to what extent the needs of one State have to be supplied by the resources of another State, and where the percentage for the Commonwealth as a whole exceeds 100, as it did in 1901, 1902, and 1903, the banks must have supplied the deficiency from their own resources, or from deposits obtained outside the Commonwealth. The following figures shew, however, that the banking business of the Commonwealth has been practically self-contained during the period under review :—

**PERCENTAGE OF ADVANCES TO TOTAL DEPOSITS, COMMONWEALTH BANKS,  
1905 TO 1914.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
	%	%	%	%	%	%	%	%
1905 ...	88.86	84.99	104.64	69.56	83.47	72.64	...	87.39
1906 ...	81.99	80.78	101.36	67.25	82.11	67.75	...	82.51
1907 ...	82.11	83.07	101.51	67.24	93.47	76.86	...	84.29
1908 ...	87.00	88.59	99.46	67.16	114.00	81.93	...	88.70
1909 ...	78.10	81.47	89.84	58.59	107.95	74.08	...	80.34
1910 ...	69.59	79.08	81.33	59.60	96.07	72.99	...	74.74
1911 ...	70.63	77.20	79.66	72.06	100.65	74.37	3.51	75.69
1912 ...	74.83	78.10	87.47	73.84	121.16	67.46	5.06	79.42
1913 ...	72.87	75.31	77.88	67.38	127.94	58.92	2.34	75.74
1914 ...	69.01	68.55	70.59	66.48	116.99	57.85	3.26	70.49

**7. Clearing Houses.**—The Sydney Banks' Exchange Settlement and the Melbourne Clearing House, at which two institutions settlements are effected daily between the banks doing business in New South Wales and Victoria respectively, publish figures of the weekly clearances effected. From these figures it appears that in 1914 the total clearances in Sydney amounted to £353,068,000, and in Melbourne to £299,668,000. These figures represent an increase for Sydney of £4,327,000 on those for 1913, and an increase for Melbourne of £2,412,000. Owing to the different distribution of the banking business in the two cities these figures do not, however, afford a fair comparison of the volume of banking business transacted in Sydney and Melbourne. For Adelaide the clearances in 1914 totalled £70,031,000, a decrease for the year of £5,444,000.

### § 3. Companies.

**1. General.**—Returns in regard to registered companies are defective, and, with few exceptions, are not available for Tasmania. They embrace (a) Returns relating to Trustees, Executors and Agency Companies; (b) Returns relating to Registered Building and Investment Societies; and (c) Returns relating to Registered Co-operative Societies.

**2. Trustees, Executors and Agency Companies.**—Returns are available of seven Victorian, two New South Wales, one Queensland, one South Australian, one Western Australian, and two Tasmanian companies. The paid-up capital of these fourteen companies amounted to £471,297; reserve funds and undivided profits to £416,561; other liabilities, £97,723; total liabilities, £985,581. Among the assets are included :—Deposits with Governments, £181,050; other investments in public securities, fixed deposits, etc., £171,419; loans on mortgage, £125,679; property owned, £357,145; other assets, £150,288. The net profits for the year were £88,920, and the amount of dividends and bonuses £49,391. Returns as to the amount at credit of estates represented by assets are available for only nine companies, the total shewn being £36,092,667.

Probably about £20,000,000 would have to be added to this amount for the remaining seven companies, so that the total amount would not be far short of £56,000,000. None of these companies receive deposits, and advances are only made under exceptional circumstances, and to a very limited extent, the total so shewn in the last balance-sheets being but £55,908.

**3. Registered Building and Investment Societies.**—Returns have been received of a total of 196 societies, viz., 109 in New South Wales, 32 in Victoria, 13 in Queensland, 27 in South Australia, 11 in Western Australia, and 4 in Tasmania. The balance-sheets cover various periods ended during the second half of 1913 and the first half of 1914, so that the returns may be assumed to roughly correspond to the financial year 1913-14. The liabilities of the societies are stated as follows:—

**LIABILITIES OF REGISTERED BUILDING AND INVESTMENT SOCIETIES, 1913-14.**

State.	Paid-up Capital or Subscriptions.	Reserve Funds.	Deposits.	Bank Over-drafts and other Liabilities.	Total Liabilities.
	£	£	£	£	£
New South Wales	1,156,251	(a)	462,294	115,413	1,733,958
Victoria ...	1,336,556	274,511	789,309	280,189	2,680,565
Queensland ...	451,926	33,207	115,863	41,250	642,246
South Australia ...	441,024	8,854	2,846	19,356	472,080
Western Australia	119,603	...	18,485	26,672	164,760
Tasmania ...	104,296	45,271	168,524	10,190	328,281
Total ...	3,609,656	361,843	1,557,321	493,070	6,021,890

(a) Included in paid-up capital or subscriptions.

The assets of the companies for the same period were as follows:—

**ASSETS OF REGISTERED BUILDING AND INVESTMENT SOCIETIES, 1913-14.**

State.	Advances on Mortgage.	Landed and House Property, Furniture, etc.	Cash in Hand and on Deposit and other Assets.	Total Assets.
	£	£	£	£
New South Wales ...	1,429,447	(a)	304,511	1,733,958
Victoria ...	2,090,572	538,322	94,704	2,723,598
Queensland ...	619,553	14,604	27,867	662,024
South Australia ...	464,581	3,754	18,065	486,400
Western Australia ...	158,231	25	6,504	164,760
Tasmania ...	302,805	7,990	17,486	328,281
Total ...	5,065,189	564,695	469,137	6,099,021

(a) Included with other assets.

Statistical information, so far as is available, is furnished in the following table:—

**REGISTERED BUILDING AND INVESTMENT SOCIETIES, 1913-14.**

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
Number of societies ...	109	32	13	27	11	4	196
Number of shareholders ...	(a)	8,126	4,668	11,766	3,634	1,718	(c)29,912
Number of shares ..	(a)	(a)	790,953	27,787	10,720	11,696	(d)841,156
Number of borrowers ...	(a)	10,087	4,587	2,568	1,144	1,536	(c)19,922
Income for year from interest ...	116,716	162,268	38,291	22,089	(b)	18,320	357,686
Working expenses for year ...	77,452	73,689	6,953	7,187	2,871	3,674	171,826
Amount of deposits during year ...	204,361	575,802	45,482	5,424	39,265	44,495	914,829
Repayment of loans during year ...	175,829	491,157	71,338	73,613	44,279	73,712	929,928
Loans granted during year ...	245,678	372,757	87,154	128,302	59,110	66,236	959,237

(a) Not available. (b) Included in repayment of loans. (c) Exclusive of New South Wales.  
(d) Exclusive of New South Wales and Victoria.

4. **Registered Co-operative Societies.**—Returns are available of 97 societies, of which 40 were in New South Wales, 36 in Victoria, 5 in Queensland, 7 in South Australia, and 9 in Western Australia. As in the case of Building and Investment Societies, so in the case of Co-operative Societies do the balance-sheets cover various periods ended during the financial year 1913-14. The liabilities of the 97 societies are shewn in the following table:—

#### LIABILITIES OF REGISTERED CO-OPERATIVE SOCIETIES, 1913-14.

State.	Paid-up Capital.	Reserve Funds.	Bank Over-drafts and Sundry Creditors.	Other Liabilities, Profit and Loss Account, &c	Total Liabilities.
	£	£	£	£	£
New South Wales ...	339,968	(a)	104,797	...	444,765
Victoria ...	118,030	21,577	114,230	82,957	336,794
Queensland ...	7,605	3,012	1,467	610	12,694
South Australia ...	149,841	9,527	10,783	10,493	180,644
Western Australia ...	10,111	1,421	46,097	40,867	98,496
Total(b) ...	625,555	35,537	277,374	134,927	1,073,393

(a) Included in paid-up capital. (b) Exclusive of Tasmania.

The assets of the societies are shewn hereunder:—

#### ASSETS OF REGISTERED CO-OPERATIVE SOCIETIES, 1913-14.

State.	Stock and Fittings.	Cash in Hand and Sundry Debtors.	Freehold and other Property and other Assets.	Total Assets.
	£	£	£	£
New South Wales ...	330,865	104,106	9,794	444,765
Victoria ...	139,316	112,066	95,062	346,444
Queensland ...	9,229	3,998	418	13,645
South Australia ...	128,469	47,473	19,219	195,161
Western Australia ...	74,707	23,660	129	98,496
Total(a) ...	682,586	291,303	124,622	1,098,511

(a) Exclusive of Tasmania.

The following table gives statistical information, so far as available:—

#### REGISTERED CO-OPERATIVE SOCIETIES, 1913.

	N.S.W.	Vic.	Q'land.	S.A.	W.A.	C'wlth. (a)
Number of societies on 31st December, 1913 ...	40	36	4	7	8	95
Total No. of members on 31st December, 1913 ...	30,586	19,450	15,955	12,904	1,515	80,410
Total income for year 1913 ...	£ 1,469,547	625,413	16,216	394,599	286,314	2,793,089
Working expenses for year ended 31st December, 1913 ...	£ 1,342,564	120,550	15,704	62,601	282,379	1,823,798

(a) Exclusive of Tasmania.

### § 4. Savings Banks.

1. **General.**—The total number of savings banks, with their branches and agencies, in the Commonwealth, nearly approximates to that of ordinary banks, and at the middle of 1914, numbered 2194, distributed as follows:—New South Wales, 649; Victoria, 445; Queensland, 472; South Australia, 291 (exclusive of school penny savings banks); Western Australia, 189 (exclusive of school penny savings banks); and Tasmania, 148. These figures are exclusive of the newly-established Commonwealth Savings Bank, except in the State of Tasmania.

In the following tables the figures for Victoria, Queensland, South Australia and Western Australia refer to financial years ended 30th June, and those of New South Wales to calendar years ended 31st December next preceding. In the case of Tasmania figures for the two joint-stock savings banks are made up to the last day of February in each year. In the case of the Commonwealth Bank, figures are made up to the 30th June, 1914.

2. **Depositors.**—The total number of depositors, *i.e.*, of persons having accounts open, not of those making deposits, in each of the last ten years is shewn in the following table:—

NUMBER OF DEPOSITORS IN SAVINGS BANKS, 1904-5 to 1913-14.

Year.	N.S.W.	Victoria. (a)	Q'land.	S. Aust. (a)	W. Aust. (a)	Tasmania.	All States.
1904-5	355,824	447,382	84,165	146,366	59,764	49,438	1,142,939
1905-6	364,039	466,752	88,026	152,487	63,573	50,731	1,185,608
1906-7	392,050	491,318	92,912	161,855	66,737	53,817	1,258,689
1907-8	421,928	511,581	100,324	174,289	72,178	55,620	1,335,920
1908-9	436,029	532,425	106,627	187,482	77,748	58,145	1,398,456
1909-10	460,251	560,515	114,720	201,275	86,166	60,646	1,483,573
1910-11	498,658	595,424	127,219	216,480	99,017	63,314	1,600,112
1911-12	544,023	641,736	139,091	232,971	111,078	67,105	1,736,004
1912-13(b)	619,224	703,084	168,438	251,963	121,201	70,402	1,934,312
1913-14(b)	693,618	735,400	201,163	267,805	134,510	76,000	2,108,496

(a) Inclusive of depositors in penny savings banks. (b) Inclusive of Commonwealth Savings Bank.

The subjoined table shews the above figures in relation to the population of the States; it must, of course, be borne in mind that savings bank accounts are not restricted to the adult population, but that it is, on the contrary, a very usual practice to open accounts in the names of children. Even so, the proportion is a large one, amounting in the case of the Commonwealth to about three-sevenths, and rising in Victoria to one-half, and in South Australia to more than three-fifths.

DEPOSITORS IN SAVINGS BANKS PER 1000 OF POPULATION, 1904-5 to 1913-14.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
1904-5	244	371	160	403	250	267	288
1905-6	245	386	166	416	254	272	294
1906-7	258	403	172	437	262	290	308
1907-8	270	415	184	462	284	293	321
1908-9	275	426	191	481	299	303	330
1909-10	285	439	199	508	324	314	343
1910-11	303	458	212	528	358	327	362
1911-12	325	471	224	553	378	347	380
1912-13(a)	342	506	257	581	386	362	403
1913-14(a)	373	517	296	607	415	386	428

(a) Inclusive of Commonwealth Savings Bank.

3. **Deposits.**—The total amount of deposits in the savings banks of the six States reaches the large sum of eighty-three million pounds, and would no doubt be even larger if the banks did not restrict interest-bearing deposits to certain limits. It must be remembered that though not granting him facilities to draw cheques, the Australian savings banks practically afford the small tradesman all the advantages of a current account, in addition to which they also allow him interest on his minimum monthly balance, instead of charging him a small fee for keeping his account, as the ordinary banks do. The rates of interest allowed, and the limits of interest-bearing deposits, are as follows:—New South Wales, Government Savings Bank,  $3\frac{1}{2}$  per cent. up to £300, and 3 per cent. on the excess to £500; Victoria,  $3\frac{1}{2}$  per cent. on first £100, and 3 per cent. on excess from £101 to £350; Queensland, 3 per cent. up to £500; South Australia,  $2\frac{1}{2}$  per cent. on accounts closed during the year, and  $3\frac{1}{2}$  per cent. up to £250 on accounts remaining open; Western Australia, 3 per cent. up to £1000; Hobart Trustees' Savings Bank, 4 per cent. up to £50,  $3\frac{1}{2}$  per cent. on the excess from £50 to £150; Launceston Trustees' Savings Bank,  $3\frac{1}{2}$  per cent. up to £150, and Commonwealth Savings Bank, 3 per cent. up to £300. The savings banks of five of the States—New South Wales (Government Savings Bank), Victoria, Queensland, South Australia, and Western Australia—have, for the further benefit of depositors, entered into a reciprocity arrangement, under which money deposited in one State may be drawn out in another State, and even by telegraph. The two Savings Banks in New South Wales amalgamated on 1st May, 1914. The Act of amalgamation provided for interest at the rate of  $3\frac{1}{2}$  per cent. on the accounts carried to the combined institution. If the rate of interest to Government Savings Bank depositors should fall subsequently below 3 per cent., the transferred accounts of the old Barrack Street Bank are to receive a preferential rate of interest of  $\frac{1}{2}$  per cent. Otherwise their accounts will never receive less than  $3\frac{1}{2}$  per cent.

The table below shews the total amounts at credit of depositors in each of the last ten years:—

#### DEPOSITS IN SAVINGS BANKS, 1904-5 to 1913-14.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
1904-5 ...	12,982,648	10,896,741	3,875,197	4,398,041	2,207,296	1,263,542	35,623,465
1905-6 ...	13,963,635	11,764,179	4,142,791	4,766,907	2,316,161	1,332,546	38,286,219
1906-7 ...	15,320,532	12,792,590	4,543,104	5,320,872	2,633,135	1,488,056	42,098,289
1907-8 ...	17,530,157	13,428,676	4,921,881	5,820,344	2,885,463	1,560,951	46,147,472
1908-9 ...	18,805,082	14,101,710	5,158,219	6,347,271	3,059,738	1,605,919	49,077,939
1909-10 ...	20,150,574	15,417,888	5,622,986	6,791,320	3,481,764	1,652,966	53,117,498
1910-11 ...	22,453,924	17,874,423	6,376,969	7,435,772	4,092,504	1,760,090	59,393,682
1911-12 ...	25,361,338	19,662,465	7,342,811	8,248,396	4,408,320	1,933,448	66,956,778
1912-13(a) ...	28,862,592	22,232,196	8,668,284	8,766,182	4,682,738	2,036,211	75,248,203
1913-14(a) ...	32,363,069	24,533,519	10,166,946	9,366,490	4,932,895	2,178,305	83,541,224

(a) Inclusive of Commonwealth Savings Bank.

A comparison between the tables shewing the number of depositors and the amount of deposits reveals the fact that the average amounts to the credit of each depositor are considerably larger in some States than in others; in other words, that in one State a comparatively larger proportion of the population makes use of the savings banks, and that the natural result is a smaller amount to the credit of the individual depositor. Within the same State there is little variation in the figures from year to year.

#### AVERAGE AMOUNT PER DEPOSITOR IN SAVINGS BANKS, 1904-5 to 1913-14.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1904-5 ...	36 9 9	24 7 2	46 0 10	20 1 0	36 18 8	25 11 2	31 3 4
1905-6 ...	38 7 2	25 4 1	47 1 3	31 5 3	36 8 8	26 5 4	32 5 10
1906-7 ...	39 1 7	26 0 9	48 17 11	32 17 6	39 9 1	27 13 0	33 8 11
1907-8 ...	41 10 11	26 5 0	49 1 2	33 7 11	39 19 6	28 1 4	34 10 10
1908-9 ...	43 11 2	26 9 9	48 7 6	33 17 1	39 7 1	27 12 5	35 4 1
1909-10 ...	43 15 8	27 10 1	49 0 4	33 14 10	40 8 2	27 5 1	35 16 1
1910-11 ...	45 0 7	29 0 3	50 2 6	34 7 0	41 6 7	27 16 0	37 2 4
1911-12 ...	46 12 4	30 12 9	52 15 10	35 8 1	39 13 9	28 16 3	38 11 0
1912-13(a) ...	46 12 2	31 12 5	51 9 3	34 15 10	38 12 9	28 18 4	38 18 0
1913-14(a) ...	46 13 2	33 7 2	50 10 10	34 18 10	36 13 6	28 13 3	39 12 4

(a) Inclusive of Commonwealth Savings Bank.

The average amount deposited per head of population shews a satisfactory increase during the period under review. In 1904-5 it ranged from £12 1s. 11d. in South Australia to £6 16s. 6d. in Tasmania, while in 1913-14 the amount in South Australia had risen to £21 4s. Od., and in Tasmania to £11 1s. 5d. The following table gives the figures for each year:—

**SAVINGS BANKS DEPOSITS PER HEAD OF POPULATION, 1904-5 to 1913-14.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1904-5 ...	8 18 5	9 0 9	7 7 8	12 1 11	9 4 5	6 16 6	8 19 3
1905-6 ...	9 7 8	9 14 5	7 15 11	13 0 0	9 5 2	7 3 0	9 9 10
1906-7 ...	10 1 4	10 9 9	8 8 7	14 7 3	10 6 5	8 0 6	10 5 9
1907-8 ...	11 4 6	10 17 10	9 0 4	15 8 5	11 6 9	8 4 8	11 1 9
1908-9 ...	11 17 5	11 5 6	9 5 2	16 6 0	11 15 8	8 7 6	11 11 11
1909-10 ...	12 9 8	12 1 6	9 14 7	17 2 8	13 2 1	8 11 2	12 5 8
1910-11 ...	13 13 2	13 5 6	10 12 11	18 2 7	14 15 8	9 1 9	13 8 5
1911-12 ...	14 11 7	14 10 5	11 11 8	19 8 11	14 11 7	10 3 6	14 8 4
1912-13 ...	15 19 0	15 19 10	13 4 2	20 4 3	14 17 8	10 9 4	15 13 4
1913-14 ...	17 8 7	17 5 1	14 19 6	21 4 0	15 4 6	11 1 5	16 19 6

4. **Annual Business.**—The annual volume of business transacted by the Australian savings banks is very large when compared with the total amount of deposits. This is mainly due to the fact already pointed out of many accounts being used as convenient current accounts. Thus, during the last year of the period under review, the total amount deposited and withdrawn (exclusive of interest added) amounted to about 170 per cent. of the total amount of deposits at the end of the previous year, while the amount at credit of depositors (inclusive of interest added) increased by only about 11 per cent. during the same year. The following table shews the business transacted during the year 1913-14:—

**SAVINGS BANKS TRANSACTIONS DURING THE YEAR 1913-14.**

State.	Total Deposits at End of Year 1912-13.	Amounts Deposited during Year 1913-14.	Interest Added during Year 1913-14.	Total.	Amounts Withdrawn during Year 1913-14.	Total Deposits at End of Year 1913-14.
	£	£	£	£	£	£
N.S. Wales ...	28,862,592	26,770,465	1,001,289	56,634,346	24,271,277	32,363,069
Victoria ...	22,232,196	20,719,031	699,150	43,650,377	19,116,858	24,533,519
Queensland ...	8,668,284	7,076,136	264,838	16,009,258	5,842,312	10,166,946
South Australia ...	8,766,182	5,969,749	289,452	15,025,389	5,658,893	9,366,490
West. Australia ...	4,682,738	4,988,527	133,863	9,805,133	4,872,238	4,932,895
Tasmania ...	2,036,211	1,338,748	66,102	3,441,061	1,262,756	2,178,305
Total ...	75,248,203	66,862,656	2,454,699	144,565,558	61,024,334	83,541,224

**§ 5. Commonwealth Savings Bank.**

A most important recent event has been the opening of the Savings Bank department of the Commonwealth Bank. This started operations in Victoria on 15th July, 1912, in Queensland on 16th September, 1912, in the Northern Territory on 21st October, 1912, and in the States of New South Wales, South Australia, and Western Australia on 13th January, 1913. Business is being carried out on the usual Savings Bank lines,



interest at the rate of 3 per cent. per annum being allowed on deposits up to £300. Extensive use is being made of the country post-offices as local agencies, the several States having received notice that their Savings Banks would have to be removed from the post-offices by the end of 1912. Victoria and Queensland withdrew at a very early stage.

At the conference of State Premiers, held at Melbourne on 19th January, 1912, and following days, the Commonwealth Prime Minister submitted certain proposals as the basis upon which the States might become partners in the Commonwealth Bank. One of the proposals was that the Commonwealth should take over the Savings Banks of each State, whether Government or trustee. After this had happened the State Government was to have first call on any loan which the Commonwealth Bank should repay to the State Bank in redemption of loans existing when it was taken over; and also first call on three-fourths of the amount of deposits in the State available for investment. The Premiers, feeling unwilling to agree to this, submitted a counter proposal [the Victorian Treasurer dissenting], that the Commonwealth Bank should refrain from embarking on Savings Bank business, and that the States, in consideration thereof, should lend to the Bank an amount equal to one-fourth of the excess of deposits over withdrawals. This arrangement was to come into force on 1st June, 1913, and last for five years. The Prime Minister, in reply, intimated that his original proposals were still open for acceptance. On 23rd January the Premiers' Conference passed the following resolution [the representatives from Victoria and Queensland dissenting]: "That this conference expresses its readiness to accept the proposals submitted by the Prime Minister, subject to a satisfactory arrangement being arrived at for giving the States an equitable share in the management of the Commonwealth Bank." The matter then remained for some months in abeyance.

Almost from the time of the opening of the Savings Banks department the Governor of the Bank made proposals to the various State Governments which might form a basis for the transfer of the various State Savings Banks to the Commonwealth. The Government of Tasmania ultimately accepted the offer, and the State Savings Bank of Tasmania was formally transferred to the Commonwealth as from the 1st January, 1913, and opened for business under the new régime on 3rd January. The remaining States' Governments announced their intention of retaining their Savings Banks as separate institutions, and their example was followed by the Savings Bank of New South Wales, and the two trustee Savings Banks of Tasmania. The Savings Bank of New South Wales, however, amalgamated with the Government Savings Bank as from 1st May, 1914. It will be of interest to give a summary of the agreement between the Commonwealth Bank and the State Savings Bank of Tasmania. The following is condensed from a statement by the Governor of the Commonwealth Bank:—

"The Commonwealth Bank is to take over all the liabilities to depositors, etc., amounting to £788,031, leaving the profit and loss balance, amounting to £5659, in the hands of the State. The assets, amounting to £793,690, are dealt with as follows: the securities to be retained by the State Government, and debentures to be issued to the Commonwealth Bank, Savings Bank Department, in lieu of same. Three per cent. stock totalling £19,000, and  $3\frac{1}{2}$  per cent. stock totalling £420,961, to be exchanged for  $3\frac{1}{2}$  per cent. debentures at 95, and  $3\frac{1}{2}$  per cent. stock amounting to £204,000, and 4 per cent. stock amounting to £146,700 to be exchanged for 4 per cent. debentures. The total debentures, amounting to £784,133, will mature in 20 yearly instalments of £39,207 per annum (except the last one, which will be £39,200), the first payment to be made on 30th June, 1932. The Government will provide a sinking fund of 1 per cent., to be a charge on the consolidated revenue of the State, and to be deposited in the Commonwealth Bank in reduction of debentures in even thousands, in the proportion of  $3\frac{1}{2}$  per cent. and 4 per cent. debentures issued. The remaining items on the balance sheet, amounting to £31,229, will be handed over to the Commonwealth Bank as cash.

"The State is to have first call for State requirements on 75 per cent. of the increased deposits at current rates, and should the State at any time not require the amount, the Governor of the Commonwealth Bank will be at liberty to invest the same, either in the business of the Bank, or in the Commonwealth or in municipal securities. The whole of the staff at present exclusively engaged in savings bank business will be retained."

The following table shews for each State the number of depositors, and the amount at credit on 30th June, 1914, of the Commonwealth Savings Bank:—

**COMMONWEALTH SAVINGS BANK AS AT 30th JUNE, 1914.**

	Number of Depositors.	Amount at Credit.
		£
New South Wales ... ..	37,677	1,171,255
Victoria ... ..	30,371	1,151,823
Queensland ... ..	24,202	815,947
South Australia ... ..	7,965	317,135
Western Australia ... ..	10,111	277,956
Tasmania ... ..	32,392	885,379
Northern Territory ... ..	292	18,709
Papua ... ..	133	7,064
Total ... ..	143,143	4,645,268

## § 6. Life Assurance.

1. **General.**—Under section 51 of the Commonwealth Constitution Act, the Commonwealth Parliament is empowered to legislate in regard to "insurance, other than State insurance; also State insurance extending beyond the limits of the State concerned." With the exception of Act No. 12 of 1905, "an Act relating to assurance on the lives of children by life assurance companies or societies," no legislation relating to life insurance has been passed by the Commonwealth Parliament, and life insurance companies carry on their business under State laws where such laws are in existence, or otherwise under the provisions of various companies or special Acts. A Royal Commission consisting of the Honourable J. H. Hood, one of the judges of the Supreme Court of Victoria, and G. H. Knibbs, Esquire, Commonwealth Statistician, was, however, appointed in 1908, "to inquire into and report upon the law relating to and the methods of operating, Fire, Life, Industrial, and other Insurance in Australia." The Commission was originally required to report the result of its inquiry before the 30th June, 1909. A progress report was issued before that date, and the time for the final report extended to the 30th June, 1910. The report relating to Life Assurance was published on 15th March, 1910, and that relating to Fire Insurance on 15th October, 1910. On the conclusions contained in these reports future Commonwealth legislation will probably be based. In fact, a bill embodying some of the conclusions was introduced into the Federal Parliament on December 20th, 1912, but, owing to lack of time, did not reach its second reading. An additional report on Social Insurance was prepared by the Commonwealth Statistician and issued on 9th September, 1910.

Returns for the year 1913 have been directly collected from life assurance societies by the Commonwealth Statistician, with results which are in the main satisfactory. Figures for 1913 refer to business in the Commonwealth only, and do not include New Zealand business.

**2. Companies Transacting Business in the Commonwealth.**—The total number of companies at present established in the Commonwealth is eighteen, of which the following eight have their head offices in New South Wales:—The Australian Mutual Provident Society, the Mutual Life and Citizens' Assurance Company Limited, the City Mutual Life Assurance Society Limited, the Australian Metropolitan Life Assurance Company Limited, the People's Prudential Assurance Company Limited, the Life Insurance Company, the Assurance and Thrift Association Limited, and the Co-operative Assurance Company Limited. The Standard Life Association Limited is now omitted, since a controlling interest in it has been purchased by the Colonial Mutual Life Assurance Society, and almost all its policy-holders have transferred themselves to the latter corporation. The Mutual Life and Citizens' Assurance Company Limited was formed in 1908 by the amalgamation of the Mutual Life Association of Australasia and the Citizens' Life Assurance Company Limited. During 1910 it increased in size by amalgamating with the Australian Widows' Fund Life Assurance Society Limited, which is therefore no longer included in the list of independent corporations. Five companies have their head offices in Victoria, viz.—The Australian Alliance Assurance Company, the National Mutual Life Association of Australasia Limited, the Victoria Life and General Insurance Company, the Colonial Mutual Life Assurance Society Limited, and the Australasian Temperance and General Mutual Life Assurance Society Limited. The head office of the Provident Life Assurance Company is in New Zealand, and that of the Liverpool and London and Globe Insurance Company in England. The remaining three societies belong to the United States, viz.—The Equitable Life Insurance Society of the United States, the Mutual Life Insurance Company of New York, and the New York Life Insurance Company.

Most of the Australian companies are purely mutual; the following, however, are partly proprietary, the figures in brackets representing the shareholders' capital paid up:—The Victoria Life and General (£40,000), Mutual Life and Citizens' (£88,864), Metropolitan (£11,740), Prudential (£10,000), Life Insurance Company (£44,000), Assurance and Thrift (£17,678), and Co-operative Assurance (£51,897). Of foreign companies transacting business in the Commonwealth, the Liverpool and London and Globe, the Provident, and the Equitable are partly proprietary, the shareholders' capital amounting to £265,525, £15,000 and £20,550 respectively.

**3. Ordinary and Industrial Business.**—Of the societies enumerated in the preceding paragraph the following seven in 1913 transacted both ordinary and industrial business:—The Australian Mutual Provident Society, the Mutual Life and Citizens' Assurance Company Limited, the Australasian Temperance and General Mutual Life Assurance Society Limited, the Australian Metropolitan Life Assurance Company Limited, the Colonial Mutual Life Assurance Society, the Life Insurance Company, and the Co-operative Assurance Company.

The People's Prudential Assurance Company Limited and the Provident Life Assurance Company formerly restricted their operations to industrial business, but have now established an ordinary department.

The remaining nine societies transacted ordinary life assurance business only, with the exception of those companies which have fire and accident branches, etc.

It has been attempted in this section to keep returns relating to ordinary and to industrial business apart, so far as it is possible to do so, and figures relating to companies whose head offices are in New Zealand or in Europe or America refer to the Australian business only of those companies.

4. **Ordinary Business: Australian Business in Force, 1913.**—The subjoined table shows the ordinary life business in force at the latest dates available in the eighteen societies conducting operations in the Commonwealth:—

**ORDINARY LIFE ASSURANCE.—AUSTRALIAN BUSINESS IN FORCE, 1913.**

Society.	Policies in force, exclusive of Annuities.	Amount Assured, exclusive of Bonus Addition, etc.	Annual Premium Income, exclusive of Annuities.
	No.	£	£
Australian Mutual Provident Society ... ..	236,509	64,667,464	2,050,269
Mutual Life and Citizens' Assurance Company Limited ...	97,871	17,518,197	607,336
City Mutual Life Assurance Society ... ..	21,894	3,170,852	121,398
Australian Metropolitan Life Assurance Company ...	3,291	346,548	14,494
Australian Alliance Assurance Company ... ..	390	134,455	3,171
National Mutual Life Association of Australasia ...	75,531	16,743,404	598,822
Victoria Life and General Insurance Company ...	90	60,445	1,145
Colonial Mutual Life Assurance Society ... ..	31,321	5,870,255	175,934
People's Prudential ... ..	3,267	200,247	(a) 22,354
Australasian Temperance & General Mutual Life Assurance Society ... ..	39,565	4,094,249	158,301
Liverpool and London and Globe Insurance Company (Life Branch) ... ..	301	125,041	3,619
Provident Life ... ..	270	28,978	930
Life Insurance Company ... ..	972	180,465	(a) 22,142
Assurance and Thrift Association Limited ... ..	560	117,865	4,450
Co-operative Assurance Company ... ..	473	107,095	4,196
Equitable Life Assurance Society of United States ...	5,522	1,863,449	75,061
Mutual Life Insurance Company of New York ...	3,843	1,492,161	47,466
New York Life Insurance Company ... ..	5,407	2,111,080	77,046

(a) Including industrial.

5. **Industrial Business: Australian Business in Force, 1913.**—Similar information in regard to the industrial business of the nine societies transacting that kind of business is given in the following table:—

**INDUSTRIAL ASSURANCE.—AUSTRALIAN BUSINESS IN FORCE, 1913.**

Society.	Policies in Force.	Amount Assured.	Annual Premium Income.
	No.	£	£
Australian Mutual Provident Society ... ..	87,597	2,977,086	168,582
Mutual Life and Citizens' Assurance Company ...	232,721	4,258,060	222,710
Australian Metropolitan Life Assurance Company ...	24,595	579,626	30,194
Colonial Mutual Life Assurance Society ... ..	54,310	1,359,644	70,235
People's Prudential Assurance Company ... ..	4,862	99,626	(a)
Aust. Temperance and General Mutual Life Ass. Society	149,704	3,018,175	194,366
Provident Life Assurance Company ... ..	6,731	179,898	7,504
Life Insurance Company ... ..	2,771	70,046	(a)
Co-operative Assurance Company ... ..	2,984	100,549	4,096

(a) Included in ordinary.

6. **Receipts and Expenditure of Insurance Societies, 1913.**—(i.) *Ordinary Business.* The following returns refer to the Australian business of all societies doing business in the Commonwealth. The People's Prudential Assurance Company, whose accounts do not distinguish between revenue and expenditure on account of ordinary and industrial business, has been included among the companies doing industrial business.

**ORDINARY LIFE ASSURANCE.—AUSTRALIAN RECEIPTS AND EXPENDITURE, 1913.**

Society.	Receipts.	Expenditure.	Excess Receipts (Addition to Funds).
	£	£	£
Australian Mutual Provident Society ...	3,219,018	2,108,981	1,110,037
Mutual Life and Citizens' Assurance Company ...	879,040	561,777	317,263
City Mutual Life Assurance Society ...	186,099	114,826	71,273
Australian Metropolitan Life Assurance Company ...	16,746	9,635	7,111
Australian Alliance Assurance Company ...	7,534	15,703	(a)8,169
National Mutual Life Association of Australasia ...	915,717	463,377	452,340
Victoria Life and General Insurance Company ...	6,776	26,346	(a)19,570
Colonial Mutual Life Assurance Society ...	284,893	205,023	79,870
Aust. Temperance & General Mutual Life Ass. Socy.	197,174	99,051	98,123
Liverpool and London and Globe (Life Branch) ...	3,619	18,478	(a)14,859
Provident Life ...	930	287	643
Life Insurance Company ...	23,851	27,158	(a)3,307
Assurance and Thrift Association Limited ...	8,576	5,198	3,378
Co-operative Assurance Company ...	5,944	(b)15,107	(a)9,163
Equitable Life Assurance Society ...	98,099	111,954	(a)13,855
Mutual Life Insurance Company of New York ...	63,136	97,791	(a)34,655
New York Life Insurance Company ...	85,978	68,056	17,922

(a) Decrease. (b) Including Industrial.

(ii.) *Industrial Business.* A similar return for those societies which transact industrial business is given below. The figures for the Prudential, as stated above, are included therein.

**INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN RECEIPTS AND EXPENDITURE, 1913.**

Society.	Receipts.	Expenditure.	Excess Receipts (Addition to Funds)
	£	£	£
Australian Mutual Provident Society ...	186,626	77,008	109,618
Mutual Life and Citizens' Assurance Company ...	271,126	190,818	80,308
Australian Metropolitan Life Assurance Company ...	31,004	28,099	2,905
Colonial Mutual ...	70,718	49,599	21,119
People's Prudential Assurance Company ...	24,070	19,198	4,872
Aust. Temperance & General Mutual Life Ass. Soc.	215,184	167,148	48,036
Provident Life Assurance Company ...	7,680	8,479	(a)799
Co-operative Assurance Company ...	4,096	(b)	—

(a) Decrease. (b) Included in Ordinary.

**7. Liabilities and Assets of Insurance Societies, 1913.**—The liabilities of the Australasian societies consist mainly of their assurance funds; as already mentioned, only eight of the societies are partly proprietary, viz., the Mutual Life and Citizens', with a paid-up capital of £88,864; the Metropolitan, with a paid-up capital of £11,740; the Prudential, with a paid-up capital of £10,000; the Victoria Life and General, with a paid-up capital of £40,000; the Provident, with a paid-up capital of £15,000; the Life Insurance Company, with £44,000; the Assurance and Thrift, with £17,678; and Co-operative Assurance Company, with £51,897. With the exception of the Victoria, the Life Insurance and Assurance and Thrift, this paid-up capital belongs in every case to the industrial branch of the respective societies. The capital of the Provident (£15,000) is held in New Zealand, that of the Liverpool and London and Globe (£265,525) in England, and that of the Equitable Life (£20,550) in the United States. None of these three amounts appears, therefore, in the two subjoined tables, where the capital of the Australian societies is included with the assurance funds. The assets consist mainly of loans on mortgage and policies, Government, municipal, and similar securities, shares, freehold property, etc. As in some cases the Australian liabilities exceed the Australian assets, it

may be pointed out that this table should be read in connection with the table on page 756, which sets out the total assets. Loans on personal security are granted by only very few of the Australian societies.

(i.) *Ordinary Business.* The following table shews the liabilities and assets of the societies transacting ordinary life business:—

**ORDINARY LIFE ASSURANCE.—AUSTRALIAN LIABILITIES AND ASSETS, 1913.**

Society.	Liabilities.			Assets. (c)			
	Total Funds including Paid-up Capital.	Other Liabilities.	Total.	Loans on Mortgages and Policies.	Securities, Freehold Property, etc.	Total.	
	£	£	£	£	£	£	
Australian Mutual Provident Society (a) ...	26,163,959	307,880	26,471,839	13,296,361	10,001,000	23,297,361	
Mutual Life and Citizens' Assurance Co. ...	(b)	(b)	(b)	3,117,128	3,008,379	6,125,507	
City Mutual Life Assurance Society ...	658,000	59,110	717,110	411,149	305,961	717,110	
Australian Metropolitan Life Assurance Co. ...	49,610	2,253	51,863	13,059	38,804	51,863	
Australian Alliance Assurance Company ...	122,992	6,511	129,503	88,501	41,002	129,503	
National Mut. Life Assoc. of Australasia ...	6,397,798	134,559	6,532,357	4,497,674	2,034,683	6,532,357	
Victoria Life and General Insurance Co. ...	145,013	8,416	153,429	18,686	134,739	153,425	
Colonial Mutual Life Assurance Society ...	2,639,692	22,008	2,661,700	1,206,120	1,455,580	2,661,700	
Aust. Temp. & Gen. Mut. Life Assur. Soc. (a)	1,370,542	59,589	1,430,131	628,477	801,654	1,430,131	
Liverpool & London & Globe (Life Branch) Provident Life ...	(b)	(b)	(b)	(b)	(b)	(b)	
Commonwealth Life Insurance Co. ...	1,800	74	1,874	...	303	303	
Assurance and Thrift ...	44,000	794	44,794	3,066	26,777	29,843	
Co-operative Assurance Co. (a) ...	28,313	1,713	30,026	21,236	7,510	28,746	
Equitable Life Assurance Society ...	51,897	1,116	53,013	21,887	10,636	32,523	
Mutual Life Insurance Society of New York ...	247,154	99	247,253	161,220	403,374	564,594	
New York Life Insurance Society ...	(b)	(b)	(b)	107,580	157,411	264,991	
	773,000	5,236	778,236	118,547	27,629	146,176	

(a) Including industrial business. As the business of these two societies is mainly ordinary life business they have been included in this table. (b) Not available. (c) Several life offices have a considerable portion of their assets invested outside the Commonwealth (see table on page 756).

(ii.) *Industrial Business.* As stated in the footnote to the preceding table, the Australian Mutual Provident Society and the Australasian Temperance and General Mutual Life Assurance Society, which transact a certain amount of industrial business, but whose business is mainly ordinary life business, have been included with those societies doing only ordinary life business. On the other hand, the People's Prudential Assurance Company, in whose case industrial business greatly predominates over ordinary life business, has been included in the following table. Incomplete as the table is, it shews that the funds appropriated to industrial business are very insignificant in comparison with those pertaining to ordinary life business. Taking the table in conjunction with the statements of revenue and expenditure, the question may well be asked whether in the case of some of the societies industrial business is worth catering for at all.

**INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN LIABILITIES AND ASSETS, 1913.**

Society.	Liabilities.			Assets.			
	Total Funds, including Paid-up Capital.	Other Liabilities.	Total.	Loans on Mortgages and Policies.	Securities, Freehold Property, etc.	Total.	
	£	£	£	£	£	£	
Mutual Life & Citizens' Assurance Company	(b)	(b)	(b)	798,638	324,473	1,123,111	
Australian Metropolitan Life Assurance Co.	44,631	697	45,328	1,179	44,149	45,328	
Colonial Mutual Life Assurance Society ...	89,983	17,929	107,912	2,161	104,002	106,163	
People's Prudential Assurance Company (a)	42,509	148	42,657	20,943	21,714	42,657	
Provident Life Assurance Company ...	1,875	183	2,053	...	5,512	5,512	

(a) Including ordinary business. (b) Particulars not available.

(iii.) *Total Assets.* It has been thought advisable to confine the figures relating to life assurance to business in the Commonwealth. Several of the companies whose head offices are in Australia transact, however, a large amount of business elsewhere, viz., in New Zealand, in South Africa, and in the United Kingdom, while in the case of the foreign companies, the Australian business is insignificant compared with that done elsewhere. Particulars as to this foreign business of both Australian and foreign companies will be found in "Finance Bulletin, No. 8," and a short table only is inserted here, shewing the total assets of the various companies, so that the deficiencies in the Australian assets shewn in the previous tables for those companies doing business elsewhere may not be misunderstood :—

#### TOTAL ASSETS OF INSURANCE COMPANIES, 1913.

Society.	Assets.	Society.	Assets.
	£		£
<b>ORDINARY BUSINESS.</b>			
(a) Australian Mutual Provident Soc.	31,998,746	Assurance and Thrift ... ..	29,953
Mutual Life and Citizens' Assur. Co.	7,609,811	(a) Co-operative Assurance Co. ...	32,523
City Mutual Life Assurance Society...	717,110	Equitable Life Assurance Society ...	108,192,712
Aust. Metropolitan Life Assur. Co. ...	51,863	Mutual Life Ins. Society of New York	124,652,371
Australian Alliance Assurance Co. ...	129,503	New York Life Insurance Society ...	153,810,706
National Mutual Life Association ...	8,229,079		
Victoria Life and General Insur. Co.	153,429	<b>INDUSTRIAL BUSINESS.</b>	
Colonial Mutual Life Assurance Soc.	3,670,785	Mutual Life and Citizens' Assur. Co.	1,149,636
(a) Aust. Temp. & Gen. Mut. Life A. Soc.	1,584,400	Aust. Metropolitan Life Assur. Co....	45,328
Liverpool & London & Globe (Life) ...	13,833,483	Colonial Mutual Life Assurance Soc.	120,705
Provident Life ... ..	25,796	(b) People's Prudential Assurance Co.	42,657
Commonwealth Life Insurance Co.	29,843	Provident Life Assurance Company	72,542

(a) Including industrial business.

(b) Including ordinary business.

### § 7. Fire Insurance.\*

1. **General.**—Returns as to fire insurance are very defective, and only for Sydney and Melbourne and the country districts of Victoria have some figures been given which are worth reproducing. The Royal Commission mentioned above under "Life Assurance" has reported upon fire insurance matters, and Commonwealth legislation may, therefore, be expected at an early date. Legislation concerning fire insurance was, in fact, contained in the bill to which reference has already been made. [§ 6, paragraph 1.]

2. **Sydney.**—Under the Fire Brigades Act 1902 the cost of the Metropolitan Fire Brigade is defrayed by equal payments on the part of the Colonial Treasurer, the municipal councils within the area under the jurisdiction of the Fire Brigades Board, and the insurance companies represented in Sydney. The companies divide their share proportionately to the amount held at risk. Under this arrangement the amount payable by the companies for the year 1909 was £19,100, divided amongst sixty-five companies, of which not more than six had their head office in Sydney. The amounts thus held at risk at the close of the last four years for which returns are available were, in 1905, £78,108,749; in 1906, £81,364,129; in 1907, £86,563,304; and in 1908, £89,071,992. A new Act, which came into force on the 1st January, 1910, was passed in 1909. This Act substituted a Board of Fire Commissioners for New South Wales for the original Metropolitan Fire Brigades Board, and divides the whole State into eight fire districts for the greater facilitation of working.

3. **Melbourne.**—In Melbourne the Metropolitan Fire Brigades Board assesses the amount payable by the insurance companies on the amount of premiums returned. These premiums for the last four years averaged about £390,000 per annum, while

\* See also Section XXVI., § 5, Fire Brigades.

the contributions paid by the companies averaged about £20,000, or about £5 for every £100 of premiums. It may be said, therefore, that the companies have to devote about 5 per cent. of their premium income from metropolitan insurances to the maintenance of the fire brigade.

The value of ratable property is nearly £6,390,000, and the amounts contributed by the municipalities—as in the case of the insurance companies, one-third of the amount required by the Fire Brigades Board, the remaining one-third being contributed by the State Treasurer—are equal to about  $\frac{1}{3}$ d. per £1 of ratable value. In addition to this contribution, insurance companies doing business in Victoria have to take out an annual license at a cost of  $1\frac{1}{2}$  per cent. of the gross premium income, which is probably equal to about  $1\frac{1}{2}$  per cent. on net income.

**4. Country Districts of Victoria.**—The country districts are divided into nine areas for fire insurance purposes, and the contributions to be paid vary in these areas according to the actual requirements of the Country Fire Brigades Board. The value of ratable property for the last year was slightly over £1,727,000. The premium income of the insurance companies from country business in protected areas during the year 1913 was about £192,000, and the contributions of the companies £5350, equal to rather more than  $2\frac{1}{2}$  per cent. of the premium income.

**5. Brisbane.**—A similar arrangement holds good in Brisbane, under which the cost of the Fire Brigade Board, amounting to about £18,000 per annum, is paid in equal shares by the Government, the Brisbane City Council, and the insurance companies.

**6. Adelaide.**—The Fire Brigades Board of South Australia is incorporated under "The Fire Brigades Act 1904"; "The Fire Brigades Act Amendment Act 1905"; and "The Fire Brigades Act Further Amendment Act 1910." The cost is distributed as follows:—Three-ninths to the Government; four-ninths to the insurance companies; and two-ninths to the municipalities and districts which come under the operations of the board. The insurance companies are assessed in proportion to that portion of their premium incomes derived from the insurance of property (re-insurance within the State excepted) situated within the limits of the municipalities and districts coming under the operations of the board. The respective contributions for 1913 were as follows:—The Government, £7447; the companies, £9929; the municipalities, £4964.

**7. Perth.**—A District Fire Brigades Bill was reported on by a committee of the Legislative Assembly during 1909, and it was recommended that all brigades should in future be controlled by one board, and that the expense should be met by contributions at the following rate:—By Government, two-eighths; by the municipalities, three-eighths; and by the insurance companies, three-eighths. These provisions were incorporated in an Act, "The District Fire Brigades Act 1909," which was assented to on 21st December, 1909, and came into force on the 1st day of January, 1910. This Act, however, did not apply to Perth or the other districts in which the Fire Brigades Act 1898 was still operative. According to the provisions of the latter Act the expenditure was allocated as follows:—One-ninth to the Government; four-ninths to the insurance companies; and four-ninths to the municipalities. It was provided that the Governor might, at any time, on the petition of the council of any municipality, declare by proclamation that the provisions of the Act of 1898 should cease to be in force in that municipal district. The whole of the State, however, has now come under the operation of the Act of 1909.

**8. Australian Fire Insurance Business.**—Returns are available shewing the revenue and expenditure, assets and liabilities, and investments of twenty-one insurance companies having their head offices either in the Commonwealth or in New Zealand. These companies are:—(a) with head office in Sydney—the Australian Mutual Fire Insurance Company, the City Mutual Fire Insurance Company, the Mercantile Mutual Fire Insurance Company, the Queensland Insurance Company Limited, the United Insurance



Company, the Insurance Office of Australia Limited, and the Federal Mutual Insurance Company of Australia; (b) with head office in Melbourne—the Australian Alliance Assurance Company, the Colonial Mutual Fire Insurance Company, the Victoria Insurance Company, the Victoria General Insurance and Guarantee Company Limited, and the Australasian Mutual Insurance Society; (c) with head office in Hobart—the Derwent and Tamar Fire and Marine Assurance Company Limited; (d) with head office in Launceston—the Mutual Fire Insurance Company of Tasmania; (e) with head office in Auckland—the New Zealand Insurance Company, and the South British Fire and Marine Insurance Company of New Zealand; (f) with head office in Dunedin—the National Fire and Marine Insurance Company of New Zealand, and the Standard Fire and Marine Insurance Company of New Zealand; (g) with head office in Wellington—the New Zealand State Fire Insurance Office; (h) with head office in Christchurch—the Farmers' Co-operative Insurance Association of New Zealand; and (i) with head office in Perth—the Western Australian Insurance Company. As their names imply, the majority of these companies transact marine insurance, and in some cases, guarantee and other business, in addition to the fire insurance business, and the returns relating to the latter cannot be separated from the former.

The accounts given hereunder cover two consecutive years, the second year ending at various dates from 31st December, 1912, to 31st March, 1914. The figures for the first year are in brackets.

The premiums, less reinsurances and returns, amounted to £2,464,367 (£2,282,506); losses were £1,266,067 (£1,184,977). Expenses and commission came to £850,288 (£774,752), and there was, therefore, a profit on trade operations of £348,012 (£322,777). As, however, interest, rent, fees, etc., amounted to £203,266 (£183,746), the total profit was £551,278 (£506,523). Dividends and bonuses came to £274,799 (£254,071). The ratio to premium income of losses was, therefore, 51.38 per cent. (51.92 per cent.), and of expenses and commissions, 34.50 per cent. (33.94 per cent.). The resulting ratio of trade surplus to premium income was 14.12 per cent. (14.14 per cent.).

The paid-up capital of the twenty-one companies was £2,087,894 (£1,816,137); reserve and reinsurance funds, £2,478,085 (£2,396,917); undivided profits, £174,174 (£188,554). The total paid-up capital and reserves were, therefore, £4,740,153 (£4,401,608). In addition to these liabilities there were others, viz.:—Unsettled losses, £265,541 (£223,542); sundry creditors, £261,599 (£221,706); dividend to pay, £178,286 (£165,578); and, in the case of one company, a life assurance fund, £120,339 (£128,507); thus bringing the total liabilities to shareholders and to the general public up to £5,565,918 (£5,140,941).

The corresponding amount of assets is made up of investments, £4,891,282 (£4,531,063), viz.:—Loans on mortgage, £1,402,400 (£1,262,617); Government securities, debentures, shares, etc., £1,290,028 (£1,196,887); landed and other property, including furniture, £974,006 (£941,000); fixed deposits, £1,215,796 (£1,024,510); in the case of one company doing a mixed business—loans on its own life policies, etc., £9054 (£9274); other investments, *nil* (£96,775). The balance of assets consisted of cash in bank, on hand, and bills receivable, £229,460 (£230,950); and sundry debtors, etc., £445,176 (£378,928).

The financial position of the companies is undoubtedly a strong one, owing to the steady accumulation of reserves, and the high ratio borne by capital and reserves to premium income must be a cause of satisfaction to policy holders.

## § 8. Marine Insurance.

No returns are available in regard to Marine Insurance. It may, however, be stated, that the Commonwealth Parliament in 1909 passed an Act (No. 11 of 1909, "An Act relating to Marine Insurance") which was assented to on the 11th November, 1909. This

Act materially alters some of the conditions under which marine policies have heretofore been issued.

## § 9. Friendly Societies.

1. **General.**—Friendly societies are an important factor in the social life of the community, as probably nearly one-third of the total population of the Commonwealth comes either directly or indirectly under their influence. Their total membership is about 450,000, but as certain benefits, such as medical attendance and free medicine, and in many cases funeral expenses, are granted to members' families as well as to members themselves, this figure must, even when due allowance is made for young and unmarried members, be multiplied by four at the least to arrive at the total number of persons more or less connected with these societies. Legislation has conferred certain privileges on friendly societies, but, on the other hand, it insists on their registration, and it is the duty of the Registrars in the various States, prior to registering a new society, to see that its rules are conformable to the law, and that the scale of contributions is sufficiently high to enable the promised benefits to be conferred on members. Societies are obliged to forward annual returns as to their membership and their finances to the Registrar, and elaborate reports are published in most of the States dealing with the returns thus received.

In the following tables the figures refer to the year 1913, except those for South Australia, which refer to the year 1909, the latest for which particulars are available.

2. **Number of Societies, Lodges, and Members.**—The total number of societies registered in New South Wales is 65; in Victoria, 47; in Queensland, 21; in South Australia, 16; in Western Australia, 15; and in Tasmania, 11. No total is given of these figures for the Commonwealth, as the societies shewn in one State are in most cases represented in all the other States. The number of different lodges, the total number of benefit members at the end of the year, and their average number during the year are shewn in the following table:—

FRIENDLY SOCIETIES.—LODGES AND MEMBERS, 31st DECEMBER, 1913. (a)

State.	Number of Lodges.	Benefit Members at End of Year.	Average No. of Benefit Mem- bers during Year.
New South Wales ... ..	1,943	168,438	164,369
Victoria ... ..	1,501	157,280	155,601
Queensland ... ..	541	50,461	48,832
South Australia ... ..	529	58,292	(b)
Western Australia ... ..	287	19,592	19,259
Tasmania ... ..	202	22,930	(b)
Commonwealth ... ..	5,003	476,993	(b)

(a) See paragraph 1, above. (b) Not available.

3. **Sickness and Death.**—Sick pay is generally granted for a number of months at full rates, then for a period at half rates, and in some societies is finally reduced to quarter rates. The following table shews the total number of members who received sick pay during the year, the number of weeks for which they received pay in the

aggregate, and the average per member sick, and further the number of benefit members who died during the year, together with the proportion of deaths per thousand average members :—

**FRIENDLY SOCIETIES.—SICKNESS AND DEATH, 1913. (a)**

State.	Number of Members who received Sick Pay.	Total Number of weeks Sick Pay granted.	Average No. of weeks per Member sick.	Deaths of Benefit Members and Wives.	Proportion of Deaths to 1000 average Benefit Members.
New South Wales	34,356	212,334	6.18	1,284	7.81
Victoria ...	27,434	220,462	8.04	1,751	11.25
Queensland ...	8,843	52,870	5.98	335	6.86
South Australia ...	8,971	86,768	9.67	497	(b)
Western Australia	2,818	16,257	5.77	145	7.53
Tasmania ...	4,299	25,768	5.99	200	(b)
Commonwealth	86,721	614,459	7.09	4,212	(b)

(a) See paragraph 1. (b) Not available.

**4. Revenue and Expenditure.**—The financial returns are not prepared in the same way in each State, but an attempt has been made in the subjoined table to group the revenue under the main headings :—

**FRIENDLY SOCIETIES.—REVENUES, 1913. (a)**

State.	Entrance Fees, Members' Contributions, and Levies.	Interest, Dividends, and Rents.	All other Income.	Total Revenue.
	£	£	£	£
New South Wales ...	489,698	75,038	37,365	602,101
Victoria ...	451,018	99,659	56,108	606,785
Queensland ...	165,131	28,036	...	193,167
South Australia ...	(b) 130,096	31,167	(c) 65,293	226,556
Western Australia ...	56,243	11,953	23,606	91,802
Tasmania ...	65,532	9,048	6,298	80,878
Commonwealth ...	1,357,718	254,901	188,670	1,801,289

(a) See paragraph 1. (b) Excluding levies. (c) Including levies.

The returns relating to expenditure are more complete than those relating to revenue, and can be shewn in full for every State. The figures shew that the excess of revenue, amounting in the aggregate to £344,689, was divided amongst the six States as follows :— New South Wales, £93,260; Victoria, £129,493; Queensland, £55,261; South Australia, £37,588; Western Australia, £18,438; and Tasmania, £10,649. The revenue exceeded the expenditure by about fifteen shillings per average benefit member, a margin which cannot be called very large.

FRIENDLY SOCIETIES.—EXPENDITURE, 1913. (a)

State.	Sick Pay.	Medical Attendance and Medicine.	Sums Paid at Death of Members & Members' Wives.	Administration.	All other Expenditure.	Total Expenditure.
	£	£	£	£	£	£
New South Wales	173,451	170,594	45,952	69,226	49,618	508,841
Victoria ...	147,119	157,826	30,792	76,285	65,270	477,292
Queensland ...	39,708	55,689	14,933	27,576	(b)	137,906
South Australia ...	50,979	28,305	22,998	24,526	62,160	188,968
Western Australia	13,405	19,600	2,292	14,199	23,868	73,364
Tasmania ...	20,647	19,753	12,805	12,282	4,742	70,229
Commonwealth	445,309	451,767	129,772	224,094	205,658	1,456,600

(a) See paragraph 1. (b) Included in "Administration."

It appears from the above figures that sick pay averaged about fourteen shillings and sixpence per week, but, as the returns include pay at half and quarter rates, and as the proportion of these to full rates is not stated, the average given must be taken for what it is worth. Medical attendance and medicine came to about one pound per average benefit member, or to about £5 per member who received sick pay during the year.

5. **Funds.**—The two foregoing tables shew that the surplus of revenue over expenditure amounted to £344,689 for the year, and a small surplus must, of course, result annually in every society which levies adequate contributions to enable it to meet all possible claims. These accumulations of profits are generally invested, and the subjoined table shews for all of the six States the division into invested and uninvested funds :—

FRIENDLY SOCIETIES.—FUNDS, 31st DECEMBER, 1913. (a)

State.	Invested Funds.	Uninvested Funds.	Total Funds.
	£	£	£
New South Wales ...	1,626,091	72,688	1,698,719
Victoria ...	2,399,541	91,416	2,490,957
Queensland ...	660,938	24,463	685,401
South Australia ...	887,318	35,287	922,605
Western Australia ...	202,264	9,629	211,893
Tasmania ...	215,659	11,673	227,332
Commonwealth ...	5,991,751	245,156	6,236,907

(a) See paragraph 1.

The total funds amounted, therefore, to £13 1s. 6d. per member at the close of the year under review.

§ 10. Probates.

1. **Number of Probates and Letters of Administration and Value of Estates.**—The value of the estates left by deceased persons gives a fair view of the distribution of property among the general population. There occurred in 1913 the deaths of 35,496 adult persons, while the total number of probates and letters of administration granted

during the same period was 11,295. It would therefore appear that about five in every sixteen adults who died during the year were possessed of sufficient property to necessitate the taking out of probate. The details for each State are shown in the table hereunder:—

### PROBATE AND LETTERS OF ADMINISTRATION, 1913.

State.	Number of Estates.			Net Value of Estates.		
	Probates.	Letters of Administration.	Total.	Probate.	Letters of Administration.	Total.
				£	£	£
New South Wales	3,679	(a)	3,679	8,443,068	(a)	8,443,068
Victoria	3,089	1,394	4,483	8,367,862	(a)	8,367,862
Queensland	536	229	765	2,405,468	234,549	2,640,017
South Australia	999	374	1,373	2,214,241	143,588	2,357,829
Western Australia	345	235	580	607,972	99,410	707,382
Tasmania	336	79	415	680,477	43,441	723,918
Commonwealth	8,984	2,311	11,295	22,719,088	520,988	23,240,076

(a) Included with Probates.

Intestate estates were placed under the control of the Curator during the year, and unclaimed money paid into Consolidated Revenue. The details for each State are shewn hereunder:—

### INTESTATE ESTATES, 1913.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wlth.
Intestate estates placed under control of Curator during 1913							
Number	1,070	318	(a)	147	293	70	(a)
Value	£ 66,002	29,870	(a)	14,693	8,210	12,640	(a)
Unclaimed money paid into Consolidated Revenue by Curator during 1913	£ 5,221	3,083	(a)	740	2,806	...	(a)

(a) Not available.

## SECTION XXII.

## PUBLIC INSTRUCTION.

## § 1. Evolution of Educational Systems in Australia.

1. **Educational Systems of the States.**—(i.) *Place of New South Wales in Australian Education.* The first settlement in Australia being in New South Wales, it is but natural that Australian education should have had its beginning in that State. In the evolution of educational method and system in Australia, New South Wales also has played a leading part, and has had practically a dominating influence. For that reason an account of the evolution of education in this State contains, as it were, the key to the understanding of the Australian attitude to this question. The subject is dealt with in some detail in No. I. and No. II. issues of the Commonwealth Official Year Book, but it is not proposed to repeat it in the present volume. (See also 2 hereunder.)

(ii.) *Educational Systems of Commonwealth States.*—A more or less detailed account of the origin and development of the primary educational systems of the other States also appears in No. I. and No. II. issues of the Year Book. Later details are given hereunder.

2. **Recent Development in State Educational Systems.**—(i.) *New South Wales.* The year 1913 was an important one in New South Wales educational history, in that it was the first complete year of active operation of the principles laid down in the University Amendment Act and the Bursary Endowment Act of 1912. More extended reference to these Acts will be found later on. It was also remarkable for the reorganisation of technical education on a Trades School basis and of the Superior Schools on a vocational basis. Reference may also be made to the development of the Evening Continuation Schools established in 1911, and to the wide extension of the scheme of school medical inspection. As pointed out in the preceding Official Year Book (see No. VII., page 765), the Education Department instituted a scheme of certificated examinations in 1911 called respectively the "qualifying," "intermediate," and "leaving" certificate. The first "qualifying" examination was held in March, 1911, the first "intermediate" in November, 1912, and the first "leaving" in November, 1913. The successful students who were awarded exhibitions at the leaving certificate examination take up University studies in the first term of 1914, thus marking the definite linking up of the State School system with the University.

(ii.) *Victoria.* Under the Amending Education Act of 1910 it is provided that every child must attend school for the full period of eight years between 6 and 14, unless he be given a certificate of education at 13. The schools are open on an average 225 days in each year, and require attendance on all these days, unless reasonable excuse is forthcoming. Provision is made for the mentally deficient. After completion of the elementary school course, the pupil may go on to the Evening Continuation Schools, Higher Elementary Schools, District High Schools, or the Trade Schools. A Council of Public Education has been appointed to advise on educational matters generally, and

particularly in regard to co-ordination. Amongst the new features recently introduced are the recasting of the scheme of study for Primary Schools and the inauguration of a uniform school year. Consequent on this it was found necessary to arrange for a general examination throughout the State for the certificate of merit and the qualifying certificate. The former is granted to pupils who, under prescribed conditions, reach a satisfactory standard in subjects prescribed for Grade VIII., while the latter is awarded to pupils who reach a satisfactory standard in Grade VI. Possession of this certificate enables the holder to enter upon the work of the Higher Elementary or the District High School. Acting on the advice of the Council of Education, the Melbourne University has established a Schools Board. The function of this body is to consider all questions relating to school studies and the inspection and examination of schools. In addition to University representation, there are also on the Board representatives of the Department of Education, the registered Secondary Schools, and the business interests of the community. Being clothed with such wide powers, this Board must of necessity be the chief guiding factor in the development of education in Victoria.

(iii.) *Queensland.* The Amending Act of 1910 introduced several new features into the educational system of Queensland, chief amongst them being—(a) employment of proceeds of sales of land and other school property for school purposes, instead of being paid into Consolidated Revenue; (b) abolition of local contributions; (c) provision of scheme of school certificates to assist in co-ordination of various branches of the system; (d) establishment of compulsory continuation classes; (e) compulsory medical and dental examination; (f) raising the compulsory age to 14 years instead of 12 years; (g) provision for compulsory attendance on every day on which the school is open. The last-mentioned provision has already produced good results in regard to improved attendance. The organisation of the general scheme of education is being systematically developed. State High Schools were inaugurated in February, 1912, and a more liberal scheme of scholarships to secondary schools came into force in 1913. A Teachers' Training College has now been established, and greater attention is being given to the development of technical education.

(iv.) *South Australia.* One of the chief events in educational development in South Australia in 1911 was the provision of Evening Continuation Schools, intended to help those who cannot afford to attend the Higher Day Schools. The State has also come into line with the other States in the matter of medical supervision of school children, and provision has been made for the appointment of a medical officer, a dental officer, and two trained nurses. The changes introduced at the Teachers' Training College have proved very satisfactory, and the academic teaching at the University is now supplemented by systematic pedagogic instruction for all classes of teachers. In 1913 the principle was adopted of simultaneous examination of the schools, and granting to teachers the authority to make the promotions of their scholars.

(v.) *Western Australia.* During 1912 the curriculum of the Primary Schools was remodelled in order to bring it into line with the most up-to-date principles. The work was lightened in directions where experience shewed there was overloading, and efforts were particularly directed towards the removal of the abstract and to the development of the imaginative and constructive throughout all grades. The scheme of bringing about a closer correlation between primary and secondary education was further advanced during the year. The Modern School, opened in 1911, was strengthened. In June, 1914, a Goldfields High School was opened at Kalgoorlie, and it is proposed to establish additional schools at the larger country centres. Continuation classes were held at fifteen centres in 1913, with an average attendance of 2915. Commercial, Industrial, Science, and Domestic courses were provided. Certificates granted to successful students entitle the holder to advanced tuition at the Technical College.

(vi.) *Tasmania.* The most important features in the development of education in Tasmania during 1912 were the establishment of subsidised schools, the taking of preliminary steps towards the establishment of State High Schools, and the adoption of more effective measures to secure regular attendance. In 1913, High Schools were established at Hobart and Launceston. During the year a remodelled set of rules in regard to the planning of new schools was put into operation. All new schools will now be erected in accordance with improved designs, and the older buildings will, as far as possible, be reconstructed, so as to ensure the maximum of comfort in lighting and ventilation.

(vii.) *Present Position of State Education in Australia.* Throughout Australia primary education is compulsory and free, while there exists in most of the States a liberal provision of scholarships and bursaries to the Higher State Schools, to the Secondary Schools, and to the Universities.<sup>1</sup> Provided that the requisite standard is reached, it is, of course, permissible for children to receive home tuition, or to attend so-called private schools. Considerable interest is taken in educational matters by the people of the Commonwealth, and within the last few years several of the States have sent qualified representatives to inspect and report on the methods adopted in the chief countries of Europe and America. The reports of these Commissioners, especially those of New South Wales, have been widely studied, and various improvements have been made in accordance with their recommendations. The orientation, lighting, and ventilation of school buildings are being modernised. In all of the States periodical medical inspection of the children is in force. (A detailed statement of the work being done in this direction will be found in the chapter dealing with Public Hygiene.) Methods of training teachers are now better developed, and although the "pupil teacher" system and its effects have not been wholly eliminated, it appears to be gradually vanishing. (The methods adopted in the various States for the selection and training of teachers are described in some detail in § 2, par. 10, hereinafter.) There has been a wider employment of kindergarten principles in the early stages, and the more or less purely abstract teaching of the older days has been largely replaced by concrete methods. Such subjects as nature study, manual training, music, and drawing have received a general impetus. Greater attention has been given to the scientific classification of pupils. Moreover, as will be seen from the above and from § 2, par. 7, the State Education Departments are increasing their activities in the direction of secondary education. Lastly, the system of inspection has been considerably remodelled. Under the old system, the inspector was little more than an examining officer, but, under the present régime, the primary duty of these officers consists in guiding and directing the teaching in accordance with approved methods.

(viii.) *Co-ordination of Educational Activities.* As pointed out already, the educational system of New South Wales may now be considered as a more or less homogeneous entity, the various stages succeeding one another by logical gradation from kindergarten to university. In the other States development is proceeding on somewhat similar lines, although in varying degree.

## § 2. State Schools.

1. *Introductory.*—The State Schools, or, as they are sometimes termed, the "public" schools, of the Commonwealth comprise all schools directly under State control, in contradistinction to the so-called "private" schools, the bulk of which, though privately managed, nevertheless cater for all classes of the community.

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1. Universities have been in existence for some time in New South Wales, Victoria, South Australia, and Tasmania. The University of Queensland was opened in March, 1911, and a University was opened in 1913 in Western Australia.



2. **Enrolment and Attendance.**—The following table shows the number of State Schools, together with the teachers employed and the enrolment and “average attendance” in each State during the year 1913:—

**STATE SCHOOLS, TEACHERS, AND SCHOLARS, 1913.**

(COMMONWEALTH.)

State or Territory.	Schools.	Teachers.*	Scholars Enrolled.	Average Attendance.
New South Wales† ... ..	3,285	6,627	245,819	178,028
Victoria ... ..	2,218	5,734	213,712	157,140
Queensland ... ..	1,338	3,246	98,619	79,955
South Australia ... ..	815	1,627	58,656	43,319
Western Australia ... ..	556	1,303	41,558	36,264
Tasmania ... ..	431	897	26,919	21,174
Northern Territory ... ..	4	6	123	68
Commonwealth ... ..	8,647	19,440	685,406	515,948

\* Exclusive of sewing mistresses. † Including Federal Territory.

Unfortunately, the schemes of enrolment and of the computation of “average attendance” are not identical in each State, so that the comparisons are imperfect. In the case of Victoria, returns were not available in regard to enrolments at District High Schools and Higher Elementary Schools, and these totals were estimated.

The enrolment and average attendance at the State Schools in the Commonwealth are given below for the years 1891, 1901, and for each year of the period 1909 to 1913:—

**ENROLMENT AND ATTENDANCE AT STATE SCHOOLS, 1891 to 1913.**

(COMMONWEALTH.)

Year.	Total Population.	Enrolment.	Average Attendance.	Year.	Total Population.	Enrolment.	Average Attendance.
1891	3,240	561,153	350,773	1911	4,569	638,850	463,799
1901	3,824	638,478	450,246	1912	4,733	662,576	496,252
1909	4,323	624,236	458,260	1913	4,872	685,406	515,948
1910	4,425	627,910	455,870				

1. In thousands.

3. **Schools in the Federal Capital Area.**—During the year 1913 twelve State Schools were in operation in the Federal Territory (Yass-Canberra). The pupils enrolled numbered 278 and the average attendance 179. Cost of upkeep in 1913 amounted to £1920. By arrangement with the Federal Government these schools are conducted by the New South Wales Education Department on the same lines as the ordinary State Schools, the Department being recouped for expenditure in salaries and equipment.

4. **Centralisation of Schools.**—The question of centralisation of schools adopted so successfully in America has received some attention in the Commonwealth, and particularly in New South Wales. It is recognised that a single adequately-staffed and well-equipped central institution can give more efficient teaching than a congeries of small scattered schools in the hands of less-highly trained teachers, and the small schools in some districts were therefore closed and the children conveyed to the central institution. The principle was first adopted in New South Wales in 1904, when the conveyance of pupils was authorised in the case of twelve schools. In 1912 subsidy was paid for conveyance to eighty schools.

5. **Education in Sparsely-settled Districts.**—It has always been the aim of the State to carry the benefits of education into the remotest and most sparsely-settled districts. This is effected in various ways. (i.) By the establishment of Provisional Schools, i.e., small schools in which the attendance does not amount to more than about a dozen pupils, these institutions merging into the ordinary public school list when the attendance exceeds the minimum. (ii.) When there are not enough children to form a provisional school, what are known as Half-time Schools are formed, the teacher visiting them on alternate days. In still more sparsely-peopled districts an itinerant teacher goes from house to house within a certain radius. Thus in Queensland during 1913 the seventeen itinerant teachers covered 512,000 square miles of country and travelled 60,438 miles. In this State also the Education Department has established what are known as Saturday Schools, in which small groups of children in outlying districts are visited by the nearest teacher on Saturdays and receive the benefit of several hours' instruction. These schools, of which there are now ten, have been warmly welcomed in the districts in which they are established, inasmuch as under this system the children "outback" receive a greater amount of instruction than is possible under the system of itinerant teachers. During 1913 the Education Department in Western Australia disbursed £3680 in "driving grants," i.e., sums of money granted to parents whose homes are over three miles from the nearest school, and who arrange to have their children driven in. In New South Wales and Western Australia parents in the thinly-peopled areas are also allowed to club together and build a school, which receives aid from the Government in the form of a yearly subsidy and grant of school material. During 1913 subsidy was paid to 660 schools in New South Wales. (iii.) An experiment on the part of New South Wales, the result of which was awaited with some interest, was the establishment in 1908 of a "travelling" school. A van was provided in which the teacher travelled, carrying with him a tent for himself and one to be used as a school, together with such books and apparatus as are required in a Primary School. So far very satisfactory results have been attained. (iv.) There are also railway camp schools in operation on the sites of extensive railway works. Regulations were framed in Tasmania during 1912, providing for the subsidising of private teachers at a rate not exceeding £5 per pupil in districts too remote or sparsely settled to warrant the establishment of an ordinary provisional school. The schools of this nature established in 1913 numbered 40, with an enrolment of 483 scholars. During the year the department also paid for the conveyance of 236 children to schools by boat, vehicle, or train.

6. **Evening Schools.**—Evening Public Schools have been in existence for many years in some of the States, but their progress has been uncertain. In New South Wales during 1913, only one Evening Primary School was in existence, but the 41 Evening Continuation Schools had an enrolment of 3614 and an average attendance of 1987. In Victoria also there was only one night school in operation for elementary work during the year. It is stated that future developments in evening instruction will be in the direction of continuation classes; and Western Australia has continuation classes in the chief centres. Up to the end of 1910 the evening schools in New South Wales aimed chiefly at giving primary instruction, but in October of that year Evening Continuation Schools of two types were established—(i.) Artisan Schools for boys learning trades; and (ii.) Commercial Schools for boys starting in business. In December, 1913, there were thirty schools in operation in the metropolitan district, and seventeen in the country districts, with an average attendance of 1987. Evening Continuation Schools have been established under regulation in South Australia, and are intended principally to help the working boy to improve his general education and to add to the store of knowledge most useful in his present work.

7. **Higher State Schools.**—(i.) In New South Wales public schools, which provided advanced courses of instruction for two years for pupils who had completed the primary course, were classed as *Superior Schools*. These were reorganised in 1913 as *Day Con-*

tinuation Schools, and divided into Superior Commercial Schools, Superior Junior Technical Schools, and Superior Domestic Schools for Girls. At the close of 1913 there were thirty-two schools in the Commercial group, twenty in the Junior Technical, and fifty-two in the Domestic group, with an enrolment of 2447, and average attendance of 2077 in the sixth and seventh classes. Provision has also been made for the more advanced education of children in country centres by the establishment of twenty-two District Schools. These schools are specially staffed, and undertake the work of preparing students for admission to the training colleges. There are also fifteen *High Schools* in the State. These had an enrolment in 1913 of 2171 boys and 1394 girls, with an average attendance of 1714 boys and 1117 girls. To meet the wishes of representatives of the registered Secondary Schools, the syllabus of the High Schools was amended in 1913, and now offers such a wide range of choice in the selection of subjects that there is no possibility of producing a merely stereotyped uniformity of study. Five "Intermediate" High Schools have been established to meet the growing demand for High School education in the metropolis, and others will be provided during the next few years in the city and in country centres. The average attendance at these schools in 1913 was 788. In connection with the development of secondary education in New South Wales, a liberal scheme of scholarships has been provided, 304 bursaries and 648 scholarships having been allotted as a result of the examination for the qualifying certificate. Under the provisions of the University Amendment Act of 1912, eighty-six exhibitions were awarded to successful students at the leaving certificate examination, and fifty-six of these were given to pupils attending the State Schools.

The Sydney Grammar School (not a "State" School in the ordinary acceptance of the term), which receives a State endowment of £1500 a year, had, in 1913, a quarterly enrolment of 636 pupils, and an average attendance of 566.

(ii.) In *Victoria*, action was taken in January, 1912, to give effect to the provisions of the Education Act of 1910, with regard to the decentralisation of the system of secondary education. Eighteen Higher Elementary Schools have been established, while the number of District High Schools was increased to twenty-two. With the exception of the Melbourne High School and the University School, the whole of the institutions are in country centres. The average attendance at the Higher Elementary Schools in 1913 was 1553, of whom 680 were girls; and at the District High Schools 2987, of whom 1444 were girls. The qualifications for admission to the High Schools and Higher Elementary Schools are that pupils shall not be less than 12 years of age, shall possess the qualifying certificate or its equivalent, and that their parents shall undertake that the children will remain at school for four years. For the first two years there is a common course for all pupils, thereafter replaced by four special courses:—(1) A preparatory professional course for pupils preparing to proceed to the University, to enter the teaching profession, or to gain a sound general education; (2) an agricultural course to be taken in agricultural High Schools; (3) commercial course; (4) a domestic arts course for girls. Parallel with these courses an industrial course has been developed for pupils who intend to enter upon some form of industrial occupation.

Scholarships granted by the Department are as follows:—(a) Fifty ordinary, tenable for four years at a District High School or approved Secondary non-State School; (b) Forty agricultural, mining, and veterinary, tenable for four years at a High School or Secondary School, with a view to proceeding to a diploma at the University; (c) Forty junior teacher course, tenable for two years, enabling holder to obtain free tuition at a State High School in the course prescribed for junior teachers. Various scholarships are also granted by the councils of State Agricultural High Schools. There are also twenty-five ordinary and twenty agricultural, mining, and veterinary exhibitions open for competition.

(iii.) Prior to the year 1912, *Queensland* did not possess any distinctly Secondary Schools under State control, but in February of that year High Schools were opened at Warwick, Gympie, Bundaberg, Mount Morgan, Mackay, and Charters Towers. Tuition

at these schools is free, but students must pass a qualifying entrance examination. In smaller centres where an average of not less than 25 qualified pupils can be obtained, secondary tuition is provided at existing State Schools, and this has been arranged for at Herberton, Childers, Gatton, Dalby, and Roma. The enrolment at High Schools in 1913 was 773, and the daily attendance 564. There are, moreover, ten Grammar Schools—six for boys and four for girls, each of which is subsidised by the State to the extent of £750 per annum, and in addition receives a payment of £250 per annum for providing district scholarships, as well as £12 12s. per annum on account of each open scholarship owner in attendance. These scholarships, fifty in number, are called district scholarships, and are granted to State School pupils in order of merit who were unsuccessful at the ordinary State scholarship examinations. In order to conserve the interests of children of poor parents, it is proposed to make all scholarships available at any State High School, Technical School, Grammar School, or approved Secondary School, and to grant allowances up to £30 per annum to students who must live away from home, and £12 to those who live at home. The scholarships to Secondary Schools awarded in 1913 numbered 368. Of these, 83 boys and 51 girls were granted the allowance at £12 per annum, and 43 boys and 18 girls received £30 per annum. Under this scheme the "district" scholarships will cease. There are also 20 University scholarships tenable for three years, and carrying an allowance of £52 per annum where the holder has to live away from home, and £26 per annum in cases where the holder can reside at home while taking the University lectures. The enrolment at the Grammar Schools in 1913 was 1269, and the average attendance 1134. Since the year 1909 these schools have been regularly examined by the Inspector-General of the Education Department.

(iv.) *South Australia.* Including the Adelaide High School, there were altogether twenty-four District High Schools open in South Australia in 1913, with an enrolment of 2469 students, and a teaching staff of 84. In addition to giving secondary education, these institutions form a valuable source from which the Department can draw a supply of young teachers. Under existing regulations provision is made for the following scholarships:—(i.) Eight public exhibitions open to boys and girls who have been *bond fide* residents of South Australia for two years prior to the competitive examination. The exhibitions are tenable for three years at an approved school or college, carry free tuition and books, and an allowance of £22 per annum when the holder lives away from home. (ii.) Forty exhibitions, tenable for three years at a High School, are open to competition by children under 13 years of age in attendance at State Primary Schools. (iii.) Eight senior exhibitions, worth £40 per annum, and four of the value of £20, are tenable at the Adelaide High School, and are open to pupils of any High School under State control. (iv.) Twelve Government bursaries, of which six are reserved for pupils of the High Schools. These are tenable at the University, and the holder receives £20 per annum and free tuition. (v.) The Government provides £180 per annum to assist students who are unable to attend the University during the day. Each studentship is limited to £10 for science students, and £7 for arts students.

(v.) *Western Australia.* A Modern School, designed to give a four years' course to pupils admitted at about the age of 13 years, was opened in Perth early in 1911. The first two years of the course are to a large extent common to all, but in the final two years specialisation is aimed at, in order to meet the needs of future University students, teachers, agriculturists, scientific and business men; and, in the case of girls, to give tuition in domestic economy to those desirous of it. At the end of 1913 there were 360 students. No fees are charged at the Modern School. It is proposed to open a High School in 1914 at Kalgoorlie, organised on similar lines. During 1909 the upper classes of schools in the largest centres of population were brought together into central schools, in order to secure more economical and effective teaching, and it is intended that these central institutions shall form the nucleus of future High Schools. Continuation classes were inaugurated in 1911, and were attended at 15 centres in 1913 by about 2900 pupils. The classes are intended to provide some measure of higher education to those who leave

school as soon as they reach the compulsory age of 14 years. Admission to these classes is free, but pupils must attend regularly three evenings a week. Evening Schools are held in various parts of the State, but the work carried on is mainly primary. Exhibitions and scholarships at present in force comprise ten University exhibitions valued at £50 each, tenable for three years at the University of Western Australia, seven senior exhibitions valued at £25 each tenable for one year, and 12 junior exhibitions, valued at £20 each, also tenable for two years.

(vi.) *Tasmania*. Up to the year 1912 the Department confined its efforts to the provision of primary education for the school children in Tasmania. In 1911, however, super-primary classes were formed in the larger schools, with an enrolment in 1911 of 200, and in 1912, of 400 pupils. It was recognised, however, that the previously existing scheme of scholarships and exhibitions was inadequate to meet the demands for higher education. High schools were therefore opened in January, 1913, at Hobart and Launceston, with an enrolment of 150 and 110 pupils respectively. These will cater for five classes of pupils—(i.) Those who desire to become teachers; (ii.) University students; (iii.) Commercial; (iv.) Mechanics; (v.) Home duties (girls). It is proposed to grant a leaving certificate at the end of a four years' course. At the present time the State provides free High School instruction for pupils capable of passing the necessary entrance examination, and under the Scholarship Act of 1907 grants scholarships of the annual value of £15, tenable for three years, an additional payment of £25 being made in cases where the pupil does not reside at home. These scholarships are not tenable at the High Schools. There are also five exhibitions awarded by the University on the result of the junior examination. These are valued at £20 each, and are tenable for three years at approved schools. It is proposed to replace the scholarships by a liberal scheme of bursaries.

**8. Agricultural Training in State Schools.**—The question of agricultural training in ordinary schools has received considerable attention in *New South Wales*. In 1905 a teacher of school agriculture was appointed to visit schools and districts for the purpose of giving instruction to teachers and scholars in the subject, the officer selected possessing the dual qualifications of a thorough acquaintance with agricultural work and school methods. The Education Department makes grants of seeds of various kinds to the schools having gardens, and in some instances has installed windmill plants to provide an adequate water supply. Under the direction of a capable head master, a college has also been opened at Hurlstone, near Sydney, at which practical lessons are given in elementary agriculture, and the institution also serves as a stepping-stone to the Hawkesbury Agricultural College. Scholarships are available to students of the Hurlstone Agricultural High School as it is now called, and these scholarships entitle the holder to a two years' free course at the Hawkesbury institution, with a grant of £1 10s. per annum for text books. The Department has also organised Rural Camp Schools for the purpose of giving teachers and scholars first hand knowledge of country industries. Schools of this nature were held in 1913 at Richmond and Orange, the total attendances for the year being 1118 boys, and 91 masters.

The subject of Agricultural Colleges and Experimental Farms is dealt with in the section relating to Agriculture. (See page 356.)

In *Victoria*, what are termed Agricultural High Schools have been established at Ballarat, Colac, Leongatha, Mansfield, Mildura, Sale, Shepparton, Wangaratta, Warragul, and Warrnambool. Pupils must be at least fourteen years of age, and have passed beyond the curriculum of the elementary school, or else be able to afford satisfactory proof that they are qualified to profit by the instruction offered. The schools are practically secondary schools with an agricultural bias, and form a link between the rural school and the agricultural college. They are also used as a preliminary stage in the education of boys and girls who wish to become teachers and eventually graduate in the State Training College and the University. At some of the schools short courses in agriculture have been instituted for farmers' sons who have left school. A local council

is appointed for each school, and exercises a general oversight over its operations. The experimental plots at these schools have aroused much interest among the farmers from the surrounding districts. A Supervisor of Agriculture reports and gives advice on the teaching of agriculture in the State Schools. A fair number of teachers have gained diplomas in agriculture, and will be in a position to give practical instruction at the High Schools. The elementary principles of agriculture are now taught in about 700 State Schools. A Horticultural Society has been established in connection with State Schools, and has now 650 schools in affiliation.

Although *Queensland* possesses an Agricultural College and several experimental farms, there is no agricultural institution directly connected with the Education Department. The Government, however, provides a small grant to encourage the study of agriculture, horticulture, and kindred subjects in the State Schools, while a departmental teacher of agriculture visits the schools and gives assistance in agricultural, horticultural, and nature study work. Some excellent experimental work has been carried out at a few of the schools, while gardens have been established wherever circumstances permitted. Short courses of instruction for teachers have been instituted at the Gatton College. A large number of teachers have gained a practical knowledge of milk and cream testing, and the subject is now added to the programme of instruction in several of the dairying districts.

In *South Australia* the Public Schools' Floral and Industrial Society, founded in 1880, holds annual exhibitions of school work from all parts of the State. In addition, it has for some years undertaken the distribution of flower seeds among school children at a very cheap rate, and has thus fostered the love of horticulture with remarkable success. A special instructor has been appointed to give assistance to teachers desirous of making their school gardens aid in nature study work.

In *Western Australia* an advisory teacher of nature study visits the schools and gives advice in regard to proper methods in horticulture and experimental agricultural work. The number and usefulness of the gardens and experimental plots attached to State Schools shew marked improvement each year. It is proposed to open a farm school on the Narrogin State Farm early in 1914.

**9. Teachers in State Schools.**—The distribution of the teaching staff in the State Schools during the year 1913, including teachers of needlework, was as follows:—

**TEACHING STAFF IN STATE SCHOOLS, 1913.**  
(COMMONWEALTH.)

State.	Principal Teachers.		Assistants.		Pupil or Junior Teachers.		Sewing Mis-tresses.	Total.		
	Males.	Fem.	Males.	Fem.	Males.	Fem.		Males.	Fem.	Total.
New South Wales	2,119	450	1,362	2,518	9	169	105	3,490	3,242	6,732
Victoria ...	1,572	766	450	1,316	349	1,291	441	2,371	3,804	6,175
Queensland ...	780	559	337	817	320	433	...	1,437	1,809	3,246
South Australia ...	372	431	90	472	59	203	136	521	1,242	1,763
Western Australia ...	318	235	123	497	11	119	59	452	910	1,362
Tasmania ...	179	245	59	210	35	169	2	273	626	899
Northern Territ'y	2	4	...	...	...	...	..	2	4	6
Commonwealth	5,342	2,680	2,421	5,830	783	2,384	743	8,516	11,637	20,183

It will be observed that there is a fairly large number of junior teachers, or pupil teachers, as they are called in some of the States. The pupil teachers will, however, in time disappear, and their places will be filled by young people who have undergone a course of training in schools specially provided for the purpose. Allusion to the methods of training will be found in the next paragraph.

**10. Training Colleges.**—The development of the training systems of the various States has been alluded to at some length in earlier issues of the Year Book. The present position is as follows:—

(i.) *New South Wales.* During 1913, the total number of students in the Blackfriars Training College was 314, women students numbering 211. A branch institution was opened early in 1911 at Hereford House for the training of candidates for the position of teacher or assistant at small country schools, and this was attended in 1913 by 247 students. The total number qualified for entrance to the teaching service in 1913 was 391. Several of the larger metropolitan schools are used as practice schools for giving training college students opportunity to acquire practical skill in teaching. At the College a complete set of Montessori apparatus has been prepared for demonstration work on the Montessori principles, and one of the College staff was recently sent to Italy in order to gain first-hand knowledge of the possibilities of the scheme. Opportunities are also afforded to other members of the teaching staff to visit foreign countries on study leave. The Principal of the Training College is also Professor of Education at the Sydney University. Towards the close of the year a commencement was made with the erection of new Teachers' College within the University grounds. Up to the year 1913 the limits of accommodation at the Teachers' College were responsible for the employment of a number of untrained junior assistants, but it is now provided that no teacher enters the Service without at least six months' professional training.

(ii.) *Victoria.* Candidate teachers in this State are trained in the District High Schools or Agricultural High Schools, the period of probation being supplemented by a course of training for two years in the Senior Training College at Melbourne. A "short course" of training was introduced in 1913 for students who have passed the junior public or an equivalent examination. The course lasts for six months, about half the time being spent at lectures and the rest at practice in teaching. The present Training College dates back to 1874, but during the retrenchment period, viz., from 1893 to 1900, it was closed. The institution was reopened in February, 1900, with an enrolment of fifty-seven students. By the 30th June, 1913, the number had increased to 111. The College lectures are also attended by considerable numbers of private students qualifying for certificates as Infant, Kindergarten or Primary teachers. A Training College Hostel has been established and a Correspondence class formed for country teachers desirous of qualifying for the Infant Teachers' Certificate. The students at the Hostel receive training in domestic economy. Five city and four country practising schools are attached to the Training College. The University High School, with an average attendance of 171 in 1913, gives teaching practice for secondary students taking the diploma course at the Melbourne University. A remodelled system of training will come into force in 1914, providing, amongst other things, for the alteration of the name "Training College" to "Teachers' College," and for the classification of students in three groups, i.e., those training for secondary teachers' certificate, for primary teachers, and for infant teachers.

(iii.) *Queensland.* In connection with the newly-established Teachers' Training College in Brisbane, the following scheme has been evolved:—Twenty-five special Teacher Scholarships to the University, each with a currency of two years, are to be awarded annually. Living allowances at the rate of £52 per annum and £26 per annum respectively are provided, the former being paid to students living away from home. The University is to provide an Education group of subjects, including Logic, Psychology, and Education. Ten of the scholarships may be carried on for a third year, and five for a fourth year. Practical training is entrusted to a Training Master appointed by the Department. Those who attend the two years' course will be appointed to the Primary Schools, and the graduates from the three and four years' course will be available for High Schools and Secondary Schools. Short courses of training have been instituted for teachers to take charge of small schools, and arrangements have been made to allow an approved number of teachers already in charge of such small schools to obtain the benefit of the training. In the meantime, young people of both sexes are admitted to the service as pupil-teachers at the age of fourteen years, and receive training from the principals of the schools to which they are appointed. The schools for infants.

at Kangaroo Point and Rockhampton have been specially staffed and equipped for training Kindergarten teachers, and Kindergarten methods have been introduced into most of the larger schools. Teachers of small schools are also greatly helped by the inspectors' practical and theoretical instruction in the various districts.

(iv.) *South Australia.* During the year 1910 the system of training in force in South Australia was remodelled and improved. Prior to this year students had devoted themselves chiefly to academic studies, but in 1910 provision was made for increased attention to the theory and practice of teaching. District courses of training were established to prepare teachers for work in primary and infant schools, and an advanced course was outlined for those who will become High School teachers. Each of these courses extends over a year. Students in the primary course who shew special ability may be granted a second year's training. The special course for Secondary Schools will give students an opportunity of obtaining the Diploma of Education. Provision has also been made for a six months' course of training for teachers of provincial schools. There were 49 students in the Training College in 1913. At the Adelaide High School there were 96 students training for teachers at the end of 1913. Practice in teaching is gained by the student teachers at the Observation School, which also provides training for teachers qualifying for appointment to provisional schools.

(v.) *Western Australia.* A Training College for teachers was opened at Claremont in 1902. The original building provided accommodation for sixty students, but extensions were opened in 1908, and the number in training in 1913 was 115. Two classes of training are provided for—the full course, lasting two years, and a special course of six months. The latter is intended for teachers of small schools in country districts, and the trainees are drawn partly from those already acting as teachers in these schools and partly from outside applicants who pass the necessary qualifying examination. Special practising schools have been established for the proper training in teaching and managing the smaller country schools. Three classes of students are admitted to the full course—(i.) from State or private secondary schools; (ii.) monitors from departmental schools; (iii.) ordinary teachers from the departmental schools. The standard of education required on entering is the school-leaving or matriculation certificate, but a special examination is held for candidates possessing neither. The course is both academic and practical, the former being co-ordinated with the University. As a help in the practical work there is an adjunct school attached to the College, and six practising schools, two of which are for infants only.

(vi.) *Tasmania.* In this State the scheme for training teachers has recently been remodelled with a view to increased efficiency, and the new provisions will come into operation in 1914. Prior to entering the Training College, students will be required to attend a High School for four years. After obtaining the leaving certificate, the candidates will be drafted to selected schools to serve as junior teachers for a year, in order to gain such knowledge as will enable them to more fully appreciate the professional training at the College in the following year. Trainees will attend at the University for instruction in the higher branches of certain subjects, and in some cases will be given a second and third year to enable them to qualify for Arts or Science degrees. During the year 1913 there were 100 students in attendance at the Training College. There is a Practising School attached to the College, and a Model Small School has been established for the purpose of training students who wish to take charge of small country schools. Periodic meetings of teachers and inspectors have proved helpful in fostering a spirit of activity. The principal of the Training College is also Lecturer in Education at the University. During the year 1913 a Summer School for teachers was held at Hobart.

11. **School Savings Banks.**—Returns shew that these institutions are in existence in three States. In New South Wales, there were 727 banks at the end of 1913, the deposits amounting to £29,247, and withdrawals to £29,501. Since the establishment of the banks in 1887, deposits totalled £465,231, and withdrawals £453,366. Of the latter



sum £108,285 was placed to the children's accounts in Savings Banks. In South Australia, 311 schools had 12,954 depositors, with £5604 to their credit; and in Western Australia, there were 289 school banks, with 15,980 depositors and £20,330 to their credit.

**d2. Expenditure on State Schools.**—The net expenditure on State education during 1901 and for the five years ended 1913 is shewn below. The figures do not include expenditure on buildings, which is shewn separately in a subsequent table.

**EXPENDITURE ON MAINTENANCE, STATE SCHOOLS, 1901 and 1909-13.**  
(COMMONWEALTH.)

Year.	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	C'wealth.
	£	£	£	£	£	£	£	£
1901 ...	623,734	656,907	256,245	152,006	89,694	37,710	...	1,816,296
1909 ...	940,534	726,020	309,704	164,863	166,103	73,532	...	2,380,756
1910 ...	979,775	788,246	323,372	177,827	172,470	74,907	...	2,516,597
1911 ...	1,048,584	834,276	351,942	198,979	187,301	84,317	629	2,706,028
1912 ...	1,285,410	893,649	393,543	217,874	220,780	86,500	674	3,098,430
1913 ...	1,318,326	975,977	432,751	243,094	258,171	91,513	1,942	3,321,774

The expenditure per head of average attendance for each of the years given above will be found in the succeeding table. As the figures shew, Western Australia has the highest average, followed by New South Wales and Victoria, the lowest rate being in Tasmania. The increase in the number of small schools was chiefly responsible for the growth of expenditure in the Western State in 1912, the expenditure on primary education alone shewing an increase of £23,000 as compared with the preceding year.

**COST PER HEAD OF AVERAGE ATTENDANCE, STATE SCHOOLS, 1901 and 1909-13.**  
(COMMONWEALTH.)

Year.	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	C'with.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1901	4 0 10	4 7 0	3 12 9	3 9 5	5 9 3	2 12 11	...	4 0 8
1909	5 17 6	4 19 5	4 8 0	4 6 2	6 4 6	4 4 7	...	5 3 11
1910	6 4 5	5 8 0	4 13 2	4 4 9	6 5 8	4 3 4	...	5 10 5
1911	6 10 5	5 13 11	5 0 5	5 12 10	6 7 2	4 13 0	10 9 7	5 16 8
1912	7 10 4	5 12 1	5 1 9	5 6 8	6 14 0	4 8 5	9 9 10	6 4 11
1913	7 8 1	6 4 2	5 8 3	5 12 3	7 2 5	4 6 5	28 1 1	6 8 9

Expenditure on school buildings in each of the years quoted was as follows:—

**EXPENDITURE ON STATE SCHOOL BUILDINGS, 1901 and 1909-13.**  
(COMMONWEALTH.)

Year.	N.S.W.	Victoria.	Ql.	S. Aust.	W. Aust.	Tasmania	Northern Territory.	C'wealth.
	£	£	£	£	£	£	£	£
1901 ...	57,663	36,040	33,421	13,656	49,073	7,762	...	197,615
1909 ...	149,767	162,932	57,349	31,512	31,099	8,442	...	441,101
1910 ...	191,188	118,556	50,668	44,025	47,637	16,957	...	469,031
1911 ...	176,194	117,048	53,953	35,581	58,406	16,548	...	457,730
1912 ...	287,522	167,657	67,637	40,855	73,920	9,423	2,117	649,131
1913 ...	347,183	158,028	77,715	59,385	71,913	16,456	791	731,471

The net total cost and the net cost per scholar in average attendance during the year 1913 were as follows:—

**NET TOTAL COST, STATE SCHOOL EDUCATION, 1913.**  
(COMMONWEALTH.)

Item.	N.S.W.	Vic.	Q'land.	S. Aust.	W. A.	Tas.	N. T.	C'wealth.
Net cost of education, including buildings ... ..	£ 1,665,509	£ 1,134,005	£ 510,466	£ 302,479	£ 330,084	£ 107,969	£ 2,733	£ 4,053,245
Per scholar in average attendance ... ..	£9 7/0	£7 4/4	£6 7/8	£6 17/7	£9 2/0	£5 2/0	£40 3/11	£7 17/1

The average for the Commonwealth in 1901 was £4 9s. 3d. per scholar in average attendance.

### § 3. Private Schools.\*

1. **School Teachers, etc., in 1913.**—The following table shews the number of Private Schools, together with the teachers engaged therein, and the enrolment and average attendance in 1913:—

**PRIVATE SCHOOLS, 1913.**  
(COMMONWEALTH.)

State.	Schools.	Teachers.	Enrolment.	Average Attendance.
New South Wales ... ..	733	3,593	64,591	54,305
Victoria ... ..	519	1,846	49,549	40,000
Queensland ... ..	153	795	18,092	15,518
South Australia ... ..	164	638	12,362	9,281
Western Australia ... ..	119	459	10,335	9,101
Tasmania ... ..	88	320	6,275	4,434
Northern Territory ... ..	1	2	65	40
Commonwealth ... ..	1,777	7,653	161,269	132,679

The totals for New South Wales include returns from the Sydney Grammar School, which receives a yearly State subsidy of £1500, and which, in 1913, had an enrolment of 636, and an average attendance of 566.

It is stated that the decrease in the Victorian figures is due to the closing of certain of the smaller inefficient schools. Some of the Secondary Schools in the country towns have also closed, and their pupils and a portion of the teaching staff have been absorbed by the State Higher Elementary or District Schools.

The figures for Queensland include the returns from Grammar Schools, of which there are ten—six for boys and four for girls. These schools are governed by boards of trustees, partly nominated by Government, and partly by the subscribers to the funds. The trustees make regulations regarding the fees of scholars, the salaries of teachers, and generally for the management of the schools. Each school is endowed by the Government at the rate of £750 per annum, together with an additional £250 to provide district scholarships, of which five were allotted to each school from 1st January, 1911. During the year all the grammar schools were inspected by the departmental Inspector-General.

2. **Growth of Private Schools.**—The enrolment and average attendance at Private Schools during 1891, 1901 and in each year of the period 1907 to 1913 are as follows:—

\* Private Schools include all schools not wholly under State control. The term "private," though popularly applied, is, of course, a misnomer.

## ENROLMENT AND ATTENDANCE AT PRIVATE SCHOOLS, 1891 to 1913.

(COMMONWEALTH.)

Year	Enrolment.	Average Attendance.	Year.	Enrolment.	Average Attendance.
1891 ...	124,485	99,588	1910 ...	158,694	129,872
1901 ...	148,659	120,742	1911 ...	160,794	132,588
1907 ...	152,037	122,878	1912 ...	164,085	133,940
1908 ...	152,399	125,530	1913 ...	161,204	132,679
1909 ...	164,428	127,069			

In view of the growth in population during the period covered by the table, the increase in enrolment and attendance does not afford room for much satisfaction. The returns will no doubt in future be to some extent adversely affected by the development of the Higher State Schools alluded to in a preceding paragraph.

**3. Registration of Private Schools.**—Until recent years the various State Governments had comparatively little control over privately conducted Schools. With the advance of modern educational thought the position is improving, but still leaves much to be desired. It is evident that without a thorough system of registration there will always be a difficulty in regard to enforcing the compulsory clauses of the various Education Acts. Moreover, advanced educational thought demands complete supervision, not only of curricula, but of all matters pertaining to school hygiene.

In New South Wales, under the provisions of the Bursary Endowment Act of 1912, 13 non-State Schools were inspected by the Departmental Inspector of Secondary Education, making a total of 50 registered schools. It is pointed out by the inspector that the schools obtaining registration under this Act will gain an advantage over non-registered schools which will tend to increase their yearly capital value.

In Victoria, up to the year 1905, no attempt had been made to bring Private Schools under general administrative control, but the Registration of Teachers and Schools Act of 1906, and the Education Act of 1910, established a registration scheme under a special committee. At present, the committee consists of nine members of the Council of Education. Section 60 of the Act of 1910 also empowers the Minister of Education to authorise the inspection of any school (other than a State School) in order to ascertain whether the instruction given is satisfactory. The inspector of registered schools has on several occasions pointed out that there is a fair number of institutions which are very unsatisfactory, both as regards buildings and quality of instruction given therein.

In Queensland, with the exception of the Grammar Schools, which are now examined annually, there is practically no control over the Private Schools, beyond the fact that they may submit themselves to inspection if so desired, and there is apparently no provision in South Australia for any Government supervision over Private School affairs.

In Western Australia, non-Government schools must be declared efficient by the Education Department if attendance at them is to be recognised as fulfilling the requirements of the law, and the school registers must be open to the inspection of the compulsory officers of the Department.

In Tasmania the Education Act requires the teachers of other than State Schools "to furnish during January of each year returns shewing attendances at such schools." Despite the fact that penalties are prescribed for non-compliance with the law, nevertheless many teachers neglect to return the forms sent out. Provision has been made for registration of private teachers and schools very much on the lines adopted in Victoria. The Act declares that all persons who were employed in a *bond fide* manner for at least three months before 25th October, 1906, were entitled to be registered as teachers without submitting proof of professional qualifications. No person can be registered as a private teacher since July, 1907, unless the Board is satisfied as to his fitness for the work.

### § 4. Free Kindergartens.

The following information regarding Free Kindergartens in the Commonwealth has been compiled from particulars supplied by the principals of the chief institutions in each State, except in the cases of Victoria and Western Australia, the details for the former being furnished by the Inspector of Registered Schools, and for the latter by the Director of Education.

#### FREE KINDERGARTENS IN THE COMMONWEALTH, 1913.

State.	No. of Schools.	Average Attendance.	Permanent Instructors.	Student Teachers.	Voluntary Assistants.
New South Wales (Sydney) ...	8	410	10	38	12
(Newcastle) ...	3	95	4	6	6
Victoria (Melbourne) ...	20	850	40	30	200
(Ballarat) ...	1	38	2	...	1
Queensland (Brisbane) ...	5	126	5	13	11
(Clermont) ...	1	35	1	1	...
South Australia (Adelaide) ...	7	245	10	16	1
Western Australia (Perth) ...	2	77	2	10	...
Tasmania (Hobart) ...	1	35	1	4	3
(Launceston) ...	1	40	2	3	3
Total ...	49	1,951	77	121	237

There is no separate training institution in Perth, but at each of the two Kindergartens there are five students in training. The Ballarat institution is also visited by State School teachers with a view to gaining practical acquaintance with Kindergarten methods.

It must, of course, be distinctly understood that the information given above refers to institutions under private Kindergarten unions or associations, and is exclusive of institutions controlled by the Education Departments of the various States.

### § 5. Universities.

**1. Origin and Development.**—The history of the foundation and progress of the four then existing Australian Universities was traced at some length in Year Books I. and II. In the present volume space will permit of only a very brief reference to the subject.

(i.) *University of Sydney.* The Act of Incorporation of the University of Sydney received Royal assent on the 1st October, 1850, and the first Senate was appointed on the 24th December of that year. The first matriculation examination was held in October, 1852, when twenty-four candidates passed the required test, and the formal inauguration ceremony took place on the 11th October of the same year. A Royal Charter was granted to the University on the 27th February, 1858. Women students were admitted in 1881. The passing of the University (Amendment) Act of 1912 marks an important epoch in the development of the educational system of New South Wales. The Act aims at placing the University in a more effective position as the culminating point in a thoroughly co-ordinated system of State education, and it is claimed that the passing of this measure makes the educational system—from the Primary Schools through the Secondary Schools to the Technical Colleges or to the University—form a progressive and continuous whole. Under the new Act the constitution of the Senate was radically changed, and this body now consists of—four Fellows appointed by the Governor, one

electd by members of the Legislative Council, one elected by members of the Legislative Assembly, five representatives of the University teaching staff, ten elected by graduates of the University, and three elected by the aforesaid Fellows. The professorial representatives hold office for two years, and the other Fellows for five years. In addition, it was provided that in view of their distinguished services, the late Chancellor, Sir Normand MacLaurin, and the Vice-Chancellor, Judge Backhouse, should each during his life be a Fellow in addition to the ten Fellows elected by the graduates. The second part of the Act contains a feature of outstanding importance, in that it provides for the allotment of exhibitions in the proportion of 1 for every 500 of the population of New South Wales between the ages of 17 and 20, or in such other ratio as may be determined by Parliament. These exhibitions, which carry exemption from all fees, are not restricted to any particular faculty in the University, and are principally allotted in order of merit as shewn by examinations for leaving certificates at the State Schools. Pupils of registered Secondary Private Schools are also eligible for leaving certificates on the same conditions as those of the State Schools. To gain a leaving certificate a candidate must have satisfactorily completed an approved four years' course of study. Five per cent. of the total number of exhibitions allotted in any year are available for successful candidates at the written examination, even though they be ineligible for a leaving certificate. For the year 1913 the statutory endowment to the University was £14,966. At the inception of the University there were only three professorships. The present staff consists of twenty-three professors, including the Director of Military Science, nine assistant professors, and ninety-eight lecturers and demonstrators. There are, in addition, four honorary lecturers, various honorary demonstrators, as well as various miscellaneous assistants in laboratories and three curators of museums.

(ii.) *University of Melbourne.* This institution was established by Act of Parliament assented to on the 22nd January, 1853, and its first Council was appointed on the 11th April of that year. The foundation stone of the main building was laid on the 3rd July, 1854, and the University was formally inaugurated on the 13th April, 1855. By Royal Letters Patent, issued in 1859, its degrees are, like those of the Sydney institution, declared of equal status with those of any other University in the British Empire. Women students attended lectures for the first time in 1881. The University, which began in 1855 with Schools of Arts and Laws, has now a staff of eighteen professors, sixty-four lecturers and demonstrators, as well as sixty-five miscellaneous assistants. The Conservatorium of Music has a staff numbering twenty-five.

(iii.) *University of Adelaide.* This University was established by Act of Parliament in 1874. Its origin and progress was largely due to the munificence of the late Sir Walter Watson Hughes and Sir Thomas Elder, G.C.M.G., the total gifts of the latter amounting to over £100,000. The academical work of the institution was commenced in March, 1876, when eight matriculated and fifty-two non-graduating students attended lectures. The foundation stone of the University buildings was laid on the 30th July, 1879, and the buildings were opened in April, 1882. In 1881, by Royal Letters Patent, the degrees granted by the institution were recognised as of equal distinction with those of any University in the British Empire. The Elder Conservatorium of Music was opened in 1898. Power was given by Act of Parliament in 1880 to grant degrees to women. At first there were only four professorships in the University, whereas the present staff consists of eleven professors, thirty-one lecturers and seven assistant lecturers, exclusive of the staff at the Conservatorium, which numbers twelve.

(iv.) *University of Tasmania.* The Act to establish the University of Tasmania (Hobart) was assented to on the 5th of December, 1889. At the present time, the institution, which is small but efficient, possesses a staff of five professors, six independent lecturers, and three demonstrators. Under Statute dated 13th April, 1905, the Zeehan School of Mines and Metallurgy was affiliated to the University.

(v.) *University of Queensland.* The Act to establish the University of Queensland was passed in 1909, and the first Senate was appointed on the 14th April, 1910. The University was opened on the 14th March, 1911, when 60 students were matriculated. Provision has been made for a Correspondence Study department in connection with the institution, and at the request of the Brisbane branch of the Workers' Educational Association, weekly lectures are given in History and Economics. At the present time there are four professors, *i.e.*, one each of classics, chemistry, engineering, and for mathematics and physics, with a liberal complement of lecturers and demonstrators. The establishment of University extension lectures is under consideration.

(vi.) *University of Western Australia.* The University Commission in this State has recommended the establishment of a University somewhat on the lines of those in the eastern States, but with such amendments as would bring it as far as possible into accord with the most modern requirements. The Act establishing a University was passed on the 18th February, 1911. In addition to lectureships, the institution was opened with six professorships—modern literature and history, mathematics and physics, chemistry, engineering and mining, geology, and a chair in agriculture endowed by the generosity of Sir Winthrop Hackett. The institution was opened in March, 1913.

**2. Teachers and Students of Universities.**—The following table shews the number of professors and lecturers and the students in attendance at each of the Commonwealth Universities during the year 1913:—

**UNIVERSITIES.—TEACHERS AND STUDENTS, 1913.**

University.	Professors.	Lecturers.	Students attending Lectures		
			Matriculated.	Non-matriculated.	Total.
Sydney ... ..	32	102	1,167	478	1,645
Melbourne ... ..	18	64	...	...	1,256*
Adelaide ... ..	11	38	415	305	720†
Tasmania (Hobart) ...	5	6	92	70	162
Queensland (Brisbane)‡	4	19	198	9	207
West. Australia (Perth)	8	4	118	64	182

\* Exclusive of 86 music students.

† Exclusive of 318 music students.

‡ Opened in 1911.

**3. University Revenues.**—The income of the Universities from all sources during the year 1913 was as follows:—

**UNIVERSITIES.—REVENUE, 1913.**

University.	Government Grants.	Fees.	Other.	Total.
	£	£	£	£
Sydney ... ..	44,966	20,637	25,353	90,956
Melbourne ... ..	33,648	33,409	9,754	76,811
Adelaide ... ..	11,803	11,853	5,284	28,940
Tasmania (Hobart) ...	5,750	1,470	1,416	8,636
Queensland (Brisbane) ...	13,000	2,000	3,400	18,400
Western Australia (Perth) ...	13,500	...	1,321	14,821

The column "Other" includes the receipts from private foundations. The extent to which the Universities have benefited by private munificence will be apparent from the following table:—

## PRINCIPAL PRIVATE BENEFACTIONS TO AUSTRALIAN UNIVERSITIES.

University of Sydney.		University of Melbourne.		University of Adelaide.	
Donor.	Amount.	Donor.	Amount.	Donor.	Amount.
	£		£		£
J. H. Challis ...	250,750	Sir Samuel Wilson	30,000	Sir Thos. Elder ...	98,760
Sir P. N. Russell...	100,000	James Stewart ...	25,624	Sir W. Hughes ...	20,000
Thos. Fisher ...	30,000	Hon. Francis Ormond	20,000	Hon. J. H. Angas	10,000
Edwin Dalton ...	8,000	John Hastie ...	19,140	R. Barr Smith ...	10,150
Hugh Dixon ...	7,050	Robert Dixon ...	10,837	Other donations ...	16,230
Hon. Sir W. Macleay	6,000	John Dixon Wy-			
Mrs. Hovell ...	6,000	selaskie ...	8,400		
Thos. Walker ...	6,200	David Kay ...	5,764		
Other donations ...	53,714	Henry Dwight ...	5,000		
		Wm. Thos. Mollison	5,000		
		Other donations ...	49,889		
Total	£ 467,714	Total	£ 179,654	Total	155,140

In addition to the sum of £6000 shewn above, the Hon. Sir W. Macleay also presented the Museum of Natural History to the University.

The credit balances of some of the above endowments now amount to very considerable sums. For example, on the 31st December, 1913, the Challis Fund amounted to nearly £310,000, and the Fisher bequest to over £40,000. The cash balance at the end of 1913 on account of all private foundations to Sydney University stood at £547,240. In the case of Melbourne University the Stewart fund on the 31st December, 1913, stood at £30,401, the Hastie at £19,266, the Dixon fund at £12,638, etc.

In addition to the above there were various other bequests to Sydney University—e.g., collection of Egyptian antiquities, etc., by Sir Charles Nicholson, and Natural History collection by Mr. Geo. Masters, while the building for the Natural History Museum was given by Sir W. Macleay. Numerous prizes and scholarships have also been given to the various colleges. In Melbourne, the Hon. Francis Ormond's benefactions to Ormond College amounted to about £108,000. Private benefactions to the University of Tasmania and the newly-established University of Queensland amount to £3105 and £6841 respectively.

**4. University Extension.**—These lectures were instituted at Sydney University in 1886, but under a statute of the Senate, approved of in 1892, a Board was appointed, which was empowered from time to time to recommend to the Senate the names of suitable persons for giving courses of lectures, and to hold examinations in the subjects of the lectures. The Board receives and considers applications from country centres, and makes provision for engaging lecturers and managing the entire business connected with the various courses. The project has only met with fair success, no lectures having been given in some years, but lately there appears to be an awakening of interest in the matter. The Board also arranged for courses of lectures in Queensland, Victoria, and Western Australia. In 1913 the average attendance at extension lectures in New South Wales was 122.

University extension lectures in Victoria date from the year 1891, when a Board was appointed by the Melbourne University for the purpose of appointing lecturers and holding classes and examinations at such places and in such subjects as it might think fit. Interest in University extension has varied in Victoria, the attendance at the various centres numbering about 3700 in 1913.

The Adelaide University has also instituted short courses of extension lectures in Arts and Science, to which students are admitted on payment of a nominal fee. Public intimation of these lectures is made from time to time during the session. For 1914 a

course of nine lectures was provided. The University of Tasmania provides for courses of lectures at Launceston, which are delivered weekly by members of the University teaching staff.

As pointed out previously, a correspondence study department has been inaugurated in connection with the University of Queensland in order to overcome, as far as possible, the difficulties of students who desire to benefit by University teaching, but who for various reasons are unable to attend the lectures. At present the work of this department is confined to the Arts course.

(v.) *Workmen's Tutorial Classes.* Chiefly as the result of a visit to Australia in 1913 by Mr. Mansbridge, of the Workers' Educational Association of Britain, a movement has been inaugurated having for its object the bringing of the University into closer relationship with the masses of the people. In New South Wales a Workers' Educational Association has been formed, and already tutorial classes have been started in Economics. The University Council in Victoria has formulated a scheme, and it is proposed to ask for a State grant of £2500, of which £1250 is to be expended on tutorial classes. In Queensland, classes have been formed at Brisbane and Ipswich, and the movement is extending in the other States.

## § 6. Technical Education.

1. **General.**—Although provision has been made in some of the States in respect to many necessary branches of technical education, the total provision made would imply that this branch of education has not been regarded as of great importance. As will be seen later on, the expenditure on technical education for the whole of Australasia is comparatively insignificant. The question of apprenticeship is dealt with in the sections dealing with "Manufacturing Industries and Labour and Industrial Statistics."

2. **New South Wales.**—The present organisation of technical education in this State dates from the year 1883, when a Technical Education Board was appointed as a result of suggestions made at the Technological Conference held in 1879. This Board continued its functions till November, 1889, when it was dissolved, and the work has thenceforward been carried on as a branch of the Public Instruction Department. The chief centre of activity is, of course, in Sydney, where the Technical College and Technological Museum are situated, the college having been opened for the reception of students early in 1892. Colleges were also erected in some of the chief country towns—at Maitland in 1890; Newcastle 1896; Bathurst 1898; Broken Hill 1898; Albury 1899; and Goulburn 1902. In other centres classes were established in various subjects whenever the prospects were sufficiently encouraging. Up to the year 1912 the provision for technical education is stated to have partaken more or less of the nature of successive accretions on the original humble beginnings, rather than to have aimed at development in accordance with a definite plan. With the systematisation of the other branches of education, the necessity for more effective organisation of the technical side became imperative, and in 1913 a rearrangement was effected. Under the new conditions Trades Schools will supersede the branch Technical Colleges, with the exception of that at Newcastle. Entrance to the Trades Schools will be conditional on a student being actively engaged in the trade concerned during the day and possessing a certain degree of preparatory knowledge. The latter qualification is assured by the possession of a certificate from a Commercial Superior Junior Technical School or an Evening Continuation Junior Technical School. It is proposed to build new Trades Schools in several of the suburbs of Sydney, and to establish institutions in the country wherever circumstances demand. The co-operation of both employers and employees has been sought and obtained, and while at first there will be some diminution in the number attending the classes, this will be counterbalanced by increased efficiency. At the beginning of 1913 a conference was held between the education authorities and leading employers and employees with a view to deciding on a scheme of organisation of the system of technical education. Sub-conferences were held for each trade or group of trades. In view of the information received, the Director of Education submitted a scheme to the Minister, and the scheme



was approved at the end of November. Under the new plan the instruction will be given in two divisions—(1) Trade Courses; (2) Higher Technical Courses. Instruction in the Trade courses will be really continuation trade instruction, *i.e.*, supplementary to actual workshop practice under an employer. Attempts to train youths to be tradesmen in the College will be abandoned, and only those actually engaged as apprentices or journeymen will be admitted to the College classes. Entrance tests are prescribed so as to ensure that students admitted to the courses will possess sufficient preparatory knowledge to benefit by them, but journeymen desirous of improvement may join at any time. Advisory committees have been appointed for each trade or group of trades. The first two or three years' course of instruction will be given in the Trade Schools, and the last two or three years' at the Technical Colleges, of which there are two, one at Sydney, and one at Newcastle. The higher courses will embrace instruction in advanced trades work qualifying for the position of manager or foreman, but no attempt will be made to train for the professional standing. It is hoped, however, that the scheme will develop so that part of the graduates may proceed to the University. Admission to the higher courses will eventually be restricted to those who have either graduated in the Trade Schools of the Department, or who evidence possession of a similar standard of knowledge.

The table below gives some idea of the development of technical education in New South Wales:—

#### TECHNICAL EDUCATION, NEW SOUTH WALES, 1909-13.

Year.	Number of Classes.	Number of Enrolments.	Average Weekly Attendance.	Number of Lecturers and Teachers.	Fees Received.
					£
1909 ... ..	864	21,242	12,265	292	15,475
1910 ... ..	886	22,822	13,255	334	15,873
1911 ... ..	875	23,621	15,074	329	16,395
1912 ... ..	793	28,032	17,749	320	15,846
1913 ... ..	582	16,193	12,214	286	13,760

The enrolments in 1912 were distributed as follows:—

Sydney College Classes	...	...	...	9,281
Suburban Classes	...	...	...	1,461
Country Classes	...	...	...	5,451
Total	...	...	...	16,193

At the beginning of 1913 the Sydney Technical High School and the Hurlstone Agricultural High School were removed from the control of the technical branch and placed under the inspector of Secondary Schools. References to the Agricultural Colleges will be found in the section dealing with Agriculture.

3. **Victoria.**—Technical instruction in mining has for many years received considerable attention in Victoria, the Ballarat School of Mines, which was established as far back as 1870, having achieved an Australasian reputation. Fine work was also done at the School of Mines in Bendigo, and later on excellent courses of training were evolved at the Working Men's College in Melbourne. The general scheme of instruction, however, lacked cohesion, and it was not until after the publication of the Report of the Royal Commission on Technical Education, which was appointed in 1899, that many defects were remedied. Prior to the passing of the Education Act of 1910, the Technical Schools were managed by local Councils, receiving grants from the Education Department. It is now proposed to place them directly under the control of the Department, and some of the smaller institutions have been transferred already, while the larger schools will be taken over as soon as the necessary arrangements can be made. It is hoped that the Agricultural and District High Schools will serve as an effective connecting link between the ordinary State Schools and the Technical Schools. At

present there are 22 Technical Schools receiving State aid, and of these 9 afford instruction in Science, Art, and Trade subjects; 4 in Art and Science; 3 in Art and Trade; while 4 confine their teaching to Art, and 2 to Trade subjects. The largest technical institution in Melbourne is the Working Men's College, founded in 1887. The College, in addition to giving instruction in a large number of technical subjects, is also a School of Mines. Six of the schools, viz., the Working Men's College, and the Schools of Mines at Ballarat, Bendigo, Bairnsdale, Maryborough and Stawell are classed as Certified Science Schools and are open to receive State School exhibitioners. There are at the present time six Junior Technical Schools in existence, with 600 students between the ages of 13 and 15 years receiving instruction in preparatory technical work.

#### TECHNICAL EDUCATION, VICTORIA, 1909-13.

Year.					No. of Subjects Taught.	No. of Enrolments.	Fees Received.
							£
1909	...	...	...	...	85	6,612	13,234
1910	...	...	...	...	88	7,107	13,631
1911	...	...	...	...	90	7,008	12,991
1912	...	...	...	...	101	7,923	11,664
1913	...	...	...	...	92	9,036	13,054

The average attendance for Victoria is not available, but the number of individual students enrolled per term was given as 4901 for 1913.

4. **Queensland.**—The control of Technical Education in Queensland was removed from the hands of the local Committee in 1905, and vested in the Education Department. At present the Director is assisted in his administration by a Superintendent, and an Inspector of Technical Colleges. During 1913 there were 16 colleges in operation—Bowen, Bundaberg, Cairns, Central, Charters Towers, Gympie, Herberton, Ipswich, Mackay, Maryborough, Mount Morgan, Rockhampton, Sandgate, Toowoomba, Townsville, Warwick, and branch classes of these colleges were held in forty-three centres. The colleges at Warwick, Brisbane and Mackay are under the direct control of the Department, while the remainder are managed by Committees under departmental supervision. The progress of technical education since 1909 is shewn in the following table:—

#### TECHNICAL EDUCATION, QUEENSLAND, 1909-13.

Year.				Number of Classes.	Enrolments.	Average Weekly Attendance.	Number of Teachers.	Fees Received.
								£
1909	...	...	...	349	5,608	3,128	214	8,605
1910	...	...	...	312	5,744	3,250	195	8,884
1911	...	...	...	381	7,089	5,567	219	10,349
1912	...	...	...	363	7,851	5,589	238	9,794
1913	...	...	...	353	7,958	6,009	247	11,069

Greater attention is being devoted to the development of trade classes, and the Technical College authorities have been assisted by the University Professors in the preparation of a properly organised system of Trade instruction. The Department now pays about £2000 per annum to the Technical Colleges for the instruction of selected State School pupils in approved subjects. Tuition by correspondence is given by the Central Technical School. It is believed that the raising of the school age to 14 years, coupled with the establishment of High Schools, will result in a more effective co-ordination between ordinary and technical education in the State.

5. **South Australia.**—A considerable amount of attention has been given to technical education in South Australia, particularly in connection with the mining industry. The School of Mines and Industries in Adelaide was founded in 1889. Individual students enrolled in 1913 numbered 1878. The number of distinct subjects taught

was 53. There are in addition Schools of Mines at Moonta, Port Pirie, Kapunda, and Gawler. A School of Design, Painting, and Technical Arts has been established in Adelaide, with branches at Port Adelaide and Gawler. The conditions connected with the country Technical Schools, viewed from the standpoint of the Department of Education, are not considered satisfactory. While the Government bears the bulk of the cost of maintenance, the Minister for Education is not consulted in regard to the organisation, curriculum, or staffing of the schools. Although good work has been accomplished, the system of control of Technical Schools by independent councils is declared by the Director of Education to be no longer suitable, and stress is laid on the necessity for co-ordinating technical effort under one central authority. The development since 1909 is shewn in the table hereunder:—

#### TECHNICAL EDUCATION, SOUTH AUSTRALIA, 1909-13.

Year.			Number of Classes.	Enrolments.	Average Weekly Attendance.	Number of Teachers.	Fees Received.
							£
1909	...	...	204	4,179	*	88	3,574
1910	...	...	199	4,646	*	83	3,537
1911	...	...	185	4,456	*	91	3,547
1912	...	...	201	4,760	3,445	95	3,526
1913	...	...	218	4,885	3,473	115	3,459

\* Not available.

6. **Western Australia.**—A Technical School was established at Perth in 1900, and since its opening has progressed rapidly. Extensive additions to the buildings were made in 1909, and the remodelled institution was opened in 1910. There are branch institutions at Midland Junction, Fremantle, Claremont, Kalgoorlie, Boulder, and Geraldton. In addition, Continuation Classes are held at Perth, Fremantle, Midland Junction, Claremont, Kalgoorlie, Coolgardie, Boulder, Day Dawn, Northam, Albany, Bunbury, Geraldton, Pingelly, Gwalia, and Collie, while it is proposed to open classes at other centres as occasion demands. The schools are all under the control of the Education Department, the officer entrusted with their supervision being styled Director of Technical Education. The Continuation Classes remained a charge on the Technical Education vote to the end of June, 1913. The Director also supervises the School of Mines at Kalgoorlie, which is controlled by the Mines Department. Advanced work at present is taken only in Perth, Fremantle, Boulder, and in Kalgoorlie by the School of Mines, the other branches dealing almost entirely with preparatory work chiefly in Continuation Classes. At the Perth School the full course can now be taken for the B.Sc. degree of the University of Adelaide. It is hoped that in this way a nucleus will be formed for an efficient staff of Science teachers for the Education Department and the State University. From the beginning of 1914 no fees will be charged. Returns for the last five years are embodied in the table hereunder:—

#### TECHNICAL EDUCATION, WESTERN AUSTRALIA, 1909-13.

Year.			No. of Classes.	Enrolments.	No. of Teachers.	Fees Received.
						£
1909	...	...	146	1,574	83	2,854
1910	...	...	142	2,007	122	3,683
1911	...	...	230	4,595	157	3,332
1912	...	...	304	5,090	163	3,144
1913	...	...	237	5,702	234	3,786

The enrolments for 1913 comprised 2203 at Technical Schools and 3499 at Continuation Classes, the average attendance at the former being 1540, and at the latter 2915.

7. **Tasmania.**—In this State provision for technical education dates from the year 1888. At the present time the most important technical institution is the School of Mines and Metallurgy at Zeehan. Courses of instruction are given in metal mining and

in metallurgical chemistry and assaying, the diploma in metal mining entitling the holder to the Government certificate of competency as a mine manager. The institution is affiliated to the University of Tasmania. There are also three other schools under the control of the Education Department, each managed by a committee appointed by the Governor-in-Council. Tasmanian Technical Schools naturally devote their chief attention to mining and mineralogy. Statistics for the last five years are given as follows:—

#### TECHNICAL EDUCATION, TASMANIA, 1909-13.

Year.	No. of Classes.	Enrolments.	Average weekly Attendance.	No of Teachers.	Fees Received.
					£
1909 ...	67	794	248	32	647
1910 ...	49	614	267	33	681
1911 ...	54	833	295*	32	667
1912 ...	62	993	300*	36	768
1913 ...	76	1,013	787	41	918

\* Estimated.

8. **Attendance at Commonwealth Technical Schools.**—The table hereunder shows the enrolment and attendance at Technical Schools and classes in the Commonwealth during 1913:—

#### ENROLMENT AND ATTENDANCE AT TECHNICAL SCHOOLS, 1913.

(COMMONWEALTH.)

State	Enrolment.	Average Attendance.
New South Wales ...	16,193	12,214
Victoria ...	9,036	†4,500
Queensland ...	7,958	6,009
South Australia ...	4,885	3,473
Western Australia ...	5,702	*
Tasmania ...	1,013	787

\* Not available.

† Estimate.

9. **Expenditure on Technical Education.**—The expenditure on technical education in each State during the period 1909 to 1913 is shewn below:—

#### EXPENDITURE ON TECHNICAL EDUCATION, 1909-13.

(COMMONWEALTH.)

Year.	N.S.W.	Victoria.	Queensland.	South Aust.	West. Aust.	Tasmania.	C'wealth.
	£	£	£	£	£	£	£
1909 ...	61,452	27,039	13,589	12,742	9,422	3,209	127,453
1910 ...	71,002	32,217	20,612	13,476	9,987	3,055	150,349
1911 ...	77,160	41,030	34,611	13,017	14,590	3,726	184,134
1912 ...	99,265	42,541	44,073	13,906	27,536	3,318	230,639
1913 ...	132,305	49,139	63,589	10,532	26,886	3,529	285,980

The figures in the preceding table represent an expenditure of about 1s. 2d. per head of the population of the Commonwealth, as compared with 13s. 10d. per head spent on maintenance for primary education, and clearly shew that technical education has not attained its proper place in the educational organisation of Australia. Expenditure on buildings, included in the foregoing totals, comprises £61,562 in New South Wales, £9367 in Victoria; £38,048 in Queensland, and £10,449 in Western Australia.

### § 7. Business Colleges and Shorthand Schools.

There has been considerable development in recent years both in the number and scope of privately conducted institutions, which aim at giving instruction in business methods, shorthand, typewriting, the use of calculating machines, etc. Particulars for all States excepting Queensland are given in the table hereunder:—

## BUSINESS COLLEGES AND SHORTHAND SCHOOLS, etc., 1913.

State.	Schools.	Teachers.	Students Enrolled.		Aver. Attendances.		Fees Recd.
			Males.	Females.	Males.	Females.	
							£
New South Wales ...	17	107	2,112	4,526	1,105	2,096	25,104
Victoria ...	15	171	3,764	1,695	2,667	1,331	3,998
Queensland*	...	...	...	...	...	...	...
South Australia ...	4	42	863	658	548	401	8,417
Western Australia ...	8	48	600	882	345	551	5,339
Tasmania ...	3	9	48	142	26	73	1,472

\* Included in Private Schools.

The figures for average attendance shew a predominance of woman students in all States except Victoria and South Australia, the excess being due to the increasing number of girls finding employment as stenographers, and in clerical and accountancy work. In Victoria it is explained that the preponderance of male students is due to the larger enrolment of males in the correspondence classes.

## § 8. Diffusion of Education.

1. General Education.—A rough indication of the state of education of the people is obtained at each Census under the three headings, "read and write," "read only," and "cannot read." The grouping of the whole population, exclusive of aborigines, in these three divisions is given for each Census since 1861:—

## EDUCATION AT CENSUS PERIODS, 1861 to 1911.

(COMMONWEALTH.)

State or Territory.	1861.	1871.	1881.	1891.	1901.	1911.
N.S.W. a	(Read & write 188,543 Read only... 46,024 Cannot read 116,293)	(296,741 56,391 149,866)	(507,067 49,372 193,386)	(835,562 43,539 244,853)	(1,071,935 29,728 253,183)	(1,379,631 6,442 260,661)
Vic. ...	(Read & write 328,362 Read only... 57,351 Cannot read 152,915)	(478,464 70,953 180,781)	(653,346 47,950 160,270)	(908,490 32,794 198,556)	(998,010 21,852 181,208)	(1,136,289 4,630 174,632)
Q'nsland	(Read & write 17,152 Read only... 3,680 Cannot read 9,227)	(74,940 12,080 33,084)	(136,436 13,657 63,432)	(276,381 14,618 102,719)	(376,294 11,737 110,098)	(508,703 3,416 93,694)
S. A. (b)	(Read & write 72,190 Read only... 18,535 Cannot read 36,105)	(117,349 21,509 46,768)	(200,057 15,267 64,541)	(236,514 9,571 74,346)	(290,748 8,283 64,126)	(344,095 1,785 62,678)
W. Aus.	(Read & write 7,683 Read only... 1,301 Cannot read 5,853)	(14,166 2,717 7,902)	(19,684 2,430 7,594)	(34,254 2,061 13,467)	(150,099 3,107 30,918)	(237,629 917 43,568)
Tas. ...	(Read & write 48,282 Read only... 13,136 Cannot read 28,559)	(55,941 13,946 29,441)	(74,966 9,606 31,133)	(103,138 6,287 37,242)	(133,579 3,907 34,989)	(155,295 918 34,998)
North'mn	(Read & write ... Read only... Cannot read ...)	(... ... ...)	(... ... ...)	(... ... ...)	(... ... ...)	(2,397 34 879)
T'rt'y (c)	(Read & write ... Read only... Cannot read ...)	(... ... ...)	(... ... ...)	(... ... ...)	(... ... ...)	(1,424 14 276)
Federal	(Read & write ... Read only... Cannot read ...)	(... ... ...)	(... ... ...)	(... ... ...)	(... ... ...)	(... ... ...)
T'rt'y (d)	(Read & write ... Read only... Cannot read ...)	(... ... ...)	(... ... ...)	(... ... ...)	(... ... ...)	(... ... ...)
C'wealth	(Read & write 662,212 Read only... 140,027 Cannot read 348,952)	(1,037,601 177,596 447,842)	(1,591,556 138,282 520,356)	(2,394,339 108,870 671,183)	(3,020,665 78,614 674,522)	(3,765,463 18,156 671,386)

(a) Including Federal Territory prior to 1911.

(c) Included in South Australia prior to 1911.

(b) Including Northern Territory prior to 1911.

(d) Included in New South Wales prior to 1911.

The proportion in the Commonwealth of the various classes per 10,000 of the population is shewn below for each Census period:—

**PROPORTION OF EDUCATED AND ILLITERATE PER 10,000 PERSONS, 1861 to 1911.**

(COMMONWEALTH.)

Division.	1861.	1871.	1881.	1891.	1901.	1911.
Read and write ...	5,752	6,239	7,073	7,543	8,004	8,452
Read only ...	1,217	1,068	615	343	208	41
Cannot read...	3,031	2,693	2,312	2,114	1,788	1,507

**2. Education of Children.**—The figures in the preceding tables refer to the entire population of the Commonwealth, and as the age constitution of those dwelling in the various portions of Australia underwent considerable modifications during the period dealt with, a far more reliable test of the diffusion of education will be obtained by a comparison of the Census returns in regard to children of school age. For comparative purposes this has been taken to include all children in the group over five and under fifteen years of age, and the degree of education of these at each Census will be found below:—

**EDUCATION OF CHILDREN AT CENSUS PERIODS, 1861 to 1911.**

(COMMONWEALTH.)

State or Territory.	1861.	1871.	1881.	1891.	1901.	1911.
N.S.W. {						
Read & write	34,040	68,776	121,735	196,240	251,187	291,450
Read only ...	20,345	26,886	25,100	21,375	15,934	993
(a) Cannot read	25,472	32,924	41,663	48,580	60,734	34,793
Victoria {						
Read & write	42,268	122,739	170,713	201,199	236,515	237,028
Read only ...	25,518	39,636	25,249	15,656	13,128	410
Cannot read	19,341	29,490	21,421	27,441	27,765	19,621
Q'land... {						
Read & write	2,156	12,698	33,317	62,402	95,635	117,347
Read only ...	1,534	6,104	7,019	7,580	5,955	616
Cannot read	1,629	6,015	9,615	16,257	18,327	8,633
S. A. (b) {						
Read & write	15,485	30,608	46,630	58,291	69,451	69,878
Read only ...	8,748	12,432	7,926	4,618	4,229	248
Cannot read	6,907	10,074	12,483	17,988	15,480	9,638
W. Aus. {						
Read & write	1,333	3,218	4,418	6,910	25,326	47,568
Read only ...	226	617	1,260	933	1,815	159
Cannot read	1,015	1,795	1,593	2,348	5,431	5,234
Tas. ... {						
Read & write	11,919	17,335	17,188	24,007	32,890	36,351
Read only ...	2,848	4,143	4,108	2,974	1,795	186
Cannot read	4,581	6,663	6,606	8,829	8,475	5,575
N. T. (c) {						
Read & write	...	...	...	...	...	195
Read only...	...	...	...	...	...	...
Cannot read	...	...	...	...	...	118
Federal {						
Read & write	...	...	...	...	...	322
Ter. (d) {						
Read only...	...	...	...	...	...	2
Cannot read	...	...	...	...	...	47
C'wealth {						
Read & write	107,201	255,374	394,001	549,049	711,004	800,139
Read only ...	59,219	89,818	70,662	53,136	42,856	2,614
Cannot read	58,945	86,961	93,381	121,443	136,712	83,659

(a) Including Federal Territory prior to 1911. (b) Including Northern Territory prior to 1911. (c) Included in South Australia prior to 1911. (d) Included in New South Wales prior to 1911.

In the case of Tasmania full details for the years 1861 and 1871 are not available, and the figures for those years are approximate. The variation in degree of education will be more readily seen by reducing the foregoing figures to the basis of proportion per 10,000, and the results so obtained are embodied in the following table, a glance at which is sufficient to demonstrate the remarkable strides that at least the lower branches of education have made since 1861. In that year, only 47 per cent. of the children of school age could read and write, while 26 per cent. were illiterate. The returns for 1911 shew that the proportion of those who could read and write had increased to over 90 per cent., while the totally ignorant had declined by nearly two-thirds.

**EDUCATION OF CHILDREN (AGES 5 TO 14) PER 10,000 AT CENSUS PERIODS,  
1861 to 1911.**

(COMMONWEALTH.)

State or Territory.		1861.	1871.	1881.	1891.	1901.	1911.
N.S.W. (a)	{ Read & write	4,263	5,349	6,458	7,372	7,662	8,907
	{ Read only...	2,547	2,091	1,332	803	486	30
	{ Cannot read	3,190	2,560	2,210	1,825	1,852	1,063
Victoria ...	{ Read & write	4,851	6,397	7,853	8,236	8,526	9,221
	{ Read only...	2,929	2,066	1,162	641	473	16
	{ Cannot read	2,220	1,537	985	1,123	1,001	763
Queensl'd	{ Read & write	4,053	5,116	6,670	7,236	7,942	9,269
	{ Read only...	2,884	2,460	1,405	879	495	49
	{ Cannot read	3,063	2,424	1,925	1,885	1,563	682
S. Aus. (b)	{ Read & write	4,973	5,763	6,956	7,206	7,790	8,761
	{ Read only...	2,809	2,341	1,182	571	474	31
	{ Cannot read	2,218	1,896	1,862	2,223	1,736	1,208
W. Aus. ...	{ Read & write	5,179	5,716	6,076	6,780	7,775	8,982
	{ Read only...	878	1,096	1,733	916	557	30
	{ Cannot read	3,943	3,188	2,191	2,304	1,668	988
Tasmania	{ Read & write	6,160	6,160	6,160	6,704	7,620	8,632
	{ Read only...	1,472	1,472	1,472	830	416	44
	{ Cannot read	2,368	2,368	2,368	2,466	1,964	1,324
Northern Territ'y (c)	{ Read & write	...	...	...	...	...	6,230
	{ Read only...	...	...	...	...	...	...
	{ Cannot read	...	...	...	...	...	3,770
Federal Territ'y (d)	{ Read & write	...	...	...	...	...	9,868
	{ Read only...	...	...	...	...	...	5
	{ Cannot read	...	...	...	...	...	127
C'wealth							
	{ Read & write	4,757	5,910	7,061	7,588	7,984	9,027
	{ Read only...	2,628	2,078	1,266	734	481	29
	{ Cannot read	2,615	2,012	1,673	1,678	1,535	944

(a), (b), (c), (d), see notes to preceding table.

3. Education as shewn by Marriage Registers.—Another common method of testing the spread of education is to compare the number of mark signatures with the total number of persons married during each year of a series. The percentage of males and females signing with a mark to the total persons married in the Census years 1861 to 1901, and during each of the last seven years, was as follows. The figures refer to marriages in the Commonwealth in respect of which information was obtainable.

**ILLITERACY AS SHEWN BY MARRIAGE SIGNATURES, 1861 to 1913.**  
(COMMONWEALTH.)

Year.	Proportion Signing with Marks of Total Persons Married.						
	Males.	Females.	Total.	Year.	Males.	Females.	Total.
	per cent.	per cent.	per cent.		per cent.	per cent.	per cent.
1861 ...	18.50	30.69	24.60	1908 ...	0.71	0.73	0.72
1871 ...	10.58	16.40	13.49	1909 ...	0.65	0.62	0.64
1881 ...	4.34	6.78	5.56	1910 ...	0.56	0.59	0.58
1891 ...	2.27	2.40	2.34	1911 ...	0.56	0.54	0.55
1901 ...	1.35	1.29	1.32	1912 ...	0.43	0.45	0.44
1907 ...	0.81	0.70	0.76	1913 ...	0.36	0.38	0.37

The table shews that there has been a large diminution in illiteracy, and judging from the figures for the last few years the proportion bids fair to practically disappear. Up to 1891 there was a higher proportion of illiteracy amongst females, but during the last seven years the rates have been very even.

### § 9. Miscellaneous.

1. *Scientific Societies.*—(a) *Royal Societies.* Despite the trials and struggles incidental to the earlier years of the history of Australia, higher education and scientific advancement were not lost sight of. Thus the origin of the Royal Society of New South Wales dates as far back as 1821, when it was founded under the name of the Philosophical Society of Australasia, Sir Thomas Brisbane being its first president. Scientific work was fitfully carried on by means of a society whose name varied as the years rolled on. It was called the Australian Philosophical Society in 1850. In 1856 the old Australian Society merged into a resuscitated Philosophical Society of New South Wales, and its papers were published up to 1859 in the Sydney Magazine of Science and Art (2 vols. 1858-9). Its present title dates from 1866. Some of the papers of the old Philosophical Society were published in 1825 under the title of "Geographical Memoirs of New South Wales" (Barron Field), and contain much that is interesting in regard to the early history of Australia. One volume containing the Transactions of the Philosophical Society of New South Wales (1862-65) was published in 1866. The journal of the Society did not begin to bear a serial number, however (vol. 1), until the year 1867. "Transactions of the Royal Society of New South Wales" were issued in 1867, the title of the series being altered to "Journal" in 1876. Up to the end of 1913 forty-seven volumes had been published. The exchange list comprises the names of 379 kindred societies. At the present time the library contains about 21,700 volumes and pamphlets, valued at about £7600. Income and expenditure for the year ended 31st March, 1914, were £1188 (Government grant £400) and £1377 respectively. The Society had on the same date 313 members.

The Royal Society of Victoria dates from 1854, in which year the Victorian Institute for the Advancement of Science and the Philosophical Society of Victoria were founded. These were amalgamated in the following year under the title of the Philosophical Institute of Victoria, whilst the society received its present title in 1860. The first volume of its publications dates from 1855. The earlier publications dealt largely with Physics, later on Biology became prominent, while at present a large number of papers deal with Geology. Up to 1913 fifty-seven volumes of publications had been issued. The Society exchanges with 330 kindred bodies. The constitution of the society states that it was founded "for the promotion of art, literature, and science," but for many years past science has monopolised its energies. The library contains over 10,000 volumes. Income for the year 1913 amounted to £520, including Government grant £200, members' fees £224, other £96. The total expenditure was £448.

The inaugural meeting of the Royal Society of Queensland was held on the 8th January, 1884, under the presidency of the late Sir A. C. Gregory. The society was formed "for the furtherance of the natural and applied sciences, especially by means of



original research." Shortly after its formation it received an addition to its ranks by the amalgamation with it of the Queensland Philosophical Society, which was started at the time when Queensland became a separate colony. At latest date the members numbered 108; publications issued, 25 volumes; library, 4000 volumes; societies on exchange list, 167. Income from members' fees in 1913 amounted to £73.

The present Royal Society of South Australia grew out of the Adelaide Philosophical Society, which was founded in 1853, its object being the discussion of all subjects connected with science, literature and art. Despite this programme, the tendency of the papers was distinctly scientific, or of a practical or industrial nature. With the advent of the late Professor Tate the society became purely scientific. Permission to assume the title of "Royal" was obtained in 1879, the society thenceforward being known as "The Royal Society of South Australia." In 1903 the society was incorporated. In 1913 the number of members was 93. The income for the year 1913 was £417, including £228 Government subsidy, and expenditure £499. Up to 1913 the society had issued thirty-nine volumes of proceedings and six parts of memoirs, exclusive of several individual papers published in earlier years. The exchange list numbers about 183. The library contains 3900 volumes.

Permission to assume the title of Royal Society was granted to the Natural History and Science Society of Western Australia in March, 1914. This society has grown out of the Mueller Botanic Society, founded in July, 1897. The objects of the society are the study of natural history and pure science, promoted by periodical meetings and field excursions, the maintenance of a library, and the issue of reports of proceedings. It numbers at present 112 members, whose subscriptions form its main source of revenue. Government aid in the past has ranged from £7 to £75 per annum, the subsidy paid in 1913 being £50. Four volumes of proceedings have been issued as Journal of the Natural History and Science Society of Western Australia. Its publications are exchanged with 50 institutions at home and abroad. The library contains 220 bound volumes, besides unbound journals, pamphlets, etc.

The Royal Society of Tasmania (the first Royal Society outside the United Kingdom) was founded by Sir Eardley Wilmot, Lieutenant-Governor of Van Diemen's Land, on the 14th October, 1843. A large portion of the Colonial Gardens, together with a grant of £400, was given to the Society. A library and museum were established in 1848. In 1885 the museum and gardens were given back to the State, the Society being granted room in the Museum for its library and meetings. The names of Captains Ross and Crozier, of H.M.S. *Erebus* and *Terror*, appear in the list of the first corresponding members. The society, which, since 1844, has published annual volumes of proceedings, possesses 169 members, 15 corresponding members, exchanges with 140 kindred bodies, and has a library containing 10,000 volumes in addition to manuscripts, etc. Income for the year 1913 was £213, of which £164 came from members' fees.

(b) *Other Scientific Societies.* The Australasian Association for the Advancement of Science, founded in 1888, has its headquarters in Sydney. It meets usually in each State biennially in turn. Its receipts to date were about £13,300, including Government aid to the amount of £4000. The library contains 4000 volumes, valued at £400. Up to date, fourteen volumes of proceedings have been issued. The exchange list numbers 188. The Linnean Society of New South Wales, with headquarters in Sydney, was founded in 1875, and possesses a library of 10,000 volumes, valued at £6000. Up to date, thirty-eight volumes of proceedings have been issued. Exchanges number 188. This Society maintains four investigators engaged in research work, and owes its development almost entirely to the benefactions of Sir William Macleay. The number of ordinary members at the end of 1913 was 172. Income for the year came to £1111, and expenditure to £1039. The special revenue for research purposes only was £2302, and the expenditure £1456. The British Astronomical Association has a branch in Sydney, and in some of the States the British Medical Association has branches.

In addition to the societies enumerated above, there are various others in each State devoted to branches of scientific investigation, particulars respecting which are not at present available.

2. **Libraries.**—As far as can be ascertained the total number of libraries in the Commonwealth at the latest available date was about 1700, and the number of books contained therein is estimated at about four millions. In each of the capital cities there is a well-equipped Public Library, the institutions in Melbourne and Sydney especially comparing very favourably with similar institutions elsewhere. The new reading room at the Melbourne Library ranks amongst the finest in the world. It was opened in November, 1913, and has a diameter of 114 feet, with a similar height, and is capable of seating 320 readers at a time, all of whom are under efficient supervision from the centre of the room. The following statement gives the number of volumes in the Public Library of each city :—

#### METROPOLITAN PUBLIC LIBRARIES.

City.	Number of Volumes in—			Total.
	Reference Branch.	Ordinary Lending Branch.	Country Lending Branch.	
Sydney ...	244,780	*	13,962	258,742
Melbourne ...	223,658	31,098	...	254,756
Brisbane ...	37,765	...	...	37,765
Adelaide ...	87,480	29,758	...	117,238
Perth ...	94,713	10,347	...	105,060
Hobart ...	19,000	...	...	19,000

\* The maintenance and control of the lending branch of the Public Library at Sydney were transferred in 1908 to the Municipal Council. At the end of December, 1913, the books numbered 30,000.

The Mitchell Library in Sydney consisted of over 60,000 volumes and pamphlets, and 300 paintings, principally relating to Australasia, valued at £100,000, bequeathed in 1907 by Mr. D. S. Mitchell, together with an endowment of £70,000. The testator stipulated that the regulations of the British Museum were to be adopted as far as practicable, hence the library is the resort of specialists. There are now 77,375 volumes in the library.

The Launceston Mechanics' Institute in Tasmania possesses a library of 27,000 volumes.

The number of libraries in receipt of State or municipal aid, together with the estimated number of books contained therein, is given below for each State:—

#### SUBSIDISED LIBRARIES AND BOOKS THEREIN.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Terr.
Number of libraries ...	458	503	220	210	251	31	3
Estimated number of books ...	982,000	1,115,000	328,000	509,000	221,000	109,000	5,900

The figures in the above table can be taken only as approximations, as in many instances returns were not received from various institutions. The return for New South Wales includes the Public Library and the Sydney Municipal Library. Amongst other important libraries not included, may be enumerated those at the Sydney University and the Australian Museum, which contain 100,000 and 20,000 volumes respectively. There are also 3285 libraries, with an estimated total of 358,000 volumes, attached to State Schools.

3. **Museums.**—The Australian Museum in Sydney, founded in 1836, is the oldest institution of its kind in Australia. In addition to possessing a fine collection of the usual objects to be met with in kindred institutions, the Museum contains a very valuable and complete set of specimens of Australian fauna. The cost of construction of the

building was £79,000. The number of visitors to the institution in 1913 was 167,000, and the average attendance on week-days 452, and on Sundays 891. The expenditure for 1913 amounted to £11,133. A valuable library containing over 20,000 volumes is attached to the Museum. Representative collections, illustrative of the natural wealth of the country, are to be found in the Agricultural and Forestry Museum, and the Mining and Geological Museum. The latter institution prepares collections of specimens to be used as teaching aids in country schools. The "Nicholson" Museum of Antiquities, the "Macleay" Museum of Natural History, and the Museum of Normal and Morbid Anatomy, connected with the University, and the National Herbarium and Botanical Museum at the Sydney Botanic Gardens, are also accessible to the public. There is a fine Technological Museum in Sydney, with branches in six country centres, the metropolitan institution containing over 112,000 specimens. Valuable research work has been undertaken by the scientific staff in connection with oil and other products of the eucalyptus. The number of visitors at the Technological Museums during 1913 was about 220,000.

The National Museum at Melbourne, devoted to Natural History, Geology, and Ethnology, is located in the Public Library building. The expenditure for specimens, furniture, etc., in 1913 was £500, and salaries and wages £2402. The Industrial and Technological Museum, opened in 1870, contains upwards of 55,000 specimens. There is a fine Museum of Botany and Plant Products in the Melbourne Botanic Gardens. Well-equipped museums of mining and geological specimens are established in connection with the Schools of Mines in the chief mining districts.

The Queensland Museum dates from the year 1871, but the present building was opened in January, 1901. Since its inauguration the Government has expended on the institution a sum of £80,570, of which buildings absorbed £18,470, purchases £25,018, and salaries £37,082. The number of visitors during the year was 78,657, of whom 30,566 visited the institution on Sundays. The Queensland Geological Survey Museum has branches in Townsville, opened in 1886, and Brisbane, opened in 1892.

Under the Public Library Act of 1884 the South Australian Institute ceased to exist, and the books contained therein were divided amongst the Museum, Public Library, and Art Gallery of South Australia, and the Adelaide Circulating Library. The Museum was attended by 85,000 visitors in 1913.

The latest available returns shew that the Western Australian Museum contains altogether 63,000 specimens, of an estimated value of £72,000. The Museum is housed in the same building as the Art Gallery, and the visitors to the combined institutions during the year reached 59,000 on week days and 17,000 on Sundays. The expenditure totalled £4075, of which salaries absorbed £2845.

There are two museums in Tasmania—The Tasmanian Museum at Hobart, and the Victoria Museum and Art Gallery at Launceston, both of which contain valuable collections of botanical and mineral products. The Tasmanian Museum received aid from the Government during last year to the extent of £500.

**4. Art Galleries.**—Information regarding the State collections of objects of art in the various capitals is in some cases very meagre, while the method of presentation does not admit of any detailed comparisons being made. The National Art Gallery of New South Wales originated in the Academy of Art founded in 1871. Cost of construction is returned at £79,000. The contents, which are valued at £143,000, comprise 406 oil paintings, 334 water colours, 536 black and white, 160 statuary and bronzes, and 373 ceramics, works in metal and miscellaneous. During 1913 the average attendance on week days was 569, and on Sundays 2280. The expenditure in 1913 amounted to £6001.

The National Gallery at Melbourne at the end of 1913 contained 559 oil paintings, 3728 objects of statuary, bronzes and ceramics, and 13,934 water-colour drawings, engravings, and photographs. The Gallery is situated in the same building as the Museum and Public Library, the total cost of construction being £291,000. At the end of 1913 the Ballarat Art Gallery contained 216 oil paintings, and 165 water colours, etc., while there are some valuable works of art in the smaller galleries at Bendigo, Geelong, and Warrnambool.

The Queensland National Art Gallery, situated in the Executive Buildings, Brisbane, was founded in 1895 and contains a small, but well chosen, collection of pictures. At latest available date there were on view 87 oil paintings, 23 water colours, 99 black and white, and 27 pieces of statuary, together with various prints, mosaics, and miniatures. Exclusive of exhibits on loan, the contents are valued at about £10,000.

The Art Gallery at Adelaide dates from 1880, when the Government expended £2000 in the purchase of pictures, which were exhibited in the Public Library building in 1882. The liberality of private citizens caused the Gallery to rapidly outgrow the accommodation provided for it in 1889, at the Exhibition Building, and on the receipt of a bequest of £25,000 from the late Sir T. Elder, the Government erected the present building, which was opened in April, 1900. The Gallery also received a bequest of £16,500 in 1903 from the estate of Dr. Morgan Thomas, and of £3000 in 1907 from Mr. David Murray. At the latest available date there were in the Gallery 221 oil paintings, 70 water colours, 23 statuary, and 650 miscellaneous works in metal, etc., the whole being valued at upwards of £47,000. A number of water colours, engravings, etc., have been removed to the Art Museum now in course of organisation. Building and site are valued at upwards of £31,000. Visitors during the year 1913 numbered 106,000.

The foundation stone of the present Art Gallery at Perth in Western Australia was laid in 1901, the building and site being valued at £60,000. The collection comprises 93 oil paintings, 50 water colours, 192 black and white, 265 statuary, and miscellaneous metal works, etc.

In Tasmania the Art Gallery at Hobart was opened in 1887. Its present contents consist of 96 paintings and 81 etchings and black and white drawings. Buildings and site are valued at £30,000. The number of visitors during the year on week days totals 60,000.

The Art Gallery at Launceston was erected in 1888 at a cost of £5000, and opened on the 2nd April, 1891. Only a small proportion of the contents belong to the Gallery, the bulk of the pictures being obtained on loan. At latest date there were on view 80 oil paintings and 44 water colours valued at £5000. The total value of buildings and site is estimated at £12,100. The annual attendance is 33,000, and for Sundays 16,000.

**5. State Expenditure on all Forms of Educational Effort.**—The expenditure from the Consolidated Revenue in each State and Territory on all forms of educational and scientific activity during each of the last five financial years was as follows:—

**EXPENDITURE ON EDUCATION, SCIENCE, AND ART, 1909-10 to 1913-14.**

State or Territory.		1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
		£	£	£	£	£
New South Wales	Total	£ 1,149,422	1,221,175	1,416,015	1,609,734	1,735,404
	Per head	14/3	14/10	16/8	18/1	18/11
Victoria ...	Total	£ 953,499	1,003,251	1,142,399	1,122,854	1,147,319
	Per head	14/10	15/5	17/1	16/3	16/3
Queensland ...	Total	£ 510,388	503,021	535,082	622,238	679,653
	Per head	17/8	16/9	17/2	19/6	20/7
South Australia...	Total	£ 231,584	275,671	298,610	323,787	342,209
	Per head	11/9	13/6	14/3	15/1	15/6
Western Australia	Total	£ 222,861	251,071	298,530	319,723	349,371
	Per head	16/9	18/1	20/3	20/10	21/9
Tasmania ...	Total	£ 87,603	92,036	95,352	101,008	112,364
	Per head	9/1	9/6	9/10	10/3	11/2
Northern Territ'y	Total	£ ...	...	1,477	2,516	3,916
	Per head	...	...	9/1	14/6	21/4
Commonwealth		Total £ 3,155,357	3,346,225	3,787,465	4,101,860	4,370,236
		Per head 14/7	15/1	16/7	17/4	17/11

The comparatively heavy increase in Queensland for 1909-10 and subsequent years is due to the inclusion of expenditure in connection with the University.

## SECTION XXIII.

## PUBLIC JUSTICE.

## 1. Police.

**1. Introductory.**—In previous issues of the Year Book a *résumé* was given of the evolution of the police force in Australia up to the passing of the Police Act of 1862 (25 Vic. No. 16) in New South Wales, but considerations of space preclude its inclusion in the present volume.

In general terms the police forces of Australia may be said to be satisfactory both in regard to physique and intelligence, while as regards methods of prevention and detection of crime it is believed that the system in vogue here compares very favourably with those of the older-settled countries of the world.

**2. Strength of Police Force.**—The strength of the police force in each State during the five years ended 1913 was as follows. It may be mentioned that the police forces are entirely under State control, but, by arrangement, the Commonwealth Government utilises their services in various directions, such as the collection of Commonwealth electoral rolls, etc.

## POLICE FORCES IN THE COMMONWEALTH, 1909 to 1913.

State.	Area of State in Sq. Miles.	1909.	1910.	1911.	1912.	1913.
New South Wales	310,372	2,435	2,447	2,487	2,554	2,592
Victoria...	87,884	1,598	1,605	1,640	1,662	1,753
Queensland	670,500	966	957	1,011	1,084	1,108
South Australia	380,070	442	465	502	522	500
Western Australia	975,920	475	474	481	487	477
Tasmania	26,215	234	234	232	237	237
Northern Territory	523,620	...	...	22	25	26
Commonwealth	2,974,581	6,150	6,182	6,375	6,571	6,693

The figures for New South Wales for 1913 are exclusive of fifty-three "black trackers," *i.e.*, natives employed in detection of offenders chiefly in outlying districts, and five female searchers. In Queensland there were ninety-eight native trackers. The South Australian returns for 1913 are exclusive of nine "black trackers" and one female searcher. The Northern Territory had twenty-four "black trackers" in 1913. There are also fifty-five "black trackers" in Western Australia and three matrons not included in the table.

*Average Number of Inhabitants to each Police Officer.* The average number of inhabitants to each officer in each State during the same period is as follows. In considering these figures allowance must, of course, be made for the unequal area and unequal distribution of the population of the various States.

**INHABITANTS TO EACH POLICE OFFICER, 1909 to 1913.**  
(COMMONWEALTH.)

State.	No. of Persons per Sq. Mile. 1911 Census.	Inhabitants to each Police Officer.				
		1909.	1910.	1911.	1912.	1913.
New South Wales ...	5.31	659	667	664	680	698
Victoria ...	14.97	804	799	810	816	795
Queensland ...	0.90	585	622	608	582	589
South Australia ...	0.46	900	863	819	808	867
Western Australia ...	0.29	571	572	596	619	658
Tasmania ...	7.29	787	816	820	809	827
Northern Territory ...	...	...	...	151	134	141
Commonwealth ...	1.50	703	707	704	707	713

The above figures naturally shew a great disparity in the relative numbers of the population protected by each police officer in the various States, and also in the relative area of territory to each officer. Western Australia and South Australia exhibit the largest figures in the latter respect, this, of course, being due to the fact that extensive areas in each State are as yet unpeopled by white settlers.

**3. Duties of the Police.**—In addition to the ordinary employment attaching to their office, the police are called upon to perform many duties which in other countries are carried out by various functionaries. Thus, in Queensland, according to the Commissioner's report for 1913, no less than sixty-two subsidiary offices are held by the police. As far as the statistician is concerned, it is found that the expert local knowledge possessed by the police renders their services in the collection of such returns as those relating to the agricultural, pastoral, and manufacturing industries, private schools, etc., more than ordinarily valuable. Then, again, the fact that their services are enlisted by such widely different departments as those dealing with mines, stock, agriculture, elections, registrations of births, deaths, and marriages, forestry, fisheries, explosives, old-age pensions, lunacy, public works, labour, etc., greatly enhances their general alertness by widening the range of their experience. Occasionally the objection is heard in some quarters that these special tasks involve some degree of sacrifice of ordinary routine duties, but that the general intelligence of the Australian police is adequate to the obligation to perform these tasks, besides being most creditable, results in a great saving of the public money.

**4. Cost of Police Forces.**—The expenditure from Consolidated Revenue on the police forces in each State during the five years 1909 to 1913 is shewn in the following table. Cost of buildings has been excluded from the return.

**COST OF POLICE FORCES IN THE COMMONWEALTH, 1909 to 1913.**

State.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£
New South Wales ...	472,718	504,146	515,569	578,767	593,406
Victoria ...	320,831	337,670	345,889	348,227	354,264
Queensland ...	220,344	244,945	253,538	306,431	304,817
South Australia ...	98,214	96,769	107,872	116,847	129,834
Western Australia ...	119,111	120,420	127,458	129,556	126,582
Tasmania ...	39,740	40,408	41,535	43,236	45,237
Northern Territory ...	...	...	9,708	10,609	10,614
Commonwealth ...	1,270,958	1,344,358	1,406,569	1,533,673	1,564,704

The total for New South Wales includes £30,000 payment to Police Superannuation Fund. Similar payments in Victoria and Queensland come to £10,000 and £26,000 respectively, while smaller amounts are included in the returns for other States. The cost per head of the population in each State for the period 1909 to 1913 was as follows:—

**COST OF POLICE PER INHABITANT, 1909 to 1913.**  
(COMMONWEALTH.)

State.	1909.	1910.	1911.	1912.	1913.
	s. d.	s. d.	s. d.	s. d.	s. d.
New South Wales ...	5 11	6 2	6 2	6 8	6 7
Victoria ...	5 0	5 2	5 1	5 2	5 1
Queensland ...	7 8	8 3	8 4	9 8	9 4
South Australia ...	5 0	4 10	5 2	5 6	6 0
Western Australia ...	8 10	8 11	8 8	8 7	8 1
Tasmania ...	4 4	4 3	4 4	4 6	4 7
Northern Territory ...	...	...	58 6	63 2	58 0
Commonwealth ...	5 11	6 2	6 2	6 7	6 6

The relatively high cost per head in Queensland and Western Australia is due to the fact that there are in those States extensive areas of sparsely settled country, in which mounted patrols have to be maintained.

In view of the small number of its white population and the vast extent of country to be patrolled, the figures for the Northern Territory necessarily shew a very high average. The duties of the police moreover chiefly pertain to matters connected with the control of aborigines.

## § 2. Lower (Magistrates') Courts.

**1. Introductory.**—In considering the criminal returns of the various States, due allowance must be made on account of several factors, such as the relative powers of the courts, both lower and higher, etc. In the case of lower courts, the actual number of laws in each State, the breach of which renders a person liable to fine or imprisonment, must be taken into account. Again, the attitude of the magistracy and police towards certain classes of offences is a factor, for in the case of liquor laws, or laws connected with vagrancy or gaming, the views of magistrates, and instructions issued to the police, may be responsible for considerable variations in the returns. The strength and distribution of the police forces, and the age constitution and distribution of the State's population, also influence the results. In any consideration of criminal returns, due weight should also be given to the prevalence of undetected crime, but information on this point can only be obtained for the State of Victoria. It may be mentioned that each State has its own separate judicial system, the Commonwealth jurisdiction being confined to the High Court of Australia, which is largely a Court of Appeal intermediate to the Privy Council, although it has also original jurisdiction, and the Commonwealth Court of Arbitration and Conciliation. Full particulars regarding the judicial power of the Commonwealth will be found in Chapter III. of the Commonwealth Constitution (see page 29).

**2. Powers of the Magistrates.**—In New South Wales there is no general limit to the powers of the magistrates in regard to offences punished summarily, their authority depending in such case on the statute which creates the offence and gives them jurisdiction. Except in the case of a very few statutes, and excluding cumulative sentences, the power of sentence is limited to six months. Imprisonment in default of payment of fine is regulated by a scale limiting the maximum period according to the sum ordered to be paid, but in no case exceeding twelve months. Actions for debt and damage

within certain limits also come within magisterial jurisdiction. In cases of debts, liquidated or unliquidated, the amount recoverable is not exceeding £50 before a court constituted of a stipendiary or police magistrate at certain authorised places, and not exceeding £30 at any other place before a court constituted of a stipendiary or police magistrate or two or more justices of the peace. The amount in actions of damage is limited to £10, but may extend to £30 by consent of parties.

In Victoria the civil jurisdiction of magistrates is restricted to what may be designated ordinary debts, damages for assault, restitution of goods, etc., where the amount in dispute does not exceed £50. No definite limit is fixed to the powers of the magistrates on the criminal side, and for some offences sentences up to two years may be imposed. The proportion of long sentences is, however, comparatively small.

In Queensland, generally speaking, the maximum term of imprisonment which justices can inflict is six months, but in certain exceptional cases, such as offences against sections 233 and 445 of the criminal code (betting-houses and illegally using animals), sentences of twelve months may be imposed. No limit exists as to the extent to which cumulative sentences may be applied, but in practice the term is never very lengthy.

In South Australia, under the Minor Offences Act, magistrates can impose sentences up to six months, and under the Summary Convictions Act, up to three months. The Police Act of 1869 gives power to sentence up to one year, with hard labour, in the case of incorrigible rogues; while under the Quarantine Act of 1877, and the Lottery and Gaming Act of 1875, sentences of two years may be imposed.

Under the Petty Sessions Act of 1867, in Tasmania, any person charged with having committed, or with having aided or abetted in the commission of an offence, in regard to property of a value not exceeding £10, may, on conviction, for a first offence, before two or more justices in Petty Sessions, be imprisoned for any term not exceeding one year, and for a term not exceeding two years for a second or subsequent offence.

**3. Persons Charged at Magistrates' Courts.**—The total number of persons who were charged before magistrates in each State is given below for the five years 1909 to 1913 :—

**PERSONS CHARGED BEFORE MAGISTRATES IN THE COMMONWEALTH,  
1909 to 1913.**

State.	1909.	1910.	1911.	1912.	1913.
New South Wales ...	64,502	73,960	75,114	89,951	92,107
Victoria ...	52,658	52,060	44,526	53,087	56,058
Queensland ...	19,824	22,104	25,482	27,323	29,166
South Australia ...	7,332	8,328	8,435	10,685	11,818
Western Australia ...	12,961	13,260	13,862	15,092	16,442
Tasmania ...	6,831	7,079	6,597	7,084	7,101
Northern Territory...	...	...	92	219	139
Commonwealth ...	164,108	176,791	174,108	203,441	212,831

As the table shews, the number of charges at Magistrates' Courts in New South Wales increased during 1912 by nearly 20 per cent. It would, however, be rash to conclude that crime is therefore on the increase in that State, for a scrutiny of the detailed returns shews that the bulk of the increase took place in offences against good order, and in the indefinite "not included" class, which comprises breaches of various enactments, such as the Local Government Act, Commonwealth Defence Act, etc. These offences hardly come within the category of ordinary crime.



The considerable falling-off in the returns for Victoria during 1911 was due in large measure to the decline in summons cases under the Education Act, the figures for 1911 being 4695, as compared with 12,317 in the preceding year. An increase in summons cases accounted for the rise in the total for 1912, to which summonses contributed 33,273 cases, as against 25,128 in the previous year. A scrutiny of the summons returns shews that the rise was due largely to an increase in breaches of the Education Act, for which the figures advanced from 4695 in 1911 to 7470 in 1912. Further, the summons cases for 1912 include in the column "other" 2936 breaches of the Defence Act, this entry appearing, of course, for the first time in the 1912 returns. The above considerations afford an excellent illustration of the necessity for analysis of the total returns prior to drawing therefrom any deductions in regard to the increase or otherwise of criminality. (See also in this connection § 2, 1. *ante.*)

The figures given in the tabulation above include, of course, a number of people who were wrongly charged, and statistically are not of great importance. The actual number of convictions in connection with the persons who appeared before the lower courts in each year of the period 1909 to 1913 is, therefore, given hereunder. A separate line is added shewing the committals to higher courts.

### CONVICTIONS AND COMMITTALS AT MAGISTRATES' COURTS, 1909 to 1913.

(COMMONWEALTH.)

State.		1909.	1910.	1911.	1912.	1913.
New South Wales	{ Convictions	55,767	63,671	65,058	77,611	79,079
	{ Committals	1,081	1,176	1,178	1,490	1,529
Victoria	{ Convictions	38,801	38,555	31,564	38,646	39,786
	{ Committals	580	551	564	571	611
Queensland	{ Convictions	17,584	19,805	23,072	24,996	26,782
	{ Committals	442	455	529	425	417
South Australia...	{ Convictions	6,324	7,229	7,303	9,184	10,447
	{ Committals	111	117	99	121	141
Western Australia	{ Convictions	10,910	11,433	11,936	13,251	14,590
	{ Committals	177	192	204	162	150
Tasmania	{ Convictions	5,930	6,250	5,756	6,108	6,471
	{ Committals	44	48	57	60	58
Northern Territory	{ Convictions	...	...	75	183	134
	{ Committals	...	...	...	8	2
Commonwealth	{ Convictions	135,316	146,943	144,764	169,979	177,289
	{ Committals	2,435	2,539	2,631	2,837	2,908

4. **Convictions for Serious Crime.**—While the figures given in the preceding table refer to the entire body of convictions, the fact must not be lost sight of that they include a large proportion of offences of a technical nature, many of them unwittingly committed, against various Acts of Parliaments. Cases of drunkenness and minor breaches of good order, which, if they can be said to come within the category of crime at all, at least do so in a very different sense to some other offences, also help to swell the list. The following table has, therefore, been prepared for the purpose of shewing the convictions at magistrates' courts for what may be regarded as the more serious offences, *i.e.*, against the person and property, either separately or conjointly, and forgery and offences against the currency:—

**CONVICTIONS FOR SERIOUS CRIMES AT MAGISTRATES' COURTS, 1909 to 1913.**  
(COMMONWEALTH.)

State.	1909.	1910.	1911.	1912.	1913.
New South Wales ...	4,764	5,224	5,075	5,904	6,161
Victoria ...	2,626	2,673	2,362	2,655	2,405
Queensland ...	1,526	1,479	1,540	1,495	1,651
South Australia ...	513	487	488	554	571
Western Australia ...	1,074	996	1,025	1,053	1,111
Tasmania ...	548	609	557	566	657
Northern Territory ...	...	...	6	11	12
Commonwealth ...	11,051	11,468	11,053	12,238	12,568

Compared with the population the above figures give the following results per 10,000 inhabitants:—

**CONVICTIONS FOR SERIOUS CRIME PER 10,000 INHABITANTS, 1909 to 1913.**  
(COMMONWEALTH.)

State.	1909.	1910.	1911.	1912.	1913.
New South Wales ...	29.7	32.0	30.7	33.9	34.1
Victoria ...	20.4	20.8	17.8	19.6	17.3
Queensland ...	27.0	25.0	25.0	23.7	25.3
South Australia ...	12.5	12.1	11.9	13.1	13.2
Western Australia ...	35.6	36.7	35.7	34.9	35.4
Tasmania ...	29.8	31.9	29.3	29.5	33.5
Northern Territory ...	...	...	18.1	32.7	32.8
Commonwealth ...	25.6	26.2	24.6	26.3	26.2

**5. Decrease in Crime.**—The figures quoted in the preceding table show that during the last five years the rate of serious crime has remained practically constant, while if the comparison be carried back to 1881 the position is seen to be still more satisfactory. The rate of convictions at magistrates' courts per 10,000 of the population is given below for each of the years 1881, 1891, 1901, and 1913. Only the more serious offences, particularised in the preceding paragraph, have been taken into consideration.

**RATE OF CONVICTIONS FOR SERIOUS CRIME IN THE COMMONWEALTH.**

Year.	Convictions per 10,000 Persons.				
1881 ...	...	...	...	...	69.3
1891 ...	...	...	...	...	44.8
1901 ...	...	...	...	...	29.1
1913 ...	...	...	...	...	26.2

**6. Need of Statistics of Distinct Persons.**—The figures already quoted refer to total convictions, and in respect of individuals necessarily involve a considerable amount of duplication, especially in minor offences, such as drunkenness, petty larcenies, etc., in which the same offender appears before the court many times in the course of the year. In a few of the States it is possible to obtain the number of distinct persons arrested, but there are no means of arriving at the total distinct persons convicted before the magistrates in any State.

**7. Causes of Decrease in Crime.**—The statistics given shew that there has been a considerable decrease in crime throughout Australia. The results so far quoted are restricted entirely to the lower or magistrates' courts. There has also been a gratifying decrease in regard to offences tried at the higher courts, as will be seen later.

Attempts have been made to account for this decline: *e.g.*, advance in education, enlightened penological methods, etc. Much depends upon what is meant by education. Many classed in census statistics as "educated" can barely read and write. In this connection, moreover, it ought not to be forgotten that collaterally with the introduction of ordinary intellectual education certain people have departed from their pristine virtues. In regard to the deterrent effect of punishment, it may be said that in respect of many offences, notably drunkenness, vagrancy, petty larcenies, etc., it appears to be almost negligible. In general, punishment has declined in brutality and severity, and has improved in respect of being based to a greater extent upon a scientific penological system, though in this latter respect there is yet much to be desired. Recent advances in penological methods will be referred to in a subsequent section. Here it will be sufficient to remark that under the old régime, a prisoner on completion of a sentence in gaol was simply turned adrift on society, and in many cases sought his criminal friends, and speedily qualified for readmission to the penitentiary. Frequently he was goaded to this by mistaken zeal on the part of the police, who took pains to inform employers of the fact of a man having served a sentence in gaol. For a long time any assistance to discharged prisoners was in the hands of private organisations, such as the Salvation Army Prison Gate Brigade, but in some of the States, and notably in New South Wales, the authorities themselves look after the welfare of discharged prisoners in the way of finding work, providing tools, etc.

Improvements in the means of communication and identification have been responsible for some of the falling-off noticeable in the criminal returns, the introduction of the Bertillon system having contributed to certainty of identification. In his report for the year 1910 the Inspector-General of Police in New South Wales states that "criminals have a wholesome dread of the finger print system, and I have not the slightest doubt that it is one of the principal causes of the diminution of serious crimes." Part of the improvement may no doubt be referred also to the general amelioration in social conditions that has taken place during the last fifty years.

**8. Drunkenness.**—The number of cases of drunkenness and the convictions recorded in connection therewith during the period 1909 to 1913 will be found in the following table:—

### CASES AND CONVICTIONS—DRUNKENNESS, 1909 to 1913.

(COMMONWEALTH.)

State.	1909.		1910.		1911.		1912.		1913.	
	Cases.	Convictions.	Cases.	Convictions.	Cases.	Convictions	Cases.	Convictions.	Cases.	Convictions
New South Wales ...	27,495	27,363	27,542	27,380	29,398	29,299	32,915	32,720	32,676	32,467
Victoria ...	12,436	7,025	12,719	7,272	13,608	7,557	13,524	7,446	14,782	7,676
Queensland ...	9,109	9,102	10,870	10,849	12,824	12,767	14,225	14,213	14,852	14,840
South Australia ...	3,481	3,455	4,383	4,323	4,673	4,627	5,470	5,416	5,994	5,962
Western Australia ...	4,007	3,955	4,550	4,506	4,657	4,808	4,908	4,855	5,353	5,302
Tasmania ...	709	690	761	741	756	740	644	633	729	721
Northern Territory ...	...	...	...	...	34	34	80	80	61	61
Commonwealth ...	57,237	51,590	60,825	55,071	66,145	59,832	71,766	65,363	74,447	67,029

The number of convictions is, as might naturally be expected, almost identical with the number of cases. Victoria, however, is an exception, but in this State it is explained that offenders are generally discharged on a first appearance, and no conviction is recorded, a similar procedure being also adopted in the case of those arrested on Saturday and detained in custody till Monday. The logic of excluding these cases from the list of convictions is certainly open to doubt.

The convictions for drunkenness per 10,000 of the population during each of the years from 1909 to 1913 are given hereunder :—

### CONVICTIONS FOR DRUNKENNESS PER 10,000, 1909 to 1913.

(COMMONWEALTH.)

State.	1909.	1910.	1911.	1912.	1913.
New South Wales ...	170.4	167.7	167.0	188.1	179.3
Victoria ...	54.7	56.7	56.8	54.9	55.1
Queensland ...	161.1	183.4	207.8	225.0	227.4
South Australia ...	84.1	107.7	112.5	128.4	137.5
Western Australia ...	146.0	166.2	167.7	161.1	168.9
Tasmania ...	37.5	38.8	38.9	33.0	36.8
Northern Territory...	...	...	102.4	238.1	166.6
Commonwealth ...	119.4	126.0	133.2	140.7	139.5

The convictions for drunkenness taken by themselves are not an altogether satisfactory test of the relative sobriety of the inhabitants of each State, inasmuch as several important factors must be taken into consideration. The age and sex constitution of the people, for example, is by no means identical in each State, Western Australia having by far the largest proportion of adult males. Owing to the smallness of the population the figures for the Northern Territory are, of course, abnormal. The avocations of the people affect the result, since persons engaged in strenuous callings are, on the whole, more likely to indulge in alcoholic stimulants than those employed in less arduous ones. The distribution of the population is also a factor, the likelihood of arrest or summons for drunkenness obviously being greater in the more densely populated regions, and lastly, allowance must be made for the attitude of the magistracy, the police, and the public generally in regard to the offence.

It is not unusual to supplement statistics of drunkenness by furnishing also the relative consumption of alcoholic beverages. Deductions drawn therefrom will be very misleading if they fail to take into account also the consumption of non-intoxicating beverages such as tea and coffee, and the general habit of the people. Throughout the greater part of Europe, tea and coffee are consumed but sparingly, while Australia, as is well known, is one of the greatest tea-drinking countries of the world.

The following table shewing the consumption of spirits, wine, and beer per head of the population has, with the exception of the figures relating to the Commonwealth, been compiled from returns prepared by the British Board of Trade. The figures quoted for the Commonwealth refer to the year 1913, and for the other countries mentioned cover the quinquennium 1907-11.

## CONSUMPTION OF ALCOHOLIC BEVERAGES IN VARIOUS COUNTRIES.

Country.	Consumption per Head of Population.			Country.	Consumption per Head of Population.		
	Spirits.	Wine.	Beer.		Spirits.	Wine.	Beer.
	Imp. Galls.	Imp. Galls.	Imp. Galls.		Imp. Galls.	Imp. Galls.	Imp. Galls.
United Kingdom...	0.76	0.27	26.94	Canada ...	0.96	0.11	6.22
Commonwealth ...	0.85	0.5	13.49	German Empire	1.37	1.12	22.86
New Zealand ...	0.78	0.15	9.88	France ...	1.38	34.32	8.48
Union of South Africa ..	0.33	0.70	1.28	United States ...	1.04	0.54	16.72

9. **Treatment of Drunkenness as Crime.**—Though the problem of the correct method of dealing with dipsomania is by no means an easy one, it seems fairly clear that the present plan of bringing offenders before magistrates, and subjecting them to the penalty of imprisonment or fine, has little deterrent effect, as the same offenders are constantly reappearing before the courts. Further, the casting of an inebriate into prison, and placing him in his weakened mental state in the company of professional malefactors, doubtless tends to swell the ranks of criminals and certainly tends to lower his self-respect. Examination of the prison records in New South Wales some years ago disclosed the fact that over 40 per cent. of the gaol population had commenced their criminal career with a charge of drunkenness. During the last few years the dangers of moral contamination in this way have been more accurately appreciated, and a system of classification of prisoners has been adopted whereby the petty offender is as far as possible kept from association with the more evilly-disposed. With regard to drunkards, however, the Comptroller of Prisons in New South Wales advocates the entire abandonment of the system of repeated fine or imprisonment in favour of a course of hospital treatment, and this has to some extent been accomplished by the Inebriates Acts of 1900 and 1909, under which habitual drunkards may be detained for long periods. The Comptroller-General of Prisons in Queensland states in his report for the year 1907 that “the drunken habit in many cases is merely one of many symptoms which jointly indicate the existence of a graver condition than simple habitual drunkenness.”

10. **Remedial Treatment of Inebriates.**—Legislation has been passed in each State providing for the commitment of inebriates to special Government institutions, but so far New South Wales and Victoria are the only States in which such institutions have been established. The laws in the various States are as follows:—New South Wales, Inebriates Act 1900; Victoria, Inebriates Act 1904; Queensland, Inebriate Institutions Act of 1896; South Australia, Inebriates Act of 1881 and 1913; Western Australia, Lunacy Act 1903, Pt. iv., Habitual Drunkards; Tasmania, Inebriates Act 1885, Inebriate Hospitals Act 1892. Curative work was first undertaken by the Government of New South Wales in 1907. The institutes are connected with the gaols, and, naturally, custodial measures are still a strong feature in their management; nevertheless the results so far have been encouraging. In Victoria an institute purporting to be wholly remedial was founded in 1907. It may be mentioned that there are private retreats in each State, but these are not officially subsidised or inspected.

11. **Treatment of Habitual Offenders.**—In New South Wales the Habitual Criminal Act of 1905 gives judges the power of declaring a prisoner, after a certain number of sentences, to be an habitual criminal, and as such to be detained until, in the opinion of the authorities, he is fit to be at large. At the end of 1913 there were thirty-six persons in prison under this Act. Since the passing of the Act fifty-seven males and one female have been declared to be habitual criminals. Of the eight prisoners released, only one has been recommitted to gaol in New South Wales, and his relapse was regarded by the other habituals as so detrimental to their chances of liberty and aroused such feeling that the authorities removed him to another gaol. The Indeterminate Sentences Act came into force in Victoria in July, 1908, and up to the 30th June, 1913, 157 prisoners had been admitted to the three reformatory prisons, and

fifty-three had been released on probation on the recommendation of the Indeterminate Sentences Board. Somewhat similar Acts are in force in South Australia and Tasmania. The provisions of the Habitual Criminals Amendment Act of 1907 were put into force in South Australia in 1909, and fifteen criminals declared to be habitual offenders were in confinement in the Labour Prison at the end of 1913. Legislation of this character has not yet been adopted in Queensland, but its introduction is proposed. Naturally it will be some time before the full effect of these measures on the prevalence of crime can be estimated. The Comptroller-General of Prisons in New South Wales states, however, that the system has exercised a wholesome deterrent effect on the criminal who is not a prisoner.

**12. Treatment of First Offenders.**—In all the States and in New Zealand statutes dealing with first offenders have been in force for some years, the dates of passing the Acts being as follows: New South Wales, 1894; Victoria, 1890; Queensland, 1887; South Australia, 1887 and 1913; Western Australia, 1892; Tasmania and New Zealand, 1886. The method of procedure is practically the same in all cases, *i.e.*, with regard to most first offenders the magistrate or judge is empowered to allow the offender to go free on recognisances being entered into for his good behaviour for a certain period. In practice, this humane law has been found to work excellently, very few of those to whom its provisions have been extended having been found to relapse into crime.

**13. Children's Courts.**—Special courts for the trial of juvenile offenders have been established in New South Wales, Victoria, Western Australia, and New Zealand within the last few years, while Children's Courts, although not under that name, are practically provided for by the State Children's Acts of 1895 and 1900 in South Australia. The object of these courts is to avoid, as far as possible, the unpleasant surroundings of the ordinary police court.

**14. Committals to Superior Courts.**—In a previous section it has been pointed out that comparisons of criminality based on a consideration of the total returns from magistrates' courts are somewhat inadequate, seeing that the figures include numbers of cases which are merely technical breaches of laws having in some instances a purely local significance. The committals to higher courts give a better basis of comparison, although even in this connection allowance must be made for the want of uniformity in jurisdiction. The table below gives the number of committals in each year from 1909 to 1913, with the proportion of such committals per 10,000 of the population. The rates are shown on a separate line.

COMMITTALS TO SUPERIOR COURTS (COMMONWEALTH), 1909 to 1913.

State.				1909.	1910.	1911.	1912.	1913.
New South Wales	...	...	No.	1,135	1,233	1,223	1,923	1,573
			Rate	7.1	7.6	7.4	11.1	8.7
Victoria	...	...	No.	580	551	564	571	611
			Rate	4.5	4.3	4.2	4.2	4.4
Queensland	...	...	No.	442	455	529	425	417
			Rate	7.8	7.7	8.6	6.7	6.4
South Australia	...	...	No.	111	117	99	121	141
			Rate	2.7	2.9	2.4	2.9	3.3
Western Australia	...	...	No.	177	192	204	162	150
			Rate	6.5	7.1	7.1	5.4	4.8
Tasmania	...	...	No.	44	48	57	60	58
			Rate	2.4	2.5	3.0	3.1	3.0
Northern Territory	...	...	No.	...	...	...	8	2
			Rate	...	...	...	23.8	5.5
Commonwealth	...	...	No.	2,489	2,596	2,676	3,270	2,952
			Rate	5.8	5.9	6.0	7.0	6.1

The above figures shew that the rate of committals for serious crime has increased slightly during the last five years, but if the comparison be carried farther back, it will be found that, as compared with the earlier years, there has been a considerable improvement. This will be evident from an examination of the following figures, which shew the rate of committals per 10,000 persons in Australia at various periods since 1861:—

#### RATE OF COMMITTALS IN AUSTRALIA, 1861 to 1913.

Year ...	...	...	...	...	1861.	1871.	1881.	1891.	1901.	1913.
Committals per 10,000 inhabitants	...	...	...	...	22	14	12	11	8	6

The decline in proportion to population since 1861 has therefore been about 73 per cent.

### § 3. Superior Courts.

1. **Convictions at Superior Courts.**—The total number of convictions at superior courts, together with the rate per 10,000 of the population, is shewn below for each of the years 1909 to 1913:—

#### CONVICTIONS AT SUPERIOR COURTS (COMMONWEALTH), 1909 to 1913.

State.				1909.	1910.	1911.	1912.	1913.
New South Wales	...	...	No.	619	546	538	620	772
			Rate	3.9	3.3	3.3	3.6	4.3
Victoria	...	...	No.	430	435	477	501	506
			Rate	3.4	3.4	3.6	3.7	3.6
Queensland	...	...	No.	345	376	328	384	343
			Rate	6.1	6.4	5.3	6.1	5.3
South Australia	...	...	No.	86	101	74	86	86
			Rate	2.1	2.5	1.8	2.0	2.0
Western Australia	...	...	No.	87	95	98	92	92
			Rate	3.2	3.5	3.4	3.1	2.9
Tasmania	...	...	No.	24	27	38	25	28
			Rate	1.3	1.4	2.0	1.3	1.4
Northern Territory	...	...	No.	...	...	4	3	1
			Rate	...	...	12.0	8.9	2.7
Commonwealth	...	...	No.	1,591	1,580	1,557	1,711	1,828
			Rate	3.7	3.6	3.5	3.7	3.8

In considering the above figures allowance must be made for the various factors enumerated in a preceding paragraph. Tasmania, it will be noted, shews by far the smallest proportion of serious crime, while the figures available shew that the island State is relatively the smallest consumer of alcoholic beverages. That a definite causal relation exists between the figures shewn by the respective tables is not, however, obvious. The figures for the Northern Territory are, of course, somewhat abnormal.

2. **Offences for which Convictions were Recorded at Superior Courts.**—In the following table will be found a classification of the principal offences for which persons were convicted at the higher courts during each year of the period 1909 to 1913. Owing

to lack of uniformity in the presentation of the returns for the several States the information is confined to the chief offences against the person only. In the case of Victoria the information is incomplete regarding the convictions on summons committals. The figures quoted refer to convictions in the Commonwealth during the period dealt with.

### CONVICTIONS FOR SERIOUS CRIME, SUPERIOR COURTS, 1909 to 1913.

(COMMONWEALTH.)

Offences.	1909.	1910.	1911.	1912.	1913.
Murder and attempts at ...	24	31	18	33	38
Manslaughter ...	21	15	15	16	14
Rape and crimes of lust ...	59	77	97	88	71
Other offences against the person ...	260	250	235	221	298

While the individual totals shew considerable fluctuations, the returns generally manifest considerable improvement. The general total of convictions for all offences against the person shews a decline since 1901 of about 2½ per cent.

**3. Capital Punishment.**—The table below gives the number of executions in each State during the period 1909 to 1913:—

### EXECUTIONS (COMMONWEALTH), 1909 to 1913.

State.	1909.	1910.	1911.	1912.	1913.
New South Wales ...	...	...	...	1	...
Victoria ...	...	...	...	1	...
Queensland ...	2	1	...	...	2
South Australia ...	...	3	...	...	...
Western Australia ...	1	1	2	...	1
Tasmania ...	...	...	...	...	1
Commonwealth ...	3	5	2	2	4

In the early days of the history of Australia the penalty of death was attached to a large number of offences, many of which at the present time would be dealt with in the lower or magistrates' courts. With the growth of settlement, and the general amelioration in social and moral conditions, the list was, however, considerably curtailed, and the existing tendency is practically to restrict death sentences to cases of murder. It may be remarked that in cases of rape, which is a capital offence in some of the Australian States, the penalty has been but sparingly inflicted during the last few years. Juries are reputed to be loth to convict on this charge, owing to the uncertainty whether sentence of death will be pronounced.

During the period 1861 to 1880 the average number of executions in the Commonwealth was nine, from 1881 to 1900 the average was six, while for the period 1901 to 1910 the figure stood at four.



## 4. Prisons.

1. **Prison Accommodation and Prisoners in Gaol.**—The table below shews the number of prisons in each State and the accommodation therein at the end of 1913:—

## PRISONS AND PRISON ACCOMMODATION (COMMONWEALTH), 1913.

State.	Number of Prisons.	Accommodation in—		Prisoners at End of Year.
		Separate Cells.	Wards.	
New South Wales ... ..	29	2,279		1,456
Victoria ... ..	18	1,485	729	863
Queensland ... ..	13	586	380	450
South Australia ... ..	12	756	395	288
Western Australia ... ..	24	684	746	284
Tasmania ... ..	2	195	270	50
Northern Territory ... ..	1	3	48	7
Commonwealth ... ..	99	5,988	2,568	3,398

\* Not available.

The number of prisoners in gaol, exclusive of debtors, at the 31st December in each of the years 1909 to 1913, is given below. A separate line is added in each instance shewing the proportion per 10,000 of the population.

## PRISONERS IN GAOL (COMMONWEALTH), 1909 to 1913.

State.	1909.	1910.	1911.	1912.	1913.
New South Wales ... { Number	1,333	1,235	1,173	1,257	1,456
... { Proportion	8.3	7.6	7.1	7.2	8.0
Victoria ... { Number	844	859	797	880	863
... { Proportion	6.5	6.7	6.0	6.5	6.2
Queensland ... { Number	516	527	514	529	450
... { Proportion	9.1	8.9	8.4	8.4	6.9
South Australia ... { Number	276	269	224	287	288
... { Proportion	6.7	6.7	5.4	6.8	6.6
Western Australia ... { Number	365	311	323	356	284
... { Proportion	13.5	11.5	11.3	11.8	9.0
Tasmania ... { Number	81	72	65	69	50
... { Proportion	4.4	3.8	3.4	3.6	2.6
Northern Territory ... { Number	...	...	...	12	7
... { Proportion	...	...	...	35.7	19.1
Commonwealth ... { Number	3,415	3,273	3,096	3,390	3,398
... { Proportion	7.9	7.5	6.9	7.3	7.1

From the preceding table it will be seen that the proportion to population of prisoners in gaol has fallen slightly during the last five years, but, if the comparison be carried farther back, the position is seen to be still more favourable, the prisoners in gaol in the Commonwealth numbering as much as 16 per 10,000 of the population in 1891.

**2. Improvement of Penological Methods.**—During recent years Australia, in common with most other civilised countries, has introduced considerable modifications and improvements in methods of prison management. Under the old régime, punishment partook more or less of the character of reprisal for wrongdoing, and the idea of constituting the prison as a reformatory agency was in the background. But of recent years there has been an earnest attempt at effecting a moral reformation in the unfortunates who lapse into crime. This aspect of prison management has been specially prominent in New South Wales. A short account of the re-organisation of the prison system in this State appears in preceding Year Books (see No. V., p. 922), but considerations of space preclude its repetition here. At the present time it is found that good results have followed the principles of scientific classification and restricted association of prisoners, together with the provision of separate institutions for the treatment of inebriates. In New South Wales the system of carrying on afforestation by prison labour, somewhat after the manner of that in vogue for several years in New Zealand, has been introduced, and in 1911 a site near Tuncurry, on the Manning River, was selected for the purpose of initiating the scheme. Towards the close of 1913 there were 20 prisoners and 4 officers in occupation. So far the scheme appears to be a great success, the prisoners being healthy, cheerful, well-behaved, and industrious. Each prisoner has his own comfortable hut, where he takes his meals and sleeps, and may, if he so desires, write his letters. There are no armed or night guards at the camp. That there is some connection between mental and physical health and crime is proved by the condition in which many persons are received into gaol. In a large number of instances prisoners are found to be suffering from contagious diseases. Under the Prisoners Detention Act such persons may be kept in gaol until cured, but unfortunately the provisions of the Act do not apply to short sentenced prisoners detained in lieu of paying fines, many of whom are known to be afflicted with disease.

In 1902 the system of finger-print identification of criminals was introduced, and by the year 1903 bureaux had been established in the various States for the exchange of records. Very successful results have attended the introduction of the system.

Space will not permit of more than a passing reference to the improvements brought about in prison management in the other States. In Victoria there is an excellent system of classification and allocation of prisoners to different gaols, while at the important penal establishment at Pentridge a careful segregation into no less than five distinct classes is carried out. It is proposed to make better provision at the Pentridge prison for the accommodation and classification of habitual offenders. In common with the other States the latest humane methods of accommodation and prison treatment have for some time been employed.

Queensland prisons have been considerably modernised during the last few years. The prison for females at Brisbane has been built on the radiating plan, and embodies the latest ideas in penological methods. Classification of prisoners has been fully carried out in the male and female divisions of Brisbane prison, at Rockhampton prison, and at the Stewart's Creek penal establishment. A new prison establishment embodying more up-to-date features in design will shortly be erected at St. Helena. The construction of the buildings does not, however, permit of the plan being adopted in its entirety in all Queensland prisons. Amongst reforms in 1912 were the reduction of the period of separate treatment undergone by prisoners sentenced to hard labour or penal servitude, a remodelling of the remission clauses, and allowance of more liberal privileges in the way of correspondence and visits from friends. Electric light has been installed in the Brisbane prison, and prisoners are allowed to read up to 8 o'clock each evening.

Unusual circumstances have combined to keep crime at a low point in South Australia. In the first place there was never any transportation of criminals to the State, while in the earlier years of its history South Australian lawbreakers were transported elsewhere. The discovery of gold in the neighbouring colonies was also responsible for the drawing away of turbulent spirits who might later on have caused trouble. The present system was drafted mainly on English and European lines by the late W. R. Boothby, C.M.G., and has since been as far as possible adapted to modern penological procedure. Excellent work for the benefit and assistance of discharged prisoners is performed by the Prisoners' Aid Association.

A Royal Commission in 1911 recommended the adoption of various reforms in connection with the prison system of Western Australia. The bulk of these were carried out, and included, amongst other things, an extension of the principle of separate treatment, improvement in prisoners' dietary scale, more satisfactory arrangements in regard to remission of sentences, and improvements in regard to hours of labour, leave of absence, etc., for the staff. The separate system has, however, been abolished. Amongst other improvements recently introduced may be mentioned the grant of an eight hours' day to officers, enlargement and improved hygiene of cells, additional library facilities, assistance to discharged prisoners by provision of railway passes and monetary aid, appointment of committees to look after the welfare of discharged prisoners, and the remodelling of the "mark" system. The military method of control at Rottnest Island, coupled with considerable privileges to well-conducted prisoners, has proved very successful.

### § 5. Civil Courts.

1. **Lower Courts.**—The transactions of the lower courts on the civil side during each of the last five years are given in the table hereunder. As pointed out previously, the jurisdiction of the courts is by no means uniform in the various States.

#### LOWER COURTS.—CIVIL CASES, COMMONWEALTH, 1909 to 1913.

State.				1909.	1910.	1911.	1912.	1913.
New South Wales	...	Cases	No.	32,637	30,059	29,570	32,531	40,355
		Amount	£	87,432	77,700	74,461	93,592	106,809
Victoria	...	Cases	No.	36,894	29,902	28,575	36,043	39,911
		Amount	£	162,393	146,284	129,172	190,485	204,175
Queensland	...	Cases	No.	12,244	11,951	12,511	14,962	15,716
		Amount	£	43,363	45,432	48,374	61,047	64,518
South Australia	...	Cases	No.	13,627	13,845	14,996	18,905	21,288
		Amount	£	41,811	45,380	51,282	60,813	74,623
Western Australia	...	Cases	No.	10,681	9,598	9,773	12,735	14,549
		Amount	£	50,261	42,636	43,413	60,774	67,470
Tasmania	...	Cases	No.	4,868	3,620	5,189	4,487	5,194
		Amount	£	30,855	29,199	33,601	28,571	34,425
Commonwealth	...	Cases	No.	110,951	98,975	100,614	119,663	137,013
		Amount	£	416,115	386,631	380,303	495,282	552,020

The figures just given represent the returns from Petty Sessions Courts in New South Wales and Victoria, the Petty Debts cases in Queensland, the Local Courts of South Australia and Western Australia, and the Court of Requests in Tasmania.

2. **Superior Courts.**—In the next table will be found the transactions on the civil side in the Superior Courts during each of the years 1909 to 1913.

The New South Wales returns are to some extent defective, as the figures quoted for amount of judgments include, in the case of the Common Law jurisdiction of the Supreme Court, the total judgments signed, while in the case of the other States the figures refer to sums actually adjudged after trial. For New South Wales, also, the transactions of district courts refer to the total amounts sued for, and not the sums actually awarded after trial. Statistically the chief importance of the table consists in the fact that it shews a decline in litigiousness in Australia.

### SUPERIOR COURTS.—CIVIL CASES, 1909 to 1913.

#### COMMONWEALTH.

State.			1909.	1910.	1911.	1912.	1913
New South Wales	Causes	No.	800	519	729	847	922
	Amount	£	397,681	269,518	369,145	528,384	568,761
Victoria	Causes	No.	733	711	561	637	617
	Amount	£	59,785	53,180	54,552	75,886	91,428
Queensland	Causes	No.	142	138	119	108	123
	Amount	£	40,964	18,336	12,208	16,013	22,932
South Australia...	Causes	No.	34	23	29	26	44
	Amount	£	14,081	799	13,195	29,352	9,688
Western Australia	Causes	No.	414	342	423	496	546
	Amount	£	60,537	39,721	90,078	78,068	79,534
Tasmania	Causes	No.	257	210	110	113	118
	Amount	£	8,487	11,879	7,810	7,866	7,486
Commonwealth							
	Causes	No.	2,380	1,943	1,971	2,227	2,380
	Amount	£	581,535	393,433	545,988	735,569	779,829

3. **Divorces and Judicial Separations.**—The number of divorces and judicial separations in each State during the period 1909 to 1913 is shewn below :—

### DIVORCES AND JUDICIAL SEPARATIONS, 1909 to 1913.

#### COMMONWEALTH.)

State.			1909.		1910.		1911.		1912.		1913	
			Divorces.	Judicial Separations	Divorces.	Judicial Separations	Divorces.	Judicial Separations	Divorces.	Judicial Separations	Divorces.	Judicial Separations
New South Wales	...	...	287	15	257	9	206	12	343	12	313	9
Victoria	...	...	138	1	141	...	214	...	250	2	237	2
Queensland	...	...	16	...	21	...	27	1	17	1	31	1
South Australia	...	...	12	1	3	1	20	...	11	...	9	...
Western Australia	...	...	13	1	27	1	30	2	36	...	37	...
Tasmania	...	...	12	1	5	1	5	1	8	...	8	...
Commonwealth			478	19	454	12	502	16	665	15	635	12

The average annual number of divorces and judicial separations in the Commonwealth at decennial periods from 1871 to 1910 is given hereunder :—

#### DIVORCES AND JUDICIAL SEPARATIONS, 1871 to 1910.

			1871-1880.	1881-90.	1891-1900.	1901-10.
Commonwealth	...	...	29	70	358	401

The bulk of the divorces and judicial separations refer, as the table shews, to New South Wales and Victoria, the Acts of 1892 and 1889 in the respective States making the separation of the marriage tie comparatively easy. In some statistical works it is customary to compare the divorces in any year with the marriages in the same year. The comparison is, however, quite valueless, as there is no necessary connection between the figures.

4. **Probates.**—The number of probates and letters of administration granted, together with the value of the estates concerned, is shewn below for each State for the period 1909 to 1913 :—

#### PROBATES AND LETTERS OF ADMINISTRATION, COMMONWEALTH, 1909 to 1913.

State.				1909.	1910.	1911.	1912.	1913.
New South Wales	...	{	Number	3,185	3,336	3,589	3,648	3,679
			Value £	11,142,068	8,834,934	13,138,068	13,389,806	8,443,068
Victoria	...	{	Number	4,069	4,128	4,614	4,585	4,483
			Value £	6,480,376	7,430,949	8,469,163	8,533,502	8,367,862
Queensland	...	{	Number	679	704	729	755	765
			Value £	1,508,883	1,652,691	2,409,495	2,730,039	2,640,017
South Australia	...	{	Number	1,115	1,121	1,057	1,246	1,373
			Value £	1,939,509	2,422,519	2,855,089	2,363,238	2,214,241
Western Australia	...	{	Number	413	492	584	552	580
			Value £	939,318	868,638	844,151	841,800	607,972
Tasmania	...	{	Number	361	375	399	465	415
			Value £	722,011	797,439	596,870	983,618	680,477
Commonwealth	...	{	Number	9,822	10,156	10,972	11,251	11,295
			Value £	22,732,165	22,007,170	28,312,836	28,862,003	22,953,637

As may naturally be expected, the figures in the above table, giving the value of property left each year, shew considerable variations.

5. **Bankruptcies.**—The returns in bankruptcy during each of the last five years are given in the following table.

For several reasons comparisons drawn from the figures in the following table are of little value. In the first place, the statements of assets and liabilities are notably unsatisfactory, particularly in regard to the former. Then, again, there is wide dissimilarity in regard to the laws in force in the various States and the method of procedure thereunder in connection with bankruptcy. Further, there are no means of knowing how many persons in each State who were in a bankrupt condition made private arrangements with their creditors either personally or by intervention of a solicitor. The figures quoted in the table exclude the private arrangements in Victoria and South Australia, and the liquidations and compositions in Queensland and Tasmania.

## BANKRUPTCIES, COMMONWEALTH, 1909 to 1913.

State.		1909.	1910.	1911.	1912.	1913.
New South Wales ...	(Number	381	352	331	395	395
	Liabilities £	163,169	176,088	109,359	210,504	208,755
	Assets £	82,563	119,377	49,390	153,633	144,038
Victoria ...	(Number	370	359	306	404	455
	Liabilities £	129,627	132,841	112,748	265,046	440,318
	Assets £	98,041	54,381	55,374	159,723	237,868
Queensland ...	(Number	323	214	227	246	232
	Liabilities £	63,321	44,475	41,261	45,508	60,385
	Assets £	34,541	12,691	9,286	17,020	21,720
South Australia ...	(Number	108	76	106	154	185
	Liabilities £	64,775	77,471	75,347	188,483	169,516
	Assets £	42,340	44,195	47,314	135,771	104,622
Western Australia ...	(Number	86	79	75	84	75
	Liabilities £	31,791	30,967	24,150	50,652	65,284
	Assets £	19,252	14,169	9,600	35,221	51,928
Tasmania ...	(Number	43	27	19	38	46
	Liabilities £	8,625	97,551	7,066	7,013	16,673
	Assets £	4,081	41,654	5,654	2,635	9,831
Northern Territory ...	(Number	...	...	1	3	4
	Liabilities £	...	...	348	1,123	724
	Assets £	...	...	66	44	18
Commonwealth ...	(Number	1,311	1,107	1,065	1,324	1,392
	Liabilities £	466,308	559,393	370,279	768,329	961,655
	Assets £	280,818	286,467	176,684	504,047	570,025

6. **High Court of Australia.**—Under the provisions of section 71 of the Commonwealth Constitution Act, the judicial power of the Commonwealth is vested in a Federal Supreme Court, called the High Court of Australia, and in such other courts as the Parliament creates or invests with federal jurisdiction. The Federal High Court possesses both original and appellate jurisdiction, but so far its activities have been confined principally to the latter form. The powers of the court are defined in Chapter III. of the Constitution Act and in the Judiciary Acts of 1903, 1906, 1907, and 1910. At present the court consists of a Chief Justice and six other judges. *Sittings of the court* are held in the capitals of the various States as occasion may require. The following statement shews the transactions of the High Court for the quinquennium 1909-13:—

## COMMONWEALTH HIGH COURT TRANSACTIONS, 1909 to 1913.

Items.	1909.	1910.	1911.	1912.	1913.
I. ORIGINAL JURISDICTION.					
Number of writs issued ...	27	28	39	63	83
Number of causes entered for trial ...	4	5	7	7	9
Verdicts for plaintiffs ...	3	1	4	6	5
Verdicts for defendants ...	1	2	3	...	2
Otherwise disposed of ...	17	23	20	20	16
Amount of judgments ...	£182	£2,040	£138	£769	£6,556
II. APPELLATE JURISDICTION.					
Number of appeals set down for hearing ...	76	51	64	89	66
Number allowed ...	40	34	32	43	33
Number dismissed ...	29	14	23	36	26
Otherwise disposed of ...	7	3	9	10	7

## COMMONWEALTH HIGH COURT TRANSACTIONS, 1909 TO 1913—continued.

Items.	1909.	1910.	1911.	1912.	1913.
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## . III. AMOUNT OF FEES COLLECTED.

Amount in each year...	£505	£437	£493	£590	£692
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7. **Commonwealth Court of Conciliation and Arbitration.**—A more or less detailed statement regarding the operation of this Court, which was established under the provisions of the Commonwealth Conciliation and Arbitration Act of 1904-11 will be found in Section xxvii.

## § 6. Cost of Administration of Justice.

The table below shews the expenditure from Consolidated Revenue during each of the last five years in connection with the administration of justice in each of the States. Expenditure on police and prisons has been separately shewn. With regard to the figures quoted for "other" expenditure, a slight allowance has to be made for the fact that some extraneous expenditure has been included which it was found impossible to disentangle from the total, but the amount is in no instance large.

## EXPENDITURE ON JUSTICE, COMMONWEALTH, 1909 to 1913.

State.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£
New South Wales ... { Police	472,718	504,146	515,569	578,767	593,406
Gaols	79,814	78,932	81,473	89,712	91,279
Other	245,024	241,510	260,217	262,174	276,043
Victoria ... { Police	320,831	337,670	345,889	348,227	354,264
Gaols	49,869	48,714	50,822	50,952	54,776
Other	147,146	160,627	162,453	165,078	165,091
Queensland ... { Police	220,344	244,945	258,538	306,431	304,817
Gaols	24,174	25,036	28,257	28,603	28,950
Other	99,914	104,739	109,507	100,156	101,011
South Australia ... { Police	98,214	96,771	107,873	116,847	129,834
Gaols	16,841	17,060	17,678	17,776	19,159
Other	33,662	34,412	37,433	41,392	48,203
Western Australia ... { Police	119,111	120,420	127,458	129,556	126,532
Gaols	28,536	27,228	23,755	22,291	21,403
Other	66,072	69,772	78,022	77,544	77,182
Tasmania ... { Police	39,740	40,331	41,535	43,236	45,237
Gaols	5,698	5,466	5,320	5,664	6,103
Other	14,511	11,513	14,688	19,524	20,877
Northern Territory ... { Police	...	...	9,708	10,609	10,614
Gaols	...	...	2,247	2,309	2,229
Other	...	...	555	2,513	2,136
Commonwealth ... { Police	1,270,958	1,344,283	1,406,569	1,533,673	1,564,704
Gaols	204,932	202,436	209,552	217,307	223,959
Other	606,329	622,573	662,875	668,381	690,543

With the exception of that of the Northern Territory, the expenditure shewn in the foregoing table is that incurred by the State Governments only, and does not include expenditure in connection with the Federal High Court, which is shewn on the next page for the period 1909-10 to 1913-14 :—

## EXPENDITURE OF FEDERAL HIGH COURT, 1909-10 to 1913-14.

Year.				Amount.	Year.				Amount.
				£					£
1909-10	...	...	...	23,677	1912-13	...	...	...	23,334
1910-11	...	...	...	25,850	1913-14	...	...	...	32,709
1911-12	...	...	...	26,320					

Other items of Federal legal expenditure also not included in the table are Arbitration Court £6450, Crown Solicitor £7565, and general £8696.

For the purposes of comparison the figures in the first table above have been reduced to a population basis, and the results are given in the table following:—

## EXPENDITURE ON JUSTICE PER INHABITANT, COMMONWEALTH, 1909 to 1913.

State.				1909.	1910.	1911.	1912.	1913.
				s. d.	s. d.	s. d.	s. d.	s. d.
New South Wales	...	...	(Police	5 11	6 2	6 3	6 8	6 7
			Gaols	1 0	1 0	0 11	1 0	1 0
			(Other	3 1	2 11	3 2	3 0	3 0
Victoria	...	...	(Police	4 11	5 3	5 2	5 2	5 1
			Gaols	0 9	0 9	0 9	0 9	0 9
			(Other	2 3	2 6	2 5	2 4	2 4
Queensland	...	...	(Police	7 10	8 3	8 2	9 8	9 4
			Gaols	0 10	0 10	0 11	0 11	0 11
			(Other	3 6	3 6	3 7	3 2	3 1
South Australia	...	...	(Police	4 9	4 10	5 3	5 7	6 0
			Gaols	0 10	0 10	0 10	0 10	0 11
			(Other	1 8	1 9	1 9	1 11	2 3
Western Australia	...	...	(Police	8 10	8 11	8 11	8 7	8 1
			Gaols	2 2	2 1	1 9	1 6	1 4
			(Other	4 10	5 2	5 5	5 1	4 11
Tasmania	...	...	(Police	4 4	4 3	4 4	4 6	4 7
			Gaols	0 7	0 7	0 7	0 7	0 7
			(Other	1 7	1 2	1 6	2 0	2 2
Northern Territory	...	...	(Police	...	...	58 6	63 2	58 0
			Gaols	...	...	13 6	13 9	12 6
			(Other	...	...	3 4	15 0	11 8
Commonwealth	...	...	(Police	5 11	6 2	6 3	6 7	6 6
			Gaols	0 11	0 11	1 0	0 11	0 11
			(Other	2 10	2 10	2 11	3 0	3 0

Owing to the smallness of the white population, large area to be policed, and cost of supplies, transport, etc., the figures for the Northern Territory must necessarily appear somewhat abnormal.

The total expenditure in the Commonwealth in connection with the administration of justice has risen from ten shillings per inhabitant in 1901 to ten shillings and fivepence in 1913. Police expenditure has increased by about ninepence per head, the average for gaols is about threepence per head less, while the expenditure on courts and the remaining machinery of justice has slightly decreased during the same period.



## SECTION XXIV.

## PUBLIC BENEVOLENCE.

## § 1. Introductory.

1. **General.**—Charity and charitable effort in Australia may be classified under three headings, viz.:—(a) State; (b) public; (c) private. To the first belong all institutions wholly provided for by the State, such as the principal lunatic asylums in the various States, the Government hospitals in Western Australia, and the Government asylums for infirm in New South Wales. The second class comprises public institutions of two kinds, viz.:—(i.) Institutions partially subsidised by the State or State endowed, but receiving also private aid, and (ii.) those wholly dependent upon private aid. To the former division belong such institutions as the Melbourne and other large metropolitan hospitals. In the latter are included institutions established and endowed by individuals for the benefit of the needy generally. All charitable movements of a private character are included in the third group.

A more or less accurate statistical account is possible in classes (a) and (b), but in regard to (c) complete tabulation is, for obvious reasons, impossible. Moreover, public response to special appeals, and summary relief in kind, cannot be statistically recorded. Hospitals, orphanages, homes, benevolent asylums, etc., naturally attract the largest share of charitable aid; but there are numerous minor charities dependent upon private beneficence. In institutions which receive Government aid, management and finance are usually relegated to executive bodies.

The scope which economic and industrial conditions in Australia afford for the exercise of natural ability, and the comparatively wide distribution of wealth throughout the Commonwealth, operate to prevent the development of a permanent pauper class, and at the same time lessen in a dual way the burden of charity. This result is brought about by the increase, on the one hand, of the number of people whose prosperity enables them to relieve the indigent and unfortunate, and by the reduction, on the other, of the number who need assistance. Enactments of State Legislatures have decreed short hours and a liberal holiday allowance for large numbers of persons engaged in industrial and other pursuits, and, even in occupations not covered by Act of Parliament, the general conditions of employment often provide a considerable amount of leisure. This, coupled with an equable climate, enables the community to spend much of its time in the open air, with resultant advantages to its physique and general health. No poor-rate is levied in Australia, and Government aid without return is required only for the aged and disabled. Moreover, although Old Age Pensions are paid by the Commonwealth, the payments are looked upon rather in the light of a citizen's right than as a charity. Reference to the Old Age Pensions will be found in § 4, *Miscellaneous*, chap. xxxiv.

To meet special and temporary conditions, various relief works have been started from time to time, in which the able-bodied who may be forced to seek official relief are required to make some return for the assistance afforded.

In each of the States there are Government asylums for the care of the insane, and the condition of these unfortunates has been steadily ameliorated by the general advance in psychiatry.

Young children deprived of parental training and control are cared for and educated in "orphanages" and "industrial schools," and those who have been guilty of some specific offence, or who are beyond effective parental control, are committed to "reformatories."

From time to time relief funds have been organised for famine-stricken territories (e.g., China, India, etc.), or for places where plague, flood, fire, or earthquake has shewn the need of urgent relief. Special funds are also raised for such as are disabled or bereaved through war. Statistical information in regard to these forms of charity is not, however, available. It may be mentioned that the daily Press frequently accepts the duties of collectorship in charity appeals.

**2. Charity Reforms.**—The evident overlapping of charitable effort has on various occasions led to discussion regarding methods of collection and distribution. The great desideratum in charity organisation is that the available aid should be relegated solely to the relief of distress and suffering. The true interests of the sick poor would thus be conserved, and the real intention of the donors fulfilled. With greater public attention, improved administration has been brought about. Societies to prevent overlapping have been formed, resulting in improved economical collection and distribution of charitable aid, and a better system of using the available accommodation.

Other proposed reforms aim at ascertaining the causes of poverty and crime, and finding the necessary palliative. Increased provision of better houses and workrooms and improved sanitation are advocated, together with more stringent legislative measures to enforce cleanliness and healthy modes of life. Further, Factories Legislation, Health Acts, etc., have enacted provisions for safeguarding dangerous machinery, and permitting only competent persons to be employed thereon.

**3. Tabulation of Charities Statistics.**—Differences in the organisation of charities prevent uniform tabulation of statistics for all the States, but certain of the larger features of the statistics of benevolence have been combined for the whole Commonwealth, and are shewn for a period extending over five years. Where the combination has been for dissimilar periods the nearest years have been taken. Satisfactory tabulation for other charities is not yet possible.

## § 2. The Larger Charities of Australia.

**1. Hospitals.**—Most of the State capitals have several large and well-equipped hospitals, and there is at least one in every important town. In large centres there are hospitals for consumptives, women, children, infectious diseases, incurables, etc. The

number of hospitals in Australia, with the admissions, patients treated, deaths, and expenditure, is shewn in the following table. Only general hospitals are tabulated, since the working of "special" institutions is not properly comparable with those which treat every class of case.

### HOSPITALS IN THE COMMONWEALTH, 1909 to 1913.

Particulars.	1909.	1910.	1911.	1912.	1913.
Number of institutions ...	337	338	355	368	381
Number of beds ...	12,630	13,342	13,732	14,574	15,235
Admissions during year ...	112,102	119,091	125,822	139,378	145,908
Indoor patients treated ...	118,928	126,234	133,652	144,692	152,077
Deaths ...	8,814	8,946	9,642	11,235	11,362
Expenditure ...	£ 805,787	802,212	916,984	1,102,134	1,264,605

In addition to those admitted to the institutions there are large numbers of out-patients. The exact number of these cannot be given, but a rough estimate of distinct cases for 1913 places the total at about 300,000.

Fuller details of hospital statistics are given for 1913 in the table below, the States of the Commonwealth being shewn separately :—

### GENERAL HOSPITALS.—NUMBER, STAFFS, AND ACCOMMODATION OF HOSPITALS IN THE COMMONWEALTH, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	N.T.	C'wlth
Number of Hospitals—								
Government ...	3	50	2	8	21	2	2	88
Other ...	148	5	83	15	30	12	...	293
Total ...	151	55	85	23	51	14	2	381
Medical Staff—								
Males ...	748	84	187	91	57	39	2	1,320
Females ...			8	4	...	...	...	
Total ...	748	84	195	95	57	39	2	1,320
Nursing Staff and Attendants—								
Males ...	80	29	238	65	83	2	2	499
Females ...	1,535	684	797	394	440	137	4	3,991
Total ...	1,615	*1,263	1,035	459	523	139	6	*5,040
Accommodation—								
Number of dormitories, etc. ...	997	465	526	151	172	122	7	2,440
Capacity in cubic ft. ...	6,744,757	4,776,708	3,259,329	1,391,000	1,955,050	733,887	42,236	18,902,967
Number of beds ...	15,006	3,739	2,944	972	1,391	549	134	15,235
Cubic ft. to each bed	1,203	1,278	1,107	1,431	1,405	1,337	1,242	1,241

\*Inclusive, in Victoria, of 550 paid staff: sexes not stated. † Exclusive of beds on verandahs.

**GENERAL HOSPITALS.—PATIENTS TREATED IN HOSPITALS IN THE  
COMMONWEALTH, 1913.**

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	C'with.
<b>Indoor Relief: Distinct Persons</b>								
Treated—								
Males ... ..	35,205	17,455	20,287	5,407	7,026	3,419	248	89,047
Females ... ..	29,955	12,258	10,643	4,020	3,452	2,625	47	63,030
<b>Total ... ..</b>	<b>65,190</b>	<b>29,713</b>	<b>30,930</b>	<b>9,427</b>	<b>10,478</b>	<b>6,044</b>	<b>295</b>	<b>152,077</b>
<b>Inmates at beginning of Year—</b>								
Males ... ..	2,046	1,418	1,163	353	482	174	21	5,657
Females ... ..	1,564	997	624	225	228	158	5	3,801
<b>Total ... ..</b>	<b>3,610</b>	<b>2,415</b>	<b>1,787</b>	<b>578</b>	<b>710</b>	<b>332</b>	<b>26</b>	<b>9,458</b>
<b>Admissions and Re-admissions during Year—</b>								
Males ... ..	34,159	17,142	19,124	5,536	6,544	3,245	212	84,962
Females ... ..	28,421	12,636	19,019	4,122	3,224	2,467	57	60,946
<b>Total ... ..</b>	<b>61,580</b>	<b>29,778</b>	<b>29,143</b>	<b>9,658</b>	<b>9,768</b>	<b>5,712</b>	<b>269</b>	<b>145,908</b>
<b>Discharges—Recovered:</b>								
Males ... ..	22,980	14,623	17,228	3,497	2,887	1,895	129	163,239
Females ... ..	21,997	11,113	9,090	2,749	1,475	1,561	27	148,012
<b>Total ... ..</b>	<b>44,977</b>	<b>*25,736</b>	<b>*26,318</b>	<b>6,246</b>	<b>4,362</b>	<b>*3,456</b>	<b>156</b>	<b>111,251</b>
<b>Relieved:</b>								
Males ... ..	6,454	†	†	1,164	2,783	†	32	110,433
Females ... ..	3,971	†	†	817	1,352	†	10	16,150
<b>Total ... ..</b>	<b>10,425</b>	<b>†</b>	<b>†</b>	<b>1,981</b>	<b>4,135</b>	<b>†</b>	<b>42</b>	<b>116,583</b>
<b>Unrelieved:</b>								
Males ... ..	337	247	418	307	241	23	2	2,075
Females ... ..	669	221	243	223	103	10	...	1,469
<b>Total ... ..</b>	<b>1,506</b>	<b>468</b>	<b>661</b>	<b>530</b>	<b>344</b>	<b>33</b>	<b>2</b>	<b>3,544</b>
<b>Not stated:</b>								
Males ... ..	...	503	132	8	22	54	38	1,805
Females ... ..	...	316	42	11	22	36	22	1,178
<b>Total ... ..</b>	<b>...</b>	<b>819</b>	<b>174</b>	<b>19</b>	<b>44</b>	<b>90</b>	<b>60</b>	<b>2,983</b>
<b>Deaths—</b>								
Males ... ..	2,827	1,830	1,386	542	583	230	13	7,411
Females ... ..	1,631	987	607	294	286	143	3	3,951
<b>Total ... ..</b>	<b>4,458</b>	<b>2,817</b>	<b>1,993</b>	<b>836</b>	<b>869</b>	<b>373</b>	<b>16</b>	<b>11,362</b>
<b>Inmates at End of Year—</b>								
Males ... ..	2,107	1,357	1,123	371	510	169	19	5,656
Females ... ..	1,717	996	661	253	214	146	...	3,967
<b>Total ... ..</b>	<b>3,824</b>	<b>2,353</b>	<b>1,784</b>	<b>624</b>	<b>724</b>	<b>315</b>	<b>19</b>	<b>9,643</b>
<b>Average Daily Number Resident—</b>								
Males ... ..	2,205	§	§	384	461	195	20	§
Females ... ..	1,758	§	§	293	249	160	7	§
<b>Total ... ..</b>	<b>3,973</b>	<b>2,491</b>	<b>§</b>	<b>677</b>	<b>710</b>	<b>355</b>	<b>27</b>	<b>§</b>

\* Including relieved. † Included in recovered. ‡ Cases relieved are included in those recovered, in Victoria, Queensland, and Tasmania. § Information not available.

The revenue and expenditure of the institutions were as follows:—

**GENERAL HOSPITALS.—REVENUE AND EXPENDITURE, 1913.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	C'wlth.
Revenue—	£	£	£	£	£	£	£	£
Fees of patients, etc.	£1,613	27,114	23,124	10,386	13,743	7,286	208	143,474
Government grants	230,369	71,447	123,147	54,191	72,393	20,675	5,602	577,824
Other ...	179,739	164,916	84,470	13,443	33,649	7,756	...	483,973
Total ...	471,721	263,477	230,741	78,020	119,785	35,717	5,810	1,205,371
Expenditure—								
Buildings ...	126,607	102,931	29,186	6,830	...	1,101	2,028	268,683
Salaries ...	163,259	194,667	82,838*	27,964	47,576	27,901	2,059	
Maintenance	174,076		104,699	39,929	72,086†	6,679	1,553	995,922
Other ...	38,140	3,265	5,915	3,146				
Total ...	502,082	300,863	222,638	77,869	119,662	35,681	5,810	1,264,605

\* Including rent.

† Including buildings.

**2. Hospitals for General and Special Cases.**—The tables here given refer to general hospitals. In addition there are hospitals for "specials" (such as women's, children's, and infectious diseases hospitals), and institutions nearly allied to hospitals (such as consumptive sanatoria). In the earliest numbers of the Commonwealth Year Book, these were tabulated with general hospitals. Where the institutions carry on general hospital relief, they are still included with those establishments.

(i.) *New South Wales.* A Government hospital is established at Little Bay. There are four women's and one children's hospitals in the metropolis. Other leading institutions are the Thomas Walker Convalescent Hospital, Dental Hospital, Home for Incurables, Hospital for Infants and Asylum for Women and Children, Infants' Home, etc. A feature of late years has been the establishment of general hospitals in many country towns of growing importance.

(ii.) *Victoria.* Special hospitals, not included in the above tabulation, comprise the Women's Hospital, with infirmary and midwifery departments, the Children's Hospital, the Hospital for Women and Children, a Government Consumptive Sanatorium, Inebriates' Institute, Convalescent homes, etc.

(iii.) *Queensland.* There are six lying-in and two children's hospitals in Queensland, and a sanatorium.

(iv.) *South Australia.* In connection with the leading general hospital in the metropolis, there is a consumptive home and infectious diseases block; there are also a children's hospital, two lying-in homes, sanatorium, convalescent home, home for incurables, etc.

(v.) *Western Australia.* The leading general hospitals are Government establishments. There is a lying-in establishment in connection with the metropolitan women's home. There are also homes for the dying and incurable, homes and rests for sailors, strangers, etc.

(vi.) *Tasmania.* In Tasmania there are several institutions, which pay particular regard to "special cases"; these include two hospitals for contagious diseases; two

hospitals for women; a consumptive sanatorium; and a convalescent home. Other important institutions of a general nature are the New Town Charitable Establishment, and the Home for Invalids.

**3. Benevolent and Destitute Asylums.**—A marked increase has taken place in the amount of aid bestowed upon the aged. Two elements, each of them independent of the growth of population, have influenced this increase. One is, that the general age of the community has advanced—the large flow of immigration of fifty and sixty years ago having been mostly of persons in the prime of life; the other is the increased regard paid in all British communities to the well-being of the helpless. The result in Australia has been that numerous establishments have been founded for the housing and protection of such as are no longer able to care for themselves. The institutions are supported by Government and municipal aid, public subscriptions, charity performances, bequests, etc., and in many cases relatives of indigent and afflicted persons contribute to their maintenance.

The impossibility of an entirely satisfactory statistical tabulation in regard to all forms of charitable aid, is especially marked in the case of benevolent institutions, since the conditions under which they have been established in the different centres in the Commonwealth have caused divergence in their development and in the classes of cases treated by them. For example, in Western Australia the Home for Destitute Women includes a maternity ward, for which the statistics are not separately kept. Since the predominating function of the Institution is aid to the destitute, it has been included among benevolent asylums. In Victoria, nine of the hospitals are also Benevolent asylums, and they are included wholly under the former. In South Australia, the Destitute Asylum includes lying-in and children's departments.

#### BENEVOLENT INSTITUTIONS.—REVENUE AND EXPENDITURE, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	C'w'ith.
	£	£	£	£	£	£	£
Revenue—							
Government aid ...	74,706	22,814	27,427	18,817	29,823	...	173,587
Municipal aid ...	...	934	...	...	...	...	934
Public subs., legacies, etc....	3,324	7,859	1,079	...	...	...	12,262
Fees ...	11,423	8,675	...	316	...	...	20,414
Other ...	504	2,759	1,069	203	...	...	4,535
Total... ..	89,957	43,041	29,575	19,336	29,823	...	211,732
Expenditure—							
Buildings ...	4,044	3,428	42	290	...	...	7,804
Maintenance ...	75,598	39,274	29,250	19,046	29,823	...	192,991
Other ...	11,861	267	129	...	...	...	12,257
Total... ..	91,503	42,969	29,421	19,336	29,823	...	213,052

(i.) *Government Asylums for the Infirm, New South Wales.* There are six of these institutions in New South Wales, with something over 4000 beds, usually in continuous use. Inmates at the end of 1913 numbered 2908; deaths numbered 870; and the expenditure amounted to £69,436 for the twelve months ended 30th December, 1913.

(ii.) *Benevolent Asylums, Victoria.* Besides the asylums attached to hospitals, there are eight institutions in Victoria. The daily average number indoors was 2081 for 1912-13, with 1019 distinct cases of outdoor relief. Deaths numbered 481. The total expenditure was £42,969 (of which £3428 was spent on buildings), and receipts £43,041—£22,814 from Government and £20,227 from other sources.

(iii.) *Benevolent Asylums, Queensland.* There are four institutions in Queensland, with 941 beds. The total number in the asylums during 1913 was 1688, with a daily average of 1041. Deaths numbered 144. Expenditure amounted to £29,421, and receipts to £29,575, of which £27,427 was Government aid.

(iv.) *Destitute Asylum, Adelaide.* Outside of hospitals and lunatic asylums the destitute of South Australia are dealt with and relieved at the Destitute Asylum, Adelaide. The institution includes lying-in and children's departments. In the asylum the average number of inmates in 1912-13 was 289. There were sixty-four deaths during the year. Expenditure totalled £7224. In addition, £12,386 was dispensed through the institution for outdoor relief of the destitute in both metropolitan and rural districts.

(v.) *Homes for the Destitute, Western Australia.* There are three of these homes in Western Australia supported by public funds. Attached to the Perth Women's Home is a lying-in department. Outdoor relief to the poor and aged is given, the amount expended being included in expenditure in the previous table. More than sixteen hundred indoor cases were dealt with during 1913. There were 85 deaths.

(vi.) *Charitable Establishments, Tasmania.* There are two principal Government charitable establishments in Tasmania. Beds numbered 251 in 1913-14. The total number of persons treated was 354, of whom 48 died. The daily average number resident was 188. Total expenditure was £5673, receipts amounting to the same sum, of which £4507 was contributed by the State.

4. *Orphanages, Industrial Schools, etc.*—The organisation of charitable effort varies greatly in regard to orphans and waifs. In many institutions shelter and some form of industrial training are offered to destitute children of all classes, whether orphans or not, while some of those styled orphanages do not confine their relief to orphans strictly so called. The figures in the next table are those for institutions where, it is believed, the principal effort is on behalf of those who are really orphans:—

#### ORPHANAGES IN COMMONWEALTH, 1909 to 1913.

Particulars.	1909.	1910.	1911.	1912.	1913.
Number of institutions ... ..	42	42	41	41	42
Admissions ... ..	1,613	1,626	1,760	1,563	1,514
Total number of inmates during year ...	5,150	5,331	5,465	5,057	4,720
Deaths ... ..	14	22	12	18	18
Expenditure* ... ..	£ 61,088	72,882	74,415	63,362	72,091

\* Incomplete. Expenditure is not available for some orphanages.

(i.) *New South Wales.* The care of destitute and neglected children is entrusted to the State Children's Relief Board, whose officers are charged with a strict supervision regarding the welfare of the children and the treatment of them by those to whom they are boarded out. Useful trades and profitable occupations are taught, and many of the children become useful members of society. The number of children under the board's supervision in 1913-14 was 4695. The board's expenditure in that year was £126,012, or £26 17s. per child.

There are also thirteen orphanages, with about 770 persons under care. Deaths are but one or two annually, and the yearly expenditure fluctuates between £7000 and £14,000.

There are several reformatories and industrial schools maintained by the State. At the Parramatta Industrial School for girls, to which a Training Home has lately been annexed, there was, during 1913, a gross enrolment of 157, with a daily average attendance of 97. At the Farm Home for boys, Gosford, the gross enrolment during 1913 was 151, the average attendance being 113.

(ii.) *Victoria.* There are ten orphanages in Victoria, with 1551 beds. The total number under care in 1912-13 was about 2000. Average annual admissions are about 500. Deaths numbered six in 1912-13. The average annual expenditure has been about £23,000. In 1911-12 it was £27,463, and in 1912-13, £25,243.

At the end of 1913 there were three industrial and nine reformatory schools in the State. Of these, one industrial and one reformatory school are wholly controlled by the Government, being used merely as receiving and distributing depots. The children are sent thence to situations, foster homes, or other institutions dealing with State wards. The other schools are under private management, receiving an allowance for State wards. Many of the reformatory children are placed with friends, or licensed out. On 31st December, 1913, the wards of the State numbered 8553—classed mostly as neglected children. There were also some children free from legal control, who, being incapacitated, were maintained by the State. The total expenditure for 1913 was £119,564, of which £114,264 was borne by the Government.

(iii.) *Queensland.* There are seven orphanages in Queensland, with over 1000 beds. The number under care is about 900, deaths averaging nine per annum. The expenditure in 1913 was £19,024.

There are also six industrial and reformatory schools. The total number of children under State control at the end of 1913 was 4665. The gross cost was £63,440, of which £58,887 was borne by the Government.

(iv.) *South Australia.* The State Children's Department exercises a supervision over the probationary and industrial schools, the reformatories, and the Methodist Home. The total number of admissions into these institutions in 1912-13 was 225. The number of inmates on the 30th June, 1913, was 206, in addition to which 1369 were placed out, or had been adopted or apprenticed. There were no deaths of children in industrial schools, but of those placed out and in other institutions twelve died. The number of children under State control on 30th June, 1913, was 1575. The expenditure for 1912-13 was £27,970 in gross, of which the Government aid was £24,771.

There are three orphan asylums. The number under care during 1913 was 251. There was one death in the year, and expenditure amounted to £2685.

(v.) *Western Australia.* In Western Australia there were, in 1913, eight orphanages (including industrial orphanage schools). The inmates in these institutions during the year were 844, and the number in institutions on 31st December was 783. There were five deaths during the year. The State expenditure was about £10,000.

In the Government Industrial School there were, at the end of 1913, 356 inmates, 322 having been admitted during the year. Five deaths occurred. At the end of 1913 1174 children were under State control. The net cost to the State was £20,430, parents' contributions amounting to £794.

(vi.) *Tasmania.* There were ten admissions to the orphanage in 1913-14, and fifty-one inmates during the year. No deaths occurred. Expenditure amounted to £813.



There are three industrial schools under benevolent institutions in the State. Admissions in 1912-13 numbered nineteen, and total inmates during the year 118. No deaths occurred. The expenditure was £2810.

Under the boarding-out system upwards of 200 children are placed out at an expenditure of between £2000 and £2600. The total number of children under State control at the end of 1913 was 213, the gross cost to the State of children's relief being £4830, of which £366 represents parents' contributions.

(vii.) *Neglected Children.* The following table summarises the number of neglected children under State Departments. In New South Wales a number of children are boarded out with their own mothers, and the inclusion of these would make the total number of State-aided children in that State 10,665. Similar provisions are in force in some of the other States, the figures, however, not being available.

**STATE RELIEF OF NEGLECTED CHILDREN.—TRANSACTIONS OF STATE  
DEPARTMENTS IN THE COMMONWEALTH, 1913.**

Particulars.	N.S.W.*	Vict.	Qld.	S.A.†	W.A.‡	Tas.	Cwllth.
Number of Children under State control at end of year—							
Males ... ..	2,726	4,479	2,383	736	678	130	11,132
Females ... ..	1,969	4,074	2,282	839	496	83	9,743
Total ... ..	4,695	8,553	4,665	1,575	1,174	213	20,875
Gross cost to State of children's relief	£132,383	£119,564	£63,440	£27,970	£21,224	£4,830	£369,411
Receipts, from parents' contributions, etc.	6,371	5,300	4,553	3,199	794	366	20,583
Net cost ... ..	126,012	114,264	58,887	24,771	20,430	4,464	348,828

\* For year ended 5th April following.

5. **Lepers.**—Lazarets for the treatment of lepers have been established in New South Wales (Little Bay); Queensland (Peel Island, near Brisbane, and Dayman Island, Torres Strait); and the Northern Territory (Mud Island). Quarantine and isolation stations have also been used for the segregation of patients. A great deal of information concerning the beginning and progress of leprosy in Australia has been collected and published by Dr. J. Ashburton Thompson, while Chief Government Medical Officer and President of the Board of Health, New South Wales, from whose reports the following table has been compiled:—

**CASES OF LEPROSY RECORDED IN THE COMMONWEALTH, 1855 to 1911.**

State.	1855 to 1906.	1907.	1908.	1909.	1910.	1911.	Total.
New South Wales ... ..	140	4	2	2	5	3	156
Victoria ... ..	*27	—	—	—	—	—	*27
Queensland ... ..	†186	21	23	8	6	6	†250
South Australia ... ..	37	1	—	—	—	—	38
Western Australia ... ..	4	—	3	4	3	2	16
Tasmania ... ..	1	—	—	—	—	—	1
Total ... ..	*†395	26	28	14	14	11	*†488

\* In addition, some Chinese.

† In addition, many Kanakas.

6. **Hospitals for the Insane.**—The method of compiling insanity statistics has been fairly uniform throughout the States, but the various methods of observing the early stages of the development of insanity introduce an element of uncertainty which considerably reduces the value of comparison. In the summary given below, licensed houses (except as regards expenditure) are included in the total for New South Wales and Victoria, but in the latter State the figures are exclusive of reception houses and observation wards in gaols:—

### HOSPITALS FOR INSANE,\* COMMONWEALTH, 1909 to 1913.

Particulars.	1909.	1910.	1911.	1912.	1913.
Number of institutions ... ..	31	31	33	35	35
Number of beds ... ..	14,546	14,978	15,825	15,911	†
Admissions ... ..	2,740	2,936	3,079	3,017	3,153
Discharged as recovered, relieved, &c. ...	1,245	1,632	1,404	1,365	1,415
Deaths ... ..	1,046	1,177	1,246	1,311	1,292
Expenditure ... ..	£514,581	561,677	616,302	698,772	772,984

\* Exclusive of receiving wards at two general hospitals and including six licensed houses for insane in Victoria. † Information not available.

The proportion of insane, as well as the total number returned as under treatment, has changed very little during recent years. In the next table the number of insane under official care in Australia is given, and in the table following, the proportion of insane to population.

The number of insane persons in institutions in Australia at the end of each of the years 1909-1913 was as follows:—

### INSANE PERSONS IN THE COMMONWEALTH, 1909 to 1913.

State.	1909.	1910.	1911.	1912.	1913.
New South Wales ... ..	5,902	6,148	6,351	6,470	6,639
Victoria ... ..	5,097	5,241	5,340	5,470	5,631
Queensland ... ..	2,227	2,260	2,283	2,322	2,370
South Australia ... ..	1,051	1,055	1,084	1,082	1,082
Western Australia ... ..	782	793	842	876	933
Tasmania ... ..	506	505	521	534	526.
Commonwealth ... ..	15,565	16,002	16,421	16,754	17,181

For the period embraced in the tables Victoria shews the highest rate of insanity, roughly one in 250 persons. It is stated that this is chiefly owing to the proportionately greater number of old persons in that State. On the other hand, in Western Australia, where the population is much younger, a considerably lower insanity rate has prevailed, averaging about one in 350.

## PROPORTION OF INSANE, COMMONWEALTH, 1909 to 1913.

State.	1909.	1910.	1911.	1912.	1913.
PER 1000 OF THE POPULATION.					
New South Wales ...	3.66	3.74	3.79	3.46	3.62
Victoria ...	3.99	4.03	3.92	3.96	3.98
Queensland ...	3.85	3.77	3.67	3.65	3.60
South Australia ...	2.65	2.57	2.57	2.50	2.46
Western Australia ...	2.94	2.87	2.86	2.84	2.91
Tasmania ...	2.62	2.61	2.69	2.71	2.61
Commonwealth ...	3.60	3.62	3.59	3.47	3.53

Consequent upon the development of a more rational attitude towards the treatment of mental cases, a greater willingness is being shewn to submit necessary cases to treatment at an earlier stage than formerly. Hence an increase in the number of recorded cases does not necessarily imply an actual increase in insanity. It is important to bear this in mind, because the small progressive increase in the preceding table is probably to be attributed largely, if not solely, to this circumstance. The increase in expenditure is another evidence of the greater care bestowed on the insane.

The leading features in regard to institutions for the care of the insane are given below for 1913 :—

## HOSPITALS FOR THE INSANE.—NUMBER, STAFFS, ACCOMMODATION, COMMONWEALTH, 1913.

Particulars.	N.S.W.	Vict.*	Qld.	S.A.	W.A.	Tas.	C'wlth.
Number of Institutions—							
Government ...	9	9	3	1	2	1	25
Private ...	3	6†	...	...	1	...	10‡
Total ...	12	15	3	1	3	1	35
Medical Staff—							
Males ...	20	20	7	2	3	3	55
Females ...	1	...	...	...	...	...	1
Total ...	21	20	7	2	3	3	56
Nursing Staff & Attendants—							
Males ...	601	484	161	75	114	71	1,506
Females ...	477	468	102	53	49	50	1,199
Total ...	1,078	952	263	128	163	121	2,705
Accommodation—							
No. of dormitories ...	‡331	1,419	441	¶	34	334	¶
Capacity in cubic feet ...	‡3,413,012	3,705,055	1,353,918	¶	672,157	706,704	¶
No. of beds ...	‡5,971	5,011	2,383	1,170	1,026	¶	¶
Cubic feet to each bed ...	{ ‡600§ 11,000	739	568	¶	655	¶	¶

\* Exclusive of Receiving House, Royal Park, and of the Receiving Wards at Bendigo and Geelong hospitals. † There are six private licensed houses in Victoria, in which there were 105 cases at end of 1913. Other figures for these private asylums are not available. ‡ Government hospitals only. § Ordinary dormitory. || Hospital dormitory. ¶ Information not available.

## HOSPITALS FOR THE INSANE.—PATIENTS TREATED, 1913.

Particulars.	N.S.W.	Vic.*	Q'ld.	S.A.	W.A.	Tas.	C'wlth
<b>Admissions &amp; re-admissions during year—</b>							
Males ... ..	768	494	282	164	155	40	1,903
Females ... ..	503	364	171	108	75	29	1,250
<b>Total ... ..</b>	<b>1,271</b>	<b>858</b>	<b>453</b>	<b>272</b>	<b>230</b>	<b>69</b>	<b>3,153</b>
<b>Discharges—Recovered—</b>							
Males ... ..	300	117	138	9	44	14	622
Females ... ..	211	81	81	...	32	10	415
<b>Total ... ..</b>	<b>511</b>	<b>198</b>	<b>219</b>	<b>9</b>	<b>76</b>	<b>24</b>	<b>1,037</b>
<b>Relieved and unrelieved—</b>							
Males ... ..	51	47	8	27	8	1	202
Females ... ..	41	48	5	66	6	10	176
<b>Total ... ..</b>	<b>92</b>	<b>95</b>	<b>13</b>	<b>153</b>	<b>14</b>	<b>11</b>	<b>378</b>
<b>Absconders—</b>							
Males ... ..	6	11	...	...	2	...	19
Females ... ..	...	...	...	...	...	...	...
<b>Total ... ..</b>	<b>6</b>	<b>11</b>	<b>...</b>	<b>...</b>	<b>2</b>	<b>...</b>	<b>19</b>
<b>Deaths—</b>							
Males ... ..	340	238	118	68	65	27	856
Females ... ..	153	155	55	42	16	15	436
<b>Total ... ..</b>	<b>493</b>	<b>393</b>	<b>173</b>	<b>110</b>	<b>81</b>	<b>42</b>	<b>1,292</b>
<b>Inmates at end of year—</b>							
Males ... ..	3,918	2,839	1,472	615	669	267	9,780
Females ... ..	2,721	2,792	898	467	264	259	7,401
<b>Total ... ..</b>	<b>6,639</b>	<b>5,631</b>	<b>2,370</b>	<b>1,082</b>	<b>933</b>	<b>526</b>	<b>17,181</b>
<b>Average daily number resident—</b>							
Males ... ..	3,765	2,535	1,462	613	644	264	9,283
Females ... ..	2,512	2,448	880	465	252	263	6,820
<b>Total ... ..</b>	<b>6,277</b>	<b>4,983</b>	<b>2,342</b>	<b>1,078</b>	<b>896</b>	<b>527</b>	<b>16,103</b>

\* Exclusive of inmates of the Receiving House, Royal Park, and of Receiving Wards attached to the hospitals at Bendigo and Geelong, and of five private licensed houses.

In some of the States it is the practice to allow persons well advanced towards recovery to leave the institutions and reside with their relatives or friends, but they are nevertheless under supervision of the asylum authorities and are kept on the books. These patients are not shewn in the above table as inmates. In nearly every case absconders are retaken. They are shewn above as readmitted.

The revenue of Government asylums is small in comparison with their cost, and consists chiefly of patients' fees. The proportion of expenditure borne by the State amounts to about 86 per cent.

### HOSPITALS FOR THE INSANE (GOVERNMENT ONLY), REVENUE AND EXPENDITURE, 1913.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
Revenue—	£	£	£	£	£	£	£
Fees of patients ...	41,626	26,902	10,040	7,500	4,584	5,239	95,691
Other ...	2,071	...	1,223	145	3,748	558	7,745
Total ...	43,697	26,902	11,263	7,645	8,332	5,797	103,636
Expenditure—							
Salaries ...	141,908	101,237	40,731	16,670	21,844	12,523	334,913
Maintenance ...	109,311	97,854	32,904	19,738	21,480	7,338	288,625
Buildings ...	...	52,263	37,876	2,348	8,306	13,332	114,125
Other ...	26,456	...	...	...	1,896	6,969	35,321
Total ...	277,675	251,354	111,511	38,756	53,526	40,162	772,984

(i.) *New South Wales.* The latest return available shows that the average length of residence in the hospitals of persons who died, was 4 years 8 months for males and 5 years 9 months for females; and that of persons who were discharged, was 1 year 2 months for males and 1 year 7 months for females.

There are also two State reception houses, where suspected persons are confined for observation, being subsequently either discharged or transferred to lunatic asylums. In two of the gaols observation wards have been instituted, with similar functions.

(ii.) *Victoria.* The average residence in the hospitals of those who died was 7 years 5 months for males and 10 years 2 months for females; that of those discharged, 1 year 5 months for males and 1 year 8 months for females.

There are lunacy wards in two of the general hospitals; and also a State receiving house where persons are placed for observation, and subsequently discharged or transferred to asylums.

(iii.) *Queensland.* The average residence in the institutions of those who died was 5 years 11 months for males and 6 years 11 months for females; and of those who were discharged, 10 months for males and 1 year and 2 months for females.

There are also three reception houses for insane, which act as depots to which patients are sent with a view to determining whether their mental illness is of a merely temporary character, readily to be relieved, or is of such a nature as to need further treatment at the State asylums.

(iv.) *South Australia.* The average residence of those who died was 7 years and 10 months for males and 10 years 3 months for females; of those discharged, 11 months for males and 9 months for females.

(v.) *Western Australia.* The period of residence of those who died during the year averaged 5 years 1 month for males and 5 years 4 months for females; of those who were discharged, 10 months for males and 6 months for females.

(vi.) *Tasmania.* The period of residence of those who died was 7 years 1 month for males and 12 years 10 months for females; that of those discharged, 1 year 2 months for males and 9 months for females.

(vii.) *Causes of Insanity.* The proportion of causes of insanity to the total of ascertained causes in Australia in the five years 1909-1913 shews that hereditary influences have been the chief factor, more than one-fifth of the total ascertained causes

coming under this head. Domestic troubles, adverse circumstances, etc., have also been a fruitful source. About one case in six was due to intemperance in drink.

**PROPORTION OF ASCERTAINED CAUSES, etc., OF INSANITY, COMMONWEALTH,  
1909 to 1913.**

Causes, Previous History, etc.	1909.	1910.	1911.	1912.	1913.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Domestic trouble, adverse circumstances, mental anxiety ... ..	11.5	12.0	10.6	11.8	7.6
Intemperance in drink ... ..	10.1	14.4	15.0	16.3	16.3
Hereditary influence, ascertained; congenital defect, ascertained ... ..	15.0	16.9	18.7	21.7	22.6
Pregnancy, lactation, parturition and puerperal state, uterine and ovarian disorders, puberty, change of life ... ..	6.4	5.4	5.9	6.6	6.0
Previous attacks ... ..	12.0	12.2	9.3	9.5	8.7
Accident, including sunstroke ... ..	3.0	2.1	3.0	2.3	2.6
Old age ... ..	9.7	10.8	9.9	9.2	10.2
Other causes ascertained ... ..	32.3	26.2	27.6	22.6	26.0
All ascertained causes ... ..	100.0	100.0	100.0	100.0	100.0

**7. Treatment of Inebriates.**—The treatment of inebriates is referred to in the section dealing with Public Justice hereinbefore. (See page 802.)

**8. Protection of Aborigines.**—For the protection of the aboriginal Australian race there are institutions, under the supervision of Aborigines Boards, where the blacks are housed and encouraged to work, the children receiving elementary education. The work is usually carried on at mission stations, but many of the natives are nomadic in habit of life, and receive food and clothing when they call, whilst others but rarely come under the notice of the boards. The native race is extinct in Tasmania. The estimated average annual expenditure on maintenance, etc., for the last five years was—New South Wales, £20,000; Victoria, £4000; Queensland, £16,000; South Australia, including Northern Territory, £14,000; Western Australia, £24,000; total for Commonwealth, £78,000.

**9. Other Charitable Institutions.**—Owing to variety of name and function of other charitable institutions it has been found impracticable to give detailed results. The aid given in kind—food, clothing, tools of trade, etc.—is considerable, whilst the shelter and treatment afforded ranges from a bed for a night for casual callers in establishments ministering minor charity, to indoor treatment over long periods in those that exist for the relief of the aged and infirm. The institutions not so particularised include asylums for the deaf, dumb, and blind, maternity institutions and infant homes, homes for the destitute and aged poor, industrial colonies, night shelters, crèches, homes of hope, rescue homes, free kindergarten and ragged schools, auxiliary medical charities, free dispensaries, benevolent societies and nursing systems, ambulance and health societies, boys' brigades, humane and animals' protection societies, prisoners' aid associations, shipwreck relief societies, bush fires and mining accident relief funds, etc.

**10. State Expenditure on Charities.**—The table below gives the amount expended by Government on charities in each of the last five years. In some of the States amounts have been included for minor items, which in other States are charged to other heads:—

## STATE EXPENDITURE ON CHARITIES, 1909 to 1913.

State or Territory.	1909.	1910.	1911.	1912.	1913.
	£	£	£	£	£
New South Wales ...	519,327	528,289	518,484	576,886	683,102
Victoria ...	378,165	385,467	436,859	446,332	468,588
Queensland ...	200,141	205,577	237,224	262,171	261,237
South Australia ...	88,618	87,112	98,236	118,931	117,204
Western Australia ...	149,892	139,700	177,734	184,940	201,215
Tasmania ...	36,316	39,558	43,245	45,166	62,205
Northern Territory ...	...	...	...	5,328	5,602
Commonwealth ...	1,372,459	1,385,703	1,511,782	1,639,754	1,799,153

11. **Total Charitable Expenditure.**—The expenditure in the Commonwealth in money on hospitals, charities, and all forms of relief publicly given, comprising the amounts furnished by Government and those raised by public subscription, etc., but excluding old-age pensions, exceeds £3,000,000 annually.

## SECTION XXV.

## GENERAL GOVERNMENT.

## § 1. Scheme of Parliamentary Government.

1. **General.**—The legislative power of the Commonwealth is vested in the Federal Parliament, which consists of the Sovereign, the Senate, and the House of Representatives. The Sovereign is represented throughout the Commonwealth by the Governor-General, who, subject to the Constitution of the Commonwealth, has such powers and functions as the Sovereign is pleased to assign to him. In each State there is a State Governor, who is the representative of the Sovereign for the State, and who exercises such powers within the State as are conferred upon him by the Letters Patent which constitute his office, and by the instructions, which inform him in detail of the manner in which his duties are to be fulfilled. The Legislature in each State is also bi-cameral, and consists of (a) a Legislative Council and (b) a Legislative Assembly, or House of Assembly, the legislative powers of these chambers being delimited by the Commonwealth and the State Constitutions. The latter chamber, which is the larger, is always elective; the qualification for the franchise varies in character. The former chamber is, in the case of New South Wales and Queensland, nominated by the Governor-in-Council, but in the other States it is elective, the constituencies being differently arranged and some property qualification for the electorate being required. In the Federal Parliament, however, the qualifications for the franchise are identical for both Houses. A brief account of the constitutional history of each of the States was given in previous issues of this book (see especially Year Book No. 4, pp. 27 to 32).

2. **Number of Members of the Legislatures.**—The following table shews the number of members in each of the legislative chambers in the Commonwealth and in each State in April, 1915:—

MEMBERS OF PARLIAMENTS OF AUSTRALIA, 1915.

Members in—	C'wealth.	N.S.W.	Victoria.	Q'land.	S. Aust.*	W. Aust.	Tas.	Total.
Upper House	36	56	34	40	20	30	18	234
Lower House	75	90	65	72	46	50	30	428
Total ...	111	146	99	112	66	80	48	662

\* By "Constitution Further Amendment Act 1913," the number of members in the Upper House was increased to 20, and in the Lower to 46, the previous numbers being 18 and 40 respectively.

The use of the expressions "Upper House" and "Lower House" in the above statement, though not justified constitutionally, is convenient, inasmuch as the legislative chambers are known by different names in the Commonwealth and in some of the States.



In the Commonwealth Parliament the Upper House is known as the Senate, and in the State Parliaments as the Legislative Council. The Lower House is known as follows:—In the Commonwealth Parliament as the House of Representatives, in the State Parliaments of New South Wales, Victoria, Queensland, and Western Australia as the Legislative Assembly, and in the State Parliaments of South Australia and Tasmania as the House of Assembly.

**3. The Cabinet and Executive Government.**—The sections of the Commonwealth Constitution Act dealing with the Executive Government are given on pages 28 and 29 hereinafore. In both the Commonwealth and the State Legislatures the forms of Government have been founded on their prototype, the Imperial Government, and the relations established between the Ministry and the representatives of the people are in accordance with those prevailing in Great Britain. The executive powers in the Commonwealth and in the State Governments are vested in the Governor-in-Council. The Executive Council in the Commonwealth and in the majority of the States is practically co-extensive with a group of departmental chiefs who are usually spoken of as the Cabinet, and who change with the rise and fall of party majorities. In the Commonwealth Government, however, as well as in the States of Victoria and Tasmania, the Cabinet on leaving office remain members of the Executive Council, though they no longer attend its meetings, and it is in fact an essential feature of the Cabinet system of Government that they should not do so, except to assist the Governor in transacting purely formal business, or to advise on non-political questions.

(i.) *The Executive Council.* This body is composed of the Governor and the Ministers of State holding office for the time being. The latter are sworn both as Executive Councillors and as Ministers controlling the different administrative departments. It should be observed that all persons living who have held Ministerial office under former Governments are also technically members of the Executive Council, and are thus liable to be specially summoned for attendance at meetings of that body. The meetings are official in character; they are presided over by the Governor-General (or Governor) and are attended by the clerk, who keeps a formal record of its proceedings. At these meetings the decisions of the Cabinet are put into official form and made effective, appointments are confirmed, resignations accepted, proceedings ordered, and notices and regulations published.

The official members of the Executive Council in March, 1915, have been previously specified (see page 42). In addition, all living members of past Ministries (see following pages) are technically liable to be officially summoned to attend meetings of the Executive Council.

Particulars of previous Commonwealth Ministries are given on pages 41 and 42 hereinbefore, and on pages 831 and 832 following.

(ii.) *The Cabinet.* The meetings of this body are private and deliberative. No one is admitted but the actual Ministry of the day, no records of the meetings transpire, and no official notice is taken of the proceedings. The members of the Cabinet, being the leaders of the party in power in Parliament, control the bent of legislation and must retain the confidence of the people and also of the Governor-General (or Governor), to whom they act as an advising body. They also in effect wield, by virtue of their seats on the Executive Council, the whole executive force of the community. In summoning, proroguing, or dissolving Parliament the Governor-General (or Governor) is usually guided by the advice tendered him by the Cabinet, though legally in no way bound to accept such advice. The following statement gives the names of the Ministers of State for the Commonwealth, who have held office since the inauguration of the Commonwealth Government:—

# MINISTERS OF STATE FOR THE COMMONWEALTH OF AUSTRALIA FROM 1st JANUARY, 1901, TO APRIL, 1915.

EXTERNAL AFFAIRS.			TRADE AND CUSTOMS.		
Name.	From	To	Name.	From	To
Rt. Hon. E. BARTON, P.C., K.C.*	1/1/01	23/9/03	Rt. Hon. C. C. KINGSTON, P.C., K.C.	1/1/01	24/7/03
Hon. A. DEAKIN*	23/9/03	26/4/04	Hon. Sir W. J. LYNE, K.C.M.G.	7/8/03	26/4/04
Hon. W. M. HUGHES	26/4/04	17/8/04	Hon. A. FISHER††	26/4/04	17/8/04
Rt. Hon. G. H. REID, P.C., K.C.**	17/8/04	4/7/05	Hon. A. McLEAN	17/8/04	4/7/05
Hon. A. DEAKIN*	4/7/05	12/11/08	Hon. Sir W. J. LYNE, K.C.M.G.	4/7/05	29/7/07
Hon. E. L. BATCHELOR	12/11/08	2/6/09	Hon. A. CHAPMAN	29/7/07	12/11/08
Hon. L. E. GROOM	2/6/09	29/4/10	Hon. F. G. TUDOR	12/11/08	2/6/09
Hon. E. L. BATCHELOR	29/4/10	18/10/11	Hon. Sir R. W. BEST, K.C.M.G.	2/6/09	29/4/10
Hon. J. THOMAS	14/10/11	20/5/13	Hon. F. G. TUDOR	29/4/10	20/5/13
Hon. P. McM. GLYNN, K.C.	20/5/13	17/9/14	Hon. L. E. GROOM	20/5/13	17/9/14
Hon. J. A. ARTHUR	17/9/14	19/12/14	Hon. F. G. TUDOR	17/9/14	
Hon. HUGH MAHON	14/12/14				
ATTORNEY-GENERAL.			TREASURER.		
Name.	From	To	Name.	From	To
Hon. A. DEAKIN	1/1/01	23/9/03	Rt. Hon. Sir G. TURNER, P.C., K.C.M.G.	1/1/01	26/4/04
Hon. J. G. DRAKE	23/9/03	26/4/04	Hon. J. C. WATSON*	26/4/04	17/8/04
Hon. H. B. HIGGINS, K.C.	26/4/04	17/8/04	Rt. Hon. Sir G. TURNER, P.C., K.C.M.G.	17/8/04	4/7/05
Hon. Sir J. H. SYMON, K.C.M.G., K.C.	17/8/04	4/7/05	Rt. Hon. Sir J. FORREST, P.C., G.C.M.G.	4/7/05	29/7/07
Hon. I. A. ISAACS	4/7/05	11/10/06	Hon. Sir W. J. LYNE, K.C.M.G.	29/7/07	12/11/08
Hon. L. E. GROOM	11/10/06	12/11/08	Hon. A. FISHER* ††	12/11/08	2/6/09
Hon. W. M. HUGHES	12/11/08	2/6/09	Rt. Hon. Sir J. FORREST, P.C., G.C.M.G.	2/6/09	29/4/10
Hon. P. M. GLYNN	2/6/09	29/4/10	Rt. Hon. A. FISHER, P.C.*	29/4/10	20/5/13
Hon. W. M. HUGHES	29/4/10	20/5/13	Rt. Hon. Sir J. FORREST, P.C., G.C.M.G.	20/5/13	17/9/14
Hon. W. H. IRVINE, K.C.	20/5/13	17/9/14	Rt. Hon. A. FISHER, P.C.*	17/9/14	
Hon. W. M. HUGHES	17/9/14				
HOME AFFAIRS.			DEFENCE.		
Name.	From	To	Name.	From	To
Hon. Sir W. J. LYNE, K.C.M.G.	1/1/01	7/8/03	Hon. Sir J. R. DICKSON, K.C.M.G.	1/1/01	11/10/01
Rt. Hon. Sir J. FORREST, P.C., G.C.M.G.	7/8/03	26/4/04	Rt. Hon. Sir J. FORREST, P.C., G.C.M.G.	17/1/01	7/8/03
Hon. E. L. BATCHELOR	26/4/04	17/8/04	Hon. J. G. DRAKE	7/8/03	23/9/03
Hon. D. THOMSON	17/8/04	4/7/05	Hon. A. CHAPMAN	23/9/03	26/4/04
Hon. L. E. GROOM	4/7/05	11/10/06	Hon. A. DAWSON	26/4/04	17/8/04
Hon. T. T. EWING	11/10/06	23/1/07	Hon. J. W. McCAY	17/8/04	4/7/05
Hon. H. KEATING	23/1/07	12/11/08	Hon. T. PLAYFORD	4/7/05	23/1/07
Hon. H. MAHON	12/11/08	2/6/09	Hon. Sir T. T. EWING, K.C.M.G.	23/1/07	12/11/08
Hon. G. W. FULLER	2/6/09	29/4/10	Hon. G. F. PEARCE	12/11/08	2/6/09
Hon. K. O'MALLEY	29/4/10	20/5/13	Hon. J. COOK §§	2/6/09	29/4/10
Hon. JOSEPH COOK* §§	20/5/13	17/9/14	Hon. G. F. PEARCE	29/4/10	20/5/13
Hon. W. O. ARCHIBALD	17/9/14		Hon. E. D. MILLEN	20/5/13	17/9/14
			Hon. G. F. PEARCE	17/9/14	
POSTMASTER-GENERAL.			VICE-PRESIDENT OF THE EXECUTIVE COUNCIL.		
Name.	From	To	Name.	From	To
Rt. Hon. Sir JOHN FORREST, P.C., G.C.M.G.	1/1/01	17/1/01	Hon. R. E. O'CONNOR, K.C.	1/1/01	23/9/03
Hon. J. G. DRAKE	5/2/01	7/8/03	Hon. T. PLAYFORD	23/9/03	26/4/04
Hon. Sir P. O. Fysh, K.C.M.G.	7/8/03	26/4/04	Hon. G. MCGREGOR	26/4/04	17/8/04
Hon. H. MAHON	26/4/04	17/8/04	Hon. J. G. DRAKE	17/8/04	4/7/05
Hon. S. SMITH	17/8/04	4/7/05	Hon. T. T. EWING	4/7/05	11/10/06
Hon. A. CHAPMAN	4/7/05	29/7/07	Hon. J. H. KEATING	11/10/06	19/2/07
Hon. S. MAUGER	29/7/07	12/11/08	Hon. Sir R. W. BEST, K.C.M.G.	19/2/07	12/11/08
Hon. J. THOMAS	12/11/08	2/6/09	Hon. G. MCGREGOR	12/11/08	2/6/09
Hon. Sir J. QUICK	2/6/09	29/4/10	Hon. E. D. MILLEN	2/6/09	29/4/10
Hon. J. THOMAS	29/4/10	14/10/11	Hon. G. MCGREGOR	29/4/10	20/5/13
Hon. C. E. FRAZER	14/10/11	20/5/13	Hon. J. H. McCOLL	20/5/13	17/9/14
Hon. AGAR WYNNE	20/5/13	17/9/14	Hon. A. GARDINER	17/9/14	
Hon. W. G. SPENCE	17/9/14				

\* Prime Minister. † Afterwards the Rt. Hon. Sir E. Barton, P.C., G.C.M.G., etc. ‡ Afterwards the Hon. Sir T. T. Ewing, K.C.M.G. § Afterwards the Hon. Sir N. E. Lewis, K.C.M.G. || Still in office. ¶ Died while holding office. \*\* Prime Minister, afterwards the Rt. Hon. Sir G. H. Reid, P.C., K.C.M.G., etc. †† Afterwards the Rt. Hon. A. Fisher, P.C. §§ Afterwards the Rt. Hon. J. Cook, P.C. ||| Afterwards Sir W. H. Irvine, K.C.M.G., K.C.

**MINISTERS OF STATE FOR THE COMMONWEALTH OF AUSTRALIA FROM  
1st JANUARY, 1901, TO APRIL, 1915—(Continued).**

**WITHOUT PORTFOLIO.**

Name.	From	To	Name.	From	To
Hon. N. E. LEWIS† ...	1/1/01	23/4/01	Hon. E. FINDLEY ...	29/4/10	20/5/13
Hon. Sir P. O. FYSH, K.C.M.G. ...	23/4/01	7/8/03	Hon. C. E. FRAZER ...	29/4/10	14/10/11
Hon. J. H. KEATING ...	5/7/05	11/10/06	Hon. E. A. ROBERTS ...	23/10/11	20/5/13
Hon. S. MAUGER ...	11/10/06	29/7/07	Hon. J. S. CLEMONS ...	20/5/13	17/9/14
Hon. J. H. COOK ...	28/1/08	12/11/08	Hon. W. H. KELLY ...	20/5/13	17/9/14
Hon. J. HUTCHISON ...	12/11/08	2/6/09	Hon. H. MAHON ...	17/9/14	14/12/14
Hon. A. DEAKIN* ...	2/6/09	29/4/10	Hon. J. A. JENSEN ...	17/9/14	¶
Col. Hon. J. F. G. FOXTON, C.M.G. ...	2/6/09	29/4/10	Hon. E. J. RUSSELL ...	17/9/14	¶

See notes on previous page.

(iii.) *Constitution of Ministries.* The subjoined table shews the constitution of the Ministries in the Commonwealth and the State Governments in March, 1915:—

**CONSTITUTION OF MINISTRIES, 1915.**

Ministers with Seats in—	C'wealth.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
The Upper House ...	3	1	4	2	2	2	1	15
The Lower House ...	7	9	8	7	4	6	4	45
Total ...	10	10	12	9	6	8	5	60

The names of the members of the Ministries in each State in April, 1915, are shewn in the following statement:—

**MEMBERS OF STATE GOVERNMENT MINISTRIES, 1915.**

**NEW SOUTH WALES—MINISTRY.**

*Premier, Treasurer, and Minister for Railways—*  
HON. W. A. HOLMAN.  
*Minister for Public Works—*  
HON. J. H. CANN.  
*Attorney-General and Minister for Justice—*  
HON. D. R. HALL.  
*Minister for Public Instruction—*  
HON. A. GRIFFITH.  
*Chief Secretary—*  
HON. G. BLACK.

*Minister for Lands and Agriculture—*  
HON. W. G. ASHFORD.  
*Minister for Labour and Industry, and Mines—*  
HON. J. ESTELL.  
*Vice-President of the Executive Council—*  
HON. F. FLOWERS, M.L.C.  
*Ministers without Portfolio—*  
HON. W. GRAHAME.  
HON. H. C. HOYLE.

**VICTORIA—MINISTRY.**

*Premier, Treasurer, and Min. of Labour—*  
HON. SIR A. PEACOCK, K.C.M.G.  
*Chief Secretary—*  
HON. J. MURRAY.  
*Minister for Water Supply and Agriculture—*  
HON. W. HUTCHINSON.  
*Commissioner of Crown Lands and Survey—*  
HON. H. S. W. LAWSON.  
*Minister for Mines, Forests and Public Health—*  
HON. J. D. BROWN, M.L.C.

*Minister of Public Instruction—*  
HON. T. LIVINGSTON.  
*Attorney-General and Minister of Railways—*  
HON. D. MACKINNON.  
*Commissioner of Public Works—*  
HON. F. W. HAGELTHORN, M.L.C.  
*Ministers without Portfolio—*  
HON. W. BAILLIEU, M.L.C.  
HON. W. A. ADAMSON, M.L.C.  
HON. J. GRAY.  
HON. J. C. MEMBREY.

**QUEENSLAND—MINISTRY.**

*Premier, Vice-Pres. of Ex. Council, and Chief Sec.—*

HON. D. F. DENHAM.

*Home Secretary and Secretary for Mines—*  
(Vacant).

*Secretary for Public Lands—*

HON. J. TOLMIE.

*Treasurer and Secretary for Public Works—*

HON. W. H. BARNES.

*Secretary for Railways—*

HON. W. T. PAGET.

*Secretary for Public Instruction—*

HON. J. W. BLAIR.

*Attorney-General—*

HON. T. O'SULLIVAN, K.C., M.L.C.

*Secretary for Agriculture and Stock—*

HON. J. WHITE.

*Minister without Portfolio—*

HON. A. H. BARLOW, M.L.C.

**SOUTH AUSTRALIA—MINISTRY.**

*Premier and Treasurer—*

HON. C. VAUGHAN.

*Chief Secretary—*

HON. A. W. STYLES, M.L.C.

*Minister for Lands and Agriculture—*

HON. C. GOODE.

*Attorney-General—*

HON. J. H. VAUGHAN, M.L.C.

*Commissioner of Public Works and Minister of Water Supply—*

HON. H. JACKSON.

*Minister for Industry, Mines and Marine—*

HON. R. P. BLUNDELL.

**WESTERN AUSTRALIA—MINISTRY.**

*Premier, Colonial Treasurer, and Minister for Railways—*HON. J. SCADDAN.

*Minister for Lands and Agriculture—*

HON. W. D. JOHNSON.

*Minister for Mines and Water Supply—*

HON. P. COLLIER.

*Attorney-General and Min. for Education—*

HON. T. WALKER.

*Minister for Works and Industries—*

HON. W. C. ANGWIN.

*Colonial Secretary—*

HON. J. M. DREW, M.L.C.

*Ministers without Portfolio—*

HON. J. E. DODD, M.L.C.

HON. R. H. UNDERWOOD.

**TASMANIA—MINISTRY.**

*Premier and Attorney-General—*HON. J. EARLE.

*Chief Secretary and Minister for Mines and Labour—*

HON. J. E. OGDEN.

*Treasurer and Minister for Education and Railways—*

HON. J. A. LYONS.

*Minister of Lands and Works and Agriculture—*

HON. J. BELTON.

*Minister without Portfolio—*

HON. P. MCCrackan, M.L.C.

4. **The Appointment of Ministers and of Executive Councillors.**—Although it is technically possible for the Governor to make and unmake cabinets at his pleasure, under all ordinary circumstances his apparent liberty in choosing his Executive Council is virtually restricted by the operation of constitutional machinery. When a Ministry is defeated in Parliament or at the polls, the procedure both in the Commonwealth and the State Parliaments generally, though not invariably, follows that prevailing in the Imperial Parliament. The customary procedure in connection with the resignation or acceptance of office by a Ministry is described fully in previous issues of the Year Book. (No. 6, page 942.)

5. **Enactments of the Parliament.**—In the Commonwealth, all laws are enacted in the name of the Sovereign, the Senate, and the House of Representatives. The subjects with respect to which the Commonwealth Parliament is empowered to make laws are enumerated in the Constitution Act (see pp. 25-28 hereinbefore). In the States, laws are

1. See Jenks' "Government of Victoria," pp. 269 *et seq.*

enacted in the name of the Sovereign by and with the consent of the Legislative Council and Legislative Assembly or House of Assembly. The Governor-General or the State Governor acts as Viceroy as regards giving the Royal Assent to or vetoing Bills passed by the Legislatures, or reserving them for the special consideration of the Sovereign. In the States, the Councils and Assemblies are empowered generally, subject to the Commonwealth Constitution, to make laws in and for their respective States in all cases whatsoever. Subject to certain limitations, they may alter, repeal, or vary their Constitution. Where a law of a State is inconsistent with a law of the Commonwealth the latter prevails, and the former is, to the extent of the inconsistency, invalid.

**6. Powers and Functions of the Governor-General and of the Governors.**—The Governor-General and the State Governors act under the authority of the commissions by which they are appointed and of Letters Patent under the Great Seal of the United Kingdom, and according to instructions issued by the Colonial Office and passed under the Royal Sign Manual and Signet.

The office of Governor-General and Commander-in-Chief of the Commonwealth was constituted by Letters Patent issued on the 29th October, 1900, in pursuance of the provisions of the Commonwealth Constitution Act (see p. 20 hereinbefore). The powers and duties of the Governor-General were further defined by Royal instructions passed on the same date. The principal and most important of his functions, legislative as well as executive, are expressly conferred upon him by the terms of the Constitution itself. He is the custodian of the Great Seal of the Commonwealth, and has the appointment of political officers to administer Departments of State of the Commonwealth.

His legislative functions are exercised with respect to proposed laws as finally passed by the Federal Houses of Parliament. Such Bills are presented to the Governor-General for his assent in the King's name, on receiving of which they become law throughout the Commonwealth. The Governor-General may, however, withhold his assent, or may reserve any Bill for the King's pleasure. He may return to the House in which it originated any proposed law with suggested amendments. The King may disallow any law within one year from the date on which it was assented to by the Governor-General.

The Governor-General's executive functions are, under ordinary circumstances, exercised on the advice of his responsible Ministers. Various specific powers are vested in him by the Constitution; he may summon or prorogue Parliament and may dissolve the House of Representatives. He is the Commander-in-Chief of the military and naval forces of the Commonwealth, and is invested by the Crown with the prerogative of mercy in cases of offences committed against the laws of the Commonwealth.

The Governor-General is also invested with authority in certain matters of Imperial interest, such as the control of the naval and military forces of the Commonwealth; the observance of the relations of foreign States to Great Britain, so far as they may be affected by the indirect relations of such States to the Commonwealth; and the treatment of neutral and belligerent ships in Commonwealth waters in time of war.

The Governor-General may not leave the Commonwealth without having first obtained leave from the Imperial Government, to whom alone he is responsible for his official acts. The powers and functions of the State Governors are, within their respective States, very similar to those exercised by the Governor-General for the Commonwealth, and are defined by the terms of their Commissions and by the Royal instructions accompanying the same. A State Governor is the official head of the State Legislature, and assents in the name of the Crown to all Bills passed by the Parliament, except those reserved for the Royal Assent. The latter include certain classes of Bills, which are regulated by the Constitution Acts and by the instructions issued by the Imperial Government. The Governors are, under ordinary circumstances, guided by their Executive Councils, the chief matters in which the exercise of discretion is required being the granting or withholding of a dissolution of Parliament when requested by a Premier; the appointment of a new Ministry; or the assenting to, vetoing, or receiving of Bills passed by the legislative chambers. The Governors are authorised, under certain restrictions, to administer the prerogative of mercy by the reprieve or pardon of criminal offenders within their jurisdiction, and to remit fines and penalties due to the Crown.

All moneys to be expended for the public service are issued from the Treasury under the Governor's warrant.

In a recent work in which the above matters are exhaustively discussed,\* it is indicated that there are important functions in the hands of a Governor, and that his influence may extend beyond what is anticipated by those who are unfamiliar with the activities of actual government. This is, however, essentially a matter of individual character. A Governor is entitled to the fullest confidence of his Ministers, to be informed at once of any important decisions taken by his Cabinet, and to discuss them with the utmost freedom. He can point out objections, give advice, deprecate measures, and urge alterations, subject, however, to his remaining always behind the scenes. It should be remembered, moreover, that the State Executive Councils owe their existence to the Royal Letters Patent constituting the office of Governor and that, in law, the Governor is never bound to accept the advice of his Ministers. He cannot indeed do many things without their advice, for it is provided by law (either in the Constitution or Interpretation Acts, or by authoritative usage) that a Governor-in-Council must act on the advice of the Council. He cannot therefore perform any act in Council without a majority, though he can always refuse to act, and thus force his Ministers either to give way on the point at issue or to resign their posts. Even in the case of a ministerial act he can forbid a Minister to take any action on pain of dismissal. Nominally a Governor will, of course, be justified in accepting the advice of his Ministers as being a correct statement of the facts and law, but he is not bound to be so satisfied, and in matters of law he must exercise his own judgment if he be in doubt. A Governor is not, however, entitled to refuse to act on the advice of his Ministers because he personally does not approve of their action or policy; his duty is not to his own conscience, but to the people of the State which he governs, and he should execute that duty independently of every other consideration.

Although the above furnishes a brief *resumé* of the powers of a Governor from a legal point of view, in practice the exercise of his powers is generally limited by his ability to persuade his Ministers as to the desirability of any particular course of action. Disagreement with Ministers is only justifiable in extreme cases, and even then it involves the responsibility of finding other Ministers, who must either shew that they have as much support as any other party, or be prepared to administer during a dissolution, pending an appeal to the people. It may be remarked that a Governor who cannot work with Ministers possessing the support of the people must be recalled, unless he has acted on Imperial grounds, and the dispute is not one between him and Ministers, but between the Imperial and State Governments.

It may also be pointed out that a Governor, besides acting according to law, has, within the range of what is lawful, to act according to the instructions of the Secretary of State. He is called upon to do so by the instruments which create his office and appoint him Governor, and he obeys the Secretary of State as the mouthpiece of the Crown. Historically, there have been many cases in which these instructions have placed Governors in opposition to their Ministers.

The present Governor-General is the Right Honourable Sir Ronald Craufurd Munro Ferguson, P.C., G.C.M.G. He assumed office 18th May, 1914. Particulars of previous Governors-General are given on p. 40 hereinbefore.

The following is a list of the Governors of the various States of the Commonwealth:—

<i>New South Wales</i> ...	SIR GERALD STRICKLAND, Count Della Catena, G.C.M.G.
<i>Victoria</i> ...	The Hon. SIR ARTHUR LYULPH STANLEY, K.C.M.G.
<i>Queensland</i> ...	Major SIR HAMILTON JOHN GOOLD-ADAMS, G.C.M.G.
<i>South Australia</i> ...	Lieutenant-Colonel SIR HENRY LIONEL GALWAY, K.C.M.G., D.S.O.
<i>Western Australia</i> ...	Major-General SIR HARRY BARRON, K.C.M.G., C.V.O.
<i>Tasmania</i> ...	The Rt. Hon. SIR WILLIAM GREY ELLISON-MACARTNEY, P.C., K.C.M.G.

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\* "Responsible Government in the Dominions," A. B. Keith, Oxford, Clarendon Press, 1912. Vol. I.

7. **Cost of Parliamentary Government.**—The following statement shews the cost of parliamentary government in the Commonwealth and in each State, as well as the cost per head of population, for the year ended the 30th June, 1914 :—

**COST OF PARLIAMENTARY GOVERNMENT, 1913-14.**

Particulars.	C'wth.	N. S. W.	Vict.	Q'ld.	S. A.	W. A.	Tas.	Total.
	£	£	£	£	£	£	£	£
<b>1. Governor-General or Governor—</b>								
Governor's salary ...	10,000	5,000	5,000	3,000	4,000	4,000	2,750	33,750
Official secretary's salary ...	650	350		300		350		
Governor's establishments ...	5,118		4,772	2,260		1,096	224	
Repairs and maintenance of ...		1,150		917	1,524	529	531	
Governor's residences ...		2,846	913	409	322	977	371	
Miscellaneous ...	2,047							
<b>Total ...</b>	<b>17,815</b>	<b>9,346</b>	<b>10,685</b>	<b>6,886</b>	<b>5,846</b>	<b>6,952</b>	<b>3,876</b>	<b>61,406</b>
<b>2. Executive Council—</b>								
Salaries of officers ...	130	108	576	240		350	(i)	1,404
Other expenses ...	22		56	89		43	(i)	210
<b>Total ...</b>	<b>152</b>	<b>108</b>	<b>632</b>	<b>329</b>		<b>393</b>		<b>1,614</b>
<b>3. Ministry—</b>								
Salaries of Ministers ...	12,000	11,040	8,400	8,300	5,000	6,200	3,200	54,140
Other expenses ...	32	2,777	(g)			1,547	1,127	5,483
<b>Total ...</b>	<b>12,032</b>	<b>13,817</b>	<b>8,400</b>	<b>8,300</b>	<b>5,000</b>	<b>7,747</b>	<b>4,327</b>	<b>59,623</b>
<b>4. Parliament—</b>								
<b>A. The Upper House:</b>								
Allowances to members ...	21,004				3,180	9,600	2,671	36,455
Railway passes ...	10,627	5,855	1,020	(h)	720	220	750	(k)19,192
Other expenses of members ...					127		20	147
<b>B. The Lower House:</b>								
Allowances to members ...	43,746	38,887	17,064	19,213	6,785	15,626	4,373	145,694
Railway passes ...	(b)	9,699	1,950	(h)	1,600	310	1,250	(k)14,800
Other expenses of members ...		1,616		1,534	303	32	37	3,722
<b>C. Miscellaneous:</b>								
Salaries of officers and staff ...	15,268	21,882	13,625	6,735	5,331	3,633	2,891	69,365
Printing ...	8,776	10,823	3,431	2,366	5,659	553	1,744	33,352
Hansard ...	19,600	7,378	7,175	5,678	2,571	4,739		47,141
Library ...	5,427	684	1,761	1,221	711	300	121	10,225
Refreshment rooms ...	1,200	106	1,455	1,038	1,192	1,216	123	6,330
Water, power, light and heat ...	1,315	682	579	362	670			
Postage and stationery ...	1,966	696		328	308			
Miscellaneous ...	6,700	(d)7,985	1,194	455	590	2,713	314	26,857
<b>Total ...</b>	<b>135,629</b>	<b>106,493</b>	<b>49,254</b>	<b>38,930</b>	<b>29,747</b>	<b>38,942</b>	<b>14,294</b>	<b>413,239</b>
<b>5. Electoral Office—</b>								
Salaries of officers and staff ...	9,494	995	1,038	1,493	2,949	2,263		
Other expenses ...	56,763	34,867	17,351	4,717	1,473	4,508	1,439	139,350
<b>Total ...</b>	<b>66,257</b>	<b>(e)35,862</b>	<b>18,389</b>	<b>6,210</b>	<b>4,422</b>	<b>6,771</b>	<b>1,439</b>	<b>139,350</b>
<b>6. Cost of Elections</b>	<b>28,252</b>	<b>(f)</b>	<b>1,691</b>	<b>1,324</b>	<b>822</b>	<b>2,448</b>	<b>696</b>	<b>35,233</b>
<b>7. Royal Commissions and Select Committees</b>	<b>3,654</b>	<b>5,662</b>	<b>2,850</b>		<b>1,751</b>	<b>713</b>	<b>120</b>	<b>14,750</b>
<b>GRAND TOTAL ...</b>	<b>263,791</b>	<b>171,288</b>	<b>91,901</b>	<b>61,979</b>	<b>47,588</b>	<b>63,966</b>	<b>24,753</b>	<b>725,265</b>
<b>Cost per head of population</b>	<b>1s. 0.8d.</b>	<b>1s. 10.1d.</b>	<b>1s. 3.5d.</b>	<b>1s. 9.9d.</b>	<b>2s. 2.2d.</b>	<b>3s. 11.4d.</b>	<b>2s. 6.0d.</b>	<b>2s. 11.3d.</b>

(a) Including Lower House. (b) Included in Upper House. (c) Including Referenda. (d) Including expenses of Standing Committee on Public Works. (e) Including cost of elections. (f) Included in No. 5. (g) Members are allowed £1 a day when travelling. (h) Not available. Each member of both Houses has a pass for the whole of the State Railways. (i) Included in Premier's Office. (k) Exclusive of Queensland.

## § 2. Parliaments and Elections.

1. **Qualifications for Membership and for Franchise.**—The summary on pages 844-845 gives particulars as to the legislative chambers in the Commonwealth and State Parliaments, and shews concisely the qualifications necessary for membership and for the franchise in each House. Persons who are otherwise eligible, either as members or voters, are generally disqualified on the usual grounds of being of unsound mind or attainted of treason, being convicted of certain offences, and, as regards membership, on the grounds of holding a place of profit under the Crown, being pecuniarily interested in Government contracts, or being an undischarged bankrupt.

2. **The Federal Parliament.**—The Senate consists of thirty-six members, six being returned by each of the original federating States. Members of this chamber are elected for a term of six years, but by a provision in the Constitution a certain number retire at the end of every third year, although they are eligible for re-election. In accordance with the Constitution the total number of members of the House of Representatives must be as nearly as possible double that of the Senate. In the House of Representatives the States are represented on a population basis, and the numbers stand at present as follows:—New South Wales, 27; Victoria, 21; Queensland, 10; South Australia, 7; Western Australia, 5; Tasmania, 5—total, 75. The Constitution provides for a minimum of five members in each original State. Members of the House of Representatives are elected for the duration of the Parliament, which is limited to three years. In elections for Senators each State is counted as a single electorate, but an elaborate scheme of subdivision had to be undertaken in order to provide workable electorates in each State for members of the House of Representatives. Members of both Houses are paid at the rate of £600 per annum. Further information regarding the Senate and the House of Representatives is given on pages 20 to 25 hereinbefore.

*Particulars of Elections.* There have been five complete Parliaments since the inauguration of Federation. The dates of the opening and dissolution of these Parliaments are given on page 39. The fifth Parliament, which was opened on the 9th July, 1913, was dissolved on the 27th June, 1914, in somewhat unusual circumstances. Under Section 27 of the Constitution, it is provided that, should the Senate fail to pass, or pass with amendments, any proposed law previously passed by the House of Representatives, and should the latter House, after a specified interval, again pass the proposed law, with or without the amendments of the Senate, and the Senate for a second time reject it or pass it with amendments to which the lower House will not agree, then the Governor-General may dissolve the two Houses simultaneously. For the first time in the history of the Commonwealth this deadlock between the Senate and the House of Representatives occurred in the second session of the Fifth Parliament, and in accordance with the section of the Constitution referred to above, both Houses were dissolved by the Governor-General. Particulars regarding the number of electors enrolled and the number of electors to whom ballot-papers were issued at the last five elections may be found in the tables given hereunder:—



**FEDERAL ELECTIONS OF 16th DECEMBER, 1903, 12th DECEMBER, 1906,  
13th APRIL, 1910, 31st MAY, 1913, and 5th SEPTEMBER, 1914.**

State.	Electors Enrolled.			Electors to whom Ballot Papers were Issued.			Percentage of Voters to Electors Enrolled.			
	Males.	Fem.	Total.	Males.	Fem.	Total.	Males.	Fem.	Total.	
THE SENATE.										
New South Wales	1903	360,285	326,764	687,049	189,877	134,487	324,364	52.70	41.16	47.21
	1906	392,077	345,522	737,599	229,654	151,682	381,336	58.57	43.90	51.70
	1910	444,269	390,393	834,662	301,167	211,635	512,802	67.79	54.21	61.44
	1913	554,028	482,159	1,036,187	405,152	312,703	717,855	73.13	64.85	69.28
	1914	576,309	506,820	1,083,129	407,464	294,939	702,403	70.70	58.19	64.85
Victoria ...	1903	302,069	310,403	612,472	171,839	141,648	313,487	56.89	45.63	51.18
	1906	335,886	336,168	672,054	209,252	171,933	381,185	62.30	51.14	56.72
	1910	346,050	357,649	703,699	245,666	222,869	468,535	70.99	62.32	66.58
	1913	407,852	422,539	830,391	326,856	300,005	626,861	80.14	71.00	75.49
	1914	401,055	413,685	814,740	335,057	309,841	644,898	83.54	74.90	79.15
Queensland ...	1903	127,914	99,166	227,080	79,938	44,569	124,507	62.49	44.94	54.83
	1906	150,037	121,072	271,109	79,567	44,972	124,539	53.03	37.14	45.94
	1910	158,436	120,595	279,031	104,570	66,064	170,634	66.00	54.78	61.15
	1913	206,727	156,355	363,082	163,380	117,145	280,525	79.03	74.92	77.26
	1914	207,587	160,620	368,207	163,709	112,695	276,404	78.56	70.16	75.07
South Australia ...	1903	85,947	81,828	167,775	35,736	19,049	54,785	41.58	23.28	32.65
	1906	97,454	95,664	193,118	43,318	27,199	70,517	44.45	28.43	36.51
	1910	105,301	102,354	207,655	63,384	47,119	110,503	60.19	46.03	53.23
	1913	124,222	119,804	244,026	103,739	91,724	195,463	63.51	76.56	80.10
	1914	131,758	125,595	257,353	110,049	96,195	206,244	83.52	76.59	80.14
Western Australia	1903	74,754	42,188	116,942	26,878	6,270	33,148	35.96	14.86	28.35
	1906	91,427	54,046	145,473	37,180	15,532	52,712	40.67	28.74	36.23
	1910	80,996	53,983	134,979	53,704	30,189	83,893	66.30	55.92	62.15
	1913	106,264	73,520	179,784	80,011	52,138	132,149	75.29	70.92	73.50
	1914	107,005	75,102	182,107	79,150	50,984	130,134	73.97	67.89	71.46
Tasmania ...	1903	43,515	38,753	82,268	23,729	13,292	37,021	54.53	34.30	45.00
	1906	47,306	42,903	90,209	29,164	19,715	48,879	61.65	45.95	54.18
	1910	51,731	46,725	98,456	33,539	24,070	57,609	64.83	51.51	58.51
	1913	54,856	51,890	106,746	43,539	36,859	80,398	79.37	71.03	75.32
	1914	54,754	51,225	105,979	44,504	37,749	82,253	81.28	73.69	77.61
Commonwealth	1903	994,484	899,102	1,893,586	527,997	359,315	887,312	53.09	39.96	46.86
	1906	1,114,187	995,375	2,109,562	628,135	431,033	1,059,168	56.38	43.30	50.21
	1910	1,186,783	1,071,699	2,258,482	802,030	601,964	1,403,976	67.58	56.17	62.16
	1913	1,453,949	1,306,267	2,760,216	1,122,677	910,574	2,033,251	77.22	69.71	73.66
	1914	1,478,468	1,333,047	2,811,515	1,139,933	902,403	2,042,336	77.10	67.69	72.64

**THE HOUSE OF REPRESENTATIVES.\***

New South Wales	1903	303,254	274,763	578,017	164,133	118,381	282,514	54.12	43.08	48.88
	1906	363,723	314,777	678,500	216,150	141,227	357,377	59.43	44.87	52.67
	1910	431,702	379,927	811,629	294,409	207,868	501,917	68.11	54.71	61.84
	1913	554,028	482,159	1,036,187	405,152	312,703	717,855	73.13	64.85	69.28
	1914	576,309	499,066	1,075,375	407,464	294,939	702,403	70.70	58.19	64.85
Victoria ...	1903	241,134	247,089	488,223	142,460	120,329	262,789	59.08	48.70	53.83
	1906	335,886	336,168	672,054	209,266	171,999	381,265	62.30	51.16	56.73
	1910	346,050	357,649	703,699	245,666	222,869	468,535	70.99	62.32	66.58
	1913	407,852	422,539	830,391	326,856	300,005	626,861	80.14	71.00	75.49
	1914	321,655	326,781	648,436	372,632	256,757	629,379	84.76	76.24	80.10
Queensland	1903	114,550	88,375	202,925	74,042	41,689	115,731	64.64	47.17	57.03
	1906	150,037	121,072	271,109	79,540	44,942	124,482	53.01	37.12	45.92
	1910	158,436	120,595	279,031	104,570	66,064	170,634	66.00	54.78	61.15
	1913	206,727	156,355	363,082	163,380	117,145	280,525	79.03	74.92	77.26
	1914	163,836	138,534	302,370	132,782	98,074	230,856	81.05	70.79	76.35
South Australia ...	1903	23,856	25,789	49,645	12,394	7,728	20,122	51.95	29.97	40.53
	1906	42,065	38,578	80,643	19,850	12,669	32,519	47.19	32.84	40.32
	1910	59,581	61,594	121,175	37,189	29,852	67,041	62.42	48.47	55.33
	1913	90,009	85,304	175,313	74,316	65,704	140,020	82.57	77.02	79.87
	1914	116,594	111,372	227,966	97,182	84,956	182,138	83.35	76.28	79.90
Western Australia	1903	41,500	28,324	69,824	16,824	4,409	21,233	40.54	15.57	30.41
	1906	91,427	54,046	145,473	36,976	15,740	52,716	40.44	29.12	36.24
	1910	80,936	53,983	134,919	53,704	30,189	83,893	66.30	55.92	62.15
	1913	87,570	62,088	149,658	65,754	44,310	110,064	75.09	71.37	73.93
	1914	89,824	64,736	154,560	66,221	44,456	110,677	73.72	68.67	71.61
Tasmania	1903	43,515	38,753	82,268	23,729	13,284	37,013	54.53	34.28	44.99
	1906	37,779	34,839	72,618	23,753	16,441	40,194	62.87	47.19	55.35
	1910	51,731	46,725	98,456	33,559	24,070	57,609	64.83	51.51	58.51
	1913	54,856	51,890	106,746	43,539	36,859	80,398	79.37	71.03	75.32
	1914	42,995	41,122	84,117	34,789	30,314	65,103	80.91	73.72	77.40
Commonwealth	1903	767,809	703,093	1,470,902	433,582	305,820	739,402	56.47	43.50	50.27
	1906	1,020,917	899,480	1,920,397	585,535	403,018	988,553	57.35	44.81	51.48
	1910	1,128,496	1,020,473	2,148,969	768,714	580,912	1,349,626	68.12	56.93	62.80
	1913	1,401,042	1,260,335	2,661,377	1,078,997	878,726	1,957,723	77.01	69.56	73.49
	1914	1,225,990	1,122,451	2,348,441	954,768	772,138	1,726,906	77.83	68.79	73.53

\* For the House of Representatives the number of electors enrolled in contested divisions only is given.

In the Senate the figures for the year 1906 shew that ballot-papers were issued to 50.21 per cent. of the electors, and are a slight improvement on those for the year 1903, when only about 47 per cent. of the electors visited the polls. There was, however, a substantial increase in the number of electors who voted at the 1910 elections, 62.16 per cent. of the persons on the rolls exercising the franchise. The elections of 1913 shewed a gratifying increase over those of 1910, no less than 73.49 per cent. of the persons on the rolls exercising their right to vote, while in 1914, the percentage was almost as high, viz., 72.64 per cent. It will be seen from the foregoing table that the electors of the Commonwealth are setting a higher value on the privilege of the franchise. The percentage of female voters in 1914, while still considerably below that of the males, shews a marked increase on that of female voters in the earlier years of Federation.

**3. Commonwealth Referenda, 26th April, 1911.**—Two proposed laws for the alteration of the Constitution were submitted to the people for acceptance or rejection on the 26th April, 1911. They were (A) The Constitution Alteration (Legislative Powers) 1910, and (B) the Constitution Alteration (Monopolies) 1910. If, in a majority of the States, a majority of the electors voting approve the proposed laws, and if a majority of all the electors voting also approve them, they are presented to the Governor-General for the King's assent. Particulars of the alterations proposed have already been given (see page 25).

Results of the Referenda of 1911 are given in the following table, which shews the number of electors enrolled, electors to whom ballot papers were issued, and the number of votes in favour of, and against, each of the proposed laws, and, as will be seen, neither of the proposed laws was approved by the people.

**COMMONWEALTH REFERENDA (LEGISLATIVE POWERS AND MONOPOLIES),  
TAKEN ON 26th APRIL, 1911.**

State.	Electors Enrolled.			Electors to whom Ballot Papers were Issued.			Legislative Powers.		Monopolies.	
							Total Number of Votes given in favour of the Prop's'd Law.	Total Number of Votes given not in favour of the Prop's'd Law.	Total Number of Votes given in favour of the Prop's'd Law.	Total Number of Votes given not in favour of the Prop's'd Law.
N.S.W. ...	461,196	406,998	868,194	233,668	150,520	384,188	135,968	240,605	138,237	238,177
Victoria ...	355,381	367,996	723,377	236,194	212,372	448,566	170,288	270,390	171,453	268,743
Q'land ...	167,725	125,278	293,003	101,245	60,890	162,135	69,552	89,420	70,259	88,472
S.Aust. ...	110,217	105,810	216,027	72,761	61,041	133,802	50,358	81,904	50,835	31,479
W.Aust. ...	83,850	54,847	138,697	42,598	18,884	61,482	33,043	27,185	33,592	26,561
Tas. ...	54,008	48,318	102,326	33,103	24,950	58,053	24,147	33,200	24,292	32,960
Totals for C'wealth	1,232,377	1,109,247	2,341,624	719,569	526,657	1,246,226	483,356	742,704	488,668	736,392

**4. Commonwealth Referenda, 31st May, 1913.**—At the general elections that took place on 31st May, 1913, the question of altering the Constitution so as to extend the powers of the Commonwealth was again submitted to the people. The particulars of the

proposed laws have been given on page 25 hereinbefore. The results of the Referenda of 1913 are given below, and, as will be seen, none of the proposed laws was approved by the electors.

### COMMONWEALTH REFERENDA (LEGISLATIVE POWERS) TAKEN ON

31st MAY, 1913.

State.	Electors Enrolled.			Electors to whom Ballot Papers were Issued.			Percentage of Voters to Electors Enrolled.		
	Males.	Fe-males.	Total.	Males.	Fe-males.	Total.	Males.	Fe-males.	Total.
New South Wales ...	554,028	482,159	1,036,187	405,152	312,703	717,855	73.13	64.85	69.28
Victoria ...	407,852	422,539	830,391	326,856	300,005	626,861	80.14	71.00	75.49
Queensland ...	206,727	156,355	363,082	163,380	117,145	280,525	79.03	74.92	77.26
South Australia ...	124,222	119,804	244,026	103,739	91,724	195,463	83.51	76.56	80.10
Western Australia...	106,264	73,520	179,784	80,011	52,138	132,149	75.29	70.92	73.50
Tasmania ...	54,856	51,890	106,746	43,539	36,859	80,398	79.37	71.03	75.32
Totals for C'wealth	1,453,949	1,306,267	2,760,216	1,122,677	910,574	2,033,251	77.22	69.71	73.66

The following table shews the number of votes cast for and against each of the proposed laws in each of the States:—

### COMMONWEALTH REFERENDA, 31st MAY, 1913.—RESULTS OF VOTING ON EACH PROPOSED LAW.

State.	Trade and Commerce.		Corporations.		Industrial Matters.		Railway Disputes.		Trusts.		Nationalisation of Monopolies.	
	Votes in Favour of Proposed Law.	Votes not in Favour of Proposed Law.	Votes in Favour of Proposed Law.	Votes Not in Favour of Proposed Law.	Votes in Favour of Proposed Law.	Votes Not in Favour of Proposed Law.	Votes in Favour of Proposed Law.	Votes Not in Favour of Proposed Law.	Votes in Favour of Proposed Law.	Votes Not in Favour of Proposed Law.	Votes in Favour of Proposed Law.	Votes Not in Favour of Proposed Law.
N.S.W. ...	317,848	359,418	317,668	361,255	318,623	361,044	316,928	361,743	319,150	358,155	301,192	341,724
Victoria ...	297,290	307,975	298,470	308,915	297,892	309,804	296,255	310,921	301,729	305,268	287,379	298,326
Q'land ...	146,187	122,813	146,336	123,532	147,171	123,554	146,521	123,859	147,871	122,086	139,019	117,609
S. Aust. ...	96,085	91,144	96,309	91,273	96,626	91,361	96,072	91,262	96,400	90,189	91,411	86,915
W. Aust. ...	66,349	59,181	66,595	55,445	66,451	59,612	65,957	59,965	67,542	55,312	64,988	57,184
Tasmania ...	34,660	42,084	34,724	42,304	34,839	42,236	34,625	42,296	34,839	41,935	33,176	40,189
Totals ..	958,419	982,615	960,711	986,824	961,601	987,611	956,358	990,046	967,331	975,943	917,165	941,947

5. **The Parliament of New South Wales.**—The Legislative Council is in this State a nominee chamber, the Legislative Assembly being an elective body. Theoretically the Legislative Council may contain an unlimited number of members, but in practice the number is restricted to about sixty, the members at the latest available date being fifty-six. The tenure of the seat is for life; four-fifths of the members must be persons not holding any paid office under the Crown, but this is not held to include officers of His Majesty's sea or land forces on full or half pay, or retired officers on pensions. The

Legislative Assembly consists of ninety members, who hold their seats during the existence of the Parliament to which they are elected. The duration of any single Parliament is limited to three years.

*Particulars of Elections.* Since the introduction of responsible government in New South Wales there have been twenty-two complete Parliaments, the first of which opened on the 22nd May, 1856, and was dissolved on the 19th December, 1857, while the twenty-second opened on the 15th November, 1910, and closed on the 6th November, 1913. The average duration of the Parliaments was two years and five months. The first session of the twenty-third Parliament was opened on the 23rd December, 1913. Particulars of voting at the last seven elections are given below:—

**LEGISLATIVE ASSEMBLY ELECTIONS, NEW SOUTH WALES, 1894 to 1913.**

Date of Opening of Parliament.	Electors upon the Roll.	Members Returned.	Members Unopposed.	Contested Electorates.			
				Electors upon the Roll.	Votes Recorded.	Percentage of Votes Recorded.	Percentage of Informal Votes.
7th August, 1894	298,817	125	1	254,105	204,246	80.38	1.62
13th " 1895	267,458	125	8	238,233	153,034	64.24	0.88
16th " 1898	324,339	125	3	294,481	178,717	60.69	0.92
23rd July, 1901	346,184	125	13	270,861	195,359	72.13	0.79
23rd August, 1904	Males 363,062 Females 326,428	90	2	304,396 262,433	226,057 174,538	74.26 66.51	0.59
2nd October, 1907	Males 392,845 Females 353,055	90	5	370,715 336,680	267,301 204,650	72.10 60.78	
15th Nov., 1910...	Males 458,626 Females 409,069	90	3	444,242 400,139	322,129 262,154	72.53 65.52	1.78
23rd Dec., 1913...	Males 553,633 Females 484,366	90	3	534,379 468,437	385,524 298,828	72.14 63.79	

The franchise was extended to women (*Women's Franchise Act*) in 1902, and was exercised for the first time at a State election in 1904.

**6. The Parliament of Victoria.**—Both of the Victorian legislative chambers are elective bodies, but there is a considerable difference in the number of members of each House, as well as in the qualifications necessary for members and electors. The number of members in the Upper House in March, 1915, was 34, and in the Lower House, 65. In the Legislative Council the tenure of the seat is for six years, but one member for each province retires every third year, except in the case of a dissolution, when one half of the newly elected members hold their seats for three years only. Members of the Legislative Assembly are elected for the duration of Parliament, which is limited to three years. The franchise was extended to women by the "Adult Suffrage Act, 1908." An elector for the Legislative Assembly may only vote once, plurality of voting having been abolished in 1899; an elector, however, qualified in more than one district, may select that for which he desires to record his vote. A preferential system of voting (see Year Book No. 6, page 1182) was for the first time adopted in Victoria at the election held in November, 1911.

*Particulars of Elections.* Since the introduction of responsible government in Victoria there have been twenty-three complete Parliaments, the first of which was opened on the 21st November, 1856, and closed on the 9th August, 1859, while the twenty-third closed on the 4th November, 1914. The first session of the twenty-fourth Parliament opened on the 3rd December, 1914.

Statistics regarding the elections that have been held since 1901 will be found below:—

### PARTICULARS OF VICTORIAN ELECTIONS, 1902 to 1914.

Year.	Legislative Council.				Legislative Assembly.			
	Electors on Roll.	Electors in Contested Districts.	Voters in Contested Districts.	Per-centage.	Electors on Roll.	Electors in Contested Districts.	Voters in Contested Districts.	Per-centage.
1902 ...	134,087	*	*	*	290,241	216,063	141,471	65.47
1904 ...	172,526	104,865	66,182	63.11	264,709	223,600	149,192	66.72
1907 ...	180,738	78,512	27,152	34.58	261,088	191,131	117,098	61.26
1908 ...	185,234	*	*	*	263,876	164,919	88,461	53.64
1910 ...	240,520	136,479	40,053	35.21	487,661	*	*	*
1911 ...	249,481	*	*	*	701,451	619,644	394,189	63.61
1912 ...	258,742	*	*	*	667,983	*	*	*
1913 ...	270,175	99,646	47,719	47.89	670,775	*	*	*
1914 ...	284,089	*	*	*	810,026	593,334	319,950	53.92

\* Not contested.

As the table shews, the proportion of voters for the Legislative Council is considerably less than that for the Legislative Assembly. The number of persons who voted by post at the elections for the Legislative Assembly in 1914 was 7266.

**7. The Parliament of Queensland.**—No limit is set by the Constitution Act to the number of members of the Legislative Council of Queensland, the total at the latest available date being forty. Members are appointed by the State Governor, and it is provided that not less than four-fifths of the members must consist of persons not holding any office under the Crown, except officers of His Majesty's sea or land forces on full or half-pay, or retired officers on pensions. The members are nominated for life. By The Electoral Districts Act of 1910 the Legislative Assembly is composed of seventy-two members, and the State is now divided into that number of electoral districts, and the General Election which took place in 1912 was in conformity with this new Act. A modified system of optional preferential voting is in operation in Queensland. (See Year Book No. 6, page 1183.)

*Particulars of Elections.* Since the establishment of responsible government in Queensland there have been nineteen complete Parliaments, the first of which opened on the 29th May, 1860, and dissolved on the 20th May, 1863, while the nineteenth Parliament opened on the 2nd July, 1912, and closed on the 15th April, 1915. At the forthcoming elections to be held in May, 1915, the principle of compulsory voting will be introduced for the first time in Australia. (See Appendix.) Statistics regarding the last six elections are given below:—

### ELECTIONS FOR QUEENSLAND LEGISLATIVE ASSEMBLY, 1902 to 1912.

Year.	Number of Seats.	Number of Candidates Nominated.	Candidates sent to the Poll.	Electors Enrolled.			Electors who Voted.			Percentage of Electors Voting in Contested Electorates.		
				Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1902	72	159	154	108,548	...	108,548	80,076	...	80,076	78.88	...	78.88
1904	72	140	117	103,943	...	103,943	60,265	...	60,265	74.16	...	74.16
1907	72	185	179	125,140	95,049	220,189	...	...	152,049	73.42	68.64	71.61
1908	72	137	125	117,335	88,507	205,892	77,632	61,115	138,747	66.13	69.05	67.39
1909	72	145	133	135,841	106,913	242,754	89,609	66,809	156,418	75.34	69.36	72.67
1912	72	144	139	173,801	135,759	309,560	122,844	95,795	218,639	75.92	75.02	75.52

The election of 1907 was the first State election in Queensland at which women voted, the privilege being conferred under the *Elections Acts Amendment Act 1905*. Some of the returns did not separate the sexes in the figures respecting the number of electors who voted, and the percentage of males and females was therefore calculated on the total returns where the subdivision was made.

**8. The Parliament of South Australia.**—In this State there is a Legislative Council composed of twenty members and a House of Assembly with forty-six members, both chambers being elective. Under the Constitution Amendment Act 1908, the State of South Australia was divided into four Council Districts, of which one returned six members, and the others returned four members each, to the Legislative Council, but under the Constitution Further Amendment Act of 1913, the State is now divided into five Districts, which return four members each, making a total of twenty members instead of eighteen as formerly. For the purpose of electing members of the House of Assembly the State was divided into twelve electoral districts, but under the Act of 1913 mentioned above, the State has been divided into nineteen Districts, which return forty-six members instead of forty as formerly. The former districts returned five members from one district, four members from two, and three each from the balance. Under the new Act, eight districts return three members each, and eleven districts two members each.

*Particulars of Elections.* Since the inauguration of responsible government in South Australia there have been twenty-one complete Parliaments, the first of which was opened on the 22nd April, 1857, and dissolved on the 1st September, 1859, while the twenty-first was opened on the 19th March, 1912, and terminated on the 28th February, 1915. The present Ministry took office on the 3rd April, 1915, the opening of the first session of the new Parliament being postponed till June. Particulars of voting at the different elections from the year 1900 are given below, with the exception of the election of 1915, particulars of which may be found in the Appendix :—

**PARLIAMENTARY ELECTIONS IN SOUTH AUSTRALIA, 1900 to 1912.**

Year.	Electors on Rolls.			Electors Who Voted.			Percentage of Electors Voting.	
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.
<b>LEGISLATIVE COUNCIL.</b>								
1900	38,688	9,854	48,542	21,403	3,907	25,310	55.32	39.65
1902	38,413	13,496	51,909	29,978	7,940	37,918	78.04	58.83
1905	39,011	13,873	52,884	28,820	8,328	37,148	73.88	60.03
1910	48,145	16,157	64,302	32,540	9,356	41,896	67.59	57.91
1912	59,228	19,985	79,213	40,709	13,016	53,725	68.74	65.11
<b>LEGISLATIVE ASSEMBLY.</b>								
1902	77,147	72,030	149,177	53,471	36,545	90,016	62.14	49.22
1905	95,396	92,249	187,645	64,330	50,246	114,576	67.43	54.47
1906	96,724	93,438	190,162	60,109	45,997	106,106	69.31	50.73
1910	94,656	88,762	183,418	73,464	56,830	130,294	77.61	64.03
1912	117,440	106,971	224,411	87,530	73,732	161,262	74.53	68.93

It is interesting to note that South Australia was the first of the States to grant women's suffrage (under the *Constitution Amendment Act 1894*), the franchise being exercised for the first time at the Legislative Assembly election on the 25th April, 1896.

## PARLIAMENTS AND ELECTIONS—

Particulars.	Commonwealth.	New South Wales.	Victoria.
<b>1. Senate and Legislative Councils.</b>			
<i>Number of Members</i> ...	36	56. May not be less than 21	34
<i>Qualification for Membership</i> ... ..	Adult British subjects natural-born or naturalised for 5 years, if (a) eligible to vote at the elections for the Senate, and (b) resident for at least 3 years within the Commonwealth	Male adult natural-born or naturalised British subjects	Male natural-born or naturalised British subjects of the age of 30 years or upwards, (a) if possessed of a freehold property of the annual value of at least £50 for one year previous to the election, and (b) in the case of naturalised subjects if a resident of the State for 10 years
<i>Period for which elected or nominated</i> ...	6 years	For life	6 years
<i>Allowance to Members</i> ...	£600 each per annum	None	None
<i>Qualification for Franchise</i>	Adult British subjects of either sex who have lived in Australia for 6 months continuously. Aboriginal natives of Australia, Asia, Africa, or the islands of the Pacific, except New Zealand, cannot vote at federal elections unless they have acquired a right to vote at elections for the Lower House of a State Parliament	(Nominated)	Adult British subjects of either sex, if either (a) the owner of a freehold of the annual value of £10 or of a leasehold of property rated at £15, or (b) a graduate of a British university, matriculated students of Melbourne University, qualified legal and medical practitioners, ministers of religion, certificated schoolmasters, and naval and military officers. Naturalised subjects must be of 3 years' standing, and must have resided in the State for 12 months
<b>2. House of Representatives, Legislative Assemblies, etc.</b>			
<i>Number of Members</i> ...	75	90	65
<i>Qualification for Membership</i> ... ..	The same as for the Senate	Male adult British subjects if qualified to vote at an election of members of the Legislative Assembly, unless disqualified under the Constitution Acts or the Federal Elections Act 1900	Male adult natural-born British subjects or aliens naturalised for the period of 5 years, if resident in the State for not less than 2 years
<i>Period for which elected</i> ...	Duration of Parliament, which is limited to 3 years	Duration of Parliament, which is limited to 3 years	Duration of Parliament, which is limited to 3 years
<i>Allowance to Members</i> ...	£600 each per annum	£500 each per annum	£300 each per annum
<i>Qualification for Franchise</i>	The same as for the Senate	Adult naturalised subjects of either sex, who have resided in the Commonwealth for 6 months and in the State continuously for 3 months after naturalisation, and adult natural-born subjects who have resided in the Commonwealth for 6 months and in the State for a continuous period of 3 months	Adult natural-born or naturalised subjects of either sex who have resided in the State for a continuous period of 6 months. An elector may be enrolled in (a) the electorate in which he resides, and (b) in an electorate in which he is a freeholder or holder of an unexpired lease, provided that no elector can be on more than 2 rolls. He may vote in which district he chooses, but not in both.

SUMMARY, MARCH, 1915.

Queensland.	South Australia.	Western Australia.	Tasmania.
40	20	30	18
Male adult natural-born or naturalised British subjects	Male natural-born or naturalised British subjects if (a) of the age of 30 years or upwards, and (b) if resident in the State for 3 years	Male natural-born or naturalised British subjects of the age of 30 years or upwards, if (a) in the case of natural-born subjects, resident in the State for 2 years, and (b) in the case of naturalised subjects, if naturalised for 5 years previous to the election and resident in the State during that period	Male British subjects, either natural-born or for at least 5 yrs. naturalised, of not less than 30 years of age, qualified to vote at the election for the Legislative Council, and who have resided in Tasmania for any continuous period of 5 years, or for a period of 2 years immediately preceding the election
For life	6 years	6 years	6 years
None	£200 each per annum	£300 each per annum	£200 each per annum
(Nominated)	Adult British subjects of either sex who are either (a) owners of a freehold of the clear value of £50, (b) owners of a leasehold of the clear annual value of £20, with at least 3 years to run or containing a right of purchase, (c) occupiers of a dwelling-house of the clear annual value of £25, (d) occupiers of a dwelling house, (e) registered proprietors of a Crown lease on which there are improvements to the value of at least £50. Claimants must have resided in State for 6 months prior to application for enrolment.	Adult British subjects of either sex who have resided in the State for 6 months, and who either (a) own a freehold estate to the value of £50, (b) occupy a house or own leasehold property rated at £17, (c) hold Crown leases or licenses to the value of not less than £10 per annum, or (d) are on the electoral list of a municipality or road-board district in respect of property of the annual value of £17. Aboriginal natives may only acquire the franchise in respect of a freehold qualification	Adult British subjects of either sex who have resided in the State for 12 months, if either (a) possessing freehold to the annual value of £10 or leasehold to the value of £30, or (b) graduates of a British university, qualified legal or medical practitioners, officiating ministers of religion, or retired naval or military officers
72	46	50	30
All persons qualified and registered to vote at the election of members of the Legislative Assembly are eligible as members	Any person qualified for the franchise of the House of Assembly is eligible for membership	Male adult British subjects, if resident in the State for 12 months. Naturalised subjects must have been naturalised for 5 years and have resided in the State for 2 years previous to the election	Male adult British subjects, either natural-born or for at least 5 years naturalised, qualified to vote at the election for the House of Assembly, and who have resided in Tasmania for any continuous period of 5 years, or for a period of 2 years immediately preceding the election.
Duration of Parliament, which is limited to 3 years	Duration of Parliament, which is limited to 3 years	Duration of Parliament, which is limited to 3 years	Duration of Parliament, which is limited to 3 years
£300 each per annum and £2 per month for postage and telegrams	£200 each per annum	£300 each per annum	£200 each per annum
Adult British subjects of either sex who either (a) have resided in Queensland for 12 months continuously and whose names are on the electoral roll, (b) own freehold estate of the value of £100, (c) have occupied a house of the annual value of £10 for at least 6 months, or (d) have a leasehold estate in possession of the annual value of £20 with not less than 18 months to run.	Adult natural-born or naturalised subjects of either sex who have resided in the State for 6 months.	Adult natural-born or naturalised subjects of either sex who have resided in the State for 6 months continuously and for a continuous period of 1 month in district	Adult natural-born or naturalised subjects of either sex who have resided in Tasmania for 6 months continuously.



**9. The Parliament of Western Australia.**—In this State both chambers are elective. For the Legislative Council there are thirty members, each of the ten electorates returning three members, while the Legislative Assembly is composed of fifty members, one member being returned by each of the fifty electoral divisions. At the expiration of two years from the date of election to a seat in the Legislative Council, and every two years thereafter, the senior member for the time being for each province retires. Seniority is determined (a) by date of election, (b) if two or more members are elected on the same day, then the senior is the one who polled the least number of votes, (c) if the election be uncontested, or in case of an equality of votes, then the seniority is determined by the alphabetical precedence of surnames and, if necessary, Christian names. Members of the Legislative Assembly are elected for three years.

*Particulars of Elections.* Since the establishment of responsible government in Western Australia there have been eight complete Parliaments, the first of which was opened on the 30th December, 1890, while the first session of the ninth Parliament commenced on the 3rd December, 1914. Women's suffrage was granted by the *Electoral Act* of 1899. The preferential system of voting in use in Western Australia is described in Year Book No. 6, page 1184. Particulars relating to the last six Assembly and four Council elections are given in the tables below.

#### PARLIAMENTARY ELECTIONS, WESTERN AUSTRALIA, 1901 to 1914.

Year.	Electors on the Roll.			In Contested Districts.			Votes Recorded.			Percentage of Electors Voting.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1901	74,874	16,648	91,522	67,967	14,775	82,742	29,832	8,255	38,087	44	56	46
1904	108,861	54,965	163,826	88,524	49,791	138,315	43,235	23,500	66,735	49	47	48
1905	79,025	42,697	121,722	65,286	36,706	102,002	33,482	19,435	52,917	51	53	52
1908	83,060	52,919	135,979	69,277	44,804	114,081	46,411	29,412	75,823	67	66	66
1911	91,814	60,831	152,645	71,675	50,700	122,375	53,355	38,281	91,636	74	75	75
1914	126,598	88,143	214,741	95,503	72,043	168,546	54,612	41,993	96,605	57	58	57

#### LEGISLATIVE ASSEMBLY.

1901	74,874	16,648	91,522	67,967	14,775	82,742	29,832	8,255	38,087	44	56	46
1904	108,861	54,965	163,826	88,524	49,791	138,315	43,235	23,500	66,735	49	47	48
1905	79,025	42,697	121,722	65,286	36,706	102,002	33,482	19,435	52,917	51	53	52
1908	83,060	52,919	135,979	69,277	44,804	114,081	46,411	29,412	75,823	67	66	66
1911	91,814	60,831	152,645	71,675	50,700	122,375	53,355	38,281	91,636	74	75	75
1914	126,598	88,143	214,741	95,503	72,043	168,546	54,612	41,993	96,605	57	58	57

#### LEGISLATIVE COUNCIL.

1908	29,255	6,543	35,798	19,233	4,508	23,741	10,210	2,283	12,493	53	51	52
1910	31,983	7,553	39,536	31,290	7,495	38,785	12,020	2,461	14,481	38	33	35
1912	36,716	10,437	47,153	33,490	9,818	43,308	20,793	5,552	26,285	62	57	59
1914	43,299	12,423	55,722	36,793	9,822	46,615	22,963	5,556	28,519	62	57	61

**10. The Parliament of Tasmania.**—In Tasmania there are two legislative chambers—the Legislative Council and the House of Assembly, both bodies being elective. The Council consists of eighteen members, returned from fifteen districts, Hobart returning three, Launceston two, and the remaining thirteen districts sending one member each. For the Parliament which expired in March, 1909, there were thirty-five House of Assembly districts, each district returning one member, but, in accordance with the Constitution Amendment Act of 1906, upon the expiration of the last Assembly, either by dissolution or by effluxion of time, there are now five House of Assembly districts, viz., the Commonwealth electoral districts, each district returning six members, who are elected under a system of proportional representation which first came into force at the 1909 elections. (See Year Book No. 6, page 1185.) Women's suffrage was first granted in this State under the *Constitution Amendment Act 1903*.

*Particulars of Elections.* The first Tasmanian Parliament opened on 2nd December, 1856, and closed on 8th May, 1861. There have been eighteen complete Parliaments since the inauguration of responsible government, the last one opening on 12th April, 1913, and dissolving on 27th December, 1913. The nineteenth Parliament opened on 25th March, 1914. Particulars of the voting at the last six elections are given hereunder:—

### ELECTIONS, HOUSE OF ASSEMBLY, TASMANIA, 1900 to 1913.

Year.	Electors on Roll.		Electors in Contested Districts.		Votes Recorded.		Percentage of Electors Voting.	
	Males	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1900 ...	39,002	...	29,022	...	18,872	...	65.02	...
*1903 ...	43,999	...	40,267	...	23,766	...	59.87	...
†1906 ...	47,400	41,629	37,120	33,415	23,128	17,194	62.30	51.46
†1909 ...	50,221	45,563	50,221	45,563	30,509	19,893	60.74	43.67
†1912 ...	52,853	50,660	52,853	50,660	40,713	35,337	77.03	69.73
†1913 ...	53,372	51,920	53,372	51,920	38,700	32,102	72.51	61.83

\* Manhood suffrage, Act 64 Vic., No. 5. † Universal adult suffrage, Act 3 Edward VII., No. 17.

### § 3. Administrative Government.

In each State, as well as in the Commonwealth, the Government is administered by a number of chief departments, on lines similar to those on which administrative government is carried on in the United Kingdom. Reference has already been made to the creation of the Commonwealth Departments (see pages 689 and 690). In the States the number and functions of the administrative departments vary considerably. This matter has also been referred to hereinbefore (see page 711). In many cases more than one department is under the control of a single Minister. The tabular statement given on this page and on the following pages shews the sub-departments, branches, etc., of each Ministerial Department in the Commonwealth and in each State, together with the principal Acts administered and other more important matters dealt with.

### COMMONWEALTH ADMINISTRATIVE GOVERNMENT, 1915.

Departments, Sub-departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
<b>1. Prime Minister's—</b> (a) Auditor-General. (b) Public Service Commissioner (as from 1st July, 1912).	Arbitration (Public Service), Commonwealth Public Service, Commonwealth Salaries, Parliamentary Allowances, Petherick Collection, Royal Commissions.	Auditor - General and Staff, Officers of the Parliament, Public Service Commissioner and Staff, Royal Commissions, the Federal Executive Council.
<b>2. Attorney-General's—</b> (a) Crown-Solicitor. (b) High Court. (c) Patents, Copyright, Designs, and Trade Marks.	Acts Interpretation, Amendments Incorporation, Bills of Exchange, Commonwealth Conciliation and Arbitration, Copyright, Designs, Evidence, Extradition, High Court Procedure, Judiciary, Parliamentary Papers, Patents, Trade-marks and Designs, State Law and Records Recognition.	Bankruptcy and Insolvency, Bills of Exchange and Promissory Notes, Conciliation and Arbitration, Copyright, Designs, Divorce and Matrimonial Cases, Foreign Corporations, Judiciary and Courts, Patents, Parliamentary Drafting, Trade-marks, Trading and Financial Corporations formed within the limits of the Commonwealth.

## COMMONWEALTH—(continued).

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
<b>3. Home Affairs—</b> (a) Bureau of Census and Statistics. (b) Electoral Office. (c) Lands and Surveys. (d) Meteorological Office. (e) Public Works. (f) Public Service Commissioner (until 1st July, 1912).	Census and Statistics, Commonwealth Electoral, Constitution Alteration (Senate Elections), Governor-General's Residences, Lands Acquisition, Meteorology, Referendum (Constitution Alteration), Representation, Seat of Government, Commonwealth Railways.	Astronomy, Census and Statistics, Elections, Franchise, Lands, Meteorology, Public Service Commissioner (until 1st July, 1912), Public Works, Railways, Representation of the People, Rivers, Seat of Government, Surveys.
<b>4. Treasury—</b> (a) Land Tax and Assessment. (b) Old Age Pensions. (c) Maternity Bonus.	Appropriation, Audit, Australian Notes, Bank Notes Tax, Coinage, Commonwealth Bank, Constitution Alteration (State Debts), Invalid and Old-Age Pensions, Land Tax, Life Assurance (Companies), Loan Act, Marine Insurance, Maternity Bonus, Supply, Tasmania Grant.	Appropriation and Supply, Assistance to States, Banking, Currency, Government Printer, Insurance, Invalid and Old-Age Pensions, Maternity Bonus, Public Moneys, State Debts, Taxation (other than duties of Customs and of Excise).
<b>5. Trade and Customs—</b> (a) Customs and Excise. (b) Fisheries. (c) Navigation. (d) Quarantine.	Australian Industries Preservation, Bounties, Commerce (trade descriptions), Customs, Distillation, Excise, Lighthouse, Manufactures Encouragement, Quarantine, Sea-carriage of Goods, Seamen's Compensation, Secret Commissions, Shale Oils Bounties, Spirits, Sugar Bounty.	Bounties, Bureau of Agriculture, Customs and Excise, Fisheries (other than Pearl Shell or Trepang) in Australian waters beyond territorial limits, Inter-State Commission, Lighthouses, Beacons and Buoys, Quarantine, Weights and Measures.
<b>6. External Affairs—</b> (a) Advertising and Immigration. (b) High Commissioner's Office. (c) Northern Territory. (d) Papua. (e) Norfolk Island.	Emigration, High Commissioner, Immigration Restriction, Naturalisation, Northern Territory, Pacific Island Labourers, Papua.	Consular Appointments, Pearl Shell and Trepang Fisheries in Australian waters beyond territorial limits, High Commissioner, Immigration and Emigration, Influx of Criminals, Naturalisation and Aliens, Passports, People of Races (other than the Aboriginal races in any State) for whom it is deemed necessary to make special laws, Relations with the Pacific Islands, Territories of the Commonwealth.
<b>7. Defence—</b> (a) Military Board (b) Naval Board	Defence, Naval Agreement, Naval Defence.	Control of Railways with respect to transport for Naval and Military purposes, Naval and Military Defence, Naval and Military Factories and Workshops.
<b>8. Postmaster-General's—</b>	Pacific Cable, Post and Telegraph, Telephone, Wireless Telegraphy.	Postal, Telegraph and other like services.

## NEW SOUTH WALES.—ADMINISTRATIVE GOVERNMENT, 1915.

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
<b>1. Premier's Office—</b> (a) Governor's Establishment. (b) Agent-General. (c) Immigration & Tourist Bureau. (d) Immigration Department, London.	...	Is charged with—Departmental business connected with the Houses of Parliament, foreign correspondence, the Agent-General and Immigration matters, etc.
<b>2. Chief Secretary—</b> (a) Audit Dept. (b) Police Dept. (c) State Fisheries. (d) Aborigines Protection Board. (e) Board of Fire Commissioners. (f) Electoral Office. (g) Registry of Friendly Societies & Trade Unions. (h) Bureau of Statistics.	Electorates & Elections, Audit, Banks and Bank Holidays, Birds Protection, Bread, Building and Co-operative Societies, Sunday Closing, Constitution, Fire Brigades, Fisheries, Friendly Societies, Gaming and Betting, Metropolitan Traffic, Native Animals Protection, Native Dogs Destruction, Police Offences, Police Regulation, Printing, Sydney Corporation, Vagrancy, Weights and Measures, Motor Traffic, Aborigines Protection.	Is charged with—the public seal, execution of capital sentences, appointment of magistrates, the police, theatrical and racecourse licenses, general elections, franchise, statistics, & all matters of business not expressly assigned to any other department, Lord Howe Island, etc.
<b>3. Minister of Public Health—</b> (a) Inspector-General of Insane. (b) Director-General of Public Health. (c) Master in Lunacy. (d) Dental Board. (e) Medical Board. (f) Board of Official Visitors Hospitals for Insane. (g) Meat Industry & Abattoirs Board.	Lunacy, Dentists, Public Health, Diseased Animals and Meat, Inebriates, Medical Practitioners, Theatres and Public Halls, Public and Private Hospitals, Dairies Supervision, Pure Food, Cattle Slaughtering, Smoke Nuisance.	Licenses for public entertainments, private hospitals, treatment of insane and inebriates, public vaccinators, hospitals and charitable institutions, public health, etc.
<b>4. Treasury—</b> (a) Stamp Duties Office. (b) Taxation Dept. (c) Government Printing Office. (d) Explosives Dept. (e) Shipping Offices, Sydney and Newcastle. (f) Navigation Dept. (g) Resumed Properties Office. (h) Stores Supply Department. The following departments are connected with the Treasury though administered by Commissioners:— (a) Government Railways and Tramways. (b) Sydney Harbour Trust. (c) Government Savings Bank.	Stamp Duties, Land & Income Tax, Merchant Shipping, Wharfage and Tonnage Rates, Government Railways, Sydney Harbour Trust, Government Savings Bank, Pharmacy, Explosives.	Finance, public works, closer settlement, Treasury guarantee, public debt, resumed properties, payment of Imperial and State pensions, purchase and issue of stores, Govt. printing office, Govt. railways and tramways, Sydney Harbour Trust, shipping, storage and issue of explosives, State clothing factory, etc.
<b>5. Dept. of Attorney-General and of Justice—</b> (a) Prothonotary & Registrar in Divorce. (b) Master in Equity. (c) Sheriff. (d) Registrar in Bankruptcy. (e) Registrar of Probates, etc. (f) Crown Solicitor. (g) Parliamentary Draftsman. (h) Clerk of the Peace. (i) Registrar of Sydney District Court. (j) Registrar-General. (k) City Coroner. (l) Children's Court. (m) Petty Sessions. (n) Police Magistrates, Clerks of Petty Sessions and Registrars of District Courts. (o) Prisons Department. (p) Public Service Board.	Auctioneers, Bankruptcy, Companies, Contractors' Debts, Coroners, Crimes, Courts of Justice, Fines and Penalties, Hawkers, Interstate Debts, Liens on Crops, Liquor, Lotteries, Marriage, Money-lenders, Newspapers, Pawnbrokers, Prisons, Public Service, Public Trustees, Real Property, Registration of Births, Deaths, and Marriages, of Deeds of Firms, Sheriff, Wills, Probate and Administration, Poor Prisoners' Defence, Influx of Criminals.	Is charged with—business relating to the offices of the Chief Justice, and Puisne Judges, Supreme Courts, District Courts, Gaols and Penal establishments, Circuit Courts and Quarter Sessions, deals with all matters relating to remission of sentences, or of fines or estreats or control of Court houses, etc., and advises the Govt. on all legal questions.

## NEW SOUTH WALES—(continued).

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
<p>6. Department of Lands—            (a) Survey of Lands.            (b) Local Land Boards.            (c) Trigonometrical Survey.            (d) Land Appeal Court.            (e) Western Land Board.            (f) Closer Settlement Advisory Boards.</p>	<p>Crown Lands, Newcastle Pasturage Reserve, Public Roads, Public Parks, Public Gates, Public Trusts, Labour Settlements, Prickly Pear Destruction, Western Lands, Closer Settlement.</p>	<p>All business arising from tenures created by Crown Lands Acts and other Acts mentioned, dedications and reservations, exchanges of land, proclamation of towns and villages, business connected with Land Appeal Court, local boards, district surveyors, and Crown land agents, survey of Crown lands, and triangulation survey of State, and making lands available for settlement.</p>
<p>7. Dept. of Public Works.—            (a) Architects Branch. (b) Local Government and National Works. (c) Harbour and Drainage. (d) Railway and Tramway Construction. (e) Engineering Drafting. (f) Survey Drafting. (g) Survey. (h) Land Valuation. (i) Local Government. (j) Accounts. (k) Bonds and Contracts. (l) Industrial Undertakings. (m) Metropolitan Board of Water Supply and Sewerage. (n) Hunter District Water Supply and Sewerage Board, and (o) Country Towns Water Supply and Sewerage.</p>	<p>Public Watering Places, Water, Public Works, Country Towns Water and Sewerage, Metropolitan and Hunter District Water and Sewerage, Scaffolding and Lifts, Local Government, and various Auxiliary Acts, Impounding, and all Acts connected with authorised Public Works.</p>	<p>Erection, maintenance, and repair of public buildings and works; construction of harbour works, docks, water supply and sewerage works, tanks and wells, railways and tramways; "National" roads and bridges; surveys and valuations; administration of Local Government Acts; construction of dredges and punts, machinery, State Brick and Lime works, Quarries, Timber Yards, and Workshops, Joinery works, Pipe works; State motor garage, State power station.</p>
<p>8. Department of Mines—            (a) Ministerial Branch. (b) Registrar and Inquiry. (c) Account and Examining. (d) Lease. (e) Charting and Mining Survey. (f) Geological Survey. (g) Geological Survey Laboratory. (h) Inspectors of Mines and Drills. (i) Miners' Accident Relief Board. (j) Prospecting Board. (k) Mining Museum. (l) Sludge Abatement Board. (m) Coalfields. (n) Correspondence. (o) Records.</p>	<p>Mining, Miners' Accident Relief, Mines Inspection, Coal Mines Regulation, State Coal Mines.</p>	<p>All matters relating to mining generally; geological and mining surveys; assays, inspection of mines, miners' accident relief, advances to prospectors.</p>
<p>9. Dept. of Agriculture—            (a) Administrative. (b) Accounts. (c) Stock. (d) Forestry. (e) Field Branch. (f) Fruit Expert. (g) Exports and Imports. (h) Library and "Agricultural Gazette." (i) Sheep and Wool Expert. (j) Dairy Expert. (k) Chemist. (l) Entomologist. (m) Viticultural Expert. (n) Poultry Expert. (o) Herd Master. (p) Biologist. (q) Tobacco Expert. (r) Botanic Gardens, Centennial Park, &amp;c. (s) Hawkesbury Agricultural College. (t) Experiment Demonstration Farms. (u) Agricultural Museum.</p>	<p>Vine and Vegetation Diseases, Fruit Pests, Wine Adulteration, Fertilisers, Pastures Protection, Commons, Stock, Stock Diseases, Forestry, Trustees of Show Grounds Enabling, Fruit Cases.</p>	<p>Matters relating to agriculture, forestry, stock, including experiment and demonstration farms, viticultural stations and nurseries, experiment plots, Agricultural College, Farm Schools, Botanic Gardens, Centennial Park and Sydney Domain, Nursery Gardens, Campbelltown; irrigation farms; diseases of fruit and stock; publication of Agricultural Gazette and Bulletins; Agricultural Bureau.</p>

## NEW SOUTH WALES—(continued).

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Other Matters dealt with or under Control.
<b>10. Dept. of Public Instruction—</b> (a) Ministerial Branch. (b) Chief Inspector's Branch. (c) School Architect's Branch. (d) Teachers' Training College. (e) Technical Education. (f) Technological Museums. (g) State Children's Relief. (h) Industrial Schools and Reformatories. (i) National Art Gallery. (j) Conservatorium of Music. (k) Public Library. (l) Australian Museum. (m) Observatory. (n) Schools of Arts, Literary Institutions, etc.	Public Instruction, Free Education, State Children's Relief, Children's Protection, Infant Protection, Neglected Children and Juvenile Offenders, Anatomy, Public Library and Art Gallery, Australian Museum, Schools of Arts, University and University Colleges, Sydney Grammar School, Bursaries Endowment, Trades Hall, School of Arts Trustees Enabling.	Education; high schools, districts schools, continuation (junior, technical, commercial and domestic) schools, kindergarten and subsidised teaching, technical education, scholarships, medical inspection of school children, anthropometrical survey of school children, rural camp schools for city children, travelling schools, school agriculture, physical training, swimming, etc
<b>11. Department of Labour and Industry—</b>	Early Closing, Factories and Shops, Shearers' Accommodation, Truck, Minimum Wage, Saturday Half Holiday, Industrial Arbitration, Gas, Clerical Workers, Workmen's Compensation Act.	Working conditions in factories and shops, early closing, industrial boards, industrial matters generally, and State Labour Branch, Women's Employment Agency, supply and quality of gas.

## VICTORIA.—ADMINISTRATIVE GOVERNMENT, 1915.

<b>1. Chief Secretary—</b> (a) Board for the Protection of Aborigines. (b) Public Service Commissioner. (c) Registry of Friendly Societies. (d) Observatory. (e) Government Statist. (f) Marine Board. (g) Audit. (h) Lunacy. (i) Explosives. (j) Mercantile Marine. (k) Marine Board. (l) Neglected Children and Reformatory Schools. (m) Penal and Gaols. (n) Police. (o) Premier's Office. (p) Inspection of Stores. (q) Public Library. (r) Government Shorthand Writer. (s) Training Ships. (t) Fisheries and Game.	Aborigines, Animals Protection, Constitution, Crimes, Explosives, Fire Brigades, Friendly Societies, Gaols, Inebriates Libraries, Licensing (part), Lunacy, Marine, Medical, Neglected Children, Poisons, Police Offences, Public Service, Registration of Births, Deaths and Marriages, Theatres, Weights & Measures, Dentists, Infant Life Protection, Statistics, and Opium (part), Motor-car, Electoral, Preferential Voting, Workers' Compensation, Fisheries, Game.	Departmental business connected with the Houses of Parliament, execution of capital sentences, local option, prisons, the Govt. Gazette, Lotteries, Gaming and Betting, Public Library, Museum and Art Gallery, "Hansard," Police, Public and Bank Holidays, Fisheries, Game, and other matters as indicated in columns 1 and 2.
<b>2. Attorney-General and Minister of Justice—</b> (a) Supreme Court. (b) County Court. (c) Crown Law Offices. (d) Crown Solicitor. (e) Master in Equity and Lunacy. (f) Prothonotary. (g) Registrar of Titles. (h) Sheriffs.	Courts of Justice, Coroners, Licensing (part), Probate, Crimes, Children's Courts, Companies, Crown Remedies, Registration of Firms, Hawkers, Insolvency, Mines (part), Money-lenders, Pawnbrokers, Real Property, Transfer of Land, Stamps, Trusts, Book Debts,	Bankruptcy and insolvency, administration and probate, control of courthouses, etc., preparation of legal instruments, administration of justice generally, and advice to Government in all legal questions.
<b>3. Treasury—</b> (a) Land and Income Tax Office. (b) Printing Office. (c) Curator of Intestate Estates. (d) Charities. (e) Tender Board.	Auction Sales, Hospitals and Charities, Public Moneys, Savings Bank, Income Tax, Licensing (part), State Land Tax.	Conduct of finances, financial aid to charities, endowment to municipal institutions.

## VICTORIA—(continued).

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
4. Public Instruction—	Education, Teachers, Registration of Teachers and Schools.	Education generally, supervision of the Training College, registration of teachers & schools.
5. Railways—	Railways and other Acts relating to specific railways and railway loans.	Management and maintenance of Government railways and electric trams.
6. Mines—	Mines, Gold Buyers, Boilers Inspection, Mines Development, Coal Mines Regulation.	Deals with applications for mining leases and licenses, water rights, prospecting.
7. Water Supply—	Water, Waterworks Construction, Water Supply, Loans Application.	Administration of various water works trusts, construction of water works and irrigation systems, boring for water.
8. Agricultural—	Agricultural Colleges, Vegetation Diseases, Stock Diseases, Milk and Dairy Supervision, Artificial Manures, Thistle, and Vine Diseases, Sheep Dipping.	Agricultural colleges & experimental farms, lectures and demonstrations in practical and theoretical agriculture, etc.
9. Lands— (a) Survey. (b) Botanic Gardens and Domain. (c) Land Purchase & Management Board. (d) Advertising & Intelligence Department (Immigration).	Lands, Closer Settlement, Vermin Destruction, Local Government (part), Seed Wheat Advances, Bush Fires Loan, State Aid Abolition, Mines (part).	Survey, sale, and administration of Crown lands, including occupation for industrial, agricultural, and pastoral purposes. Immigration, assisted and nominated passages.
10. Public Works— (a) Roads and Bridges and Local Govt. Brch. (b) State Schools. (c) Dredges and Snagging. (d) Ports and Harbours.	Local Government, Electric Lighting and Power, Pounds, Dog, Unused Roads and Water Frontages, Tramways, Drainage Areas, Municipal Grounds, Country Roads.	Construction of public works, railway construction, light-houses, and signal stations, Alfred Graving Dock, Government steamer, immigration, Labour Bureau.
11. Labour—	Factories and Shops, Servants, Registry Office.	Inspection of factories, work-shops and shops, wages boards, lifts.
12. Forests—	Forests.	
13. Public Health—	Health, Cemeteries, Pure Food.	Public health generally, inspection of food.

## QUEENSLAND.—ADMINISTRATIVE GOVERNMENT, 1915.

1. Chief Secretary— (a) Auditor-General. (b) Agent-General. (c) Bureau of Exchange of International Publications. (d) Govt. Residency, Thursday Island. (e) Immigration Dept. (f) Intelligence & Tourist Bureau. (g) S.S. <i>Lucinda</i> . (h) Pub. Library, Art Gallery, and Museum.	Constitution, Extradition, Immigration, Officials in Parliament, Public Service, Standard Time.	Commissions, etc., under Public Seal of State, foreign correspondence, immigration, justices of the peace, legislation, public service, communications with Governor and with States, Commonwealth British, colonial, and foreign Governments.
2. Public Instruction—	University, Grammar Schools, State Education, Central Technical College.	Primary education, schools of art and technical colleges, grammar schools, University of Queensland.
3. Railways—	Railways and Railway Construction.	Railways and tramways management and construction.

## QUEENSLAND—(continued).

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
<b>4. Home Secretary—</b> (a) Government Advertising Board. (b) Electoral Department. (c) Board of Health. (d) Registrar-General. (e) Dental Board. (f) Local Auditors Board. (g) Medical and Pharmacy Board. (h) Aborigines. (i) Benevolent Asylum. (j) Police. (k) Prisons. (l) Orphanages. (m) Cemeteries. (n) Conciliation Boards. (o) Dalby Sanatorium. (p) Diamantina Hospital for Incurables. (q) State Children's Department, Government Statistician.	Aboriginals, Bank Holidays, Careless Use of Fire, Cemetery, Charitable Institutions, Children's Protection, Dental, Elections, Fencing, Fire Brigades, Hawkers, Health, Hospital, Industrial Schools, Inebriates, Influx of Criminals Prevention, Insanity, Legitimations, Liquor, Local Govt., Medical, Native Labourers, Pharmacy, Police, Prisons, Religious, etc., Institutions, Registration Births, etc., Poisons, State Children, Statistics, Traffic.	Is charged with business connected with—aboriginals, cemeteries, elections, fire brigades, holidays, hospitals and charitable institutions, industrial and reformatory schools, infant life protection, insanity, lazarets, local Government, police, prisons, public health, quarantine, remission and execution of sentences and penalties, State children, theatres, miscellaneous services, and all other matters of internal arrangement not confided to any other Minister.
<b>5. Treasury—</b> (a) Government Analyst. (b) Govt. Printing Office. (c) Government Savings Bank. (d) Government Stores. (e) Harbours and Rivers Department. (f) Income Tax Department. (g) Marine Department. (h) Marine Board. (i) Water Supply Department. (j) Comptroller of Central Sugar Mills. (k) Workers' Dwellings Board.	Coast Survey, Explosive, Fisheries, Savings Banks, Annuities, Auctioneers, Harbours, Income Tax, Irrigation, Loans, Shipping and Navigation, Port Dues Revision, Firms Registration and Water Conservation, Stock In-scription, Sugar Works, Treasury Notes and Bills, Tobacco, Water Authorities, Weights and Measures.	Central sugar mills, dredges, fisheries, finance generally, harbour boards and improvements, navigation, ports and harbours, powder magazines, printing, public debt, savings banks, taxation generally, trade and commerce, water supply, water conservation, weights and measures, wharves and jetties.
<b>6. Attorney-General—</b> (a) Crown Solicitor. (b) Supreme & District Courts. (c) Curator in Intestacy and Insanity. (d) Trustees in Insolvency. (e) Registry of Friendly Societies. (f) Registry of Titles. (g) Comptroller of Stamps. (h) Police Magistrates. (i) Petty Sessions.	Justiciary, Building Societies, Companies, Friendly Societies, Insolvents, Insolvency, Intestacy, Leases to Aliens, Printing, Real Property, Stamp, Succession and Probate, Totalisator, Trade Unions, Workers' Compensation.	Administration of justice generally, advising Government on all legal questions, judicial establishments, courts of petty sessions, preparation of all legal instruments and contracts.
<b>7. Mines—</b> (a) Geological Survey. (b) Mining Registries. (c) Mines Inspectors. (d) Gold Wardens.	Gold Mining, Mineral Lands, School of Mines.	Geological survey, mineral fields, regulation of mines, Charters Towers School of Mines.
<b>8. Public Lands—</b> (a) District Land Offices. (b) District Survey Offices. (c) Survey Office.	Agric. Lands Purchase, Crown Lands, Pastoral Leases, Pub. Parks, Pub. Works Land Resumption, Rabbit, Marsupial-proof Fencing.	Destruction, etc., of rabbits and prickly pear, opening and closing roads, reserves, Crown lands, town commonages.
<b>9. Agriculture—</b> (a) Agricultural College. (b) Inspectors of Stock and Sheep & Registry of Brands. (c) Botanic Gardens. (d) State Farms and Nurseries. (e) Sugar Experiment Stations.	Agric. Bank, Brands, Dairy, Diseases in Plants, Sheep and Stock Game & Fish Acclimatisation, Live Stock and Meat Export, Margarine, Marsupial Boards, Native Birds Protection, Slaughtering, Shearers' and Sugar-workers', State Forests, Sugar Cultivation.	Agric. College, Botanic Gardens, brands, diseases in animals and plants, loans in aid of co-operative agric. production, marsupial destruction, meat and dairy produce encouragement, slaughter of cattle for consumption, State farms and nurseries, stock and sugar experiment stations.
<b>10. Public Works—</b> (a) Government Architect. (b) Engineer for Bridges. (c) Director of Labour. (d) Factories etc. Inspectors. (e) Inspector of Machinery. (f) Industrial Court.	Metropolitan Water and Sewerage, Electric Light and Power, Factories and Shops, State Industrial Peace, Inspection of Machinery and Scaffolding.	Construction of public buildings, State-school buildings, technical colleges, bridges, hospitals, electric light and power stations.



## SOUTH AUSTRALIA.—ADMINISTRATIVE GOVERNMENT, 1915.

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
<b>1. Chief Secretary—</b> (a) Statistical Dept. (b) Audit. (c) Public Actuary. (d) Sheriff. (e) Registrar-General. (f) Government Printer. (g) Police. (h) Central Board of Health. (i) Hospitals. (j) Mental Hospital. (k) Destitute Persons. (l) State Children. (m) Government Shorthand Writer. (n) Gaols and Prisons.	Civil Service, Audit, Friendly Societies, Registration of Births, Deaths, and Marriages, Prisons, Police, Legitimation, Public Hospitals, Mental Defectives, State Children, Health, Vaccination, Places of Public Entertainments, Fire Brigades, Public Charities' Funds, etc.	Chamber of Manufactures, Civil Service exams., fire brigades, Government <i>Gazette</i> , public charities, Royal commissions, State printing, public houses, hospitals, public health, law and order, prisons.
<b>2. Treasury—</b> (a) Land and Income Tax Department. (b) Stamp Duty Department. (c) Agent General in London.	Seed Wheat, Unclaimed Moneys, Pawnbrokers, Appraisers, Auctioneers, Hawkers, Taxation, Stamp Duty.	Banking, finance and taxation generally, Imperial and other Government pensions, Public Service Superannuation Fund, licenses.
<b>3. Attorney-General—</b> (a) Law Officers. (b) Public Trustees. (c) Curator of Convicts' Estates. (d) Supreme Ct. (e) Registrars of Industrial Soc., etc., in Admiralty, of Probates, of Companies, and of Building Soc. (f) Insolvency Court. (g) Police and Local Courts. (h) Licensing Benches. (i) Registrar-General of Deeds. (j) Coroners. (k) Electoral Department. (l) Local option.	Courts of Justice, Administration and Probate, Public Trustee, Legal Practitioners, Succession Duties, Companies, Insolvency, Police, Real Property, Bills of Sale, Deposit of Deeds, Coroners, Electoral, Licensing Acts in which magistrates have jurisdiction, Ancient Lights, Declarations, etc.	Responsible for Government Parliamentary bills and administration of Local Option and Electoral Acts. Deals with issue of summonses and warrants and with preparing informations and plaints, licenses, franchise, appeals from courts.
<b>4. Crown Lands and Immigration—</b> (a) Crown Lands Office. (b) Roads Department. (c) Woods and Forests Department. (d) Tourist Bureau. (e) Intelligence Department. (f) Survey Department. (g) Photolithographic Department.	Corporations, District Councils, Manufacturing Districts, Blocker's Loan, Bird and Animal Protection, Game, National Park, Noxious Weeds, Roads, Woods and Forests, Pastoral, Vermin, Licensed Surveyors, Weights and Measures, Botanic Garden, Advances to Settlers, Immigration, Impounding, Travelling Stock, Waybills.	Matters affecting municipal corporations respecting the Acts under which they are constituted. Payment of main road grants, subsidies, and license fees. All matters affecting Crown lands, roads and bridges, immigration, forest reserves, surveys, botanic gardens, animals and birds.
<b>5. Public Works—</b> (a) Railways Department. (b) Engineer-in-Chief's Department. (c) Hydraulic Engineer's Department. (d) Works and Buildings. (e) Labour Exchange. (f) Supply and Tender Board Department. (g) Aborigines Department.	Railway Commissioners, Refreshment Rooms, South-eastern Drainage, Water Conservation, Sewers, Murray River Works, Adelaide Cemetery and Cremation, Renmark Irrigation Trust, Municipal Tramways Trust.	Railways, water conservation works and artesian boring, construction of roads outside district councils, town and country waterworks, weirs, locks, and other improvements River Murray, State Government buildings and Adelaide cemetery, aborigines, etc.
<b>6. Mines—</b> (a) Department of Mines. (b) Government Geologist.	Mining, Gold Dredging, Mining on Private Property.	Mining, warden's courts, record of assays, geological surveys and reports.
<b>7. Education—</b> (a) Education Department (b) Observatory. (c) Adelaide University. (d) Adelaide School of Mines. (e) Country Schools of Mines. (f) Public Library, Museum, and Art Gallery. (g) Institutes Association.	Education, Adelaide University, Degrees in Surgery, University Site, Public Library, Museum and Art Gallery, School of Mines.	Education generally, including primary, secondary, technical, and university, institutes, astronomical (but not meteorological) work.

## SOUTH AUSTRALIA—(continued).

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
8. Department of Industry—	Industrial Arbitration, Factories, Early Closing, Scaffolding, Lifts, Shearers' Accommodation, Workmen's Compensation.	Factories, shops, early closing, industrial disputes, etc.
9. Agriculture and Irrigation— (a) Department of Agriculture. (b) Advisory Board of Agriculture. (c) Agricultural College. (d) Dairy Department. (e) Poultry Department. (f) Horticultural Department. (g) Stock and Brands. (h) Fisheries. (i) Produce Department. (j) Irrigation. (k) Experimental Farms.	Bush Fires, Fertilisers, Fisheries, Vine, Fruit and Vegetable Protection, Commerce, Hay and Chaff, Insecticides, Phylloxera, Irrigation, Stock Diseases, Brands.	Scientific farming, agricultural colleges and experimental farms, agricultural instruction; handling, shipping and cold storage of produce, inspection of stock, registration of stock brands, reclamation and irrigation of land, fish industry.
10. Marine— (a) Harbours Board. (b) Marine Board. (c) Explosives and Analytical Laboratory. (d) Inflammable Oils. (e) Life Saving Dept.	Harbour, Marine, and Navigation Acts, Inflammable Oils Act.	Wharves, harbours, jetties, lighthouses, dredging, explosives, inflammable oils, life saving.

## WESTERN AUSTRALIA.—ADMINISTRATIVE GOVERNMENT, 1915.

1. Colonial Secretary— (a) Aborigines. (b) Fisheries. (c) Friendly Societies and Industrial Arbitration. (d) Gaols. (e) Government Gardens. (f) Harbour and Light. (g) Immigration and General Information. (h) Lunacy. (i) Medical, Public Health and Factories. (j) Early Closing. (k) Observatory. (l) Police. (m) Public Charities, State Children, and Government Labour Bureau. (n) Registry and Statistical. (o) State Steamship Service. (p) Lithography. (q) Printing.	Aborigines, Adoption of Children, Bread, Bank Holidays, Protection of Property, Co-operative and Provident Societies, Dentists, Fire Brigades, Early Closing, Friendly Societies, Fisheries, Factories, Harbours and Rivers, Hospitals, Health, Industrial Arbitration, Lunacy, Inebriates, Marine Stores, Medical, Newspaper Libel, Prisons, Police, Pharmacy and Poisons, Registration of Births, Deaths and Marriages, Racing Clubs, Royal Commissioners' Powers, Statistical, State Children, Shearers' Accommodation, Seamen, Shipping, Trespass, Trades Unions, Truck, University Endowment, Vaccination, Whaling, Workers' Compensation, Workmen's Wages.	Consuls, passports, fisheries, aborigines, actuarial, industrial arbitration, friendly and other societies, trades unions, prisons, Government gardens, light-houses, harbours and rivers, immigration, and general information, immigration bureau, immigrants' home, hospitals, hospitals for insane, early closing, sanitation, factories, astronomical, police, poor relief, State children, infant life protection, labour bureau, births, marriages and deaths, statistics, children's courts, old men's home, old women's home, inebriates' homes, Sunday entertainments, ferries, State steamships, State dairy farm.
2. Treasury— (a) London Agency. (b) Savings Bank. (c) Government Stores. (d) Tender Board. (e) Premier's Office. (f) Worker's Home Board. (g) Public Service Commissioner.	Taxation, Auctioneers, Stamp, Wines, Beer and Spirits Sale, Gun Licensing, Gov. Savings Bank, Dividend and Totalisator Duties, Workers' Homes, Pensions, Audit, Public Service, Sale of Government Properties.	Finance generally, general stores, stamp duties, savings bank, pensions, public accounts.
3. Attorney-General— (a) Crown Law Offices. (b) Supreme Court. (c) Stipendiary Magistrates. (d) Land Titles Office. (e) Electoral Office. (f) Official Receiver. (g) Curator of Intestates' Estates. (h) Sheriff. (i) State Hotels and Inspection of Liquor.	Administration of Justice, Bankruptcy, Bills of Sale, Building Societies, Corporations, Companies, Conveyancing, Divorce, Death Duties, Extradition, Electoral, Firms' Registration, Intestate Estates, Life Assurance, Lunacy Estates, Libel, Licensing, Real Property, Superannuation, Truck Act, Transfer of Land, Workers' Compensation, Workmen's Wages, Usury, etc.	Criminal and civil law, conveying, parliamentary drafting, sheriffs, bankruptcy, intestacy, licensing, petty debts, petty sessions and police courts, land titles and registration of deeds and leases, elections.

## WESTERN AUSTRALIA—(continued).

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
<b>4. Public Works—</b> (a) Administrative and State Industries. (b) Engineering Division. (c) Architectural Division.	Public Works, Tramways, Railways (Special), Electric Light, Municipal Corporations and Roads.	Public buildings and works, railway and tramway construction, municipalities, and road boards, State saw mills and brick yards.
<b>5. Water Supply, Sewerage and Drainage—</b> (a) Goldfields Division. (b) Metropolitan " " (c) Agricultural " " (d) North-West " "	Goldfields Water Supply, Water Boards, Metropolitan Water Supply, Sewerage and Drainage, Land Drainage.	All State hydraulic, sewerage, land drainage and irrigation undertakings.
<b>6. Agricultural—</b> (a) Department of Agriculture. (b) Commissioner Wheat Belt. (c) Commissioner South-West. (d) Commissioner Fruit Industries. (e) Stock, Brands, Poultry, and Veterinary Inspection. (f) Rabbit and Vermin Board. (g) Markets, Refrigerating Works, Saleyards and Abattoirs. (h) Botanist, Pathologist, and Entomologist. (i) Traction Engine Clearing. (j) State Meat Stalls.	Rabbit, Stock Diseases, Scab, Brands, Plant Diseases, Noxious Weeds, Fertilisers and Feeding Stuffs, Contagious Diseases in Bees, Drovers, Abattoirs, Vermin, Veterinary Surgeons, Destructive Birds and Animals, Agricultural Bank, Cattle Trespas, Fencing and Impounding, Live Stock and Frozen Meat.	Agricultural, horticultural, dairying and pastoral pursuits generally, abattoirs and refrigerating works, State markets, clearing by traction engines, advances to settlers, encouragement of secondary industries, Narrogin School of Agriculture, State orchards, orchards and insect pests, Federal quarantine in connection with fruit export, poultry and veterinary inspection.
<b>7. Education—</b> (a) Primary Education. (b) Secondary Education. (c) Training College for Teachers. (d) Technical Education.	Education.	Education generally, including primary, secondary, continuation and technical schools, inspection of schools, training of teachers.
<b>8. Railways—</b>	Government Railways and Tramways, Electric Light and Power Agreement.	Management, maintenance and control of Govt. railways and tramways, control of electric power scheme.
<b>9. Mines—</b> (a) Explosives and Analytical. (b) Inspection of Machinery. (c) Mining Engineers. (d) Geological Survey. (e) State Batteries. (f) Woods and Forests. (g) School of Mines.	Mining, Sluicing and Dredging for Gold, Explosives, Inspection of Machinery, Mines Regulation, Coal Mines, Mining Development, Timber Regulations.	Mining generally, State batteries and reduction plants, woods and forests.
<b>10. Lands—</b> Lands and Surveys.	Land, Cemeteries, Bush Fires, Parks, Reserves, Agricultural Lands Purchase, Opening and Closing of Roads under Lands Act.	All business in connection with holdings under the Land Acts, reserves, roads, land selection, district survey offices, land agencies.
<b>11. Audit.</b>	Audit.	Audits generally and as provided by special Acts.
<b>12. Taxation.</b> (a) Land Tax. (b) Income Tax. (c) Dividend Duty. (d) Totalisator Duty. (e) Totalisator Licenses.	Land and Income Tax Assessment, Land Tax and Income Tax, Dividend Duties, Totalisator Duty and Regulations.	Direct taxation generally (except stamp duties), totalisator licenses.

## TASMANIA.—ADMINISTRATIVE GOVERNMENT, 1915.

Departments, Sub-Departments, Branches, etc.	Principal Acts Administered.	Matters dealt with or under Control.
<b>1. Premier—</b> (a) Governor's Establishment. (b) Premier's Dept. (c) Executive Council. (d) Agent-General.	...	Correspondence with State, Federal, Colonial, British, and Foreign Governmts., with Agent-General and Governor, etc.
<b>2. Chief Secretary—</b> (a) Houses of Parliament. (b) Electoral. (c) Audit. (d) Statistical & Registration. (e) Inspection of Machinery, Magazines and Explosives. (f) Fisheries. (g) Public Buildings. (h) Charitable Institutions. (i) Boys' Training School. (j) Home for Invalids. (k) Neglected Children's Department. (l) Medical Institutions. (m) Hospitals. (n) Public Health. (o) Mines. (p) Public Service Board.	Audit, Bank Holidays, Cemeteries, Registration of Births and Deaths, Botanical Gardens, Charitable Institutions, Electoral, Fire Brigades, Factories, Fisheries, Hospitals, Inebriates, Museum & Art Gallery, Newspapers, Pensions, Pharmacy, Public Health, Public Service, Wages Boards, Midwifery, Shops Closing, Workers' Compensation.	Charitable institutions, cemeteries, public health, electoral, franchise, fisheries, machinery, statistics, training & industrial schools, public service, explosives, wages boards.
<b>3. Treasury—</b> (a) Taxes. (b) Printing. (c) State Savings Bank. (d) Agricultural Bank. (e) Merchant Ship's Officers' Exam. Board. (f) Railways. (g) Education.	Suppression of Public Betting, Licensing, Stamp Duties, Auction, Pawnbrokers, Public Debts, Taxation, Assessment, Savings Bank, State Advances, Merchant Ships' Officers' Examination, Railway Management, Education.	Finance generally, collection of internal revenue and of stamp duties, Government printing, railway and educational matters.
<b>4. Mines—</b>	Mining, Mining Companies, Mining Companies (Foreign).	All matters arising under Acts dealing with mining, registration of mining companies.
<b>5. Lands—</b> (a) Lands Branch Office, Launceston. (b) Agricultural and Stock Department.	Crown Lands, Closer Settlement, Game Protection, Stock, Diseased Animals, Rabbits Destruction, Vegetation Diseases.	Crown lands and surveys, agriculture and stock.
<b>6. Public Works—</b>	Railway Management, Public Works, Local Government.	Construction and control of public works, including railways.
<b>7. Attorney-General—</b> (a) Supreme Court. (b) Lands Titles. (c) Sheriff. (d) Magistracy. (e) Police.	Probate, Stamp Duties, Foreign Companies, Real Property, Prisons, Bankruptcy, Local Courts, Infant Life Protection, Motor Traffic, Police.	Courts of law, gaols, justices of the peace and coroners, lands titles, police, registration of deeds, Supreme Court & Judges.
<b>8. Education—</b>	Education.	Primary & technical education, University of Tasmania.

## SECTION XXVI. LOCAL GOVERNMENT.

### 1. Introduction.

**1. Early History of Local Government.**—In the previous issues of this book, a description was given of the systems of Local Government and their development in the several States of the Commonwealth, and at the same time a comparison was made between the Australian and Continental systems. The early history of Local Government in Australia was also dealt with. Owing, however, to considerations of space, these matters have been omitted from the present volume, and the reader is referred to Year Book No. 5, pages 972 to 975.

### § 2. Local Government Systems.

**1. New South Wales.**—(i.) *Development of Local Government.* The history of Local Government in New South Wales has been given in previous issues of this book (see No. 6, page 966). It is not intended to repeat the information in this issue.

(ii.) *Present System of Local Government.* The law relating to local government in New South Wales is now contained in the Acts of 1906, 1907, and 1908. Practically the whole of the State, with the exception of the Western Division, has been brought under the operation of these Acts.

(a) *Areas Incorporated.* Prior to the year 1907 the total area incorporated formed a very small part of the whole area of the State, as may be seen in the following statement:—

#### AREAS INCORPORATED IN NEW SOUTH WALES, 1860 to 1906.

Year	...	...	1860.	1870.	1880.	1890.	1900.	1906.
Area incorporated—sq. miles	...	...	409	649	1,482	2,387	2,763	2,830

*Total area of State (exclusive of Lord Howe Island), 310,367 square miles.*

The areas incorporated in 1906 in each of the three territorial divisions of the State were as follows:—

#### DISTRIBUTION OF INCORPORATED AREAS, 1906.

Division.			Incorporated Area.	Unincorporated Area.	Total Area.
Eastern	...	... Sq. miles	1,977	93,742	95,719
Central	...	...	571	88,579	89,150
Western	...	...	282	125,216	125,498
Total			2,830	307,537	*310,367

\* Total area of State, exclusive of Lord Howe Island, the area of which is 5 square miles.

The total area incorporated under the Local Government Act 1906, to the end of the year 1913, was 183,569 square miles, of which 180,656 square miles were comprised within shires and 2913 within municipalities. The areas incorporated comprise the whole of the eastern and central divisions of the State, with the exception of Lord Howe Island, the islands in Port Jackson, and the quarantine station at Port Jackson.

(b) *General.* The above Act came into operation on the 1st January, 1907; it provided for the continuation of existing shires and municipalities, for the creation of new ones, and for their reconstitution by uniting, dividing, altering, or converting areas. Each shire is divided into three ridings, and each municipality may be divided into wards by petition of the council or a majority of the ratepayers to the Governor. The councils

consist, in the case of shires, of either six or nine councillors, and in the case of municipalities, of from six to twelve aldermen. A summary of the functions of councils, their powers and duties, together with a detailed statement of rates, ratable property, and endowment, will be found in previous issues of the Year Book. (See Year Book No. 5, pages 977 to 979.)

(iii.) *Shires*.—The total area of the 135 shires constituted under the new system is 180,656 square miles, and the population on the 31st December, 1913, was 645,140.

The shires vary in area from 36 square miles in the case of Ku-ring-gai, immediately north of the metropolis, to 5730 square miles in the case of Lachlan in the Condobolin district.

(a) *Valuation and Rates Levied*. The unimproved capital value of the shires in 1913 was £99,452,191, as against £97,461,454 in the preceding year. It is not possible to give the improved capital value or the assessed annual value, as the shires are not compelled to make these valuations, and in many cases do not make them. The total amount of all rates levied was £572,892.

(b) *Revenue*. The principal heads of revenue for the last five years are shewn in the following table:—

**NEW SOUTH WALES.—INCOME OF SHIRES, 1909 to 1913.**

Particulars.*	1909.	1910.	1911.	1912.	1913.
<i>General Fund—</i>	£	£	£	£	£
General rates ...	374,540	421,596	463,501	517,025	561,378
Government endowment...	261,029	277,731	319,593	372,952	134,635
Public works ...	57,017	59,527	45,331	45,152	62,453
Health administration ...	3,033	3,746	3,998	4,886	4,864
Public services ...	6,691	7,441	8,769	9,292	10,305
Shire property ...	1,721	4,229	6,731	8,768	10,159
Miscellaneous ...	5,651	5,008	8,594	5,648	6,814
<i>Special and Local Funds</i> ...	7,462	15,095	24,516	35,835	45,903
 Total revenue...	 717,144	 794,373	 881,033	 999,498	 836,511

\* The receipts for Public Works, Health Administration, Public Service, etc., include Government aid grants, total endowments, and special grants during 1913 amounting to £183,315.

(c) *Expenditure*. The following statement shows the expenditure of shires during the years 1909 to 1913 inclusive:—

**NEW SOUTH WALES.—EXPENDITURE OF SHIRES, 1909 to 1913.**

Particulars.	1909.	1910.	1911.	1912.	1913.
<i>General Fund—</i>	£	£	£	£	£
Administrative expenses ...	117,696	125,669	128,126	*83,721	*91,450
Public works ...	529,954	599,945	647,220	773,479	707,923
Health administration ...	4,573	4,840	5,724	7,199	7,699
Public services ...	10,290	13,012	15,410	15,809	14,751
Shire property ...	1,911	4,561	7,657	10,419	11,251
Miscellaneous ...	5,886	5,129	7,120	8,430	9,975
<i>Special and Local Funds</i> ...	6,474	11,976	20,949	34,268	43,041
 Total expenditure...	 676,784	 765,132	 832,206	 933,325	 886,090

\* Exclusive of proportion of Administrative expenses payable from Special and Local Funds previously included under General Fund.

(d) *Assets and Liabilities.* The financial position of the shires at the end of the year 1913 was strong, as there was an excess of assets of £330,799. The following table gives particulars of assets and liabilities as at the 31st December, 1913 :—

### NEW SOUTH WALES.—ASSETS AND LIABILITIES OF SHIRES, 1913.

Assets.			Liabilities.		
<i>General Fund—</i>			<i>General Fund—</i>		
Outstanding rates	...	£32,047	Temporary loans	...	£36,783
Stores and materials	...	12,838	Sundry creditors	...	44,116
Bank balance	...	87,519	Due on contracts	...	3,502
Sundry debtors	...	5,919	Due to trust fund	...	968
Land	...	13,776	Other	...	5,466
Buildings	...	67,397	<i>Special and Local Funds</i>	...	18,618
Plant and property*	...	166,968			
Furniture	...	15,293			
Other	...	7,204	Total	...	£109,453
<i>Special and Local Funds</i>	...	31,291	Excess of assets	...	330,799
Total	...	£440,252	Total	...	£440,252

\* Including saleyards, pounds, baths, public watering-places, ferries, wharves, etc.

(iv.) *Municipalities.* Including the City of Sydney there were 188 municipalities in New South Wales at the end of 1913; of these, forty are in the suburbs of Sydney and twelve in the district of Newcastle and suburbs. Since the 1st January, 1908, under the Local Government Act 1906, municipalities must levy a general rate on the unimproved capital value of all ratable land, and may levy additional general, special, local, or loan rates on either the unimproved or improved capital value. Municipal rates are therefore no longer charged on the annual value except in the City of Sydney, the only rates based on that value being those charged by the Metropolitan and Hunter River Water Supply and Sewerage Boards.

(a) *Capital Value, Area, Population, and Rates Levied.* The following table shews the improved capital value, the area, population, number of buildings, and amount of rates levied in municipalities for the years 1901 and 1909 to 1913 :—

### NEW SOUTH WALES.—MUNICIPALITIES, IMPROVED CAPITAL VALUE, AREA, POPULATION, NUMBER OF BUILDINGS AND TOTAL RATES LEVIED, 1901 and 1909-13.

Year ended 31st Dec.*	Sydney and Suburbs.					Country.				
	Improved Capital Value.	Area.	Population.	Number of Dwellings.	Total Rates Levied.	Improved Capital Value.	Area.	Population.	Number of Dwellings.	Total Rates Levied.
	£	Acres.	No.	No.	£	£	Acres.	No.	No.	£
1901 ...	88,118,600	91,220	†487,900	94,907	277,457	36,429,600	1,732,302	371,330	73,662	127,564
1909 ...	108,120,427	95,319	605,900	123,860	631,589	44,716,888	1,822,821	456,230	85,341	298,306
1910 ...	111,318,074	95,259	†629,503	126,476	647,762	45,824,939	1,822,821	†421,714	89,107	310,849
1911 ...	119,375,694	95,259	641,960	§	726,712	47,484,486	1,822,821	431,500	§	340,075
1912 ...	124,875,964	95,259	683,780	§	770,879	48,514,203	1,826,796	444,190	§	373,765
1913 ...	137,795,263	95,259	713,260	§	880,906	50,451,471	1,769,155	456,050	§	401,594

\* Prior to 1908 the municipal year ended on the first Monday in February, since when the municipal year closes on 31st December.

† Census, March, 1901.

‡ Census, April, 1911.

§ Not available.

The following table gives a comparison of the unimproved and improved values for the years 1909 to 1913 inclusive :—

**NEW SOUTH WALES.— MUNICIPALITIES, UNIMPROVED AND IMPROVED CAPITAL VALUES, 1909 to 1913.**

Year.	Sydney.	Suburbs.	Metropolis.	Country.	Total.
<b>UNIMPROVED VALUE.</b>					
	£	£	£	£	£
1909 ...	19,970,365	23,486,535	43,456,900	19,798,286	63,255,186
1910 ...	19,952,793	23,823,398	43,776,191	19,753,131	63,529,322
1911 ...	23,940,030	25,942,704	49,882,734	19,961,743	69,844,477
1912 ...	23,988,480	27,935,494	51,923,974	20,352,473	72,276,447
1913 ...	23,837,157	28,240,971	52,078,128	20,807,126	72,885,254
<b>IMPROVED VALUE.</b>					
1909 ...	50,948,240	57,172,187	108,120,427	44,716,888	152,837,315
1910 ...	52,142,200	59,175,874	111,318,074	45,824,999	157,143,073
1911 ...	55,520,640	63,855,054	119,375,694	47,484,486	166,860,180
1912 ...	57,395,288	67,480,676	124,875,964	48,814,203	173,690,167
1913 ...	64,080,440	73,714,823	137,795,263	50,451,471	188,246,734

(b) *Revenue.* The Local Government Act 1906 prescribed that there should be a general fund in each local government area (municipality and shire), and also special funds for specified purposes. The regulations under the Act prescribed the system of accounts to be kept. This system differs materially from the old "cash" system of receipts (cash actually received) and disbursements (cash actually expended).

Prior to 1908 the municipal year ended on the first Monday in February; now it ends on the 31st December. In all statements of municipal accounts for the year 1908, therefore, the period referred to is from the 4th February to the 31st December, except in the City of Sydney, which does not come under the provisions of the Act of 1906 and where the accounts are kept for the calendar year. The first complete year for which financial particulars are available for the municipalities is the year 1909. Particulars of revenue for the year 1913 are given in the following table :—

**NEW SOUTH WALES.—MUNICIPALITIES, REVENUE, 1913.**

Particulars.	Sydney.	Suburbs.	Country.	Total.
	£	£	£	£
General fund ... ..	917,149†	578,862	398,707	977,569‡
Trading accounts ... ..		2,227	160,687	162,914‡
Special and local funds ... ..		46,617	271,175	317,792‡
Loan funds ... ..		65,313	46,495	111,808‡
Reserve and Renewals Account ... ..		5,309	17,064	22,373‡
Gross revenue ... ..	917,149†	698,328	894,128	2,509,605
Deduct transfers* ... ..	...	38,730	26,765	65,495
Net revenue ... ..	917,149†	659,598	867,363	2,444,110

\* Transfers from various funds to loan funds for principal, interest, and capital expenditure.  
† The city of Sydney accounts were formerly kept on a cash basis, i.e., the actual receipts and disbursements were shown; but the figures for 1913 shew total revenue and expenditure for the year. Items of revenue and expenditure for the city of Sydney cannot be allocated to the different headings shown for municipalities. ‡ Exclusive of Sydney.



(c) *Expenditure.* Reference has already been made to the system of accounts prescribed by the Local Government Act 1906 (see paragraph (b) hereof). The following table gives particulars of expenditure of municipalities for the year 1913:—

**NEW SOUTH WALES.—MUNICIPALITIES, EXPENDITURE, 1913.**

Particulars.	Sydney.	Suburbs.	Country.	Total.
	£	£	£	£
General fund ... ..	865,842†	585,339	400,175	985,514†
Trading accounts ... ..		2,542	118,017	120,559†
Special and local funds ... ..		53,714	245,413	299,127†
Loan funds ... ..		38,164	28,577	66,741†
Reserve and Renewals Account ... ..		325	2,450	2,775†
Gross expenditure ... ..	865,842†	680,084	794,632	2,340,558
Deduct transfers* ... ..	...	38,730	26,765	65,495
Net expenditure ... ..	865,842†	641,354	767,867	2,275,063

\* Transfers from various funds for principal and interest on loans. † See note † to preceding table. ‡ See note ‡ to preceding table.

(d) *Assets and Liabilities.* The financial position of the municipalities as at the 31st December, 1913, is shown by the following statement of assets and liabilities of the various funds:—

**NEW SOUTH WALES.—MUNICIPALITIES, ASSETS AND LIABILITIES, 1913.**

Particulars.	Sydney.	Suburbs.	Country.	Total.
	£	£	£	£
<b>Assets—</b>				
General fund ... ..	7,456,600†	305,354	454,116	759,470†
Trading accounts ... ..		466	93,333	93,799†
Special and local funds... ..		41,636	1,279,958	1,321,594†
Loan funds ... ..		142,314	516,202	658,516†
Reserves and renewals account ... ..		5,056	14,620	19,676†
Total ... ..	7,456,600†	494,826	2,358,229	10,309,655
<b>Liabilities—</b>				
General fund ... ..	7,195,657†	111,963	77,325	189,288†
Trading accounts ... ..		1,405	47,219	48,624†
Special and local funds... ..		40,373	1,168,582	1,208,955†
Loan funds ... ..		727,319	605,107	1,332,426†
Reserves and renewals account ... ..		5,056	14,620	19,676†
Total ... ..	7,195,657†	886,116	1,912,853	9,994,626

† See note † to last table on previous page. ‡ See note ‡ to last table on previous page.

2. *Victoria.*—(i.) *Development of Local Government.* In Victoria there are now two types of municipal institutions, (a) boroughs, including cities and towns, and (b) shires, and although they are now dealt with by the same Act, their origin was distinct, and in the early days of their development they were provided for by independent enactments. Melbourne and Geelong, the latter of which was for many years the second largest town in the State, having been incorporated under special statutes prior to the establishment of a general system of local government, are not subject to the provisions of the Local Government Acts except in a few comparatively unimportant details. Melbourne was incorporated as a town in 1842, and as a city in 1847; Geelong was incorporated as a town in 1849, and proclaimed a city on 14th December, 1910.

The earlier history of legislation in Victoria relative to Local Government, more especially with reference to the institution of Road Districts, their displacement by Shires, and the constitution of Urban Municipal Districts and Boroughs, has been fully dealt with in previous issues. (See Year Book No. 5, p. 992.)

(ii.) *Present System of Local Government.* Local government is now administered under the Act of 1903 throughout the whole of the State, with the exception of about 6000 square miles in the mountainous parts of the county of Wonnangatta, and the whole of French Island.

(a) *Constitution of Municipalities.* Provision is made for the continuation of municipalities established under previous Acts and for the constitution of new ones.

Definitions of shires, boroughs, and townships have been given in previous issues of this book (see Year Book No. 6, page 978), together with the conditions necessary for their constitution.

(b) *Municipal Councils, etc.* Considerations of space prevent more than a passing reference to the following subjects, which were dealt with in previous issues of this book:—The constitution of municipal councils, their functions and powers, including the power of raising loans, the qualifications necessary for the exercise of the municipal franchise, and the definition of ratable and unratable property. (See Year Book No. 5, pp. 994 to 996.)

(c) *Endowment.* The legislation dealing with municipal endowment prior to 1907 is referred to in previous issues. (See Year Book No. 5, p. 996.) In 1907, under the Municipal Endowment and Reclassification of Shires Act of that year, a new classification was adopted under which the amount of the endowment is to be allocated. In addition to the endowment of £75,000 (increased to £100,000 from the 1st July, 1907), the municipalities received from the Government during the financial year 1913-14 a sum of £78,910 out of the Licensing Act Fund as the equivalent for (a) fees for licenses, (b) fees for the registration of brewers and spirit merchants, and (c) fines, penalties, and forfeitures incurred under the Licensing Act 1876. Under the Act of 1907 the endowment of £100,000 is payable in equal moieties in March and September of each year. No city or town is entitled to receive any part of the endowment. The distribution amongst the boroughs and shires is based on the amount of general and extra rates received in the twelve months ending on the preceding 30th September according to the following scale:—

#### VICTORIA.—ENDOWMENT OF BOROUGHS AND SHIRES, 1913-14.

To every Borough or 1st Class Shire, 3s. in the £	To every 4th Class Shire, 8s. in the £
" " 2nd Class Shire 5s. " "	" 5th " 10s. " "
" " 3rd " " 6s. " "	" 6th " 12s. " "

For the three financial years commencing the 1st July, 1907, however, the amounts were definitely fixed by Act No. 2129, and for the four succeeding financial years by Acts No. 2267, 2334, 2404, and 2475 respectively.

(iii.) *Boroughs and Shires.—Number, Population, and Value of Ratable Property.*—The following table shews the number of cities, towns, boroughs, and shires, their estimated population, the number of ratepayers and dwellings, and the value of ratable property for the years 1901 and 1910-14 inclusive:—

## VICTORIA.—PARTICULARS OF MUNICIPALITIES, 1901 and 1910-14.

Year ending 30th June.	Number of Municipa- lities.	Estimated Population.	Number of Ratepayers (both sexes).	Estimated Number of Dwellings.	Estimated Value of Ratable Property.	
					Total.	Annual.
CITIES, TOWNS, AND BOROUGHES.						
1901	58	627,237	153,783	130,358	£ 67,302,423	£ 4,765,632
1910	60	728,500	183,419	159,478	108,863,963	6,232,091
1911	60	*742,070	187,562	162,489	114,113,507	6,508,544
1912	61	*742,070	194,391	†	119,400,893	6,804,697
1913	61	777,696	200,272	†	127,743,501	7,270,972
1914	61	802,479	203,773	176,541	137,649,219	7,790,654
SHIRES.						
1901	150	571,683	159,128	122,645	£ 106,839,331	£ 5,771,865
1910	146	563,500	159,410	124,739	143,142,655	7,332,397
1911	146	*568,494	163,916	126,951	150,970,220	7,716,815
1912	146	*568,494	168,229	†	155,677,624	7,969,963
1913	147	583,909	173,271	†	160,128,933	8,152,473
1914	147	600,431	175,637	156,402	164,268,467	8,255,505

\* Census figures. † Not available.

(iv.) *Municipal Assets and Liabilities.*—The assets of municipalities may be classified under three heads—(a) the municipal fund, (b) the loan fund, and (c) property; the liabilities under two heads—(a) the municipal fund, and (b) the loan fund. The following table shews the amount of municipal assets and liabilities for the years 1901 and 1909 to 1913:—

## VICTORIA.—MUNICIPAL ASSETS AND LIABILITIES, 1901 and 1909-13.

Items.	1901.	1909.	1910.	1911.	1912.	1913.
ASSETS.						
	£	£	£	£	£	£
MUNICIPAL FUND—						
Uncollected rates ... ..	187,205	114,598	110,676	105,241	111,405	108,686
Other assets ... ..	122,581	267,944	350,092	473,054	522,911	582,451
LOAN FUND—						
(a) Sinking funds—						
Amount at credit ... ..	675,310	812,920	834,295	893,528	806,185	924,952
Arrears due ... ..	1,391	2,827	3,286	1,182	1,759	438
(b) Unexpended balances ... ..	*394,136	106,852	345,287	264,048	237,202	167,952
PROPERTY—						
Buildings, markets, etc. ... ..	2,507,441	2,992,809	3,149,476	3,246,854	3,365,638	3,534,691
Waterworks ... ..	197,675	207,451	202,210	207,365	182,835	184,842
Gasworks ... ..	63,732	57,399	70,687	72,274	86,872	96,953
Total ... ..	4,149,471	4,562,800	5,066,009	5,263,546	5,404,807	5,600,975
LIABILITIES.						
	£	£	£	£	£	£
MUNICIPAL FUND—						
Arrears due sinking funds ... ..	1,021	2,827	3,286	1,182	1,759	438
Overdue interest ... ..	9,413	15,639	15,750	11,997	15,619	18,005
Bank overdrafts ... ..	157,046	120,705	133,237	165,275	234,154	201,142
Temporary Government advances ... ..	20,901	...	...	...	...	...
Other liabilities ... ..	91,396	142,446	194,902	257,371	288,368	364,287
LOAN FUNDS—						
Loans outstanding ... ..	4,253,304	4,416,103	4,767,138	4,831,984	5,011,950	5,259,138
Due on loan contracts ... ..	52,826	49,452	45,099	92,363	102,135	123,051
Due on current contracts ... ..	51,134	90,913	98,187	100,351	73,768	74,770
Total ... ..	4,637,041	4,838,065	5,257,589	5,460,523	5,727,753	6,045,831

(v.) *Revenue and Expenditure of Municipalities.*—The following table shows the revenue from various sources, and the expenditure under various heads, of municipalities during the years 1901 and 1909 to 1913 :—

**VICTORIA.—REVENUE AND EXPENDITURE OF MUNICIPALITIES,  
1901 and 1909-13.**

Items.	1901.	1909.	1910.	1911.	1912.	1913.
<b>SOURCES OF REVENUE.</b>						
	£	£	£	£	£	£
Taxation ... (Rates ... ..)	722,346	946,956	999,799	1,046,943	1,103,210	1,189,874
... (Licenses ... ..)	104,499	101,682	102,066	100,845	102,297	103,528
... (Dog fees ... ..)	14,965	18,751	19,296	19,833	20,438	21,483
... (Market and weighbridge dues ... ..)	49,623	68,014	65,739	63,071	74,029	71,937
Government endowments and grants...	175,972	175,601	187,323	157,141	161,513	160,949
Contributions for streets, etc. ...	24,909	35,173	47,532	47,342	64,646	59,172
Sanitary charges ... ..	48,253	59,966	62,720	66,389	74,058	80,194
Rents ... ..	54,117	69,842	77,958	79,263	81,725	78,016
Other sources ... ..	89,210	195,831	207,181	237,601	263,600	324,496
Total ... ..	1,283,984	1,671,816	1,769,614	1,818,428	1,945,516	2,099,649

**HEADS OF EXPENDITURE.**

	£	£	£	£	£	£
Salaries, etc. ... ..	139,270	158,436	163,435	168,303	176,489	187,180
Sanitary work, street cleaning, etc. ...	132,542	150,964	159,571	178,623	198,006	203,757
Lighting ... ..	86,059	82,354	83,972	87,341	84,410	87,395
Fire brigades' contributions ... ..	16,769	22,051	23,223	23,120	25,946	27,101
Public works { Construction ... ..	244,315	238,869	335,446	311,065	335,717	339,158
... { Maintenance ... ..	345,334	490,341	548,583	571,254	736,457	753,083
Formation of private streets, etc. ...	23,350	37,888	32,163	46,849	66,735	55,600
Redemption of loans ... ..	27,745	58,263	46,439	66,860	61,782	70,506
Interest on loans ... ..	197,810	201,199	206,355	213,752	217,933	224,479
Charities ... ..	13,407	15,241	15,589	15,785	15,441	16,429
Other expenditure ... ..	103,403	173,154	170,840	187,514	129,190	126,376
Total ... ..	1,330,004	1,678,760	1,785,616	1,870,466	2,051,106	2,092,064

3. *Queensland.*—(i.) *Development of Local Government.* The existing scheme of local government in the State of Queensland is regulated by the provisions of the Local Authorities Act 1902, with its amendments in 1903, 1905 and 1910. A summary of these Acts and of the earlier legislation under which the system of local government in Queensland was inaugurated and developed, will be found in previous issues of this book (see Year Book No. 5, p. 1013).

(ii.) *Present System of Local Government.*—The principal features of previous enactments as to the division of the State into local areas are retained in the Acts of 1902 and 1910, but such areas are in future to be of two classes—(a) towns and (b) shires. All municipalities formerly constituted as boroughs become towns, except Brisbane, Rockhampton, and Townsville, which are declared to be cities, and all shires and divisions become shires. The Governor-in-Council may, after giving notice in the *Gazette*, constitute, unite, divide, or abolish areas for the purpose of forming new areas, and may by proclamation constitute a town or city.

*The Municipal Councils.* All local areas are governed by councils, the members of which are called aldermen in the case of cities and towns, and councillors in the case of shires. *City and town councils* are composed of either seven, nine, or eleven members, as declared by Order-in-Council, but if the local authority has wards, three members are assigned to each ward. *Shire councils* are composed of five, seven, or nine members, as declared by Order-in-Council, but if the shire is divided the number cannot be more than three for each division, and need not be the same for every division.

In previous Year Books allusion has been made at some length to the powers and duties of municipal councils, as well as to loans, valuation, rates and franchise. It is not proposed to repeat this information in the present issue.

(iii.) *Area, Population, Number of Dwellings, Rates, Assets and Liabilities of Cities, Towns and Shires.*—The following table gives particulars of the area, population, number of inhabited tenements, assets and liabilities of cities and towns, and of shires, for each year from 1909 to 1913 :—

**QUEENSLAND.—PARTICULARS OF CITIES AND TOWNS AND SHIRES,  
1909 to 1913.**

Year.	Municipality.	Area.	Population.	Number of Inhabited Dwellings.	Capital Value.	Assets.	Liabilities.		
							Government Loans.	Other.	Total.
		Square Miles.	No.	No	£	£	£	£	£
1909	Cities and Towns	384½	241,795	45,365	13,637,273	1,366,435	253,391	815,540	1,068,931
	Shires ...	669,870½	344,752	73,480	33,677,538	301,976	111,740	53,643	165,383
	Total	670,255	586,547	118,845	47,314,811	1,668,411	365,131	869,183	1,234,314
1910	Cities and Towns	364½	247,435	44,804	13,774,440	1,406,521	242,924	767,481	1,010,405
	Shires ...	669,890	358,085	76,803	36,023,390	331,382	116,456	50,882	167,338
	Total	670,254½	605,520	121,607	49,797,830	1,737,903	359,380	818,363	1,177,743
1911	Cities and Towns	364½	232,083	46,310	14,305,268	1,425,403	214,903	794,733	1,009,636
	Shires ...	669,890½	368,292	77,731	38,482,811	367,078	127,079	58,741	185,820
	Total	670,255	600,375	124,041	52,788,079	1,792,481	341,982	853,474	1,195,456
1912	Cities and Towns	366	250,743	48,932	14,626,306	1,439,226	218,948	850,031	1,068,979
	Shires ...	669,528	393,172	83,021	40,365,614	426,694	141,288	84,894	226,182
	Total	669,894	643,915	131,953	54,991,920	1,865,920	360,236	934,925	1,295,161
1913	Cities and Towns	404	273,874	56,632	15,708,680	1,515,104	231,458	919,973	1,151,431
	Shires ...	669,490	399,305	84,805	41,272,641	467,182	203,109	93,410	296,519
	Total	669,894	673,179	141,437	56,981,321	1,982,286	434,567	1,013,383	1,447,950

(iv.) *Receipts and Expenditure of Cities, Towns, and Shires.*—The following table shews the receipts and expenditure (including loan moneys) of cities and towns and of shires, as well as the total receipts and expenditure of all municipalities, for each year from 1909 to 1913 :—

**QUEENSLAND.—REVENUE AND EXPENDITURE OF CITIES, TOWNS AND SHIRES,  
1909 to 1913.**

Year.	Municipality.	Receipts.				Expenditure.					
		From Government.	From Rates.	From other Sources.	Total.	On Public Works.	Loan Redemption.	Office Expenses and Salaries.	Other Ex-penses*.	Total.	
		£	£	£	£	£	£	£	£	£	
1909	Cities and Towns	6,891	247,433	66,138	320,462	146,721	17,459	24,668	142,249	331,097	
	Shires ...	16,648	222,536	32,235	271,419	152,700	13,332	37,585	51,194	254,811	
	Total ...	23,539	469,969	98,373	591,881	299,421	30,791	62,253	193,443	585,908	
1910	Cities and Towns	16,775	278,300	68,296	363,371	222,203	18,581	25,891	92,188	358,863	
	Shires ...	23,285	253,398	37,295	313,978	209,466	12,147	39,092	44,405	305,110	
	Total ...	40,060	531,698	105,591	677,349	431,669	30,728	64,983	136,593	663,973	
1911	Cities and Towns	27,051	311,022	91,767	429,840	285,096	20,922	31,824	92,808	430,650	
	Shires ...	31,138	296,222	64,532	391,892	273,472	11,721	42,561	50,195	377,949	
	Total ...	58,189	607,244	156,299	821,732	558,568	32,643	74,385	143,003	808,599	
1912	Cities and Towns	32,591	341,469	83,827	458,187	365,439	22,388	50,542	74,447	492,816	
	Shires ...	30,969	322,049	54,201	407,219	311,580	12,020	51,612	56,771	431,983	
	Total ...	63,560	663,518	138,028	865,406	677,019	34,408	82,154	131,218	924,799	
1913	Cities and Towns	20,374	379,865	83,211	483,350	381,100	24,599	36,916	66,377	508,992	
	Shires ...	29,717	362,108	66,170	457,995	338,178	14,457	62,676	56,185	471,496	
	Total ...	49,991	741,973	149,381	941,345	719,278	39,056	99,592	122,562	980,488	

\* Including interest on loans.

4. *South Australia.*—(i.) *Development of Local Government.* In the latter part of 1839 the first municipal law was passed in South Australia, which was thus the birthplace of municipal government in the Commonwealth. On the 31st October, 1840, the principles of self-government were practically adopted in Adelaide by the election of a mayor and council consisting of nineteen members, and the system has since been extended throughout the settled parts of the State by the formation of district councils and municipal corporations, which are the two types of local authorities now in existence.

(ii.) *District Councils.* The first District Councils Act was passed in 1858, was amended in 1862, and was further amended and consolidated by the District Councils Act of 1876, which provided for the continuation of existing districts and for the establishment of new ones by proclamation on the petition of the ratepayers. The revenue of the councils consisted of rents, profits, and income from lands vested in the councils or over which the councils had the control and management; fines and penalties enforced under the Act; fees for licenses; and general and special rates and loans. Provision was made for the election of councillors, their number, qualification, and retirement; for the election of auditors; the meetings, powers and functions of councils; the appointment of constables; revenue and expenditure; assessment of rates; and for making by-laws for various purposes. The Act of 1876 was amended from time to time, and was finally amended and consolidated by the Act which is now in force, namely, the District Councils Act 1897, which has in turn been amended in the years 1899, 1890, 1897, 1904, and 1905. These Acts were again amended by the Local Government Act 1910.

The powers and duties of district councils, together with the qualification necessary for councillors and electors, have been given *in extenso* in previous issues.

(iii.) *Municipalities.* Municipalities were first established under the Municipal Corporations Act of 1861, which, after providing for the extension of the powers and duties of the Corporation of the City of Adelaide, authorised the Governor, on petition of a majority of not less than two-thirds of the property-owners, to constitute any town, district, or place within the province, as a municipality. This Act and its amendments were consolidated in the Municipal Corporations Act 1880, which was amended from time to time until the year 1890, when it was repealed and its provisions consolidated by the existing Act, the Municipal Corporations Acts of 1890, which was in turn amended in 1893, 1896, and 1903. These Acts were again amended by the Local Government Act 1910.

A brief description of the Municipal Corporations Act of 1890, as well as the functions of municipal councils will be found in previous issues of this book.

(iv.) *Finances of District Councils and Corporations.* The subjoined tables shew the amounts of assessments and the revenue and expenditure of district councils and of corporations for the financial years 1901 and 1909 to 1913; the figures given are exclusive of the Main Roads Funds, particulars as to which may be found in the section of this book on "Roads and Bridges."

**SOUTH AUSTRALIA.—ASSESSMENT, REVENUE, AND EXPENDITURE OF LOCAL AUTHORITIES, 1901 AND 1909-13 (EXCLUSIVE OF MAIN ROADS FUNDS).**

Year.*	Amount of Assessment (Annual Value).	Revenue.				Expenditure.	
		From Rates.	From Subsidies.	Other Sources.	Total.	On Public Works.	Total.
DISTRICT COUNCILS.							
	£	£	£	£	£	£	£
1901	1,412,507	63,321	15,225	51,919	130,465	65,406	128,499
1909	1,849,286	89,051	20,718	30,783	140,552	104,834	146,468
1910	2,098,282	96,550	25,483	30,058	152,091	101,979	146,593
1911	2,146,530	106,963	28,017	29,195	164,175	120,369	161,125
1912	2,145,091	115,427	28,848	34,974	179,249	140,225	182,610
1913	2,295,546	123,317	29,589	36,000	188,906	150,997	196,190
CORPORATIONS.							
	£	£	£	£	£	£	£
1901	1,177,850	87,289	9,733	49,342	146,364	55,533	146,091
1909	1,340,755	108,480	15,828	57,837	182,145	97,118	177,897
1910	1,385,752	112,896	16,589	57,494	186,979	104,586	198,875
1911	1,499,012	133,550	16,420	62,536	212,506	105,738	217,313
1912	1,605,095	142,032	18,544	73,604	234,180	140,059	233,720
1913	1,777,623	157,014	19,948	64,701	241,663	186,246	264,528

\* Up to and including the year 1903, the financial year for Corporations ended on the 31st December, but after that date ends on the 30th November. The financial year for district councils ends on the 30th June.

5. *Western Australia.*—(i.) *Types of Local Authorities.* In this State there are three forms of local authorities, namely :—(i.) Municipalities, (ii.) Road Districts, and (iii.) Local Boards of Health. The first Municipalities Act was passed in 1871, but only a few districts were incorporated under it. In 1895 a more comprehensive measure, the Municipal Institutions Act, was passed, and after being amended from time to time was consolidated by the Municipal Institutions Acts 1902 and 1904. In 1906 the most recent enactment, the Municipal Corporations Act, was passed, repealing and consolidating previous enactments. The whole area of the State outside incorporated municipalities is divided into road districts, which are administered under the Roads Act 1911. In municipalities the councils act as Health Boards for the purpose of administering the Public Health Act, while outside municipalities local Boards of Health may

be formed. In 1904, another local government measure, the Water Boards Act, was passed, under which Boards may be appointed for the control of waterworks, and rates may be levied for the purpose, the maximum being fixed at two shillings in the pound of ratable value.

(ii.) *Municipalities.* These are now regulated by the Municipal Corporations Act, which came into force on the 1st January, 1907. Provision is made for the continuation of existing municipalities, and the Governor is authorised to constitute new municipalities on petition signed by at least fifty property-holders of the district proposed to be incorporated; to unite adjoining municipalities on petition under their common seals; to sever any portion from a municipality on petition signed by a majority of the ratepayers, and to annex such portion to a contiguous municipality or road district.

(a) *Municipal Councils* consist of a mayor and councillors, the number of which depends upon the population of the municipality; if the population is less than 1000 there are six councillors, if from 1000 to 5000 there are nine councillors, and if the population is over 5000 there are twelve councillors, or three for each ward. Any male ratepayer of the age of twenty-one years, if a natural born or naturalised subject, is eligible for election as mayor or councillor, except ministers of religion, uncertificated bankrupts, prisoners, and certain other persons who may be disqualified on the ground of interest.

The duties and powers of municipal councils, the levying of rates, the qualification of voters and the classification of municipalities in Western Australia are fully referred to in previous issues. (Year Book No. 5, p. 1025.) Consideration of space prevents their inclusion in this edition.

(b) *Government Subsidies.* Amounts are granted annually to municipalities by way of subsidies on the amounts of rates collected. To entitle any council to participate in the allocation of the annual Parliamentary vote the council must have levied a minimum general rate of one shilling in the pound. The maximum subsidy payable to any one municipality is £3000, and the minimum is £75. Apart from the above, amounts voted by Parliament for special works in municipal districts are often entrusted to the councils for expenditure under approved conditions.

(iii.) *Area, Population, etc. of Municipalities.* Returns regarding the area, population, and valuation of municipalities are defective. They are shewn in the table hereunder:—

**WESTERN AUSTRALIA.—NUMBER, AREA, POPULATION, NUMBER OF DWELLINGS,  
AND VALUATION OF MUNICIPALITIES, 1901 and 1909-13.**

Year ended the 31st October.	Number of Munic- ipalities.	Area.	Population.	Dwellings.			Amount Payable in respect of Rates.
				Occupied.	Unoc- cupied.	Total.	
	No.	Acres.	No.	No.	No.	No.	£
1901 ... ..	42	71,721	*96,807†	†20,989	†967	†21,956	‡
1909 ... ..	46	88,833	141,543	30,535	1,263	31,798	138,869
1910 ... ..	42	75,716	\$143,808	\$31,064	\$1,652	\$32,716	139,835
1911 ... ..	42	75,430	\$143,808	\$31,064	\$1,652	\$32,716	144,745
1912 ... ..	38	71,203	154,005	32,727	1,613	34,340	152,143
1913 ... ..	33	76,290	153,673	32,082	1,609	33,691	156,537

\* Census figures, 1901.

† Returns for thirty-nine municipalities only.

‡ Not available.

§ Census figures, 1911.

Complete particulars of improved or unimproved capital values are not available. In the year 1913 the capital value of ratable property in municipalities was £22,999,089.



(iv.) *Revenue and Expenditure of Municipalities.* The following table gives particulars as to the revenue and expenditure of municipalities during the years 1901 and 1909 to 1913 :—

**WESTERN AUSTRALIA.—REVENUE AND EXPENDITURE OF MUNICIPALITIES,  
1901 and 1909-13.**

Year ended the 31st October	Revenue.				Expenditure.			
	From Rates.	From Govt. Grants.	From other Sources.	Total.	Works and Improvements.	Disbursements in respect of Loans.	Other Expenses	Total.
	£	£	£	£	£	£	£	£
1901*	78,021	66,860	82,228	227,109	111,241	23,809	79,365	214,415
1909 ...	138,445	37,301	207,982	383,728	83,283	61,137	225,645	370,065
1910 ...	138,719	13,337	230,407	382,463	87,993	67,168	244,650	399,816
1911 ...	144,993	27,944	252,743	425,680	75,697	69,896	283,402	428,995
1912 ...	148,538	25,902	†834,991	1,009,431	78,576	104,475	735,907	918,958
1913 ...	153,966	19,382	347,323	520,671	159,445	104,091	286,619	550,155

\* Incomplete. † Including £525,000 loan, raised for purchase of electric light and gasworks.

(v.) *Assets and Liabilities of Municipalities.* The following table gives particulars respecting the assets and liabilities of municipalities at the end of each financial year 1901 and 1909 to 1913 :—

**WESTERN AUSTRALIA.—ASSETS AND LIABILITIES OF MUNICIPALITIES,  
1901 and 1909-13.**

Year ended the 31st October	Assets.					Liabilities.		
	Balance in Hand.*	Value of Property owned by Municipalities.	Accrued Sinking Funds for Redemption of Loans.	Other Assets.	Total.	Outstanding Debts and Bonds.	Other Liabilities.	Total.
	£	£	£	£	£	£	£	£
1901† ...	37,259	214,984	42,311	13,432	307,986	321,000	19,763	340,762
1909 ...	41,216	628,205	152,416	56,705	875,542	795,108	36,352	831,460
1910 ...	24,603	669,499	174,119	53,548	926,769	844,844	53,304	898,148
1911 ...	19 5 0	703,044	195,892	43,884	967,390	893,064	55,615	948,679
1912 ...	108,162	1,154,568	221,477	53,032	1,537,239	1,459,282	50,814	1,510,096
1913 ...	73,066	1,188,068	249,376	66,271	1,581,781	1,468,780	55,887	1,524,667

\* Including bank balance, cash in hand, and fixed deposit. † Incomplete.

(vi.) *Road Districts.* The whole area of the State, outside incorporated municipalities, is divided into districts, the executive powers being vested in elective boards. These districts were originally formed solely for the purpose of controlling roads and bridges, but their powers and duties have been extended, so that at the present time they correspond closely to the shires of the other States of the Commonwealth. The enactments at present governing the administration of the Road Boards are the Roads Act 1911, the Parks and Reserves Act, the Cattle Trespassing Act, the Width of Tyres Act, the Cart and Carriage Licenses Act, and the Dog Act. The general powers and duties of the Boards are described in previous issues of this book.

(vii.) *Boards of Health.* These may be established under the Public Health Act 1911, which came into force on the 1st June, 1911, either within or outside of municipal boundaries. In the former case the Act is administered by the municipal councils, while in the latter case districts whose borders are conterminous with road districts are administered by the local authorities. Those not conterminous with road districts are administered by special Boards. The revenue of these Boards consists chiefly of moneys received

from health rates and sanitary fees, and the largest item of expenditure is directly connected with the sanitary service. The following table shews particulars of the receipts and expenditure of the various Boards—both municipal and extra-municipal—during the years 1901 and 1909 to 1913 :—

**WESTERN AUSTRALIA.—RECEIPTS AND EXPENDITURE OF LOCAL HEALTH BOARDS, 1901 and 1909-13.**

Year ended the 31st October.	Revenue.			Expenditure.		
	From Public Health Rate.	From other Sources.	Total.	On Sanitary Services.	Other Expenses.	Total.
	£	£	£	£	£	£
1901 ...	15,230	17,477	32,707	18,787	12,992	31,779
1909 ...	<sup>5</sup> 39,447	50,688	90,135	<sup>7</sup> 49,502	<sup>7</sup> 38,465	<sup>7</sup> 87,967
1910 <sup>1</sup> ...	<sup>5</sup> 38,741	<sup>6</sup> 52,095	90,836	56,278	34,144	90,442
1911 <sup>2</sup> ...	<sup>5</sup> 38,398	<sup>6</sup> 56,807	95,205	59,639	32,919	92,558
1912 <sup>3</sup> ...	<sup>5</sup> 47,354	<sup>6</sup> 60,525	107,879	69,703	40,552	110,255
1913 <sup>4</sup> ...	<sup>5</sup> 55,637	<sup>6</sup> 62,931	118,568	72,286	41,874	114,160

1. Exclusive of 10 boards which did not furnish returns, and 14 boards which were inactive. 2. Exclusive of 1 board which furnished no returns and 22 boards which were inactive. 3. Exclusive of 15 inactive boards and 1 that sent in no return. 4. Exclusive of 2 boards which did not furnish returns and 14 boards which were inactive. 5. Including sanitary rates. 6. Including sanitary fees and charges. 7. Exclusive of expenditure of one extra-municipal board.

On the 31st October, 1913, there were thirty-three Local Boards of Health within municipalities, and on the 30th June, 1913, eighty-five extra-municipal Boards. In and after 1911, the financial year of Municipal Local Health Boards ended 31st October, and that of extra-municipal Boards, 30th June.

6. *Tasmania.*—(i.) *Development of Local Areas.* In this State the city of Hobart was incorporated by special Act in the year 1852, but it was not until 1858, when the Rural Municipalities Act was passed, that a general scheme for the establishment of municipalities was extended throughout the State. This Act was amended from time to time without, however, altering its chief characteristics. In 1869 a Roads Act was passed, and after being amended at various times was consolidated in 1884. Under the provisions of these Acts parts of the State were placed under the control of Town Boards and Road Trusts. The general rate under the Municipalities Act was limited to one shilling and sixpence in the pound of annual value, while special rates could be levied in rural districts, provided that the general and special rates together did not exceed one shilling and sixpence in the pound.

(ii.) *Acts now in Force.* In 1906 the whole of the Acts dealing with local authorities were amended and consolidated by the Local Government Act of that year. The whole State, with the exception of the urban municipalities of Hobart and Launceston, is divided into municipal districts, and every Rural Municipality, Town Board, Main Road District, Road District, Local Health District, Fruit District, Rabbit District, School District, and Public Recreation Ground District included in any municipality established by the Act is abolished. Each district is incorporated and is under the control of a warden and councillors, who, in addition to the specific duties and powers imposed and conferred by the Act of 1906, are vested with powers and authorities under the following Acts :—The Codlin Moth Act 1888, the Rabbits Destruction Act 1889, the Public Health Act 1903, the Education Act 1885, the Roads Act 1884, the Rural Municipalities Act 1865, the Police Act 1905, the Town Boards Act 1896, the Public Recreation Grounds Act 1888, the Cemeteries Act 1865, and the Californian Thistle Act 1883. The Governor is authorised to unite, subdivide, or abolish municipalities or wards on petition, and may

(iv.) *Total Revenue and Expenditure of Local Bodies.*—Particulars as to Road Boards and Road Trusts are given in the chapter of this book on "Roads and Bridges." In addition to the local authorities already mentioned, Marine Boards have been established at seven ports in Tasmania for the purposes of constructing and maintaining wharves and jetties and of controlling all matters relating to the shipping in the respective ports. Twenty water trusts and forty cemetery trusts have also been established in connection with municipal bodies. The subjoined statement shews the total revenue and expenditure for all local bodies, exclusive of all amounts contributed by the General Government, during each financial year from 1910 to 1914 inclusive:—

**TASMANIA.—REVENUE AND EXPENDITURE OF ALL LOCAL BODIES, EXCLUSIVE OF AMOUNTS CONTRIBUTED BY THE GENERAL GOVERNMENT, 1910 to 1914.**

Particulars.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
<b>*REVENUE.</b>					
	£	£	£	£	
Marine Boards and Lighthouses ...	74,723	72,507	72,676	72,671	73,805
Municipalities† ...	309,990	271,360	280,165	267,225	292,795
Cemetery Trusts ...	†	§894	918	1,147	1,149
Water Trusts ...	2,325	2,267	2,272	2,805	2,934
Total ...	387,038	347,028	356,031	343,848	370,683
<b>†EXPENDITURE.</b>					
	£	£	£	£	
Marine Boards and Lighthouses ...	82,627	68,894	68,529	78,322	63,304
Municipalities† ...	318,501	266,108	307,334	270,743	318,999
Cemetery Trusts ...	†	§769	902	856	963
Water Trusts ...	1,923	4,138	1,834	2,065	2,228
Total ...	403,051	339,909	378,599	351,986	385,494

\* Exclusive of amounts contributed by the general Government. † Exclusive of expenditure from Government contributions. ‡ Including Road and Bridge Trusts, and Town Boards. § Exclusive of a number of cemetery trusts incorporated in the newly organised municipalities.

### § 3. Water Supply, Sewerage and Drainage.

1. **New South Wales.**—(i.) *Sydney Metropolitan Board of Water Supply and Sewerage.* Prior to the year 1888 the main water supply and sewerage systems of Sydney and suburbs were under the control of the City Corporation, while several of the suburban councils had constructed local systems, but in that year the Government, with the object of placing the administration of both water supply and sewerage systems throughout the County of Cumberland under the control of an independent body, passed an Act authorising the establishment of the Metropolitan Board of Water Supply and Sewerage. This Board consists of seven members, three of whom are appointed by the Government, two by the City Council, and two by the suburban and country municipalities in the County of Cumberland. The Board is under the general supervision of the Minister for Works—a provision considered necessary since the loan expenditure of the Board forms part of the public debt of the State.

(a) *Present System.* In the year 1850 authority was given by the Legislative Council to the City Corporation to construct water and sewerage works. Under this authority a water supply scheme was adopted and carried out, at a cost of nearly £1,750,000, by which the waters of the streams draining into Botany Bay were intercepted and pumped into three reservoirs. This system has now been superseded, the metropolitan water supply being at present obtained from the watersheds of the Nepean, Cataract, and Cordeaux Rivers. The principal reservoirs in connection with the scheme are the "Cataract" and "Prospect" dams. A fuller description of these dams will be found in previous issues of this book (see Year Book No. 5, p. 984), but their dimensions are here given :—

**SYDNEY WATER SUPPLY.—CATARACT AND PROSPECT DAMS.**

Dam.	Height above Foundation.	Width at Top.	Thickness at Bottom.	Length.	Area of Reservoir	Capacity of Reservoir.
	Feet.	Feet.	Feet.	Feet.	Acres.	Gallons.
Cataract ...	192	16½	150	811	2,104	20,743,200,000
Prospect ...	85½	30	523	7,300	1,266½	11,029,200,000*

\* Of which 5,527,000,000 gallons are available by gravitation.

(b) *Aqueducts and Mains.* The water is drawn off from the Prospect reservoir by a canal, five miles in length, to the Pipe Head Basin, situated 16½ miles from Sydney. It is then conveyed for a further distance of five miles to Potts' Hill reservoir, which has a capacity of 100,000,000 gallons, covers twenty-four and a half acres, and is designed to tide the city over any interruption of supply from Prospect, and to prevent fluctuation of pressure. Thence the water passes through a screening tank, and proceeds towards the city in two 48-inch cast-iron mains. A fuller description of the system of reticulation adopted will be found in previous issues.

(c) *Storage Reservoirs.* In connection with the water supply there are in all thirty-five service reservoirs, with a total maximum capacity of 55,693,000 gallons.

(d) *Revenue, Expenditure, and Capital Cost of Sydney Waterworks.* The following table gives particulars as to the revenue, expenditure, and capital cost of the metropolitan waterworks for 1901 and 1910-14.

**SYDNEY WATERWORKS.—REVENUE, EXPENDITURE, AND CAPITAL COST,  
1901 and 1910-14.**

Year Ended 30th June.	Revenue.	Working Expenses.	Capital Cost exclusive of Items on which Interest is not charged.	Percentage of Working Expenses to Revenue.	Percentage of Revenue to Capital Cost.	Interest Payable on Capital Cost.	Net Profit after paying Working Expenses and Interest.
	£	£	£	%	%	£	£
1901 ...	203,348	49,270	4,300,552	24.22	4.72	152,333	1,745
1910 ...	284,943	93,027	5,286,917	32.64	5.98	184,486	7,430
1911 ...	299,442	99,355	5,420,813	33.18	5.52	192,486	7,601
1912 ...	329,605	112,958	5,606,268	34.27	5.87	198,443	18,204
1913 ...	361,187	126,795	5,907,125	35.11	6.11	200,918	33,474
1914 ...	410,823	145,948	6,257,976	35.52	6.56	223,144	41,730

(e) *Quantity of Water, Number of Houses, and Population Supplied.* The following table gives various particulars for the years 1901 and 1910-14, shewing the increase in the supply of water in Sydney and suburbs:—

**SYDNEY WATERWORKS.—NUMBER OF GALLONS, HOUSES, AND POPULATION  
SUPPLIED, 1901 and 1910-14.**

Year Ended 30th June.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Supply for the Year.	Aver. Daily Supply.		Mains Laid.
					Per House.	Per Head of Estimated Population	
	No.	No.	1000 Gallons.	1000 Gallons.	Gallons.	Gallons.	Miles.
1901	98,298	491,000	21,583	7,877,677	219	43.95	40
1910	133,788	668,940	26,903	9,819,657	201	40.21	100
1911	139,237	696,185	29,006	10,587,433	208	41.55	102
1912	146,236	731,180	30,522	11,141,700	208	41.74	74
1913	155,213	776,065	32,594	11,896,810	210	41.99	100
1914	166,112	830,560	36,540	13,337,000	220	44.00	102

(f) *Other Water Supply Systems under the Metropolitan Board.* In addition to the main metropolitan water supply system there are certain other systems within the County of Cumberland managed by the Metropolitan Board. (a) The Richmond waterworks are entirely unconnected with the Sydney supply. Water is supplied to the town by a small pumping station on the left bank of the Hawkesbury River, just below the confluence of the Grose and Nepean. (b) The Wollongong waterworks are also unconnected with the Sydney supply. The source of supply is the Cordeaux River and the catchment area is 2400 acres in extent. The total capacity of the reservoir is 173,000,000 gallons and the total length of the main about nineteen miles, exclusive of the extension to Port Kembla and Unanderra. (c) The Manly waterworks are supplied by a special catchment area of about 1300 acres, and are also connected with the metropolitan system by a 10-inch main from Mosman. (d) The water-supply for the districts of Campbelltown, Camden and Narellan, and Liverpool is not drawn from the main Sydney supply through Potts' Hill, but is received by gravitation from the upper canal at Prospect. For further details of these water-supply systems see previous issues.

(ii.) *Metropolitan Sewerage System.* The system which is now under the control of the Metropolitan Board of Water Supply and Sewerage will be found fully described in previous issues. (See Year Book No. 5, p. 986.)

(a) *Revenue, Expenditure, and Capital Cost of Sydney Sewerage Systems.* The following table gives particulars as to the revenue, expenditure, and capital cost of the metropolitan sewerage systems for 1901 and 1910-14:—

**SYDNEY SEWERAGE SYSTEMS.—REVENUE, EXPENDITURE, AND CAPITAL COST, 1901 and 1910-14.**

Year ended the 30th June.	Revenue.	Working Expenses.	Capital Cost, exclusive of Items on which Interest is not Charged.	Percentage of Expenditure to Revenue.	Percentage of Revenue on Capital Cost.	Interest Payable on Capital Cost.	Profit or Loss after Payment of Working Expenses and Interest.
	£	£	£	%	%	£	£
1901 ...	125,290	45,395	3,066,147	36.23	4.05	106,475	*—26,580
1910 ...	223,131†	70,851	4,351,381	31.75	5.12	151,943	337
1911 ...	234,208	79,636	4,496,290	34.00	5.20	159,070	— 4,498
1912 ...	250,826	82,246	4,769,449	32.78	5.25	166,771	1,809
1913 ...	266,292	91,094	5,083,263	33.95	5.27	171,957	3,241
1914 ...	297,840	104,543	5,448,968	35.10	5.46	193,389	— 92

\* Represents a loss. † Rate reduced from 10d. to 9½d. from 1st July, 1908.

(b) *Number of Houses Drained, Population, and Length of Sewers in Sydney Metropolitan Sewerage Systems.* The following table gives particulars as to the number of houses drained, the population, and the length of sewers within the Sydney metropolitan area for 1901 and 1910 to 1914:—

**SYDNEY SEWERAGE SYSTEMS.—NUMBER OF HOUSES DRAINED, POPULATION, AND LENGTH OF SEWERS, 1901 and 1910-14.**

Year ended the 30th June.	Number of Houses Drained.	Estimated Population Served.	Total Length of Sewers.	Total Length of Storm-water Drains.	Ventilating Shafts Erected.	Sewers Ventilated.
	No.	No.	Miles.	Miles.	Feet.	Miles.
1901 ...	75,416	370,000	515.62	25.91	194,667	450
1910 ...	102,896	514,480	793.55	47.82	344,820	756
1911 ...	108,012	540,060	825.20	48.85	376,900	795
1912 ...	110,737	553,685	863.29	49.63	382,654	809
1913 ...	114,690	573,450	890.53	52.24	401,344	853
1914 ...	119,550	527,750	930.06	53.15	408,778	871

(iii.) *The Hunter District Water Supply and Sewerage Board.* The waterworks of the Lower Hunter were constructed by the Government under the provisions of the Country Towns Water Supply and Sewerage Act of 1880. In 1892 a special Act was passed establishing an independent Board to control the water-supply works. Fuller reference is made to the constitution of this Board and to the municipalities and incorporated areas under its jurisdiction in previous issues of the Year Book. (See Year Book No. 5, p. 988.)

(a) *Description of Waterworks.* The water supply is pumped from the Hunter River about a mile and a half up stream from West Maitland into a settling-tank of 1,390,500 gallons capacity, and thence flows through filter beds into a clear water tank holding 589,500 gallons. It is then pumped from the clear water tank into two summit reservoirs, one of which supplies East and West Maitland, and Morpeth, while the other supplies Newcastle and suburbs, and the townships of South Maitland and Cessnock. There is also a storage reservoir of 172,408,100 gallons capacity, which is resorted to when the river water is too turbid. In these districts there are eleven service reservoirs, having a total capacity of nearly 4,852,000 gallons supplied by gravitation. On the hill at Newcastle there is also a high-level iron tank with a capacity of 20,000 gallons, which is supplied by a small pumping engine on the roof of the Newcastle reservoir. The total length of water mains is 368 miles.

(b) *Water Supply, Capital Cost, Revenue, and Expenditure.* By the Act of 1892 referred to above and an Amending Act of 1894 the capital debt of the Board was to be liquidated by annual instalments distributed over 100 years with interest at 3½ per cent. By a further amending Act of 1897 the repayment of expenditure on permanent works was abrogated, and the annual instalments were to be paid in liquidation of the cost of renewable works to be fixed by the Government from year to year. The capital debt of the Board to the Government at 30th June, 1914, was in respect of water supply £534,514, and £322,276 in respect of sewerage. In the subjoined table particulars are given as to the revenue and expenditure, and also as to the number of houses and population supplied in 1901 and 1910 to 1914:—

#### PARTICULARS OF THE HUNTER DISTRICT WATER SUPPLY, 1901 and 1910 to 1914.

Year ended 30th June.	Revenue.	Working Expenses (including Interest).	Houses Supplied.	Estimated Population Served.	Supply.	
					Daily Average.	Total.
	£	£	No.	No.	1000 Gallons.	1000 Gallons.
1901 ...	27,405	30,948	9,086	45,400	1,005	366,889
1910 ...	46,767	43,126	16,446	82,230	1,650	602,497
1911 ...	45,711	45,420	17,164	85,820	1,850	675,214
1912 ...	47,788	47,920	17,796	88,980	2,026	739,539
1913 ...	53,673	49,043	18,405	92,025	2,366	863,692
1914 ...	66,323	52,994	19,575	97,875	2,791	1,018,810

The average daily consumption of water for all purposes per inhabitant was 28.52 gallons during the year 1914, as against 25.71 gallons during the previous year.

(c) *Sewerage Works.*—Considerable progress has been made by the Department of Public Works with the construction of the sewerage works for Newcastle and suburbs. The scheme is designed on the separate system, and will deal with the sewage partly by gravitation and partly by pumping. Up to the 30th June, 1914, about 57 miles of sewers,

connecting with 4890 separate properties, were under the control of the Board. For the financial year 1913-14 the revenue was £14,622 and the expenditure £20,017, the latter amount including a £2131 instalment to the sinking fund for the reconstruction of renewable works.

(iv.) *Water Supply and Sewerage in Country Towns.* With the object of assisting municipalities to construct systems of water supply and sewerage, the Country Towns Water Supply and Sewerage Act of 1880 was passed, but has since been amended by the Acts of 1887, 1894 and 1905. The principal provisions of these Acts are more fully dealt with in previous issues of this book. (See Year Book No. 5, p. 989.)

(a) *Waterworks.* Up to the 30th June, 1914, fifty country municipalities had availed themselves of the privileges of the Acts as regards waterworks, all of which at that date had been completed and handed over by the Government. The capital debt of these works was £924,805, and the total of the sums payable annually for a period of 100 years was £35,340, including interest at the rate of  $3\frac{1}{2}$  per cent., the first repayments having become due at various dates, starting from the end of the year 1893. In the calculation of these repayments the interest on the sums actually expended has been added, and any payments by the councils, as well as sums remitted under the authority of the Act, have been deducted. Other schemes of water supply and extensions of existing works are in course of construction. A number of other municipalities have constructed works out of their own resources.

(b) *Sewerage Works.* Only thirteen municipal councils have taken advantage of the Act providing for the construction of sewerage and storm water drainage works in country towns. On the 30th June, 1914, the capital debt of these systems was £173,761, the amount payable annually to the Government being £6665. Other sewerage systems, as well as extensions to existing systems, are in course of construction.

2. *Victoria.*—(i.) *The Melbourne and Metropolitan Board of Works.* This Board was established by an Act of 1890, and entered upon its duties in March, 1891. The Board consists of forty members, one of whom is a chairman elected every four years by the other members. Nine members are elected by the Melbourne City Council, four by the South Melbourne Council, three by the Prahran, two each by the Fitzroy, Richmond, St. Kilda, and Collingwood, and one each by the other suburban municipal councils returning a representative. The district over which the Board exercises control consists of fifteen cities, five towns, two shires, and parts of three others, or twenty-five municipalities in all, comprising a total area of 109,009 acres, and containing an estimated population on the 31st December, 1914, of 662,500 (including those supplied with water outside the Board's area). The waterworks for the supply of Melbourne and suburbs were originally carried out by the Government, which had for that purpose contracted loans amounting to £2,389,934; these works were vested in the Board in 1891. The primary object of the creation of the Board was not, however, to take over these works, but was to supply the long called for and pressing want of a sewerage system for the metropolis. To carry out its work the Board is authorised to borrow £9,750,000, exclusive of the loans contracted by the Government for the purpose of waterworks and taken over by the Board. The liability on Government loans on the 30th June, 1914, was £1,559,786, and for loans raised by the Board was £10,175,160. The Board is still empowered to borrow £404,988 before reaching the limit of its borrowing powers.

(a) *Total Cost of Water Supply and Sewerage.* The subjoined table shows the total cost of construction and maintenance of water supply and sewerage from 1853 to 1914.



**MELBOURNE AND METROPOLITAN BOARD OF WORKS.—TOTAL COST OF CONSTRUCTION AND MAINTENANCE OF WATER SUPPLY AND SEWERAGE, 1853 to 1914.**

Period ending 30th June.	Water Supply.			Sewerage.			Grand Total.
	Capital Cost.	Working Expenses.	Interest.	Capital Cost.	Working Expenses.	Interest.	
	£	£	£	£	£	£	£
1853 to 1891	3,378,246	420,833	1,021,676	...	...	...	4,820,755
1891 to 1901	336,957	367,506	1,021,181	3,307,764	114,268	919,017	6,066,693
1901 to 1911	299,303	384,871	1,026,362	2,981,666	461,706	2,333,348	7,487,256
1911 to 1914	600,222	159,903	354,665	614,401	199,214	902,310	2,830,715
Total ...	4,614,728	1,333,113	3,423,884	6,903,831	775,188	4,154,675	21,205,419

(b) *Revenue and Expenditure of Melbourne and Metropolitan Board of Works.* The following table shews the actual receipts and expenditure, and also the loan receipts and expenditure of the Board during 1901-2 and 1909 to 1914 :—

**MELBOURNE AND METROPOLITAN BOARD OF WORKS.—REVENUE AND EXPENDITURE DURING EACH YEAR, 1901-2 and 1909 to 1914.**

Particulars.	1901-2.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
ORDINARY RECEIPTS.						
	£	£	£	£	£	£
Water supply ...	171,956	248,356	253,002	267,917	295,963	322,762
Sewerage, etc. ...	124,696	253,756	267,444	272,365	287,507	320,931
Live stock—Metropolitan farm ...	19,929	31,289	35,016	63,225	57,787	62,064
Interest { Water supply ...	...	138	830	953	2,277	1,890
{ Sewerage ...	17,448	10,229	8,995	8,885	8,695	9,125
Total ...	334,029	543,768	565,287	613,345	652,229	716,772
ORDINARY EXPENDITURE.						
	£	£	£	£	£	£
General management ...	33,621	34,863	35,779	40,104	41,007	44,668
Live stock, etc.—Metropolitan farm ...	16,703	17,900	19,336	46,383	44,130	55,670
Maintenance { Water supply ...	22,205	24,944	25,016	30,234	34,508	34,125
{ Sewerage ...	24,396	42,921	45,665	47,797	50,433	49,198
Interest { Water supply ...	102,670	101,578	105,760	112,886	116,716	130,182
{ Sewerage ...	192,952	286,655	293,608	297,962	307,630	323,149
Total ...	392,546	508,861	525,164	575,266	594,424	636,892
LOAN RECEIPTS.						
	£	£	£	£	£	£
Water supply ...	1,636	5,272	4,788	5,982	12,315	10,803
Sewerage ...	88,425	61,509	56,313	59,907	61,315	46,620
Proceeds of loans ...	396,238	257,853	291,310	322,223	307,952	796,841
Miscellaneous ...	...	9,104	9,238	12,399	28,355	17,375
Total ...	486,299	333,738	361,649	400,511	409,937	871,639
LOAN EXPENDITURE.						
	£	£	£	£	£	£
Water supply construction ...	17,058	35,984	98,145	133,149	339,753	160,107
Sewerage construction ...	410,760	331,214	286,035	245,911	259,461	242,849
Expenses in floating and redemption of loans ...	5,200	2,677	2,936	5,393	130,150	253,426
Miscellaneous ...	4,293	18,002	26,288	35,638	47,474	30,004
Total ...	428,725	387,877	413,404	420,091	776,847	686,386

\* Excess of stock distribution (£7020) over purchases (£2727).

(ii.) *Melbourne Metropolitan Water Supply.*—In December, 1857, the construction of the Yan Yean Reservoir system was completed. A description of the conditions that prevailed in Melbourne prior to that date is given in previous issues of the Year Book.

(a) *Development of System.* The following statement shows the development which has taken place in the water supply system of Melbourne during the fifty-seven years since its inception :—

MELBOURNE WATER SUPPLY SYSTEM, 1857 to 1914.

Year.	Population* Served.	Capital Cost. £	Charge per 1000 Gallons.	Rate in £	Reticulation, Mains, &c., Mileage.	Supply in Gallons, Average daily.
1857 ...	95,442	748,974	10/- and 6/-	1/-	104	2,250,000
1914 ...	662,500	4,614,728	1/-	7d.	1,585½	43,644,121

\* On the 31st December.

(b) *Description of Water Supply Systems.* The water supply of Melbourne consists of three main systems—the Yan Yean (including the high level main), the Maroondah, and the O'Shanassy systems.

A full description of the two former systems has been given in previous issues of this book (see No. 6, p. 983).

The three reservoirs at Preston, which are the main distributors of the central city supply, contain 13,500,000, 24,500,000, and 26,300,000 gallons respectively.

The work has been completed of diverting the waters of the O'Shanassy River, a tributary of the Yarra, by an open aqueduct and pipe line of an aggregate length of 48½ miles, delivering water to the eastern portion of the metropolis by way of Mitcham and Surrey Hills. The total capacity of the scheme is 20,000,000 gallons per day, but capable of enlargement to 60,000,000 gallons. The scheme was estimated to cost £450,000, and up to 30th June, 1914, the date of the practical completion of the scheme, £399,296 had been expended. The watershed of the O'Shanassy River, containing 33,000 acres, has been excised from the permanent forests area, and a Crown grant was issued to the Board on the 28th January, 1910.

(c) *Catchment Areas, Reservoirs, and Aqueducts.* (i.) *Drainage Areas.* The whole of the catchment areas are absolutely free from population, cultivation, or stock grazing, and are under the complete control of the Metropolitan Board of Works. The present drainage areas from which the water is delivered are as follows :—

MELBOURNE WATER SUPPLY.—CATCHMENT AREA IN ACRES, 1914.

Silver and Wallaby Creeks.	Plenty River and Jack's Ck.	Yan Yean Reservoir Catchment.	Maroondah Catchment.	O'Shanassy Catchment.	Total.
12,000	12,000	5,000	40,000	33,000	102,000

All the water is delivered by gravitation, no pumping being required in any portion of the area supplied.

(d) *Storage Reservoirs.* In connection with distribution there are thirteen service reservoirs having a total capacity of 131,300,000 gallons. The total daily quantity of water which can be sent into Melbourne is as follows :—

System ...	Yan Yean.	High Level Main.	Maroondah.	O'Shanassy.	Total Supply.
Gallons per day ...	33,000,000	9,000,000	28,000,000	20,000,000	90,000,000

(e) *Quantity of Water, Number of Houses, and Population Supplied.* The following table gives various particulars for the years 1901 and 1910-14, shewing the increase in the supply of water in Melbourne and suburbs :—

### MELBOURNE WATERWORKS.—NUMBER OF HOUSES, POPULATION, AND WATER SUPPLIED, 1901 and 1910-14.

Year Ended 30th June.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Supply for the Year ended 30th June.	Average Daily Supply.		Rate Levied.	Assessments of Tenements Served by Metropolitan Water Supply.
					Per House.	Per Head of Estimated Population.		
	No.	No.	,000 Gallons.	,000 Gallons.	Gallons.	Gallons.		£
1901 ...	104,548	491,780	28,732	10,487,007	274.8	58.4	6d. in the £ 7d. in the £	3,479,721
1910 ...	123,227	565,010	34,508	12,595,501	280.0	61.1		4,789,265
1911 ...	128,036	581,500	32,840	11,986,503	256.5	56.5		5,045,848
1912 ...	133,122	594,250	38,507	14,093,509	289.3	64.8		5,382,101
1913 ...	140,351	614,300	39,380	14,373,761	280.6	64.1		5,670,801
1914 ...	147,442	639,700	43,644	15,930,104	296.0	68.2		6,217,841

(f) *Total Cost of Construction, Revenue, Expenditure and Net Profits, 1853 to 1914.* The following table shows the total cost of construction, the revenue, expenditure, and net profits for various periods up to 30th June, 1914 :—

### MELBOURNE WATERWORKS.—CONSTRUCTION, COST, REVENUE, EXPENDITURE, AND NET PROFITS, 1853 to 1914.

Period.	Capital Cost.*	Revenue.†	Working Expenses.‡	Percentage of Working Expenses to Revenue.	Interest.§	Surplus.
	£	£	£	%	£	£
Total to 1890-1	3,378,246	3,150,055	420,833	...	1,021,676	1,707,546
1891-2 to 1900-1	336,957	1,686,025	367,506	21.80	1,021,181	297,338
1901-2 to 1910-11	299,303	2,054,355	384,871	18.73	1,026,362	643,122
1911-12 to 1913-14	600,222	897,577	159,903	17.81	354,665	383,009
Total ...	£4,614,728	7,788,012	1,333,113	...	3,423,884	3,031,015

\* Works commenced in 1853. † Revenue commenced in 1854. ‡ Returns for expenditure commenced in 1859. § First interest paid in 1856. ¶ Excluding depreciation.

(iii.) *Melbourne Sewerage.*—As stated above, the chief object of the creation of the Melbourne and Metropolitan Board was to carry out an efficient system of sewerage. The cost of removal of the sewerage in 1894 was about £90,000, equal to a capital expenditure of £1,750,000. This movable pan system has been displaced by the water carriage system throughout the greater portion of the metropolis, and in other parts the work of reticulation is now proceeding.

(a) *Description of Sewerage Systems.* The whole of the sewage of the metropolis is being gradually collected by means of two principal main sewers and a subsidiary main leading to the pumping station at Spotswood. A description of the scheme may be found in previous issues. (See Year Book No. 5, p. 1007.)

(b) *Metropolitan Sewage Farm.* The farm originally contained 8847 acres, situated on the western side of the Werribee River. The price paid for the land was £17 10s. per acre (including compensation for severance), which in its virgin unimproved state cost the Board in 1892, £159,873. This sum included the purchase of a strip of land 11½ miles long (168½ acres) on which the greater portion of the outfall sewer is constructed. Since 1911, 2306 acres have been purchased, making the total area of the farm 11,153 acres at 30th June, 1914, its total cost to that date being £510,485. About 31,851,181 gallons of sewage had to be disposed of every twenty-four hours during the year in irrigating the fields. It is spread over properly-prepared and sown blocks of land by a series of

mains and lateral carriers. The blocks are laid down with grass and lucerne, on which sheep and cattle are depastured. During the financial year 1913-14, 37,779 sheep were bought, the profit from that source being £3595. Cattle to the number of 4140 were purchased, the profit for the year on cattle being £6199.

(c) *Number of Houses Connected, Capital Cost, Revenue and Expenditure.* The following table gives particulars as to the number of houses connected to the sewerage system, the total capital cost, and the receipts and disbursements during 1901 and 1909-14 :—

**MELBOURNE SEWERAGE WORKS.—TENEMENTS CONNECTED, CAPITAL COST, REVENUE, MAINTENANCE AND WORKING EXPENSES, 1901-2 and 1909-14.**

Year.	Number of Houses Connected.	Capital Cost.	Revenue.			Maintenance, Repairs and Renewals.
			From Rates.	From other Sources.	Total.	
	No.	£	£	£	£	£
1901-2 ...	47,172	3,610,225	126,725	10,968	137,693	24,336
1909-10 ...	105,993	6,044,139	247,632	12,843	260,475	38,085
1910-11 ...	112,293	6,289,430	260,528	15,200	275,728	46,904
1911-12 ...	118,350	6,487,517	271,682	18,042	289,724	47,381
1912-13 ...	125,103	6,695,534	285,721	17,655	303,376	51,804
1913-14 ...	131,168	6,903,831	319,817	18,642	338,459	49,615

(iv.) *Water Supply in Country Towns and Districts.* By the Water Act 1905, which came into operation on the 1st May, 1906, the control and management of all Irrigation Trusts, with one exception, and of a number of waterworks and water supply districts were centralised, and their works and property vested in the State Rivers and Water Supply Commission. The powers and duties of this Commission were extended by the Water Act 1909, the whole of the Water Supply Department being now merged in the Commission. Further information with regard to this Commission and to the works and districts under its control are given in the section in this book dealing with Water Conservation and Irrigation. There are, however, in different parts of Victoria a number of other waterworks which are concerned chiefly with domestic supply, and which are controlled by local authorities, i.e., by Waterworks Trusts or by municipal corporations. These works are constructed out of moneys either granted or lent by the State Government. The following table gives particulars as to the waterworks under the control of Trusts and municipal corporations for the years 1901 and 1910-14 :—

**VICTORIA—COUNTRY WATERWORKS UNDER TRUSTS AND MUNICIPAL CORPORATIONS, 1901 and 1910-14.**

Year.	Waterworks Trusts.				Municipal Corporations.			
	Number of Trusts.	Capital Cost.	Capital Indebtedness.	Interest Outstanding.	Number of Corporations.	Capital Cost.	Capital Indebtedness.	Interest Outstanding.
	No.	£	£	£	No.	£	£	£
1901 ...	76	823,418	748,089	*	24	*	470,041	*
1910 ...	86	960,719	769,442	14,727	25	686,356	457,951	10,718
1911 ...	87	1,017,396	819,638	15,047	21	651,459	421,273	2,662
1912 ...	88	1,046,394	843,506	15,970	22	653,510	418,673	9,349
1913 ...	89	1,083,390	866,594	12,461	22	655,702	415,672	6,635
1914 ...	90	1,114,727	889,905	10,858	22	656,200	417,937	1,213

\* Returns not available.

Under the provisions of the Local Government Act 1903, municipal councils are authorised to construct and maintain tanks, dams, and reservoirs, and must maintain existing works for the gratuitous supply of water. They are also empowered to accept the management and control of new waterworks within their respective localities, and may, with the consent of the Governor, construct or purchase new works within or without their locality. Councils are also authorised to enter into contracts for the supply of water for any period not exceeding ten years with the owner of any waterworks. Every municipality may levy a special water rate for water supplied, or for the purpose of constructing waterworks or paying the interest on any loan contracted by the council for such purpose, but the amount of the rate must not exceed in any year the sum of two shillings in the pound, provided that a minimum sum of ten shillings may be fixed by the council to be paid in respect of any property at which water is supplied.

(v.) *Geelong Waterworks Trust.* This trust was constituted under The Geelong Municipal Waterworks Act 1907, with borrowing power up to £300,000, afterwards increased by Act No. 2322, 1911, to £350,000, and by Act No. 2486 to £425,000. It was reconstituted under the Geelong Waterworks and Sewerage Act 1910, with power to borrow an additional £250,000 for the purpose of installing a sewerage system for Geelong and suburbs. The available storage capacity of the reservoirs is 1655 million gallons, and the Trust is authorised to supply water to (a) City of Geelong; (b) the suburbs thereof, and all places within a radius of five miles of the Geelong Post Office; and (c) any place within ten miles on either side of the main pipe from Stoney Creek to Geelong. The cost of the works (water and sewerage) to 30th June, 1914, was £510,806; the estimated population served is 33,500, and the number of assessments 10,602. The receipts for the year amounted to £36,316. The sewerage scheme provides for a main outfall sewer 4 ft. 3 in. x 3 ft. 3 in. to the ocean at Black Rock—a distance of about nine miles. The scheme will embrace an area of 8081 acres, including the City of Geelong, Boroughs of Newton and Chilwell, and Geelong West, and the suburban areas situated in Corio and South Barwon Shires.

3. **Queensland.**—(i.) *The Metropolitan Water and Sewerage Board.* This Board was constituted by the Metropolitan Water and Sewerage Act 1909, which divested the then existing Water Board of its powers and duties and vested them in an extended form in the new Board. The Act further empowers the Board to carry out a sewerage and drainage system, and relieves the Local Authorities of their responsibilities in that matter. The district of the new Board comprises the cities of Brisbane and South Brisbane, the towns of Hamilton, Ithaca, Toowong, and Windsor, and the shires of Balmoral (except division 3), Coorparoo, Enoggera (except division 3), Sherwood (except division 1), Stephens, Taringa, Toombul, and a portion of Kedron.

The Board consists of nine members, viz., the president and eight elected colleagues.

(a) *Brisbane Water Supply.* The supply is derived from the upper reaches of the Brisbane River, and from two storage reservoirs, known respectively as the Enoggera and the Gold Creek reservoirs.

- (1) *The Brisbane River Supply.* The principal source of water supply is the Brisbane River, about 75 per cent. of the water used being taken from it. The catchment area above the pumping station is about 4000 square miles. The Mount Crosby service reservoir, into which the water is pumped from the river, is built in cement concrete, and is 267 feet long, 100 feet wide, and 15 feet deep from high-water line, which is 455 feet above high-water mark at Brisbane. The capacity is about 2,500,000 gallons. New reservoirs and sedimentation basins are in course of construction.
- (2) *The Enoggera Reservoir.* The Enoggera works are distant from Brisbane about eight miles by road. The catchment area is nearly thirteen square miles in extent, and the reservoir, which is formed by an earthen dam,

holds 1,000,000,000 gallons, of which 600,000,000 are available by gravitation. The greatest length of the reservoir is 2600 yards, and its greatest breadth 700 yards. The supply from Enoggera is filtered through an intermittent sand filtration plant, comprising half an acre of sand beds, and a pure water reservoir with a capacity of 750,000 gallons.

(3) *The Gold Creek Reservoir.* This reservoir is situated in the upper waters of Gold Creek, a branch of Moggil Creek, distant from Brisbane by road about thirteen miles. The supply is drawn from a catchment area adjoining that of Enoggera, and comprising an area of nearly four square miles. The total capacity is about 406,000,000 gallons, of which 400,000,000 gallons are available.

(4) *Service Reservoirs.* Certain portions of the metropolitan area are supplied with water from service reservoirs, which are connected with one or other of the main reservoirs alluded to above. These service reservoirs are constructed at Highgate Hill, Wickham Terrace, and Bartley's Hill, and have a total capacity of over 4,000,000 gallons. A fuller description of the Brisbane water supply scheme may be found in previous issues.

(b) *Brisbane Waterworks : Cost, Revenue, Expenditure, and Interest.* The subjoined table gives particulars as to the cost, the revenue and expenditure, and the amount of interest and loan redemption during 1901 and each of the years 1910 to 1914 :—

**BRISBANE WATERWORKS.—COST, REVENUE, EXPENDITURE, INTEREST, AND REDEMPTION OF LOANS, 1901 and 1910-14.**

Year.	Capital Cost.	Revenue from Rates and Sales of Water.	Working Expenses.	New Work Construction.	Interest and Redemption of Loans.
	£	£	£	£	£
1901 ...	694,973	60,120	17,462	7,535	42,426
1910 ...	867,837	72,006	26,097	42,025	27,754
1911 ...	1,015,276	67,730	30,105	147,438	20,670
1912 ...	1,134,815	64,367	39,124	119,539	26,780
1913 ...	1,255,898	76,922	43,135	121,083	31,498
1914 ...	1,489,720	97,366	44,549	233,822	39,194

(c) *Brisbane Waterworks : Length of Mains, Tenements and Population Served, and Water Consumption.* The following table shews the length of mains, the number of tenements connected, the population supplied, the total quantity of water supplied, the average daily supply, and the average daily supply per head of population supplied during 1901 and each year from 1910 to 1914 :—

**BRISBANE WATERWORKS—PARTICULARS, 1901 and 1910-14.**

Year.	Length of Reticulation Mains.	Number of Tenements Connected.	Estimated Population Supplied.	Quantity Supplied.	Average Daily Supply.	Average Daily Supply per Head of Estimated Population.
	Miles.	No.	No.	,000 Gallons.	Gallons.	Gallons.
1901 ...	198	15,652	78,260	1,536,260	4,208,931	55
1910 ...	317	22,830	114,150	1,776,734	4,867,766	42½
1911 ...	333½	24,153	120,765	1,870,767	5,125,390	42.44
1912 ...	347	27,678	129,575	2,020,404	5,520,231	42.60
1913 ...	370½	28,301	139,925	2,099,590	7,752,302	41.05
1914 ...	389	29,612	148,060	2,293,920	6,284,712	42.44

The total length of the trunk mains is 82 miles.

A scheme of sewerage has been devised for Brisbane and its suburbs. It is intended to construct works for the provision of a population of 275,000, and tenders have been invited for the construction of the first three sections of the main sewer.

(ii.) *Country Towns Water Supply.*—In addition to the city of Brisbane there were at the end of the year 1913 twenty-eight towns in Queensland provided with water supply systems, constructed by municipalities chiefly from Government loans. The sub-joined statement gives particulars of all the water supply systems—exclusive of Brisbane—for the year 1913 :—

#### QUEENSLAND.—PARTICULARS OF COUNTRY WATER SUPPLY SYSTEMS, 1913.

£				£			
Receipts	Cost of construction to 31/12/13 ...	760,857		Expenditure	Office and salaries ...	10,638	
	Rates and sales of water	83,954			Construction ...	8,831	
	Other ...	7,091*			Maintenance ...	24,988	
					Interest & redemption	30,104	
					Other expenses ...	10,482	
	Total Receipts ...	91,045			Total ...	85,043	
Assets	...	...	599,810	Liabilities	...	...	437,690

\* Including £4436 from Government loans.

4. *South Australia.*—(i.) *Adelaide Water Supply System.* The water supply system of Adelaide is under the control of the Public-Works Department. The supply is obtained partly from the catchment areas of the rivers Onkaparinga, Torrens, and Sixth Creek, and partly from springs and pumping stations. There are three storage reservoirs, situated at Happy Valley, Hope Valley, and Thorndon Park, having an aggregate capacity of 3,895,000,000 gallons, while the tanks used in connection with the springs and pumping stations have a further capacity of 4,824,000 gallons. The total capital cost up to the 30th June, 1914, was £1,923,798, the total revenue being £2,825,906 and the area served approximately 106,000 acres.

The following table gives various particulars relating to the water supply of Adelaide for the years 1909 to 1914 inclusive :—

#### ADELAIDE WATER SUPPLY.—LENGTH OF MAINS, REVENUE, EXPENDITURE, AND CONSUMPTION OF WATER, 1909 to 1914.

Year Ended 30th June.	Length of Mains.	Gross Revenue.	Working Expenses.	Net Revenue.	Percentage of Net Revenue on Capital Cost.	Total Consumption of Water.*
	Miles.	£	£	£	%	Million of Gals.
1909 ...	684	81,412	20,762	60,650	3.53	4,000
1910 ...	704	82,290	22,709	59,581	3.31	4,000
1911 ...	732	89,902	28,032	61,870	3.40	4,000
1912 ...	763½	94,280	26,384	67,896	3.68	4,600
1913 ...	802½	105,590	27,982	77,608	4.12	4,700
1914 ...	836	113,156	30,106	83,050	4.32	5,150

\* In the Adelaide Water District there are no governing meters. The quantities shown above are as recorded by gaugings taken at the reservoirs, and include evaporation and absorption.

(ii.) *Adelaide Sewerage System.* In connection with the sewerage system of Adelaide, which is also under the control of the Public Works Department, about 337 miles of sewers had been laid in the city and suburbs up to the 30th June, 1914. The sewage is

disposed of on a farm and filter-beds, the latter being used only during the winter months. A scheme of sewerage extension which includes a pumping station to deliver the sewage to the existing sewage farm is now nearing completion.

The following table gives particulars relating to the Adelaide sewerage system for the years 1909 to 1914 inclusive:—

**ADELAIDE SEWERAGE SYSTEM.—REVENUE AND EXPENDITURE, 1909 to 1914.**

Year Ended the 30th June.	Revenue.			Expenditure.			Net Revenue.	
	Rates and Interest.	Sewage Farm. Sales of Produce, etc.	Total.	Maintenance.	Sewage Farm. Working Expenses.	Total.	Total.	Per-centage on Capital Cost.
	£	£	£	£	£	£	£	%
1909 ...	34,701	8,284	42,985	7,161	5,917	13,078	29,907	4.56
1910 ...	36,322	7,213	43,535	7,184	6,088	13,272	30,263	4.41
1911 ...	37,938	7,189	45,127	8,462	7,681	16,143	28,984	4.26
1912 ...	41,449	6,934	48,383	9,376	5,039	14,415	33,968	4.88
1913 ...	45,373	8,392	53,765	9,803	6,392	16,195	37,570	5.01
1914 ...	49,507	9,588	59,095	10,242	5,629	15,871	43,224	5.55

The seaside town of Glenelg is served by a separate sewerage disposal works, including a pumping station, septic tank, lucerne plots, and filter beds. The net revenue for the year ended 30th June, 1914, was £1881, being 4.35 per cent. on the capital cost. Up to the same date 15 miles of sewers had been laid.

(iii.) *Water Supply in Country Towns.* In South Australia there is a number of country waterworks under the control of the Public Works Department. There are three large reservoirs at Barossa, Beetaloo, and Bundaleer, which supply fifty-three townships with water for domestic and stock purposes. The principal towns thus supplied are Gawler, Wallaroo, Moonta, Kadina, Port Pirie, Port Wakefield, and Balaklava. The following table shews the capacity of these reservoirs, together with particulars as to the townships supplied and the country lands reticulated:—

**PRINCIPAL COUNTRY WATERWORKS, SOUTH AUSTRALIA, 1914.**

Reservoirs.	Townships Supplied.			Country Lands Reticulated.		Capacity in Million Gallons.	
	Number.	Square Miles.	Miles of Main.	Square Miles.	Miles of Main.	Head-works.	Service Reserv'rs.
Barossa ...	23	40	65	1,006	507	993½	10
Beetaloo ...	19	43	141	1,766	821	800	100
Bundaleer ...	13	8	31	1,087	474	1,319	16

Fifteen township districts are supplied from smaller local reservoirs, the most important town served being Port Augusta. New water supply schemes are in course of construction for the supply of townships and farming lands on Eyre Peninsula (near Cowell, Arno Bay, and Cleve), and for the new agricultural area east of the River Murray.

5. *Western Australia.*—(i.) *Water Supply, Sewerage and Drainage Department.*—Prior to 1912, water supply, sewerage and drainage, in Western Australia, although under Governmental control, were nevertheless under the management of several distinct departments. In that year, however, the Government decided that this divided control should



be concentrated in one department with the Minister of Works as administrator, and on the 1st August, 1912, a new department with the above title assumed the management of the undermentioned water supplies:—(a) The Metropolitan Water Supply Sewerage and Drainage Department. (b) The Goldfields Water Supply Administration. (c) The branch of the Mines Department dealing with the Mines Water Supply, boring and well-sinking in mining districts, the North-west, etc. (d) The branch of the Public Works Department dealing with water supply, sewerage, drainage, well-sinking, boring, etc., in agricultural districts, the North-west, etc. The total capital expenditure on works controlled by the Department was, at 30th June, 1914, £6,901,786.

The Acts of Parliament administered by the new department are:—“The Metropolitan Water Supply, Sewerage and Drainage Act 1909;” “The Goldfields Water Supply Act 1902” and amendment; “The Water Boards Act 1904;” “The Lands Drainage Act 1900” and amendment, and “The Water Supply Act 1893.”

(ii.) *The Perth Metropolitan Water Supply, Sewerage, and Drainage.* The Perth Metropolitan Water Supply Works were first opened by a private company in October, 1890. Under the provisions of the Metropolitan Waterworks Act 1896, however, the works were purchased by the Government at a cost of £220,000, and were placed under the control of a Board, the functions of which have been exercised since the year 1904 by the Minister for Works. By the Metropolitan Water Supply, Sewerage, and Drainage Act 1909, all water and sewerage works formerly vested in the Metropolitan Board were transferred to a Minister of Water Supply, Sewerage, and Drainage. In August, 1912, the administration was transferred to the new Water Supply Department.

(a) *Water Supply.* The supply of water is derived from four sources—(i.) the Victoria reservoir, (ii.) Bickley Brook reservoir, (iii.) the Mundaring reservoir, and (iv.) from artesian bores. A description of these four schemes is given in previous year books (see Year Book No. 7, page 887). For the year ending 30th June, 1914, the total consumption of water was 1,630 million gallons, an increase of 255 millions over the previous year. The number of services at that date was 28,391, and the length of mains was 530 miles.

(b) *Financial Operations of Water Supply Department.* The following table gives particulars of the financial operations of the Metropolitan Water Supply Branch for each year ending the 30th June from 1910 to 1914 inclusive:—

**PERTH METROPOLITAN WATER SUPPLY BRANCH.\*—PARTICULARS OF FINANCIAL OPERATIONS, 1910 to 1914.**

Year ended the 30th June.	Capital Cost of Works.	Depre- ciation.	Net Capital Cost.	Gross Revenue.	Cost of Main- tenance and Man- agement.	Ratio of Working Expenses to Revenue.
	£	£	£	£	£	Per cent.
1910 ... ..	628,757	44,415	584,342	60,249	20,862	34.62
1911 ... ..	645,023	92,351†	552,672	61,723	22,081	35.77
1912 ... ..	701,852	107,388	594,464	66,892	25,082	37.49
1913 ... ..	768,068	135,912	632,156	74,600	25,479	34.14
1914 ... ..	892,434	167,326	725,108	89,115	31,483	35.38

\* Perth, Fremantle, and Claremont combined. † £39,724 transferred from reserve account to depreciation to provide for estimated overvaluation made at time of purchase of Perth Water Supply.

(c) *Consumption of Water.* The following table shews the total annual supply, the average daily supply, and the average daily supply per house and per head of population during each financial year from 1910 to 1914 inclusive:—

**PERTH METROPOLITAN WATER SUPPLY BRANCH.—CONSUMPTION OF WATER,  
1910 to 1914.**

Year ended the 30th June.	Total Annual Supply in '000 Gallons.			Average Daily Supply in '000 Gals.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply in Gals.	
	From Reservoir.	From Bores.	Total.				Per House.	Per Head of Population.

**PERTH DISTRICT.**

1910	...	392,715	281,104	673,819	1,846	14,512	56,000	127	33.0
1911	...	414,512	355,810	770,322	2,110	15,075	59,000	131	35.7
1912	...	364,428	420,914	785,342	2,441	16,055	62,250	152	39.4
1913	...	424,682	484,796	909,478	2,492	17,000	68,000	146	36.6
1914	...	435,596	540,109	975,705	2,673	18,125	75,000	147	35.6

**FREMANTLE DISTRICT.**

1910	...	...	278,179	278,179	762	4,042	19,500	188	39.0
1911	...	...	286,461	286,461	782	4,150	20,000	188	39.1
1912	...	...	313,405	313,405	856	4,280	20,500	200	41.7
1913	...	44,529	295,993	340,522	933	4,500	22,000	207	42.4
1914	...	67,256	359,192	426,448	1,168	4,789	23,000	243	50.8

**CLAREMONT DISTRICT.**

1910	...	...	101,240	101,240	277	1,783	7,500	156	37.0
1911	...	...	110,275	110,275	302	2,042	8,000	148	37.7
1912	...	...	118,399	118,399	329	2,320	8,750	141	37.6
1913	...	...	125,171	125,171	343	2,650	10,000	139	34.3
1914	...	4,517	124,425	128,942	353	3,094	12,000	114	29.4

(d) *Sewerage and Drainage in Perth and Fremantle.* The work of providing a sewerage system for Perth and Fremantle was commenced in 1906, and has proceeded without interruption up to the present time. Up to 30th June, 1913, 7912 houses had been connected to the sewers. The revenue of the Sewerage and Drainage undertaking for 1913-14 was £29,512, as against £18,266 for the preceding year. The expenditure amounted to £7029, and interest and sinking fund charges to £35,837. A description of the method of sewage disposal adopted may be found in previous issues. (See Year Book No. 5, p. 1031.)

(iii.) *The Goldfields Water Supply Branch.*—This scheme by which the Government of Western Australia undertook to provide a permanent supply of water for the population of the eastern goldfields of that State has already been described in previous issues of the Year Book (see No. 5, page 582). The main source of supply is the Helena River in the Darling Ranges, whence by a system of reservoirs, the water is conveyed to Kalgoorlie and the surrounding district. Up to the 30th June, 1914, the total cost of construction was £3,368,071. The total consumption for the financial year 1913-14 was 1,194,000,000 gallons, a decrease on the previous year of 10,000,000 gallons. At the same date the length of water mains was 1175 miles. The gross revenue for the year was £255,076, and the working expenses £102,333. The increase in the latter item is due to the expenditure of £26,000 on service main renewals, and to the construction of a new 10-million gallon reservoir at Kalgoorlie at a cost of £23,095. The outlay for interest and sinking fund charges in respect of supplementary capital borrowed on

debentures absorbed £30,885. During the financial year the State Treasury paid £168,813 interest and sinking fund on State loans in respect of these works, leaving a net deficiency of £46,955. This deficiency, while much larger than that of any of the past five years, is still much smaller than that of 1909, viz., £81,244. From that year, however, an increase in the price of water supplied has reduced the deficit very considerably.

(iv.) *Mines Water Supply Branch.*—On the 1st of August, 1912, the administration of this branch was transferred to the new Water Supply, Sewerage and Drainage Department. While the statistics of this branch of the Department do not properly belong to the section dealing with "Local Government," nevertheless, as the functions exercised by the Department are similar to those delegated to local authorities in most of the other States of the Commonwealth, it is considered advisable to include them in the section under review.

At the present time the water stations under the control of the engineer number about 1400, and are spread over an area of nearly 500,000 square miles, extending from the Phillips River in the south to the Kimberley district in the far north. The principal works carried out by the branch are as follows:—(a) Domestic supplies for mining towns and the supply of water for battery and general mining purposes. (b) Opening up the very remote portions of the State by means of tracks, of which there are about 4000 miles. (c) The sinking of wells and bore-wells, also testing the country by means of boring to locate water, and thus enabling the mineral resources of the State to be systematically prospected. (d) Diamond drilling has also been carried out for the purpose of testing the country for minerals at depths unattainable with the ordinary boring plants. (e) Nearly 2000 miles of stock routes have been opened up, and wells have been sunk at easy stages, capable of watering mobs of 400 head of cattle. In addition to these works the Wiluna-East Kimberley route (890 miles) has been constructed. Tanks, dams, and reservoirs have been made on the goldfields for the conservation of surface water, their total storage capacity being over 200,000,000 gallons, and their cost over £400,000.

A very important adjunct of the Branch is the camel farm established at Coolgardie, where the breeding of camels is undertaken, the number at present being about 350. These camels are used by parties from the Water Supply Branch in the arid regions of the interior, where water is scarce and the stages are long, and occasionally they are used by the other Government Departments engaged on such works as the Rabbit Proof Fence and the Transcontinental Railway Survey.

(v.) *Water Supplies in Agricultural Areas.*—Owing to the rapid development in agricultural districts in what a few years ago was practically unexplored country, and the consequent necessity for providing water for settlers, a large number of tanks were excavated, and wells sunk where suitable water had been proved by boring. Of 2174 shallow bores put down, fresh water was obtained in 370, stock water in 191, the others being salt or dry. The number of tanks excavated to 30th June, 1914, was 272, with an approximate capacity of 100,000,000 gallons, and the number of wells 237, the estimated capacity of which is 45,000,000 gallons. The capital expenditure for the financial year ending June, 1914, was £17,673.

6. *Tasmania.*—(i.) *Hobart Water Supply.*—The original water supply of Hobart was obtained from a stream known as the Hobart Rivulet, flowing from Mount Wellington, the works being carried out in 1831 by the Imperial Government. These works consisted of an aqueduct and a line of cast-iron pipes, the water being distributed to several points known as "wells." By an Act of the State Parliament passed in 1860 the works were transferred to the municipality. Under this Act certain additional streams flowing from Mount Wellington were acquired as sources of supply, and a storage reservoir containing 45,000,000 gallons was constructed. The catchment area on Mount Wellington

at present comprises an area of 4200 acres, the sources of supply having been extended at various times as far as the North West Bay River, fifteen miles from Hobart.

(a) *Storage Reservoirs.* There are two storage reservoirs about  $2\frac{1}{2}$  miles from the city. One contains 68,000,000 gallons and is 502 feet above sea-level, while the other contains 45,000,000 gallons and is 447 feet above sea-level. The whole of the supply is by gravitation. The water is brought from the various streams by means of stone aqueducts and cast-iron pipes to the reservoirs, and thence by four 10-inch cast-iron mains, of which three lead to the distributing reservoirs and one direct to the shipping and southern portion of the city.

(b) *Capital Cost, Tenements Connected, Length of Mains, Revenue and Expenditure.* The total capital cost to the end of 1914 was £243,926, but a considerable amount of reticulation work has been done out of revenue and not charged to capital account. The outstanding loans at the end of 1914 amounted to £203,175. At the same date the number of tenements supplied in the city and suburbs was 8400, the population 39,948, and the length of reticulation mains  $88\frac{1}{2}$  miles. The revenue and expenditure for the last six years were as follows:—

**HOBART WATERWORKS.—REVENUE AND EXPENDITURE, 1909 to 1914.**

Particulars.	1909.	1910.	1911.	1912.	1913.	1914.
	£	£	£	£	£	£
Revenue ... ..	20,091	20,643	31,207	23,858	21,982	22,191
Expenditure ... ..	23,729	22,238	20,381	20,584	21,336	24,550

(c) *Proposed Extensions.* Parliamentary sanction to borrow £93,000 has been obtained for the purpose of improving the water supply of the city and suburbs of Hobart; £75,000 of this amount is to be spent on a new storage reservoir, and the construction of the dam is in hand.

(ii.) *Hobart Sewerage System.*—A scheme for the construction of a sewerage system in Hobart was adopted in 1903. The sewage is discharged into the estuary of the River Derwent. Up to the end of the year 1914 about 71 miles of sewers had been laid at a cost of about £190,000, and 6865 tenements (out of a total of 6973) had been connected. The revenue for the year was £11,395. The scheme, which is intended to sewer over 2000 acres so as to serve an estimated population of about 80,000 people, is almost completed. The suburb of Queenborough has recently become incorporated with the city, and arrangements are now being made to extend the system to this district.

## § 4. Harbour Trusts.

1. *Introduction.*—In the chief ports and harbours of the Commonwealth, administrative bodies have been created, in whom is vested the control and management of the port with respect to dredging, wharf and harbour accommodation, pilotage, harbour dues, etc.

Of these Trusts or Boards some are purely departmental, some are nominated by Government, while others are comprised of members appointed by the municipal and other associations connected with the port. In the latter case, the Government is usually represented on the Board by one or more nominated members. The Boards and Trusts mentioned hereunder are the only ones for which information is at present available.

2. **Sydney Harbour Trust.**—The Trust was established by an Act which came into force on the 11th February, 1901. Its powers and duties have been dealt with in previous issues of this book, together with some of the more important improvements carried out by the Commissioners. (See Year Book No. 5, p. 990.)

(i.) *Revenue, Expenditure, and Capital Cost.* The subjoined table gives particulars of the revenue and expenditure of the Trust, and also shows the total capital debt for properties, etc., vested in the Commissioners, the amount of interest payable on the debt, and the balance of revenue after deducting expenditure, interest, and the amount of the Commissioners' salaries:—

**SYDNEY HARBOUR TRUST.—REVENUE, EXPENDITURE, CAPITAL DEBT, INTEREST AND BALANCE, 1901 and 1910-14.**

Year ended the 30th June—	Revenue.				Expenditure.	Total Capital Debt.	Interest.†	Balance.
	Wharfage & Harbour Rates.	Tonnage Rates & Berthg. Charges	From Other Sources.	Total.				
	£	£	£	£	£	£	£	£
1901* ...	42,784	3,208	12,324	58,316	11,275	4,692,782	55,554	— 8,513.
1910 ...	183,094	11,563	142,390	337,047	142,763†	5,482,060	191,246	3,038.
1911 ...	212,061	15,586	146,158	373,755	143,181†	5,697,756	200,845	29,729.
1912 ...	234,731	18,163	158,755	411,649	143,170†	6,136,671	212,842	\$56,398.
1913 ...	258,703	18,417	173,162	450,282	154,540†	6,535,853	221,049	74,693.
1914 ...	260,761	19,867	188,901	469,529	161,479	6,992,932	248,088	59,962

\* For the period from 11th February to the 30th June, 1901. † The rate of interest charged each year is the average rate on the total capital debt of the State, which varies. ‡ Including expenditure for the renewal, replacement or reconstruction of wharves or buildings. § Including £761 repaid to previous revenue votes.

— Represents a loss.

(ii.) *Dredging and Towing.* The subjoined statement gives particulars of the dredging and towing done by the dredges and tug-boats owned by the Trust:—

**SYDNEY HARBOUR TRUST.—PARTICULARS OF DREDGING AND TOWING, 1901 and 1910-14.**

Year.	Dredging.			Towing Dredged Material.		
	Tons Dredged.	Total Expenditure.	Expenditure per Ton.	Miles run Towing.	Total Expenditure in Towing.	Expenditure per Mile Towing.
	Tons.	£	Pence.	Miles.	£	Pence.
1901 ...	317,500	3,696	2.79	29,277	2,849	23.35
1910 ...	448,650	11,495	6.15	33,048	5,519	40.08
1911 ...	1,675,945	19,058	2.72	38,372	5,442	34.04
1912 ...	1,671,540	24,036	3.45	30,163	6,636	52.80
1913 ...	1,875,925	28,104	3.59	28,317	5,976	48.22
1914 ...	1,852,500	29,079	3.77	45,724	8,271	43.41

3. **The Melbourne Harbour Trust.**—This Trust was constituted under an Act passed in 1876, as a result of public agitation and demands extending over a period of thirty-four years, to the effect that the cost of landing goods should be reduced, and the-

delays in receiving goods should be abolished. Both demands arose from the fact that vessels of a draught greater than twelve feet had to discharge in the bay into lighters.

(i.) *Constitution of the Trust.* The Harbour Trust Act was originally drafted on the lines of similar institutions in Great Britain, such as the Thames Conservancy, the Mersey Harbour Board, and the Clyde Trust. Under the Act of 1876, as amended in 1883, the number of Commissioners was fixed at seventeen.

(ii.) *Works Undertaken by Trust in the River and in the Port.* In 1890 a Consolidating Act was passed, and the borrowing powers of the Trust were increased to £2,000,000, and subsequently by the Act of 1913 to £3,000,000. The river was widened from Queen's Bridge to the bay to about 300 feet, while the depth has been gradually increased until at the present time it is twenty-six feet at low water. Five and three-quarter miles of wharves carrying sheds which measure a total length of 14,515 feet, and cover an area of 705,780 square feet, have been constructed along the river and at the Victoria Dock, Melbourne.

(a) *The Coode Canal.* In 1886 the canal across the flats below Fishermen's Bend was completed at a cost of £96,000. The length of the canal is 2002 yards, the distance from Queen's Bridge to the river entrance being thereby reduced from seven miles to five and three-quarter miles, and the navigation being greatly facilitated. This channel, which is called the Coode Canal, has been widened 164 feet, thus making its total width 487 feet, and its width at low water 430 feet. At the present time there is a depth of 26 feet at low water for a width of 250 feet.

(b) *The Victoria Dock.* This dock, four miles up the river and opened in 1892, has an area of ninety-one acres and a depth of twenty-six feet at low water. The entrance to the dock is 160 feet wide. There are 8750 feet of wharfage, and the total cost, including wharves, sheds, and approaches thereto, was, to 31st December, 1913, £522,100. The sheds have a total length of 4868 feet, and cover an area of 265,600 square feet.

(iii.) *Works in the Bay.* Prior to 1889 all the mail steamers and vessels of heavy draught had to lie at anchor in the bay, and there discharge into lighters. One of the first works undertaken by the Commissioners was to make the railway piers at Williamstown available to these vessels. This work was completed at a cost of £256,160. In 1893 a channel over 8000 feet long and 600 feet wide was constructed, running in a southerly direction from Port Melbourne Railway Pier and having a navigable depth of thirty feet o.l.w. The cost of this work was £218,379.

(iv.) *Dredging.* The total quantity of material raised by the dredging and excavation done in the improvement of the river and bay amounts to nearly 46 million cubic yards.

During the ten years ending 31st December, 1913, the average cost of dredging per cubic yard was 2.86 pence and the cost of towing and depositing 6.29 pence, not allowing for depreciation of plant. The Trust has expended £225,458 in reclaiming land within its jurisdiction. The amount of material raised annually is now about 2,500,000 cubic yards.

(v.) *Financial Operations.* The revenue of the Trust is obtained from wharfages, and quayage rates, rents and license fees from lands and ferries, and other license fees. One-fifth\* of the revenue of the Trust is paid to the consolidated revenue of Victoria. The following table gives particulars of the revenue and expenditure of the Trust from 1908 to 1913 inclusive:—

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\* Limited by Act 2449 to £60,000 per annum for five years from 1st January, 1913.

**MELBOURNE HARBOUR TRUST.—REVENUE AND EXPENDITURE, 1908 to 1913.**

Particulars.	1908.	1909.	1910.	1911.	1912.	1913.
<b>REVENUE.</b>						
Rates and rents ...	£ 272,409	£ 259,641	£ 316,787	£ 332,732	£ 337,626	£ 337,562
Interest ...	3,662	90	410	2,039	2,375	665
Recoups ...	1,068	3,082	2,138	4,654	7,297	544
Total ...	277,139	262,813	319,335	339,425	347,298	338,771

<b>EXPENDITURE.</b>						
Wharfage refunds ...	£ 1,161	£ 997	£ 1,618	£ 1,097	£ 1,457	£ 1,112
Consolidated revenue of Victoria	53,869	51,612	62,604	65,413	68,344	60,960
Maintenance and management	70,224	54,962	56,794	58,987	86,486	94,621
Interest on loans ...	81,413	72,517	69,409	69,366	69,264	71,081
Dredging (construction) ...	9,162	16,368	25,200	31,932	26,244	37,602
Wharf "	4,942	5,146	6,308	22,656	108,346	176,286
Other Harbour improvements ...	4,522	7,724	9,880	787	3,777	7,760
Plant account ...	13,753	11,887	860	21,935	72,078	52,741
Redemption of loans expenses ...	603	1,794	...	...	...	...
Total ...	239,649	223,007	232,673	272,173	435,996	502,163

<b>SURPLUS.</b>						
Surplus ...	£ 37,490	£ 39,806	£ 86,662	£ 67,252	£ 188,698	£ 163,392

† Signifies a deficit.

4. **Fremantle Harbour Trust.**—Under the provisions of an Act passed in 1902, a Harbour Trust was constituted for the general administration of Fremantle harbour, and since January, 1903, the Trust has had full control of all the affairs of the harbour, and undertakes the duties of wharfingers, and the receiving, sorting, storing, delivering, and handling of all cargo between vessels and the owners of the goods. The works, which were commenced in 1892, were designed with the object of forming a safe and commodious harbour within the mouth of the Swan River, so as to admit vessels at all states of the tide, and thus enable cargo to be loaded and discharged at the quays and goods-sheds on the river banks. Two ocean moles have been thrown out from the north and south heads, the former being 3450 feet and the latter 2040 feet long. A channel, 450 feet wide and 30 feet deep at low water, has been blasted and dredged through the rock which formerly crossed the estuary to the river to give access to the harbour basin, which has a width of 1400 feet and a depth of 30 feet at low water, and wharves and goods-sheds have been constructed along the reclaimed foreshore on both sides of the harbour. At the present time all the European mail boats and equally large vessels which make Fremantle the first and last port of call in Australia, are able to enter and leave the harbour in all weather and at all tides. For the year ended 30th June, 1914, the total revenue of the Trust was £203,767, and the expenditure £82,895. The gross amount paid to the Treasury for the year was £120,872, being interest £54,844, sinking fund £15,669, and surplus revenue account £50,395.

**5. Hobart Marine Board.**—The Hobart Marine Board was established in 1858, and consists of nine wardens, elected by the shipowners, importers and exporters of the port. To meet the requirements of the large steamers now visiting the Commonwealth, extensive harbour improvements have been completed. The ocean wharf and pier has now a length of 1150 feet, with a depth of water from 36 feet at the inner to 60 feet at the outer end.

The total capital debt on properties in connection with the Harbour Trust vested in the Board is £107,000. The interest paid thereon in 1914 amounted to £3949. The Marine Board also guarantees the interest on the cost of Tasman Island Lighthouse, £22,202. The revenue and expenditure of the Board for the last three years were as follows :—

**HOBERT MARINE BOARD.—REVENUE AND EXPENDITURE, 1912-14.**

Year.	REVENUE.				EXPENDITURE.			
	General.	Harbour Improvements.	Light-house Fund.	Total.	General.	Harbour Improvements.	Light-house Fund.	Total.
	£	£	£	£	£	£	£	£
1912 ..	19,281	35,000	10,804	65,085	20,293	32,490	11,590	64,373
1913 ..	21,343	*38,000	10,634	69,977	*20,453	35,917	11,948	68,318
1914 ..	24,772	26,000	11,481	62,253	†24,956	29,241	13,047	67,244

\* Including £4000 voluntary contribution to Sinking Fund.

† Including £3000 transferred from the General account to the Harbour Improvements account.

**6. Launceston Marine Board.**—The Board was formed in 1858 and consists of thirteen members, elected on the Municipal franchise, with special residential conditions. The principal work of the Board is in connection with the straightening, deepening, and widening of the River Tamar, the distance from the wharves to the open sea being 40 miles.

Wharves to the length of 5578 feet have been constructed, the depth at some of them being 40 feet S.L.W., while a further 1000 feet are under construction. The total capital debt on 31st December, 1914, was £108,660, of which £61,421 was incurred on the Tamar Improvements Scheme. The revenue for 1914 was £17,328 and the expenditure £20,559.

**7. Geelong Harbour Trust.**—This Trust was appointed in 1905, and consists of three Commissioners appointed by the Government of Victoria. To the 31st December, 1913, the Trust had borrowed £493,600. The sinking fund at the same date stood at £3892. The revenue for the year 1913 was £30,811 and the expenditure £35,088. Under the Act appointing the Trust, one-fifth of a certain portion of the revenue is paid into the Consolidated Revenue of Victoria, but by Parliamentary sanction this ceased after 31st March, 1913. From the inception of the Trust to this date, £18,693 had accrued to the Consolidated Revenue, and was paid by the Trust.

**8. Rockhampton Harbour Board.**—This Board consists of nine members, four being elected by the ratepayers and five by payers of harbour dues. The principal items of export are wool and hides. For the year 1913 the receipts amounted to £43,043, of which £5642 represented Government loans for various purposes, while the expenditure totalled £40,322, including £16,548 for redemption and interest. The total net registered tonnage entering the port in 1913 was 1,027,264.

**9. Bundaberg Harbour Board.**—The principal port in Queensland for the shipment of sugar is Bundaberg, more than 55,000 tons of that commodity having been shipped from the port during 1913. The Harbour Board consists of nine members, representing the district shire councils and the shipowners and exporters, with one Government nominee.



The revenue for the year amounted to £8963 and the expenditure to £8067. The total Port Improvements Loans and Government Endowment amounted on the 31st December, 1913, to £31,147. During the year 1913, 256,850 tons were dredged at a cost of £3047.

**10. Bunbury (Western Australia) Harbour Board.**—The Bunbury Harbour Board was constituted in 1909, and consists of five members appointed by the Government.

The capital expenditure for the year ending 30th June, 1914, was £2330, making the total capital expenditure to that date £229,462. The revenue for the year was £32,303 and the expenditure £10,209, the balance being paid into Consolidated Revenue. The timber trade is the principal industry of the port, the shipments of timber for the year ending 30th June, 1914, amounting to 245,088 loads. Other chief exports comprised coal, 32,700 tons; wool, 2670 bales; and wheat, 2000 bushels. The total export value of the above was £1,055,000.

**11. Burnie and Table Cape (Tasmania) Marine Board.**—While the existing works accommodate steamers of 4000 to 5000 tons, which visit the port regularly, they are insufficient for the rapidly increasing traffic in produce and ores from the north-west and west coast districts of Tasmania. A scheme is, therefore, being carried out by which the port will eventually be capable of taking any shipping trade in the Commonwealth. A breakwater is being constructed 1200 feet in length and with a depth of 40 feet at low water. It is intended later on to increase the length to 4000 feet and to enclose 300 acres of deep water space, of which 100 acres will have a depth of nearly 45 feet. The expenditure on that portion of the scheme at present under construction will be £150,000. The revenue for the year 1914 was £7714, and the expenditure £6955.

## § 5. Fire Brigades.\*

**1. New South Wales.**—Reference has been made in the section of this book dealing with the subject of *Private Finance* (see page 756) to the constitution of the Board of Fire Commissioners of New South Wales, which has now superseded the Metropolitan and all other Fire Brigade Boards in that State.

(i.) *Receipts and Disbursements of Board of Fire Commissioners of New South Wales.* The subjoined table shews the actual receipts and disbursements of the Board for the past four years:—

### NEW SOUTH WALES BOARD OF FIRE COMMISSIONERS.—RECEIPTS AND DISBURSEMENTS FOR SYDNEY FIRE DISTRICT, 1911-14.

Year.	Receipts.						Disbursements.
	From Government.	From Municipalities.	From Fire Insurance Companies.	From Firms.	From other Sources.	Total.	
	£	£	£	£	£	£	£
1911 ...	21,643	21,643	21,198	444	1,145	66,073	60,667
1912 ...	20,100	20,100	19,896	204	1,874	62,174	65,713
1913 ...	25,586	25,586	25,404	182	2,270	79,028	76,853
1914 ...	29,200	29,200	28,966	234	1,773	89,373	88,208

With reference to the preceding table, under the "Fire Brigades Act 1909," by which the New South Wales Board of Fire Commissioners was constituted and which came into operation on 1st January, 1910, insurance companies do not now, as formerly, return the amount of their risks, but give in lieu thereof the amount of premiums received, which

\* See § 7. Fire Insurance, p 756.

forms the basis of their contribution towards the revenue of the Board. By this Act also, firms which effect insurances with companies not registered in New South Wales are likewise required to make contributions on account of the premiums paid to such companies, which is the first instance of this class of insurer being compelled to share the expense of local advantages, which had hitherto been available free of cost. A fuller description of the principal provisions of this Act will be found in previous issues of this book (see Year Book No. 5, page 990). The Sydney fire district includes the City of Sydney and suburbs, comprising a total area of 220 square miles. On the 31st December, 1914, the Board had under its control 55 stations, 291 permanent men, 144 auxiliary firemen, 14 steam and 15 motor fire engines, 92 horses, 122,700 feet of hose, and 431 telephone fire-alarms. The length of wire used for telephones and fire alarms was 842 miles.

2. **Victoria.**—Under the Fire Brigades Act of 1890 a metropolitan fire district and nine country fire districts were established, the former being placed under the control of a Metropolitan Fire Brigades Board, and the latter under the control of a Country Fire Brigades Board.

(i.) *Metropolitan Fire Brigades Board.* The metropolitan fire district originally comprised the area included in the several municipalities within a radius of ten miles from the Melbourne General Post Office, but this area has since being extended in certain directions so as to include the greater part of the Shire of Moorabbin and also the township of Mordialloc. The Board is composed of nine members, of whom three are appointed by the Governor-in-Council, three by the municipal councils, and three by the insurance companies. On the 31st December, 1914, the Board had under its control 47 stations, 241 permanent men, 130 auxiliary firemen, 34 special service firemen, 10 steam fire engines, 5 gasolene engines, 2 chemical engines (1 motor), 3 petrol motor fire engines, 69 horses, 104,127 feet of hose, and 271 fire-alarm circuits having 852 street fire-alarms, of which 784 contained telephones. The total length of wire in use outside stations for fire alarms and telephones is about 600 miles. The Government, the insurance companies and the municipalities in which the Board operates contribute equally to the cost and maintenance of the brigade. The following table gives particulars as to the financial operations of the Board during each year from 1910 to 1914 inclusive:—

**VICTORIA.—REVENUE AND EXPENDITURE OF METROPOLITAN FIRE BRIGADES BOARD, 1910 to 1914.**

Particulars.	1910.	1911.	1912.	1913.	1914.
ORDINARY RECEIPTS.					
Contributions ...	£ 56,497	£ 56,993	£ 63,775	£ 66,238	£ 66,954
Receipts for services ...	3,990	3,719	6,011	5,941	8,241
Interest and sundries ...	2,451	3,420	6,965	3,669	3,234
Total ...	62,938	64,132	76,751	75,848	78,429
ORDINARY EXPENDITURE.					
Salaries ...	33,742	37,913	45,613	47,210	50,966
Interest and sinking fund ...	11,009	9,588	9,681	8,357	9,432
Other expenditure ...	18,187	16,631	21,457	20,281	18,031
Total ...	62,938	64,132	76,751	75,848	78,429

(ii.) *The Country Fire Brigades Board.* This Board consists of nine members, of whom three are appointed by the Governor-in-Council, two are elected by the municipal councils of the districts where there are brigades registered under the Board, two by the fire insurance companies, and two by the registered fire brigades. At the end of the year 1914 there were 104 municipal councils, and sixty-five insurance companies included in the operations of the Act. All the brigades are volunteer brigades, but in the large towns permanent station-keepers and watchmen are employed. There were 124 registered brigades and 2444 registered firemen at the end of the year 1914.

For the year 1914 the receipts of the Country Fire Brigades Board amounted to £16,700, and the expenditure to £16,327.

3. **Queensland.**—In the year 1913 there were twenty-seven fire brigades organised in various towns in Queensland. The revenue of these brigades is derived chiefly from grants from the Government, from municipalities, and from the insurance companies, generally in equal proportions, and the following table gives these particulars for the year 1913:—

QUEENSLAND.—FIRE BRIGADES, 1913.

Receipts.		Amount.	Expenditure.		Amount.
		£			£
From Government	...	5,947	Salaries and wages	...	10,765
„ Local authorities	...	6,050	Building, repairs, etc....	...	2,517
„ Insurance companies	...	5,954	Plant, stores, clothing, etc.	...	2,700
„ Other sources	...	1,113	Other	...	3,630
Total	...	19,064	Total	...	19,612

At the end of the year 1913 the fire brigades staffs comprised 85 permanent men, 283 partly paid, and 84 volunteers. The Metropolitan brigade at Brisbane and the South Brisbane brigade protect an area of 9½ square miles; their joint staffs comprise 65 men. They have three steam engines, two motor turbines, one chemical motor, nine hose reels, and 17,919 feet of hose. There are 52 telephone fire alarms and 78 call points.

4. **South Australia.**—The fire brigades of South Australia are managed by a Board consisting of five members, one being nominated by the Government, one by the Adelaide city council, one by the other metropolitan and country municipalities, and the other two by the contributing insurance companies. The Board is incorporated under the Fire Brigades Act 1913. The revenue of the Board is derived by contributions of three-ninths by the Government, four-ninths by the insurance companies, and two-ninths by the city of Adelaide and the other municipalities subject to the Act, the contribution for 1914 amounting to £22,989. Brigades are established in the following municipalities, viz., Adelaide, Kensington and Norwood, including St. Peter's, Unley, Port Adelaide, Glenelg, Gawler, Kapunda, Moonta, Kadina, Port Pirie and Port Augusta. The strength of the brigades consists of 87 permanent firemen and 28 auxiliary firemen. The plant consists of five steam fire engines, one motor engine, three motor hose carriages, one floating fire engine, 13 hose reels, and 22 horses. The number of calls received during the year 1914 was 326, of which 29 were to fires of a serious nature. Of the total calls, 189 were in the metropolitan district.

5. **Western Australia.**—Under the Fire Brigades Act 1898, fire brigades were established in a number of the more important centres of population in the State. These brigades were under the control of local boards, and were in some cases municipal and in others volunteer.

An Act to make further provision for the protection of life and property from fire was passed in 1909 and came into operation on the 1st January, 1910. It is called the District Fire Brigades Act, and divides Western Australia into two fire districts under the control of the Western Australian Fire Brigades Board. The Board is constituted as follows:—Two members nominated by the Government; one member nominated by the Perth City Council; one member elected by the Municipalities of Kalgoorlie, Boulder, Coolgardie, and the Kalgoorlie Road Board; one member elected by the Municipalities and Road Boards other than those above-mentioned; three members elected by the Insurance Companies; and one member elected by the Volunteer Fire Brigades. The election of the Board takes place bi-annually, and its income is provided as follows:—Two-eighths by the Government, three-eighths by the Municipalities and Road Boards, and three-eighths by the Insurance Companies. The receipts for the year 1914 amounted to £29,280, and the expenditure to £29,971. The value of buildings and plant belonging to the Board is £57,055.

The whole of the Brigades throughout the State are now controlled by this Board, and number three purely permanent, thirteen permanent and partially paid, three partly permanent and partly volunteer, two purely partially paid, and twenty-two purely volunteer brigades; making a total of forty-three. The staff includes a chief officer, deputy-chief officer, third officer, 16 other officers, 88 permanent firemen, 110 partially-paid firemen, and 494 volunteer firemen.

6. **Tasmania.**—Under the present system, the Government, the City Council, and the Fire Insurance Companies contribute equally to the annual expenditure of the Hobart Fire Brigade. It is intended to increase the scope of operations so as to include in the metropolitan district the suburbs of Queenborough, New Town and Glenorchy. Under the new scheme, the estimated annual cost is £2700. There are volunteer brigades under the control of local boards in most of the larger centres of population.

## § 6. Local Government Finance.

1. **Introduction.**—In the preceding parts of this section certain particulars have been given regarding local authorities in each individual State. It is proposed to give here in a comparable form for each State particulars regarding the financial operations of local governing bodies. The areas controlled by these bodies are variously known in the several States as cities, towns, boroughs, shires, municipalities, municipal districts, and road districts. The particulars given in the tables in the two next paragraphs relate to financial years ending as follow:—New South Wales: for the calendar year 1913. Victoria: 30th September, 1913, except Melbourne, 31st December, and Geelong, 31st August, 1913. Queensland: Calendar year 1913. South Australia: Corporations, 30th November, and district councils, 30th June, 1913. Western Australia: 31st October, 1911, except road districts, 30th June, 1912. Tasmania: Calendar year 1913.

2. **Number, Revenue, Expenditure, and Valuation of Local Authorities.**—The following table gives particulars of the number, revenue, expenditure, and valuation of local authorities in each State and in the Commonwealth during the year 1913. It may be noted that, excepting in Tasmania, the metropolitan water supply systems are not under municipal control; the particulars given of revenue and expenditure for the five States other than Tasmania do not, therefore, include revenue and expenditure on account of these systems.

**NUMBER, REVENUE, EXPENDITURE, AND VALUATION OF LOCAL AUTHORITIES (a),  
IN EACH STATE, 1913.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'with.
No. of local authorities (a)	323	208	177	179	148	51	1,086

**RECEIPTS.**

	£	£	£	£	£	£	£
Rates—							
General ...	1,577,713	1,199,874	534,982	202,234	170,202	39,976	3,724,981
Other (b) ...	278,079	268,040	206,991	78,097	48,733	133,773	1,018,713
Government grants ...	207,517	160,949	13,089	49,537	90,676	17,510	539,278
Loans (c) & other sources ...	915,675	470,786	186,283	100,701	871,488	114,046	2,658,979
Total ...	2,978,984	2,099,649	941,345	430,569	1,181,099	310,305	7,941,951

**EXPENDITURE.**

Works, services, etc. ...	2,276,160	1,439,993	719,278	337,243	364,672	197,057	5,334,403
Interest on loans and overdrafts ...	259,673	224,479	20,292	10,426	51,575	41,568	608,013
Redemptions, sinking funds, etc. ...	(d) 41,031	70,506	39,056	12,225	55,016	7,288	225,122
Administration ...	244,675	187,180	99,593	44,745	47,099	45,499	668,791
Other ...	95,323	169,906	102,269	56,079	597,172	45,097	1,065,846
Total ...	(e) 2,916,862	2,092,064	980,488	460,718	1,115,534	336,509	7,902,175

**VALUATIONS.**

Capital value of property	172,337,445	301,917,686	56,981,321	35,128,982	31,339,483	31,906,239	669,611,156
Annual value of property	2,753,408	16,046,159	641,672	4,074,169	1,381,751	1,583,739	26,480,898

\* For 1912; later figures not available.

(a) Including particulars for all areas controlled by local governing bodies responsible for the construction and maintenance of roads and streets, such areas being variously known in the several States as cities, towns, boroughs, shires, municipalities, road districts, etc. (b) Exclusive of rates for water-supply and sewerage in metropolitan and most other principal towns, such rates being collected by special boards or general Government. (c) Exclusive of loans in connection with extraordinary works of construction. (d) City of Sydney only. (e) Excluding redemptions, sinking funds, etc., for municipalities other than Sydney. (f) Unimproved capital value. (g) Exclusive of district roads board.

**3. Local Government Loans, 1913.**—The following table gives particulars for each State of loans raised by local authorities during the year 1913, of loans current at the end of that year, of liability on account of interest and sinking fund, and of loans maturing during 1913 :—

**PARTICULARS OF LOANS RAISED BY LOCAL AUTHORITIES, 1913.**

Particulars.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.*	Tas.	C'wealth.
	£	£	£	£	£	£	£
Loans from general Government—							
Raised during year ...	...	...	36,902	...	6,700	235,249	278,851
Current at end of year ...	...	175,975	434,568	...	92,005	537,185	1,239,733
Loans from other sources—							
Raised during year ...	1,153,277	276,544	(a)	32,055	589,050	16,416	(a)
Current at end of year ...	7,125,545	5,083,163	(a)	243,576	1,385,777	931,545	(a)
Total—							
Raised during year ...	1,153,277	276,544	(a)	32,055	595,750	251,665	(a)
Current at end of year ...	7,125,547	5,259,138	1,447,950	243,576	1,477,782	1,468,730	17,022,723
Current loans, exclusive of those obtained from general Government, raised within the C'wealth	6,237,348	5,083,163	(a)	243,576	861,044	1,200	(a)
Annual liability on account interest	278,591	227,526	20,151	10,485	65,365	53,358	655,486
Total sinking fund at end of year	429,336	925,390	54,796	20,651	220,867	138,701	1,789,741
Amount loans maturing during year							
Redeemed ...	...	(a)	(a)	9,144	12,632	72,418	(a)
Renewed ...	490,047	(a)	(a)	2,700	...	72,290	(a)

\* For 1912; later figures not available.

(a) Not available. (c) Excluding £841 credited to three municipalities, but which was not in the hands of the Sinking Fund Trustees on 31st October, 1913.

## SECTION XXVII.

## INDUSTRIAL UNIONISM AND INDUSTRIAL LEGISLATION.

## § 1. Development of Trade Unions in Australia.

1. **General.**—In Australia, industrial unionism paved the way for industrial legislation. Conditions of employment were on the whole favourable to the investigation of industrial problems; and experimental legislation was possible because of the simplicity and directness of the aim of those engaged in industrial occupations. Moreover, the fact of the non-existence of the complex problems and organisations of older countries rendered initial legislation comparatively easy. Hence rapid changes in laws regulating industry occur and are likely to occur. To a great extent the trade unions were responsible for these laws. They steadily and continuously urged an amelioration of the condition of the working man, and by organisation and discipline they presented a united front to opposing forces, and attained many advantages by a recognition of the principle that unity is strength. Their efforts have resulted in improved conditions, particularly short hours, a healthier mode of life, and safeguarding against accident. One great aim of present-day industrial legislation has been said to be to extend "the reasonable comforts of a civilised community" to those engaged in every branch of industry. The standard of wages must therefore be maintained at a satisfactory level. Large organisations have been able to attain their ends by force of numbers, and, in the case of the great bulk of the artisan and similar classes, through the solidarity of their unions. The smaller and less perfectly organised industries, unable to maintain an effectual struggle with hope of success, are now receiving, by legislative enactment, the benefits already gained by the trade unions. Industrial organisation by means of unions now tends to embrace all classes of wage-earners.

While the demands of the early unionists have almost in their entirety been conceded by the employer, unionism nevertheless continues. Industrial legislation aims at restricting industrial warfare by a satisfactory adjustment of industrial differences, without derangement of the economic system, but it has not yet reached the stage when conflicts between employer and employees cease.

Each State of the Commonwealth has enacted, with considerable elaboration, legislation respecting trade unions and respecting the regulation of the conditions of industrial life, particularly those of factory and shop employment. Machinery for the regulation of wages and other matters connected with employment has also been established by legislation.

At the present time there is an obvious tendency to adjust such matters throughout Australia on uniform lines. The industrial condition of any State of the Commonwealth naturally reacts quickly on any other State. This is one of the consequences of a unified tariff, and of the fact that the general economic conditions of one part of the Commonwealth must necessarily affect very intimately every other part. An expression of the intimacy of these economic and industrial relations of different parts was seen, for example, when the Arbitration Court in New South Wales refused to fix wages in the boot trade in that State at a higher rate than that fixed by the Wages Board in Victoria, because of the additional burden which such a rate would place on local manufacturers. Collective bargaining is encouraged, through the medium of legal

tribunals where necessary, argument and diplomacy taking the place of open strife. Legislation gives legal form and status to the unions, and allots to them legal responsibility. The workman is encouraged, and in some cases compelled, to treat with his employer through his union, and in some cases the industrial courts are authorised to direct that preference be given to unionists.

**2. History of Unionism in Australasia.**—(1.) *Commencement of Unionism : the Eight Hours' System.* The first trade union in Australia was the "Operative Masons' Society," established in Melbourne in 1850. In 1851 a branch of the "English Amalgamated Society of Engineers" was founded in Sydney. For many years the only unions existing were practically those formed by the several branches of the building trades. They were all subject to the English law prohibiting conspiracies and combinations in restraint of trade, though it does not appear that such law was ever put in force in Australia. The main object of the early unions in Australia was the limitation of the working week to forty-eight hours. The minor and friendly society benefits that were usual amongst the unions of older countries were also desired ; but the chief aim was the establishment of the eight hours' principle, and that aim for many years was the chief link between the unions. It is difficult to obtain detailed information concerning the unions prior to trade union legislation, but their early history generally resolves itself into an account of the early efforts put forth by metropolitan operatives to secure the limitation of the working day to eight hours. The desire to restrict Chinese immigration operated as a further incentive to combined effort. For the restriction to be effective, co-operation between the colonies was necessary. The question therefore promoted enlargement of view, and fostered amongst the workmen of Australia the sense of community of interest.

(ii.) *New Zealand.* The system was first put into practice in Australasia in 1848 by the "Otago Association," which purchased an area of land upon Port Chalmers, N.Z., and proceeded to build the town of Dunedin, under a system which recognised the eight hours' day, thus instituting, in the New World of the south, that period of toil as the limit of the working day. Thus the system began voluntarily in New Zealand long before the unions that demanded and acquired it in Australia had come into existence. But many years elapsed in the Dominion before trade unionism became an established fact. The first Congress of New Zealand Trades was held in 1885. In that year, too, the general celebration of the eight hours' principle by the combined trades was inaugurated.

(iii.) *New South Wales.* In New South Wales, the operative masons obtained the eight hours' concession in 1855, after a strike ; but little development of the movement was noticeable until 1871, in which year four eight-hour trades—the brickmakers, stonemasons, labourers, and carpenters—inaugurated the annual celebration.

(iv.) *Victoria.* The first Melbourne Eight Hours' procession was held in 1856, the trades taking part being the masons, bricklayers, carpenters and joiners, plasterers, painters, and slaters. In the following year nine trades and about 700 men took part in the function ; but the principle of the Eight Hours' Day had been recognised, and new unions were quickly established under the influence and guidance of the pioneers of the movement.

(v.) *Queensland.* After the fever of the gold rush to the Fitzroy River had subsided, settled conditions prevailed in the building industry, and the trades, being well established and organised in Queensland, celebrated their inaugural festival of the eight hours in 1866. In Brisbane, as in Melbourne, the pioneer trade was the stonemasons.

(vi.) *South Australia.* In South Australia, the establishment of the eight hours' system by the unions was accomplished in 1873, the building trades, represented by the stone-cutters, painters, and carpenters, again being the leaders.

(vii.) *Western Australia.* The discovery of gold in Western Australia caused rapid development in the infant cities and towns of that State, and mechanics found abundant employment in the building trades. Unions were soon formed, and the eight hours became an established system in 1896.

(viii.) *Tasmania.* Trade Unions were established in Tasmania in 1874, the shipwrights of Hobart being the pioneer society. Here, as on the mainland, the eight hours' day was the chief aim of the operatives, and here, as in Sydney, it was conceded only after a strike. Within a few years, the general system of trade unions was instituted. The inaugural celebration of the system was celebrated in 1890.

(ix.) *The System Universal throughout Australasia.* No provision for eight hours was made in the original documents which set out the conditions of labour under which the members of the Otago (N.Z.) Association were to work in 1848. It was intended to insert a clause embodying the principle, but it was found that such a clause would be inoperative, as contracts to bind free settlers to serve under any conditions of labour beyond the seas were not provided for by any Imperial Statute. The system, however, was tacitly agreed to by both parties, and quietly and voluntarily the eight hours' day was established. Not so amicable were the methods by which it was acquired in the other colonies. There had to be unions of men and unions of trades, before the requisite forces were available to overbear opposition to the system, and, at any rate in two cases, the tradesmen resorted to strikes before the concession was granted. Generally it may be said that trade unions in the Commonwealth sprang out of the desire for an eight hours' day; and with the Western Australian celebration of 1896, trade unionism, with its eight hours' charter, completed its circuit of the Commonwealth. From 1880 to 1890 there was, in the States where industry was systematised, great activity in the organisation of labour, more particularly at the end of that period. In sympathy with the widespread industrial unrest in England the occurrence of similar unrest in Australia drew the wage-earners into the unions in large numbers.

(x.) *Organisation of Unions.* The first regular association of unions in Australia was the Trades Committee in Melbourne, formed in 1859, which afterwards became the present Trades and Labour Council. Similar councils now exist in all the States. Composed of delegates from the unions, they exercise a general care over the interests of their members.

(xi.) *Union Acts.* The Trade Union Acts of England and the collateral Conspiracy and Protection of Property Act were copied by the States, the Acts also providing for unions of employers. Except in Western Australia, the latter provision has been but slightly utilised, as apparently it offers no well-defined inducement. South Australia adopted the Acts in 1876, New South Wales in 1881, Victoria in 1894, Queensland in 1886, Tasmania in 1889, and Western Australia in 1902.

The Acts referred to provide for the legal recognition of combinations which come under the definition of trade unions; the registration of unions of seven or more persons, the registration of councils or other bodies to which registered trade unions are affiliated, the vesting of union property in registered trustees, with penal provisions in respect of defaulting officers. The registered unions are required to furnish annual returns of members and funds to a special department.



3. **Operations and Organisation of Unions subsequent to the Acts.**—(i.) *Unions.* Except as hereinafter mentioned, the Unions do not avail themselves of the Trade Union Acts to any large extent, in many cases neglecting to register.

In some States there is a considerable difference between the numbers of registered and unregistered unions, as, for instance, in Victoria, where there are 162 unions and only thirteen are registered.

The failure to register under the Trade Union Acts does not deprive the unions of the privileges conferred by the Conspiracy Acts.

(ii.) *Membership of Unions.* At the end of the year 1913, there were, in Australia, 497,925 members of trade unions.

(iii.) *Concerted Action.* The consummation of the eight hours' system, at which the early unions had aimed, was followed by demands for further concessions and privileges. An intercolonial congress of delegates of trade unions, modelled upon a similar conference of labour organisations in Great Britain, was first held in Sydney in 1879. At the second congress in Melbourne, in 1884, sixty-nine delegates from New South Wales, Victoria, and South Australia were present, representing forty-one unions, branches, or societies. Following the methods of European associations the Australian unions sought to achieve an improved condition for their members by the establishment of rules concerning minimum wage, limited hours of toil, the restriction of the number of apprentices and improvers, and the prohibition of the employment of non-union labour; political reforms, such as payment of Members of Parliament, and "one man one vote," were also agitated. Some of the unions refuse to admit to membership any but skilled journeymen, on the ground that their object is to encourage the attainment of proper skill.

(iv.) *Representation in Parliament.* It was during the decade 1880-1890 that the trade unions of Australia espoused direct legislative representation and advocated State intervention between employer and employee. This policy has been called "new unionism." In New South Wales, trade unions obtained direct representation in Parliament in 1881, and again in 1883. A resolution affirming the desirability of Parliamentary representation of labour being carried at the congress of 1884, members representing the special interests of the wage-earners were elected to the Legislatures of some of the States, but little action was taken by the unions to obtain representation by men chosen from among their own ranks until after the great labour troubles of 1890-1892. In that period serious strikes occurred in the maritime, shearing and mining industries, and it was then that the Labour Party proper was formed. One direct result of the outbreak was the recognition of the desirability of peaceful settlement of disputes. The Political Labour Party was accordingly organised, and has since held considerable power in most of the States, frequently occupying the Treasury benches. In 1904, 1908-9, 1910-13, and 1914, Labour Governments occupied the Commonwealth Treasury Benches, the elections held in April, 1910, as well as those held in 1914, having resulted in the Labour party gaining an absolute majority in both of the Federal Houses of Parliament. The present Governments in New South Wales, South Australia, Western Australia and Tasmania are Labour. Queensland has also had Labour Governments; and in Victoria the Labour party is an important element in Parliament.

Triennial federal conferences laid down a policy for the party. The Political Labour Council controls political and the Trades Hall Council trade union matters. The former consists of delegates from both unions and "branches." The branches are continuous with State electoral districts, and nominate candidates for those districts. Candidates for the Commonwealth Senate are balloted for by all league members in the State, and for the Commonwealth House of Representatives by the branches in the constituency.

**4. Registration under Trade Union Acts.**—The benefits conferred by registering Trade Unions are not, in some of the States, held in much repute; consequently the statistics of registered trade unions of employees not only do not represent the position of unionism, but, in addition, the statistics themselves for past years are so defective as to be practically valueless. The particulars furnish no reliable indication of the numerical and financial position of Trade Unions. It will be seen that some of the registered unions fail to supply returns; this non-supply may lead to cancellation of the registration. Some of the unions have obtained the cancellation of their certificates of registration, the apparent reason being that they proposed registering under the Commonwealth Conciliation and Arbitration Act. In some States considerable activity has been displayed in the formation of new unions. In others the benefits sought are obtained by other means. In Queensland, some of the largest labour unions withdrew from registration during 1911, mainly on account of the necessity for closer restriction of their objects as set forth in their rules, consequent on legal decisions affecting trade unions. The following table shows the number of trade unions registered under Trade Union Acts at the end of 1913, together with their financial condition:—

**TRADE UNIONS REGISTERED UNDER TRADE UNION ACTS, NUMBER, MEMBERSHIP AND FINANCIAL POSITION, 1913.**

State.	Number of Unions.			Membership of Unions.			Receipts, 1913.	Expenditure, 1913	Funds at end of 1913.
	Employ-ers.	Employ-ees.	Total.	Employ-ers.	Employ-ees.	Total.			
							£	£	£
New South Wales ...	15	199	214	4,297	213,708	218,005	209,478	183,304	193,520
Victoria ...	...	13	13	...	1,609	1,609	350	465	401
Queensland ...	7	36*	43	299	7,729*	8,028*	19,392*	16,504*	11,862*
South Australia†	...	...	...	...	...	...	...	...	...
Western Australia†	1	73	74	18	23,464	23,482	42,361	34,634	29,173
Tasmania†	...	...	...	...	...	...	...	...	...

\* Information regarding nine of these Unions not available. † Not available. ‡ 1912.

**5. Registration under Industrial Arbitration Acts.**—Western Australia and New South Wales up to 30th June, 1908, were the only States with Industrial Arbitration Acts under which industrial associations could be, and actually were, registered. The number of registered unions in New South Wales shewed a gradual increase from 1902 to 1907, the figures in the latter year being 109 unions of employers, with 3165 members, and 119 unions of employees, with 88,075 members. Under the Industrial Disputes Act, which succeeded the Arbitration Act of 1901, the information is not required to be furnished. Since the Act of 1908 has operated, industrial organisation has proceeded rapidly, owing to a very evident general desire on the part of the workers to obtain the status necessary to entitle them to the advantages offered by the Act. The Act of 1908 was repealed by that of 1912, and in 1912 there were 117 industrial unions of employers and 192 industrial unions of employees on the register. On the 31st August, 1914, there were 105 industrial unions of employers and 160 industrial unions of employees registered. In Western Australia, the employers' unions numbered 45, with 441 members, in 1904; 59 unions, with 520 members, in 1905; 57 unions, with 534 members, in 1906; 56 unions, with 552 members, in 1907; 48, with 409 members, in 1908; 47, with 408 members, in 1909; 46, with 444 members, in 1910; 46, with 554 members, in 1911; and 49, with 749 members in 1912. From 1904 to 1908 unions of employees were in a fairly stationary condition. Since 1909, however, there has been a rapid expansion. At the end of 1904 and 1905 there were 140 unions, with

15,743 and 15,461 members respectively; in 1906 there were 130 unions, with 16,015 members; in 1907, 121 unions, with 14,544 members; in 1908, 121 unions, with 15,187 members; in 1909, 122 unions, with 17,282 members; in 1910, 130 unions, with 20,429 members; in 1911, 152 unions, with 28,934 members; and in 1912, 158 unions, with 30,453 members. These figures include councils and associations. Registration under Commonwealth legislation began in 1906. In that and the four following years, there was but one union of employers; another was registered in 1911. The unions of employees registered were 20 in 1906, with 41,413 members; 24, with 57,306 members, in 1907; 37, with 69,536 members, in 1908; 7, with 14,161 members, in 1909; 10, with 3760 members, in 1910. Twenty-four unions of employees were registered in 1911. The membership given above is that at time of registration. At the end of 1912 there were 3 employers' organisations, with 351 members, and 96 employees' organisations, with 245,735 members, on the register under the Commonwealth Conciliation and Arbitration Act. On the 1st May, 1914, there were five organisations of employers with 925 members, and 106 organisations of employees with 254,881 members on the register.

**6. Types of Trade Unions in Australia.**—The types of trade unions in Australia are very diverse in character, and range from the small independent association to the large interstate organisation, which, in its turn, may be merely a branch of a British or international union. Broadly speaking, there are four distinct classes of labour organisations, viz. :—(i.) the *local independent*, (ii.) the *State*, (iii.) the *inter-State*, and (iv.) the *Australasian or International*, but a number of variations occur from each of these classes. The leading characteristics of each of these types were briefly outlined in Labour Report No. 2 (pp. 7 to 9).

**7. Total Number of Unions, 1913.**—As already stated, the figures for trade unions registered under the Acts do not represent the position of unionism in Australia. In 1912 the Labour and Industrial Branch of the Commonwealth Bureau of Census and Statistics was established, and by the cordial co-operation of the officials of the labour organisations, comprehensive figures relating to the development of organised labour are now available. The following table gives particulars of the number of trade unions, the number of branch unions, and the number of members in each State and the Commonwealth at the end of 1913 :—

**TRADE UNIONS, BRANCH UNIONS, AND MEMBERS, STATES AND COMMONWEALTH, 1913.**

State.		Number of Separate Unions.	No. of Branches.	No. of Members.
New South Wales	...	201	555	230,677
Victoria	...	162	292	130,176
Queensland	...	94	230	51,683
South Australia	...	86	74	40,061
Western Australia	...	107	174	35,317
Tasmania	...	60	60	10,011
Total	...	710	1,385	497,925
Commonwealth*	...	432†	1,663	497,925

\* Allowing for interstate excess. † Number of distinct organisations and interstate groups of organisations in the Commonwealth—not the total number of organisations, which are practically independent and self-governing. (See page 905.)

In the preceding table the number of separate unions in each State furnishes the number of unions which are represented in each State, exclusive of branches within a State. That is to say, each union represented in a State is only counted once, regardless of the number of branches in that State.

Except in the last line, the number of branches indicates the number of branches of State head offices, which may, of course, themselves be branches of an interstate or larger organisation. In taking the total number of separate unions in the Commonwealth (see last line), it is obvious that, in the case of interstate and similar unions, there will be duplication, since each such union is counted once in each State in which it has any branches. In the figures given in the last line allowance has been made for this duplication. State branches of interstate or federated unions, as well as sub-branches within a State, are included under the heading "Branches" in the third column—last line. It should be observed, however, that the scheme of organisation of these interstate or federated unions varies greatly in character, and the number of separate Commonwealth unions does not fairly represent the number of practically independent organisations in Australia. In some of these unions the State organisations are bound together under a system of unification with centralised control, while in others the State units are practically independent and self-governing, the federal bond being loose and existing only for one or two specified purposes. It may be seen, therefore, that there are 432 distinct organisations and interstate groups of organisations in the Commonwealth, having 1663 State branches and sub-branches, and a total of 497,925 members.

**8. Number of Unions and Membership in Industrial Groups, 1913.**—The following table shews the number of unions and members thereof in each State at the end of the year 1913. The number of unions specified for each State refers to the number of different unions represented in each State; that is to say, interstate or federated unions are counted once in each State in which they are represented, but sub-branches within a State are not counted. In order to avoid disclosing the affairs of individual unions, in cases where there are only either one or two unions in any group in a State, the membership is not given separately.

### NUMBER OF UNIONS AND MEMBERS IN INDUSTRIAL GROUPS IN EACH STATE, 1913.

Industrial Groups.	N.S.W.	Vic.	Q'd.	S.A.	W.A.	Tas.	Total.
NUMBER OF UNIONS.							
I. Wood, Furniture, etc. ...	3	4	3	4	4	2	20
II. Engineering, Metal Works, etc. ...	17	22	11	12	12	5	79
III. Food, Drink, Tobacco, etc. ...	21	17	6	9	12	7	72
IV. Clothing, Hats, Boots, etc. ...	10	10	3	4	3	2	32
V. Books, Printing, etc. ...	9	9	3	2	6	2	31
VI. Other Manufacturing ...	26	21	6	12	9	5	79
VII. Building ...	17	15	10	7	10	5	64
VIII. Mining, Quarries, etc. ...	15	3	1	2	3	2	26
IX. Railway and Tramway Services ...	8	4	10	3	6	4	35
X. Other Land Transport ...	10	6	4	2	4	2	28
XI. Shipping, etc. ...	15	6	17	8	7	7	62
XII. Pastoral, Agricultural, etc. ...	4	4	2	1	2	1	14
XIII. Domestic, Hotels, etc. ...	8	5	1	2	7	2	25
XIV. Miscellaneous ...	38	34	17	18	22	14	143
<b>Total</b> ...	<b>201</b>	<b>162</b>	<b>94</b>	<b>86</b>	<b>107</b>	<b>60</b>	<b>710</b>

**NUMBER OF UNIONS AND MEMBERS IN INDUSTRIAL GROUPS IN EACH STATE, 1913—Continued.**

Industrial Groups.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	Total.
<b>NUMBER OF MEMBERS.</b>							
I. Wood, Furniture, etc. ...	6,794	5,084	1,645	1,262	4,138	*	†18,923
II. Engineering, Metal Works, etc. ...	17,401	12,333	2,891	3,992	2,119	409	39,145
III. Food, Drink, Tobacco, etc. ...	14,457	10,070	4,481	2,234	1,517	613	33,372
IV. Clothing, Hats, Boots, etc. ...	7,040	8,111	1,284	970	464	*	†17,869
V. Books, Printing, etc. ...	4,101	3,437	512	*	426	*	9,318
VI. Other Manufacturing ...	13,787	8,663	625	1,785	1,979	171	27,010
VII. Building ...	13,268	10,096	2,848	2,624	2,274	434	31,544
VIII. Mines, Quarries, etc. ...	23,430	5,871	*	*	5,972	*	40,449
IX. Railway and Tramway Services ...	39,163	13,468	3,809	3,722	5,068	1,093	66,323
X. Other Land Transport ...	7,094	6,251	2,417	*	683	*	18,369
XI. Shipping, etc. ...	18,324	10,685	4,890	4,768	1,562	683	40,913
XII. Pastoral, Agricultural, etc. ...	22,618	12,626	*	*	*	*	51,696
XIII. Domestic Hotels, etc. ...	7,012	3,698	*	*	1,560	*	13,416
XIV. Miscellaneous ...	36,188	19,783	16,000	8,397	†7,554	1,627	†89,549
Total ...	230,677	130,176	51,683	40,061	35,317	10,011	497,925

\* Not available for publication separately; included in State and Commonwealth totals.

† Incomplete, see footnote. \* † Includes membership of Industrial Group XII. in Western Australia.

It may be seen that, with the exception of Group XIV., Miscellaneous, the membership is greatest in Group IX., Railway and Tramway Services (66,323 members), followed by Group XII., Agricultural, Pastoral, etc., with 51,696 members. The least important group from the point of view of membership is Group V., Books, Printing, etc., with only 9318 members. Particulars are also given in Report No. 5 (pp. 9-10) of the number of male and female members of unions and the percentage of such members on the total number of adult wage earners. Information is also given as to the development of trade unionism since 1891. Other tables show the classification of unions according to number of members and the number of central labour organisations.

**9. Development of Trade Unions in Australia, 1891 to 1913.**—The following table shews for the years specified the total number of trade unions in the Commonwealth, and the number and membership of those unions for which returns are available. The estimated total membership of all unions for years prior to 1912 is shewn in the last line:—

**NUMBER AND MEMBERSHIP OF TRADE UNIONS IN COMMONWEALTH, 1891 to 1913.**

Particulars.	1891.	1901.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Total number of unions	124	198	302	323	378	419	482	573	621	710
No. of unions for which membership available	72	139	253	286	334	375	442	542	621	710
Membership of these unions ...	31,871	68,218	147,049	172,310	212,483	244,747	277,047	344,999	433,224	497,925
Estimated total membership of all unions	54,888	97,174	175,529	194,602	240,475	273,464	302,119	364,732	...	...

These figures shew that while the number of unions in 1913 was nearly six times the number in 1891, the estimated membership during the same period increased over nine times. During the last seven years the estimated annual increase in membership was greatest in the year 1912, when it amounted to no less than 68,492, and least in 1907, when it was only 19,073. The increase in the year 1913 was 64,701.

10. **Interstate or Federated Unions, 1913.**—The following table gives particulars as to the number and membership of interstate or federated unions in 1913 :—

**NUMBER AND MEMBERSHIP OF INTERSTATE OR FEDERATED UNIONS  
IN THE COMMONWEALTH, 1913.**

Particulars.	Unions Operating in—					Total.
	2 States.	3 States.	4 States.	5 States.	6 States.	
Number of Unions ...	16	11	16	18	17	78
Number of Members ...	31,063	13,389	73,186	54,202	180,597	352,437

It appears, therefore, that 78 out of the 432 separate associations and groups of associations in the Commonwealth are organised on an interstate basis. The membership of these 78 unions amounts to 352,437, or no less than 70.7 per cent. on the total membership (497,925 of all unions.

11. **Central Labour Organisations.**—In each of the metropolitan towns, as well as in a number of other industrial centres, delegate organisations, consisting of representatives from a group of trade unions, have been established. Their revenue is raised by means of a per capita tax on the members of each affiliated union. In most of the towns where such central organisations exist, the majority of the local unions are affiliated with the central organisation, which is usually known as the Labour or the Trades Hall Council or the Labour Federation. In Queensland and Western Australia a unified system of organisation extends over the industrial centres throughout each State. In each of these States there is a provincial branch of the Australian Labour Federation, having a central council and executive, a metropolitan and branch district councils, to which the local bodies are affiliated. The central council, on which all district councils are represented, meets periodically. In the other four States, however, the organisation is not so close, and though provision usually exists in the rules of the central council at the capital town of each State for the organisation of district councils or for the representation on the central council of the local councils in the smaller industrial centres of the State, the councils in each State are, as a matter of fact, independent bodies.

The table below shews the number of metropolitan and district or local labour councils, together with the number of unions and branches of unions affiliated therewith, in each State at the end of the year 1913 :—

**CENTRAL LABOUR ORGANISATIONS—NUMBER AND UNIONS AFFILIATED, 1913.**

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'w'th.
No. of Councils ...	3	5	1*	4	11	1	25
No. of Unions and Branch Unions Affiliated ...	157	202	14	86	147	22	628

\* Established in June, 1914.

The figures given in the preceding table as to number of unions do not necessarily represent separate unions, since the branches of a large union may be affiliated to the local trades councils in the several towns in which they are represented.

Between the trade union and the central organisation of unions may be classed certain State or district councils, organised on trade lines and composed of delegates from separate unions, the interests of the members of which are closely connected by reason of the occupations of their members, such, for example, as delegate councils of bakers, bread carters and mill employees, or of unions connected directly or indirectly with the iron, steel, or brass trades, or with the building trades.

## § 2. Laws Relating to Conditions of Labour.

1. **Tabular Statement of Statutes affecting Labour.**—The statutes in force at the beginning of 1915 in the several States of the Commonwealth, which, more or less directly, affect the general conditions of labour, are shewn in the table below. Where merely an incidental reference to labour conditions is made in a statute, as is the case with, *e.g.*, the Hawkers and Pedlars Act 1892 of Western Australia, or the Firms Registration Act 1899 of South Australia, or the Health Acts generally, the statute is not included in the table.

LABOUR LAWS—TABLE OF STATUTES IN FORCE IN AUSTRALIAN STATES, 1914.

New South Wales.	Victoria.	Queensland.	South Aust.	Western Aust.	Tasmania.
<b>1. General—</b>					
Factories & Shops Act 1912	Factories and Shops 1912 (2) and 1914	Factories and Shops 1900, 1908 and 1914	Factories 1907, 1908 and 1910	Factories 1904 (2) and 1911	Factories 1910, 1911 and 1913
Early Closing 1899, 1900, 1906, and 1910	Apprentices Act 1914	1908 and 1914	Early Closing 1911 and 1912	Early Closing 1902, 1904 (2), 1911 and 1912 (Consolidated)	Wages Boards 1910, 1911 and 1913
Saturday Half Holiday 1910					Chimney Sweepers 1882
Clerical Workers 1910					Shops Closing 1911 and 1913
<b>2. Prevention of Strikes and Regulation of Rates of Wages—</b>					
Industrial Arbitration 1912	Factories and Shops (as above)	Industrial Peace Act 1912	Factories Acts 1907-10	Industrial Arbitration Act 1912	—
<b>3. Mining Industry—</b>					
Mines Inspection 1901	Mines 1897	Mining 1898, 1901	Mining 1893	Mines Regulation 1906 and 1911	Mining 1900 and 1911
Coal Mines Regulation 1902, 1905, and 1910	Coal Mines Regulation 1909	1902, and 1912 (2)		Coal Mines Regulation 1902	
Miners' Accident Relief 1900, 1901 and 1910		Mines Regulation 1910 and 1912		Mining 1904	
<b>4. Security of Wages to Wage Earners—</b>					
Contractors' Debts 1897	Employers and Employees 1890, 1891 and 1901	Contractors' & Workmen's Lien 1906	Workmen's Liens 1893-6	Workmen's Wages 1898	—
		Wages 1870 and 1884			
Attachment of Wages Limitation 1900	—	Wages (as above)	Wages Attachment 1898	—	Wages Attachment 1900

## LABOUR LAWS—TABLE OF STATUTES.—Continued.

New South Wales.	Victoria.	Queensland.	South Aust.	Western Aust.	Tasmania
*Truck 1900 " 1901	—	Factories and Shops* (as above)	Factories (as above)	*Truck 1899 * " 1900 * " 1904	—
Bankruptcy 1898 (preference to wages)	Insolvency 1897	Insolvency 1874 Insolvency 1876	Insolvency 1886 " 1887 " 1896	Bankruptcy 1892 " 1898	Bankruptcy 1870 Bankruptcy 1899
5. Accommodation, Homes, &c.—					
Shearers' Accommodation 1901	—	Shearers' and Sugarworkers' Accommodation 1905 Do. 1906	Shearers' Accommodation 1905	Shearers' Accommodation 1912	—
—	Closer Settlement (Workers' Homes) 1904	—	—	—	—
—	—	Workers' Dwelling 1909 and 1912.	—	Workers' Homes 1911 & 1912 (3) Navigation 1904 " 1907 Merchant Shipping Act Application 1903	—
6. Inspection of Machinery, &c.—					
—	Boilers' Inspection 1906 Lifts Regulation 1896 and 1912	Inspection of Machinery & Scaffolding 1908 and 1912	Steam Boilers and Engine Drivers 1911 and 1913 Lifts Regulation 1908 Scaffolding Inspection 1907 and 1908	Inspection of Machinery 1904 and 1911	Inspection of Machinery 1903 " " 1909  White Phos. Matches Prohibition 1911
7. Trade Unions—					
Trade Unions 1881	Trade Unions 1890	Trade Unions 1886	Trade Unions 1876	Trade Unions 1902	Trade Unions 1889
8. Relations of Masters and Servants—					
Masters & Servants 1902 Apprentices 1901	Employers and Employees 1890, 1891 and 1901 Masters and Apprentices 1890	+Apprentices 1828 " 1844 Master and Servants 1861	Masters & Servants 1875 Defence of Workers 1909	Masters and Apprentices 1873 Masters & Servants 1892	Masters & Servants 1856 " " 1882 " " 1884 " " 1887
—	Servants' Registry Offices 1897	—	—	Employment Brokers 1909 and 1912 (Consolidation)	—
9. Liability in case of Accidents—					
Employers' Liability 1897	Employers and Employees 1890 (Employers' Liability) and 1901	Employers' Liability 1886-8	Employers' Liability 1884-9	Employers' Liability 1894	Employers' Liability 1895, 1898 and 1903
Workmen's Compensation 1910	Workers' Compensation, 1914	Workers' Compensation 1905 and 1909	Workmen's Compensation 1911	Workers' Compensation 1909 and 1912	Workers' Compensation 1910

\* The "Truck" system, as applied to labour, was one by which the master obtained the labour of his servants in exchange for goods or commodities on which it is stated he generally secured a profit. The system is now almost entirely suppressed by the various statutes enacted. + New South Wales Acts unrepealed in Queensland after Separation in 1859.



**2. Benefits sought to be Conferred by the Acts.**—(i.) *General Provisions.* The legislation enacted has generally had for its object the shortening of hours, improving and fixing standard rates of wages, provision of sanitary accommodation, ventilation and cleansing of premises, safeguarding from accident, and general amelioration of the conditions of labour, particularly that of females and children, in factories. The principal provisions of these statutes are set out in the table hereinafter.

(ii.) *Historical.* The first Australian Factories Act was passed in 1873 in Victoria, and became law on 1st January, 1874. It was entitled "The Supervision of Workrooms and Factories Statute," and contained only six sections. Its principal provisions were (a) that any place in which not less than ten persons were engaged for hire in manufacturing goods should be constituted a factory; (b) that such factories, as to building, sanitation, etc., should be subject to regulations made by the Central Board of Health; and (c) that no female should be employed for more than eight hours in any one day without the permission of the Chief Secretary. The administration of the Act was entrusted entirely to the local Boards of Health, and the system was found to be less effective than was hoped. The conditions which have given rise to trouble in the old world tended to reproduce themselves in the young and growing industries of the States. Factory workers had to contend with the absence of security for a living wage, unsatisfactory sanitary surroundings, and unchecked and unscrupulous competition of Chinese in certain trades. The advocacy of legislation to control the conditions of employment became pronounced in Victoria in 1880, and a strike of tailoresses in Melbourne in 1882 led to a recognition of the real state of affairs. As a result of unsatisfactory working under the local governing bodies, and on account of agitation of the operatives, a commission was appointed in 1883, and reported the necessity of legislation for the regulation of factories, and in particular pointed out the fact that men were compelled to toil for as many as eighteen hours and women sixteen hours a day. It also shewed that the condition of out-workers was very undesirable, and that the apprenticeship system was frequently used to obtain labour without remuneration, apprentices being dismissed upon asking for payment at the end of their time. The Factories and Shops Act 1884, while providing for the suppression of many evils in respect of accommodation and lengthy hours, did not touch the two last mentioned. It provided for Government inspection, and also that six persons should constitute a factory if the premises were situated in a city, town or borough. In 1887 a short amending Act was brought in to remedy some defects that were found to exist. Its principal provision was that any place in which two or more Chinese were engaged should be deemed a factory. In 1893 a further enactment reduced the number of persons constituting a factory to four. Another Royal Commission sat in 1895, resulting in the Act of 1896, which dealt with matters previously untouched, and the system of regulation was carried on by the Act of 1900 and the complete codification of the law in 1905, and again in 1912.

Similar conditions to those which existed in Victoria were found to prevail in other States. New South Wales and Queensland first adopted regulative measures in 1896, South Australia in 1894, and Western Australia in 1902. Tasmania adopted the Victorian Act of 1873 in 1884.

The same remarks apply in a general way to the condition of employees in shops.

**3. Limitation of Hours.**—(i.) *Factories.* As already remarked, the adoption of the eight hours' system for adult males has generally been the outcome of the representations made by the trade unions. Except in New Zealand, there is no general legislation to enforce the principle, although there is now a general recognition of it. A week of forty-eight hours is the usual working week. The larger unions, however, have lately moved for a *net* day of eight hours, with Saturday half-holiday, no loading of other week days being permitted by way of compensating for the Saturday afternoon. Under this scheme there are, for five days, equal divisions for periods of labour, recreation, and rest, and four hours' work on Saturday, making a working week of forty-four hours. In the majority of occupations, forty-eight hours weekly is the recognised limit of work. On

the establishment of Wages Boards and Arbitration Courts, in the States where those institutions exist, the authorities thus created adopted the rule as part of their determinations and awards wherever it seemed reasonably practicable. In some of the larger classes of building trades, the hours have been reduced to forty-four a week, and in some technical and specialist trades, a lower maximum has been fixed, such for example, as the type-setting machine operators in Victoria, for whom the maximum has been fixed by the Wages Board at forty-two hours weekly. Reasonable provision is made by statute or award for work performed outside the scheduled hours. Organisations of employees, however, oppose overtime in any industry until all the operatives in that industry are working full time.

In the case of women and children there has been very general enactment in the States of the forty-eight hours' limit, and in addition, the maximum periods of continuous labour, and the intervals of cessation therefrom, have been prescribed in all the States. New Zealand has fixed a weekly maximum of forty-five hours for females and boys under 16. The first enactment of the forty-eight hours' limit in Australia was in 1873, when the Parliament of Victoria fixed that period for women and girls in factories.

(ii.) *Shops.* All the States have statutes containing provisions respecting the hours during which shops in large centres may be kept open for business. These provisions, in effect, not only limit the hours during which shop-hands may be employed, but apply also where the shops are tended by the proprietor alone, or by himself and family, with, however, certain exceptions. In Victoria, for example, shops wherein not more than one assistant, whether paid or not, was employed, were permitted to remain open for two hours a day longer than other shops of the same class. The object of this was to relieve the hardship which existed for such persons as, for example, widows who were wholly dependent for a livelihood upon the casual trade of small shops. It is, however, reported that little or no benefit accrued from the permission. In each of the States the closing time of shops, except those specially exempted, is 6 p.m. on four days of the week, 10 p.m. on one day (except 9 p.m. in Queensland, South Australia, and Western Australia), and 1 p.m. on one day—thus establishing a weekly half-holiday. In Western Australia the opening hour is fixed at 8 a.m. In addition to fixing the closing hour, the total daily and weekly working hours are delimited in the case of women and children. In some States, butchers' shops must be closed an hour earlier than other retail establishments, the reason being the early hour at which assistants must start to attend to the markets and early morning trade.

(iii.) *Hotels, etc.* Establishments, the opening of which in the evening is presumably necessary for public convenience—such as hotels, restaurants, chemists' shops, etc.—are required to remain open for longer hours or are permitted to do business during hours prohibited in other establishments.

(iv.) *Half-holidays.* The provisions of the early closing laws differ somewhat in each State, but the main objects, namely, the restriction of long hours of labour, are identical throughout. Formerly, in some of the States, there were, and there are still in others, provisions making the early closing of a business, or the selection of a day for a half-holiday, dependent upon the option of the majority of the business people concerned, or upon the local authority. The anomalous results of the system whereby shops on one side of the street bounding two municipalities were open, when those upon the other side were closed, led to the introduction of the compulsory system, whereby the hours of business are absolutely fixed by statute. In Queensland, the day of the weekly half-holiday is fixed for Saturday. In Victoria also the Saturday half-holiday became compulsory in 1909, and in New South Wales in the following year, and there is a strong movement throughout the Commonwealth in favour of closing on the afternoon of that day.

(v.) *Exempted Trades.* The hours for shops exempted from the general provisions of the Acts are also prescribed, and special holidays are provided for carriers.

**4. Other General Conditions of Labour.**—Measures for the protection of life, health, and general well-being of the worker, tabulated hereunder, exist in most of the States. Though in some instances founded upon English legislation, many of the provisions are peculiar to Australia. Despite experience and continued amendment they have not even yet attained to a settled form. Of the Australian States, Victoria originally had the most complete system of industrial legislation. Other States gradually adopted the Victorian statutes, either *en bloc* or with amendments suggested by local conditions. Western Australia followed very closely the legislation of New Zealand, where also the measures for the amelioration of the industrial conditions are enforced by law.

**5. Administration of Factories and Shops Acts.**—The provisions of Factories and Shops Acts and of the Early Closing Acts in some of the States are consolidated under a single Act, but in others are separate enactments. The chief provisions of the principal Acts for registration, administration, record-keeping, etc., and of regulations under those Acts, are set out in the following summary :—

- (a) Factories are defined to be places where a certain number of persons are employed in making or preparing goods for trade or sale, or in which steam or other power is employed, or where special classes of industry are carried on. In some States the employment of a Chinese, in some, of any Asiatic, constitutes the place a factory.
- (b) A Minister of the Crown administers the Act in conjunction with a Chief Inspector of Factories. Inspectors visit the factories with full powers of entry, examination, and enquiry; these are of both sexes, females being employed in that portion of the work where a woman is particularly necessary. Broadly speaking, these powers confer upon the Inspector the right to enter, inspect, and examine, at all reasonable hours by day and night, any factory where he has reason to think anyone is employed; to take a police constable, if necessary, to assist him in the execution of his duty; to require the production of all certificates, documents, and records kept by the occupier, in accordance with the terms of the enactments; to examine, either alone or in the presence of any other person, every person whom he finds in a factory; to make whatever examination he deems necessary to ascertain whether the provisions of the Act are complied with.
- (c) Registration of factories before occupation is obligatory. Description of premises and statement of the work to be done must be supplied, and a certificate of suitability of premises obtained.
- (d) A record of all employees, giving the names, ages, wages, and work of each employee under a certain age (18, 20, 21, etc.) must be kept and filed in the Chief Inspector's office.
- (e) Names and addresses of district inspectors and certifying medical practitioners must be posted; also the working hours, the holidays, and the name, etc., of the employer.
- (f) Records of out-work must be kept, containing the names and remuneration of workers, and stating the places where the work is done. Out-workers are required to register.
- (g) Places in which only the near kin of the occupier are employed are generally exempt from registration.
- (h) Meals may be prohibited in workrooms, etc. In some States occupiers are required to furnish suitable mealrooms.

- (i) The employment in factories of young children is forbidden, and medical certificates of fitness are required in the case of young persons under a certain age. Special permits, based on educational or other qualifications, may be issued for young persons of certain ages.
- (j) Guarantees of an employee's good behaviour are void unless made with the consent of the Minister.
- (k) Persons in charge of steam engines or boilers must hold certificates of service or competency.
- (l) Provision (safeguarding against accident) is made for the fencing off and proper care of machinery, vats, and other dangerous structures. Women and young persons are forbidden to clean machinery in motion or work between fixed and traversing parts of self-acting machinery while in motion; and dangerous trades are specified in which a minimum age is fixed. Notice of accidents must be sent to the district inspector. (Dangerous trades are generally under the administration of Boards of Health.)
- (m) Provision is made for the stamping of furniture, the object being to disclose whether it is made by European or Chinese labour.
- (n) Minimum wage provisions are inserted. Premiums to employers are forbidden.
- (o) Sanitation and ventilation must be attended to, and fresh drinking water supplied. Separate and adequate sanitary conveniences for each sex are required.
- (p) Shopkeepers are required to provide proper seating accommodation for female employees. (In some States this is the subject of special legislation.)
- (q) A dressing-room for females must be provided in factories the manufacturing process of which requires a change of dress.
- (r) Adequate protection must be made against fire, and efficient fire-escapes provided.
- (s) Wide powers of regulation are granted to the Executive, and heavy penalties imposed, including a penalty by way of compensation to any person injured or the family of any person killed through failure to fence machinery and other dangerous structures.

6. **Registered Factories.**—The number of establishments registered under Factories Acts is shewn below:—

#### FACTORIES REGISTERED UNDER ACTS, 31st DECEMBER, 1913.

State.	No. of Registered Factories.	Numbers Employed.		
		Males.	Females.	Total.
New South Wales ...	5,561	67,046	28,538	95,584
Victoria ...	8,089	69,496	41,051	110,547
Queensland*	2,643	20,819	8,298	29,117
South Australia ...	2,068	15,668	5,705	21,373
Western Australia†...	1,091	10,326	3,064	13,390
Tasmania†	930	6,537	1,659	8,196
Commonwealth ...	20,382	189,892	88,315	278,207

\* At 31st March, 1914.

† At 31st December, 1914.

7. **Comparative Statement of Factories Law in Australia.**—The tables which follow shew at a glance the chief provisions of the Factories and Shops Acts in the Commonwealth:—

## A.—EMPLOYMENT IN FACTORIES.—COMPARATIVE VIEW OF

HEADING.	NEW SOUTH WALES.	VICTORIA.	QUEENSLAND.
<i>Principal Acts</i>	Factories and Shops 1912.	Factories and Shops 1912 " " 1912 (2). " " 1914.	Factories and Shops 1900. " " 1908.
<i>Application of Acts—Limitations</i>	In districts proclaimed. Not applicable where all the workers are members of the same family. Not applicable to woolsheds, dairies, or ships. Governor may exempt any factory or class of factory in any district.	Whole State. Not applicable to dairying, agricultural, horticultural, viticultural and pastoral occupations. Not applicable to laundries attached to prisons or religious and charitable institutions.	Only in areas proclaimed. Not applicable to prisons, reformatories, dairies, mines, agricultural buildings, and domestic workshops. Governor may exempt partially or wholly any factory or class of factories in a given district.
<i>Definition of Factory—By Nos. Employed</i>	Four or more.	Four or more.	Two or more (including occupier).
" Asiatics "	One or more Chinese.	One or more Chinese.	One Asiatic.
" Power used "	Steam or mechanical.	Steam or mechanical.	Steam or mechanical.
" Special classes included "	Bakehouses. Laundries and dyeworks.	Bakehouses, laundries, dyeworks, quarries, clay-pits, furniture. Gas and electric light, &c., works.	Bakehouses, laundries.
<i>Administration</i>	Minister of Labour.	Minister of Labour.	Secretary for Public Works.
<i>Inspectorate</i>	Inspectors with full powers of entry, examination and enquiry.	Inspectors with full powers of entry, examination and enquiry.	Inspectors with full powers of entry, examination and enquiry.
<i>Registration</i>	Seven days' prior notice.	Fourteen days' notice after occupation. Annual re-registration.	Seven days' prior notice.
<i>Outwork</i>	Occupier of factory to keep record, shewing places where work done and rates of payment.	Occupier to keep record of description, quantity, remuneration, names and addresses. Out-workers must register in clothing, wearing-apparel, or boot trades.	Sub-contractors' premises subject to factory regulations. Occupier to keep records shewing places, description, and quality of work; nature and amount of remuneration paid. Out-workers must register. Sub-letting forbidden.
<i>Meals in Workroom</i>	Minister may forbid while work is going on; he may require provision of a suitable eating-room.	Forbidden while work going on, unless Chief Inspector permits. Forbidden if dangerous trade conducted.	Inspector may forbid meals being taken in factories; he may require provision of suitable eating room.
<i>Sanitary Health and Safety Provisions</i>	Factories to be clean, wholesome, and well ventilated. Over-crowding forbidden. Unhealthy persons under sixteen may be suspended from daily work. Avoidance of infection prescribed. Factories to be thoroughly cleaned once in fourteen months. Bakehouses and furniture factories not to be used as sleeping places. Seats to be provided for females. Proper necessary precautions to be taken against fire, and efficient fire escapes to be provided.	Factories to be clean, wholesome, and well ventilated. Over-crowding forbidden. Factories to be thoroughly cleaned once in fourteen months. Bakehouses to be washed once every six months. Factories and bakehouses not to be used as sleeping places. Wet spinners must be protected. Efficient fire escapes to be provided, and fire appliances kept ready. Doors, &c., to be kept free from obstruction.	Factories to be clean, wholesome, and well ventilated. Over-crowding forbidden. Suspension of work by unhealthy persons may be enforced. Avoidance of infection prescribed. Fresh drinking water to be provided. Factories to be thoroughly cleaned once in twelve months. Bakehouses not to be used as sleeping places. Seats to be provided for females. Proper necessary precautions to be taken against fire.
<i>Dangerous Machinery</i>	Must be fenced. Employment of women and boys forbidden at certain machines	Must be fenced. Employment of women and boys restricted. First-aid ambulance-chest to be kept on premises.	Must be fenced.*
<i>Minimum Wage per week</i>	4s. No premiums or bonus on behalf of apprentices is permitted.	2s. 6d. No premium is to be demanded from female apprentices and improvers in clothing trades, or any apprentice or improver employed in a shop.	5s. No premium is permitted from apprentices without permission of Inspector.

\* See Machinery and Scaffolding Act 1908.

## LEADING FEATURES OF ACTS IN FORCE IN AUSTRALIA, 1914.

SOUTH AUSTRALIA.	WESTERN AUSTRALIA.	TASMANIA.
Factories 1907, 1908, and 1910.	Factories 1904. " 1904 (2).	Factories 1910 and 1911.
In metropolitan area and such other places as determined by Parliament. Not applicable to domestic servants and agricultural and pastoral pursuits.	In districts proclaimed. Not applicable to mines, dairies, ships, prisons, reformatories, domestic (other than Asiatic) workshops. Governor may exempt any factory.	Whole State. Not applicable to mines, ships, prisons, reformatories, rural industries, charitable institutions. Governor may exempt any factory.
Any one person. Laundries, dyeworks.	Six or more. One Asiatic. Steam or mechanical. Bakehouses, laundries.	Four or more. One Asiatic. Steam or mechanical. Bakehouses, quarries.
Minister of Industry.	Honorary Minister.	Chief Secretary.
Inspectors with full powers of entry, examination and enquiry.	Inspectors with full powers of entry, examination and enquiry.	Inspectors with full powers of entry, examination and enquiry.
Twenty - one days' after occupation.	Prior notice. Annual re-registration if Asiatics employed	Twenty-one days' prior notice.
Occupier to keep record. Out-workers to register names and addresses.	Occupier to keep record of names and addresses, and quantity and description of work done. Sub-letting forbidden.	Occupier to keep record of names and addresses, and quantity and description of work done, also of hours worked and wages paid.
Minister may forbid meals in factories carrying on noxious trades; he may require provision of suitable eating-room.	Forbidden for women and boys, except with Inspector's written permission.	Forbidden where employees working. In certain factories meal room to be provided.
Factories to be kept wholesome, clean, and well ventilated. Over-crowding forbidden. Factories to be thoroughly cleaned once in fourteen months. Adequate protection to be made against fire.	Factories and connected yards to be clean, wholesome, and well-ventilated. Over-crowding forbidden. Unhealthy persons may be forced to suspend work. Goods, clothing, etc., to be disinfected where necessary. Fresh drinking water to be provided. Thorough cleaning to be regularly done. Bakehouses not to be used as sleeping places. Efficient fire escapes to be provided and other necessary protection to be made against fire.	Factories to be clean, wholesome, and well ventilated. Overcrowding forbidden. Factories may be required to be cleaned once in fourteen months. Factories not to be used as sleeping places. Doors, &c., to be kept clear of obstructions, and fire-prevention appliances kept ready for use. Doors to open outwards.
Must be fenced. Employment of children under sixteen may be forbidden.	Must be fenced.* Inspector may prohibit as dangerous machine.* Employment of females and boys forbidden.	...
4s. No premium is to be paid by female apprentices in clothing trades.	...	4s. No premium in respect to employment is permitted.

\* See Inspection of Machinery Act 1904.

## B.—RESTRICTIONS AS TO EMPLOYMENT OF WOMEN

HEADING.		NEW SOUTH WALES.	VICTORIA.	QUEENSLAND.
<i>* Ordinary Age of Admission to Factory</i>		14	Boys 14 years Girls 15 years	14
<i>Maximum Working Hours of Women and Young Persons</i>	Per week	Boys under 16 and all females 48 hours	Boys under 16 and all females, 48 hours	Boys under 16 and all females, 48 hours
	„ day	...	Do., 10 hours. Females under 18 or males under 16 as type- setters, 8 hours	...
	Maximum hours of continuous labour	Boys under 18 and all females 5 hours	Boys under 18 and all females, 5 hours.	Do., 5 hours
	Interval	Do., $\frac{1}{2}$ hour	Do., $\frac{1}{2}$ hour	Do., $\frac{1}{2}$ hour
<i>Prohibited Hours of Work</i>		Boys under 16 and all females 6 p.m. to 6 a.m.	Girls under 16, 6 p.m. to 6 a.m. Males under 16 and all fe- males, after 9 p.m.	Girls under 18, 6 p.m. to 6 a.m. Boys under 16, 6 p.m. to 6 a.m.
<i>Overtime—</i> <i>Limitation—Per day</i>		Three hours	Ten hours per day not to be exceeded	Three hours
„ week		Three consecutive days	Fifty-seven hours per week not to be exceeded in not more than eight weeks	(Two consec'tive dys Fifty-six hrs perwk. not to be exceeded.
„ year		Thirty days	...	Forty days
Continuous				
<i>Overtime Pay</i>		Time and a-half	Wage workers, time & a-half Piece workers, additional 3d. per hour	Time and a-half, but not below 6d. per hr.
<i>Prohibition of Employment after Childbirth</i>		4 weeks	...	...
<i>Restrictions and Prohibitions of Employment affecting Women and Young Persons in Dangerous Trades</i>	Type-setting	...	Boys under 14; girls under 15	...
	Dry grinding and match dipping	Persons under 16*	Persons under 16	...
	Manufacture of bricks and tiles	Girls under 18	Girls under 16	...
	Making and finishing of salt	Girls under 18	Girls under 16	...
	Melting or annealing of glass	Boys under 16; girls under 18	Girls under 18	...
	Silvering of mirrors by mercurial process; manufacture of white lead	Persons under 18	Persons under 18	...
	Cleaning of machinery in motion, mill gear- ing, etc.	All females; boys under 18†	All females; boys under 18	...
	Charge of lift	All females; boys under 16†	Persons under 18	...

\* The ages given are those at which admission to factory labour is unrestricted. In some States younger children are admitted if having passed school standards, or by special permit from the Minister or inspector.

## AND YOUNG PERSONS IN FACTORIES IN AUSTRALIA, 1914.

SOUTH AUSTRALIA.	WESTERN AUSTRALIA.	TASMANIA.
13	14	14
Boys under 16 and all females, 48 hours Do., 10 hours	Boys under 14 and all females 48 hours Do., 8½ hours	Boys under 16 and all females, 48 hours Females, 10 hours
Do., 5 hours	Do., 5 hours	Boys under 18 and all females, 5 hours
Do., ½ hour	Do., ½ hour	Females & young persons, 1 hour
Females, after 9 p.m. Boys under 16, after 9 p.m.	Females, 6 p.m. to 8 a.m., and after 1 p.m. on one day wkly. Boys under 14, 6 p.m. to 7.45 a.m., and after 1 p.m. on one day weekly.	Boys under 16 and all females, after 9 p.m. ...
... } Seven hours per week 100 hours	Three hours Two consecutive days Thirty days	55 hours per week not to be exceeded ... 200 hours (Fruit, jam, etc., factories exempted in certain months)
Time and a-quarter	Time and a-quarter	Time and a-quarter
...	4 weeks	...
Boys under 16 and all females not more than 8 hours per day, and not after 6 p.m. or before 6 a.m.	Girls under 15	Boys under 16 and all females not more than 8 hours per day, nor between 9 p.m. and 6 a.m.
Persons under 16	...	Persons under 16
Girls under 16	Girls under 16	Girls under 16
Girls under 16	Girls under 16	Girls under 16
Boys under 14; girls under 18	...	Females under 18
Persons under 18	All females; boys under 18	All females; boys under 18
All females; boys under 18	All females; boys under 18	...
All females; boys under 18	Females under 21; boys under 16	...

† In N.S.W. this restriction applies also to casting from molten lead. ‡ In N.S.W. this restriction applies also to persons in charge of or attending to any engine or boiler.  
§ In N.S.W. this restriction applies also to any machinery classed as dangerous.



## C.—EMPLOYMENT IN SHOPS.—COMPARATIVE VIEW OF LEADING

HEADING.	NEW SOUTH WALES.	VICTORIA.	QUEENSLAND.
<i>Acts</i>	As for factories Early Closing Act Minimum Wage Act	As for factories	As for factories
<i>Statutory Maximum Hours of Employment.</i>			
(a) Male, adults	...	52 hours per week (Fourth Schedule Shops 58 hours)	...
(b) Females { per week and Boys { per day	Girls under 18, boys under 16, 52 hours Girls under 18, boys under 16, 9½ hours (except 1 day, 11½ hours)	52 hours (Fourth Schedule Shops 56 hours) 9 hours (except 1 day, 12 hours)	53 hours per week Females and boys under 16, 9½ hours (except 1 day, 11½ hours)
Maximum continuously	All females : 5 hours	All persons : 5 hours	...
Interval	All females : ½ hour	All persons : ½ hour	...
<i>Maximum { per day Overtime { per year</i>	... ...	3 hours 25 days	3 hours 40 days
<i>General closing time</i>	4 days, 6 p.m.; 1 day, 10 p.m.; 1 day, 1 p.m.	4 days, 6 p.m. (outside Metropolitan district 4 days 7 p.m.); Saturdays, 1 p.m.; Fridays, 10 p.m.	4 days, 6 p.m.; 1 day, 9 p.m.; Saturdays (or other prescribed weekly holiday), 1 p.m.
<i>Exemption from closing time</i>	Certain shops	Businesses concerned with tobacco, books, stationery, confectionery, drugs and edibles, also pawnbrokers	Certain exempted shops
<i>Seats in Shops</i>	1 to 3 females	1 to 3 assistants	1 to 3 females

8. **Mining Acts.**—Mining Acts regulate the working of mines. Generally the employment underground of all females and of boys under fourteen years is prohibited. A minimum age, usually seventeen, is fixed for employment as lander or bracceman at plats and landing places; no lander, bracceman, underground worker, or man in charge of motive power may be employed more than eight hours a day. A large number of scientific provisions for the protection of the lives and health of miners is also inserted in the Acts. Enginedrivers must hold certificates of competency. Persons may be licensed to certify to the condition of boilers. Provision is made to enable injured persons or the relatives of persons killed to recover damages if the injury or death results from a breach of the regulations referred to above. Inspection of mines is fully provided for. Sunday labour is forbidden. In New South Wales and (since 1st February, 1910) Victoria still more advanced mining legislation exists; numerous sections are designed to ensure the well-being of the workers, such as limitation of hours, etc.

9. **Employers' Liability and Workmen's Compensation Acts.**—In each of the States the main provisions of the British *Employers' Liability Acts* have been enacted. Generally, they apply to all manual workers, though in Victoria, miners, as coming under the Mines Acts, are excepted, and in South Australia and Western Australia domestic and menial workers are specifically included. The employers' liability exists in cases of defect of plant, etc., owing to negligence of employer or person in his service. Compensation is not allowed to exceed three years' earnings, and action against the employer is to be commenced within a reasonable time, notice of injury having previously been served. The provisions of the British *Workmen's Compensation Act* 1897 have also been copied in all the States. The Victorian Act makes insurance obligatory. This legislation marks a distinct advance upon the Employers' Liability Acts. Its

## FEATURES OF ACTS IN FORCE IN AUSTRALIA, 1914.

SOUTH AUSTRALIA.	WESTERN AUSTRALIA.	TASMANIA.
Early Closing, 1911 and 1912	Early Closing, 1902, 1904 (2), and 1911	Factories, 1910, 1911, with amendments Shops Closing 1911, with amendments
...	56 hours per week	...
Boys and girls under 16, 52 hours	Boys under 16 & all females, 52 hours	Females and boys under 16, 52 hours
Boys and girls under 16, 9 hours (except 11 hours on 1 day)	Boys under 16 & all females, 9 hours (except 10½ hours on 1 day)	Females and boys under 16, 9 hours (except 12 hours on 1 day)
...	One hour interval between noon and 3 p.m. If open after 6.30 p.m., 1 hour for tea	Females and boys under 16, 5 hours
...		Females and boys under 16, ½ hour
3 hours 40 days	3 hours 12 days per half-year	3 hours 40 days
4 days, 6 p.m.; 1 day, 9 p.m.; 1 day, 1 p.m.	4 days, 6 p.m.; 1 day, 9 p.m.; 1 day, 1 p.m. (Opening hour not earlier than 8 a.m.)	4 days, 6 p.m.; 1 day, 10 p.m.; 1 day, 1 p.m.
Certain classes of shops	Shops such as hairdressers, newsagents, tobacconists, and those selling drugs and edibles	Shops registered as small shops, and certain shops such as tobacconists, newsagents and those selling edibles
...	...	1 to 3 females

application is generally to manual workers, though restriction is made in South Australia to those receiving less than £5 weekly, and in Tasmania the limit is £3, while miners are exempted from the operation of the Act in New South Wales, being provided for in the *Miners' Accident Relief Act 1900*. In Victoria non-manual workers earning more than £250 per annum are excluded. The liability of employers covers all cases of injury by accident during employment, and in South Australia and Victoria it extends also to disablement by industrial diseases. In certain circumstances persons employed casually otherwise than for the purposes of the employer's trade or business are excluded. Misconduct of employee exonerates the employer. Notice of accident is to be sent to the employer without delay, and proceedings for compensation must be begun within a reasonable time. In New South Wales, Queensland, and Western Australia the matter is settled by a police magistrate, in Victoria by a Judge of County Courts or Police Magistrate, and in South Australia the Arbitration Court makes the award. The minimum amount of compensation in case of death is three years' earnings, or £200 (except in Tasmania, where the amount is £100, and South Australia, where it is £150), whichever is greater, up to a maximum of £300 in South Australia, £200 in Tasmania, £500 in Victoria, and £400 in the other three States. In case of incapacity the minimum compensation is half wages up to £1 a week in New South Wales, Queensland, and South Australia, up to £1 10s. in Tasmania and Victoria, and up to £2 in Western Australia; the maximum total payment is £500 in Victoria, £400 in Queensland, £300 in South Australia and Western Australia; and £200 in New South Wales and Tasmania. Agreements made by consent, may, under the authority of an official prescribed in the Act, vary its provisions. A lump sum may be accepted in lieu of weekly compensation, and compensation cannot be assigned. The main difference in the provisions of the two sets of enactments is that under the Liability Acts the employee had to show neglect or

defect; under the Compensation Acts the employer has to shew misconduct of worker. In Victoria, a penalty of £2 per uninsured worker and £1 per week thereafter is imposed for non-insurance. Insurance is to be effected in a recognised insurance office, or in the State Insurance Office, and any employer whose wage-roll for the previous twelve months did not exceed £160, shall be deemed to be insured with the Government Department, if the employer notifies the Commissioner within 14 days and obtains from him a policy of insurance as soon as practicable.

10. **Other Acts.**—Other legislation regulating conditions of labour has been enacted by the States. The British *Conspiracy and Protection of Property Act* (38 and 39 Vic., c. 86) has been adopted in all the States except New South Wales and Queensland. Servants' registry offices are placed under administrative control, and the rates of commission chargeable are fixed by regulation. Power is given to workmen to attach moneys due to a contractor who employs them, in order to satisfy a claim for wages, such wages being made a first charge on moneys due to a contractor. Workmen are given a lien for wages over material whereon they are working, even if it becomes part of other property. This is in addition to the common law lien, which ceases when possession of the property is parted with. Workmen's wages are protected from attachment. In Victoria, provision is made for the compulsory resumption of suburban lands to provide workmen's homes.

11. **General Results of Industrial Legislation.**—The results of the Legislation described must be sought in the Reports of the Inspectors of Factories of the several States. Generally speaking, the perusal of these reports and of the reports of Royal Commissions which have inquired into the working of the Acts, affords satisfactory evidence that the Acts have, on the whole, effected their objects.

### § 3. Legislative Regulation of Wages and Terms of Contract.

1. **General.**—Two systems, based upon different principles, exist in Australia for the regulation of wages and general terms of contracts of employment. A "Wages Board" system exists in Victoria and Tasmania, and an Industrial Arbitration Court in Western Australia. In the industrial legislation of New South Wales, Queensland, and South Australia both systems are embodied, Industrial or Wages Boards, as well as Industrial Courts, being instituted. In Victoria, Wages Boards' decisions may be reviewed by the Court of Industrial Appeals. In New South Wales, Industrial Arbitration Acts of 1901 and 1905 instituted an Arbitration Court. This court expired on 30th June, 1908, having delivered its last judgment on the previous day. Wages Boards were substituted under the Industrial Disputes Act 1908, and subsequent years; while the Act of 1912 introduced the mixed system. There is also the Arbitration Court of the Commonwealth, which has power, however, to deal only with matters extending beyond the limits of a single State.

The chief aims of the Wages Board system are to regulate hours, wages, and conditions of labour and employment, by the determination of a Board usually brought into existence for any specified industry or group of industries by petition or application. Under the Industrial Arbitration Court system an industry does not technically come under review until a dispute has actually arisen. Most of the Acts, however, have given the President of the Court power to summon a compulsory conference. In Victoria, where the Wages Board system is in force, there is no provision against strikes, but in Tasmania, where that system has also been adopted, penalties are provided for a lock-out or strike on account of any matter in respect of which a Board has made a determination.

**2. Wages Boards.**—(i.) *Historical.* This system was introduced in Victoria by the Factories and Shops Act of 1896. The original Bill made provision only for the regulation of the wages of women and children, but was afterwards amended in Parliament to extend the system to adult operatives of both sexes.

The Act of 1896 made provision for the regulation of wages only in the clothing and furniture trades and the bread-making and butchering trades. By an Act of 1900 the operations of the Act were extended to include all persons employed either inside or outside a "factory" or "workroom"—see sec. 4, i. (a)—in any trade usually carried on therein. This section is now in the Act of 1912. The Act of 1907 extended the system to trades and businesses not connected in any way with factories, making provision for the appointment of Wages Boards for metropolitan shop employees, carters and drivers, persons employed in connection with buildings or quarrying, or the preparation of fire-wood for sale or the distribution of wood, coke, or coal. The Act of 1909 extended the system to the mining industry, and those of 1910 extended the operation of the Acts to shires. The Act of 1912 was amended by the Act of 1914, one of the principal provisions of which was the compulsory registration of shops.

The regulation is effected by a Board, called a Special Board, to distinguish it from the Board of Health. Boards for the regulation of wages in the trades specified in the Act of 1896 are appointed as a matter of course, and by the Executive other Boards are appointed only if a resolution for appointment be passed by both Houses of Parliament. Originally the Board was elected in the first instance, but the difficulty of compiling electoral rolls led to the adoption of the system of nomination, which has proved satisfactory. Beneficial results have followed from the institution of the system, conditions of female labour especially being improved. It is also claimed that sweating has been abolished.

The Board fixes the wages and hours of work and must limit the number of "apprentices or improvers" to be employed (usually by prescribing so many to each journeyman employed). Power is now given to fix travelling allowances, also the hours and rates for different shifts. The Board fixes the wages of apprentices and improvers according to age, sex, and experience, and may fix a graduated scale of rates calculated on the same basis. Apprentices bound for less than three years are improvers, unless the Minister sanctions the shorter period of apprenticeship on account of previous experience in the trade, and the Board has power to prescribe the form of indenture to be used in any particular trade. The Minister may sanction the employment of an improver over twenty-one years of age at a rate proportionate to his experience. Improvers must be provided with, and must produce to an employer, when seeking work, a certificate shewing the duration and nature of the employment. Outworkers in the clothing trade must be paid piece rates. Manufacturers may, by leave of the Board, fix their own piece rates, if calculated upon the average wages of time workers as fixed by the Board. Casual labour has been defined by the Act of 1914, so as to mean work or labour for not more than half the maximum number of hours fixed by the Board for the work in question.

Licenses for twelve months to work at a fixed rate lower than the minimum rate may be granted by the Chief Inspector of Factories to persons unable to obtain employment by reason of age, slowness, or infirmity. Licenses are renewable.

Penalties are fixed for the direct or indirect contravention of determinations, the obedience to which is ascertained by examination of the records of wages, etc.

A Court of Appeal has power to review determinations of the Boards.

The Acts fix an absolute weekly minimum wage, and the evasion of this provision (such as had occurred regarding females employed in the clothing trade), by charging an apprenticeship premium, is prevented by the prohibition of all such premiums. Until the Minimum Wage Act of 1908 began to operate, this absolute minimum provision did not exist in New South Wales. The Act of 1912 of this State combines the Wages Board and Arbitration Court systems.

South Australia enacted the Wages Board system in 1900, 1904, and 1906, but the first-mentioned Act was rendered inoperative owing to the disallowance by Parliament of the regulations necessary for carrying it into effect. The Act of 1904 revived the Wages Board system respecting women and children employed in clothing and white-work trades. The action of this statute was paralysed by a decision, the effect of which was to prevent the fixing of a graduated scale of wages as is done by the Victorian Boards. The necessity for some protection to the persons intended to be benefited by these statutes was urged in the annual reports of the Chief Inspector of Factories, but, until 1906, without effect. Many employers, however, voluntarily complied with the Board's determinations, though these were without legal force. The system was brought into full operation by the Act of 1906, which preceded the Victorian Act of 1907, in extending the system to other than factory trades, and was of a wider scope than the Victorian Act.

The system has also been in operation in New South Wales and Queensland, and came into operation in Tasmania during 1911. In Western Australia the object is attained under the Arbitration Court system.

In Queensland, the Wages Boards Acts were repealed in 1912, and replaced by the Industrial Peace Act, which, while embodying the principal provisions of the Wages Boards Acts, contains provisions for the establishment of an Industrial Court for appeals, and also provides against lockouts and strikes. Under this Act all Boards established under the repealed Acts continue in existence, and their determinations are recognised as awards under the new Act.

It is claimed that the introduction of the Wages Board system affording protection from unfair competition to employers, and the assurance of fair wages to employees, has led to improvement in working conditions, and that the appreciation of the workers is evidenced by the number of applications for the granting of Boards.

(ii.) *Mode of Constitution.* The following system is that in vogue in Victoria, and has been adopted, in the main, by the other States :—

Before a Special Board is constituted, it is necessary that a resolution in favour of such a course should be carried in both Houses of the Legislature. It is usual for the Minister administering the Factories Act to move that such a resolution should be passed. He may be induced to adopt such a course by representations made either by employers or employees, or both, or by the reports of the officers of the Department. The reason alleged by employers for desiring a Board is usually unfair competition; those alleged by employees are low wages and the excessive employment of juvenile labour. If the Minister is satisfied that a case has been made out, he moves the necessary resolution in Parliament, and when such resolution has been carried, an Order-in-Council is passed constituting the Board. Once a resolution has been passed or a Board appointed, the Minister, through the Governor-in-Council, has full power to group or divide trades, to adjust the powers of different Boards by taking from one and adding to another, to define the parts of the State over which any determination shall operate, and generally to administer so as to secure the greatest measure of benefit. The Order constituting the Board indicates the number of members. The number of members must not be less than four nor more than ten. The Minister then invites, in the daily-

press, nominations for the requisite number of representatives of employers and employees. These representatives must be, or have been, employers or employees, as the case may be, actually engaged in the trade to be affected, and under the Act passed in 1914 must reside in the area or locality to which the determination is to be applied. If in any case one-fifth of the employers or employees are engaged in the particular calling outside the Metropolitan District, one at least of the representatives of each side must come from outside that district. The full names and addresses of persons willing to act should be sent in with particulars as to their connection with the trade during the three years last past. Where there are associations of employers or employees, more than the necessary number of nominations are often received. In such case, the Minister selects from the persons whose names are sent in, the necessary number to make up a full Board. The names of persons so nominated by the Minister are published in the *Government Gazette*, and unless within twenty-one days, one fifth of the employers, or one-fifth of the employees, as the case may be, forward a notice in writing to the Minister that they object to such nominations, the persons so nominated are appointed members of the Board by the Governor-in-Council. If one-fifth of the employers or employees object to the persons nominated by the Minister—and they must object to all the nominations, and not to individuals—an election is held. The Chief Inspector conducts such elections, the voting is by post, the ballot papers being forwarded to each elector. If, after the expiration of three months from the appointment of any Board, sufficient representatives are not nominated, the Governor-in-Council may appoint to the position any person who has been engaged in the trade concerned. Within a few days of their appointment, the members are invited to meet in a room at the office of the Chief Inspector of Factories, and a person (always a Government officer, and usually an officer of the Chief Inspector's department) is appointed to act as secretary. The members must nominate a chairman within fourteen days of the date of their appointment, but if they cannot agree to a chairman, he is appointed by the Governor-in-Council. The times of meeting, the mode of carrying on business, and all procedure, are entirely in the hands of the Board, whose powers are defined in the Factories Acts. Vacancies in Special Boards are filled on the nomination of the Minister without any possibility of either employer or employee objecting. The result of the labours of a Board is called a Determination, and each item of such determination must be carried by a majority of the Board. The chairman is a member of the Board. His function is usually confined to conducting the proceedings. He does not exercise his vote except in cases where the Board is equally divided, when his casting vote determines the question at issue. When a determination has been finally made, it must be signed by the chairman, and forwarded to the Minister of Labour. The Board fixes a date on which the determination should come into force, but this date cannot be within thirty days of the last fixing of a price or rate of pay. If the Minister is satisfied that the determination is in form, and can be enforced, it is duly gazetted. In the event of the Minister considering that any determination may cause injury to trade, or injustice in any way whatever, he may suspend same for any period, not exceeding six months, and the Board is then required to reconsider the determination. If the Board does not make any alteration, and is satisfied that the fears are groundless, the suspension may be removed by notice in the *Gazette*. Provision is made by which either employers or employees may appeal to the Court of Industrial Appeals against any determination of a Board. This Court consists of a Judge of the Supreme Court, appointed by the Governor-in-Council for a fixed period, and assisted by one representative of the employers and one representative of the employees, who are appointed only for the case under consideration. A majority of the Court, will, subject to the Act, decide every appeal. An appeal may be lodged (a) by a majority of the representatives of the employers on the Special Board; (b) a majority of the representatives of employees on the Special Board; (c) any employer or group of employers, who employ not less than 25 per cent. of the total number of workers in the trade to be affected; or, (d) 25 per cent. of the workers in any trade. The Court has all the powers of a Special Board, and may alter or amend the determination in any way it thinks fit. The decision of the Court is final, and

cannot be altered by the Board, except with the permission of the Court, but the Court may, at any time, review its own decision. The Minister has power to refer any determination of a Board to the Court for its consideration, if he thinks fit, without appeal by either employer or employee. The decision of the Court is gazetted in the same way as the determination of the Board, and comes into force at any date the Court may fix. The determinations of the Board and the Court are enforced by the Factories and Shops Department, severe penalties are provided for breaches of determinations, and the Court is empowered to order arrears to be paid. No prosecution for any offence against any of the Factories Acts, or for any breach of any determination can be brought except through the Department. Employees have the independent right to recover arrears up to twelve months, provided they have demanded same in writing within two months from the date such arrears became due.

(iii.) *Special Minimum Wage Provisions.* At the end of 1908 the Minimum Wage Act was passed in New South Wales. Its provisions are now incorporated in the Factories and Shops Act 1912. A summary of the provisions of the enactment, and a statement of some of the ills it was intended to meet, as set out in the departmental reports, serve as an indication of the general trend of public feeling throughout the Commonwealth in regard to the payment of a satisfactory wage to employees. The Act provided for a weekly wage of not less than four shillings to all persons coming within the definition of "workman" or "shop assistant." That such a measure was necessary was evidenced by the fact that in the workrooms in the Sydney district no less than 514 girls, whose ages ranged from 13 to 21 years, were, at the end of 1908, in receipt of less than four shillings per week, and in the Newcastle district there were 272 girls employed in the dressmaking and millinery workrooms receiving less than four shillings a week, the majority being paid no wages at all for their services. The Act provided that for "workmen" or "shop assistants" a minimum rate of threepence per hour or portion of an hour was to be paid when overtime was worked, such payment to be made at intervals of not more than one month, and a sum of not less than sixpence as tea-money was to be paid on the day the overtime was worked. The payment by employees of a premium or bonus was prohibited in the clothing and wearing apparel trades, or on their behalf. The system of so-called apprenticeship without payment originally carried with it the recognition of an obligation to teach the trade, especially in the dressmaking and millinery industry. This aspect of the case had, to a very great extent, been forgotten in the large workrooms, the training received for some time being more that of general discipline than of a technical character. With a minimum wage of four shillings, an employer would find it worth while to teach the employees, so as to bring in a return for the outlay as speedily as possible, and discharges of partially-trained workers would be less frequent. The trades would be improved by the weeding out of those who failed to show reasonable aptitude for their work.

3. **The Arbitration Court System.**—(i.) *Acts in Force.* The following is a general account of the main features of the Compulsory Arbitration laws of Australia. A few important divergencies between the Acts are noted.

The Acts in force in the States at the close of the year 1914 are set out on page 908 *supra*. In addition, the Commonwealth Statute Book contains the Commonwealth Conciliation and Arbitration Acts 1904-14.

(ii.) *Significance of Acts.* In Victoria in 1891, and in New South Wales in 1892, Acts were passed providing for the appointment of Boards of Conciliation, to which application might be made voluntarily by the contending parties. The awards of the Boards

had not any binding force. Boards were applied for on but few occasions, their lack of power to enforce awards rendering them useless for the settlement of disputes.

The first Australian Act whereby one party could be summoned before, and, presumably, made subject as in proceedings of an ordinary court of law to the order of a court, was the South Australian Act of 1894. Its principles have been largely followed in other States, but it proved abortive in operation in its own State, and in many respects was superseded by the Wages Board system. Western Australia passed an Act in 1900, repealed and re-enacted with amendments in 1902 and 1909, the whole being consolidated in the Industrial Arbitration Act of 1912. The Court system was adopted in New South Wales in 1901, and various changes having been subsequently introduced, a consolidation was made in 1912. Queensland introduced the system under the Industrial Peace Act of 1912. The Commonwealth principal Act, passed in 1904, applies only to industrial disputes extending beyond the limits of a single State. In Western Australia a Court of Arbitration is constituted under the presidency of a Judge of the Supreme Court.

(iii.) *Industrial Unions.* The Arbitration Act, framed to encourage a system of collective bargaining, to facilitate applications to the court, and to assure to the worker such benefits as may be derived from organisation, virtually creates the Industrial Union. This, except in New South Wales and Western Australia, has been quite distinct from the trades union; it is not a voluntary association, but rather an organisation necessary for the administration of the law. The New South Wales Act of 1901 required all trade associations to register as "industrial unions," prescribing the separation of industrial and benefit funds, and enforcing strict and proper management, the industrial funds being available in payment of penalties incurred for breaches of the Arbitration Act. Industrial unions (or "organisations" as they are styled in the Commonwealth Act) may be formed by employers or employees. They must be registered, and must file annual returns of membership and funds. Before unions of employers are registered, there must be in their employment a minimum number of employees. In New South Wales and Western Australia the minimum is 50; under the Commonwealth Act, 100. Unions of employees must, in Western Australia, have a membership of 15; by the Commonwealth Act a membership of 100 is required. The union rules must contain provisions for the direction of business, and, in particular, for regulating the method of making applications or agreements authorised by the Acts. In Western Australia rules must be inserted prohibiting the election to the union of men who are not employers or workers in the trade, and the use of union funds for the support of strikes and lockouts; a rule must also be inserted requiring the unions to make use of the Act.

(iv.) *Industrial Agreements.* Employers and employees may settle disputes and conditions of labour by industrial agreements, which are registered and have the force of awards. They are enforceable against the parties and such other organisations and persons as signify their intention to be bound by an agreement.

(v.) *Powers of Court.* Failing agreement, disputes are settled by reference to the court. In the Commonwealth this consists of a Judge of the High Court. The court may (and on the application of an original party to the dispute must) appoint two assessors at any stage of the dispute. In the States the president of the tribunal (usually a Judge of the Supreme Court) is assisted by members (the number varying under the various Acts) chosen by and appointed to represent the employers and employees respectively.

Cases are brought before the court either by employers or employees. The consent of a majority of a union voting at a specially summoned meeting is necessary to the institution of a case; the Commonwealth Act requires the certificate of the registrar that it is a proper case for consideration.



The powers of the court are both numerous and varied ; it hears and makes awards upon all matters concerning employers and employees. The breadth of its jurisdiction may be gathered from the Commonwealth definition of "industrial matters," viz., "all matters relating to work, pay, wages, reward, hours, privileges, rights, or duties of employers or employees, or the mode, terms, and conditions of employment or non-employment ; and in particular, but without limiting the general scope of this definition, the term includes all matters pertaining to the relations of employers and employees, and the employment, preferential employment, dismissal or non-employment of any particular persons, or of persons of any particular sex or age, or being or not being members of any organisation, association, or body ; and any claim arising under an industrial agreement ; and all questions of what is fair and right in relation to any industrial matter having regard to the interests of persons immediately concerned, and of society as a whole."

The object of the court is to endeavour to prevent and settle industrial disputes ; and when they have occurred to reconcile the parties. The court may fix and enforce penalties for breaches of awards, restrain contraventions of the Acts, and exercise all the usual powers of a court of law. The High Court has declared that the power of the Commonwealth Arbitration Court to make a common rule, *i.e.*, an extension of award in a particular case to cover the whole industry affected by the proceedings, is *ultra vires* of the Constitution.\*

The Commonwealth court may prescribe a minimum rate of wage ; it may also, as regards employment, direct that preference of employment or service shall be given to members of unions. An opportunity is offered for objection to a preference order, and the court must be satisfied that preference is desired by a majority of the persons affected by the award who have interests in common with the applicants.

The Commonwealth Court is to bring about an amicable agreement, if possible to conciliate and not to arbitrate, and such agreement may be made an award. In order to prevent a matter coming into dispute the president of the Commonwealth Arbitration Court may convene a compulsory conference under his own presidency. Attendance of persons summoned to attend is compulsory. Provision is made in the recent Act, whereby, if there is no settlement arrived at in the conference, the president may refer the matter to the court and then arbitrate on it.

There are four ways in which a matter may be brought before the court—

- (a) By the registrar certifying that it is a dispute proper to be dealt with by the court in the public interest.
- (b) By the parties, or one of them, submitting the dispute to the court by plaint in the prescribed manner.
- (c) By a State Industrial Authority, or the Governor-in-Council of a State in which there is no such authority, requesting the court to adjudicate.
- (d) By the president referring to the court a dispute as to which he has held a conference without an agreement being reached.

All parties represented are bound by the award, and also all parties within the ambit of a common rule. The court possesses full powers for enforcement of awards.

States have included their railway and tramway employees, and also the employees of certain other public bodies under the Acts ; the section of the Commonwealth Act giving the Commonwealth Court power over State employees has been declared unconstitutional by the High Court.†

(vi.) *Repression of Strikes and Lockouts.* The first instance of a strike on a large scale in Australia occurred in 1890 and 1891, when the industrial upheavals assumed far-reaching proportions. As a result of differences between pastoralists and shearers, the

\* The King v. The Commonwealth Court *ex parte* Whybrow. (2 C.L.R., vol. 2, p. 1.)

† Federated Amalgamated Railway, etc., Employees v. N.S.W. Railway, etc., Employees. (4 C.L.R. 488).

labour unions called out the maritime workers. Industry was paralysed by the cessation of the sea-borne coal trade. Communications were held up, and commercial activity suspended. The chief results of the strike were indirect. It was seen that peaceful methods of adjusting disputes were more conducive to the welfare of the community generally, than the suicidal methods of strike and lockout. The unions therefore turned to legislation as an effectual means of improving labour conditions. It was hoped that open hostility to the economic system might be prevented by State regulation. A general desire was shewn for recognition of conciliation and arbitration, voluntary where possible, but compulsory, through national tribunals and under legal authority, where necessary.

Accordingly, industrial legislation aims at preventing strikes and lockouts in relation to industrial disputes, other means of settlement being provided. Such is the declared object of the Commonwealth Acts. It is decreed that no person or organisation shall, on account of any industrial dispute, do anything in the nature of a strike or lockout, or continue any strike or lockout, under a penalty of £1000.

Strikes, however, have not altogether ceased, even in those States where legislation, by stringent enactment, forbids them. It has been noted that strikes of late have occurred chiefly amongst coal miners and certain unions representing unskilled labourers. The prohibiting clauses have not always been enforced by the Executive. But in several instances indictment has followed attempts to bring about or to prolong a strike, and fines and imprisonment have been awarded. A decision of the Arbitration Court, ordering the Newcastle coal trimmers to return to work, was upset by the Supreme Court of New South Wales, on the ground that the Arbitration Court had no power to make men work if they did not wish to do so.

(vii.) *Miscellaneous.* Protection is afforded to officers and members of unions against dismissal merely on account of such officership or membership, or on account of their being entitled to the benefit of an award.

It has been settled by the High Court that an Arbitration Court cannot direct—

- (a) That non-unionists seeking employment shall, as a condition of obtaining it, agree to join a union within a specified time after engagement;
- (b) That an employer requiring labour shall, *ceteris paribus*, notify the secretary of the employees' union of the labour required.\*

4. **Comparative Statement of Tribunals for Regulating Wages in Australia.**—The table on pages 928 and 929 shews at a glance the Acts which operate in fixing wages, the constitution and function of tribunals enacted under them, and the effect and extent of the tribunals' decisions. It will be seen that in all the States there is machinery for the regulation of wages.

5. **Movement Towards Uniformity.**—The wide difference between the development in the several States of the Commonwealth of the regulation by State institutions of the remuneration and conditions of the workers, has given rise to a desire on the part of the Commonwealth Government to secure uniformity throughout Australia by any suitable and constitutional action on the part of the Commonwealth. The provisions of States wages laws vary considerably. In New South Wales, Victoria, and Western Australia, considerable experience has been gained of their working. The system is newer in South Australia, Queensland, and Tasmania. The desirability of uniformity has, as already mentioned, been recognised by the New South Wales Arbitration Court, which refused the Bootmakers' Union an award which would increase the wages of its members to amounts exceeding those paid in Victoria in the same trade, the express ground of the refusal being that New South Wales manufacturers would be handicapped by the payment of a higher rate of wage than that prevailing in Victoria.

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\* Trolley, etc., Union of Sydney and Suburbs v. Master Carriers' Association of New South Wales. (2 C.L.R. 509.)

## TRIBUNALS FOR THE REGULATION OF

<i>Particulars.</i>	NEW SOUTH WALES.	VICTORIA.	QUEENSLAND.
<i>Name of Acts</i>	Industrial Arbitration Act 1912	Factories and Shops Act 1912 (2) and 1914	Industrial Peace Act 1912
<i>Nature of Tribunals</i>	Court of Industrial Arbitration. Industrial Boards	Court of Industrial Appeals. Wages Boards	Industrial Court. Industrial Boards
<i>How Tribunals are brought into existence</i>	Industrial Court (Judge) constituted by Act. Industrial Boards by the Minister on recommendation of Industrial Court.	Court constituted by Acts. Wages Boards by Governor-in-Council on resolution of Parliament	Industrial Court constituted by the Act. Industrial Boards, by Governor-in-Council on recommendation of Court
<i>Scope of Acts</i>	To industrial groups named in Schedule to Act, and those added by Proclamation. Includes Government servants	To any process, trade, business, or occupation specified in a resolution. Government servants are not included	To callings specified in Schedule to Act, and to those added by Governor-in-Council
<i>How a trade is brought under review</i>	Reference by Court or Minister, or by application to the Board by employers or employees	Usually by petition to Minister	By petitions and representations to Industrial Registrar
<i>President or Chairman of Tribunal</i>	Appointed by Minister on recommendation of Court.	Appointed by Governor-in-Council on nomination of Board, or failing that on nomination by Minister	Any person elected by Board. If none elected, appointment is by the Governor-in-Council on recommendation of Court
<i>No. of Members of Tribunal</i>	Chairman, and 2 or 4 other members	Not exceeding 11 (including chairman)	Not less than 5 nor more than 13 (including chairman)
<i>How ordinary members are appointed</i>	Appointed by Minister on recommendation of Industrial Court	Nominated by Minister. But if one-fifth of employers or employees object, representatives are elected by them	By employers and employees respectively
<i>Decisions — how enforced</i>	By Registrar and Industrial Magistrate	By Factories Department in Courts of Petty Sessions before Police Magistrates.	By Inspectors of Factories and Shops, Department of Labour
<i>Duration of decision</i>	For period fixed by Tribunal, but not more than 3 years.	Until altered by Board or Court of Industrial Appeals	12 months and thereafter, until altered by Board or Court
<i>Appeal against decision</i>	To Industrial Court against decision of Boards	To the Court of Industrial Appeals	To Industrial Court
<i>If suspension of decision possible pending appeal</i>	No; except by temporary variation of award by the Court	Yes; for not more than 12 months	Yes; for not more than 3 months
<i>Can Preference to Unionists be declared?</i>	Yes	No	No
<i>Provision against strikes and lockouts</i>	Strikes, penalty £50, registration as industrial union, and preference to unionists cancelled. Lockouts, penalty £1000, and registration as industrial union cancelled	Determination may be suspended by Governor-in-Council for any period not exceeding 12 months.	Strikes £50, lockouts £1000, unless notice of intention given to Registrar and secret ballot taken in favor. In the case of public utilities, compulsory conference also must have proved abortive
<i>Special provisions for Conciliation</i>	Special Commissioner. 3 Conciliation Committees for colliery districts. Registered agreements	None	Compulsory Conference. Registered agreements

## WAGES IN TRADES IN AUSTRALIA, 1914.

SOUTH AUSTRALIA.	WESTERN AUSTRALIA.	TASMANIA.	COMMONWEALTH.
The Factories Acts 1907, 1908, and 1910. Industrial Arbitration Act 1912	Industrial Arbitration Act 1912	Wages Boards Acts 1910 and 1911	Conciliation and Arbitration Act 1904-14. Arbitration (Public Service) Act 1911
Industrial Court. Wages Boards	Arbitration Court	Unlimited	Court of Conciliation and Arbitration.
Court constituted by Act of 1912. Wages Boards by the Governor-in-Council, pursuant to Resolutions of Parliament	Constituted by the Act	For the clothing trade, by the Act; for other trades, by a resolution of Parliament	Court of Record constituted by the Act
To processes, trades, &c., specified in Act, and such others as may be authorised by Parliament	All industrial occupations	All trades, or groups or parts thereof	Industrial disputes extending beyond limits of any one State or in Federal Capital or Northern Territories
Court—matters or disputes submitted by Minister, Registrar, employers or employees, or by report of Wages Board. Wages Boards by petitions, &c.	Industrial disputes referred by President or by an Industrial Union or Association	By application of parties	Industrial disputes either certified by Registrar, submitted by organisation, referred by a State Industrial authority or by President after holding abortive Compulsory Conference
Court—President. Wages Board, appointed by Governor on nomination of Board, or failing nomination a Stipendiary Magistrate	A Judge of the Supreme Court	Any person elected by the Board. If none elected, appointment by the Governor-in-Council	President
Court, President only. Wages Board, not less than 5 nor more than 11 (inclusive of chairman)	Three, including president	Chairman, and not less than four nor more than ten	President only
By Governor on nomination of employers and employees respectively	Appointed by Governor, President directly, and one each on recommendation of unions of employers and workers respectively	By Governor-in-Council on nomination by employers and employees	President appointed by Governor - General from Justices of High Court for a term of 7 years.
By Factories Department	By Arbitration Court on complaint of any party to the award or Registrar or an Industrial Inspector	By Department of Public Health	By proceedings instituted by Registrar, or by any organisation affected, or a member thereof
Until altered by Board or by order of Industrial Court	For period fixed by Court, not exceeding 3 years, or for 1 year and thenceforward from year to year until 30 days' notice given	Until altered by Board.	For period fixed by award not exceeding 5 years
Industrial Court	No appeal except against imprisonment or a fine exceeding £20	To Supreme Court	No appeal. Case may be stated by President for opinion of High Court
Yes	No suspension. Court has power to revise an award after the expiration of 12 months from its date	Yes	No appeal
No	No	No	Yes; ordinarily optional, but mandatory if in opinion of Court preference is necessary for maintenance of industrial peace or welfare of society
Penalty £500, or imprisonment 3 months	Employer or Industrial Union, £100; other cases, £10.	Organisations, £500; individuals, £20	Penalty, £1000.
Compulsory Conference. Industrial Court. Registered agreements	Compulsory Conference. Registered agreements	None	Compulsory Conference. Court may temporarily refer to Conciliation Committee. Registered agreements

**6. Constitution Alteration Proposals.**—Two proposed laws for the alteration of the constitutional powers of the Commonwealth in regard to industries and businesses were submitted to the people for acceptance or rejection on the 26th April, 1911. The first law proposed to amend section 51 of the Constitution Act (see pp. 25 and 26 hereinbefore) so as to give the Commonwealth Government increased powers to deal with (a) trade and commerce, (b) corporations, (c) industrial matters, and (d) trusts and monopolies. The second law proposed to insert after section 51 of the Constitution Act, a section empowering the Commonwealth Government to make laws with respect to monopolies. Neither of the proposals was approved by the people. Fuller particulars are given on page 25 of this book. At the general elections, held on 31st May, 1913, these and other matters were again submitted by referendum and again rejected.

**7. The "New Protection."**—The opinion has been expressed that a manufacturer who benefits by the Commonwealth protective tariff should charge a reasonable price for the goods which he manufactures, and should institute a fair and reasonable rate of wage and conditions of labour for his workmen.

The above view is known as the "New Protection," a phrase which, though novel, is already firmly established in Australian economic discussions. The outcome has been the enactment of new laws, designed for the benefit of the workers, and for controlling monopolies and trusts which would otherwise exploit the necessities of life.

By the Customs Tariff 1906, increased duties were imposed upon certain classes of agricultural machinery, notably the "stripper-harvester," a machine invented in Australia, which has, to a great extent, replaced the "reaper and binder and thrashing machine" in the harvesting of wheat. By the same Act it was enacted that the machines scheduled should not be sold at a higher cash price than was thereby fixed, and that if that price should be exceeded, the Commonwealth Executive should have power, by reducing the Customs duties imposed by the Act, to withdraw the tariff protection.

By the Excise Tariff Act 1906 (No. 16 of 1906), an excise of one-half the duty payable upon imported agricultural machinery was imposed upon similar machinery manufactured in Australia. But it was provided that the latter should be exempt from excise if the manufacturer thereof complied with the following condition, namely, that the goods be manufactured under conditions as to the remuneration of labour, which—

- (a) Are declared by resolution of both Houses of the Commonwealth Parliament to be fair and reasonable ;
- (b) Are in accordance with the terms of an industrial award under the Commonwealth Conciliation and Arbitration Act 1904 ;
- (c) Are in accordance with the terms of an industrial agreement filed under the last-mentioned Act ;
- (d) Are, on an application made for the purpose to the President of the Court, declared to be fair and reasonable by him or by a judge of a State Court or a State industrial authority to whom he may refer the matter.

By the Excise Tariff Act 1906 (No. 20 of 1906) excise duties are imposed in respect of spirits, and it is provided that if any distiller (i.) does not, after the Act has been passed a year, pay his employees a fair and reasonable rate of wages per week of forty-eight hours. or (ii.) employs more than a due proportion of boys to men engaged in the industry, the Executive may on the advice of Parliament impose an additional duty of one shilling per gallon on spirits distilled by that distiller.

Exemptions have been claimed by the manufacturers of agricultural machinery in South Australia, New South Wales, Victoria, and Tasmania. These were granted in the two first-mentioned States in consequence of an agreement entered into between the employers and employees. In Victoria, "this whole controversial problem with its grave social and economic bearings" (to quote the words of the President of the Court) was discussed in a lengthy case upon the application for exemption by Victorian manufacturers, now widely known as the "Harvester Case," and in the report of that case may be found the legal interpretation of the Acts under consideration. The exemptions claimed were refused, and the court after discussing the meaning of the words "fair and reasonable," defined them by laying down what it considered to be a scale of fair and reasonable wages.

The High Court has pronounced that the legislation under these Excise Acts is unconstitutional as being an extension of Federal action beyond the powers granted, and a usurpation of the ground reserved to the States. It may be noted that the rejected measures were enacted with the consent of all parties in Parliament, having been placed upon the Statute Book whilst the Liberal party was in power, the Labour representatives strongly supporting the proposals.

#### § 4. Operations under Wages Board and Industrial Arbitration Acts.

1. **Awards and Determinations of Tribunals.**—In New South Wales, there were at 31st December, 1914, 217 Industrial Boards in existence, of which 186 had made or varied awards, and 31 had not made any award, and 242 awards of Boards and of the Court, in force. Of these 242 awards, 36 were made under the Industrial Disputes Act 1908, and the remaining 206 under the provisions of the Industrial Arbitration Act 1912. In Victoria, 134 Wages Boards had been constituted up to the end of the year 1914, and of that number all but five had made determinations. The number of determinations actually in force was 133, and the estimated total number of persons working thereunder 150,000. All the Boards authorised, with the exception of four, had met for the purpose of fixing wages, hours, etc. In Queensland, 94 Boards had been appointed up to the end of the year 1914, and all of these Boards had made determinations except one, the number of persons affected being upwards of 90,000. The number of determinations in force at the end of 1914 was 89, five determinations not having come into operation at that date. In South Australia, up to the end of 1914, 56 Boards had been authorised, of which 51 had been constituted, and 47 had made determinations. Fifty-five determinations, affecting about 25,000 employees, were in force, including seven made by the Industrial Court, five in lieu of Wages Boards, on the Minister for Industry reporting the inability to appoint Boards as authorised, or the failure of the constituted Boards to discharge the duties required under their appointment, one on an application by the employees in the paint manufacturing industry, and one subsequent to a compulsory conference convened by the President. In Western Australia, during the year 1914, 14 awards of the Industrial Court expired, of which one only was renewed. It is understood, however, that the wages, hours, and conditions of the remaining 13 awards are still being observed. At the 31st December, 1914, 13 awards, including an industrial agreement declared by the Court, under Section 40 of the Arbitration Act 1912, to be a common rule for the timber industry in the South-west Industrial Division, were in force. The Wages Board system was inaugurated in Tasmania in 1911. Up to 31st December, 1914, resolutions authorising the appointment of 27 Boards, were carried in Parliament, and 26 Boards were constituted. Of these 23 Boards had made 26 determinations, and three Boards had not made any determination. The following tabular statement gives particulars of the results of operations under the various Acts in force at the end of the year 1914:—

**BOARDS AUTHORISED AND CONSTITUTED, AWARDS, DETERMINATIONS AND AGREEMENTS IN FORCE, 31st DECEMBER, 1914.**

Particulars.	C'w'ith.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	Total
<b>1. Boards Authorised, Constituted, and in Force—</b>								
Number of Boards authorised ...	...	230*	139	101	56	...	27	553
" " constituted ...	...	238*	135	94	51	...	26	544
" " dissolved or superseded† ...	...	21†	1†	1†	...	...	...	23
" " in existence at the end of 1914 ...	...	217*	134	94	51	...	26	522
<b>2. Boards which have made Awards or Determinations—</b>								
Number of Boards which had made or varied awards or determinations ...	...	186	129	93	47	...	23	478
" " which had not made any award or determination ...	...	31	5	1	4	...	3	44
<b>3. Number of Awards and Determinations in Force‡ ...</b>	18	242	133	89	55 ¶	13**	26	576†
<b>4. Scope of State Awards and Determinations—</b>								
Number applying to the whole State ...	...	17	10	4	...	...	19	50
" " Metropolitan area only ...	...	63	...	30	54	8	1	156
" " Metropolitan and Country towns ...	...	41	109	12	...	...	6	168
" " Country areas ...	...	121	14	43	1	5	...	184
<b>5. Number of Commonwealth Awards in Force in each State ...</b>	...	16	17	15	15	8	12	...
<b>6. Industrial Agreements in Force ...</b>	179	82	...	10	17	85	...	373
<b>7. Number of Commonwealth Agreements in Force in each State ...</b>	...	96	76	28	34	29	30	...
<b>8. Number of Persons working under State Awards and Determinations (estimated) ...</b>	\$	\$	150,000	90,000	25,000	\$	\$	\$

\* Excluding Special Demarcation Boards. † In New South Wales 21 Boards were dissolved owing to alterations in the sectional arrangement of industries and callings. In Victoria one Board was superseded by three Boards. In Queensland, authorisation for one Board was subsequently rescinded. ‡ In addition, five awards and determinations had been made, but had not come into operation on the 31st December, 1914. Of that number four were in Queensland (including two which were suspended pending the hearing of appeals), and one in Victoria. The figures are exclusive of awards and determinations which had expired by effluxion of time, and had not been renewed on the 31st December, 1914. || Including one award made by the Industrial Court under Section 7 of the Industrial Peace Act, 1912, for an industry not under an Industrial Board. ¶ Including seven awards made by the Industrial Court. \*\* Including an industrial agreement, declared by the Industrial Court, under Section 40 of the Industrial Arbitration Act 1912, to be a common rule for the timber industry in the South-west Industrial Division. § Not available.

The total number of Boards authorised in the five States in which the Board system is in force was 553, the total number constituted being 544, of which 23 had been dissolved or superseded. The number of Boards in existence at the end of 1914 was accordingly 522, of which 478 had either made original awards or determinations or varied existing awards or determinations, and 44 had not made any award or determination. The difference between the number of Boards in existence and the number which had made awards or determinations, is accounted for mainly by the fact that in New South Wales a number of Boards constituted under the Act of 1912 had not made awards, owing to existing awards, made under the Act of 1908, being still in force. This is shewn in the following line (Number of Awards and Determinations in force) in which it may be seen that the total number in force (including awards made by the Commonwealth and Western Australian Arbitration Courts) was 576. In New South Wales, the number of awards in force includes 36 awards under the Act of 1908. This leaves 206 awards in force made by 186 Boards under the new Act. In explanation of the fact that the number of awards in force in this State under the new Act exceeds the number of Boards which had made such awards, it may be mentioned that several have made separate awards for different districts and branches of industry.

The succeeding four lines in the table shew the territorial scope of the State awards and determinations in force at the end of the year 1914. It will be seen that 50 apply to the whole of a State, 156 to one of the metropolitan areas, 168 to metropolitan and country towns, while the remaining 184 apply to country areas only.

Of the Commonwealth awards there are six in connection with the shipping industry, one each affecting postal electricians and the telegraph and telephone construction line-men, which apply to each of the six States. There are three awards which apply to five States, three which apply to four States, and four to two States.

The total number of industrial agreements in force (including agreements under section 24 of the Commonwealth Conciliation and Arbitration Act) was 373. The last line but one of the table shews the number of Commonwealth agreements operating in each State. The total number of awards, determinations and agreements in force under the various Acts at the end of 1914 was 949, comprising 576 awards and determinations and 373 agreements.

The total number of awards and determinations which came into force during 1914 was 207 (201 under State tribunals and six by the Commonwealth Arbitration Court). The number of industrial agreements registered during that year was 127 (85 under State Acts and 42 under Commonwealth Conciliation and Arbitration Act), making a total of 334 awards, determinations and agreements affecting wages, hours, or other conditions of employment, which came into force during 1914. It is significant of the attitude adopted in all the States in regard to the conditions of employment owing to the drought and the war, that only 22 awards were made during the last quarter of the year 1914. Of these twelve were made in New South Wales, three in Victoria, five in Queensland (of which three were suspended pending the hearing of appeals), and two in Western Australia. In New South Wales upwards of 30 awards expired, and were not immediately reviewed, though it is understood that the provisions of these awards are being recognised in the industries affected. This fact accounts for the smaller number of awards in force at 31st December, 1914, compared with the preceding year (see Year Book No. 7, pp. 931-3).



## SECTION XXVIII.

## DEFENCE.

## § 1. Military Defence.

1. **Development of State Military Systems.**—Prior to 1870, the main defence of Australia was entrusted to small garrisons of British troops quartered in the leading cities, whose primary purpose was to serve as a convict guard. From time to time, rumours of wars and of attacks upon Australia deemed imminent as a result of European entanglements, caused the raising of local companies and batteries, which were generally disbanded upon the cessation of hostilities or the quietening of the rumours. The first of such bodies was the "Loyal Association" formed in 1801 as a volunteer corps, on account of the Napoleonic wars, and at the express invitation of the Governor. Half a century later, and at other later dates, fear of Russian aggression drove the colonists to measures of self-defence. Efforts to permanently establish a defence force, however, failed until 1870. In that year, the withdrawal of the last Imperial regiment from Australia, and the sense of insecurity which the Continental wars had engendered, resulted in a definite basis for colonial defence being settled. Small detachments of permanent soldiery were established to act generally as a nucleus about which the citizen soldiery should be shaped, and, generally, to look after the forts and defence works, which had then begun to be erected. The system rested upon a volunteer basis, training and service being freely and enthusiastically given by the citizens, the Governments supplying arms and accoutrements and sometimes uniforms. Reward for five years' service frequently took the shape of grants of land. About 1880, Imperial experts advised that the purely volunteer system should be replaced by a "militia" or partially-paid system. The provision of a small annual allowance, generally £10 or £12 per annum for the gunner or private, with a sliding scale for higher ranks, together with arms, accoutrements, ammunition, and all military necessities free, enabled the "militia" system to be introduced about 1883-4. The expenditure was thereby increased, but it was held that the efficiency was enormously greater. With reductions in the rates of pay the system remained till the introduction of compulsory military training. The "permanent" forces were from time to time augmented. Cadet corps were also instituted in the larger schools. A detailed historical account of the Australian defence forces prior to federation will be found in the Commonwealth Year Book, No. 2, pp. 1075-1080.

The strength of the military forces of the several States prior to federation, was generally nearly up to establishments. On 31st December, 1900 (the eve of federation), it was:—New South Wales, 9338; Victoria, 6335; Queensland, 4028; South Australia, 2932; Western Australia, 2696; Tasmania, 2024; total for Commonwealth, 27,353. Cadets, reservists, and rifle club members are excluded.

2. **Development of Commonwealth System from 1901 to 1914.**—Under the terms of the Constitution Act 1900, the Commonwealth took over control of defence matters in March, 1901. For four years from that date the land forces were administered by a general officer commanding, under the ministerial headship of the Minister for Defence. Early in 1905, a Council of Defence (since enlarged) was constituted to deal with questions of policy; also a Military Board, to supervise the administration of the forces. The principal aims in view were:—(i.) continuity of policy and administrative methods; (ii.) effectual parliamentary responsibility; (iii.) continuous inspection by an independent officer, the Inspector-General; (iv.) development of an

efficient citizen force; (v.) decentralisation of authority by developing the independence of district commands. The Commonwealth has been divided into six military districts, roughly coterminous with boundaries of the States.

The citizen soldiery, or militia, makes up the main portion of the land forces of the Commonwealth. For administration at central and district headquarters, and for instruction of the citizen forces, and assistance in the administration of units, an administrative and instructional staff of professional soldiers, numbering 605, exists. Other permanent troops are the regiment of Royal Australian Garrison Artillery, which provides the garrison (with citizen troops as reliefs) for strategic positions and defended ports, and maintains the forts and armament in connection with them; three batteries of Royal Australian Field Artillery; the Royal Australian Engineers; and small detachments of Army Service, Medical, Veterinary and Ordnance Corps. These form a nucleus, each in its own arm, for instruction and administration of the citizen forces. In addition to the active forces, officers who have retired after having passed through a course of training, and members of rifle clubs, who each year fire a prescribed musketry course, are classed as reserves.

The mobile field force, which absorbs the great bulk of the citizen army, consists of six light horse brigades, five field artillery brigades and six unallotted field batteries, and twelve infantry brigades. The garrison troops find the necessary garrisons for the defended ports. Fuller particulars regarding administration and organisation will be found in Official Year Book No. 6, page 1046.

**3. The Present Military System.**—The defence of Australia at the present time is enacted and prescribed by the Defence Acts 1903-14 of the Federal Parliament. The provisions of the Acts of 1903 and 1904 and the regulations under them contain the main working principles of Australian defence, the necessary expansion being provided for in the amendments of 1909, 1910, 1911, 1912, and 1914. The main provisions of the Acts will be found in Official Year Book No. 6, pp. 1050 *et seq.* The principal provision of the Act of 1909 is the enactment of compulsory military or naval training, with regulations for registration, enrolment, and exemption. Statutes were passed subsequently, extending or modifying the legislative provisions, removing obstacles and difficulties, and, where necessary, providing machinery.

(i.) *Peculiar Position of Australia.* The Acts of 1909 and later years were the direct outcome of the feeling existing in a large majority of the citizens of the community, that Australia was insecure under the voluntary system. Recently, a Minister of State for Defence referred to the fact that if on a map of the world all the countries stained with blood were to be marked, Australia would be the only white spot. It is the national policy to effect a guarantee, by thorough preparation for war, that this exemption shall continue.

(ii.) *Military Population.* In connection with the numbers available, the figures of male population are of interest. The total number at cadet age, *i.e.*, between 12 and 18, at the Census of 1911 (3rd April) was about 260,000; at citizen soldier age, *i.e.*, between 18 and 26, 366,000; these latter, with 330,000 at ages between 26 and 35, give 696,000 as the total males at the best period for military service. In addition, there were about 614,000 between 35 and 60.

(iii.) *Record for Anthropometric Purposes.* In connection with the medical inspection, it has been arranged that the colour and character of hair, and the colour of eyes of those examined, shall be recorded for statistical purposes. Instructions have been compiled by the Commonwealth Statistician, in accordance with which the area officers classify the hair-colour under four divisions, comprising three types of fair, two of reddish, three of brown, and two of black. The character of the hair is recorded also in four divisions, *viz.*: (a) perfectly straight and smooth; (b) wavy and curly; (c) frizzy;

(d) woolly. Intermediate types are classed under the heading to which they approach most nearly. The eye-colour is classified under four divisions, comprising sixteen types, viz., four of greyish, four of bluish, four of yellowish, and four of brown and hazel.

A systematic record of height, weight and chest measurement of each trainee is also made.

It is possible that later the recommendations of the British Anthropometric Committee will be adopted.

The object of the investigation is to study the development of the Australian nation, the necessary statistic for military identification purposes affording a unique opportunity. A possibility exists of co-ordinating anthropometric work in the schools with that done in connection with compulsory military service.

(iv.) *Compulsory Training.* By the Defence Acts of 1903 and 1904 all male inhabitants of Australia between the ages of 18 and 60 years were made liable to serve in the defence forces *in time of war*. The more recent Acts make training and service compulsory *in time of peace*. By the Act of 1909 the principle of universal liability to be trained was made law for the first time in any English-speaking community. It prescribed Junior Cadet training for lads 12 and 13 years of age, followed by Senior Cadet training for lads from 14 to 18 years of age; and thereafter adult training for two years in the citizen forces, to equal 16 days annually, followed by registration (or a muster parade) each year for 6 years. Arrangements for registration, enrolment, inspection, and medical examination of persons liable to be trained were made. The latter acts introduced necessary modifications, the principal being the extension of adult service to eight years. On 1st January, 1911, by proclamation, compulsory training was established. The already existing militia (voluntarily enlisted) were free to complete the three years for which they had engaged to serve, but conformity to the new system was essential. Officers and non-commissioned officers might re-engage. All male inhabitants of Australia, who are British subjects, and have resided in the Commonwealth for six months, are liable to serve. Exemptions (see *infra*, p. 938), exist for certain individuals and classes of people; and may be granted in the case of unpopulated and sparsely populated areas. The training is as follows:—

- (a) From 12 to 14 years of age, in the junior cadets.
- (b) From 14 to 18 years of age, in the senior cadets.
- (c) From 18 to 26 years of age, in the citizen forces.

(v.) *Visit and Report of Viscount Kitchener.* At the end of 1909 and before the Act of that year came into operation, Field-Marshal Lord Kitchener visited Australia at the invitation of the Government, and after inspection of the military forces and the forts and defence works erected or in course of erection, reported upon the whole scheme of land defence. His scheme was based on the provisions of the Defence Acts 1903-9. The trend and purport of the published report are given in the Commonwealth Year Book, No. 4, pp. 1085-1088. The adoption of some of Lord Kitchener's recommendations necessitated further amending Acts. The proposed organisation is based upon necessary considerations of (a) the numbers available; (b) the length of service demanded; (c) the proportion of the various arms required. It differs in some of its details from the scheme propounded by Lord Kitchener and includes—

- 28 regiments of light horse;
- 56 batteries of field artillery;
- 92 battalions of infantry;

and a due proportion of engineers, army service, and army medical corps, troops for forts, and other services.

(vi.) *Junior Cadets.* Junior cadet training, lasting for two years, consists of 90 hours each year, and begins on the 1st July in the year in which the trainee reaches the age of 12 years. No registration is made, but when the cadet presents himself for registration in the senior cadets in the year in which he attains the age of 14 years, he is required to shew that he has completed the necessary training in his 13th and 14th years. This training is aimed at developing the cadet's physique. It consists principally of physical training for at least 15 minutes on each schoolday, and elementary marching drill. The following subjects are also taught, viz.:—Miniature rifle shooting; swimming; running exercises in organised games; first aid; and (in schools in naval training areas) mariners' compass and elementary signalling. The junior cadets are not organised as military bodies, and do not wear uniform. The Commonwealth Government maintains a staff of special instructors of physical training, by whom classes are held for school teachers in all districts throughout the Commonwealth. The school teachers, in turn, impart the lessons to the boys. The Inspectors of Schools supervise the training, and inspect the cadets on behalf of the Defence Department. The instructors of physical training are also employed in the training of women teachers; but the instruction of girl scholars rests wholly with the States' Education Departments.

(vii.) *Senior Cadets.* Senior cadet training, lasting for four years, begins on the 1st July of the year in which the trainee reaches the age of 14 years. It consists of 40 drills each year, of which four are classed as whole days of not less than four hours, 12 as half-days of not less than two hours, the remainder being night drills of not less than one hour. To meet special cases (including extremity of weather), modifications and substitutions are permitted, but the minimum efficient service required of senior cadets is invariably 64 hours per annum. Registration of every male born in 1894 or subsequently, and who has resided for six months in the Commonwealth, must be effected in the first two months of the calendar year in which he completes his 14th year. The four years' training covers the foundation work necessary for service in any arm. It comprises marching, handling of arms, musketry, physical drill, first aid, guards and sentries, tactical training as a company in elementary field work, and elementary battalion drill. Discipline is strongly inculcated. Senior cadets are not required to attend camp.

Schools containing at least 60 senior cadets may form separate units, and may arrange their parades to suit school time tables, but battalion parades must be attended.

(viii.) *Adult Forces.* Training in the citizen forces, lasting for eight years, begins on 1st July of the year in which the soldier reaches the age of 18 years. Except in the last year of this service (when only one registration muster parade is necessary in normal peace time) the work consists of continuous training in camp for 17 days in the case of the naval forces, artillery, and engineer arms, and eight days for other arms, and eight days (or equivalent) home training for all arms. The total service is thus 25 days per annum for the specialist and technical corps, and 16 days per annum for other corps, the main body of whom are light horse and infantry (see table on p. 940 *infra*). The home training (total eight days) is divided into whole days, half-days, and nights, the respective minimum duration of these being six, three, and one and a-half hours; two half-days or four nights counting as one whole day.

(ix.) *Allotment to Arms.* Trainees to the number required are first allotted to the naval forces. There is no allotment during senior cadet training to particular branches of the military service. Upon transfer to the citizen soldiery, cadets with special educational or technical qualifications are drafted as recruits to one or other of the specialist or departmental corps to the required number; the bulk go to infantry. All other arms, except light horse, are maintained by annual quotas transferred from the senior cadets, as laid down in annual establishments. In the light horse, enrolment is not compulsory, since each recruit is required to provide his own horse; and, while every encouragement is given to eligible trainees to enrol, voluntary enlistment by those not liable for compulsory service is continued for the present.

Persons who are forbidden by the doctrines of their religion to bear arms are, as far as possible, allotted to non-combatant duties, as stretcher-bearers in infantry companies, or as members of the Army Medical Corps.

(x.) *Exemptions.* Status, condition, employment, or place of abode, may exempt from service. In time of war the exemptions are as follows:—Aliens and non-Europeans; persons certified as medically unfit; members and officers of Commonwealth and State parliaments; judges and police magistrates; clergymen and theological students; police and prison officials; lighthouse-keepers; medical practitioners and nurses in public hospitals; and persons having conscientious objections to bear arms. Medical practitioners, non-Europeans, and conscientious objectors are not exempt from non-combatant duties.

In time of peace the exemptions are:—Persons certified as medically unfit; aliens; non-Europeans (exempt from combatant duties only); school-teachers qualified as instructors of drill; members of the permanent naval or military forces. Theological students may be exempted from training. To meet the case of districts where the population is sparse and scattered, and where undue hardship would otherwise result, exemptions from training in time of peace may be extended by proclamation.

Burden of proving exemption rests upon the person claiming it, a final appeal lying to the civil courts. Any person convicted by a court of a disgraceful or infamous crime, or who is of notoriously bad character, is permanently disqualified.

(xi.) *Penalties for Prevention or Evasion.* Employers, parents and guardians may not, under a heavy penalty, prevent or attempt to prevent any employee, son, or ward, who is a trainee, from rendering service; nor may any employer penalise or prejudice any employee in his employment, or attempt to do so, because of the latter's service or liability for service; but the employer is not compelled to pay the trainee's wages for the time he is away from work.

A heavy penalty is enacted for evasion of service as required under the Act by those liable to serve. Penalties take the form of a money fine, or detention in military custody under enforced training and discipline. Non-efficient must attend additional training for each year they are non-efficient. Evasion renders the person evading or failing to serve ineligible for employment of any kind in the Commonwealth Public Service.

Children's courts are used where possible for the prosecution of cadets under the age of 16 years.

(xii.) *Efficiency.* Each trainee must be efficient in each year. Parades, as ordered, must be attended, and a standard of efficiency, based on the number of years' training and the work performed, must be attained.

Parades are classed as compulsory, alternative, and voluntary. The former make up the exact amount of training required (25 days per annum for technical arms, 16 days for others), and may not be missed without leave formally given. Alternative drills are appointed for those absent with leave from compulsory parades, and are allowed to count for pay and efficiency. Voluntary parades are held for those desiring further proficiency, and for candidates for promotion. Any trainee failing to qualify as efficient in any year must do an extra year's training for each failure. Thus, there must be 12 annual entries of efficiency or exemption in each soldier's record before he receives his discharge, four as a senior cadet, and eight as a citizen soldier.

(xiii.) *Pay.* In addition to the remuneration of professional soldiers, pay is provided for all members of the militia. Citizen soldiers who voluntarily enlisted under the old system receive the same rates of pay as formerly, the basis being 8s. per day for gunner, sapper, or private. Trainees under the compulsory system receive 3s. per day during the first year, and 4s. per day during the subsequent years of their training. Higher ranks are paid higher rates. For corporals the daily pay is 9s., for sergeants 10s., for

sergeants-major 10s. 6d. and 11s. Light horse trainees receive in addition £4 per annum for keep of horse. In the commissioned ranks the daily rates of pay are 15s. for lieutenants, 22s. 6d. for captains, 30s. for majors, 37s. 6d. for lieutenant-colonels, and 45s. for colonels. Mounted officers also receive horse allowance.

(xiv.) *Uniform and Equipment.* The uniform is simple and inexpensive, but suitable. It is free, and the principal articles are issuable every second year. The clothing is of universal pattern, and, beyond distinguishing corps' badges and a colored hat-band, there is no distinction (except rank marks). Uniform is worn on all parades and drills, but its wearing is forbidden when not on military duty. Except in the case of the younger cadets, rifles and free ammunition are provided. Citizen soldiers have their rifles on issue, but arms for senior cadets are stored in local depôts, and are issued as required for drill and musketry: An allowance of free ammunition is made to commanders of units to encourage rifle shooting. The uniform issued to each citizen soldier is such as to enable him to parade (upon notice) with two woollen shirts, two pair breeches, hat, sleeping cap, puttees or leggings, military boots, and kit bag.

The task of fully equipping the rapidly expanding Australian Army has been undertaken. Some of the required technical stores have been indented; but the Commonwealth itself has established factories for the supply of cloth and clothing, small arms, cordite, and harness and saddlery.

(xv.) *Reserves.—Rifle Clubs.* No new reserves are created under the recent Acts. The present reserves consist of (a) certain officers; (b) members of rifle clubs. The reserve of officers numbered 734 on 30th June, 1914. It consists of officers who have been fully trained, and are still capable of serving, but who, being unable to continue on the active list through business engagements, removal to rural districts, and such like causes, have joined the reserve. There are 1143 rifle clubs in the Commonwealth with a membership of 48,231. An annual course of musketry is fired by these members, but they do not undergo any systematic drill. It is estimated that 60 per cent. of the members are fit for active service. Of these, 19,671 are allotted to citizen units and cable guards on mobilisation to make these units up to war strength. The remainder (over 9000) are available for future allotment to units. Rifle clubs have been established in connection with many of the citizen units, thus encouraging the citizen soldiery to enhance its shooting efficiency by practice outside the compulsory drill and musketry. These clubs are well supported. Commonwealth teams competing at the British Rifle Association's meetings have been very successful.

(xvi.) *Allotment of Units to Divisional, Brigade, Battalion, and Training Areas.* The organisation is territorial, and the divisions based upon infantry units. There are 92 battalion areas, forming 23 brigades. The areas are approximately equal in number of males of citizen soldier age (about 1300), and each furnishes a battalion of infantry, and a proportion of other troops. For administrative purposes, areas are subdivided into two or three training districts. Three brigades will form a division. Two brigade areas will each provide four battalions of infantry, one field artillery brigade (with proportion of divisional ammunition column), one field company of engineers, one company army service corps, and one field ambulance. The other brigade area of the division provides four battalions of infantry, two squadrons of divisional light horse, one howitzer brigade, one divisional signal company of engineers, one company army service corps, and one field ambulance. Light horse and field artillery units for light horse brigades will also be furnished by some of the areas. *Personnel* for garrison artillery and submarine and electric engineers for garrison forces will eventually be supplied in the areas nearest to such localities. The average annual contingent of recruits will be about 155 for each battalion area, plus such additions as are required for light horse and field artillery unit raised therein. The figures shewn in the following tables are approximate, and include the recruits (18-19 year), but not the 25-26 year men.

## ULTIMATE ALLOTMENT OF UNITS TO BRIGADE, BATTALION, AND TRAINING AREAS.

State.	Brigade Areas.		Battalion Areas.					Training Areas.	
	No.	No. of Battalions.	Providing the undermentioned units.				Total Nos. in Training in Areas.	No.	
			Infantry and Proportion of Engineers, A.S.C. and A.M.C.	Light Horse.		Field Artillery.			
				Squadrons.	Nos.	Batteries.			Nos.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	
N. S. Wales ...	8	33	32,901	40	4,490	20	3,220	40,611*	75
Victoria ...	7	29	28,913	36	4,041	19	3,059	36,013†	65
Queensland ...	3	11	10,967	16	1,796	7	1,127	13,890‡	28
S. Australia ...	2	9	8,973	12	1,347	5	805	11,125§	24
W. Australia ...	2	6	6,979	4	449	3	483	7,911	20
Tasmania ...	1	4	3,988	4	449	2	322	4,759¶	12
Totals ...	23	92	92,721	112 28 Rgts.	12,572	56	9,016	114,309**	224

\* Also 766 for forts. † Also 327 artillery and 227 engineers at Geelong and Queenscliff for forts. ‡ Also 79 garrison artillery and 13 engineers for Lytton. § Also 86 artillery for forts. || Also 156 artillery and 32 engineers for forts. ¶ Also 86 artillery and 32 engineers for forts. \*\* Also 1804 for forts.

(xvii.) *Instructional Staff.* The instructors provided for training consist of 93 officers and 512 warrant and non-commissioned officers of the instructional staff (permanent), and 215 area officers (temporary). They supervise the training of light horse, infantry, and senior cadet units, and instruct in the non-technical duties of specialist corps. Additional officers and non-commissioned officers in the permanent troops instruct in technical work.

The officers of the instructional staff act as Brigade-Majors, and as such, represent the Commandant in the brigade area. They are responsible for the instruction of officers of the existing citizen forces, conduct local schools of instruction, supervise and instruct the area officers, and allot the non-commissioned officers of their detail to various duties. Assistant Brigade-Majors are also furnished from the instructional staff. The duties of area officers vary both in nature and extent, and comprise registration and organisation of those to be compulsorily trained, and clothing, arming, equipping, and training the senior cadets. They also perform the duties of Adjutant to senior cadet battalions.

The staff instructors (warrant and non-commissioned officers) assist in carrying out the administrative work of their areas or units, and instruct cadets and recruits in light horse and infantry drill.

(xviii.) *Higher Training.* At present there is no institution corresponding to the staff colleges at Camberley, England, or Quetta, India, for the higher training of officers in Australia.

Officers of the permanent forces who pass the required examinations are sent to these institutions from time to time, and on return to Australia are appointed to positions on the General Staff, etc.

The higher training of officers of the citizen forces is, as far as possible, carried out in special schools of instruction, and staff tours held in the various military districts.

Government aid is also furnished to United Service Institutions, which have been established in the larger centres. Lectures of great value are delivered by specialists, and war games, manœuvres, etc., carried out. Some of the institutions have large and well-selected libraries.

Schools of instruction are also conducted for junior officers, and a military magazine is published.

(xix.) *The Royal Military College, Duntroon*, Federal Territory, is established for the purpose of providing trained junior officers for the permanent forces. Admission is

by open competitive examination, a definite number of vacancies being allotted to each State of the Commonwealth on a population basis. About 30 staff-cadets are thus admitted annually, and in addition to these, ten staff-cadets from New Zealand are nominated yearly by the Dominion Government, which pays £200 per annum for each. The age for admission is between 16 and 19 years, though there is a provision in the regulations by which members of the citizen forces over 19 years of age, who pass the prescribed examination, and are approved by the Governor-General-in-Council, may be admitted. The college was opened in June, 1911.

The normal college course lasts for four years, and is followed by a tour of duty in England or India, after which graduates will be appointed to staffs or permanent troops in Australia and New Zealand.

During the war the course has been temporarily modified. Over 70 staff-cadets have already (May, 1915), been specially graduated, and are serving at the front with the Australian and New Zealand forces. Schools for the training of junior citizen officers for service with the Australian Imperial Force are also being held at the college as a special measure.

No fees are charged for maintenance and instruction, each staff-cadet being credited with an allowance of 5s. 6d. per diem to meet expenses of necessary uniform, books, instruments, etc.

The full establishment of cadets is 150, but owing to special graduations for active service the strength (May, 1915), is at present 118.

The course of instruction comprises both educational and military work, the former being mainly completed in the first two years. Cadets are prepared for light horse, artillery, engineer, and infantry duties.

In May, 1915, the staff numbered military, 12, civil, 11.

(xx.) *Railways and Defence.* A War Railway Council, consisting of military and railway officers, was instituted in 1911. Its chief duties are to furnish advice and information regarding railway transport for military purposes, and to secure co-operation between the Commonwealth Defence Department and the States Railway Departments in regard to concentration and mobilisation of troops. To prevent delay in the transport of troops, particularly that caused by the transhipment of baggage and implements of war, the Council has recommended the adoption of a uniform railway gauge on lines linking up the States capitals. An Engineer and Railway Staff Corps has been instituted, and numbered 48 officers on 30th June, 1914. Fuller details will be found in Official Year Book No. 6, pp. 1070-1.

(xxi.) *The Universal Training System in Operation.*—(a) *Special Instructional Staff.* The first work in the active carrying out of the scheme commenced with the training of 200 non-commissioned officers for the instruction of the projected army in a six months' camp. Area officers were chosen from the citizen forces, and underwent a six weeks' course of instruction. With the year 1911 came the active enrolment of the new cadets, who commenced training on 1st July following. These comprised all males in training areas who were born in 1894, 1895, 1896, and 1897.

(b) *Stages.* The stages are as follows:—

First stage, January to June, 1911.—Existing junior and senior cadets continued to 30th June, 1911, but all equipment returned by that date; registration, inspection, and medical examination of lads whose 14th, 15th, 16th, and 17th birthdays occurred in 1911; preparations made to clothe and equip the new senior cadets.

Second stage, July, 1911, to June, 1912.—Registration, etc., in January and February, of lads whose 14th birthday occurred in 1912; new junior and senior cadet training from 1st July, 1911. About 17,000 of the latter, passed as recruits upon completion of this period, inaugurating the new citizen forces in the third stage (1st July, 1912).



Third stage, July, 1912, to June, 1913.—Registration, etc., in January and February, of lads whose 14th birthday occurred in 1913; new citizen forces:—training began with about 17,000 recruits (18-year-old persons allotted from the new senior cadets). During the third, fourth, and subsequent stages the new senior cadet force, numbering about 90,000, continues. Upon expiry of this period, the second quota of senior cadets (1895 lads) to the number of 17,000 passed as recruits to the citizen forces (1st July, 1913).

Fourth and subsequent stages, after July, 1913 (and each year to 1919).—Registration, etc., of lads whose 14th birthday occurs in 1914, and so on. In the fourth and subsequent stages to the tenth, the new citizen forces will also be increased by eighteen-year-old recruits from senior cadets, numbering about 17,000 each year. In 1919, the 1894 quota, being in their 25th year, will be liable for one registration or muster parade, and will in the following year be free of compulsory service.

(c) *Summary of Working of the System in 1911-12 (Second Stage).* On 31st December, 1911 (six months after commencement of the new senior cadet training), the total registrations in training areas numbered 155,132. Of these, 105,133 had been medically examined, and 93.2 per cent. passed as fit. Exemptions in training areas (generally cases so far from places of training that attendance would involve great hardship) numbered 57,949. Of the total number liable for service 89,138 were actually in training.

The junior cadets do not register, but are medically examined. On 31st December, 1911, 33,767 had been examined, and 97.8 certified as fit.

(d) *Summary of the Working of the System in 1913-14-15 (Third, Fourth and Fifth Stages).* The numbers up to 31st December, 1914, include the 1894, 1895 and 1896 quotas, who, on 1st July, 1912, 1st July, 1913, and 1st July, 1914, passed to the citizen forces. They are shewn hereinafter.

(xxii.) *Success of the System.* A slight amount of opposition has been manifested to the system. Though principally from shirkers, there are also a small number of persons who oppose military service on religious grounds. As already stated, however, conscientious objectors are allotted duties of a non-combatant nature. The prosecutions and penalties for evasion, etc., though not wholly, are mainly operative against shirkers. It is claimed that the scheme, both before its inception and since its successful inauguration, has had the support of leading statesmen of all political views, as well as the vast majority of the citizens of the Commonwealth. In general, the trainees are alert and well disciplined while on parade; and the interest and enthusiasm of the lads is shewn by the large number of candidates seeking promotion at competitive examinations (practical and oral), after courses of lectures, demonstrations, and special parades. Another evidence of enthusiasm is the fact that the applicants for enrolment in the technical arms, where the total service is considerably greater than the absolute minimum of 16 days annually required from infantry and light horse, is always greatly in excess of the requirements of those arms. Further, a great deal of voluntary service is rendered in all branches of the service, and the rifle clubs of the citizen units are well patronised. Many of the regiments have athletic, gymnastic, and swimming clubs, and sports meetings are frequently held. Patriotic citizens in local centres have contributed generously to funds for establishing bands, regimental clubs, annual sports gatherings, etc. Moreover, a marked improvement has quite lately become apparent in the general conduct and bearing of the youths of Australia, and it is claimed that this is the effect of the system of universal training. As a result of inquiries made in 1914, the police authorities in all the States concurred in the opinion that the behaviour of the youths who are subject to the training is vastly improved. It is stated that both mentally and morally, as well as physically, the benefits are very definite, and that "the principal

effects of a beneficial nature are increased self-respect, diminution of juvenile cigarette smoking and 'larrikinism,' and generally a tendency towards a sense of responsibility and a desire to become good citizens." In regard to opposition to the system, the figures for prosecutions are interesting :—Percentage of prosecutions to number liable for training was 5.38 in 1914; the average percentage for previous years was 6.90. Thus a marked improvement is shewn. It must be remembered that the figures include persons prosecuted more than once, and that all prosecutions are not against those actually liable for service, but include cases against employers (for penalising in employment, contrary to section 134 of the Act) and parents and guardians (failing to register sons, etc.). The percentages would be substantially reduced if only those liable for training were shewn (parents, employers, and those prosecuted more than once being deducted). Further, a prosecution follows shortage of drills, which, in many cases, is not the result of active opposition.

4. **Strength of Military Forces.**—(i.) *Strength in each District, 1901 to 1914.* There was little alteration in the numbers serving in the Australian military forces from the institution of the Commonwealth to the year of the introduction of the compulsory training system. From 1913, however, the annual increase will be considerable. The following table shews the development :—

STRENGTH OF MILITARY FORCES, 1901 to 1914.

*District.	1901. †1/3/01.	1909. 30/6/09.	1910. 30/6/10.	1911. 30/6/11.	1912. 30/6/12.	1913. 30/6/13.	1914. 30/6/14.
Headquarters ...	...	30	37	†141	†140	†277	†330
1st Queensland ...	4,310	3,224	3,202	3,371	3,357	4,625	5,844
2nd New South Wales ...	9,772	7,902	7,899	8,206	8,163	12,105	16,365
3rd Victoria ...	7,011	6,669	6,876	6,905	6,896	10,840	14,326
4th South Australia ...	2,956	2,004	2,019	1,990	1,869	3,228	4,708
5th Western Australia ...	2,283	1,662	1,608	1,600	1,451	1,685	2,046
6th Tasmania ...	2,554	1,870	1,868	1,986	1,820	1,777	2,026
Total ...	28,886	23,361	23,509	24,199	23,696	34,537	45,645

\* Approximately coterminous with boundaries of States. † Date of Commonwealth taking over the military forces from States. ‡ Including cadets at Royal Military College of Australia, Duntroon.

(ii.) *Strength of the Various Arms.* The numbers of the different arms of the service on the 30th June, 1914, were as follows :—

ARMS OF THE COMMONWEALTH DEFENCE, 1914.

Light Horse ...	6,964	Automobile Corps...	31	Administrative and	
Field Artillery ...	2,555	Army Nurs'g Service	101	Instructional Staff	882
Garrison Artillery ...	1,623	Army Vet'ry. Corps	32	Pay Department,	
Engineers ...	2,049	Ordnance Depart'm't		Rifle Ranges, Rifle	
Infantry ...	27,814	(including Arma-	290	Clubs, Officers, etc.	115*
Intelligence Corps	54	ment Artificers) ...		Royal Military C'lege	190*
Army Service Corps	995	Area Officers ...	215		
Army Medical Corps	1,687			Grand Total ...	45,596†

\* Includes civilians. † Excluding Engineer and Railway Staff Corps.

(iii.) *Classification of Land Forces.* The following table shews the strength of the land forces in each State, classified according to nature of service, on the 30th June, 1914 :—

## CLASSIFICATION OF LAND FORCES, 1914.

Branch of Service.	Head-quarters	1st Military District.	2nd Military District.	3rd Military District.	4th Military District.	5th Military District.	6th Military District.	Total.
Permanently employed ...	328*	407	886	815	180	226	147	2,389
Citizen Soldiers ...	...	5,374	15,362	13,406	4,483	1,787	1,849	42,261
Engineer and Railway Staff Corps ...	2	10	9	10	5	7	5	48
Army Nursing Service ...	...	16	26	26	14	11	8	101
Automobile Corps ...	...	6	10	6	3	...	6	31
Area Officers ...	...	31	72	63	23	15	11	215
Rifle Clubs ...	...	9,758	14,500	14,510	4,093	3,790	1,580	48,231
Senior Cadets ...	...	11,813	31,157	27,817	8,639	4,353	2,919	86,698
Unattached List of Officers ...	...	50	60	95	20	24	17	266
Reserve of Officers ...	...	173	198	207	75	48	33	734
Chaplains ...	...	35	54	56	20	12	10	187
Grand Total ...	330	27,673	62,334	57,011	17,555	10,273	6,585	181,761

\* Including cadets at Royal Military College of Australia, Duntroon.

(iv.) *Numbers Serving under Compulsory Provisions.*—The next table shews those registered and training under the compulsory system, distinguishing citizen forces, senior cadets, and junior cadets.

**UNIVERSAL TRAINING.—REGISTRATIONS, MEDICAL EXAMINATIONS, EXEMPTIONS, AND NUMBERS SERVING, CITIZEN FORCES, 31st DECEMBER, 1914 (1894, 1895, AND 1896 QUOTAS).**

Military Dist.	Total Registrations.	Total Medically Exam'd.	Number Medically Fit.	P'centage Medically Exam'd who are Fit.	Number Unfit and Temporarily Unfit	P'centage Medically Exam'd who are Unfit and Temporarily Unfit	Total Exemptions Granted in Training Areas.	Total No. Liable for Training.	Total Number Actually in Training.
1896 QUOTA.									
1st ...	6,304	3,197	2,021	63.2	1,176	26.8	4,187	2,021	1,990
2nd ...	12,934	7,779	5,445	70.0	2,334	30.0	6,886	5,445	5,379
3rd ...	11,893	7,448	5,253	70.5	2,195	29.5	6,295	5,253	5,229
4th ...	3,709	2,404	1,807	75.2	597	24.8	1,844	1,807	1,803
5th ...	1,906	1,132	959	84.7	173	15.3	910	959	928
6th ...	1,637	917	676	73.7	241	26.3	866	676	662
Total	38,383	22,877	16,161	70.6	6,716	29.4	20,988	16,161	15,991

## 1894 AND 1895 QUOTAS.

Military Dist.	Total Registrations in Training Areas.			Exemptions Granted.			Number Liable for Training.
	Quota 1894.	Quota 1895.	Total.	Quota 1894.	Quota 1895.	Total.	
1st ...	5,632	6,173	11,805	3,463	3,882	7,345	4,460
2nd ...	12,709	13,415	26,124	6,026	6,862	12,888	13,236
3rd ...	10,754	11,557	22,311	5,214	5,738	10,952	11,359
4th ...	3,439	3,704	7,143	1,623	1,723	3,346	3,797
5th ...	1,629	1,859	3,488	890	983	1,873	1,615
6th ...	632	669	1,301	272	292	564	737
Total	34,795	37,377	72,172	17,488	19,480	36,968	35,204

**UNIVERSAL TRAINING.—REGISTRATIONS, MEDICAL EXAMINATIONS, AND  
EXEMPTIONS TO THE 31st DECEMBER, 1914.**

**SENIOR CADETS.**

Military District.	Total Registrations in Training Areas.	Total Medical Exams	No. Medically Fit.	Percentage Medically Exam'd who are Fit.	Number Unfit and Temporarily Unfit	Percentage Medically Exam'd who are Unfit and Temporarily Unfit	Total Exemptions Granted in Training Areas.	Total No. Liable for Training.	Total No. Actually in Training.
1st ...	23,452	13,963	11,888	85.1	2,075	14.9	11,471	11,888	11,838
2nd ...	50,682	36,315	32,414	89.3	3,901	10.7	18,039	32,414	31,575
3rd ...	44,051	31,590	27,966	88.5	3,624	11.5	15,850	27,966	27,681
4th ...	13,488	9,783	8,592	87.8	1,191	12.2	4,817	8,592	8,560
5th ...	8,171	5,536	4,935	89.2	601	10.8	2,965	4,935	4,834
6th ...	6,201	3,512	2,979	84.8	533	15.2	3,038	2,979	2,866
Total ...	146,045	100,699	88,774	88.2	11,925	11.8	56,180	88,774	87,354

**UNIVERSAL TRAINING.—MEDICAL EXAMINATIONS TO THE 31st DECEMBER, 1914.**

**JUNIOR CADETS.**

Military District.	Total No. Medically Examined.	Number Medically Fit.	Percentage Medically Examined who are Fit.	Number Unfit and Temporarily Unfit.	Percentage Medically Examined who are Unfit & Temporarily Unfit.
1st ...	6,293	6,097	96.8	196	3.2
2nd ...	18,414	17,945	97.5	459	2.5
3rd ...	15,246	15,057	98.7	189	1.3
4th ...	4,191	4,102	97.9	89	2.1
5th ...	2,613	2,540	97.2	73	2.8
6th ...	1,529	1,495	97.8	34	2.2
Total ...	48,286	47,236	97.8	1,050	2.2

(v.) *Total Number in Training under Compulsory System.* From these tables it will be seen that there are now more than 51,000 citizen soldiers and 87,000 senior cadets undergoing compulsory training, and that nearly 50,000 junior cadets are certified for physical training.

## § 2. Naval Defence.

1. *Naval Defence under the States.*—(i.) *Independent State Systems.* Prior to 1890, when arrangements were made with the British Government for the maintenance of an Australian squadron, provision for naval defence had been instituted in New South Wales, Victoria, Queensland, and South Australia, where gunboats, torpedo boats, or small cruisers were commissioned and naval volunteers raised. A fuller historical account of the Australian naval forces under the States is given in the Commonwealth Year Book, No. 2, pp. 1084, 1085.

(ii.) *The Naval Agreement with the British Government.*—(a) *The Original Compact.* The naval defence of Australasia and its trade was entrusted primarily to ships of the Imperial Navy, maintained under an agreement entered into between the British Government and the Governments of the Commonwealth and New Zealand, and at their

joint charge. This agreement was embodied in Acts passed by the several Legislatures some ten years prior to Australian federation. According to its terms, a naval force, additional to the vessels of the Australian Naval Station, which were to be maintained at their normal strength, was to act as an auxiliary squadron. It consisted of five fast third-class cruisers and two torpedo gunboats, and its special function was the protection of the floating trade in Australasian waters. The agreement was made for ten years, and was then, or at the end of any subsequent year, to be terminable only upon two years' notice being given. On its termination, the vessels were to remain the property of the Imperial Government. Three cruisers and one gunboat were to be kept continuously in commission, and the remainder in reserve in Australasian ports, but ready for commission whenever occasion might arise. The vessels were to remain within the limits of the Australasian station, and were to be employed, in times of peace or war, within such limits, in the same way as the Sovereign's ships of war, or employed beyond those limits only with the consent of the Colonial Governments. The first cost of the vessels was paid out of Imperial funds, but the Colonial Governments paid interest on the prime cost at 5 per cent. (up to a maximum of £35,000 per annum), and a sum not exceeding £91,000 for annual maintenance of the vessels, or a total annual contribution of £126,000. In times of emergency or actual war, the cost of commissioning and maintaining the three vessels kept in reserve during peace, was to be borne by the Imperial Government, and, in every respect, the vessels were on the same status as the ships of war of the Sovereign, whether in commission or not. The officers and men of those in commission were subject to a triennial change. The tenth annual contribution, which was payable in advance on 1st March, 1900, apportioned on a population basis, was as follows:—New South Wales, £37,973; Victoria, £32,749; New Zealand, £21,304; Queensland, £13,585; South Australia, £10,439; Western Australia, £4816; Tasmania, £4776.

(b) *The Agreement of 1903.* The agreement was not dissolved by the union of six of the contracting colonies, but its renewal, with some alterations, was embodied in the Naval Agreement Act of 1903, the Parliament of New Zealand also assenting. The strength of the squadron was altered; and the amount to be contributed was increased. One-half of the annual cost of maintenance was to be borne by the colonies—five-sixths of the half (but not exceeding £200,000) by Australia, and one-sixth (but not exceeding £40,000) by New Zealand. The agreement, like the earlier one, was for ten years.<sup>1</sup> By a subsequent arrangement the strength of the squadron was established at one first-class armoured cruiser, three second-class cruisers, and five third-class cruisers.

2. *Development of Commonwealth System from 1901 to 1914.—Administration.* Australian defence, in both its branches (military and naval), passed to the Commonwealth in 1901, and in 1903 the naval agreement was renewed. Prior to 1905 a naval officer commanding administered the naval forces under the Minister. When the Council of Defence was established in that year, the Naval Board was constituted and took over the administration of the Commonwealth naval forces. Continuity of policy and administration are thereby believed to be ensured, whilst efficiency and uniformity are provided for in the scheme of inspection and report by an officer who, as Director of Naval Forces, is appointed to deal with the training of the *personnel*, and the condition of the *matériel*, of naval forces and works. The floating trade of the Commonwealth exceeds £200,000,000 per annum, and its adequate protection involves corresponding naval provision, with such naval war material as will permit the principal lines of sea communication being kept open, and ensure that Australian ports are fully defended.

3. *The Present System.*—(i.) *Australian Naval Policy.* An outline of the development of Australian naval policy will be found in Commonwealth Year Book No. 3, pp. 1060, 1061. For the more effective coastal defence of the Commonwealth it was decided in 1909 to create an Australian naval force, to replace the squadron theretofore maintained under the naval agreement with the British Government. It was agreed at the Imperial

1. Since modified; see page 949, *infra*.

Defence Conference in 1909 that Australia should provide a fleet unit, consisting of an armoured cruiser\* of the *Indomitable* class, three unarmoured cruisers of the *Bristol* class, six destroyers of the improved "River" class, and three submarines of "C" class†; also the necessary auxiliaries, such as docks and depot ships. The cost of construction at English prices would be about £3,700,000, and the estimated annual cost about £750,000. Of this sum the Imperial Government offered to contribute £250,000, but the Commonwealth Government decided to bear the whole cost.

(ii.) *The Building of the Australian Fleet.* The building of the fleet and the training of the crews were immediately begun. Skilled artisans were despatched from Australia to gain practical experience in naval shipbuilding, construction proceeding both in Britain and Australia. Sailors of all ratings are also trained for the Commonwealth service. The first instalment of the Australian fleet unit consisted of two torpedo boat destroyers, of British construction, commissioned in September 1910, and named *Parramatta* and *Yarra*. A third destroyer, the *Warrego*, was shipped to Sydney in parts, and was re-erected at the Commonwealth dockyard, Cockatoo Island, Sydney, and commissioned on 1st June, 1912. A description of these and the other vessels of the fleet will be found in Official Year Book No 6, pp. 1066-7. Three other destroyers (to be named *Torrens*, *Swan*, *Dervent*) are being built at the Commonwealth dockyard in Sydney.

The battle cruiser *Australia* was commissioned in June, 1913, and arrived in Australian waters in the following September. Two smaller cruisers, the *Melbourne* and *Sydney*, arrived in Australian waters in 1913. The third cruiser, the *Brisbane*, is being built at the Commonwealth dockyard, Sydney. The two submarines arrived in Australian waters in May, 1914. Pending completion of the *Brisbane*, the *Encounter* was lent from the Royal Navy for service in the Royal Australian Navy. The Admiralty also presented the Commonwealth Government with the cruiser *Pioneer*. This vessel was taken over by the Naval Board on 1st March, 1913, and recommissioned with the crew of the *Protector* (augmented as necessary) for service as a naval reserve training ship, the *Protector* being used for service as a tender to the Gunnery School. A tabulated statement of the ships of the Australian Navy, in being and building, is given on page 950.

The vessels of the Australian Navy are participating in the European war. Submarine AE1 has been lost at sea. The service of other vessels of the fleet are referred to hereinafter.

(iii.) *Modifications Adopted and Proposed.* Certain modifications have been made in the original scheme. These have been prepared in tabular form, and are as follows:—

#### FLEET UNIT.—ORIGINAL ESTIMATED COST.

(Imperial Defence Conference, 1909.)

1 Armoured cruiser	...	...	...	£2,000,000
3 Protected cruisers, £350,000 each	...	...	...	1,050,000
6 Destroyers (including 3 ordered before the Conference), £80,000 each	...	...	...	480,000
3 Submarines, "C" class, £55,000 each	...	...	...	165,000
Total	...	...	...	<u>£3,695,000</u>

#### AMENDED ESTIMATED COST.

(Consequent on Alteration of Type of Vessels on Admiralty Recommendation.)

1 Armoured cruiser	...	...	...	£2,000,000
3 Protected cruisers, £450,000 each	...	...	...	1,350,000
6 Destroyers, £80,000 each	...	...	...	480,000
2 Submarines, "E" class, £105,000 each	...	...	...	210,000
Total	...	...	...	<u>£4,040,000</u>

\* Now called "battle cruiser." † Since altered to two submarines of "E" class.

## LATER ESTIMATED COST.

1 Armoured cruiser	...	...	...	£1,705,000
*3 Protected cruisers	...	...	...	1,400,000
*6 Destroyers	...	...	...	653,000
2 Submarines	...	...	...	233,500
Auxiliaries—				
1 Submarine depôt ship	...	...	£160,000	
1 Oil tank vessel	...	...	120,000	
4 Oil fuel storage vessels (building in Australia)...	...	...	75,766	
4 Hulks	...	...	25,000	
				330,766
New construction	...	...	...	300,000
Total	...	...	...	<u>£4,672,266</u>

\* Extra cost of building certain of these vessels in Australia is responsible for increase.

(iv.) *Appropriations for the Australian Navy.* The means by which the cost of the fleet unit has been made available is shewn below :—

## SUMS APPROPRIATED AND MADE AVAILABLE BY THE TREASURY.

Year.	Appropriation.	Amount placed in Trust Fund.	Expenditure.		
			Out of Trust Fund.	Out of Revenue.	Total.
		£	£	£	£
1907-8	No. 19 of 1908	250,000	...	...	...
1908-9	—	...	24,855	...	24,855
1909-10	Division No. 11A, New Works, etc.	...	223,959	60,000	283,959
1910-11	Act No. 18 of 1910, and Division 12, New Works, etc.	1,203,587	285,863	850,000	1,135,863
1911-12	Act No. 18 of 1910	1,386,413	1,108,494	...	1,108,494
1912-13	Division No. 10, New Works, etc.	110,000	585,342	...	585,342
1913-14	Division No. 12, New Works, etc.	32,050	753,537	...	753,537
1914-15*	Division No. 13, New Works, etc.	...	...	750,000	750,000
Total appropriated		2,982,050	2,982,050	1,660,000	4,642,050
Total estimated cost		...	...	...	4,672,266
Amount still to be appropriated		...	...	...	30,216

\* Estimate.

(v.) *Visit and Report by Sir Reginald Henderson.* At the invitation of the Government, Admiral Sir Reginald Henderson visited Australia to advise upon naval matters generally. A summary of his report will be found in Official Year Book, No. 6, pp. 1067-8. It provided for 52 vessels and 15,000 men; expenditure on construction, works, etc., £40,000,000, with an ultimate annual naval vote of £4,794,000. Six naval bases, and eleven sub-bases, were recommended. The 52 vessels would consist of 8 armoured cruisers, 10 protected cruisers, 18 destroyers, 12 submarines, 3 depôt ships, 1 fleet repair-ship, and the construction would extend over 22 years. The annual cost of *personnel* would be £601,000 in 1913-14, and would increase to £2,226,000 in 1933-4. Annual cost of maintenance of ships in commission would be £262,000 in 1913-4, rising to £1,226,000 in 1933-4. Annual expenditure on construction and maintenance of ships would increase from £2,349,000 in 1913-4 to £4,824,000 in 1932-3.

The strength of the fleet would be 23 ships in 1918, 42 ships in 1923, 48 ships in 1928, and 52 ships in 1933. In the earlier years portion of the crews would be obtained from Great Britain, but this would cease in the period 1923-8.

(vi.) *The Compact with the Imperial Government.* The Australian Government is building its navy according to the terms of an official paper (cd. 5746-2) submitted to the Imperial Conference held in London in 1911, and on the plan formulated by Admiral Henderson (after an inspection of Australia's capitals and other ports and coast line, in 1911). There is no formal contract or agreement between the British and the Commonwealth Governments. The last actual agreement was that of 1903, which continued in force the original agreement, whereby the Imperial Government maintained a squadron in Australian waters, the Commonwealth paying £200,000 per annum to the Imperial Government. Before the expiration of the time for which the agreement was made, the Commonwealth began the work of fleet construction. Up to the year 1911-12, £200,000 was annually paid. For 1912-13, £175,000 was set down in the Estimates, and £166,600 paid. No amount under "Naval Agreement Act" will be found in the Estimates for 1913-14 and later years. Some departures are made from Admiral Henderson's recommendations, but generally they have been adopted. The Commonwealth is now fulfilling the larger obligation of fleet-building, and is maintaining its own vessels. The establishment of naval bases and sub-bases required for the fleet unit is also proceeding. The Commonwealth Parliament amended the *Naval Agreement Act 1903*, by No. 10, of 1912 (*Naval Agreement Act 1912*), providing that the Governor-General may, from time to time, arrange with the Imperial Government for the reduction of the Australian squadron, and for reduction in the naval subsidy.

As already stated, the present situation is not governed by a formal contract or agreement. The Commonwealth Government has, by regulations and orders, given effect to some, and intends giving effect to others of the items submitted to the Conference.

(vii.) *Naval College.* A naval college has been established at Captain's Point, Jervis Bay, consisting of numerous buildings necessary for the training of naval officers. The course is similar to that carried out in Naval Colleges in England. In April, 1915, there were 87 cadet midshipmen under training. Thirty will be entered next year, bringing the college to its full complement. There are also 17 officers, including naval instructors, and 68 members of the ship's company in residence at the college. A boy whose thirteenth birthday falls in the year in which the entrance examination is held, is eligible to compete provided he is the son of natural-born or naturalised British subjects. From amongst those qualified the Selection Committee chooses the number required. The Commonwealth Government bears the whole expense of uniforms, victualling, travelling, as well as that of the educational course.

(viii.) *Training Ships.* H.M.A.S. *Tingira*, moored in Rose Bay, Sydney, was commissioned in April, 1912, to train boys for the *personnel* of the Royal Australian Navy. The age of entry is 14½ to 16 years. Only boys of very good character and physique are accepted, after a strict medical examination. The boys must engage to serve until they reach the age of 25. The training lasts about one year, and then they are drafted to a sea-going warship of the Australian fleet. Recruiting has been good, and in February, 1915, there were 260 boys on board, the utmost capacity of the ship being 300.

(ix.) *The Naval Station of the Commonwealth of Australia.* The following are the limits of the Naval Station which, since 1st July, 1913, have been controlled by the Commonwealth Government, acting through the Naval Board:—On the North: From 95 degrees East longitude by the parallel of 13 degrees South to 120 degrees East longitude; thence North to 11 degrees South latitude; thence to the boundary with Dutch New Guinea, on the south coast, in about longitude 141 degrees East; thence along the coast of British New Guinea (Papua) to the boundary with German New Guinea, in latitude 8 degrees South; thence east to 155 degrees East longitude. On the East: By the meridian of 155 degrees East longitude to 15 degrees South latitude; thence to 28 degrees South latitude on the meridian of 170 degrees East longitude; thence south to



30 degrees South latitude; thence west to the meridian of 160 degrees East longitude thence south. On the South: By the Antarctic Circle. On the West: By the meridian of 95 degrees East longitude.

4. **Vessels and Personnel of the Australian Navy.**—(i.) *Ships.* The following table shews the vessels of the Royal Australian Navy, completed and building:—

**LIST OF SHIPS OF THE ROYAL AUSTRALIAN NAVY, APRIL, 1915.**

Vessel.	Description.	Displacement.	Power.	Position.
		Tons.		
<i>Australia</i> ...	Battle cruiser ...	19,200	44,000 h.p.	Commissioned
<i>Brisbane</i> ...	Light cruiser ...	5,600	22,000 h.p.	Building, Sydney
<i>Childers</i> ...	1st class torpedo boat	...	...	Commissioned
<i>C'nless of Hopetoun</i>	"	...	...	"
<i>Derwent</i> ...	Torpedo boat "destroyer	700	12,000 h.p.	Building, Sydney
<i>Encounter</i> ...	Light cruiser ...	5,880	12,500 h.p.	Commissioned
<i>Gayundah</i> ...	Gunboat ...	360	400 h.p.	"
<i>Karumba</i> ...	Oil supply ship	3,000	...	Building, Eng.
<i>Melbourne</i> ...	Light cruiser ...	5,600	22,000 h.p.	Commissioned
<i>Parramatta</i> ...	Torpedo boat destroyer	700	12,000 h.p.	"
<i>Pioneer</i> ...	Light cruiser ...	2,200	7,000 h.p.	"
<i>Platypus</i> ...	Submarine depôt ship	3,100	...	Building, Scotl'd
<i>Protector</i> ...	Gunboat ...	920	1,641 h.p.	Commissioned
<i>Swan</i> ...	Torpedo boat destroyer	700	12,000 h.p.	Building, Sydney
<i>Sydney</i> ...	Light cruiser ...	5,600	22,000 h.p.	Commissioned
<i>Tingira</i> ...	Boys' training ship ...	1,800	...	"
<i>Torrens</i> ...	Torpedo boat destroyer	700	12,000 h.p.	Building, Sydney
<i>Una (late Comet)</i> ...	Gunboat ...	980	1,350 h.p.	Commissioned
<i>Warrego</i> ...	Torpedo boat destroyer	700	12,000 h.p.	"
<i>Yarra</i> ...	" " "	700	12,000 h.p.	"
<i>A E 2</i> ...	Submarine ...	800	1,750 h.p.	"

(ii.) *Personnel.* The fleet is manned, as far as possible, by Australians, supplemented by Imperial officers and men. It is intended that there shall be interchangeability with the Royal Navy of officers and men, and also of ships. Recruiting centres have been established in the Commonwealth with excellent results. The naval reserves comprise (a) members of the Australian branch of the Royal Naval Reserve, (b) members of the Citizen naval forces, and (c) Senior naval cadets. The navy has first choice from amongst the trainees under the compulsory system. The following table shews the strength of the naval forces in April, 1915:—

**STRENGTH OF THE NAVAL FORCES (PERMANENT AND RESERVES), APRIL, 1915.**

Classification.				Officers.	Ratings.	Total.
Permanent Forces (Sea-going)	...	...	...	440	3,290	3,730
Administrative and Instructional Staff	...	...	...	35	113	148
Reserve (M)*	...	...	...	27	437	464
Reserve (O) Adult section†	...	...	...	34	1,540	1,574
Senior Cadets†	...	...	...	...	3,332	3,332
R.N. Reserve (Sea-going)	...	...	...	18	157	175
Total	...	...	...	554	8,869	9,423

\* Late militia. † Under universal training regulations.

Little more than four years ago the total personnel of the Commonwealth naval forces was but 240. To-day the total is nearly 10,000, the sea-going forces alone numbering 3700.

## § 3. Expenditure on Defence.

1. **Expenditure, 1909-10 to 1914-15.**—The following table gives the expenditure of the Department of Defence from 1909-10 to 1913-14, and the estimate for 1914-15:—

## EXPENDITURE ON DEFENCE, 1909-10 to 1914-15.

Branch or Department.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15. Estimate
	£	£	£	£	£	£
Administrative—Central Administration ...	26,366	*104,740	*289,558	*245,918	*217,804	*206,997
Naval Forces ...	69,141	96,291	248,738	608,955	1,005,649	2,370,130
Military Forces ...	853,420	945,718	1,174,912	1,401,246	1,538,544	12,254,480
Rent, Repairs, and Maintenance ...	29,621	42,862	46,257	58,746	70,453	108,725
Additions, New Works, Lands, etc. ...	81,479	177,274	244,736	396,204	507,458	1,117,274
Defence Arms, Equipment, &c. ...	196,482	273,224	561,586	551,895	416,842	492,800
Audit Office ...	954	1,142	1,180	1,296	1,362	2,513
Pensions and Retiring Allowances ...	1,305	965	2,269	1,121	1,103	1,150
Supervision of Public Works by State Officers ...	1,047	3,798	2,965	4,985	7,776	8,000
Naval Agreement† ...	200,000	200,000	200,000	166,600	...	...
Miscellaneous "Other" ...	21,589	282	...	...	...	...
Fleet Unit ...	60,000	1,135,000	1,108,171	585,342	753,537	750,000
Naval Works & Armament ...	...	24,730	38,696	200,087	123,590	400,300
Interest and Sinking Fund on Transferred Properties ...	...	...	162,132	122,561	94,858	209,970
Miscellaneous ...	...	...	638	1,307	851	...
Sites for Defence purposes } payable	...	...	...	...	300,000	...
Machinery, &c., Cockatoo Is. } from loan	...	...	...	...	...	175,000
Proportion Public Works Staff Salaries	...	...	...	...	12,908	14,000
Interest and Insurance† ...	...	...	...	...	...	143,050
<b>Total</b> ...	<b>1,535,405</b>	<b>3,006,026</b>	<b>4,081,848</b>	<b>4,346,305</b>	<b>4,752,735</b>	<b>18,254,379</b>

\* Includes establishments under the control of the Central Administration. † Ceased on 30th June, 1913. ‡ The items are:—Premiums on Life Assurance policies of Commonwealth public servants who are members of Expeditionary Forces, £1250; Interest on Commonwealth Inscribed Stock, £1000; Interest on Treasury Bills for loan purposes, £800; Interest on loan from British Government for war purposes, £140,000.

2. **Appropriation for Defence Purposes, 1901-2 to 1914-15.**—In the following table the Defence expenditure for the whole Commonwealth period, 1901-2 to 1914-15, is given:—

## ANNUAL DEFENCE EXPENDITURE, 1901-2 to 1914-15.

Year.	Naval.				Military.			
	Under Ordinary Votes and Appropriations.	Works, Arms, Equip'm't, &c. (provided under Estimates for New Works and Buildings).	Loan Expenditure.	Total Naval.	Under Ordinary Votes and Appropriations.	Works, Arms, Equip'm't, &c. (provided under Estimates for New Works and Buildings).	Total Military.	Total Defence Expenditure.
	£	£	£	£	£	£	£	£
1901-2 ...	178,819	...	...	178,819	777,620	2,640	780,260	959,079
1902-3 ...	149,701	...	...	149,701	595,115	5,537	600,652	750,353
1903-4 ...	240,005	86	...	240,091	502,517	113,156	615,673	855,764
1904-5 ...	250,394	5,394	...	205,788	533,945	194,865	728,810	934,598
1905-6 ...	250,273	1,743	...	252,016	548,439	169,890	718,329	970,345
1906-7 ...	255,120	652	...	255,772	585,516	194,507	780,023	1,035,795
1907-8 ...	259,947	250,958	...	510,205	634,579	189,960	824,539	1,334,744
1908-9 ...	263,207	4,055	...	267,262	686,365	96,965	783,330	1,050,592
1909-10 ...	269,051	60,688	...	329,739	928,393	277,273	1,205,666	1,535,405
1910-11 ...	302,550	1,161,541	...	1,464,091	1,093,248	448,687	1,541,935	3,006,026
1911-12 ...	460,521	1,172,920	...	1,533,441	1,668,128	780,279	2,448,407	4,081,848
1912-13 ...	805,819	853,735	...	1,659,554	1,806,868	879,883	2,686,751	4,346,305
1913-14 ...	1,027,360	972,405	...	1,999,765	1,923,948	829,022	2,752,970	4,752,735
1914-15* ...	2,540,524	1,308,651	175,000	4,114,175	12,778,481	1,361,723	14,140,204	18,254,379

\* Estimate.

NOTE.—In the year 1900-1 the approximate Defence Expenditure made by the States was:—

Ordinary Services ...	£800,000
Works, Arms, Equipment, etc. ...	200,000
<b>Total</b> ...	<b>£1,000,000</b>

3. **Special War Expenditure, 1914-15.**—The special war expenditure during 1914-15, as originally estimated and as subsequently (April 1915) increased, will be found on page 958.

4. **Expenditure in Various Countries.**—The total expenditure on defence and the expenditure per inhabitant in various countries according to estimates made immediately prior to the present war, are as follows:—

#### ESTIMATED EXPENDITURE ON DEFENCE—VARIOUS COUNTRIES.

Country.	Year.	Army.	Navy.	Total.	Per Inhabitant.
		£	£	£	s. d.
Great Britain ...	1913-14	28,220,000	46,309,000	74,529,000	32 3
Germany ...	1913-14	73,833,000	24,012,000	97,845,000	30 2
France ...	1913	38,286,000	18,452,000	56,738,000	28 7
Italy ...	1913-14	14,546,000	9,068,000	23,614,000	13 7
Austria-Hungary ...	1913	16,500,000	3,100,000	19,600,000	7 8
Switzerland ...	1913	1,772,000	...	1,772,000	9 1
Russia ...	1913	64,136,000	22,817,000	86,953,000	10 5
Spain ...	1913	6,391,000	2,827,000	9,218,000	9 3
Portugal ...	1913-14	2,190,000	851,000	3,041,000	10 3
Norway ...	1913-14	867,000	337,000	1,204,000	9 11
Sweden ...	1913	3,063,000	1,447,000	4,510,000	16 0
Denmark ...	1913-14	1,081,000	544,000	1,625,000	11 5
Holland ...	1913	2,780,000	1,678,000	4,458,000	14 6
Belgium ...	1913	3,260,000	...	3,260,000	8 7
United States ...	1913-14	35,073,000	29,464,000	64,537,000	14 0
Canada ...	1912-13	1,872,000	...	1,872,000	5 2
Japan* ...	1913-14	7,815,000	4,224,000	12,039,000	3 6
Australia† ...	1913-14	3,291,000	2,456,000	5,747,000	23 7

\* Excluding extraordinary expenditure. † Total defence expenditure.

### § 4. Industrial Establishments and Remount Depot.

1. **Commonwealth Factories.**—There are five factories established under the authority of the Defence Act in connection with the Defence Department. The Commonwealth Harness, Saddlery, and Leather Accoutrements Factory at Clifton Hill, Victoria, was opened in September, 1911. On 31st March, 1915, there were 278 persons employed, including 31 females. A large quantity of harness and saddlery, and leather and canvas equipment has been turned out for the Defence and Postmaster-General's Departments. The factory is now able to cope with practically the whole of the requirements of these departments in the way of leather and canvas equipment. At the Cordite Factory at Maribyrnong, Victoria, cordite is manufactured for the cartridges required for military purposes. On 31st March, 1915, the employees numbered 105. The Clothing Factory at South Melbourne, Victoria, commenced operations on 3rd January, 1912. Since 1st July, 1912, a satisfactory output has been maintained. The number of employees on 31st March, 1915, was 672, of whom 569 were females. The establishment is able to supply the whole of the uniform clothing required for the Defence Forces and the Postmaster-General's Department. The Small Arms Factory at Lithgow, N.S.W., was opened on 1st June, 1912. The first instalment of Australian arms was delivered in May, 1913. Employees numbered 477 on 31st March, 1915. A fifth Commonwealth factory has been established at Geelong, Victoria, for uniform materials and woollen fabrics, and is expected to be in full operation in July, 1915.

2. **Expenditure.** The expenditure up to 30th June, 1914, in the purchase of land, machinery and plant, factory fittings, and furniture in connection with the factories now in operation, was approximately as follows:—

Small Arms Factory...	...	...	...	£180,000
Cordite Factory	...	...	...	91,000
Clothing Factory	...	...	...	23,700
Harness Factory	...	...	...	12,500

It is estimated that the total cost of establishing the woollen mills will be about £100,000.

3. **Remount Depot.** The Act of 1910 authorised the establishment and maintenance of horse depots, farms, and stations for the breeding of horses. Up to the present nearly 2000 remounts have been purchased. They are primarily to supply the requirements of the Field Artillery Batteries, but are also available for the use of other mounted units. Remount depots have been purchased or are leased in each of the military districts, and veterinary hospitals have also been established in the larger States. In Victoria and South Australia stables have been built. A remount section of the Army Service Corps has been formed for the purpose of breaking, training and looking after remounts generally.

## § 5. Australian Contingents.

1. **New Zealand and Sudan Campaigns.**—Many colonists served with the Imperial forces in the New Zealand war. Fuller particulars will be found in Official Year Book No. 6, p. 1071. In 1885 a field battery, an infantry battalion, and an ambulance corps, numbering in all 770, with 218 horses, left New South Wales to take part in the Suakin campaign.

2. **South African War.**—In 1899 the outbreak of war with the Boers led to the several colonies offering contingents. This service was continued when, on 1st March, 1901, the control of the defence forces passed over to the Commonwealth. Besides the troops officially organised, many Australians served as members of units raised in Great Britain and South Africa. The following table shews the strength of the military contingents sent at various times from Australia to South Africa:—

### STRENGTH OF MILITARY CONTINGENTS SENT FROM AUSTRALIA TO SOUTH AFRICA.

State.	State Troops at State Expense.			State Troops at Imperial Expense.			Commonwealth Troops.			Grand Total.		
	Officers.	Other Ranks.	Horses.	Officers.	Other Ranks.	Horses.	Officers.	Other Ranks.	Horses.	Officers.	Other Ranks.	Horses.
New South Wales	160	3,217	3,135	76	1,306	1,443	78	1,271	1,294	314	5,796	5,872
Victoria	47	751	830	77	1,569	1,877	69	1,052	1,118	193	3,373	3,825
Queensland	39	694	868	73	1,346	1,603	37	699	736	149	2,739	3,207
South Australia	20	325	258	46	644	696	23	467	490	89	1,437	1,444
Western Australia	18	331	269	34	540	608	15	291	306	67	1,163	1,183
Tasmania	6	173	58	17	358	422	13	290	303	36	821	783
Total	290	5,492	5,418	323	5,765	6,649	235	4,070	4,247	848	15,327	16,314

There were, in addition, several special service officers attached, at the request of the colonial Governments, to the British forces; these officers served with the Imperial troops with a view to aiding the development of the Commonwealth forces, particularly in regard to the routine and administration of troops on service.

3. **The China War.**—The Home Government also accepted the offer of contingents from Australia on the outbreak of the Boxer rebellion in China. Naval volunteers were furnished by New South Wales and Victoria, and South Australia equipped a gunboat

for the Imperial service. The strength of the New South Wales contingent was 260, and that of the Victorian 200, of all ranks.

4. **The European War, 1914.**—Upon the imminence of war between Great Britain and Germany, but prior to its actual outbreak, viz., on 3rd August, 1914, the Commonwealth Government notified Great Britain of its readiness, in the event of war, to place the vessels of the Australian Navy under the control of the British Admiralty when desired, and to despatch an expeditionary force of 20,000 men of any suggested composition to any destination desired by the Home Government, cost of despatch and maintenance to be borne by the Commonwealth. On 10th August, war having meanwhile been declared on 4th August, all vessels and all officers and seamen of the Royal Australian Naval Forces were transferred to the King's Naval Forces. The transfer is to continue in force until proclamation is issued that war no longer exists. Upon the suggestion of the Imperial authorities, it was decided that the composition of the expeditionary force of 20,000 should be a division, on the basis of the Imperial Army (of staff, three brigades, and divisional troops, but without howitzer brigade and heavy battery), and one light-horse brigade. After this force had been raised, the Commonwealth notified the Home Government that a further body of troops, comprising lines of communication units, supply units, and hospitals (about 2000), first reinforcements (about 3000), two additional light horse brigades (about 4000), an additional infantry brigade (about 4500), and certain veterinary units, would be despatched. The first convoy left the rendezvous in Australian waters on 1st November, and landed in Egypt on 5th December, for the defence of that country—which had been proclaimed a British protectorate—and to undergo war training in the vicinity of Cairo. The second convoy left Australia late in December. Further reinforcements have been despatched since. In March, 1915, a further force of 10,000 was offered and accepted. Tables given below shew the strengths of the first and second convoys. The units were raised and completely equipped with all war stores in Australia.

Upon suggestion of the Imperial Government, the Commonwealth also despatched an expeditionary force against certain German possessions in the Pacific Ocean. The force contained both naval and military details, and consisted of six companies of the Royal Australian Naval Reserve, one battalion (eight companies) of infantry, two sections of machine guns, a signalling section, and army medical details.

The main objects of the expedition were to seize German wireless stations in the Pacific, to occupy German territory and hoist the British flag, and to arrange for temporary administration.

A complete self-contained force of the above-named units, fully armed and equipped, left Sydney on 19th August, under escort of vessels of the Royal Australian Navy.

The Naval Board, besides distributing the orders and instructions of the Admiralty, under whose control the Royal Australian Navy was placed, arranged for the supply of coal, oil, stores, munitions, etc., and for the dissemination of intelligence. The task of the Australian Navy was of a three-fold nature; (i.) to police the seas and ensure that they should be uninterruptedly free to commerce; (ii.) to co-operate in ridding the seas of the enemy's cruisers and in destroying his bases and sources of supply; (iii.) to assist in conveying the expeditionary forces to Europe and to the German Pacific possessions.

On 11th August, the battle cruiser *Australia*, accompanied by the light cruisers *Melbourne*, *Sydney*, and *Encounter*, and the destroyers *Parramatta*, *Yarra*, and *Warrego*, reached Simpsonhafen in New Britain, but failed to find the enemy's navy there. The *Australia* and *Melbourne* immediately left to convoy the New Zealand military expedition, organised for the capture and occupation of Samoa. In this task, the British cruisers *Psyche*, *Philomel*, and *Pyramus*, and the French cruiser *Montcalm* assisted. The British flag was hoisted at Apia on 31st August. The two Australian vessels steamed back to Rabaul, and after being joined by the two Australian submarines, AE 1 and AE 2, co-operated with the Australian Pacific expeditionary force in the occupation of Rabaul (13th September), and in the capture of Herbertshöhe, in New Britain, the headquarters of German administration in the Pacific (11th September), and

Frederich Wilhelmshafen, in New Guinea (24th September). In the attack (11th September) on the wireless station at Kakabaul, some miles inland from Rabaul, the attacking naval detachment was fired upon by German native troops, two officers and four men being killed, and one officer and three men wounded.

The submarine AE 1 was lost on 14th September, off Cape Gazelle, whilst engaged on patrol work, during the New Britain expedition. The cause of the disaster is unknown, but it is believed that the submarine struck a submerged rock.

Other German Pacific wireless stations were attacked—the cruiser *Melbourne* destroying that at Nauru (Pleasant Island), whilst the cruiser *Sydney* put the station at Anguar out of action. On 21st September the German governor and his forces surrendered at Herbertshöhe.

As a result of information indicating that the enemy's Pacific vessels intended to concentrate at a rendezvous to the north-east of Fiji, the *Australia*, with Suva as base, patrolled an extensive sector of the Pacific. The retirement of the German fleet to South American waters was the outcome of the tightening of the tactical net of operations in which the speed and armament of the Commonwealth battle cruiser were the essential factors. Further use was made of the *Australia* in driving the enemy's Pacific fleet into the trap set by the Admiralty, that vessel thus helping to make possible the annihilation of the squadron by Admiral Sturdee.

The Australian Pacific force accomplished its mission successfully, and the territories are now garrisoned by Australian troops, under an administrator appointed by the Commonwealth Government. Most of the military forces engaged in the expedition returned to Australia, and many of them have since enlisted for service in Europe.

The operations against the German colonial troops resulted, within two months, in the capture of the whole of the enemy's possessions in the Pacific. The German Pacific wireless chain was broken. Several of her ships were captured. Samoa was occupied by a force from New Zealand. The German Pacific Protectorate (*Das Deutsche Südsee Schutzgebiete*) was terminated. It comprised the Bismarck Archipelago, the two northernmost islands of the Solomon group (Bougainville and Buka), the choicest island of the Samoan group (now occupied by New Zealand), the Marshall Islands, the Carolines, Pelew, and the Ladrões (except Guam, which belongs to America). Of these groups, the Bismarck Archipelago—better known as German New Guinea—is the most important. It comprises a large slice of New Guinea, and includes New Britain, New Ireland, New Hanover, and several small islands—the Admiralty, Natty, Exchequer, Hermit, Anchorite, French, Gervit Denys, Sir Charles Hardy, St. John, St. Mathias, Squally Islands, and others.

It is stated that good progress was made in the islands under German rule. Large sums of money have been expended in the establishment of rubber, coffee, and cotton plantations. Coconut plantations are profitably worked. The capital, Rabaul, apparently intended for a naval station, is well laid out, and contains fine government and private buildings, with excellent roads. In 1914 the white population was estimated at 1640, of whom 1150 were Germans. The soil is wonderfully productive, and what little native labour is required is procurable at a very low figure.

The Australian Navy also successfully accomplished the task of escorting the successive Australasian contingents of forces for service in Europe over the Indian Ocean.

It was whilst engaged in escort duty with the first transport fleet that signals were received by wireless of the presence of the German cruiser *Emden* at Cocos Island, whither that vessel had gone on 8th November, with the intention of raiding the station there and destroying the wireless. The *Emden*, it is estimated, had wrought havoc to the extent of 21 British merchantmen, and two and a half million pounds. The Island's distress signals, which the *Emden*'s wireless failed to drown, were received by the cruiser *Sydney*, which set out to relieve the station. On the following morning (9th November), the *Sydney* came up with the enemy, which, after a short, but decisive action, and much damaged by the *Sydney*'s accurate gun fire, and with many casualties (7 officers and 108 men being killed), was put to flight, ultimately becoming a total wreck at North Keeling Island, one of the Cocos group. The *Sydney*'s losses were 4 killed and 12 wounded.

To cope with special demands arising from the state of war, the following vessels were chartered to serve as fleet auxiliaries:—s.s. *Aorangi*, fleet supply ship; s.s. *Berrima*, armed transport; s.s. *Grantala*, hospital ship.

For the various actions in which the Australian Navy was thus employed, and in order to make possible the efficient patrolling of the vast sea-area involved, it was necessary that ample supplies of coal and oil should be available at the various advanced bases. It is stated that the large chartered fleet of colliers and oilers conducted their operations without any delay. From 30th July, 1914, to 31st December, 1914, the ships of the Australian Navy steamed in the aggregate upwards of 100,000 miles. It was necessary, to enable them to do so, to convey over great distances of ocean, 76,000 tons of coal, and 12,000 tons of oil.

Further, not a single British merchant vessel was captured by the enemy in Australian waters. No Australian port was attacked, nor were coastal towns terrorised. But 19 German steamers, aggregating 89,000 tons; one Austrian steamer of 3530 tons; and five German sailing vessels, aggregating 12,200 tons—in all 25 vessels, aggregating 104,730 tons—were interned. Also, 11 vessels, aggregating 12,000 tons, and including the German Government's vessels *Komet*, *Nusa*, &c., were captured.

The details of the first and second convoys for Egypt are given in the following tables:—

#### FIRST CONVOY.—DIVISION AND LIGHT HORSE BRIGADE.

Unit.	Officers.	Other Ranks.	Total.
<b>Division—</b>			
Divisional Headquarters ... ..	21	65	86
Three Infantry Brigades (12 Battalions) ... ..	396	11,955	12,351
Regiment Light Horse ... ..	25	511	536
Divisional Field Artillery (Headquarters and three Brigades) ... ..	82	2,118	2,200
Divisional Ammunition Column ... ..	19	564	583
Divisional Field Engineers (Headquarters and three Companies) ... ..	21	610	631
Divisional Signal Company ... ..	6	157	163
Divisional Train ... ..	30	667	697
Three Field Ambulances ... ..	30	732	762
<b>Total Division ... ..</b>	<b>630</b>	<b>17,379</b>	<b>18,009</b>
<b>Attached (Veterinary, Pay, Nursing, Ordnance, etc. Services; and Chaplains, War Correspondents, Interpreters, etc.) ... ..</b>	<b>68</b>	<b>298</b>	<b>366</b>
<b>Total Division and Attached ... ..</b>	<b>698</b>	<b>17,677</b>	<b>18,375</b>
<b>Light Horse Brigade—</b>			
Headquarters ... ..	8	28	36
Three Light Horse Regiments ... ..	75	1,533	1,608
Light Horse Signal Troop ... ..	1	42	43
Light Horse Brigade Train ... ..	7	153	160
Light Horse Field Ambulance ... ..	6	112	118
Attached (three Chaplains) ... ..	3	...	3
<b>Total, Light Horse Brigade and Attached</b>	<b>100</b>	<b>1,868</b>	<b>1,968</b>
<b>Grand Total, 1st Convoy ... ..</b>	<b>798</b>	<b>19,545</b>	<b>20,343</b>

**SECOND CONVOY.—LIGHT HORSE BRIGADE, INFANTRY BRIGADE, LINES OF COMMUNICATION TROOPS, FIRST REINFORCEMENTS, AND DETAILS.**

Unit.	Officers.	Other Ranks.	Total.
<b>Light Horse Brigade and Attached—</b>			
Headquarters ... ..	4	30	34
Three Light Horse Regiments ... ..	75	1,533	1,608
Light Horse Signal Troop ... ..	1	42	43
Light Horse Brigade Train ... ..	6	153	159
Light Horse Field Ambulance ... ..	6	118	124
<b>Total, Light Horse Brigade and Attached</b>	<b>92</b>	<b>1,876</b>	<b>1,968</b>
<b>Infantry Brigade and Attached—</b>			
Headquarters ... ..	4	21	25
Four Battalions ... ..	128	3,964	4,092
Section, Signal Company ... ..	1	24	25
Company, Army Service Corps ... ..	5	138	143
Field Ambulance ... ..	10	244	254
<b>Total, Infantry Brigade and Attached</b>	<b>148</b>	<b>4,391</b>	<b>4,539</b>
<b>Lines of Communication Units—</b>			
Field Bakery ... ..	1	92	93
Field Butchery ... ..	1	20	21
Divisional Ammunition Park ... ..	7	464	471
Divisional Supply Column ... ..	5	240	245
Two General Hospitals ... ..	42	302	344
Two Stationary Hospitals ... ..	16	180	196
Clearing Hospital ... ..	8	84	92
Railway Supply Detachments ... ..	1	61	62
Dépôt Units of Supply ... ..	2	26	28
Mobile Veterinary Sections ... ..	2	26	28
Veterinary Sections ... ..	4	226	230
<b>Total, Lines of Communication Units</b>	<b>89</b>	<b>1,721</b>	<b>1,810</b>
<b>Reinforcements and Attached</b>	<b>235</b>	<b>2,609</b>	<b>2,844</b>
<b>*Grand Total, 2nd Convoy</b>	<b>564</b>	<b>10,597</b>	<b>11,161</b>

\* Exclusive of 16 Officers allotted for duty during the voyage with Imperial Reservists, who will be available with the A.I.F. on disembarking, and two Officers for duty on the voyage only.

(i.) *War Expenditure, 1914-15.* The special war expenditure shewn in the annual estimates, 1914-15, is shewn on the following page. It was subsequently announced (14th April, 1915), that an additional £3,500,000 would be required before the end of the financial year. Reference to War Finance will be found in Section XIX., Commonwealth Finance, p. 710, with further reference in the Appendix.



**SPECIAL WAR EXPENDITURE, 1914-15 ESTIMATED.\***

Special expenditure on Australian forces—					
Naval	...	...	...	...	£968,800
Military	...	...	...	...	807,500
Expeditionary force—Military	...	...	...	...	7,800,000
Naval	...	...	...	...	2,000,000
Interest on loan from British Government for war purposes	...	...	...	...	140,000
Premiums on Life Assurance policies of Commonwealth public servants who are members of Expeditionary forces	...	...	...	...	1,250
Wireless stations in Pacific Islands	...	...	...	...	25,000
Total	...	...	...	...	£11,742,050

\* Later additional estimate, £3,500,000.

(ii.) *War Pensions.* Provision is made by the *War Pensions Act 1914* in the case of death or incapacity sustained by members of the defence force as a result of employment in connection with warlike operations. Determinations and assessments are made by a Pensions Board of three persons, constituted under the Act. Pensions are inalienable, and on the following scale :—

**SCALE OF PENSIONS PAYABLE.**

(i.) To widow on death of member of forces, or to member upon total incapacity :—

Death Rate of Pay of Member.	Annual Pension Payable to Widow.	Annual Pension Payable to Member upon Total Incapacity.	Death Rate of Pay of Member.	Annual Pension Payable to Widow.	Annual Pension Payable to Member upon Total Incapacity.
s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.
6 0	52 0 0	52 0 0	13 0	77 10 0	77 10 0
7 0	56 0 0	56 0 0	17 6	91 0 0	91 0 0
9 0	64 0 0	64 0 0	22 6	101 0 0	101 0 0
10 0	68 0 0	68 0 0	30 0	116 0 0	116 0 0
10 6	70 0 0	70 0 0	37 6	131 0 0	131 0 0
11 6	73 0 0	73 0 0	45 0	146 0 0	146 0 0
12 0	74 10 0	74 10 0	50 0	156 0 0	156 0 0
			and upwards		

(ii.) To each child (son, daughter, stepson, stepdaughter, or adopted child of member of forces, under 16) :—£13 per annum.

(iii.) To other dependents (dependent members of family of deceased or incapacitated member of forces) :—Rates as assessed by Pensions Board, but not exceeding for one person the rate specified in the second column above as payable to the widow, and not exceeding in the aggregate that sum, plus £52 per annum.

(iv.) To wife of member of forces upon his total incapacity :—50 per cent. of rate payable to widow.

(v.) To each child of member upon his total incapacity :—£13 per annum.

(vi.) To member upon partial incapacity :—As assessed by the Pensions Board.

## SECTION XXIX.

## PAPUA (BRITISH NEW GUINEA).

## § 1. New Guinea.

1. **Geographical Situation of New Guinea.**—New Guinea, frequently described as the largest island in the world, lies to the north-east of Australia, between  $0^{\circ} 25'$  and  $10^{\circ} 40'$  S. latitudes, and between  $130^{\circ} 50'$  and  $150^{\circ} 35'$  E. longitudes. Its estimated area exceeds 300,000 square miles, the greatest length being 1490 miles and the greatest breadth 430 miles.

2. **Discovery.**—The island was probably sighted by Abreus in A.D. 1511. The first visit by Europeans was apparently either that by the Portuguese Don Jorge de Meneses on his way from Goa to Ternate in 1526, or that by the Spaniard Alvaro de Saavedra in 1528. In 1606 Torres, having parted company with De Quiros at the New Hebrides, sailed, on his way to the Philippines, through the strait which separates the island from Australia, and which now bears his name.

3. **Colonisation.**—Little progress was made for many years in exploration and settlement. First the Portuguese, and afterwards the Dutch, who to a great extent replaced them as the principal European traders in the East, seem to have jealously excluded other traders and adventurers, and to have kept the knowledge of their discoveries to themselves. The coasts were visited by Roda, Schouten, Lemaire, Tasman, Dampier, Torres, Bougainville, and Cook; but the difficulties of navigation, the savagery of the islanders, and the tempting fields for enterprise in the more temperate regions further south, diverted the energy of traders and voyagers. Forrest describes a voyage by himself in 1774. In 1793, New Guinea was annexed by two commanders in the East India Company's service. Since that date the Dutch have made extensive surveys of the western portion, and the British and Germans have occupied and colonised the eastern. In September, 1914, German New Guinea was seized and occupied by Great Britain by means of a force raised and despatched by the Australian Government.

4. **Partition.**—The three colonising powers agreed to the partition of New Guinea, each having suzerainty over islands adjoining its own territory. The whole of the portion west of the 141st degree of latitude, comprising about 150,000 square miles, or nearly half the island, belongs to the Dutch. The eastern half was divided in almost equal portions between Great Britain and Germany, the area possessed by each (with adjacent islands) being about 90,000 square miles. An Anglo-German boundary commission, appointed for the purpose of defining the boundary between the territories of the two nations, started operations on 26th December, 1908, and completed the field-work on 27th October, 1909. The total length of boundary delimited was  $66\frac{1}{2}$  miles. The work was both important and difficult. For a considerable portion of the survey, the country was exceedingly rough and mountainous, and the natives hostile. In one instance, the line was carried over a range at an elevation of 11,110 feet. The Dutch colony forms part of the residency of Ternate in the Moluccas, and has not been extensively developed. The German protectorate, where considerable commercial development has taken place, included the northern part of the eastern half of the mainland, known as Kaiser Wilhelm Land, and the large islands of the Bismarck Archipelago and the Solomon Group, as well as nearly 200 smaller islands. The south-eastern portion of New Guinea, nearest Australia, is a dependency of the Commonwealth of Australia. The German Pacific protectorate was terminated in 1914. See *supra* p. 955.

## § 2. The Australian Dependency of Papua.

**1. Australian Dependency of Papua.**—Surveys of the east coast of New Guinea by Stanley, Yule, Blackwood, Moresby, and others, brought home to Queensland, and to Australia generally, the danger to her commerce which would result from foreign possession of the islands and coasts opposite to Cape York, and from the holding by a hostile power of the entrance to the splendid waterway inside the Barrier Reef. The mainland opposite the shores of Queensland east of the 141st meridian was therefore annexed by that colony in 1883; but the action was disallowed by the British Government. In 1884, however, a British protectorate was authoritatively proclaimed by Commodore Erskine over the region lying east from the 141st meridian as far as East Cape, with the adjacent islands as far as Kosman Island. In the year following an agreement with Germany fixed the boundaries between the possessions of the two countries, and to Great Britain was assigned the portion now known as Papua, lying between the extreme limits of 5° and 12° S., and 141° and 155° E. The British protectorate was subsidised by Queensland, New South Wales, and Victoria, and lasted till 4th September, 1888, when it was proclaimed a possession of the Empire. Its constitution was then that of a Crown colony, in association, however, with Queensland. Administration was in the hands of a Lieutenant-Governor, aided by an Executive and a Legislative Council, and advised by a Native Regulation Board. Port Moresby, on the south coast, was made the headquarters of the official establishment; a supreme court was established there, and magisterial courts in the districts; and an armed native constabulary force, numbering 293 on 30th June, 1914, under a European officer, was instituted for the maintenance of order. There were also, on the same date, 565 native village constables employed by the Crown.

**2. Annexation by Commonwealth.**—The territory was placed under the authority of the Commonwealth on 1st September, 1906, by proclamation issued in pursuance of Letters Patent of the 18th March, 1902, and was accepted by the Commonwealth by the Papua Act 1905, which came into force by virtue of the proclamation aforesaid. The transfer was made under the authority of section 122 of the Constitution (see p. 34 hereinbefore). The territory is now under the administration of the Commonwealth, but not included within it, and is divided into eleven magisterial districts.

**3. Physical Characteristics.**—Papua lies wholly within the tropics. The northernmost point touches 5° S. latitude; its southernmost portion, comprising Sudest and Rossel Islands, lies between 11° S. and 12° S. latitude. It is separated from Australia by Torres Strait. The length of Papua from east to west is upwards of 800 miles; towards either end the breadth from north to south is about 200 miles, but about the centre it is considerably narrower. The territory comprises also the islands of the Trobriand, Woodlark, D'Entrecasteaux, and Louisiade groups. The length of coast-line is computed at 3664 miles—1728 on the mainland and 1936 on the islands. The total area is about 90,540 square miles, of which 87,786 are on the mainland and 2754 on the islands. From the eastern end of the territory rises a chain of mountains, which forms a great central ridge and attains its greatest altitude, as it extends westwards, in the Owen Stanley Range, the highest points of which are Mount Victoria (13,200 feet), Mount Scratchley, the Wharton Range, and Mount Albert Edward. The western end of the possession is for nearly 300 miles generally low and swampy for some distance along the coast. The whole territory is well watered. The great mountains and a great portion of the lower country are covered with forest. The islands are mountainous, and, with the exception of the low coral islands of the Trobriand Group, part of Murua, and a few others of small dimensions, principally of volcanic formation. The highest is Goodenough Island, 8000 feet. The largest rivers of the mainland flow into the Gulf of Papua. The Fly River, with its tributaries, drains an extensive area of the territory of the Netherlands, as well as the British. Its length in British territory is about 620 miles, and it is navigable by a steam launch for over 500 miles. Other important rivers are the Turama and the Purari. There are many excellent harbours.

### § 3. Population.

The total white population of Papua on 30th June, 1913, was 1219, made up of 847 adult males and 223 adult females (adults being persons over 16 years of age), and 68 male and 81 female children. The following table gives the population of Papua for the last five years:—

#### WHITE POPULATION OF PAPUA, 1910 to 1914.

YEAR ENDED 30TH JUNE.

1910.	1911.	1912.	1913.	1914.
879	1,032	1,064	1,219	1,186

The chief occupations of whites are:—Government officials and employees, 119; planters (including managers and assistants), 131; and miners, 159.

It is not possible to make a reliable estimate of the number of natives, owing to the fact that much of the interior country is unexplored. It is generally assumed to be somewhere between 400,000 and 500,000. These speak many languages and dialects. The coloured population, other than Papuans, numbered on 30th June, 1914, 393. On the same date, half-castes, including Papuan half-castes, totalled 311. An Immigration Restriction Ordinance prohibits the immigration into the territory of persons who fail to pass the dictation test, or who are persons of bad character, or likely to become a charge upon the public. Exemptions may, however, be granted by the Lieutenant-Governor to persons of special skill whom it is desired to employ as overseers or foremen.

### § 4. Native Labour.

The rights of both employer and labourer are conserved by the Native Labour Ordinances. Service on the part of the native is voluntary, and he must be justly treated, and properly housed and fed. Employers may recruit personally, or obtain their natives through a licensed recruiter. Contracts of service must be in writing, entered into before a magistrate or other qualified officer, and the natives must be returned to their homes on completion of engagement. The labour question is complicated by the communistic system which prevails in the villages. Native custom demands that the friends or fellow-clansmen of the returned labourer receive a share in whatever he gets. The result is that the stimulus of individual interest is largely absent. During the period of service the recruiter or employer is personally responsible for the native's welfare. Refusal to work after engagement, or desertion from service, renders the labourer liable to imprisonment. On the other hand, a magistrate may terminate an engagement where unjust or harsh treatment by the employer is proved. The term of indenture must never exceed three years, and in the case of miners and carriers eighteen months is the limit, but re-engagements may be made. The magistrate must satisfy himself that the remuneration is fair, that the native is willing to undertake the service, and that there is no probability of unfair treatment or detention. Wages must be paid in the presence of an officer. A medicine chest, stocked with necessary drugs and first aid instruments, must be kept by all employers.

Just treatment, good food, and satisfactory remuneration for his labour have made the Papuan savage an excellent servant. With considerable natural aptitude and intelligence, he is able to understand readily what is required by his employer; consequently

native labour is very largely engaged by the Administration for the construction of roads and public works, and by the private employer for the clearing and upkeep of plantations. In some districts, however, the natives manifest a marked unwillingness to work. Actual ill-treatment of native employees may be said to be non-existent.

The number engaged under contract of service during the year ended 30th June, 1914, was 7681. In addition, there were 3702 natives employed who were not under contract of service.

## § 5. Production.

**1. Papuan Products.**—The products of the territory are obtained from its agricultural, forestal, fishing, mining, and manufacturing industries. There is a Papuan Court at the Imperial Institute, London, where, beside maps, handbooks and reports, a representative collection of products is shewn, additions being made to the exhibits from time to time. Displays of Papuan produce are also made at Exhibitions held in the Commonwealth. The industries of Papua are not numerous, but they are becoming more diversified. In many cases, some years must elapse before the raw material is available for commerce.

**2. Agriculture.**—(i.) *Soil and Rainfall.* The physical features of Papua are favourable to agriculture. Rich soils at varying elevations, and heavy and evenly-distributed rainfall, have ensured success in cultivating almost every tropical product of value. The territory comprises immense areas of rich alluvial and volcanic soils along the coast, and equally fertile land at elevations up to 6000 feet. Splendid rainfalls are recorded, except over a belt of country which runs back from the coast to the hills, and which has its dry season from May to November. This “dry” area is admirably suited for the production of tobacco, fibres, cotton, etc. There are eighteen meteorological stations throughout the territory. An economic museum and agricultural library have been established. By anticipating and removing many of the pioneering difficulties the Government has made the task of the colonist an easy one. The feature of recent years has been the steady investment of capital in the development of large areas previously acquired. One of the principal difficulties of planters is the heavy growth of weeds, and the Government has undertaken experiments with the planting of grasses to take the place of weeds, and so keep down the gross rank vegetation.

(ii.) *Plantations.* On 31st March, 1914, there were 228 plantations. Agricultural settlement has been mostly in the Central and Eastern Divisions, though plantations are rapidly spreading in other districts. The total area planted was 42,921 acres, or an average of 188 acres for each plantation. The principal plantation industries entered upon up to the present are cocoanuts, rubber, sisal hemp, and cotton. Secondary agricultural industries are the cultivation of bowstring hemp, coffee, vanilla, kapok, cocoa, tapioca, cinnamon, tea, maize, and tobacco. The natives are compelled by an ordinance to plant cocoanuts for food supply. It is estimated that the total area so planted amounts to 350,000 acres. The following table shews the areas under the different cultures (exclusive of maize and garden products) on 31st March, 1914:—

							Acres.
Cocoanuts	...	...	...	...	...	...	29,030
Rubber	...	...	...	...	...	...	6,606
Hemp	...	...	...	...	...	...	3,110
Cotton	...	...	...	...	...	...	453
Other cultures (including fruit trees)	...	...	...	...	...	...	3,722
Total	...	...	...	...	...	...	42,921

(iii.) *Government Plantations and Experimental Stations.* There are six Government plantations of cocoanuts and Pará rubber, with a total area under cultivation of 1515 acres. New Government plantations are being developed by five annual loans of £5000

each from the Commonwealth. During 1913-14, a total area of 567 acres was planted under this scheme.

Sylvicultural nurseries have been established in connection with the plantations with the object of supplying settlers with seeds and plants, which have been imported from the East and West Indies, Central America, tropical Australia, Ceylon, the Malay States, and the Solomon Islands. At the experimental stations, the suitability of soil and climate for different products is tested and correct methods of cultivation demonstrated. Large quantities of plants and seeds have been distributed to planters. A Government orchard, for supplying fresh fruit and vegetables, has been established at one of the experimental stations, and yields considerable quantities of European fruit-foods.

(iv.) *Indigenous Products.* There are many indigenous plants of great economic value. These comprise sandalwood and other timber trees, sugar-cane, cotton plants, rubber-both, vine, nutmegs, ginger, bamboos, palms, bananas, bread-fruit, edible nuts, sago-palms, fruits, and vegetables.

3. *Live Stock.*—On 31st March, 1914, the live stock in the territory consisted of 423 horses, 4 donkeys, 1533 head of cattle, 118 mules, 50 sheep, 930 goats, 418 pigs, and 8707 fowls. A Government stud farm has been established for the breeding of horses. Twenty-nine stud mares have been imported. A valuable asset to the stud is the possession of two stallions of good breeding. The introduction of rabbits, foxes, hares, and monkeys is prohibited.

4. *Forest Products.*—There is a large variety of useful timbers in Papua. Of 120 varieties that have been catalogued, 16 are adapted to resisting heavy strains, and are suitable for girders, railway waggons, etc.; 10 for railway carriage and coach building; 15 for joinery, lining, flooring, etc.; 14 for butter boxes; 5 for boat building; 4 for piles; and 15 for cabinet work. Sandalwood is indigenous. It is largely used for cabinet work, and santal oil is distilled from its roots. Ebony is also produced for export. Rubber is a promising industry. There are considerable areas of native rubber (*Ficus Rigo*), but the planters generally prefer the imported Pará rubber. Guttapercha is obtained from species of *palaquium*, which grow on the hills. Drugs, dyewoods, and spices are also obtained from indigenous plants. Saw mills have been established, but the output has not been sufficient to supply the local demand for building and other timber, and large quantities of sawn timber have been imported from Australia. Contracts have been made by residents to ship timber to Great Britain.

5. *Fisheries.*—Pearl-shell fishing occupies an important place in the industries of Papua. A considerable number of luggers is licensed, but the returns are mostly credited to Queensland, whose boundary approaches to within a few miles of the Papuan coast. The species of tortoise which supplies the commercial tortoise-shell is also a native of the territory. Bêche-de-mer is found along the shores and reefs. There is a dugong fishery on the coast of the Western Division. The value of fisheries exports in 1913-14 was nearly £20,000.

6. *Mining.*—(i.) *Variety of Minerals.* Minerals have been discovered in many places, and over an extremely wide range. Those discovered so far are—gold, copper, silver, tin, lead, zinc, cinnabar, iron, osmiridium, gypsum, manganese, sulphur, graphite, and petroleum. The discovery of the last named mineral is regarded as important, and steps are being taken to establish the industry. Petroleum of good quality has been secured at Vailala, and during 1913-14 a systematic geological investigation of the oil-field was made. Of precious stones, only the topaz and beryl have been obtained. Large beds of apparently good coal also exist. A geologist was added to the Government service at the beginning of the year 1911.

(ii.) *Gold.* In 1888 the first gold was discovered. The search has now spread over every division, and finds have been recorded wherever the explorers have gone. Prospecting parties are subsidised by the Government. There are 94 white miners and 925 indentured labourers; the majority of the whites are working the Murna goldfield. The quantity and value of the gold yield for five years are given below:—

**GOLD YIELD, PAPUA, 1909-10 to 1913-14.**

1909-10.		1910-11.		1911-12.		1912-13.		1913-14.	
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
ozs.	£	ozs.	£	ozs.	£	ozs.	£	ozs.	£
16,151	60,181	18,497	68,803	17,047	60,608	18,247	64,115	14,666	50,110

Most of the rivers, with the exception of those flowing into the Gulf of Papua, have been declared open to gold-dredging, and good yields have been obtained from many of the rivers thus dredged.

The Gold-buyers Ordinance (Ordinance XVIII. of 1909) provides for the issue of licenses to buy gold, and imposes a penalty in respect to the purchase of gold by unauthorised persons. The total quantity of gold won to 30th June, 1914, was 372,497 ounces, valued at £1,341,780.

(iii.) *Copper.* A rich and extensive copper field has been proclaimed, and about 30 square miles of it are being worked. There are indications that the mineral exists over a much wider region. The ore shipments in 1912-13 and 1913-14 were the largest since the field was discovered. The total amount shipped to date is 3884 tons, valued at £70,153.

(iv.) *Other Minerals.* Some good samples of galena (sulphide of lead) have been obtained. Small quantities of cinnabar (sulphide of mercury), graphite (or plumbago), osmiridium (or iridosmine), zinc, native sulphur and other minerals are also found.

A mineral laboratory and museum has been fitted up, and is available to prospectors and others interested.

7. **Manufactures.**—The chief native manufactures are pottery, canoes, fishing nets, mats, shell ornaments, stone implements, and decorated gourds.

## § 6. Statistical Summary.

1. **Revenue and Expenditure.**—The revenue and expenditure for 1913-14, under principal heads, are given below; also a summary covering a period of five years. In addition to the revenue collected during the year, amounting to £54,704, £30,000 was granted by the Commonwealth Government.

REVENUE OF PAPUA, 1913-14.				EXPENDITURE OF PAPUA, 1913-14.			
Customs receipts	...	...	£37,341	Lieutenant-Governor and Civil list	£3,565		
Post Office	...	...	1,362	Government Secretary	...	36,045	
Native labour fees	...	...	2,295	Treasury	...	8,810	
Native hospital fees	...	...	755	Lands and Agriculture	...	14,264	
Mining receipts	...	...	2,125	Public Works	...	8,449	
Land leases	...	...	1,061	Medical	...	6,534	
Harbour dues	...	...	1,882	Department of Native Affairs	...	1,516	
Miscellaneous receipts	...	...	7,883	Central Court	...	1,548	
				Legislative Council	...	364	
Total	...	...	£54,704	Total	...	£81,095	

## REVENUE AND EXPENDITURE OF PAPUA, 1909-10 to 1913-14.

Item.	1909-10.	1910-11.	1911-13.	1912-13.	1913-14.
	£	£	£	£	£
Revenue ... ..	35,918	45,972	51,035	52,335	54,704
Expenditure ... ..	64,874	70,699	85,636	85,170	81,095

**2. Imports and Exports.**—The value of imports and exports for five years is shewn in the table below. The figures for 1907-8 and 1908-9 evidenced considerable expansion in trade over former years. Those for 1909-10 shewed an advance over 1908-9 of £25,497 in imports, and £20,907 in exports. In 1910-11 imports increased nearly 70 per cent. over the previous year, exports nearly 17 per cent. In the following year the imports increased 16 per cent.; exports decreased 14 per cent. In 1912-13, there was a falling-off in imports; but a great expansion, amounting to nearly 30 per cent. over the previous year, in exports. The year 1913-14 shews a slight decrease in both imports and exports.

## VALUE OF IMPORTS AND EXPORTS OF PAPUA, 1909-10 to 1913-14.

Particulars.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
	£	£	£	£	£
Imports ... ..	120,177	202,910	235,369	218,323	212,134
Exports ... ..	100,599	117,410	99,990	128,016	123,140
Total trade ... ..	220,776	320,320	335,359	346,339	335,274

The principal articles of import are foodstuffs, which in 1913-14 reached a total value of £55,723. The chief other imports in that year were:—Drapery and clothing, £24,992; hardware and ironmongery, £32,106; building material, £9943; tobacco and cigars, £14,321; machinery, £13,581; wine, spirits, and beer, £7389; live stock, £3571; oils and kerosene, £7600. In the years under review gold has formed considerably more than half the value of the total export, except in 1912-13 and 1913-14, when it was less than half. In 1913-14 the value of this metal exported reached £47,233. Other principal exports were:—Copra, £26,043; copper ore, £19,733; pearl and turtle shell, £11,739; pearls, £4602; hemp, £3633; béche-de-mer, £2857; rubber, £1536.

**3. Postal and Shipping.**—Considerable development has been shewn in means of communication—the postal returns, and the tonnage of vessels entered and cleared at ports, having largely increased. Particulars regarding postal matter are given hereunder:

## POSTAL STATISTICS OF PAPUA, 1909-10 to 1913-14.

Year.	Letters.		Packets.		Newspapers.		Parcels.	
	Received.	Des-patched.	Received.	Des-patched.	Received.	Des-patched.	Received.	Des-patched.
1909-10 ... ..	64,357	56,776	8,893	5,575	52,178	21,104	1,351	379
1910-11 ... ..	84,274	83,617	13,712	8,011	63,170	25,520	2,279	542
1911-12 ... ..	124,603	97,783	23,433	5,336	88,873	36,107	2,769	949
1912-13 ... ..	136,585	111,574	23,088	5,338	112,931	37,030	2,935	1,049
1913-14 ... ..	158,760	124,353	24,458	8,347	130,620	35,011	3,305	1,367

The value of money orders issued in 1911-12 was £7449; of those paid, £664. In 1912-13, the respective values were £7166 and £793; and in 1913-14 £6069 and £906.



The following table shews the number, tonnage, and nationality of vessels entered and cleared at ports during the years 1909-10 to 1913-14 :—

**SHIPPING.—FOREIGN-GOING VESSELS ENTERED AND CLEARED AT PORTS OF  
PAPUA, 1909-10 to 1913-14.**

Nationality.	Vessels.									
	Number.					Tonnage.				
	1909-10	1910-11	1911-12	1912-13.	1913-14	1909-10	1910-11.	1911-12.	1912-13 *	1913-14
British... ..	234	246	291	1,721	863	123,402	123,461	135,015	182,676	159,776
Foreign ... ..	42	55	64	56	66	132,884	129,661	140,788	123,802	198,730
Total... ..	276	301	355	1,777	929	256,286	253,122	275,803	306,478	358,506

\* Small vessels are included in 1912-13, but excluded in other years.

## § 7. Land Tenure.

1. **Method of Obtaining Land.**—(i.) *The Land Laws.* The broad principles upon which the land laws of Papua are based are:—(a) No land can be alienated in fee simple; (b) the rental of the land leased is assessed on the unimproved value of the land, and is subject to reassessment at fixed periods.

A detailed account of the method of obtaining land was given in Official Year Book No. 6, pp. 1083-4.

(ii.) *The Leasehold System.*—With a view of attracting pioneer settlers, an ordinance was passed in 1906 under which leases were granted on very liberal terms. No rent was payable for the first ten years, the heavy expense of survey was borne by the Government, and no charge was made for the preparation and registration of the leases; that is to say, no payments whatever had to be made to the Government for 10 years. Under this system, the area under lease increased in four years from 2089 acres to 363,425 acres; about 140 plantations were started, and nearly 1000 acres planted during that period.

After allowing free survey for three years, it was decided that all future applicants for agricultural leases exceeding in area 100 acres should be required to pay the cost of survey. It was also found desirable to check a tendency amongst a proportion of land applicants to obtain areas so great that the improvement conditions could not be carried out. It was therefore enacted that no leases should be granted after 1st June, 1910, exceeding 5000 acres in extent, and that rent at the rate of 3d. per acre must be paid from the commencement on all leases exceeding 1000 acres in area. As a result of these enactments, several leases have been forfeited. On the other hand, a stricter enforcement of improvement conditions has resulted in a substantial raising of the standard.

2. **Land Tenures.**—On 30th June, 1914, the lands of the territory were held as follows :—

	Acres.			
Area of land held by the natives	...	...	...	56,483,217
Area of Crown land ...	...	...	...	1,208,419
Area of freehold land	...	...	...	23,085
Area of leasehold land	...	...	...	230,879
Area of territory	...	...	...	57,945,600

Private sales of land in the territory have now practically ceased. The Government buys from the natives, and then leases to planters, who are forbidden to have direct dealings in land with Papuans. The development in leasehold tenures may be seen from the following table:—

**TOTAL AREA HELD UNDER LEASE, 1909-10 to 1913-14.**

Year ended 30th June.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
Land held under lease ... acres (as recorded).	363,425	364,088	332,422	290,936	230,879

In 1913-14, the area of leases granted was 19,266 acres; that of leases expired, revoked, and forfeited was 78,457 acres. Further, recent surveys have shewn that applicants for leases in many cases over-estimated the areas; this constitutes a further shrinkage. Leases of unimproved areas have, after a reasonable time has been allowed in which to make a substantial start in clearing and planting, been forfeited. There has been steady development in agriculture through the adoption of stringent safeguards against purely speculative acquisitions of land. During 1913-14, the area of land acquired by the Crown from the natives was 59,995 acres. Notwithstanding shrinkage in figures quoted, the plantation statistics (see *supra*) indicate that development is rapidly proceeding.

The total area surveyed in the Territory is 22,524 acres of freehold, and 209,190 acres of leasehold.

**§ 8. Progress of the Territory.**

1. **Statistical View of Eight Years' Progress.**—As already stated (§ 2, *supra*) the territory was placed under Commonwealth control on 1st September, 1906. The following table indicates the progress that has been made since that date:—

**STATISTICAL VIEW OF EIGHT YEARS' PROGRESS, 1907-1914.**

Subject.	Year ended 30th June.	
	1907.	1914.
White population ... ..	690	1,186
Native labourers employed (exclusive of Crown servants) ...	2,000	11,383
Number of white civil servants ... ..	65	119
Armed constabulary ... ..	185	293
Village constables ... ..	401	565
Territorial revenue ... ..	£ 21,813	54,704
Territorial expenditure ... ..	£ 45,335	81,095
Value of imports ... ..	£ 87,776	212,134
Value of exports ... ..	£ 63,756	123,140
Area under lease ... .. acres	70,512	230,879
Tonnage of ocean-going vessels entered and cleared at ports ...	159,177	358,506
Area of plantations ... .. acres	1,467	42,921
Meteorological stations established ... ..	3	18
Gold yield ... .. ounces	16,103	14,666
Copper ore shipped ... .. tons	137	1,150
Live stock in territory—		
Horses ... ..	173	*423
Cattle ... ..	648	*1,533
Mules ... ..	40	*118

\* On 31st March, 1914.

## SECTION XXX.

### PUBLIC HYGIENE.

#### § 1. Introduction.

1. **General.**—Though the safeguarding of the public health as an organised department of administration is of comparatively modern growth, few branches of law have expanded more rapidly than the one relating to that subject. The loss of potential wealth incurred through preventable diseases and deaths is of grave concern to the nation, and is a matter which has recently received an increased amount of attention both from the Commonwealth and State Governments and from the Health and other authorities in Australia. Numerous Acts of Parliament have been passed dealing with various aspects of the subject of public hygiene.

2. **State Legislation.**—In the first place there is a number of statutes, passed by the State Legislatures, such as Public Health Acts, Pure Food Acts, and Milk and Dairy Supervision Acts, providing, *inter alia*, for the constitution of Central Health Authorities, vested with definite powers, and furnishing the machinery necessary to enforce these powers. The general effect of this legislation has been to place local sanitary regulations and the execution of the Acts in the hands of the local authorities, subject to a general superintendence by a Government department.

3. **Commonwealth Legislation.**—Secondly, by the enactment of the Commerce (Trade Descriptions) Act 1905, the Quarantine Acts 1908 and 1912, and the Customs Act 1910, the Commonwealth Government has taken the first steps towards the exercise of its constitutional powers for the protection of the public health. All these Acts are administered by the Department of Trade and Customs.

4. **Scope of Enquiry.**—In addition to the statutes already referred to, account should be taken of a large body of legislation which relates more or less indirectly to the subject of public hygiene. It deals with a great variety of subjects and matters, such as factories, conditions of employment, mines, merchant shipping, prevention of fire, buildings, dangerous performances, contagious diseases, and other matters. There is also a number of statutes which have been passed with the object of protecting and supervising infant life. Owing to exigencies of space it is not possible in this section to do more than give a brief description of the scope and results of the legislation relating to public hygiene in its more important aspects.

#### § 2. The Public Health Acts.

1. **General.**—The most important statutes relating generally to the subject of public hygiene are the Health Acts which have been passed in each State. While the scope of these Acts differs considerably in some of the States, there is a general similarity in their chief provisions and range of operation. The administration of the Acts is carried on by either a Central Board or a Commissioner of Health under Ministerial control, while their actual execution is imposed on local Boards of Health or on the local authorities constituted under the various Local Government Acts. Ordinarily the Central authority

has general supervisory powers over local Boards and authorities, and also has power to act in case of default by or in the absence of a local Board or authority as to any duty under the Act, and to recover all expenses incurred. The Central authority may also make regulations, and the central and local Boards may make by-laws for various purposes generally specified in the Health Acts. Generally it may be said that the chief functions of the Central Health authorities are:—(a) the collection and dissemination of useful information relating to health and the prevention of disease, and (b) to control, stimulate, and, where necessary, to supplement the efforts of the local authorities.

Inspectors are sent to make reports on the hygienic conditions of country towns or districts with a view to assisting the local authorities with advice, and keeping the central department posted as to the activity or otherwise of these various bodies.

Rating powers for sanitary purposes are conferred on local authorities by the Local Government Acts.

The general powers of local authorities under the Acts extend to a variety of subjects and matters, including:—sewers and drains, sanitary conveniences, scavenging, cleansing, privies and cesspools, abatement of nuisances generally, offensive trades, public buildings, dwelling-houses and lodging-houses, hospitals, mortuaries, cemeteries and burial grounds, prevention of adulteration of food and drugs, unsound food, pollution of water, supervision of abattoirs and dairies, prevention of infectious diseases, and infant life protection.

**2. New South Wales.**—The Department of Public Health is controlled by the Minister of Public Health. The Director-General of Public Health is the chief executive officer, and is assisted by various staffs—medical, bacteriological, chemical, veterinary, dairy inspection, meat inspection, sanitary, pure food, and clerical. Briefly put, the work of the Department extends over the whole of the State, and embraces all matters relating to public health and the general medical work of the Government; the Director-General of Public Health holding the position of Chief Medical Officer of the Government as well as being permanent head of the department.

The Board of Health has certain statutory duties imposed upon it by various Acts of Parliament, and the Director-General is President of the Board. These duties consist largely in supervision of the work of local authorities (Municipal and Shire Councils), so far as that work touches upon public health matters connected with the following Acts:—Public Health Act 1902, Public Health (Amendment) Act 1915, Dairies Supervision Act 1901, Noxious Trades Act 1902, Cattle Slaughtering and Diseased Animals and Meat Act 1902, Sydney Abattoir and Nuisances Prevention Act 1902, Pure Food Act 1908, and Private Hospitals Act 1908. The Board further possesses certain powers connected with public health matters under the Local Government Act 1906. It may be mentioned that the Board of Health is a nominee Board, created in 1881 and incorporated in 1894.

The Director-General of Public Health acts independently of the Board of Health as regards the State hospitals and asylums, and the various public hospitals throughout the State which receive subsidies from the Government.

The Department also controls, on behalf of the Federal Government, the meat export trade of the State. A veterinary inspector is in charge, and has assisting him an assistant veterinary inspector and thirty-five qualified meat inspectors stationed at Glebe Island and at various slaughter-houses throughout the State.

**3. Victoria.**—In this State the Public Health Acts are administered by a Board composed of two members nominated by the Governor-in-Council and of seven members elected by the municipal councils. The medical and sanitary staffs of the Board consist of (a) the medical inspector, who is also chairman, (b) two assistant medical inspectors, (c) two engineering inspectors, (d) three building inspectors, and (e) nine health inspectors. The main function of the Board is to enforce the execution of the Health Acts by the local municipalities, but it has been found advisable to supplement this supervisory function by an active policy of inspections as to the sanitary condition of

various districts and the sampling of articles of food. The supervision of the sanitary condition of milk production is under the Dairy Supervision Branch of the Department of Agriculture, but distribution is supervised by the Board of Health. Acts administered by the Department of Public Health are:—The Health Acts, the Cemeteries Acts, the Cremation Act 1903, the Adulteration of Wine Act 1905, the Meat Supervision Acts, and the Pure Food Act 1905.

4. **Queensland.**—The Public Health Acts 1900 to 1911 are administered by the Commissioner of Public Health under the Home Secretary. The executive staff of the Department includes a health officer, an assistant-health officer, a medical inspector for North Queensland, a secretary and five clerks, nine sanitary inspectors, and six food inspectors, in addition to rat squads in Brisbane and the main outports, and a mosquito squad for the Brisbane metropolitan area. A northern office, in charge of the medical inspector for North Queensland, is located at Townsville. A laboratory of microbiology and pathology, in charge of a medical director, is controlled by the Department, and performs a wide range of microbiological work for the assistance of medical practitioners and the Department.

One function of the Department is to stimulate and advise local sanitary authorities on matters pertaining to the Health Acts, and, where necessary, to rectify or to compel rectification, at the cost of the local authority, of sanitary evils produced by local inefficiency or apathy. Its powers and responsibilities were widely increased by the Health Act of 1911, which, *inter alia*, enables definite action to be taken against mosquitoes, rats, and other noxious vermin liable to spread disease.

A scheme for the limitation of venereal disease in the metropolitan area has been recently put into operation in Brisbane under statutory powers. It includes compulsory notification, free treatment, and the free supply of salvarsan and allied remedies to all public hospitals. Compulsory segregation of venereally infective persons of either sex may be effected on occasion.

5. **South Australia.**—The Central Board of Health in South Australia consists of five members, three of whom (including the chairman) are appointed by the Governor, while one each is elected by the city and suburban local Boards and the country local Boards. The Health Act 1898 provides that the municipal and district councils are to act as local Boards of Health for their respective districts. There are 182 of these local Boards under the general control and supervision of the Central Board. A chief inspector and two inspectors under the Health, Food, and Drugs Acts, periodically visit the local districts and see generally that the Boards are carrying out their duties. There is also a chief inspector of food and drugs (under the Food and Drugs Act 1908), who, in company with an analyst, visits country districts, and takes samples of milk, which are analysed on the spot. There are two nurse inspectors employed in advising and assisting local Boards in connection with outbreaks of infectious diseases. In the outlying districts there are thirteen inspectors directly responsible to the Board. The Education Department has a medical officer and two female inspectors, who deal with all cases of infectious disease occurring in schools, while their appointments under the Health Act enable them to trace cases of such disease, and deal, if necessary, with the sanitary state of the children's homes.

6. **Western Australia.**—The legislation in this State is The Health Act 1911, with two Amending Acts 1912. The central authority is the Department of Public Health, controlled by a Commissioner, who must be a qualified medical practitioner. The local authorities constitute:—(a) Municipal Councils, (b) Road Boards which may be appointed as such, (c) Local Boards of Health, composed of persons appointed by the Governor for a certain period. These Local Boards are only utilised where neither Municipal Councils nor Road Boards are available. Generally speaking, the Act is administered by the local authorities, but the Commissioner has supervisory powers, also power to compel local authorities to carry out the provisions of the Act. In cases of emergency the Commissioner may exercise all the powers of the local health authorities throughout the State.

All the usual provisions for public health legislation are contained in the Act, and in addition, provision is made for the registration of midwifery nurses, and the medical examination of school children.

**7. Tasmania.**—The Public Health Act 1903 vests central control in the Chief Health Officer, who is the permanent head of the Department of Public Health. He is charged with very wide functions and powers, and in the event of the appearance of dangerous infectious disease (smallpox, plague, etc.) in the State, is vested with supreme power, the entire responsibility of dealing with such an outbreak being taken over by him from the local authorities. Local executive is vested in local authorities, who possess all legal requirements for the efficient sanitary regulation of their districts. Controlling and supervisory powers over these bodies are possessed by the Department of Public Health, whereby many of the powers conferred upon them may be converted into positive duties. One function of the Department is to advise local authorities on matters pertaining to the Health Act, and, where necessary, to rectify sanitary evils produced by local inefficiency or apathy. The department has four full-time inspectors, who assist and instruct the local sanitary inspectors, but full-time district health officers are not provided for. The number of local authorities under the Public Health Act has been reduced to fifty-one since the Local Government Act 1906 came into force. All parts of Tasmania are now furnished with the administrative machinery for local sanitary government.

### § 3. Inspection and Sale of Food and Drugs.

**1. Introduction.**—The importance of securing a pure and wholesome supply of food and drugs is recognised by both the Commonwealth and State Parliaments. Under the Acts referred to later, and the regulations made thereunder, the importation of articles used for food or drink, of medicines, and of other goods enumerated, is prohibited, as also is the export of certain specified articles, unless there is applied to the goods a "trade description" in accordance with the Act. Provision is made for the inspection of all prescribed goods which are imported, or which are entered for export.

**2. Commonwealth Jurisdiction.**—Under Section 51 (i.) of the Commonwealth Constitution Act 1900, the Commonwealth Parliament has power to make laws with respect to trade and commerce with other countries and among the States. By virtue of that power, the Commerce (Trade Descriptions) Act 1905, and the Customs Act 1910, to which reference has already been made in another part of this book (see pp. 513, 514), were passed.

**3. State Jurisdiction.**—The inspection and sale of food and drugs is also dealt with in each State, either under the Health Acts or under Pure Food Acts. There is, in addition, in the several States, a number of Acts dealing with special matters, such as the adulteration of wine and the supervision of meat. The sanitary condition of the milk supply is also subject to special regulations or to the provisions of special Acts.

(i.) *General Objects of Acts.* The general objects of the Acts dealing with the inspection and sale of food and drugs are to secure the wholesomeness, cleanliness, and freedom from contamination or adulteration of any food, drug, or article, and for securing the cleanliness of receptacles, places, and vehicles used for their manufacture, storage, or carriage. The sale of any article of food or any drug which is adulterated or falsely described is prohibited, as also are the mixing or selling of food or drugs so as to be injurious to the health. A more detailed account of the various State Acts and of their administration and enforcement is given in previous issues of the Year Book (see No. 6, p. 1090).

(ii.) *Inspection and Analysis.* Power is given to any authorised officer to enter any place for the purpose of inspecting any article intended to be used as a food or drug and also to inspect articles being conveyed through the streets, by water or by rail. He may take samples for examination or analysis, and may seize for destruction articles whic

are injurious to health or unwholesome. Chemical analyses and bacteriological examinations are made by qualified officers. Special provision is generally made in the Acts with regard to the sale of preservatives and disinfectants.

(iii.) *Advisory Committees.* In New South Wales, Victoria, and South Australia Advisory Committees have been appointed for the purpose of prescribing food standards and for making recommendations generally with a view to carrying out the provisions of the Acts. The duty of enforcing these regulations is entrusted to the local authorities, but it is stated that up to the present comparatively few of the local councils seem to have realised the importance of guarding the food supplies of the people.

4. **Food and Drug Standardisation.**—With the object of securing uniformity of food and drug standards of the principal manufactured products sold in the Commonwealth, a conference, which was attended by representatives of the Commonwealth and all the individual States except Western Australia, was opened in Sydney on 8th June, 1910. The result of this conference was that several adoptions of standards of food and drugs, and labelling of articles for consumption were made, so as to obtain uniformity in the several States. In June, 1913, a second conference of the principal Health Officers of the Commonwealth and States was held in Melbourne. Emphasis was laid on the importance of fixing uniform standards throughout the Commonwealth for food and drugs, and of also securing uniformity of administration of the laws relating thereto. It was also urged that, as the uniform enforcement of standards throughout the Commonwealth depends to a great extent on the methods of analysis, the Commonwealth and State analysts should prepare standard methods for determination of the chemical standards adopted. The resolutions of the conference were submitted to the Premiers' Conference held in Melbourne in March, 1914, when it was determined to introduce uniform legislation or regulation with respect to the preparation and distribution of food and drugs.

## § 4. Milk Supply and Dairy Supervision.

1. **Introduction.**—Milk is pre-eminently the food which needs most careful protection at each successive stage of its production, carriage, storage, and delivery, from exposure to infection from extraneous matter. The problem of obtaining a pure and clean milk supply has accordingly, during the last few years, demanded an increasing amount of attention from the Health authorities, and in each State special laws and regulations have been passed governing the supervision of dairy farms and dairies.

(i.) *General Provisions of Acts and Regulations.* In general, it may be said that it is not lawful to sell or offer for sale any milk which is not fresh or wholesome, or which has been watered, adulterated, reduced, or changed in any respect by the addition of water or any other substance, or by the removal of cream. Regulations made under the Acts provide for the carrying-on of dairy farms, dairies, factories, and creameries, under proper and wholesome conditions; and supervisors and inspectors are appointed to enforce these provisions. Generally, the execution and enforcement of the Acts are left to the local authorities.

(ii.) *Registration of Dairymen and Milk Vendors.* Dairymen, milk vendors, and dairy-factory or creamery proprietors are required, under penalty, to be registered. In some States registrations must be applied for before commencing to trade; in other States they must be applied for within a specified time after the premises are first used.

(iii.) *Inspection of Premises.* Dairy inspectors employed by the central departments traverse the principal dairying districts, and inspect dairy premises, dairy herds, appliances, and utensils, and ascertain in what fashion the various local authorities carry out the duties imposed on them. Regulations and instructions are issued by the central departments for the information and guidance of local authorities, dairymen, milk vendors, and others, as to precautions to be observed in order to protect milk from contamination, and to ensure cleanliness as to the structural arrangements, dimensions and ventilation of premises, and as to the care and health of dairy cattle. If an inspector

is satisfied that any premises or apparatus used therein are unclean, or unfit for the purposes of dairy produce, he may require the owner to put the same in a proper and wholesome condition.

(iv.) *Notification of Diseases.* Every dairyman or milk vendor is required to report immediately any case of certain prescribed infectious diseases occurring in any human being engaged at or residing on his premises. It is the duty of the local authority to take care that communication between all persons belonging to the infected household and the milk business in all its details is prevented. Cases of notifiable diseases occurring in animals at a dairy farm or dairy must also be reported immediately, and the owner must at once isolate the diseased animal. The sale of milk from an infected cow is prohibited, and, under certain circumstances, an inspector may order an infected animal to be branded or destroyed.

(v.) *Analysis of Dairy Produce.* The local authority generally has power to enter premises and to take away samples of the milk, cream, butter, or cheese there found, and of the water supply therein, for the purpose of examination or analysis.

2. **Number of Dairy Premises Registered.**—The following table shews the number of dairy premises registered and the number of cattle thereon in each State during the year 1913-14.

**NUMBER OF DAIRY PREMISES REGISTERED AND CATTLE THEREON, 1913-14.**

Particulars.	N.S.W.	Victoria.*	Q'land.	S. Aust.	W. Aust.	Tas.
Premises registered ...	19,400	12,814	12,636	969	387	702
Cattle thereon ...	665,000	155,250	347,437	6,775	6,132	8,992

\* In districts under the Milk and Dairy Supervision Act 1905.

3. **New South Wales.**—The provisions of the Dairies Supervision Act 1901 extend to the whole of the Eastern and Central Divisions of this State and to all important dairying districts further inland. Other districts are brought under the operation of the Act by proclamation from time to time. Every dairyman, milk vendor, and dairy factory or creamery proprietor is required, under penalty, to apply for registration to the local authority for the district in which he resides, and also to the local authority of every other district in which he trades. Registrations must be applied for before commencing to trade and must be renewed annually. The Chief Veterinary Inspector is in charge of all inspectorial work under the Dairies Supervision Act 1901, and has assisting him one assistant veterinary inspector and 14 qualified dairy inspectors, each in charge of a district.

4. **Victoria.**—The inspection and supervision in Victoria of dairies, dairy farms, dairy produce, milk stores, milk shops, milk vessels, dairy cattle and grazing grounds are provided for by the Milk and Dairy Supervision Act 1905, administered by the Minister of Agriculture. Under the Health Act 1890 and the Pure Food Act 1905, however, the Department of Public Health is empowered to take samples of food (including milk, cream, butter, cheese, and other dairy products) for examination or analysis, to institute prosecutions in case of adulterated or unwholesome food, and to carry out inspection of dairies, etc., in districts not yet proclaimed under the Act. By the end of the year 1914, 110 municipal districts, comprising about one-fourth of the area of the State, had been brought under the operation of the Milk and Dairy Supervision Act. The municipal councils have the option of carrying out the execution of the Act themselves or of electing for execution by the Department of Agriculture; up to the present all but one of the municipalities in which the Act has been proclaimed have elected for Departmental execution.

5. **Queensland.**—The control and supervision of the milk supply and of dairies and the manufacture, sale, and export of dairy produce in Queensland are provided for by the Dairy Produce Acts 1904 and 1911, administered by the Department of Agriculture and Stock. These Acts and the regulations made thereunder apply only to prescribed



districts, which comprise the whole of the coastal district from Rockhampton down to the New South Wales border, and the Darling Downs, Maranoa, Mackay, and Cairns districts.

6. **South Australia.**—The Food and Drugs Act 1908, and the Regulations made thereunder, provide for the licensing of vendors of milk and the registration of dairies, milk stores and milk shops. The Metropolitan County Board carries out the requirements of the metropolitan area. In the country, the majority of local authorities have not made statutory provision for the licensing of vendors of milk and the registration of dairy premises; and, in consequence, the Central Board of Health provides for such under the Act.

7. **Western Australia.**—Control of dairies throughout the State is in the hands of the Public Health authorities under the provisions of the Health Act. The inspectors under the Act supervise all sanitary conditions of the premises, the examination of herds being carried out by officers of the Department of Agriculture for the Health Department. This inspection of herds is regularly done, and in the case of such animals as arouse suspicion, the tuberculin test is applied. Regular inspection of premises from a sanitary point of view is also maintained.

8. **Tasmania.**—Local authorities are responsible for the dairies in their respective districts. By-laws for the registration and regulation of dairies have been drafted by the Public Health Department, and in the majority of cases have been adopted by the local authorities. By the Food and Drug Act, which came into force March, 1911, milk sampling is carried out by the local authorities. During 1913, attention was drawn by circular to the requirements of local authorities with regard to dairies, and a special report is now required before licenses are granted. An Act also provides for the registration and inspection of dairies and other premises where dairy produce is prepared, and regulates the manufacture, sale, and export of dairy produce.

## § 5. Prevention of Infectious and Contagious Diseases.

1. **General.**—The provisions of the various Acts as to precautions against the spread and the compulsory notification of infectious diseases may be conveniently dealt with under the headings—(a) Quarantine; (b) Notifiable Diseases; and (c) Vaccination.

2. **Quarantine.**<sup>1</sup>—Under the Commonwealth Quarantine Act 1908, the systems of State quarantine formerly in operation were abolished, and a branch of the Department of Trade and Customs, under the immediate control of a Director of Quarantine, was created on 1st July, 1909. An amending Quarantine Act was passed in 1912, correcting certain imperfections in the original Act, and conferring additional powers. As far as is at present practicable, uniformity of procedure has been established throughout the Commonwealth in respect of all vessels, persons, and goods arriving from overseas ports or proceeding from one State to another, and in respect of all animals and plants brought from any place outside Australia. In regard to interstate movements of animals and plants, the Act becomes operative only if the Governor-General be of opinion that Federal action is necessary for the protection of any State or States; in the meantime the administration of interstate quarantine of animals and plants is left in the hands of the States.

(i.) **Transfer of Quarantine Stations.** The transfer from the States to the Commonwealth of the quarantine stations, for the purposes of human quarantine, at the following places, has been effected:—(a) *New South Wales.* North Head (near Sydney). (b) *Victoria.* Point Nepean (near Melbourne). (c) *Queensland.* Colnslie and Lytton (near Brisbane), Magnetic Island (near Townsville) and Thursday Island. (d) *South Australia.* Torrens Island (near Adelaide). (e) *Western Australia.* Woodman's Point (near Fremantle), Albany, and Broome. Animal quarantine stations in each of the States have also been transferred, and steps are being taken for the taking over by the

1. From information furnished by the Federal Director of Quarantine.

Commonwealth of other stations. New buildings and improvements are in course of construction at several of the transferred stations.

(ii.) *Administration of Act.* Co-operation between the Commonwealth and State authorities is secured as far as practicable in the administration of the Act, arrangements having been made by which, under the Director of Quarantine, the State Health Departments of Western Australia and Tasmania administer in those States the division of the Act relating to vessels, persons and goods (general quarantine), the Chief Medical Officer of the Department in each case acting as chief quarantine officer. Payment is made for these services to the State Government. In New South Wales, Victoria, Queensland, and South Australia, this division of the Quarantine Act is administered by a Commonwealth medical chief quarantine officer. The administration of the Acts and regulations relating to oversea animal and plant inspection and quarantine is also carried out by the officers of the State Agricultural Departments acting as quarantine officers. Power to take action for the prevention of the spread of disease within a State still remains in the hands of the State, and as the functions of the Commonwealth and State may be exercised at the same time, the advantage of co-operation is apparent.

(iii.) *Chief Provisions of Act.* The Act provides for the inspection of all vessels from oversea, for the quarantine, isolation, or continued surveillance of infected or suspected vessels, persons, and goods, and for the quarantining and, if considered necessary, the destruction of imported goods, animals, and plants. The obligations of masters, owners, and medical officers of vessels are defined, and penalties for breaches of the law are prescribed. Power is given to the Governor-General to take action in regard to various matters by proclamation, and to make regulations to give effect to the provisions of the Act. Quarantinable diseases are defined as small-pox, plague, cholera, yellow fever, typhus fever, leprosy, or any other disease declared by the Governor-General, by proclamation, to be quarantinable. "Disease" in relation to animals means certain specified diseases, or "any disease declared by the Governor-General by proclamation to be a disease affecting animals." "Disease" in relation to plants means "any disease or pest declared by the Governor-General by proclamation to be a disease affecting plants." The term "plants" is defined as meaning "trees or plants, and includes cuttings and slips of trees and plants and all live parts of trees or plants and fruit."

(iv.) *Proclamations.* The proclamations so far issued specify the diseases to be regarded as diseases affecting animals and plants; appoint first ports of landing for imported animals and plants and first ports of entry for oversea vessels; declare certain places beyond Australia to be places infected, or as places to be regarded as infected with plague; prohibit the importation (a) of certain noxious insects, pests, diseases, germs, or agents, (b) of certain goods likely to act as fomites, and (c) of certain animals and plants from any or from certain parts of the world; and fix the quarantine lines in certain ports of Australia.

(v.) *Regulations.* Regulations have been made prescribing the quarantine signal; the hours of clearance of vessels; forms of notices, orders, reports, and bonds to be used by masters, medical officers, quarantine officers, and importers; the period of detention of vaccinated and unvaccinated persons in quarantine; the conditions of removal of goods and mails; the method of disinfection of persons, animals, and infected or suspected articles; the conditions under which certain animals not prohibited may be imported; the sustenance charges for quarantine animals; the conditions of importation of hides, skins, wool, hair, bones, and animal manure; the method of carrying out the quarantining, disinfection, fumigation, and treatment of plants and packages. Regulations have also been made with the object of preventing the ingress to and the egress from vessels of rats and mice, and for the destruction of rats, mice, and other vermin.

(vi.) *General.* The procedure has already been greatly simplified. Instead of all oversea vessels being examined in every State, as was formerly the case, those arriving, from the south and west are now examined only at the first port of call and pratique is given for the whole of the Commonwealth, except in cases of suspicious circumstances.

while vessels arriving from the northern routes are examined only at the first and last ports. It is expected that the restrictions placed upon oversea vessels will be further removed as the machinery of quarantine is improved. The present freedom from certain diseases which are endemic in other parts of the world, would, however, appear to justify the Commonwealth in adopting precautionary measures not perhaps warranted in the already infected countries of the old world.

**3. Notifiable Diseases.**—Provision exists in the Health Acts of all the States for precautions against the spread and for the compulsory notification of infectious diseases. When any such disease occurs, the Health Department and the local authorities must at once be notified. In some States notification need only be made to the latter body. The duty of giving this notification is generally imposed, first, on the head of the house to which the patient belongs, failing whom on the nearest relative present, and on his default on the person in charge of or in attendance on the patient, and on his default on the occupier of the building. Any medical practitioner visiting the patient is also bound to give notice.

(i.) *Notifiable Diseases Prescribed in each State.* In the following statement those diseases which are notifiable in each State are indicated by a cross:—

**DISEASES NOTIFIABLE UNDER THE HEALTH ACTS IN EACH STATE.**

Particulars.	N.S.W.	Vic.†	Q'land.	S.A.	W.A.‡	§Tas.
Anthrax ... ..	...	+	...	+	...	...
Ankylostomiasis ... ..	...	...	+	...	...	...
Beri-beri ... ..	...	...	...	...	+	...
Bubonic plague ... ..	+	+	+	+	+	+
Cerebro-spinal fever ... ..	...	...	...	+	...	...
Cerebro-spinal meningitis ... ..	...	+	+	+	+	...
Cholera ... ..	...	+	+	+	+	+
Continued fever ... ..	...	...	+	...	+	...
Diphtheria ... ..	+	*	+	+	+	+
Dysentery ... ..	...	...	†¶	...	...	...
Enteric fever ... ..	...	*	+	+	+	+
Erysipelas ... ..	...	...	+	+	+	...
Gonorrhœa ... ..	...	...	†**	...	...	...
Infantile Paralysis ... ..	+	+	+	...	...	+
Leprosy ... ..	...	+	††	+	+	+
Malarial fever ... ..	+	...	...	+	+	...
Measles ... ..	...	+	...	+	...	...
Membranous croup ... ..	...	...	+	+	+	...
Ophthalmia neonatorum ... ..	...	...	...	...	+	+
Poliomyelitis anterior acuta ... ..	+	+	...	...	...	+
Puerperal fever ... ..	...	+	+	+	+	+
Pulmonary tuberculosis(phthisis) ... ..	...	*	+	††	+	+
Relapsing fever ... ..	...	...	†	+	+	...
Scarlet fever ... ..	+	*	+	+	+	+
Scarlatina ... ..	...	*	+	+	+	+
Septicæmia ... ..	...	+	...	...	+	...
Small-pox ... ..	+	+	+	+	+	+
Syphilis ... ..	...	...	†**	...	...	...
Trichinosis ... ..	...	...	...	+	...	...
Typhoid ... ..	+	*	+	+	+	+
Typhus fever ... ..	...	+	+	+	+	+
Whooping cough ... ..	...	+	...	+	...	...
Yellow fever... ..	...	+	+	+	+	+

¶ Those diseases marked with an asterisk in this column have been declared notifiable diseases, while those marked by a cross have been declared "dangerous infectious diseases" under the Public Health Act 1890, and when prevalent in any municipal district may be declared notifiable diseases within such district. † Other diseases enumerated as notifiable under "The Health Act 1911" of this State are bilharzia hæmatobia, pyæmia, and Malta, dengue, low and Colonial fevers.

¶ Thursday Island area only. \*\* Metropolitan area of Brisbane only. †† Under the Leprosy Act 1892. § Chicken-pox has been declared a notifiable disease to render certain its differential diagnosis from Small-pox. † Tuberculosis in animals is also notifiable.

(ii.) *Duties of Authorities.* As a rule the local authorities are required to report from time to time to the Central Board of Health in each State as to the health, cleanliness, and general sanitary state of their several districts, and must report the appearance of certain diseases. Regulations are prescribed for the disinfection and cleansing of premises, and for the disinfection and destruction of bedding, clothing, or other articles which have been exposed to infection. Bacteriological examinations for the detection of plague, diphtheria, tuberculosis, typhoid, and other infectious diseases within the meaning of the Health Acts are continually being carried out. Regulations are provided in most of the States for the treatment and custody of persons suffering from certain dangerous infectious diseases, such as small-pox and leprosy.

(iii.) *New South Wales.* The proclamation and notification of infectious diseases are dealt with in Part III. of the Public Health Act 1902. Special provision is made by that Act for the notification of small-pox and leprosy, and for the custody and treatment of lepers. Many improvements have been effected by the Sydney Harbour Trust with a view to generally improving the hygienic condition of the area under its control, and especially with the object of preventing the introduction of bubonic plague. Special reports dealing with outbreaks and the aetiology of plague have been published.

(iv.) *Victoria.* Under Part VIII. of the Public Health Act 1890, the notification of small-pox, cholera, plague, yellow fever, and other prescribed malignant, infectious, or contagious diseases is compulsory. An amending Act, passed in 1907, requires medical practitioners and registrars to report all cases of notifiable diseases coming under their notice in any proclaimed district, and not merely those cases which occur in the district in which the practitioner or registrar is resident.

(v.) *Queensland.* Under Part VII. of the Health Act 1900, all cases of infectious diseases must be notified; special provision is made for notification of small-pox. A report on plague in Queensland for a period covering eight successive years—1900 to 1907—has been published by the Commissioner of Public Health. Apart from the statistical data collected and collated, the report deals exhaustively with the medical, preventive, administrative, and epidemiological aspects of the plague, as observed in Queensland. Plague hospitals are provided at Maryborough, Bundaberg, Gladstone, Mackay, Townsville, and Cairns. Provision is also made for the diagnosis of leprosy, and lepers are sent to Peel Island, Moreton Bay.

(vi.) *South Australia.* In this State cases of infectious diseases must be reported to the local Board, under the provisions of Part VIII. of the Health Act 1898. The onus of notification is placed primarily on the head of the family, and, failing him, the nearest relative, the person in charge, or the occupier of the house; in any case, notification must be given by the medical practitioner attending.

(vii.) *Western Australia.* Regulations made under the Health Act 1911 provide for the compulsory notification to local Boards of infectious diseases. The local Board must report to the central authority. The necessity for providing hospital treatment for infectious cases has been recognised by the Boards of Health, and in several instances wards for the treatment of these cases have been erected.

(viii.) *Tasmania.* Provisions regarding the prevention and notification of infectious diseases are contained in the Public Health Act 1903, as amended in 1908.

4. *Vaccination.*—In the State of New South Wales there is no statutory provision for compulsory vaccination, though such exists in all the other States of the Commonwealth. With the exception of Victoria, the Vaccination Acts are, however, not generally enforced. The Calf Lymph Depot of the State of Victoria was transferred to the Commonwealth in October, 1911. It is now designated "The Commonwealth Vaccine Depot," and is under the control of the Director of Quarantine. Lymph is prepared in this depot to meet the requirements of the Quarantine Service and of all the States. A considerable demand exists for lymph in the State of Victoria, where infantile vaccination is compulsory, but in the other States the normal requirements are small. During the years 1912, 1913, and 1914, the output of lymph in doses from the depot was respectively 65,000, 570,000, and 146,000. The number of doses issued in 1913 was, however, abnormal, and was due to the epidemic of small-pox which broke out in Sydney

at the end of June, this being followed by large numbers of vaccinations in each State. The following table shews, so far as particulars are available, the number of persons vaccinated in each State from 1909 to 1914 inclusive:—

NUMBER OF PERSONS VACCINATED IN EACH STATE, 1909 to 1914.

Year.	N.S.W.*	Victoria.†	Q'land.	S. Aust.	W. Aust.	Tasmania.
1909 ...	11	21,344	†	1,477	†	†
1910 ...	280	21,575	†	1,800	†	†
1911 ...	20	20,562	†	1,431	†	†
1912 ...	...	21,548	†	†	†	†
1913 ...	520,000	24,562	33,500	†	12,000	3,204
1914 ...	6,629§	23,536	30,000	940	3,017	†

\* By Government medical officers only. † Children only, who were vaccinated under the Act.  
see (ii.) below. ‡ Returns not available. § Exclusive of the military.

(i.) *New South Wales.* Although there is no provision for compulsory vaccination in this State, public vaccinators have been appointed. The large number of vaccinations in 1913 was due to an epidemic of small-pox in New South Wales, 1073 cases of the disease being recorded. No statistics are available as to the proportion of the population who have been vaccinated, but a report of the Principal Medical Officer of the Education Department states that out of 94,918 children medically examined during 1914, 33,109 or 35 per cent. had been vaccinated.

(ii.) *Victoria.* Compulsory vaccination is enforced throughout the State, under Part IX. of the Health Act 1890. From the year 1873 up to the present time it is estimated that 72 per cent. of the children whose births were registered have been vaccinated. Free lymph is provided. As a result of the small-pox epidemic in New South Wales in 1913 it is estimated that, exclusive of the vaccinations of children given in the above table, about 40 per cent. of the adult population were vaccinated or re-vaccinated in 1913.

(iii.) *Queensland.* Although compulsory vaccination is provided for in this State, under Part VII. of the Health Act 1900, only one remote district has been proclaimed under the Act. In the early part of 1912, the Queensland Government sent a medical expedition to the islands in Torres Straits. Over 1200 natives were vaccinated with a view to reducing the risk of the introduction of small-pox from New Guinea. As a result of the small-pox epidemic in Sydney, approximately 33,500 people were vaccinated in Queensland during 1913.

(iv.) *South Australia.* The Vaccination Act 1882, which applies to South Australia and the Northern Territory, is enforced by the vaccination officer of the State and by the Police Department. Under this Act vaccination was compulsory, but in 1901 an Act to abolish compulsory vaccination was passed. This latter Act was subsequently amended, and the present law is that no parent is liable to any penalty if, within 12 months from the birth of the child, he makes a declaration that he conscientiously believes that vaccination would be prejudicial to the health of the child, and within seven days thereafter delivers the declaration to the vaccination officer. It is estimated that about 15 per cent. of the children born are vaccinated.

(v.) *Western Australia.* In this State vaccination is compulsory under the Vaccination Act 1878, which, however, remains almost a dead letter. Under the Health Act 1911, however, a "conscientious objection" clause was inserted, which is availed of by the majority of parents, so that the number of children vaccinated is very small. All district medical officers are public vaccinators, but they receive no fee for vaccinations. Owing to the outbreak of small-pox in Sydney during 1913, it is estimated that not less than 12,000 children and adults were vaccinated in that year, while nearly 3000 vaccinations were effected during 1914 at Bunbury owing to an outbreak of small-pox, which occurred there in May of that year.

(vi.) *Tasmania.* All infants in Tasmania are nominally required, under the Vaccination Act 1898, to be vaccinated before the age of 12 months, unless either (a) a statutory declaration of conscientious objection is made, or (b) a medical certificate of unfitness is

received. The Act has not been enforced, and up to June, 1913, practically no vaccination of infants had been performed since the small-pox outbreak in Launceston in 1903, when 66 cases occurred with 19 deaths. During that year 24,857 were vaccinated in Tasmania. In 1913, owing to the outbreak of small-pox in New South Wales, there were 3204 cases of vaccination by public vaccinators.

## § 6. Tropical Diseases.

1. **Introduction.**—The remarkable development of parasitology in recent years and the increase in knowledge of the part played by parasites in human and animal diseases have shewn that the difficulties in the way of tropical colonisation, in so far as these arise from the prevalence of diseases characteristic of tropical countries, are largely removable by preventive and remedial measures. Malaria and other tropical diseases are coming more and more under control, and the improvements in hygiene, which science has accomplished, lend an entirely new aspect to the question of white settlement in countries formerly regarded as unsuitable for colonisation by European races. In Australia the most important aspect of this matter is at present in relation to such diseases as filariasis, malaria, and dengue fever, which, although practically unknown in the southern States, are of common occurrence in many of the tropical and sub-tropical parts of the Commonwealth.

2. **Queensland.**—(i.) *Transmission of Disease by Mosquitoes.* The existence of filariasis in Queensland was first discovered some thirty-three years ago. The parasite of this disease (and probably of dengue fever also), is transmitted by *Culex fatigans*, the mosquito most prevalent in Queensland. The *Stegomyia fasciata*, conveyer of yellow fever, is another common domestic mosquito throughout Eastern Queensland during the summer, but so far has never been infected from abroad. Occasional limited outbreaks of malaria occur in the northern parts of the State; one at Kidston, in 1910, resulted in 24 deaths. The infection was traced to newcomers from New Guinea. For many years several efforts were made to deal with the mosquito question in the larger centres, but, owing to the absence of the statutory powers, these had only limited success. Special provisions of the Health Act Amendment Act of 1911 remedied this defect, and extensive operations, involving oiling, drainage, tank screening, the use of larvivorous fish, and other measures have been organised by the Department of Public Health. The metropolitan local authorities contributed £420 towards the undertaking for the first year. Some 50,000 square yards of natural breeding places are attended to weekly by a special mosquito squad, over 2000 street gullies are oiled, and tank screening with fine wire gauze is being steadily enforced on owners and occupiers. The work is continued through the winter, in order to reach the eggs and larvæ at their period of lowest vitality. The Department's inspectors have also received a course of training in insect destruction, with a view to enabling the introduction of yellow fever or other insect-borne epidemic disease to be promptly and effectively met.

(ii.) *Institute of Tropical Medicine, Townsville.* In January, 1910, the Australian Institute of Tropical Medicine was inaugurated by the Commonwealth Government at Townsville. A special staff was appointed to carry out both the hospital and research work necessary. Owing to the scarcity of suitable laboratory animals for experimental purposes, and also to the absence of any systematic scheme of collaboration with other medical men throughout the tropical parts of Queensland, the initial difficulties confronting the director were considerable. These difficulties are, however, being overcome, and much valuable research has been made, particularly on the bacteriology of mosquitoes. At the present time an important examination is being carried out of the blood conditions of children born and reared in North Queensland, with a view of proving whether the blood of the children was normal as far as the formed elements are concerned, or whether deterioration had taken place, effecting an anæmia which could be attributed

to climatic conditions only. It is hoped that the result of the work of the institute on these lines will decide the question of the climatic influence on the white man in the tropics, and will indicate whether the great experiment of populating tropical Australia with a white working community can be accomplished.

It is intended at an early date to hold a course of Tropical Medicine at the institute.

**3. Northern Territory.**—While the Territory is conspicuously free from most of the diseases which cause such devastation in other tropical countries, a slight amount of malaria exists, and, although such cases as occur very rarely end fatally, the Administrator is taking measures for the destruction of mosquito larvæ wherever settlements or permanent camps are formed, while precautions are being taken to prevent the collection of stagnant water in such localities.

**4. Other States.**—In Western Australia it is stated that malaria is not known to exist south of the 20th parallel, while filaria has not been discovered at all. No mosquito-borne diseases are known to exist in Victoria, South Australia or Tasmania, and it is stated that filariasis is uncommon in New South Wales, the only cases known being imported ones. Kerosene and petroleum have been successfully used to destroy mosquitoes at various places in these States, both by municipalities and private individuals.

### § 7. Supervision of Infant Life.

It has been frequently stated in recent years that when the social, climatic, and industrial conditions are taken into consideration, the infantile mortality of Australia, particularly in the large towns, is much higher than it should be. It is now generally recognised, however, that infant mortality is largely attributable to parental ignorance and neglect, and that, in particular, improper feeding is accountable for perhaps the majority of infant deaths. In all the States of the Commonwealth, Acts have been passed with the object of generally supervising the conditions of infant life and of reducing the rate of infantile mortality, and in many of the large towns measures have been adopted by private individuals to spread among the mothers a knowledge of the best methods of feeding and caring for their infants. Milk Institutes have also been established after the manner of the *Gouttes de Lait*<sup>1</sup> in Europe, with the object of reducing the number of deaths of infants from milk poisoning in the summer months. Reference has been made in a previous part of this book (see page 169) to the number of infantile deaths and the rates of infantile mortality in each State, and it will be convenient to here shew corresponding particulars for the year 1914, classified according to metropolitan and other districts in each State:—

#### INFANTILE DEATHS AND RATES OF INFANTILE MORTALITY FOR METROPOLITAN AND OTHER DISTRICTS, 1914.

Districts.	N.S.W.	Victoria.	Queensland.	S.A.	W.A.	Tasmania.	C'wealth.
NUMBER OF INFANTILE DEATHS.							
Metropolitan	1,472	1,495	377	548	289	144	4,325
Other ...	2,245	1,340	894	430	338	286	5,536*
RATES OF INFANTILE MORTALITY.†							
Metropolitan	69.01	83.82	69.40	84.02	69.35	110.36	76.42
Other ...	69.48	72.88	61.87	67.38	67.08	60.71	68.02

\* Including 3 in Commonwealth territories.  
one year of age per thousand births.

† i.e., the number of deaths of infants under

1. Organised action in this direction commenced in 1894 in Belgium. The original Belgian Society is known as the "*Société des Gouttes de Lait*." The movement has become an international one, and branches of the Society have been founded all over Europe. Similar philanthropic work was commenced in the United States of America before 1894.

It may be seen that in each State the rates of mortality are higher in the metropolitan than in other districts. The causes of "preventable" deaths may generally be attributed to milk poisoning, want of knowledge on the part of mothers, inability to nurse, and lack of the necessary medical facilities.

The figures in the foregoing table do not, however, completely represent the hygienic aspect of the question. For every infant death recorded there are probably three or four survivors who have sustained more or less serious permanent physical damage, quite apart from injuries at birth or congenital causes. It is stated that the far-reaching influence of the first year or two of life upon the whole subsequent physical welfare of the individual cannot be recognised too clearly, and it has been alleged that many serious defects and diseases occurring in later life may be credited to results ensuing from infantile disease. This is particularly the case in respect of digestive diseases.

The conditions regulating the employment of boys and girls in shops and factories are referred to in the section of this book dealing with *Industrial Unionism and Industrial Legislation* (Section XXVII.). Certain particulars have also been given in Section XXIV. (pages 820 to 822) of this book regarding Orphanages, and Industrial and Reformatory Schools in Australia. In previous issues of this book a short account has been given of the principal Acts which have been passed in each State dealing with the subject of child-life, and of the principal functions of the States' Children's Departments. (See Year Book No. 6, p. 1101).

## § 8. Medical Inspection of State School Children.

1. **Introduction.**—For many years medical officers of health and many others concerned in education generally have, from time to time, suggested the desirability of a medical inspection of school children. The State, which enforces school attendance under penalties, is also under the obligation of securing a satisfactory hygiene for the child during such attendance. Moreover, efficiency in education demands several things, viz., that the conditions under which the studies are made shall be physically and hygienically satisfactory; that there shall be no undue concentration of nervous effort on school work, and that the child shall be reasonably safeguarded against infection, etc. Only by an adequate scheme of medical supervision can these results be attained.

Several limited and isolated surveys of the physical proportions of Australian children have been made during the past 30 years in the various States. The first important systematic survey, however, was made in Sydney in 1901, and the results were reported by the Government Statistician of New South Wales to the Australasian Association for the Advancement of Science Conference in Hobart in 1902, and shewed that the Sydney boy was taller than the English boy, but that his chest expansion was small in comparison with European figures.

A series of measurements on 500 boys took place concurrently but independently in Hobart during 1901, which also gave similar results. It was recognised that the figures were based on limited numbers, but they at least challenged attention. The 1901 survey in Sydney, though small, was a valuable and suggestive contribution to anthropometric research in Australia, and may be regarded as the beginning of a systematic attempt to ascertain what characteristics of bodily form are exhibited in Australia. This inquiry roused considerable interest in the other States, and series of measurements have since been made in Western Australia, Tasmania, and South Australia, by various authorities, and in Victoria by the Education Department's medical officers. Each year since 1907 the Department of Education of New South Wales has carried out regular anthropometric measurements of the height and weight of school children, and now possesses records of over 100,000 children, the results being detailed in the Department's annual reports. A card for each child allows his measurements for successive years to be recorded. The department perambulated the apparatus, each set serving about 20 schools, and the visits recur in the same month of each succeeding year.



**2. Co-ordination of Effort.**—So far as it has been carried out, the medical inspection of school children goes to shew that in Australia, as in other lands, the hygiene, both of the schools and of the pupils therein, is more defective than is ordinarily recognised, and that not only preventable physical injury to the rising generation from school conditions can be avoided, but also instruction itself can be made more efficient by a proper regard to the demands of a good school hygiene. With a view to securing uniformity of procedure in the several States, the Commonwealth Government in 1907 formulated a scheme and communicated with the States asking their co-operation in obtaining measurements of school children with a view to establishing the relations between age, weight and height, chest measurement, etc. Delays occurred from various causes, but in a paper read at the Science Congress in Sydney in 1911, the subject was again brought under notice, and this led to the appointment by the congress of a committee of experts to encourage anthropometric research and to consider the organisation of a systematic survey of school children throughout Australia. The scheme was essentially identical with the former proposal of the Federal Government, but in the interim the report of the British Anthropometric Committee became available, thus making possible a method uniform with that of Great Britain, and making the results immediately comparable with those of Europe.

The Australian Anthropometric Committee has drawn up a memorandum setting forth the importance and object of the survey, and suggestions as to method for the use of teachers, physical trainers and others interested.

A description of the proposed survey will be found in previous issues of the Year Book (see No. 6, p. 1104).

On the coming into operation of the Defence Act of 1910, military training became compulsory in the Commonwealth, and advantage has been taken of the prescribed medical examination to make a systematic record of the height, weight and chest measurement of each trainee. There can be no doubt that these anthropometric records will in time furnish valuable data for the study of Australian physical development. Further reference is made to this subject in the section dealing with "Defence."

**3. New South Wales.**—In this State, arrangements were made in May, 1907, for the medical inspection of school children in Sydney, and later in the year the work was extended to Newcastle.

In 1913, the scheme of school medical inspection was re-organised so as to embrace every pupil in the State whose parents desired such medical inspection of their children. The employment of part-time Medical Officers was discontinued, and a staff consisting of a Principal Medical Officer and nine full-time Medical Officers was appointed. It was decided to extend the medical inspection of school children to such non-State schools as were agreeable. To cope with this extra work, six additional Medical Officers have been added to the staff. Attached to the staff are also five school nurses and six clerks. The work now being carried on by the Medical Branch may be classified under the following heads:—

(1) The medical inspection of all school children (except about 10,000), in the State, whether attending public or non-State schools; (2) The investigation of epidemics of infectious diseases affecting school children; (3) Inspection of school buildings; (4) Delivering of systematic courses of lectures at the training college; (5) Delivering lectures to the senior girls in all metropolitan schools on the care of babies, personal cleanliness, home hygiene, sick nursing, etc.; (6) Delivering lectures to parents; (7) The medical examination of candidates for admission to the teaching service; (8) Giving first treatment in the back country schools to the eyes of scholars suffering from ophthalmia, and instructing the children and parents regarding future treatment and prevention; also supplying those children with sufficient drugs to carry on the treatment; (9) Visiting the parents of defective children by nurses to better secure the treatment of those children.

During the year 1914, 94,918 children were medically examined, exclusive of the number examined by the Travelling Hospital referred to hereafter.

Of this number, 76,323 were children attending public schools, and 15,662 attending private schools. Of the former children, 46,187, or 60 per cent., were found suffering from physical defects, and of these, 14,096, or 30 per cent., were treated, while of those attending non-State schools, 10,173, or 65 per cent., were found to be suffering from physical defects, and of these, 1700, or 16 per cent., were treated.

The most notable extension in the work during 1914 was the provision made for treating physically defective children in those parts of the State where it is difficult or impossible for them to obtain treatment otherwise. During the year 1914 a Travelling Hospital and a Travelling Ophthalmic Clinic were inaugurated, and arrangements were completed whereby the Metropolitan Dental Clinic and the Travelling Dental Clinic would start at the beginning of 1915. The Travelling Hospital, which is staffed by two medical officers, a dentist, and a nurse, works in those parts of the State where there are no resident doctors or dentists. After the school children have been medically examined, the treatment of defectives is undertaken. Minor operations are performed, such as the removal of adenoids and enlarged tonsils; eye defects are treated, while dental hygiene is attended to. The number of children treated by the Travelling Hospital and Ophthalmic Clinic during the four months they have been in operation, amounted to 2558.

The Sydney University has established a special course for the training of school medical officers. It is expected that a supply of school medical officers, trained to meet the special requirements, will always be available in the future.

4. **Victoria.**—In Victoria three medical inspectors have been appointed by the Education Department, and a commencement was made towards the end of 1909 by the examination of the pupils attending the Melbourne Continuation School. During the year 1909-10 the chief work of the inspectors consisted in carrying out a preliminary investigation of the health of the pupils in various schools in town and country. During the year ending 30th June, 1911, many of the ideas and intentions outlined in the previous Annual Education Report were initiated, and the foundation laid for a proper and systematic scheme of medical school instruction in future. In the year 1913-14, 12,943 children were examined, of whom 10,808 were attending elementary schools. The following table shews the defects and their percentage amongst Victorian boys and girls in the elementary schools examined:—

**VICTORIA.—NUMBER AND PERCENTAGE OF DEFECTS IN SCHOOL CHILDREN, 1913-14.**

Number of Children Examined.	PARTICULARS OF DEFECTS.											
	Vision.	Hearing.	Nose and Throat.	Dental.	Hair.	Lateral Curvature.	Lungs.	Heart.	Anæmia.	Skin.	Hernia.	
NUMBER SUFFERING FROM DEFECTS.												
Boys 5598 ... ..	700	553	1,039	3,006	81	25	11	22	81	65	46	
Girls 5210 ... ..	550	372	651	3,026	1,092	10	4	26	88	49	3	
Total 10,808 ...	1,250	925	1,690	6,032	1,173	35	15	48	169	114	49	
PERCENTAGE ON TOTAL NUMBER EXAMINED, SUFFERING FROM DEFECTS.												
Boys 5598 ... ..	12.5	9.8	18.6	53.7	1.4	0.4	0.2	0.4	1.5	1.1	0.8	
Girls 5210 ... ..	10.6	7.1	12.5	58.1	20.9	0.2	0.1	0.5	1.7	0.9	0.1	
Total 10,808 ...	11.5	8.5	15.6	55.8	10.8	0.3	0.1	0.4	1.5	1.0	0.4	

5. **Queensland.**—In this State a systematic scheme for the inspection of State school children has recently been prepared and came into operation on 1st January, 1911, under which a Medical Branch of the Department of Public Instruction was created, consisting of a Medical Inspector of Schools, a School Nurse, and a Dental Inspector. To this staff have been added an Ophthalmic Inspector and two assistant Dental Inspectors. There are in addition five part-time Medical Inspectors. Under the present scheme the children are examined and, if found defective, notices are sent to the parents. The children are treated either by their own doctors, or if they cannot afford private treatment, at the hospital. During the year 24,499 examinations were completed. The medical examinations numbered 7856, 2570 being in connection with diphtheria outbreaks; of the remainder, about 32 per cent. received notices referring to physical defects requiring medical attention.

While adenoids appear to be the principal defect throughout all the State schools, the children in the Northern and Western districts suffer largely from defective vision and trachoma. The work of the Ophthalmic Inspector is chiefly confined to these districts. In Cairns and Townsville several cases of ankylostomiasis and anæmia (probably due to the same disease) were found. The report of the Dental Inspector, while still disclosing an appalling percentage of defects in the teeth of the children, shews, even in the short time in which the scheme has been in existence, a marked improvement in the schools that were examined twelve months previously.

In the reports the relation between educational progress or intelligence and physique and nutrition is shewn under the three degrees of comparison, indicated by the words "Good," "Fair," and "Poor." In the following tables the figures given are for 1850 children, being the total examined in five schools:—

**QUEENSLAND.—RELATION BETWEEN INTELLIGENCE OF SCHOOL CHILDREN AND PHYSIQUE AND NUTRITION, 1912.**

Intelligence.	Number Examined.	Physique.			Nutrition.		
		Good.	Fair.	Poor.	Good.	Fair.	Poor.

**NUMBER OF CHILDREN.**

Good ...	1,329	786	444	99	866	333	130
Fair ...	460	177	204	79	256	132	72
Poor ...	61	22	29	10	34	16	11
	1,850	985	677	188	1,156	481	213

**PERCENTAGE ON NUMBER EXAMINED IN EACH CLASS.**

Good ...	1,329	59.14	33.41	7.45	65.16	25.06	9.78
Fair ...	460	38.48	44.35	17.17	55.65	28.70	15.65
Poor ...	61	36.06	47.54	16.40	55.74	26.23	18.03
	1,850	53.24	36.60	10.16	62.49	26.00	11.51

The children examined were also classified according to "intelligence" and "physical condition." This classification is shewn in the following table, and it may be observed that the columns marked with a (x) indicate conditions which are alleged to

interfere seriously with the child's school progress. In this table "deafness" does not include the deafness accompanying adenoids, nor does "physical defects" include such as are incidental to adenoids. Excluding the first and last columns, the figures in the table represent individual defects, not individual children.

**QUEENSLAND.—RELATION BETWEEN INTELLIGENCE OF SCHOOL CHILDREN  
AND PHYSICAL CONDITION, 1912.**

Intelligence.	Number Examined.	Adenoids.			Defective Vision.*		Deafness.*	Weak Hearts.	Enlarged Glands.	Anæmia.	Physical Defects.	Mental Deficiency.
		x Marked.	Slight.	Re- moved.	½ x or worse.	½						
NUMBER OF DEFECTS.												
Good ...	1,329	174	458	133	46	51	41	34	336	33	508	0
Fair ...	460	124	157	51	15	21	20	26	180	36	232	0
Poor ...	61	28	12	6	4	3	4	4	29	13	35	5
	1,850	326	627	190	65	75	65	64	545	82	775	5

**PERCENTAGE OF NUMBER OF DEFECTS ON CHILDREN EXAMINED.**

Good ...	1,329	13.09	34.46	10.01	3.46	3.84	3.09	2.56	25.28	2.48	38.23	0.0
Fair ...	460	26.96	34.13	11.09	3.26	4.57	4.34	5.65	29.13	7.82	50.43	0.0
Poor ...	61	45.90	19.67	9.84	6.56	4.92	6.56	6.56	47.54	21.31	57.37	8.03

\* Normal hearing is assumed to be susceptible to an ordinary whisper over a distance of eighteen feet and is represented by the denominator of a fraction, while its numerator indicates to what this distance has to be reduced in order that the whisper may become intelligible. Visual condition or vision is similarly represented by a fraction, the denominator of which represents the distance in metres (a metre being approximately forty inches) at which normal vision would clearly distinguish an object, while the numerator indicates the reduction in distance required ere the patient attains clear effortless visual perception. Thus  $\frac{x}{f_2}$  would mean that a person whose eye test was represented by that fraction, could only see an object at six metres distance, which had he possessed normal vision he would have seen at a distance of twelve metres. Normal vision, which is generally tested by Snellen's ordinary test type, is represented by the fraction  $\frac{x}{\S}$ .

6. South Australia.—In 1909, at the desire of the Government, Dr. Rogers examined 1000 school-going children in different parts of the State. No children under seven years nor over 15 years of age were examined. Investigations were made with regard to personal appearance, cleanliness, height, weight, chest measurements, teeth, eyesight, hearing, nose and throat, etc., and the report was presented to the Minister for Education in September, 1910, the results being, on the whole, satisfactory. A summary of this report, which contains statistical details exhibiting many interesting comparisons between various States in the Commonwealth and other parts of the world, was given in a previous issue of this book (see vol. No. 5, pp. 1132 to 1138).

No State medical supervision of its school children was, however, undertaken in South Australia until 1913, when a medical officer, a fully trained nurse, and a health inspector were appointed for the work. Under the system adopted, the children are weighed and measured, their sight and hearing tested, and their chests, throats, and teeth examined. After examination, a notice is sent to the parents of any child who is found defective to an extent likely to interfere with its educational progress. No treatment is undertaken by the State. During the nine months ending 31st December, 1913, 4490 children were examined; of these 4057 were attending metropolitan and 433 country schools. The following table shews the percentage of boys and girls examined who were defective, and also the percentage of those whose defects interfered with their school work :—

## SOUTH AUSTRALIA.—DEFECTS OF SCHOOL CHILDREN, 1913.

Item.	Defective.	Interfering with School Work.	Item.	Defective.	Interfering with School Work.
	Per cent.	Per cent.		Per cent.	Per cent.
Vision ... .. Girls	26.1	9.3	Enlarged tonsils Boys	46.5	11.0
" ... .. Boys	23.3	7.5	Teeth ... .. Girls	49.7	13.6
Hearing ... .. Girls	5.7	3.3	" ... .. Boys	68.3	13.9
" ... .. Boys	5.6	3.5	Deformities ... Girls	16.8	...
Adenoids ... .. Girls	41.1	11.4	" ... .. Boys	11.3	...

In addition 28 cases of heart disease were discovered, while 10 children were found very mentally defective, and 43 very dull, though not incapable of learning.

**7. Western Australia.**—Until the year 1911, no general scheme for school medical inspection existed in Western Australia, although examination in a few metropolitan schools had been intermittently carried on. During the latter part of 1906 and the first half of 1907 an extended examination of about 3300 children was conducted by the Department of State Medicine and Public Health with the co-operation of the Education Department. Many physical defects among the children were detected, and the co-operation of the Inspector-General of Schools resulted in steps being taken, where possible, to provide better hygienic conditions. The system followed during 1909 was that, wherever possible, a visit was made to a school, the teacher bringing up all children who appeared to be suffering from any physical defects or bodily ailments. The exact condition of the child having been determined, a notice was sent to the parents calling attention to the necessity of obtaining treatment for the defect. Under the Health Act 1911, Medical Officers of Health become medical officers of schools and school children, and during 1912, taking Government and Private schools together, 135 out of 668 schools were medically inspected, while out of 48,423 children, 11,369 were examined, or about 23.5 per cent. From the figures at present available it appears that about 71.5 per cent. of the children examined were reported as in some way defective, most of the defects being connected with the teeth. Excluding dental defects and uncleanness, the number reported as defective is about 9 per cent.

In the Metropolitan District the members of the Dental Society have carried out a regular system of examination of children's teeth. In connection with this, and also in connection with the general system of medical inspection, free treatment is provided for those children whose parents are unable to pay.

**8. Tasmania.**—The credit of being the first State in the Commonwealth to provide for the medical inspection of schools and school children in a systematic way rests with Tasmania, where, under the direction of the Chief Health Officer and the Director of Education, about 1200 children attending schools in Hobart were inspected in 1906. The general examination was based upon that of the Royal Commission on Physical Training (Scotland) of 1903, but considerable modifications and adaptations were found necessary in order to fit it to immediate requirements. No attempt was made to secure anthropometric observations beyond those of unquestionable medical value, and in only one case (colour of eyes) were any purely anthropological data collected. The sociological data obtained (parental occupation, etc.), were found of much service, and produced some interesting comparative results.

Medical inspection of school children as now existing in Tasmania is carried out by three medical officers, each controlling respectively one of three areas, which for medical inspection purposes are known as Hobart District, Launceston District, and the Country

Districts of the State. Additional assistants in the persons of school nurses have been appointed to follow up the work of the Medical Inspectors. Reports on the physical condition of the children are furnished, and parents advised when medical attention is considered necessary, and in the case of parents unable to pay for such attention, orders are given for free treatment at the hospital. During 1913, 3109 children were examined by Dr. Ormiston; of these, the percentage requiring medical attention was as follows:—Advanced adenoids and enlarged tonsils, 3.9 per cent.; defective sight, 3.7 per cent.; and defective hearing, 1.6 per cent.; while Dr. Clark, out of 1867 children, found that 547, or 29 per cent., were suffering from various defects to an extent requiring medical treatment in order to fit them for their educational studies. Of these 547 children 152 had severe defects, and 263 were suffering from advanced adenoids. With regard to dental condition, all the Medical Inspectors agree that the teeth of the children of Tasmania seem to be uniformly bad.

## SECTION XXXI.

## THE COMMONWEALTH SEAT OF GOVERNMENT.

1. **Introductory.**—In Year Books Nos. 4 and 5, information was given in this section as to the events leading to the selection of the Federal Capital Territory, and as to the necessary legislation and the progress of operations in connection with the establishment of the capital city. The physiography of the Territory was dealt with *in extenso*, and topographical and contour maps accompanied the letterpress, as well as reproductions of the premiated designs for the laying out of the city. Considerations of space, however, preclude the repetition of this information. On the 12th March, 1913, the official ceremony to mark the initiation of operations in connection with the establishment of the Seat of Government was carried out. At this ceremony the selection of "Canberra" as the name of the capital city was announced.

2. **Progress of Work.**—The design for the laying out of the capital city having been approved, the ground survey is being proceeded with. Good progress has been made with the erection of the dam at the Cotter River, while a steel girder bridge, 300 feet long, has been erected over the Murrumbidgee River. The construction of the power house and buildings is approaching completion, and the hospital is now fully equipped and staffed. Considerable progress has been made with the nursery in connection with the afforestation scheme, and a preliminary brick-making plant has been established. The construction of the main outfall sewer is proceeding satisfactorily, and at the electric power station three engines have been installed. Owing to the European war, the architectural competition for the Federal Parliamentary buildings, which was recently announced, has been withdrawn until a more favourable opportunity.

The following figures indicate the actual work done in road development during the last two years :—

Forming and finishing ...	...	...	...	...	79 miles
Gravelling and metalling ...	...	...	...	...	76 miles
Clearing out, repairing culverts, etc.	...	...	...	...	160 miles
General road repairs ...	...	...	...	...	151 miles
Cutting water tables, drains, etc.	...	...	...	...	119 miles

3. **Lands in the Territory.**—As a considerable portion of the Commonwealth lands within the Territory is not required in connection with the establishment of the city, such areas are being made available for leasing under certain conditions. A large number of leases have been disposed of under conditions requiring the extermination of rabbits, and in a little time it is expected that a compact block of 133,000 acres will be free from this pest. Eight thousand sheep are on agistment on land that will be required for departmental use at a later date. Reference has already been made on page 275 to the area of alienated, acquired and leased land within the Territory. The permanent survey of the boundary of the Territory is now complete, with the exception of the southern boundary, which will shortly be determined. Action is being taken with a view to the preparation of an ordinance relative to the leasing of lands in the Territory.

4. **Lands at Jervis Bay.**—A Bill to provide for the transfer to the Commonwealth of sovereign rights over certain lands, comprising about 18,000 acres, and water, at Jervis Bay, to be used for the Naval College and other Federal purposes, has been passed by the New South Wales Legislature.

5. **Railways.**—The line from Queanbeyan to Canberra, 4 miles 75 chains long, was opened for goods traffic on 25th May, 1914, and is being worked by the New South Wales Railway Commissioner. The trial survey of the Canberra-Jervis Bay line has been completed, and plans will be ready at an early date. The trial survey from Canberra to the boundary of the Federal Territory (towards Yass), a distance of 11 miles, has been completed, as well as the survey of the line by the New South Wales Government from Yass to the Territory boundary, 32 miles.

6. **Population and Live Stock.**—A complete count of the population was taken on 31st December, 1913, when a total of 1952 was enumerated. It is estimated that 850 persons were absent from the Territory on the date in question. The live stock in the Territory, according to the latest returns, comprises:—horses, 1343; cattle, 6423; sheep, 141,184; and pigs, 393.

7. **Educational Facilities.**—As the result of a conference between the Administrator of the Territory and the New South Wales Education Department, it is proposed that the latter shall, for the time being, continue the administration of education in the Territory, the expenditure involved to be refunded annually by the Commonwealth to the State. Schools have been opened at the Cotter River works and at the Royal Military College, Duntroon. (See also paragraph 3, page 766.)

8. **Revenue and Expenditure.**—The present revenue from properties within the Territory (including that derivable from rates, which amounts to £2975) is estimated at £5000. The expenditure in the Federal Territory subsequent to the passing of the "Seat of Government Acceptance Act 1909," and up to the 30th June, 1914, was for 1910-11 £20,216, 1911-12 £68,026, 1912-13 £137,497, and 1913-14, £252,204, making a total of £477,943.

The following table shews the particulars of expenditure for the year ended 30th June, 1914, and also the total expenditure on each item since 30th June, 1910 :—

Item.	Expenditure, 1913-14.	Total Expenditure to 30th June, 1914.
	£	£
Buildings ... ..	30,610	65,920
Power Plant and Power House ... ..	22,550	34,506
Electric Supply ... ..	8,991	10,803
Roads and Transport ... ..	19,792	81,791
Water Supply ... ..	86,234	118,602
Sewerage ... ..	359	2,092
Materials and Stores ... ..	18,377	35,748
Running Expenses and Miscellaneous ... ..	3,885	13,793
Health, Administration, Education, etc. ... ..	27,478	60,079
Afforestation ... ..	1,400	3,955
Surveys ... ..	1,923	20,049
Queanbeyan-Canberra Railway ... ..	30,605	30,605
Total ... ..	252,204	477,943



The revenue of the Federal Territory for the year ended 30th June, 1914, was as follows:—

From lands	...	...	£12,707
„ rates	...	...	132
„ agistment	...	...	1,046
„ miscellaneous	...	...	69
Total revenue			£13,954

9. **Military College.**—In June, 1911, a Military College was opened at Duntroon for occupation by the cadets and staff. Particulars regarding the establishment of this College may be found in Year Book No. 4 (p. 1159). Previous reference has been made to it in the section of this book dealing with Defence (see page 940).

10. **Naval College at Jervis Bay.**—The building has been handed over to the Defence Department, and the fittings and furniture are nearing completion. In the meantime the work of the college is being carried on at Geelong, Victoria. For further reference see section of this book dealing with Defence, page 949.

## SECTION XXXII.

## THE NORTHERN TERRITORY.

## § 1. Area and Population.

1. **Introductory.**—Upon the extension of New South Wales westward to the 129th meridian in 1827, the Northern Territory was comprised within that colony (see Year Book No. 4, page 16), and in 1863 was annexed by Royal Letters Patent to the province of South Australia. With the adjacent islands, it was transferred to the Commonwealth on 1st January, 1911.

2. **Area and Boundaries.**—The total area of this Territory is 523,620 square miles, or 335,116,800 acres. Its length from north to south is about 900 miles, while its breadth from east to west is 560 miles. Its eastern boundary, dividing it from Queensland, is the 138th meridian of east longitude; and its western boundary, separating it from Western Australia, the 129th meridian. Its southern boundary is the 26th parallel of south latitude, dividing it from South Australia. The northern boundary is the coast line of those parts of the Indian Ocean known as the Timor and Arafura Seas. Near the mouth of the Wentworth River, in the Gulf of Carpentaria, the coast line is met by the eastern boundary; at Cape Domett, near Cambridge Gulf, the western boundary cuts the northern coast line. The length of coast line is about 1040 miles, or 503 square miles of area to one mile of coast line; an exact survey has, however, not yet been made.

3. **Population.**—(i.) *Character.* In 1881 there were 670 Europeans in the Territory, and at the end of 1913 the number was estimated at 2143. The Chinese population, at its maximum during the years of railway construction, 1887 and 1888, has gradually dwindled, the estimate for 1913 being 1177. Japanese, first recorded in 1884, increased up to the year 1898, falling again after five years. The highest recorded population, excluding aborigines, was 7533 in 1888; the estimate for 1913 was 3672. The year 1911 was the first in which the population was dominated by the European race. A thirty years table of population, distinguishing races, will be found on page 1156 of the Commonwealth Official Year Book, No. 5. Subsequent to the Census of 1911, a revision of the estimates, back to 1901, was made. The results are incorporated in the following table:—

**POPULATION OF NORTHERN TERRITORY (EXCLUSIVE OF ABORIGINES),  
1901 to 1913.**

Year ended 31st December.	Male.	Female.	Total.	Year ended 31st December.	Male.	Female.	Total.
1901 ...	3,999	674	4,673	1908 ...	2,963	609	3,572
1902 ...	3,847	627	4,474	1909 ...	2,927	576	3,503
1903 ...	3,582	652	4,234	1910 ...	2,738	563	3,301
1904 ...	3,514	692	4,206	1911 ...	2,662	586	3,248
1905 ...	3,368	678	4,046	1912 ...	2,854	621	3,475
1906 ...	3,248	656	3,904	1913 ...	2,995	677	3,672
1907 ...	3,095	642	3,737				

The census population (3rd April, 1911) was 2734 males, 576 females; total, 3310. The estimate for 31st December, 1913, was 2995 males, 677 females; total, 3672.

(ii.) *Movement of Population.* The following is a summary of movement of population in 1913 (excluding overland migration):—

**MOVEMENT OF POPULATION, NORTHERN TERRITORY, 1913.\***

Europeans—		Europeans—		Excess—	
Inwards, oversea	855	Outwards, oversea	642	Immigration over	
Births ...	22	Deaths ...	23	emigration ...	127
Others—		Others—		Births over deaths	2
Inwards, oversea	127	Outwards, oversea	213		
Births ...	37	Deaths ...	34		
Increase ...	1,041	Decrease ...	912	Net gain ...	129

The immigration and emigration of the Territory in five-year periods from 1881 to 1910, and for 1911, 1912, and 1913, is shewn in the following table:—

**MIGRATION, NORTHERN TERRITORY, 1881 to 1913.\***

Year.	Immigra- tion.	Emigra- tion.	Year.	Immigra- tion.	Emigra- tion.	Year.	Immigra- tion.	Emigra- tion.
			1896- 1900					
1881-5	3,683	3,787	1901-5	2,538	2,259	1911	412	440
1886-90	9,208	7,250	1906-10	2,211	2,932	1912	840	625
1891-5	1,958	2,353		2,559	3,125	1913	982	855

\* A variation in the method adopted by the Northern Territory administration and that used in the Statistical Bureau, of allocating the crews of departing vessels, is responsible for the difference between the figures here shewn and those given on the previous page.

(iii.) *The Aborigines.* An account of the Australian aborigines, by Dr. W. Ramsay-Smith, was given in Year Book No. 3 (pp. 158-176). The interior of the continent is the most thickly populated by the natives, but it is believed that they are rapidly dying out. In these regions, remote from contact with other races, the native has maintained his primitive simplicity, and furnishes an interesting subject of study to the anthropologist and ethnologist. At the census of 1911, full-blooded aboriginals in the employ of whites, and those who were living in a civilised or semi-civilised condition in the vicinity of European settlements, were enumerated—the males being 743, females 480; total, 1223. Estimates of the total black population of the Territory vary from 20,000 to 50,000.

## § 2. Legislation and Administration.

1. *Transfer to Commonwealth.*—(i.) *The Northern Territory Acceptance Act.* A short historical sketch is given in Year Book No. 6, pp. 1113-4. On 1st January, 1911, the Territory was transferred by South Australia to the Commonwealth, upon terms previously agreed upon by the respective cabinets, and ratified by the Commonwealth *Northern Territory Acceptance Act* (No. 20 of 1910). It is enacted that laws and courts of justice remain in operation, powers and functions of magistrates and officials remain vested; estates and interests continue upon the same terms; trade with Australian States is declared free. The Commonwealth assumes responsibility for the State loans in respect of the Territory, paying the interest yearly to the State, providing a sinking fund to pay off the loans at maturity, and paying off the deficit in respect of the Territory. It also purchases the Port Augusta to Oodnadatta railway, and agrees to complete the construction of the transcontinental railway from Port Darwin to Port Augusta.

(ii.) *The South Australian Surrender Act.* The State Act approves and ratifies the agreement surrendering the Territory.

(iii.) *The Northern Territory (Administration) Act 1910.* The Act provides for Government authorising the appointment of an administrator and officials. South Australian laws are declared to continue in force as laws of the Territory and certain Commonwealth Acts to apply. Power is given to the Governor-General to make Ordinances having the force of law.

(iv.) *Administration.* A Resident Administrator, vested with supreme authority in internal affairs, was appointed in the Department of the Minister for External Affairs in February, 1912. Many other important administrative offices have also been filled.

(v.) *Legislation.* The main provisions of the Ordinances passed are as follows:—The powers and duties of the Administrator vested in the appointee, include custody of the public seal, appointment and suspension of officials, and execution of leases of crown lands. A Supreme Court with original and appellate jurisdiction is instituted, the method of appointment of the Judge is prescribed, and provision is made for trial by jury, and for the registration and summoning of jurors. A Sheriff, a Registrar-General, and a Health Officer are provided for, also the registration of births, marriages and deaths, and of deeds and documents. District Councils are authorised to assess land values and levy rates on unimproved value. Custody and control of aborigines with extensive powers of supervision are vested in the Chief Protector. Birds protected during the whole or part of the year, are scheduled. Crown lands are classified, and their mode of acquisition, entry and holding defined. Shop assistants are to have a weekly half-holiday, and the establishments must be closed at a certain time. Mining is encouraged by the provision of rewards for the invention of new processes, and the discovery of valuable deposits and of new mineral fields; subsidisation of the industry and the issue of prospecting licenses are also provided for. Licenses to search for mineral oil, and leases for working, are available. A Board is constituted for the purpose of making advances to settlers who intend to improve and stock their holdings, to purchase farm implements, plant, etc., or to pay off mortgages, the rate of interest and terms of repayment being set out.

### § 3. Physiography.

1. *Tropical Nature of the Country.*—The Territory is within the torrid zone, with the exception of a strip  $2\frac{1}{2}$  degrees wide, which lies south of the Tropic of Capricorn.

2. *Contour and Physical Characteristics.*—The low flat coast line seldom reaches a height of 100 feet. Sandy beaches and mud flats, thickly fringed with mangroves, prevail. Sandstone, marl, and ironstone form the occasional cliffy headlands. The sea frontage of more than 1000 miles is indented by bays and inlets and intersected by numerous rivers, many of which are navigable for considerable distances from their estuaries.

The principal features of the coast line are enumerated in Year Book No. 1, p. 66; the rivers in Year Book No. 2, p. 76; the mountains in Year Book No. 3, p. 67; the lakes in Year Book No. 4, p. 77; the islands in Year Book No. 5, pp. 71, 72, and the mineral springs in Year Book No. 6, p. 65.

Inland, the country is generally destitute of conspicuous landmarks. From the coast there is a general rise southwards to the vicinity of the 17th or 18th parallel of south latitude, where the higher lands form the watershed between the rivers that flow northwards to the sea, and those that form the scanty supply of the interior systems. Towards the centre of the continent the land over a wide area is of considerable elevation, and there are several mountain ranges, generally with an east and west trend.

### § 4. Climate, Fauna and Flora.

1. **The Seasons.**—There are two main climatic divisions—the wet season, November to April; and the dry season, May to October; with uniform and regular changes of season. Nearly the whole of the rainfall occurs in the summer months. Fuller particulars will be found in Year Book No. 6, p. 1116.

2. **Fauna.**—The ordinary types of native Australian fauna inhabit the territory. As elsewhere on the continent, the higher *Theria* are rare, but marsupials, birds, crocodiles, fresh-water tortoises, snakes (mostly non-venomous), and frogs abound. There are many varieties of freshwater fish and littoral mollusca. Butterflies and beetles are strongly represented. The white ant is a pest, antbills in the Territory sometimes attaining great dimensions. Mosquitoes and sandflies are very troublesome, particularly in the wet season. Native fauna are in some cases protected. The domesticated animals have been introduced, and buffalo also exist in large herds.

3. **Flora.**—The vegetation is tropical, many of the forms belonging to the Malayan and Oceanic regions. The timber trees are not of great commercial value, but in the coastal regions tropical vegetation grows luxuriantly to the water's edge. On the wide expanses of plain country of the interior, there is little vegetation. The principal orders represented in the Territory are:—*Euphorbiaceæ*, *Compositæ*, *Convolvulaceæ*, *Rubiaceæ*, *Goodeniaceæ*, *Leguminosæ*, *Urticææ*.

Fuller particulars regarding fauna and flora are given in Year Book No. 6, pp. 1116-7.

### § 5. Production.

There is no great home consumption of the articles produced in the Territory, the greater part being exported oversea and to the States of the Commonwealth.

1. **Stock.**—The spacious, well-grassed “runs” of the Territory are suitable for horse and cattle breeding. It is anticipated that the cattle trade with the East will develop. Large numbers are overlanded to neighbouring States, which also take considerable quantities of horse hides. The estimated number of stock on 31st December, 1913, was:—

#### LIVE STOCK, NORTHERN TERRITORY, 31st DECEMBER, 1913.

Horses.		Cattle.		Sheep.		Pigs.
22,792	...	417,643	...	67,109	...	1,018

Dairying as an industry is not developed. The abundant indigenous herbage is, however, well suited for stock, and the making of hay and ensilage would ensure a progressive industry. It is proposed to establish a dairy factory.

2. **Mining.**—Considerable quantities of the precious and commercial metals are mined. The discovery of gold and tin in various localities, and the measure of success that has attended their working, indicate scope for development. An important discovery of tin at Maranboy Springs was made in 1913.

(i.) *Mineral Production.* Both alluvial and reef gold are found, and there are several batteries and cyanide plants. Other minerals are also raised. The following table shews the total mineral production for the last five years:—

#### VALUE OF MINERAL PRODUCTION, NORTHERN TERRITORY, 1909 to 1913.

Year.	Gold.	Tin Ore.	Wolfram.	Silver Lead Ore.	Copper Ore.	Smelter Product (C'pp'rBase)	Total Value.
	£	£	£	£	£	£	£
1909 ...	24,148	32,741	4,105	...	1,400	2,342	64,736
1910 ...	21,711	31,113	6,686	...	1,196	...	60,706
1911 ...	30,910	22,900	4,048	...	1,470	...	59,353*
1912 ...	20,150	27,001	3,330	820	3,998	...	55,299
1913 ...	13,250	25,526	3,140	2,228	482	...	44,626

\* Includes bismuth valued at £25.

(ii.) *Employment of Miners, 1909 to 1913.* The following table shews average number employed in mines annually for five years, distinguishing Chinese:—

**MINERS, NORTHERN TERRITORY, 1909 to 1913.**

Year.				Europeans.	Chinese.	Total.
1909	...	...	...	190	630	820
1910	...	...	...	140	602	742
1911	...	...	...	101	575	676
1912	...	...	...	84	542	626
1913	...	...	...	90	530	620

(iii.) *Mining Accidents, 1900 to 1912.* In 1911 five mining accidents were recorded, four resulting in death. There were no serious accidents in 1910, 1912, and 1913. During the nine years preceding (1901-1909), nine fatal accidents and seven cases of serious injury were recorded. The majority of the victims were Chinese.

8. *Pearl Fishing.*—In 1884 mother-of-pearl shell was discovered in the harbour of Port Darwin. Difficulty in working, principally through heavy tides and muddy water, retarded the development of the industry for many years. Latterly, however, the opening up of new patches has led to a revival. In 1913, thirty-nine boats were engaged, valued, with their equipment, at about £4600; 234 men were employed. Fifty-nine tons of pearl shell were obtained, valued at £13,661. The value of pearls produced was £1415. 215 lbs. of tortoiseshell, valued at £225, and bêche-de-mer, valued at £1675, were also raised.

**§ 6. Commerce and Shipping.**

1. *Trade.*—The following table shews the total trade of the Territory for 10 years from 1901 to 1910:—

**VALUE OF IMPORTS AND EXPORTS, NORTHERN TERRITORY, 1901 to 1910.**

—	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.
	£	£	£	£	£	£	£	£	£	£
Imports ...	108,886	107,217	125,244	113,461	86,878	74,659	78,996	68,905	57,994	52,398
Exports ...	302,931	191,558	178,266	235,650	216,279	254,222	345,721	241,028	278,555	269,063
Total Trade	411,817	298,775	303,510	349,111	303,157	328,881	424,717	309,933	336,549	321,461

No record is now kept of the direction of trade between the Commonwealth States and Territories. It is, therefore, impossible to give the total imports and exports of the Northern Territory for years later than 1910. In 1911 the imports from places outside Australia were valued at £16,920, an increase of £3966 on the previous year. The exports to oversea countries were valued at £48,468, a decrease of £12,983 as compared with 1910. In 1912 imports were valued at £18,130; exports at £59,106.

From 1881 to 1910, the annual average trade in five-year periods was:—

**VALUE OF IMPORTS AND EXPORTS, NORTHERN TERRITORY, 1881 to 1910.**

Period.	Average Annual Imports.	Average Annual Exports.	Period.	Average Annual Imports.	Average Annual Exports.
	£	£		£	£
1881-1885	125,600	92,727	1896-1900	127,489	158,978
1886-1890	236,099	113,156	1901-1905	108,337	224,937
1891-1895	109,704	177,463	1906-1910	66,590	277,718

2. *Shipping.*—The Territory's oversea commerce is carried chiefly in British bottoms. One of the lines maintains a monthly service, others are irregular. Coastal shipping is chiefly in Australian vessels. The following table shews the shipping of the Territory:—

## SHIPPING, NORTHERN TERRITORY, 1881 to 1913.

Period.	Arrivals.		Departures.	
	No. of Vessels.	Tonnage.	No. of Vessels.	Tonnage.
1881—1885 (Annual Average)	72	71,814	72	71,692
1886—1890	95	94,452	103	94,724
1891—1895	75	81,128	73	81,090
1896—1900	71	88,284	70	88,244
1901—1905	63	93,751	63	91,556
1906—1910	87	128,502	88	128,408
1911 ...	71	130,178	71	130,178
1912 ...	74	138,052	74	138,052
1913 ...	83	171,504	84	171,594

## § 7. Internal Communication.

1. **Railways.**—Under the agreement ratified by the Act the Commonwealth is to construct the Northern Territory portion of the transcontinental railway line (connecting Adelaide and Darwin, *via* Port Augusta).

The Northern line from Adelaide terminates at Oodnadatta, about 100 miles south of the southern boundary of the Territory. The only line at present in the Territory is one from Darwin to Pine Creek, a length of  $145\frac{1}{2}$  miles, of 3 ft. 6 in. gauge; and Pine Creek is distant about 1100 miles from Oodnadatta. The extension of this line southwards from Pine Creek to Katherine River ( $54\frac{1}{2}$  miles) is being proceeded with. In November, 1913, the field survey work, begun in December, 1912, was completed, and the line is now under construction; while the line to connect Katherine River with Oodnadatta (about 1030 miles) is in course of survey. It is stated that this transcontinental railway would bring London within seventeen days of Adelaide. The Commonwealth also acquired on 1st January, 1911, the property in the line from Port Augusta to Oodnadatta (478 miles).

2. **Posts.**—The principal mail services are as follows:—

(i.) *Marine.* Postal communication is maintained between Sydney, Melbourne, and Adelaide, *via* North Queensland ports. The service extends to China and Japan. There is also a quarterly contract service between Darwin and Boroloola, calling half-yearly at Roper River; and a service every two months between Darwin and Wyndham, on the estuary of Ord River, in the north-east of Western Australia. These are subsidised according to agreement for three years, the amount for the first service being £350, and for the second, £125 per voyage.

(ii.) *Inland.* Posts are also despatched into the interior of the Continent. One route is from the Katherine Telegraph Station southwards as far as Renner Springs, and then eastwards to Anthony Lagoon, where the Queensland mailman is met. The service is maintained with difficulty, on account of the many hardships caused by the alternations of extreme drought and flood.

Other inland routes are served, and there is a frequent service in Darwin.

3. **Telegraphs.**—The transcontinental telegraph line, covering a length of 2230 miles, was completed on 2nd August, 1872, at a cost of nearly half-a-million sterling. The line runs in a northerly direction from Adelaide to Darwin, whence telegraphic communication is provided with Asia and Europe, *via* Banjoewangie (Java), Singapore, and Madras.

Between Darwin and Banjoewangie the submarine cable is duplicated.

## § 8. Finance.

1. Revenue and Expenditure, 1913-14.—In the Commonwealth finance statement for 1913-14, separate accounts are given for Northern Territory administration. The following shows the receipts and expenditure for the financial year named:—

## REVENUE AND EXPENDITURE, NORTHERN TERRITORY, 1913-14.

REVENUE.		EXPENDITURE.—cont.	
	£		£
Customs and Excise...	12,628	Lands—	
Postal, Telegraph & Telephone	5,290	Salaries and contingencies...	6,095
Railways ...	18,034	Survey—	
Territorial ...	9,723	Salaries and contingencies...	23,702
Land and Income Tax ...	7,491	Goldfields and Mining—	
Miscellaneous ...	19,545	Salaries and contingencies...	23,267
Port Augusta - Oodnadatta		Education—	
Railway ...	946	Salaries and contingencies...	2,058
Deficiency on year's transactions	458,878	Railways—	
	532,535	Salaries and contingencies...	22,991
		Public Works Staff—	
<b>EXPENDITURE.</b>		Salaries and contingencies ...	1,942
<b>Trade and Customs—</b>		Works and Buildings ...	4,823
Salaries and contingencies ...	1,707	Miscellaneous ...	31,579
Rent, repairs, etc. ...	118	Administrative Office—	
Quarantine contingencies ...	182	Salaries and contingencies...	4,875
Postmaster-General—		Audit ...	420
Salaries and contingencies ...	13,484	Interest and sinking fund on	
Mails ...	3,380	C'wealth Inscribed Stock for	
Rent, repairs, etc. ...	441	Redemption of N.T. loans	10,135
Administrator's Office—		Interest and sinking fund on	
Salaries and contingencies ...	4,508	C'wealth Inscribed Stock for	
Govt. Secretary's Office—		Redemption of Port Augusta	
Salaries and contingencies ...	22,380	Railway loans ...	7,465
Immigration ...	253	Interest and Redemption (ex-	
Aboriginal Affairs—		cluding Port Augusta rail-	
Salaries and contingencies ...	9,610	way)—	
<b>Agriculture—</b>		Interest on loans ...	128,856
Salaries and contingencies ...	19,411	Contribution to sinking fund	8,400
Police—		Interest and Redemption, Port	
Salaries and contingencies ...	10,613	Augusta railway—	
Gaol—		Interest on loans ...	86,393
Salaries and contingencies ...	2,289	Contribution to Sinking Fund	5,022
Charitable Institutions—		Extraordinary maintenance...	10,451
Salaries and contingencies ...	4,824	Advertising and other expenses	
Board of Health—		in connection with Rolling	
Salaries ...	1,629	Stock ...	529
<b>Law Officers—</b>		Buildings, artesian bores, roads,	
Salaries and contingencies ...	2,136	bridges, farms, etc. ...	50,000
<b>Marine Office—</b>		Port Augusta railway ...	115
Salaries and contingencies ...	924	Buildings, Postmaster General's	
Stock and Brands—		Department ...	1,113
Salaries and contingencies ...	1,695	Survey of Railway, Pine Creek	
Botanic Gardens—		to Katherine ...	856
Salaries and contingencies ...	1,859		532,535

In addition, the following expenditure was made from the Loan Fund during the year:—

Redemption of N.T. Loans ...	126,529
Redemption of Port Augusta Loans ...	135,627
Total ...	£262,156.

The Commonwealth received £151,513 from South Australia, being the credit balance of Northern Territory funds, but assumed responsibility for interest on loans and redemptions.



2. **Loans.**—The first loan on Northern Territory account was floated in London in 1876; the nominal amount was £75,000, at 4 per cent., due date 1st January, 1916. The public debt on 30th June, 1914, was £3,359,891. The following is a summary:—

**PUBLIC DEBT, NORTHERN TERRITORY, 30th JUNE, 1914.**

Principal. £		Rate. %		Annual Interest. £
27,216	...	3	...	817
154,992	...	3½	...	5,425
1,798,383	...	3½	...	67,439
1,379,300	...	4	...	55,172
Total ... 3,359,891	...	—	...	128,853

### § 9. Land Tenure.

1. **Present Policy.**—The system of land settlement in the Territory will be found fully described in the chapter "Land Tenure and Settlement," see pages 242, 243 *supra*. Progress in land settlement has been slow, reports indicating that a good class of Southern European immigrant is required. Prior to the transfer of the Territory to the Commonwealth on 1st January, 1911, the sale and occupation of lands were regulated by the South Australian Legislature in Statutes applying particularly to the Territory. Under the Commonwealth Government a complete reorganisation is being effected. Lands Ordinances, recently proclaimed, declare the present land policy and define the conditions. A leasehold system only is provided for and no further alienation of Crown lands is permitted, except in pursuance of existing agreements. The land is classified and appraised, and leased in blocks, the maximum areas ranging from 300 square miles of first class pastoral, to 1280 acres of first class agricultural land. The term of pastoral and miscellaneous leases is 21 or 42 years; all other leases are to be in perpetuity, making them almost equivalent to freeholds, but with re-appraisal of rent values every 14 years in the case of town lands, and every 21 years in the case of agricultural and pastoral lands. The conditions are of a very favourable nature, with low rents and elastic conditions of tenure. In order to provide for cases where allottees on inspection of their blocks have reasonable grounds for preferring another block, the Administrator is empowered to revoke leases, under certain conditions. Under the Advances to Settlers Ordinance 1913, provision was made for giving settlers financial assistance in the pioneering years. Repayment of loans can be extended over a period of 30 years.

2. **Number of Holdings.**—The table on page 243 *supra* shows the total area under lease, license, and permit in 1901 and in each year from 1909 to 1913. In the latter year 93,748,100 acres were held under pastoral leases and permits; 667 acres under right-to-purchase leases; and 1,762,538 acres under other leases. The pastoral leases include 378,240 acres held under annual leases; and 7,509,120 under grazing licenses. The other leases include 1,644,060 acres held under coal and oil permits; 50,880 acres under mineral oil licenses; 6000 acres under mining licenses; 594 acres under gold-mining leases; 970 acres under mineral leases; 400 acres under tin-dredging applications; 140 acres under gold-dredging applications; and 1280 acres under water leases. There are also 38,219 acres held under agricultural leases, for cultivation, mixed farming, etc.

## SECTION XXXIII.

## LABOUR AND INDUSTRIAL STATISTICS.

## § 1. Introductory.

1. **General.**—In Year Book No. 7 (pages 992-3), a *résumé* was given of the functions and scope of the Labour and Industrial Branch of the Commonwealth Bureau of Census and Statistics. Owing to considerations of space, that information is not repeated in the present issue of the Year Book.

## § 2. Fluctuations in Employment and Unemployment.

1. **General.**—In Australia, but few of the trade unions pay any form of unemployment benefit, and consequently accurate and complete records of unemployment are difficult to obtain. For that reason the investigation for past years was advisedly limited to a record of the numbers unemployed at the end of each year. The results are, therefore, subject to certain limitations, inasmuch as they do not take into account variations in employment and unemployment throughout the year due to seasonal activity and other causes.

For the above reasons it is not safe to conclude that the actual percentage returned as unemployed in past years by trade unions at the end of each year is equal to the average percentage unemployed during the year. Nevertheless, for the purpose of making comparisons and shewing tendencies over a period of years, the percentages returned as unemployed, though not exact, are the most satisfactory figures available, and the average percentages and index-numbers computed for the several States and groups of unions may be taken as denoting the true course of events with substantial accuracy.\*

It may be mentioned that, in order to overcome the difficulties alluded to in regard to seasonal fluctuations, returns as to numbers unemployed have been collected from trade unions for each quarter since the beginning of the year 1913.

2. **Number Unemployed in Various Industries, 1891 to 1914.**—The following table shews for each of the years specified :—

- (a) The number of unions for which returns as to unemployment are available.
- (b) The number of members of such unions.
- (c) The number of members unemployed, and
- (d) The percentage of members unemployed on the total number of members of those unions for which returns are available.

The information given in this table obviously does not furnish a complete register of unemployment. In the first place, with the exception of the year 1914, it relates only to the number unemployed at the end of the year (see preceding paragraph *hereof*), and, secondly, it does not cover more than a part of the industrial field. And attention should here be drawn to the fact that the value of the comparisons which can be made is, to some extent, vitiated by the fact that returns are not available for the same unions throughout. As regards the years 1912 to 1914, the table on page 1001 shews that for most of the important industries, returns are available for a considerable number of unions and members. It is not unlikely, however, that particulars of unemployment are, on the whole, more generally available for those trades in which liability to unemployment is above the average of skilled occupations. Thus the building and engineering industries are heavily represented in the returns, while such comparatively

\* Some description of the various methods of testing the state of the labour market may be found in the Board of Trade Memorandum on Industrial Conditions (Second Series). Cd. 2337, 1904, pp. 79 to 125.

See also "Rapport Préliminaire sur la Statistique Internationale du Chômage," M. Louis Varlez, Gand, 1912.

stable industries as railway service are hardly represented at all. On the other hand, unskilled casual labour cannot, in the nature of the case, be well represented in the returns, which relate mainly to skilled workmen.

Thus, for some reasons, the percentage given is likely to be greater, and for other reasons less, than the true average percentage unemployed throughout the country.

#### UNEMPLOYMENT.—NUMBER OF UNIONS AND MEMBERS REPORTING, AND NUMBER AND PERCENTAGE UNEMPLOYED, 1891 to 1914.

Particulars.	Unions.	Membership.	Unemployed.	
			Number.	Percentage.
1891 ... ..	25	6,445	599	9.3
1896 ... ..	25	4,227	457	10.8
1901 ... ..	39	8,710	574	6.6
1906 ... ..	47	11,299	753	6.7
1907 ... ..	51	13,179	757	5.7
1908 ... ..	68	18,685	1,117	6.0
1909 ... ..	84	21,122	1,223	5.8
1910 ... ..	109	32,995	1,857	5.6
1911 ... ..	160	67,961	3,171	4.7
1912 ... ..	464	224,023	12,441	5.5
1913 ... ..	465	251,207	13,430	5.3
1914, 1st Quarter ... ..	462	262,133	15,541	5.9
2nd „ ... ..	467	279,318	15,856	5.7
3rd „ ... ..	466	283,584	30,367	10.7
4th „ ... ..	439	250,716	27,610	11.0

It may be seen that the extent of unemployment was greatest in 1914 and least in 1911. The general trend of the figures shews a decline in unemployment since 1896. In 1912, however, there was an increase of about 0.8 per cent., while the percentage at the end of 1913 shews a slight decrease compared with the previous year. The high percentage for 1891 was largely due, no doubt, to the dislocation of industry following the maritime strike, while the still higher percentage for 1896 may be traced to the prevalent industrial depression, especially in Victoria, caused by the bank failures and the severe droughts. The high percentage during the last half of 1914 was due to the drought and the war. It may be noticed that, though the number of unions reporting in 1896 is the same as in 1891, the number of members shews a large reduction. This indicates that, in time of severe industrial depression, when employment is bad, the members tend to drift away from the unions. Many probably leave their ordinary places of residence in search of work elsewhere.

The accuracy of the above results as an index to the general state of employment among all wage-earners in Australia is confirmed by the results obtained from the censuses of 1891, 1901 and 1911, the closeness of the percentages obtained from these two independent sources for the two latter years being remarkable. A comparative table is given in Report No. 2 (p. 18) of the Labour and Industrial Branch of this Bureau.

**3. Unemployment in Different Industries, 1913.**—The following table shews the percentages unemployed in several of the fourteen industrial groups. It may be observed that for those industries in which unemployment is either unusually stable or, on the other hand, exceptionally casual, information as to unemployment cannot ordinarily be obtained from trade unions. Hence, certain industries such as railways, shipping, agricultural, pastoral, etc., and domestic, hotels, etc., are insufficiently represented in the returns. Particulars are not, therefore, shewn separately for these groups, such returns as are available being included in the last group, "Other and Miscellaneous."

## UNEMPLOYMENT IN DIFFERENT INDUSTRIES AT THE END OF YEAR 1914.

Industrial Group.	Number Reporting.		Unemployed.	
	Unions.	Members.	Number.	Percentage.
I. Wood, Furniture, etc. ...	19	13,591	2,132	15.7
II. Engineering, Metal Works, etc. ...	56	34,763	4,447	12.8
III. Food, Drink, Tobacco, etc. ...	52	26,739	3,285	12.3
IV. Clothing, Hats, Boots, etc. ...	26	17,109	1,760	10.3
V. Books, Printing, etc. ...	22	6,681	430	6.4
VI. Other Manufacturing ...	67	22,439	2,170	9.7
VII. Building ...	51	24,931	3,207	12.9
VIII. Mining, Quarrying, etc. ...	22	29,594	2,425	8.2
X. Other Land Transport ...	16	9,698	446	4.6
IX., XI., XII., XIII. and XIV., Other and Miscellaneous ...	108	65,171	7,308	11.2
All Groups ...	439	250,716	27,610	11.0

From the above figures it may be seen that the degree of unemployment varies considerably in different industries, ranging from 4.6 per cent. in Group X. (Other Land Transport) to 15.7 per cent. in Group I. (Wood, Furniture, etc.).

4. Unemployment in each State, 1914.—Any deductions which can be drawn from the data collected as to the relative degree of unemployment in the several States are subject to certain qualifications (in addition to those already stated on page 999), inasmuch as the industries included in the trade union returns are not uniform for each State. In comparing the results for the individual States, it must therefore be borne in mind that, to some extent, at least, comparisons are being drawn between different industries and not only between different States. Nevertheless, since the industrial occupations of the people vary considerably in the several States, all comparisons between the States based on comprehensive data as to unemployment must, to some extent, suffer from the defect indicated.

## UNEMPLOYMENT IN DIFFERENT STATES AT THE END OF YEAR 1914.

State.	Number Reporting.		Unemployed.	
	Unions.	Members.	Number.	Percentage.
New South Wales ...	127	104,307	7,244	6.9
Victoria ...	109	79,946	11,300	14.1
Queensland ...	50	24,688	4,357	17.7
South Australia ...	43	12,808	1,766	13.8
Western Australia ...	73	24,243	2,079	8.6
Tasmania ...	37	4,724	864	18.3
Commonwealth...	439	250,716	27,610	11.0

The above figures shew that, at the time indicated, the degree of unemployment was the greatest in Tasmania, followed, in the order named, by Queensland, Victoria, South Australia, Western Australia, and New South Wales.

### § 3. Variations in Nominal and Effective Wages.

1. **Variations in Wage Index-Numbers in Various Industries, 1891 to 1914.**—The total number of different occupations for which particulars as to wages are available back to 1891 is 652. These wages relate generally to union rates, but in a few cases, more especially for the earlier years, when there were no union rates fixed, predominant or most frequent rates have been taken. The 652 occupations have been distributed over the fourteen industrial groups already specified, and index-numbers computed for each group for the whole Commonwealth. The wages refer generally to the capital town of each State, but in industries such as mining and agriculture, the rates in the more important industrial centres have been taken.

The following table shews wage index-numbers for the whole Commonwealth in each of the fourteen industrial groups during the years specified. Rates of wages for females are not included. The index-numbers are "weighted" according to the number of persons engaged in different industrial groups in each State and the Commonwealth (see Report No. 5, page 45). It is important to observe that a departure has been made in the method of fixing the base index-numbers adopted previously. Hitherto each State and industry has been dealt with separately, the average wage in the particular State or industry in the year 1911 being taken as base (= 1000) for each such State or industry separately. The index-numbers thus obtained were not, of course, comparable throughout—that is to say, as between different States or industries—for the reason that the average wage in 1911 in each State or industry was made equal to 1000, though it is obvious that the wage was not, in fact, the same in each State or industry. As these limitations do not seem to have been clearly recognised by certain persons, it has been decided to furnish the results in future in such form that they are comparable throughout. In the tables of index-numbers given in this Section, the weighted average wage in 1911 for all States or industries, as the case may be, is accordingly taken as base (= 1000). The result is that the index-numbers are comparable in all respects, that is to say, they shew not only the variations in wages from year to year in each State or industrial group, but they also furnish comparisons as to the relative wages in each State or industry, either in any particular year, or as between one year and another, and one State or industry and another.

#### VARIATIONS IN NOMINAL WAGE INDEX-NUMBERS IN DIFFERENT INDUSTRIES IN THE COMMONWEALTH, 1891 to 1914. (WEIGHTED AVERAGE WAGE FOR ALL GROUPS IN 1911 = 1000.)

Particulars.	No. of Occupations included.		1901.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
	1891 to 1912.	1913-14.										
I. Wood, Furniture, etc. ...	27	270	1,019	1,024	1,049	1,051	1,055	1,097	1,125	1,144	1,142	1,161
II. Engineering, Metal Works, etc. ...	101	636	945	957	971	989	995	1,006	1,064	1,104	1,113	1,127
III. Food, Drink, etc. ...	34	576	871	887	902	905	914	928	991	1,038	1,074	1,085
IV. Clothing, Hats, Boots, etc. ...	13	124	708	841	856	867	935	976	981	990	1,019	1,034
V. Books, Printing, etc. ...	25	205	996	1,002	1,010	1,021	1,070	1,102	1,149	1,188	1,234	1,246
VI. Other Manufacturing ...	102	875	907	906	905	915	923	947	1,013	1,037	1,076	1,093
VII. Building ...	67	190	1,050	1,070	1,105	1,114	1,130	1,163	1,213	1,245	1,270	1,276
VIII. Mining, Quarries, etc. ...	71	161	1,067	1,093	1,117	1,116	1,120	1,168	1,194	1,216	1,270	1,272
IX. Rail and Tram Services ...	68	224	1,021	1,024	1,027	1,031	1,064	1,074	1,113	1,164	1,165	1,165
X. Other Land Transport ...	9	70	795	795	813	836	836	889	910	993	996	1,026
XI. Shipping, etc. ...	74	198	751	778	787	787	856	857	871	942	953	972
XII. Agriculture, Pastoral, etc. ...	8	72	627	671	730	736	787	798	839	944	965	965
XIII. Domestic, Hotels, etc. ...	17	114	598	606	608	626	727	743	887	894	918	935
XIV. Miscellaneous ...	36	233	759	771	812	820	843	889	929	1,015	1,045	1,054
All Groups* ...	652	3,948	848	866	893	900	923	955	1,000	1,051	1,076	1,085

NOTE.—The figures in the above table are comparable both horizontally and vertically.  
 \* Weighted average: see graph on page 1009 hereof. † The decrease in this group is due to a reduction in the award rates in the Furniture trade resulting from an appeal made by employers.

It may be seen that the index-numbers increase during the whole period under review. The wage index-number increased from 848 in 1901 to 1000 in 1911 to 1051 in 1912, and to 1085 in 1914. It will be observed that the increase from 1901 to 1914 was relatively greatest in Class XIII. (Domestic, Hotels, etc.), and least in Classes I. (Wood, Furniture, etc.), and VIII. (Mining, Quarries, etc.).

It was pointed out in Report No. 2 (see pages 25 and 26) that the index-numbers given in the preceding table are readily *reversible*, that is to say, any year other than the year 1911 can be taken as base, and an example was given, shewing the amount of wages payable in 1901, 1911 and 1912 in each industrial group for every £1 payable in 1891.

**2. Variations in Wage Index-Numbers in Different States, 1891 to 1914.**—The following table shews the progress in rates of wages for all industries in each State, the weighted average wage for the Commonwealth in 1911 being taken as the base (= 1000). These results are based generally upon rates of wages prevailing in the capital town of each State, but in certain industries, such as mining, rates are necessarily taken for places other than the capital towns.

The following table shews that the relative increase from 1901 to 1914 was greatest in Tasmania and least in Queensland.

These index-numbers are, of course, also reversible, and an illustration was given in Report No. 2 (see page 27).

#### VARIATIONS IN NOMINAL WAGE INDEX-NUMBERS IN DIFFERENT STATES, 1901 to 1914.

(WEIGHTED AVERAGE WAGE FOR COMMONWEALTH IN 1911=1000.)

Particulars.	No. of Occupations included.		1901.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
	1901 to 1912.	1913-14.										
New South Wales ...	158	874	858	886	910	913	942	968	1,003	1,058	1,088	1,096
Victoria ...	150	909	796	807	857	871	887	924	985	1,038	1,058	1,065
Queensland ...	87	627	901	909	914	925	946	960	997	1,010	1,027	1,042
South Australia ...	134	567	819	832	858	868	905	951	1,013	1,048	1,061	1,062
Western Australia ...	69	489	1,052	1,053	1,061	1,068	1,116	1,116	1,152	1,191	1,214	1,226
Tasmania ...	54	482	719	749	725	725	732	772	799	934	1,025	1,028
Commonwealth*	652	3,948	848	866	893	900	923	955	1,000	1,051	1,076	1,085

\* Weighted average.

NOTE.—The figures in the above table are comparable both horizontally and vertically.

The significance of the above figures since 1906 can be better appreciated by reference to the graph on page 1010, which shows, of course, not only variations in wages in each State from year to year, but also the difference in wage level as between the several States. From this graph it is clearly seen that, excluding Western Australia, the difference between nominal wages in the several States has decreased very considerably since 1906. This difference is shewn at any point by the vertical distance between the graphs. Wages in Queensland increased during 1914 at a higher rate than in any other State, and though the general level in that State is now only a little higher than in Tasmania, it is gradually approaching South Australia, where the rate of increase in 1914 was slower than in any other State. The graphs for Victoria and South Australia lie very close together throughout the period. In Tasmania the first determination under the Wages Boards Acts 1910 and 1911 came into force in 1911. In 1912 and 1913 wages in that State increased very rapidly, and their general level is now not far below those of the other States, except Western Australia.

**3. Variations in Effective Wages.**—In order to obtain an accurate measure of the progress of wage-earners, regard must be had to the purchasing power of wages, and the index-numbers based merely upon records of rates of wages must consequently be

subject to some correction, inasmuch as they take no account of variations in cost of living. In computing these effective wage index-numbers, the nominal wage index-numbers given in paragraph 2 hereof have been divided by the cost-of-living index-numbers in Section IV., paragraph 5 of Report No. 5. The resulting index-numbers shew for each State and for the Commonwealth for the years specified the variations in effective wages.

The following table shews the effective wage index-numbers for each State for each of the years indicated from 1901 to 1914.

**VARIATIONS IN EFFECTIVE WAGES IN EACH STATE AND COMMONWEALTH,  
1901 to 1914.**

Particulars.	1901.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
New South Wales ... ..	961	949	983	926	952	973	973	922	924	909
Victoria ... ..	915	919	979	941	980	981	1,037	981	1,007	964
Queensland ... ..	1,172	1,165	1,151	1,081	1,112	1,095	1,090	1,032	1,060	1,045
South Australia ... ..	948	934	960	911	914	943	957	906	947	929
Western Australia ... ..	1,024	1,029	1,068	1,060	1,081	1,091	1,023	1,032	1,076	1,073
Tasmania ... ..	827	833	818	788	769	812	838	896	976	943
Commonwealth ... ..	964	960	996	946	974	985	1,000	955	975	952

The figures in the above table from the year 1906 onwards are shewn in the graph on page 1010. A comparison between this graph and that shewing nominal wages, shews that the difference between nominal and effective wages is very marked. In the first place, the whole nature of the graphs is entirely different. Instead of having a series of lines shewing a practically continuous and rapid upward trend, the effective wages shew (except for Tasmania) a series of fluctuating points, in which no very marked tendency is immediately discernible. It will be seen that, generally speaking, the years 1907, 1909, 1910, 1911, and 1913 were marked by increases in effective wages, but that in each of the years 1908, 1912, and 1914 there were rapid decreases. Each of these years in which effective wages declined were years of severe drought, when there was a rapid increase in cost of living. In 1914 wages increased 0.9 per cent., but cost of living went up 3.1 per cent., with the result that effective wages decreased 2.3 per cent.

One important feature common to both graphs (nominal and effective wages) is the manner in which the graphs for the individual States have, on the whole, approached more closely together. With the adoption of differential rates of wages fixed according to the relative cost of living, it appears probable that this tendency will continue in the future.

The relative positions of the States shewn in the two graphs is also of interest. Queensland is lowest but one in regard to nominal wages, but is nearly as high as Western Australia in regard to effective wages. New South Wales, which comes second in nominal wages, is last in effective wages. South Australia changes from the fourth to the fifth place, Victoria retains the third, and Tasmania changes from last to fourth. Western Australia is first in regard to both nominal and effective wages, but its level above the other States is much less with respect to effective than nominal wages.

**4. Variations in Effective Wages and Standard of Comfort, 1901 to 1914.**—In the preceding paragraph particulars are given as to variations in effective wages in each State, due allowance having been made for variations in cost of living, though not for unemployment. For years prior to 1913 the data available as to unemployment are so meagre that comparative results allowing for variations both in cost of living and in unemployment cannot be accurately computed for the several States. In the following table, however, the percentage of unemployment for the whole Commonwealth at the end of the years specified has been used in order to obtain results shewing the variations in unemployment upon effective wages. Column I. shews the nominal rate of wage index-numbers and Column II. the relative percentages unemployed. Applying these percentages to the numbers shewn in Column I., and deducting the results from each

corresponding index-number, so as to allow for relative loss of time, the figures in Column III. are obtained. These figures are then re-computed with the year 1911 as base, and are shewn in Column IV. In Column V. the cost-of-living index-numbers are shewn, and in Columns VI. and VII. the effective wage index-numbers are given, firstly, for full work, and, secondly, allowing for lost time. These are obtained by dividing the figures in Columns I. and IV., respectively, by the corresponding figures in Column V. The resulting index-numbers shew for the Commonwealth for the years specified the variations in *effective* wages or in what may be called the "standard of comfort."\*

A comparison between the figures in Columns I. and VI. shews the relation between the nominal rates of wages and the purchasing efficiency of these rates. The figures in Column VII. shew variations in *effective* wages after allowing not only for increased cost of living, but also for the relative extent of unemployment.

**UNEMPLOYMENT, COST-OF-LIVING AND NOMINAL AND EFFECTIVE WAGE  
INDEX-NUMBERS, 1901 to 1914.**

Year.	I. Nominal Wages Index- Numbers.	II. Percentage Unem- ployed.	Rate of Wages Index- Numbers, allowing for Lost Time.		V. Cost-of- Living Index- Numbers.	Effective Wage Index-Numbers.		
			III. Actual.	IV. Re-com- puted. (1911 =1,000).		VI. Full Work.	VII. Allowing for Unemploy- ment.	
1901	...	848	6.6	793	832	880	964	945
1906	...	866	6.7	808	848	902	960	940
1907	...	893	5.7	842	884	897	996	986
1908	...	900	6.0	846	888	951	946	934
1909	...	923	5.8	870	913	948	974	963
1910	...	955	5.6	901	945	970	985	974
1911	...	1,000	4.7	953	1,000	1,000	1,000	1,000
1912	...	1,051	5.5	993	1,042	1,101	955	946
1913	...	1,076	5.3	1,021	1,071	1,104	975	970
1914	...	1,085	11.0	966	1,014	1,140	952	889

It may be seen that the nominal wage index-number has steadily increased, and that the increase has been at a somewhat greater rate (except in the years 1908, 1912, and 1914) than the increase in the cost of living. Owing to the decreases in these three years the effective wage index-numbers (both "Full Work" and "Allowing for Unemployment") do not, on the whole, shew any general increase, but fluctuate between a range which reached its maximum in 1911, and its minimum in 1908, except in the case of the index-numbers "Allowing for Unemployment," which reached a minimum in 1914. In 1907 there was a large decrease in unemployment, which is reflected in the effective wage index-number for that year. The rise in the cost of living in 1908, which was a drought year, caused a considerable fall in effective wages. From that year, however, until the year 1911, the effective wage index-number steadily increased from 934 to 1000, but this increase was almost counterbalanced by the fall in 1912, which was due to the large increase in cost of living and the smaller increase in unemployment. In 1913 the cost-of-living index-number was practically the same as that for 1912, while nominal wages increased and unemployment decreased, with the result that the effective wage index-numbers, both for full work and allowing for unemployment, shew an increase. The effective wage index-numbers for 1914 both shew a decrease since the preceding year. This decrease is particularly marked in the case of the index-numbers in which allowance is made for unemployment.

\* This expression must not be confused with "standard of living." A change in the standard of living necessarily involves a change in regimen (see Labour Report No 1), that is, a change in the nature or in the relative quantity of commodities purchased, or both. A change in the "standard of comfort" merely implies a variation in effective wages, which variation may, or may not, result in, or be accompanied by, a change in the "standard of living."



## § 4. Changes in Rates of Wages.

1. **General.**—The collection of information regarding changes in rates of wages throughout the Commonwealth dates from the 1st January, 1913.

(i.) *Definition of a Change in Rate of Wages.*—For the purpose of these statistics a change in rate of wages is defined as a change in the weekly rates of remuneration of a certain class of employees, apart from any change in the nature of the work performed or apart from any revision of rates due to increased length of service or experience. It is obvious that under this definition certain classes of changes are excluded, such, for example, as (a) changes in rates of pay due to promotion, progressive increments, or, on the other hand, to reduction in pay or grade to inefficient workers, and (b) changes in average earnings in an occupation due to a change in the proportions which higher paid classes of workers bear to lower paid classes.

(ii.) *Sources of Information.*—Primary information merely as to the fact that a change in rate of wages has occurred is obtained through the following channels:—(a) Industrial Registrars and Chief Inspectors of Factories in each State; (b) Reports from Labour Agents and Correspondents; (c) Quarterly reports from Secretaries of Trade Unions; (d) Returns relating to industrial disputes which resulted in changes in rates of wages; (e) Reports in newspapers, labour and trade reviews, and other publications.

(iii.) *Collection of Particulars concerning Changes.*—On the occurrence of a change in rate of wages, forms\* (prescribed under the Census and Statistics Act 1905) are issued to employers and employers' associations (if any) and also to the secretaries of the trade unions, the members of which are affected by the change. In certain cases forms are also issued, if necessary, to individual employers. The particulars which have to be inserted in these forms furnish information regarding the occupations of the workers affected, the number of workers in each occupation, the rates of wages paid before and after the change, the locality affected, and the date on which the change took effect. Information must also be furnished regarding employers and employers' associations concerned (if any), and the method by which the change was effected.

When the forms are returned from the various persons who are required to fill them in, the returns are checked and compared with each other and with copies of awards, determinations, and agreements. In all cases when the information furnished on the forms is incomplete or unsatisfactory, further inquiries are made, and the figures checked by reference to Census results, industrial statistics, factory reports, etc.

2. **Comparative Summary of Changes in Rates of Wages in each State during 1913 and 1914.**—The following table gives particulars of changes occurring in each State of the Commonwealth during the years 1913 and 1914. As regards the number of persons affected, the particulars given refer to the total number of persons ordinarily engaged in the various industries. The results as to the amount of increase in wages are computed for a full week's work for all persons ordinarily engaged in the several industries and occupations affected, and in cases of changes in existing minimum rates under awards or determinations of industrial tribunals, it has ordinarily been assumed (in the absence of any definite information to the contrary) that the whole of the employees in each occupation received the minimum rates of wages before and after the change.

It should be clearly understood that *the figures given in the third line of the following table (amount of increase per week) do not relate to the increase each week, but only to the increase in a single week on the assumption that the full number of persons ordinarily engaged in the particular trade or occupation affected by the change is employed during that week.* It is obvious, therefore, that the aggregate effect per annum cannot be obtained without making due allowance for unemployment and for occupations in which employment is seasonal or intermittent. It is also obvious that since unemployment and activity in all branches of industry may vary from year to year, and in many branches from season to season also, no accurate estimate of the actual effect of the changes in the total amount of wages received or paid *per annum* can be made, until the determining factors have been investigated. These factors are (a) the amount of unemployment, and (b) the period of employment in seasonal industries.

\* Since these forms are issued under the authority of the Census and Statistics Act 1905, it is compulsory upon prescribed persons to furnish the information required.

### CHANGES IN RATES OF WAGES IN EACH STATE.—SUMMARISED RESULTS FOR YEARS 1913 AND 1914.

State.	No. of Changes.		No. of Persons Affected.		Total Amount of Increase per W'k.		Average Increase per Head per W'k.	
	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.
New South Wales...	149	181	89,618	53,841	£ 21,789	£ 12,820	s. d. 4 10	s. d. 4 9
Victoria...	81	68	49,254	29,816	9,880	6,679	4 0	4 6
Queensland...	41	42	16,645	16,908	3,702	4,499	4 5	5 4
South Australia...	26	18	4,574	5,624	1,279	1,941	5 7	6 11
Western Australia...	20	39	3,036	7,299	428	2,231	2 10	6 1
Tasmania...	12	19	3,005	4,262	635	804	4 3	3 9
Total, Commonwealth...	*329	*368	166,132	118,140	37,713	29,117	4 6	4 11

\* Industrial Awards and Agreements under the Commonwealth Conciliation and Arbitration Act, if operative in more than one State, are counted as a separate change in each such State.

† These figures include the effect of one change brought about by agreement made pursuant to Section 24 of the Commonwealth Conciliation and Arbitration Act, particulars of the number of workpeople affected in each State not being ascertainable.

During the year 1913 no decreases in rates of wages were recorded, but in 1914 five small decreases† occurred during the fourth quarter of the year. In the above table the net results of the 363 increases and 5 decreases are given. Though the number of separate changes increased during 1913 and 1914 from 329 to 368, the number of workpeople affected decreased from 166,132 to 118,140. The total amount of increase per week during the year 1914 was £29,117, compared with £37,713 in 1913, but the average weekly increase per person affected was higher (4s. 11d.) during 1914 than during the year 1913 (4s. 6d.).

3. Number and Magnitude of Changes in Rates of Wages in the Commonwealth, Classified according to Industrial Groups, 1913 and 1914.—In the following table particulars are given of the number of changes, the number of persons affected, the total amount of increase per week, and the average increase per head per week, classified according to Industrial Groups throughout the Commonwealth during the years 1913 and 1914.

### CHANGES IN RATES OF WAGES IN COMMONWEALTH, CLASSIFIED IN INDUSTRIAL GROUPS, 1913 and 1914.

Industrial Groups.	No. of Changes.		No. of Persons Affected.		Total Amount of Increase per week.		Average Increase per Head per week.	
	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.
I. Wood, Furniture, Timber, etc.	10	13	7,975	10,546	£ 1,569	£ 2,480	s. d. 3 11	s. d. 4 8
II. Engineering, Metal Works, etc.	20	30	6,594	9,608	1,607	1,840	4 10	3 10
III. Food, Drink, Tobacco, etc.	45	54	17,428	19,632	4,255	4,384	4 11	4 6
IV. Clothing, Hats, Boots, etc.	15	9	11,727	14,970	2,062	2,461	3 6	3 3
V. Books, Printing, etc.	11	17	4,602	2,686	1,126	523	4 11	3 11
VI. Other Manufacturing	55	41	17,110	8,721	3,480	2,096	4 1	4 10
VII. Building	21	16	19,237	8,305	5,696	2,441	5 11	5 11
VIII. Mines, Quarries, etc.	17	24	6,112	7,746	1,210	1,579	4 0	4 1
IX. Rail and Tramway Services	16	12	20,046	2,023	3,219	510	3 3	5 1
X. Other Land Transport	12	10	7,335	4,020	2,324	716	6 4	3 7
XI. Shipping, etc.	19	25	1,839	16,750	543	6,932	5 11	8 3
XII. Agricultural, etc.	3	2	828	590	436	120	10 6	4 1
XIII. Domestic, Hotels, etc.	9	4	6,481	939	1,922	188	5 11	4 0
XIV. Miscellaneous	59	92	38,818	11,604	8,264	2,847	4 3	4 11
Total, Commonwealth	*312	*349	166,132	118,140	37,713	29,117	4 6	4 11

\* In this table an Award or Industrial Agreement under the Commonwealth Conciliation and Arbitration Act has been counted as one change only, although such Award or Agreement may be operative in more than one State.

† For particulars of decreases see paragraph 4 on the following page.

The largest number of changes occurred in industries and occupations included in Group XIV. (Miscellaneous), and of that number a considerable proportion was brought about by industrial agreements filed under Commonwealth and State Acts. The industrial group in which the largest number of persons affected by changes in 1914 was employed was Group III. (Food and Drink), in which there were 54 changes, affecting no fewer than 19,632 employees. In Group XI. (Shipping, Wharf Labour, etc.), 25 changes affected 16,750 persons, while the next groups in order, according to number of persons affected, were:—Group IV. (Clothing, Hats, etc.), Group XIV. (Miscellaneous), Group I. (Wood, Furniture, etc.) and Group II. (Engineering, Metal Works, etc.). Persons included in Group XIV. (Miscellaneous), received increases amounting to £2847 per week, while employees in Groups VII. (Building), and III. (Food, Drink, etc.), benefited to the extent of £2441 and £4384 respectively.

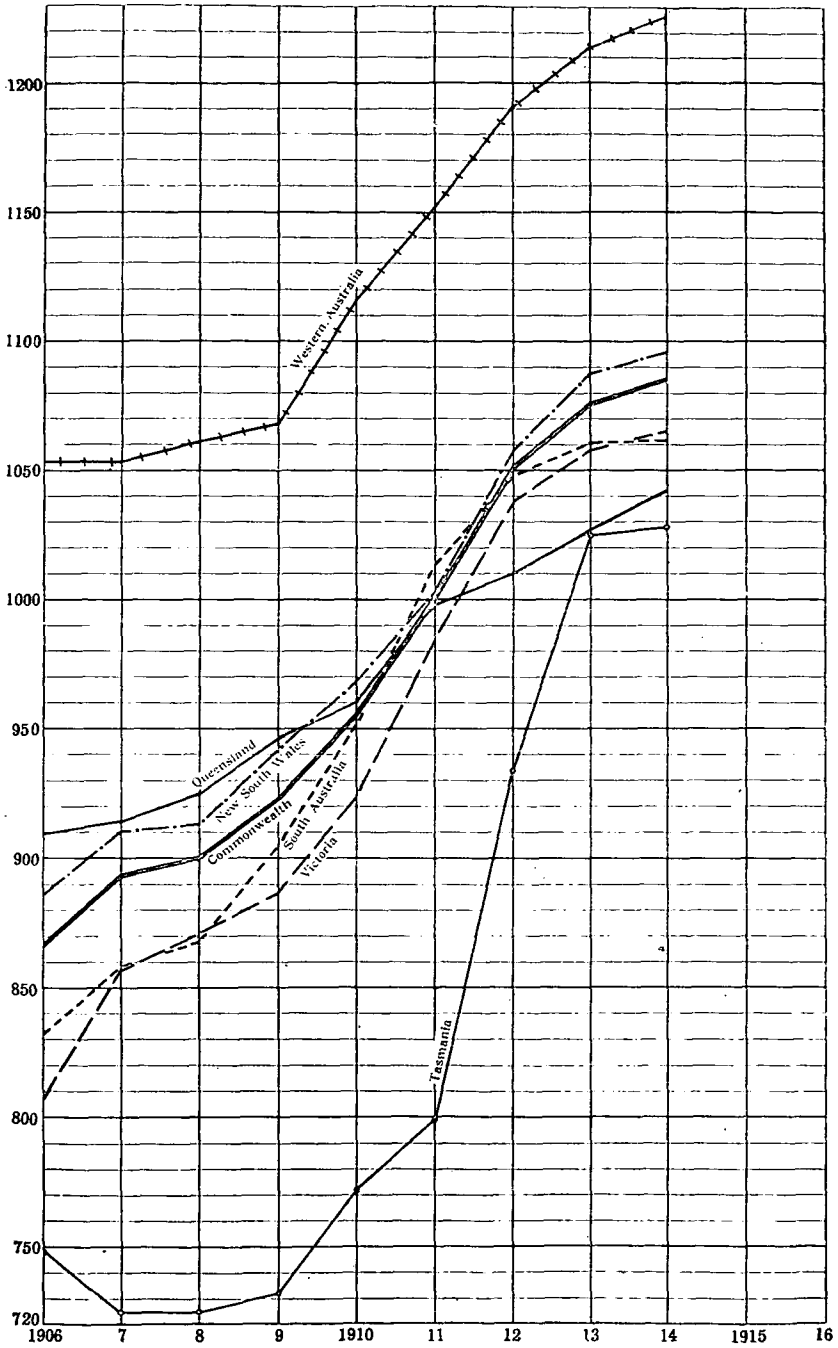
**4. Decreases in Wages.**—Of the five decreases in wages included in the tables in paragraphs 2 and 3, three were in New South Wales and one in each of the States of Victoria and Tasmania. Two of the reductions in New South Wales were the results of appeals to the Industrial Court from awards of Boards, and in each case the Court ordered amendments bringing about reductions in the wages of a small number of employees. The persons affected were workers on type-setting machines employed on jobbing work, and masters and engineers employed on ferries and tug boats. The other case in New South Wales affected boiler-makers at Newcastle in the employ of the Broken Hill Proprietary Company. These men were receiving wages considerably in excess (16s. per day) of the minimum award rate (11s.). Soon after the outbreak of war the works were temporarily closed down, and when operations were resumed the wages of these men were cut down to 12s. 4d. per day, still 1s. 4d. above the minimum rate. The decrease in Victoria was of similar nature to that which occurred at Broken Hill. Work was stopped at one of the mines at the Stawell district with the object of erecting new machinery. Before the stoppage of work truckers were being paid at the rate of 7s. 6d. per day, which is 10d. in excess of the minimum board rate. On resuming work the wages of these men were reduced to 7s. per day, a rate still in excess of the minimum. In Tasmania the wages of labourers and others engaged in the construction of water supply works were reduced by 6d. per day on the Government taking over the work. It is stated that the object of this reduction was to keep as many men employed as possible pending the development of new work.

## § 5. Current Rates of Wages in Different Occupations and States.

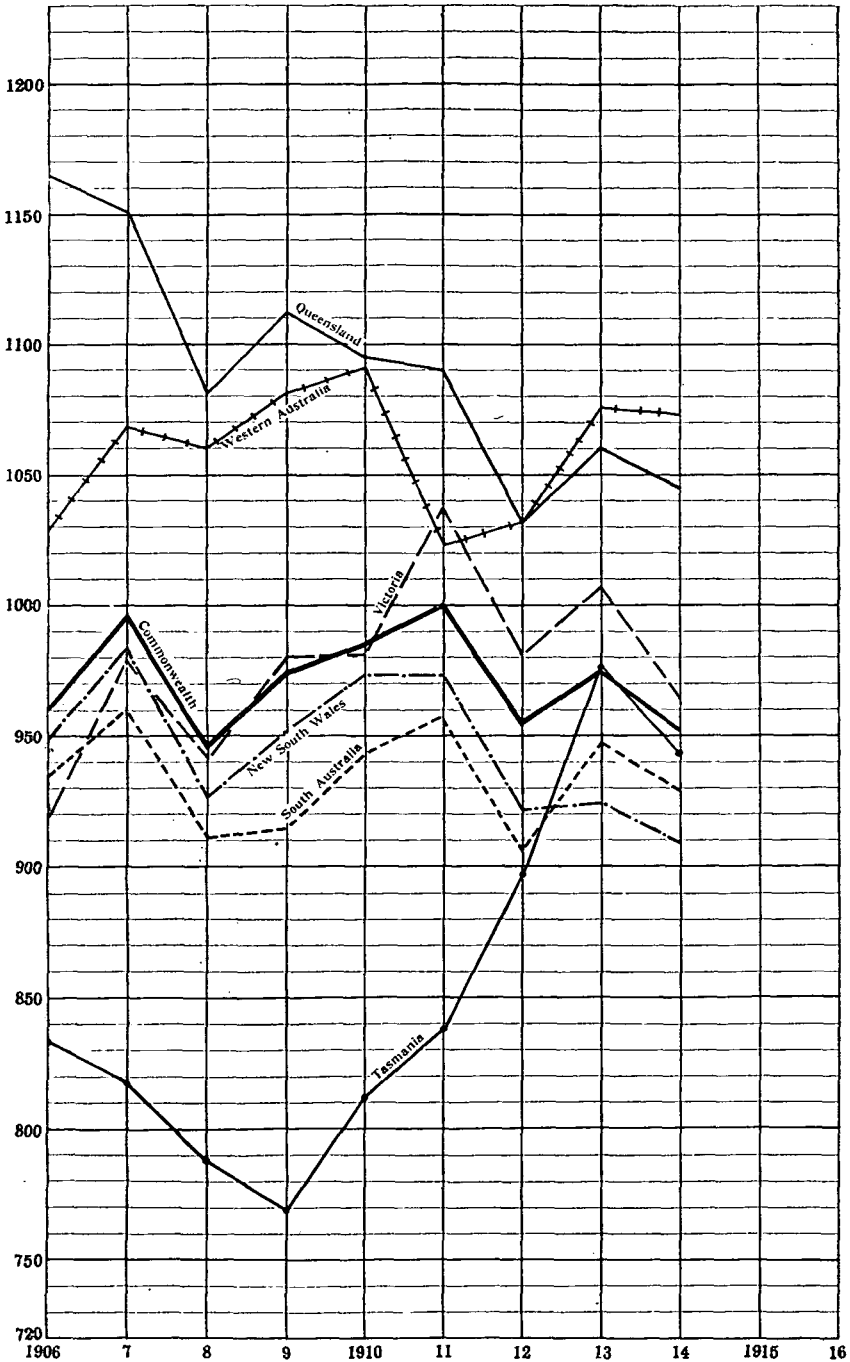
**1. Comparative Table of Time Rates of Wages, 31st December, 1914.**—The particulars of wages given hereafter are obtained primarily from awards, determinations and agreements under Commonwealth and State Acts, and therefore shew the minimum rates prescribed. In cases where no award, determination, or agreement was in force particulars are given, where possible, of the ruling union or predominant rate as furnished by employers or secretaries of Trade Unions. All particulars obtained from this source are marked with an asterisk. It will be seen that for convenience of comparison *the wages are in nearly all cases presented as a weekly rate*, though in many industries they are actually based on daily or hourly rates, as specified in awards, determinations or agreements. This caution is necessary, in view of the fact that it is often in those industries and occupations in which employment is of an exceptionally casual or intermittent nature that wages are fixed or paid at a daily or hourly rate. Hence the average weekly earnings in such occupations will probably fall considerably short of the weekly rates specified in the table.

The rates specified refer generally to the capital town of each State, but in industries, such as mining and agriculture, rates are necessarily taken for places other than the capital towns. *The figures given in the first part of the table relate to journeymen or adult male workers, and in the second part to adult female workers, and in each case*

NOMINAL WAGE INDEX-NUMBERS IN EACH STATE AND COMMONWEALTH.  
1906 to 1914.



EFFECTIVE WAGE INDEX-NUMBERS IN EACH STATE AND COMMONWEALTH,  
1906 to 1914.



represent (except where otherwise specified in the footnotes) the amounts payable for a full week's work of 48 hours. In every case where the hours of labour constituting a full week's work are other than 48, the number of hours is indicated in the footnotes.

**2. Weighted Average Rates of Wages Payable to Journeymen or Adult Male Workers in each State, 31st December, 1914.**—The following table shows the weighted average weekly rates of wages payable to journeymen or male adult workers for a full week's work in each State and the Commonwealth. Taking the average for the whole Commonwealth as the base (=1000), index-numbers for each State are also shewn. The number of occupations upon which these results are based amounts in the aggregate to no fewer than 3948.

**WEIGHTED AVERAGE NOMINAL WEEKLY RATES OF WAGES PAYABLE TO JOURNEYMEN OR ADULT MALE WORKERS FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN EACH STATE AND COMMONWEALTH, 31st DECEMBER, 1914.**

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wth.
Number of Occupations <sup>1</sup> included ...	874	909	627	567	439	482	3,948
Weighted Average Weekly Rates of Wages ...	56s. 2d.	54s. 7d	53s. 5d.	54s. 5d.	62s. 10d.	52s. 8d.	55s. 7d.
Index-Numbers ...	1,011	982	961	980	1,132	949	1,000*

\* Weighted average.

The results shew that nominal rates of wages are highest in Western Australia, followed in the order named by New South Wales, Victoria and South Australia (practically equal), Queensland, and Tasmania.

**3. Weighted Average Rates of Wages Payable to Journeymen or Adult Male Workers in each Industrial Group, 31st December, 1914.**—The following table gives similar particulars in regard to the several industrial groups and to the weighted average for all groups combined. In computing the index-numbers the weighted average is taken as base (=1000).

**WEIGHTED AVERAGE WEEKLY RATES OF WAGES PAYABLE TO JOURNEYMEN OR ADULT MALE WORKERS FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN EACH INDUSTRIAL GROUP, 31st DECEMBER, 1914.**

Industrial Groups.	No. of Rates Included.	Weighted Aver. Weekly Wage (for Full Week's Work).	Index-Numbers.
		s. d.	
I. Wood, Furniture, etc. ...	270	59 6	1,071
II. Engineering, Metal Works, etc. ...	636	57 9	1,039
III. Food, Drink, etc. ...	576	55 8	1,001
IV. Clothing, Boots, etc. ...	124	53 0	955
V. Books, Printing, etc. ...	205	63 10	1,150
VI. Other Manufacturing ...	875	56 0	1,008
VII. Building ...	190	65 6	1,178
VIII. Mining ...	161	65 2	1,173
IX. Rail and Tram Services, etc. ...	224	59 8	1,074
X. Other Land Transport ...	70	52 8	948
XI. Shipping, etc. ...	198	49 10	897
XII. Agricultural, Pastoral, etc. ...	72	49 5	890
XIII. Domestic, Hotels, etc.* ...	114	47 11	863
XIV. Miscellaneous ...	233	54 0	972
All Groups ...	3,948	55 7	1,000†

\* The value of Board and Lodging (estimated at 15s. per week) is included, where supplied, in order that the results may be comparable with the rates paid in other industries. † Weighted average.

The above figures show that the highest average wage is that paid in Group VII. (Building), 65s. 6d. per week, or 18 per cent. above the weighted average for all groups. The rates of wages range from 65s. 6d. per week down to 47s. 11d. per week, the lowest being in Group XIII. (Hotels, etc.), which is nearly 14 per cent. below the average of all groups.

**4. Weighted Average Rates of Wages Payable to Adult Female Workers in each State, 31st December, 1914.**—The following table shows the weighted average weekly rates of wages payable to female adult workers for a full week's work in each State and the Commonwealth. Taking the average for the whole Commonwealth as the base (=1000), index-numbers for each State are also shewn.

**WEIGHTED AVERAGE NOMINAL WEEKLY RATES OF WAGES PAYABLE TO ADULT FEMALE WORKERS FOR A FULL WEEK'S WORK, AND WAGE-INDEX NUMBERS IN EACH STATE AND COMMONWEALTH, 31st DECEMBER, 1914.**

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
Number of Occupations included ...	85	87	37	47	24	28	308
Weighted Average Weekly Rates of Wages ...	26s. 10d.	27s. 9d.	27s. 1d.	24s. 1d.	37s. 4d.	25s. 10d.	27s. 5d.
Index-Numbers ...	979	1,013	988	877	1,362	942	1,000*

\* Weighted average.

It will be seen that nominal rates of wages for female workers are highest in Western Australia, followed in the order named by Victoria, Queensland, New South Wales, Tasmania, and South Australia.

**5. Weighted Average Rates of Wages Payable to Adult Female Workers in Industrial Groups, 31st December, 1914.**—The following table gives separate particulars regarding the nominal rates of wages of females in the chief industrial groups in which they are employed, and also shews the weighted average for all groups combined. Index-numbers based on the average nominal wage for the Commonwealth as the base (=1000) are also given :—

**WEIGHTED AVERAGE WEEKLY RATES OF WAGES PAYABLE TO ADULT FEMALE WORKERS FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN INDUSTRIAL GROUPS, 31st DECEMBER, 1914.**

Industrial Groups.	No. of Rates Included.	Weighted Average Weekly Wage (for Full Week's Work).	Index-Numbers.
		s. d.	
III. Food, Drink, etc. ...	35	23 5	855
IV. Clothing, Boots, etc. ...	114	24 11	909
I., II., V., VI., Other Manufacturing ...	84	27 0	986
XIII. Domestic, Hotels, etc. ...	57	30 2*	1,101
XIV. Shop Assistants, Clerks, etc. ...	18	31 4	1,143
All Groups ...	308	27 5	1,000†

\* The value of Board and Lodging (estimated at 15s. per week) is included, where supplied, in order that the results may be comparable with the rates paid in other industries. † Weighted average.

**6. Rates of Wages of Adult Males and Females.**—In the tabular statement on pages 1013 to 1037 particulars are shewn for adult males and females separately of the minimum rates of wages fixed by awards, determinations, or agreements, at 31st December, 1914. (See paragraph 1 of this section.)

**MINIMUM RATES OF WAGES FOR JOURNEYMEN OR ADULT MALE WORKERS IN THE  
MAIN OCCUPATIONS IN THE CAPITAL TOWN OF EACH STATE FOR A FULL  
WEEK'S WORK AT 31st DECEMBER, 1914.**

NOTE.—Ruling or predominant rates of wages are distinguished from Award, Determination, or Industrial Agreement rates of wages by an asterisk (\*). Except where otherwise specified by a numerical prefix in small type, the hours of labour constituting a full week's work are forty-eight. Award, Determination, or Agreement rates are quoted from the latest Awards, Determinations, or Agreements made, but which were not invariably in force on the 31st December, 1914. It is found, however, that in those States in which Awards, Determinations, or Industrial Agreements are made for a specified period, pending further review of the rates of wages and hours of labour, those previously determined or agreed upon are usually maintained. Where two or more Award, Determination, or Agreement rates are quoted, the reason for such is that different rates of wages have been fixed for various classes or grades of work. It will be seen that in certain cases of this nature the wages are shewn in the form, say, 50s. to 57s., indicating that in addition to the two rates specified, there are also certain intermediate rates in force. In other cases the rates are shewn in the form 54s. and 60s., indicating that there are only two minimum or standard rates in force for different classes and grades of work, and that there are, of course, no intermediate minimum or standard rates.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
<b>GROUP I.—WOOD, FURNITURE, SAWMILLS AND TIMBER WORKS.</b>						
<b>Coopers</b> ... ..	s. d. 66 0 to 74 0	s. d. 66 0	s. d. 66 0	s. d. 66 0	s. d. 80 0	s. d. *70 0
<b>Furniture and Bedding.</b>						
Bedding Makers ... ..	56 0	57 0	*51 4	54 0	60 0	48 0
Boults Carver Operator ...	*63 0	66 0	*60 6	*61 6	75 0	63 0
Cabinet Makers ... ..	60 0	60 0	*60 6	56 0	69 0	57 0
Carpet Cutters ... ..	73 0	65 0	...	...	...	*57 0
„ Layers ... ..	60 0	60 0	...	*56 0	...	57 0
„ Planners ... ..	60 0	65 0	...	...	...	57 0
Chair Makers ... ..	60 0	60 0	*60 6	56 0	69 0	57 0
French Polishers ... ..	60 0	60 0	*56 10	56 0	66 0	57 0
Upholsterers ... ..	60 0	60 0	*56 10	56 0	66 0	57 0
Wood Carvers ... ..	60 0	60 0	*60 6	56 0	75 0	57 0
„ Machinists ... ..	60 0	62 0	*47 8	56 0	72 0	50 0
„ Turners ... ..	60 0	60 0	*60 6	56 0	69 0	to 57 0 57 0
<b>Mattress Making (Wire).</b>						
Finishers ... ..	52 6	55 0	*53 2	48 0	...	48 0
Makers ... ..	52 6	58 0	*53 2	50 0	66 0	48 0
Varnishers ... ..	52 6	55 0	*53 2	43 0	...	48 0
<b>Saw Milling and Timber Yards.</b>						
Box and Case Makers ...	60 0	56 0	54 0	51 0	...	46 6
Labourers... ..	54 0	51 0	52 0	48 0	54 0	46 6
Machinists—						
Box Printing ... ..	54 0	52 0	...	*49 6	...	...
Boults Carver ... ..	69 0	66 0	*66 0	...	...	66 0
Buzzer or Jointer ... ..	63 0	60 0	*52 0	51 0	57 0	54 0
General Joiner ... ..	69 0	63 0	...	...	72 0	51 0

(1) 18 hours. (2) 30 hours. (3) 33 hours. (4) 36 hours. (5) 42 hours. (6) 44 hours. (7) 44½ hours. (8) 45 hours. (9) 45½ hours. (10) 46 hours. (11) 46½ hours. (12) 47 hours. (13) 47½ hours. (14) 49 hours. (15) 49½ hours. (16) 49½ hours. (17) 50 hours. (18) 51 hours. (19) 52 hours. (20) 52½ hours. (21) 52½ hours. (22) 53 hours. (23) 53½ hours. (24) 53½ hours. (25) 54 hours. (26) 54½ hours. (27) 55 hours. (28) 56 hours. (29) 56½ hours. (30) 57 hours. (31) 58 hours. (32) 59 hours. (33) 60 hours. (34) 63 hours. (35) 65 hours. (36) 70 hours. (37) 72 hours. (38) 77 hours. (39) 7 nights. (40) 116 hours per fortnight. (41) 136 hours per fortnight. (42) 144 hours per fortnight. (43) 50 hours (summer), 48 hours (winter). (44) 52 hours (summer), 45 hours (winter). (45) 54 hours (summer), 48 hours (winter). (46) 54½ hours (summer), 52½ hours (winter). (47) 55 hours (summer), 52 hours (winter). (48) 55 hours (summer), 54 hours (winter). (49) 56 hours (summer), 48 hours (winter). (50) 57 hours (summer), 52½ hours (winter). (51) 58 hours (summer), 46 hours (winter). (52) 58 hours (summer), 50 hours (winter). (53) 58 hours (summer), 56 hours (winter). (54) 59 hours (summer), 53 hours (winter). (55) 60 hours (summer), 56 hours (winter). (56) 60 hours (summer), 58 hours (winter). (57) 64 hours and 72 hours alternate weeks. (58) 48 hours, 51 hours, 54 hours four months each in each year. (59) 56 hours and 59 hours within certain radius. (60) 56 hours and 60 hours within certain radius. (61) 47½ hours. (62) 58 hours (summer), 54 hours (winter).



## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP I.—WOOD, FURNITURE, SAWMILLS AND TIMBER WORKS—Continued.						
Mortising or Boring ...	s. d. 55 0	s. d. 53 0	s. d. 52 0	s. d. 54 0	s. d. 57 0	s. d. 51 0
Moulding ...	62 0	60 0	68 0	57 0	60 0	53 0
„ own Grinder ...	68 0	65 0	...	61 6	...	63 0
Nailing ...	54 0	56 0	...	49 6	...	...
Planing...	63 0	60 0	60 0	49 6	72 0	54 0
Sandpapering ...	56 0	54 0	52 0	54 0	54 0	51 0
Shaping ...	69 0	66 0	78 0	57 0	75 0	66 0
Tenoning ...	63 0	60 0	*60 0	54 0	60 0	57 0
Ordermen...	58 0	57 0	56 0	54 0	*60 0	54 0
Pullers and Tailors Out ...	54 0	46 0	52 0	45 0	57 0	49 6
		& 51 0		& 51 0		
Saw Doctors ...	78 0	72 0	74 0	69 0	72 0	69 0
Saw Sharpeners ...	66 0	60 0	64 0	60 0	*60 0	54 0
Sawyers—Band or Jig ...	68 0	57 0	66 0	54 0	63 0	51 0
„ Circular...	54 0	56 0	60 0	54 0	60 0	53 0
	to 66 0			& 60 0	& 66 0	& 57 0
„ Gang Frame ...	56 0	57 0	56 0	63 0	63 0	51 0
„ Re-Out Band ...	54 0	57 0	62 0	63 0	63 0	51 0
	to 66 0					
Stackers ...	655 0*	57 0	*45 10*	68 0	57 0	46 6
Tallymen ...	58 0	57 0	60 0	54 0	57 0	51 0
Wood Turners ...	69 0	60 0	66 0	56 0	*66 0	57 0
				& 58 6	to 72 0	

## GROUP II.—ENGINEERING, METAL WORKS, ETC.

<b>Agricultural Implements.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Assemblers ...	54 0	48 0	...	48 0	57 0	...
Blacksmiths ...	64 0	60 0	...	60 0	69 0	...
					to 78 0	
Bulldozermen ...	52 6	57 0	...	...	69 0	...
Carpenters ...	72 0	60 0	...	60 0	...	...
Drillers ...	52 6	48 0	...	48 0	57 0	...
					to 60 0	
Engine Drivers ...	66 0	48 0	...	54 0	...	...
		to 60 0				
Fitters ...	56 0	54 0	...	60 0	72 0	...
	to 64 0	& 60 0				
Grinders ...	52 6	54 0	...	48 0	...	...
Labourers (unskilled)	52 6	45 0	...	45 0	54 0	...
Machinists, Iron ...	52 6	54 0	...	48 0	...	...
	to 56 0			to 54 0		
„ Wood ...	52 6	57 0	...	48 0	...	...
	to 56 0			& 57 0		
Painters (Brush) ...	54 0	51 0	...	51 0	...	...
„ (Scroll) ...	63 0	60 0	...	60 0	...	...
Patternmakers ...	74 0	66 0	...	66 0	81 0	...
Sheet Iron workers...	52 6	54 0	...	54 0	...	...
Storemen ...	52 6	45 0	...	45 0	...	...
Strikers ...	54 0	48 0	...	48 0	57 0	...
					to 60 0	
Turners ...	64 0	60 0	...	60 0	72 0	...
Wheelwrights ...	63 0	60 0	...	60 0	...	...

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP II.—ENGINEERING, METAL WORKS, ETC.—Continued.						
<b>Bedstead Making (Metal).</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Blacksmiths ...	59 0	56 0	55 0	48 0	...	...
	to 65 0					
Chillfitters (Modellers) ...	67 6	72 0	67 6	*56 0	...	...
do. (Other) ...	60 0	60 0	52 6	56 0	...	...
Chippers ...	55 0	52 0	51 0	43 0	...	...
Cutters, etc. ...	55 0	54 0	51 0	48 0	...	...
Electroplaters ...	60 0	68 0	*50 0*	63 0	...	...
Fitters-up ...	56 0	56 0	52 6	51 0	...	...
Foundry Hands ...	55 0	*54 0	51 0	...	...	...
Frame Setters ...	58 0	58 0	57 6	54 0	...	...
Furnacemen ...	60 0	54 0	53 0	*43 0	...	...
Japanners... 0...	54 0	56 0	50 0	43 0	...	...
				& 51 0		
Lacquerers ...	59 0	54 0	*48 0	48 0	...	...
Mounters ...	54 0	56 0	50 0	43 0	...	...
				& 51 0		
Polishers ...	57 0	54 0	*48 0	48 0	...	...
<b>Boiler Making.</b>						
Journeyman ...	66 0	66 0	*60 6	72 0	72 0	60 0
			& 64 2			
Railway Men ...	68 0	63 0	*64 6	66 0	72 0	63 0
		to 72 0	to 70 6	to 72 0		to 69 0
<b>Brass Working.</b>						
Coremakers ...	68 0	51 0	*44 0	48 0	*72 0	...
	& 72 0					
Dressers ...	*48 0	45 0	*44 0	43 0	...	...
Finishers ...	60 0	57 0	*60 6*	...	*72 0	51 0
Furnacemen ...	*55 0	47 6	*49 6	43 0	*60 0	42 0
Moulders ...	68 0	57 0	*44 0	60 0	*72 0	60 0
	& 72 0					
Polishers ...	60 0	50 0	...	45 0	...	...
<b>Cycles and Motors.</b>						
Assemblers ...	48 0	47 6	...	...	*57 0	48 0
		& 55 0				
Cleaners ...	48 0	47 6	...	...	...	48 0
Filers ...	48 0	47 6	...	...	...	48 0
Fitters ...	52 0	55 0	...	...	*72 0	55 0
Frame Builders ...	52 0	52 6	...	...	...	52 0
		& 55 0				
Repairers ...	52 0	50 6	...	...	...	48 0
		& 55 0				
Turners (Cycle) ...	48 0	...	...	...	*72 0	...
„ (Motor) ...	64 0	60 0	...	...	...	60 0
Wheel Builders ...	48 0	47 6	...	...	...	...
<b>Electrical Installation.</b>						
Armature Winders ...	72 0	66 0	63 0	66 0	72 0	63 0
Cable Jointers ...	72 0	69 0	...	60 0	...	60 0
Fitters ...	74 0	66 0	69 0	66 0	72 0	63 0
Linemen ...	66 0	63 0	60 0	60 0	57 0	54 0
						& 57 0
Mechanics ...	66 0	63 0	69 0	60 0	72 0	63 0
Wiremen ...	*64 0	63 0	...	51 0	60 0	57 0

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP II.—ENGINEERING, METAL WORKS, ETC.—Continued.						
<b>Electrical Supply.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Armature Winders ...	72 0	54 0 & 63 0	63 0	66 0	72 0	63 0
Cable Jointers ...	74 0	63 0	...	60 0	...	60 0
Carboner (arc lamp attend.)...	54 0	54 0	57 0	48 0	...	54 0
Instrument Makers ...	70 0	63 0	69 0	60 0	*72 0	63 0
Linemen ...	66 0	60 0	60 0	60 0	57 0	54 0 & 57 0
Switchboard Attendants ...	60 0	54 0	...	48 0	...	51 0
<b>Electrical Trades.</b>						
Fitters ...	74 0	66 0	69 0	66 0	72 0	63 0
Mechanics ...	66 0	63 0	69 0	60 10p	72 0	...
Wiremen ...	*64 0	63 0	...	51 0	...	57 0
<b>Electroplating.</b>						
Makers-up ...	58 0	51 0	...	...	...	...
Platers ...	66 0	68 0	*650 0	66 0	66 0	55 0
Polishers ...	58 0 & 61 0	54 0	*650 0	...	...	48 0
<b>Engineering.</b>						
Blacksmiths ...	72 0	66 0	*60 6	63 0 & 69 0	78 0	60 0
Bolt and Nut Machinists ...	50 0	54 0	...	...	*60 0	...
Borers and Slotters ...	60 0	60 0	*655 0	60 0 & 66 0	66 0	60 0
Brass Finishers ...	70 0	57 0	*60 6	60 0	72 0	51 0
Coppersmiths ...	72 0	66 0	*60 6	69 0	78 0	60 0
Drillers (Radial) ...	...	*58 0	*655 0	58 0	66 0	60 0
„ (Other) ...	50 0	50 0	*645 10	52 0	60 0	60 0
Drophammer Smiths ...	66 0	66 0	...	...	72 0	...
Fitters ...	70 0	66 0	*60 6	69 0	72 0	60 0
Lappers and Grinders ...	50 0	54 0	...	66 0	...	...
Millers (Universal) ...	...	60 0	...	69 0	72 0	60 0
„ (Other) ...	60 0	54 0	*60 6	66 0	66 0	60 0
Oliversmiths ...	66 0	66 0	...	...	72 0	...
Pattern Makers ...	74 0	72 0	*66 0	69 0	81 0	60 0
Planers (Rail and Plate Edge) ...	60 0	54 0	...	54 0	66 0	...
„ (Other) ...	60 0	60 0	*55 0	60 0	66 0	60 0
Shapers ...	60 0	54 0 & 60 0	*55 0	60 0	66 0	60 0
Springsmiths ...	64 0	66 0	...	...	*78 0	...
Turners ...	70 0	66 0	*60 6	69 0	72 0	60 0
<b>Farrying.</b>						
Firemen ...	66 0	60 0	1252 6*	60 0	*66 0	*45 0
Floormen ...	60 0	55 0	1247 6*	54 0	*60 0	*40 0
Shoemsmiths... ..	66 0	60 0	1252 6*	60 0	*66 0	*45 0
<b>Ironworkers' Assistants.</b>						
Boilermakers' Helpers ...	48 0	54 0	*44 0	51 0	57 0	48 0
do. Labourers ...	45 0	48 0	*41 3	51 0	to 60 0 45 0	45 0
Engineers' Labourers ...	48 0	46 6	*39 5	51 0	to 54 0 *57 0	45 0
Furnacemen (Assistant) ...	54 0	51 0	*39 5	50 0	*51 0	...

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP II.—ENGINEERING, METAL WORKS, ETC.—Continued.						
General Labourers ...	s. d. 45 0	s. d. 48 0	s. d. 36 8	s. d. 51 0	s. d. 45 0 to 54 0	s. d. 45 0
Moulders' do ...	45 0	48 0	39 5	48 0	*54 0	42 0
Strikers ...	48 0	50 0	44 0	51 0	60 0	48 0
<b>Moulding, Iron.</b>						
Coremakers (Machine)	72 0	56 0	44 0	60 0	66 0	60 0
do. (Other)	72 0	62 0 & 68 0	49 6 & 55 0	60 0	66 0	60 0
Dressers and Fettlers	55 0	51 0	44 0	50 0	*54 0	42 0
Furnacemen ...	59 0 to 66 0	54 0	49 6	54 0	*66 0	42 0
Moulders (Machine)	68 0	56 0	44 0	54 0	66 0	60 0
„ (Other) ...	72 0	62 0 & 68 0	49 6 to 58 8	60 0	66 0	60 0
<b>Moulding, Pipe (Bank).</b>						
Casters and Finishers	54 0	53 0	...	*66 0	*66 0	...
Coremakers	56 0	62 0 & 68 0	...	...	*72 0 & 78 0	...
Footmen (4-in. and under)	60 0	56 0	45 10	*60 0	*66 0	...
do. (5 and 6-ins.)	62 0	59 0	49 6	*60 0	*72 0	*60 0
Headmen (4-in. and under)	66 0	62 0	53 2	*66 0	*72 0	...
do. (5 and 6-ins.)	68 0	68 0	58 8	*66 0	*78 0	*60 0
<b>Moulding, Pipe (Vertical).</b>						
Casters	54 0	53 0	44 0	...	*78 0	*60 0
Coremakers	54 0	53 0	44 0	*66 0	*66 0	*60 0
Corers	54 0	53 0	44 0	...	*66 0	...
Rammers	54 0	53 0	44 0	*60 0	*66 0	*60 0
<b>Moulding, Steel.</b>						
Coremakers	72 0	56 0 to 68 0	55 0	60 0	*72 0	...
Moulders	72 0	56 0 to 68 0	55 0	54 0 & 60 0	*72 0	...
<b>Moulding, Stove.</b>						
Moulders	60 0	62 0	44 0	60 0	*66 0	...
<b>Sheet Metal Working.</b>						
Canister Makers	48 0 & 50 0	54 0	52 0	50 0	*57 6	...
Japanners (Coating or Brush-work)	...	48 0	54 0	45 0	...	...
Japanners (Grainers, Liners, etc.)	...	52 0	54 0	50 0	...	...
Japanners (Ornamental)	...	57 0	54 0	54 0	...	...
Machinists	48 0 & 50 0	53 0	52 0	46 6	57 6	...
Solderers	48 0	51 0 & 53 0	54 0	50 0	57 6	*48 0
Tinsmiths	60 0	57 0	54 0	52 0	65 0	*54 0

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP III.—FOOD, DRINK, TOBACCO, ETC.						
<b>Aerated Waters and Cordials.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Bottlers ... ..	52 0	47 6	*45 0	44 48 0	54 0	*42 0
		& 50 0	& 50 0			
Bottle Washers ... ..	50 0	43 6		44 48 0	51 0	*42 0
Drivers (Motor) ... ..	55 0	49 54 0	25 47 6	17 55 6	...	...
„ (One Horse) ... ..	27 50 0	49 50 0	33 45 0	19 48 0	55 0	42 0
„ (Two Horse) ... ..	27 55 0	49 52 6	33 50 0	19 50 0	55 0	47 0
Grooms or Stablemen ... ..	27 50 0	53 45 0	33 45 0	19 48 0	28 50 0	*42 0
Loaders ... ..	50 0	43 6	*50 0	44 48 0	51 0	*42 0
Packers ... ..	50 0	43 6	*50 0	44 48 0	54 0	*42 0
Wirers ... ..	50 0	43 6	...	44 48 0	51 0	*42 0
					& 54 0	
<b>Baking (Bread)</b>						
Board Hands ... ..	50 0	76 0	50 0	60 0	63 0	52 6
			& 55 0			
Carters (One Horse) ... ..	25 52 6	25 51 0	33 47 6	19 48 0	25 56 0	25 42 0
„ (Two Horses) ... ..	25 52 6	25 51 0	33 52 0	19 50 0	25 56 0	25 47 0
Doughmen ... ..	60 0	76 0	55 0	60 0	63 0	52 6
			& 60 0			
Fore Hands ... ..	65 0	84 0	60 0	60 0	68 0	66 0
	& 70 0		to 70 0			
Ovenmen ... ..	65 0	76 0	60 0	60 0	68 0	52 6
			& 65 0			
Single Hands ... ..	65 0	84 0	60 0	60 0	68 0	66 0
			& 65 0			
<b>Baking (Biscuits and Cakes).</b>						
Adult Males ... ..	48 0	48 0	*42 6	...	...	...
Bakers ... ..	62 6	55 0	*55 0	...	...	65 0
Brakesmen ... ..	55 0	48 0	*42 6	...	...	48 0
Mixers ... ..	50 6	51 0	*48 0	...	...	55 0
	& 53 0					
Oven Firemen ... ..	55 0	48 0	*45 0	...	...	52 6
Storemen ... ..	60 0	48 0	*42 6	...	...	...
<b>Brewing.</b>						
Adult Males ... ..	54 0	54 0	52 0	54 0	56 0	48 0
Bottle Packers ... ..	54 0	54 0	54 0	54 0	55 0	48 0
Bottlers and Washers ... ..	54 0	54 0	54 0	54 0	55 0	48 0
Cellarmen ... ..	57 0	57 0	57 0	60 0	56 0	51 0
Drivers (One Horse) ... ..	54 0	54 0	54 0	54 0	57 6	19 48 0
„ (Two Horses) ... ..	57 0	54 0	54 0	57 0	57 6	19 48 0
„ (Motor under 3 tons) ... ..	57 0	57 0	57 0	57 0	...	51 0
„ ( „ 3 tons & over) ... ..	60 0	60 0	60 0	60 0	...	54 0
Engine Drivers ... ..	66 0	66 0	56 0	66 0	*75 0	*47 6
	& 72 0	& 72 0	to 72 0	& 72 0		& 60 0
Firemen ... ..	60 0	60 0	54 0	60 0	63 0	48 0
Greasers and Trimmers ... ..	54 0	54 0	48 0	54 0	*63 0	48 0
			& 60 0			
Malt Hands ... ..	57 0	57 0	57 0	57 0	56 0	48 0
Stablemen and Grooms ... ..	54 0	54 0	54 0	54 0	56 0	19 48 0
Towermen ... ..	57 0	57 0	57 0	57 0	*56 0	48 0
<b>Butchering (Carcase).</b>						
Carters (One horse) ... ..	17 60 0	...	46 48 0*	25 48 0	33 55 0	25 42 0
„ (Two horses) ... ..	17 60 0	31 55 0	46 50 0*	25 49 0	33 55 0	25 47 0
Chilling Room Hands ... ..	54 0	66 0	46 62 6	...	19 60 0	...

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP III.—FOOD, DRINK, TOBACCO, ETC.—Continued.						
Labourers (Beef) ...	s. d. 60 0	s. d. 48 0	s. d. 46 42 6	s. d. 45 0	s. d. 54 0	s. d. 52 6
„ (Mutton) ...	1552 6	48 0	4642 6	45 0	54 0	52 6
Scalders ...	1660 0	1957 0	1955 0	2555 0	1954 0	2752 6
Slaughtermen (Beef) ...	80 0	80 0	65 0	60 0	70 0	65 0
„ (Mutton) ...	†	80 0	& 70 0 65 0	58 0	70 0	65 0
<b>Butchering (Retail).</b>						
Carters (Cash Cutting) ...	...	1957 0	4665 0	...	1960 0	2560 0
„ (One horse) ...	1650 0	1950 0	4648 0	1750 0	1950 0	2542 0
„ (Two horses) ...	...	1950 0	4650 0	1751 0	1950 0	2547 0
General Hands ...	1655 0	1957 0	4665 0	1958 0	1960 0	2752 6
Saltsers ...	1665 0	1957 0	4655 0	1958 0	1970 0	2752 6
Shopmen ...	1660 0 & 65 0	1965 0	4655 0 & 65 0	1958 0 & 65 0	2760 0 & 70 0	2752 6 & 60 0
Smallgoodsmen ...	1665 0	1965 0	65 0	1965 0	1970 0	2760 0
„ (Assistant) ...	1660 0	1957 0	55 0	1958 0	1960 0	2752 6
<b>Cold Storage and Ice.</b>						
Carters (Motor) ...	4554 0 & 56 0	50 0	2547 6	...	...	...
„ (One horse) ...	4549 6 & 51 6	5150 0	3345 0	1948 0	1754 0*	42 0
„ (Two horses) ...	4552 0 & 54 0	5155 0	3350 0	1950 0	1760 0*	47 0
Chamber Hands ...	54 0	66 0	4662 6	...	...	...
<b>Confectionery.</b>						
Journeymen ...	1360 0	57 6	52 6	54 0	60 0	*50 0
Labourers ...	1348 0*	45 0	36 0	48 0	50 0	...
Storemen (Head) ...	1353 0* to 67 6	50 0	*50 0 & 55 0	50 0	60 0	...
„ (Other) ...	1348 0*	45 0	*42 6 to 48 0	45 0	50 0	...
<b>Ham and Bacon Curing.</b>						
Casing Cleaners (Foreman) ...	58 0	63 0	70 0	...	...	60 0
Curers (First Hand) ...	75 0	67 6	65 0	...	...	57 6
„ (Assistant) ...	65 0	54 0 & 58 0	60 0	...	...	...
Cutters-up (First Hand) ...	67 6	67 6	60 0	...	...	52 6
„ (Assistant) ...	60 0	60 0	52 6	...	...	52 6
Ham Baggers ...	...	53 0	50 0	...	...	...
Lardmen ...	50 0	51 0 & 62 6	55 0	...	...	52 6
Rollers and Trimmers ...	60 0	60 0	47 6	...	...	52 6
Scalders ...	55 0	60 0	56 0	...	56 0	52 6
Shavers ...	55 0	60 0	45 0	...	...	52 6
Slaughtermen ...	65 0	67 6	65 0	...	56 0	55 0
„ (Assistant) ...	55 0	60 0	60 0	...	...	52 6
Smallgoodsmen (First Hand) ...	65 0	67 6	65 0	...	...	57 6
„ (Assistant) ...	52 6	55 0	55 0	...	...	52 6
Smokers (First Hand) ...	60 0	62 6	57 6	...	...	52 6
„ (Assistant) ...	52 6	51 0	46 0	...	...	...
Washers (First Hand) ...	60 0	...	60 0	...	...	52 6
„ (Assistant) ...	52 6	51 0	48 0	...	...	...

† Piecework rates.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP III.—FOOD, DRINK, TOBACCO, ETC.—Continued.						
<b>Jam Making and Preserving.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Adult Males ...	48 0	48 0	*48 0	45 0	...	42 0
Solderers ...	50 0	48 0	*52 0	48 0	...	45 0
<b>Malting.</b>						
Maltsters ...	54 0	54 0	<sup>3</sup> 40 0	...	...	*48 0
<b>Milk Delivery.</b>						
Carters (One horse) ...	<sup>2</sup> 53 0	<sup>6</sup> 50 0	<sup>2</sup> 47 6	<sup>1</sup> 48 0	<sup>2</sup> 56 0	<sup>2</sup> 42 0
„ (Two horses) ...	<sup>2</sup> 52 0	<sup>6</sup> 55 0	...	<sup>1</sup> 50 0	...	<sup>2</sup> 47 0
<b>Milling (Flour).</b>						
Engine Drivers ...	60 0 to 69 0	60 0 to 69 0	56 0 to 72 0	60 0 to 69 0	*66 0 to 75 0	47 6 & 60 0
Firemen ...	54 0 to 60 0	54 0 to 60 0	54 0 to 60 0	54 0 to 60 0	...	...
Millers (Head) ...	70 0	70 0	*70 0	70 0	68 0	65 0
„ (Shift) ...	63 0 to 70 0	63 0 to 70 0	*53 0 to 63 0	63 0 to 70 0	*68 0	52 6
Millwrights ...	66 0	66 0	...	66 0	...	...
Packermen ...	51 0	51 0	*48 0	51 0	54 0	42 0
Purifiermen ...	52 6	52 6	*48 0	52 6	...	42 0
Silksmen ...	52 6	52 6	*48 0	52 6	...	42 0
Smuttermen ...	51 0	51 0	*48 0	51 0	*54 0	...
Storemen (Head) ...	52 0 & 56 0	52 0 & 56 0	*50 0 & 54 0	52 0 & 56 0	51 0	50 0
Topmen ...	52 6	52 6	*48 0	52 6	...	42 0
Truckers and others ...	51 0	51 0	...	51 0	48 0	42 0
Wheat carriers ...	†72 0	†72 0	...	†72 0	†72 0	50 0
<b>Pastrycooking.</b>						
Carters ...	<sup>2</sup> 48 0	<sup>1</sup> 40 0	<sup>3</sup> 47 6	48 0	...	<sup>2</sup> 42 0
Packers ...	57 6	50 0	...	...	...	...
Pastrycooks ...	60 0	56 0	<sup>2</sup> 65 0	60 0	60 0	66 0
„ (Assistant) ...	<sup>1</sup> 38 0	50 0	<sup>2</sup> 55 0	...	...	52 6

## GROUP IV.—CLOTHING, HATS, BOOTS, ETC.

<b>Bootmaking.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Bootmakers ...	60 0	60 0	60 0	54 0	54 0	54 0
<b>Tailoring (Order).</b>						
Cutters ...	75 0	60 0	70 0	70 0	70 0	*70 0
Pressers ...	60 0	55 0	52 6	55 0	60 0	*60 0
Tailors ...	60 0	60 0	55 0	60 0	70 0	*70 0
Trimmers... ..	65 0	52 6	50 0	51 0	...	...
<b>Tailoring (Ready-made).</b>						
Brushers ...	...	36 0	42 6	36 0	...	...
Cutters ...	65 0	60 0	57 6	60 0	70 0	...
Folders ...	...	45 0	42 6	45 0	...	...
Machinists ...	...	55 0	50 0	50 0	65 0	...
Pressers (Coat hands) ...	60 0	55 0	52 6	55 0	60 0	...
„ (Trousers & Vest hands) ...	60 0	55 0	52 6	50 0	60 0	...
Tailors ...	60 0	60 0	65 0	60 0	70 0	...

† Computed on the hourly rate of 1s. 6d. for 48 hours.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP IV.—CLOTHING, HATS, BOOTS, ETC.—Continued.						
Trimmers... ..	s. d. 65 0	s. d. 52 6	s. d. 50 0	s. d. 50 0	s. d. ...	s. d. ...
Under Pressers (Coat hands)	50 0	36 0	42 0	36 0	60 0	*45 0
„ „ (Trouser and Vest hands)...	48 0	36 0	42 0	36 0	50 0	*45 0
<b>Textile Working (Woollen Mills).</b>						
Carders ... ..	48 0	48 0	...	...	...	<sup>10</sup> 46 0*
Dyehousemen ... ..	48 0	48 0	...	...	...	<sup>10</sup> 40 0*
Foremen ... ..	65 0	60 0	...	...	...	...
Labourers (General) ... ..	48 0	48 0	...	...	...	<sup>10</sup> 36 0*
„ (Willyhouse) ... ..	48 0	48 0	...	...	...	...
Milling Hands ... ..	48 0	50 0	...	...	...	...
Other Adults ... ..	48 0	48 0	...	...	...	...
Pattern Weavers ... ..	48 0	54 0	...	...	...	...
Scourers ... ..	48 0	50 0	...	...	...	<sup>10</sup> 36 0*
Spinners ... ..	48 0	50 0	...	...	...	<sup>10</sup> 40 0*
Tuners ... ..	56 0	52 0	...	...	...	<sup>10</sup> 50 0*
Twisters in ... ..	48 0	48 0	...	...	...	<sup>10</sup> 46 0*
Warpers ... ..	48 0	48 0	...	...	...	<sup>10</sup> 45 0*

## GROUP V.—BOOKS, PRINTING, BINDING, ETC.

<b>Bookbinding.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Feeders ... ..	...	36 0	42 0	45 0	...	...
Finishers ... ..	65 0	64 0	60 0	56 0	*65 0	*70 0
Journeymen Bookbinders ... ..	65 0	64 0	60 0	56 0	*65 0	*60 0
Marblers ... ..	65 0	64 0	60 0	56 0	*65 0	*60 0
Paper Rulers ... ..	65 0	64 0	60 0	56 0	*65 0	*60 0
	to 77 6					
<b>Lithographing.</b>						
Printers ... ..	62 6	60 0	65 0	58 0	...	...
Rotary Machinists... ..	67 6	67 6	65 0	*58 0	...	...
Stone Polishers ... ..	...	45 0	42 0	45 0	...	...
<b>Printing (Daily Newspapers).</b>						
Compositors ... Day	88 0	90 0	<sup>6</sup> 73 4	76 0	67 6	*63 0
„ „ Night	104 0	100 0	<sup>6</sup> 73 4	80 0	<sup>8</sup> 80 0	*70 0
Linotype Attendants Day	...	42 0	*40 0	50 0	*55 0	*50 0
		to 50 0				
„ „ Night	...	<sup>6</sup> 55 0	*40 0	55 0	*60 0	*60 0
Linotype Operators Day	†	†	<sup>5</sup> 84 0	72 0	<sup>5</sup> 80 0	†
„ „ Night	†	†	<sup>5</sup> 84 0	†	<sup>5</sup> 90 0	†
Machinists, 1st Hand Day	75 0	<sup>10</sup> 69 0	* <sup>6</sup> 65 0	70 0	65 0	*70 0
		to 70 0				
„ „ Night	<sup>6</sup> 85 0	<sup>6</sup> 77 0	* <sup>6</sup> 65 0*	70 0	<sup>6</sup> 65 0	* <sup>5</sup> 70 0
		to 70 0				
Publishers ... ..	57 6	46 0	*60 0	57 0	*60 0	*60 0
	& 60 0	to 58 8				
Readers ... Day	80 0	<sup>5</sup> 85 0	<sup>6</sup> 65 0	76 0	<sup>8</sup> 75 0	*63 0
„ „ Night	100 0	<sup>5</sup> 90 0	<sup>6</sup> 65 0	80 0	<sup>8</sup> 85 0	* <sup>5</sup> 70 0
Reader's Assistant Day	45 0	<sup>5</sup> 52 3	<sup>6</sup> 40 0	45 0	<sup>8</sup> 57 0	*45 0
„ „ Night	55 0	<sup>5</sup> 55 0	<sup>6</sup> 40 0	50 0	<sup>8</sup> 57 0	* <sup>5</sup> 50 0
		& 60 0				
Stereotypers (1st Class) Day	67 6	<sup>10</sup> 69 0	<sup>6</sup> 75 0	58 0	*70 0	*70 0
„ „ Night	72 6	<sup>6</sup> 77 0	<sup>6</sup> 75 0	64 0	* <sup>8</sup> 70 0	* <sup>5</sup> 70 0
				to 80 0		

† Piecework rates.



## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
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## GROUP V.—BOOKS, PRINTING, BINDING, ETC.—Continued.

	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Stereotypers (Assists.) Day	60	0	<sup>10</sup> 57 6		<sup>6</sup> 40 0		45	0	<sup>*</sup> 55 0		<sup>*</sup> 50 0	
" " Night	65	0	<sup>6</sup> 66 0		<sup>6</sup> 40 0		<sup>50</sup> 0		<sup>*</sup> 55 0		<sup>*</sup> 50 0	
<b>Printing (Jobbing Offices).</b>												
Compositors ...	65	0	66	0	60	0	60	0	<sup>*</sup> 65 0		<sup>*</sup> 63 0	
Electrotypers ...	70	0	66	0	60	0	...		...		...	
General Hands ...	<sup>*</sup> 48 0		42	0	42	0	45	0	<sup>*</sup> 55 0		...	
Linotype Operators ...	80	0	<sup>5</sup> 75 3		<sup>6</sup> 65 0		<sup>5</sup> 72 0		<sup>*</sup> 80 0		†	
					& 73 4				& 90 0			
Machinists ...	52 6		66 0		52 0		56 0		<sup>*</sup> 65 0		<sup>*</sup> 63 0	
	& 60 0				& 60 0							
Monoline Operators ...	<sup>6</sup> 76 0		<sup>5</sup> 75 3		<sup>6</sup> 65 0		<sup>5</sup> 72 0		<sup>*</sup> 80 0		†	
					& 73 4				& 90 0			
Monotype Operators ...	<sup>6</sup> 68 0		<sup>5</sup> 75 3		<sup>6</sup> 60 0		<sup>5</sup> 72 0		<sup>*</sup> 70 0			
					& 66 0							
" Casting Machinists	<sup>*</sup> 48 0		<sup>5</sup> 45 6		<sup>6</sup> 47 6		52 0		...		...	
Readers ...	65 0		70 0		65 0		60 0		<sup>*</sup> 70 0		<sup>*</sup> 63 0	
Stereotypers ...	60 0		66 0		52 0		60 0		<sup>*</sup> 70 0		<sup>*</sup> 70 0	
					& 60 0							
Typograph Operators ...	<sup>5</sup> 75 0		<sup>5</sup> 75 3		<sup>6</sup> 65 0		<sup>5</sup> 72 0		<sup>*</sup> 65 0		...	
					& 73 4							

## GROUP VI.—OTHER MANUFACTURES.

	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
<b>Brickmaking.</b>												
Burners ...	61 6		<sup>33</sup> 75 0		<sup>28</sup> 63 0		<sup>33</sup> 60 0		<sup>28</sup> 70 0		49 6	
	& 63 0				& 65 4							
Carters (One Horse) ...	<sup>29</sup> 51 0		<sup>19</sup> 45 0		<sup>*</sup> 56 47 6		48 0		54 0		<sup>25</sup> 42 0	
" (Two Horses) ...	<sup>29</sup> 56 0		<sup>19</sup> 50 0		<sup>*</sup> 56 52 0		50 0		60 0		<sup>25</sup> 47 0	
Clayholemen ...	62 0		54 0		52 0		51 0		60 0		<sup>*</sup> 48 0	
Drawers ...	64 0		65 0		52 0		54 0		†		49 6	
Labourers ...	58 0		48 0		46 0		<sup>*</sup> 48 0		56 0		<sup>*</sup> 48 0	
Loaders Out ...	58 0		...		50 0		...		...		<sup>*</sup> 48 0	
Loftsmen ...	54 0		48 0		48 0		48 0		52 0		48 0	
Machinemen ...	60 0		<sup>18</sup> 59 6		<sup>19</sup> 56 4		52 0		58 0		48 0	
Panmen ...	58 0		<sup>18</sup> 59 6		48 0		<sup>*</sup> 56 0		58 0		48 0	
Pit Foremen ...	70 0		<sup>*</sup> 75 0		56 0		<sup>*</sup> 56 0		66 0		<sup>*</sup> 57 0	
" Men ...	62 0		57 0		52 0		51 0		60 0		48 0	
" Shooters ...	66 0		61 0		56 0		...		66 0		51 0	
Setters ...	64 0		61 0		50 0		56 0		62 0		54 0	
					& 52 0				& 64 0			
Truckers ...	...		50 0		46 0		34 0		56 0		48 0	
Wheelers ...	58 0		50 0		48 0		48 0		60 0		48 0	
					& 52 0							
Yardmen ...	58 0		48 0		46 0		48 0		56 0		48 0	
<b>Candle Making.</b>												
Acidifiers ...	50 0		53 0		<sup>*</sup> 53 0		53 0		...		...	
General Hands ...	48 0		48 0		45 0		48 0		...		...	
Glycerine Distillers ...	52 6		53 0		...		53 0		...		...	
Moulders ...	48 0		51 0		48 0		50 0		...		...	
Press Room Gangers ...	50 0		50 0		47 0		51 0		...		...	
Stillmen ...	50 0		53 0		50 0		53 0		...		...	

† Piecework rates.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
<b>GROUP VI.—OTHER MANUFACTURES—Continued.</b>						
<b>Coachmaking (Road).</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Bodymakers ...	60 0	63 0	65 4	60 0	63 0	60 0
Labourers...	45 0	42 0	39 5	45 0	*54 0	*45 0
Painters ...	60 0	63 0	61 4	60 0	63 0	60 0
do. Labourers...	46 0	42 0	39 5	51 0	...	...
Smiths ...	60 0	63 0	61 4	60 0	63 0	60 0
do. Strikers ...	45 0	42 0	35 9	45 0	60 0	...
Trimmers ...	60 0	63 0	61 4	60 0	63 0	60 0
Vycemen ...	51 0	48 0	...	45 0	*63 0	45 0
Wheelmaking Machinists	60 0	63 0	61 4	60 0	63 0	*64 0
Wheelwrights ...	60 0	63 0	61 4	60 0	63 0	60 0
<b>Fellmongering.</b>						
Bate Hands ...	48 0	50 0	*48 0	...	...	...
Green Hands ...	45 0	48 0	*48 0	...	...	...
Labourers ...	42 0	45 0	48 0	...	...	...
Limepit Men ...	48 0	48 0	51 0	...	...	...
Machinists (Burring)	51 0	48 0	*54 0	...	...	...
„ (Fleshing)	51 0	48 0	51 0	...	...	...
„ (Scouring)	48 0	51 0	51 0	...	...	...
„ (Setting Out)	48 0	48 0	48 0	...	...	...
Soakhole Men ...	51 0	48 0	*51 0	...	...	...
Sweathouse Men ...	48 0	51 0	54 0	...	...	...
Wool Sorters ...	51 0	55 0	*48 0	...	...	...
<b>Gas Making.</b>						
Blacksmiths ...	*72 0	66 0	*60 6	*66 0	*78 0	66 0
Coke Trimmers ...	60 0	51 0	...	...	*60 0	*60 0
Engine Drivers ...	66 0	60 0	56 0	28 63 0*	*66 0	*69 0
Gas Fitters ...	72 0	66 0	60 6	62 0	& 69 0	*69 0
Labourers ...	54 0	51 0	28 56 0	*48 0	54 0	49 6
Mainlayers ...	70 0	...	57 0	...	72 0	...
	& 78 0					
Metermakers ...	60 0	66 0	...	...	72 0	...
Meter Testers ...	51 0	60 0	...	...	...	...
Service Layers ...	60 0	54 0	57 0	*66 0	66 0	52 6
„ „ (Labourers)	55 6	52 6	51 0	*48 0	*54 0	51 0
Stokers ...	66 0	63 0	28 73 6	28 70 0*	66 0	61 6
				& 73 6		
Yardmen ...	54 0	51 0	28 56 0	*48 0	54 0	49 6
<b>Glassworking and Glazing.</b>						
Bevellers ...	63 0	55 0	...	56 0	...	60 0
	& 64 0					
Cementers ...	*35 0	42 0	...	36 0	...	...
	to 48 0					
Cutters and Glaziers (Other)...	62 0	50 0	...	48 0	...	...
„ „ (Plate) ...	62 0	52 6	...	56 0	...	...
Lead Light Glaziers ...	63 0	52 6	...	56 0	...	...
Packers ...	*48 0	48 0	...	48 0	...	...
Silverers (using Own Recipe)	66 0	...	...	60 0	...	...
„ (Others) ...	63 0	55 0	...	56 0	...	...

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP VI.—OTHER MANUFACTURES—Continued.						
<b>Jewellery, Clock and Watch Making.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Chainmakers ... ..	65 0	57 6	*60 0	60 0	*70 0	*60 0
Engravers ... ..	70 0	65 0	*60 0	60 0	*70 0	*60 0
Mounters ... ..	65 0	60 0	*60 0	60 0	*70 0	*60 0
Setters ... ..	70 0	65 0	*60 0	60 0	*70 0	*60 0
Watch and Clock Makers ...	<sup>11</sup> 65 0	<sup>11</sup> 70 0	*60 0	60 0	*70 0	*60 0
„ „ Repairers ...	<sup>11</sup> 65 0	<sup>11</sup> 70 0	*60 0	60 0	*70 0	*60 0
<b>Masons (Marble and Stone).</b>						
Carvers ... ..	80 0	<sup>6</sup> 82 6	<sup>6</sup> 62 4	70 0	...	...
Machinists (Carborundum) ...	64 0	62 0	* <sup>6</sup> 62 4	56 0	*78 0	...
„ (Other) ... ..	...	70 0	* <sup>6</sup> 62 4	51 0	*78 0	...
Masons ... ..	72 0	<sup>6</sup> 71 6	<sup>6</sup> 67 10	60 0	*78 0	66 0
Polishers (Machine—Granite) ...	64 0	62 0	<sup>6</sup> 62 4	*50 0	*72 0	...
„ „ (Marble) ... ..	64 0	62 0	<sup>6</sup> 62 4	51 0	*72 0	...
„ (Other—Granite) ...	64 0	<sup>6</sup> 60 0	<sup>6</sup> 66 0	*50 0	*72 0	...
„ „ (Marble) ... ..	64 0	<sup>6</sup> 58 1	<sup>6</sup> 66 0	51 0	*72 0	...
<b>Mason, Monumental Workers.</b>						
Carvers ... ..	80 0	<sup>6</sup> 77 0	<sup>6</sup> 62 4	70 0	*78 0	66 0
Fixers ... ..	66 0	60 0	<sup>6</sup> 62 4	60 0	*66 0	66 0
					to 78 0	
Labourers ... ..	48 0	58 0	<sup>6</sup> 47 8	48 0	*54 0	48 0
Letter Cutters ... ..	72 0	<sup>6</sup> 69 8	<sup>6</sup> 62 4	66 0	*78 0	66 0
		& 78 6				
Masons ... ..	66 0	<sup>6</sup> 66 0	<sup>6</sup> 62 4	60 0	*66 0	66 0
					to 78 0	
<b>Potteries (General).</b>						
Burners (Head) ... ..	58 0	<sup>3</sup> 67 6	<sup>3</sup> 58 4	...	...	48 0
„ (Assistant) ... ..	*55 0	<sup>3</sup> 62 6	<sup>3</sup> 53 10	...	...	...
Hollowware Pressers ... ..	63 0	45 0	50 0	...	...	51 0
Labourers ... ..	52 0	48 0	46 0	...	...	45 0
Sagger Makers ... ..	55 0	45 0	...	...	...	...
Sanitary Pressers ... ..	69 0	50 0	50 0	...	...	51 0
Throwers (1st Class) ... ..	69 0	54 0	66 0	...	...	54 0
„ (2nd Class) ... ..	...	48 0	58 0	...	...	...
Turners ... ..	60 0	50 0	...	...	...	...
<b>Potteries (Pipemaking).</b>						
Burners (Head) ... ..	63 0	<sup>3</sup> 67 6	<sup>2</sup> 65 4	<sup>3</sup> 60 0*	...	54 0
„ (Assistant) ... ..	...	<sup>3</sup> 62 6	<sup>2</sup> 58 4	...	...	45 0
Drawers ... ..	*58 0	48 0	48 0	*54 0	...	...
Junction Stickers ... ..	60 0	48 0	50 0	...	...	48 0
Moulders ... ..	62 0	54 0	48 0	...	...	49 6
Mould Makers ... ..	58 0	60 0	52 0	*66 0	...	...
Setters ... ..	62 0	52 6	50 0	...	...	48 0
<b>Saddlery and Harnessmaking.</b>						
Collarmakers ... ..	54 0	54 0	54 0	54 0	55 0	*54 0
Harnessmakers ... ..	54 0	54 0	54 0	54 0	50 0	*54 0
Machinists ... ..	54 0	54 0	54 0	54 0	50 0	*54 0
Saddlers ... ..	54 0	54 0	54 0	54 0	50 0	*54 0

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP VI.—OTHER MANUFACTURES—Continued.						
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
<b>Ship Workers.</b>						
Carpenters and Joiners ...	72 0	*66 0	66 0	...	...	*66 0
Dockers ...	60 0	*60 0	64 6	...	...	...
	& 68 0		& 55 0			
Painters ...	60 0	*60 6	64 6	52 0	...	...
	& 68 0		& 55 0			
Shipwrights (New Work) ...	72 0	*672 0	69 8	*72 0	78 0	*66 0
„ (Old Work) ...	76 0	*676 0	73 4	*72 0	84 0	*66 0
<b>Soap Making.</b>						
Foremen ...	55 0	57 6	*60 0	57 6	...	...
General Hands ...	48 0	48 0	*42 0	48 0	...	...
Mixers ...	48 0	51 0	...	48 0	...	...
Soap Makers ...	60 0	65 0	*60 0	62 6	...	...
„ (Assistant) ...	50 0	57 6	*55 0	*55 0	...	...
<b>Tallow Making.</b>						
Tallowmen ...	59 0	*50 0	52 6	...	54 0	2752 6
<b>Tanning and Currying.</b>						
Beamsmen ...	60 0	60 0	60 0	49 0	54 0	*49 0 to 63 0
Carriers ...	65 0	65 0	65 0	52 0	57 0	*55 0
Fancy Leather Finishers ...	55 0	55 0	55 0	45 0	...	...
Japanners or Enamellers ...	55 0	55 0	...	...	...	...
Jiggers and Grainers (Book-binding Leather) ...	58 0	58 0	...	45 0	...	*55 0
Labourers ...	51 0	51 0	51 0	45 0	...	...
Limemen and Yardmen ...	52 0	52 0	52 0	45 0	...	...
Machinists, (Fleshing) ...	60 0	60 0	60 0	49 0	54 0	*55 0
„ (Scouring) ...	55 0	...	55 0	...	...	...
„ (Scudding) ...	55 0	55 0	55 0	45 0	50 0	*49 0
„ (Shaving) ...	58 0	58 0	58 0	45 0	57 0	*52 0
„ (Splitting) ...	65 0	65 0	65 0	52 0	57 0	*55 0
„ (Unhairing) ...	55 0	55 0	55 0	49 0	50 0	*52 0
„ (Whitening) ...	58 0	58 0	...	52 0	57 0	*57 0
„ (Other) ...	53 0	53 0	53 0	...	...	...
Rollers and Strikers ...	57 0	57 0	57 0	45 0	50 0	*55 0
Tablemen ...	55 0	55 0	55 0	45 0	50 0	*55 0
<b>Tent and Tarpaulin Making.</b>						
Cutters (1st Hand) ...	60 0	*70 0	*60 0	...	...	*70 0
„ (2nd „) ...	50 0	...	*50 0	...	...	*48 0
Dressers ...	54 0	*45 0	...	...	...	...
Machinists ...	52 6	*60 0	*64 6	...	...	...
Sewers (Hand) ...	60 0	*60 0	*64 6	...	57 0	...
Tentmakers ...	60 0	*51 0	*64 6	...	...	...
<b>Wickerworking.</b>						
Bamboo or Wickerworkers ...	63 0	57 6	*53 2	55 0	60 0	52 6
Basket Makers and Repairers ...	66 0	56 0	*55 0	55 0	...	...
Upholsterers ...	...	56 0	...	50 0	...	...

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP VII.—BUILDING.						
<b>Bricklaying.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Bricklayers (Surface) ...	78 0	671 6	671 6	*72 0	*84 0	72 0
„ (Sewer & Tunnel) ...	84 0	677 0	677 0	*72 0	*84 0	78 0
<b>Carpentering.</b>						
Carpenters ...	72 0	669 8	666 0	70 0	72 0	66 0
<b>Joinery.</b>						
Machinists (1st Class) ...	68 0	63 0	666 0	57 0	...	54 0
„ (2nd „) ...	60 0	60 0	660 6	51 0	...	51 0
„ (3rd „) ...	54 0	53 0	653 2	49 6	...	48 0
<b>Labouring (Builders).†</b>						
Bricklayers' Labourers ...	62 0	64 0	647 8 & 51 4	60 0	*66 0	656 10
Carpenters' „ ...	54 0	52 0	647 8	60 0	*66 0	656 10
Concrete Workers ...	58 0	58 0	647 8	60 0	*60 0	656 10
Earth Excavators ...	54 0	52 0	644 0	54 0	*60 0	656 10
Gear Workers ...	62 0	64 0	651 4	66 0	*72 0	656 10
Masons' Labourers ...	62 0	64 0	647 8	60 0	*66 0	656 10
Plasterers' „ ...	58 0	64 0	647 8	60 0	*66 0	656 10
Scaffold Hands ...	62 0	64 0	651 4	66 0	*72 0	656 10
<b>Lathing and Ceiling.</b>						
Lathers ...	*78 0	666 0	*664 2	*72 0	*78 0	*668 0
Metal Ceilers ...	60 0	666 0	...	...	...	*644 0
<b>Masons.</b>						
Masons ...	669 8 to 73 4	671 6	667 10	60 0	*78 0	666 0
<b>Painting (House) and Glazing.</b>						
Glaziers ...	64 0	660 6	662 4	60 0	66 0	54 0
Painters ...	64 0	660 6	662 4	60 0	66 0	54 0
Paperhangers ...	64 0	660 6	662 4	60 0	66 0	54 0
Signwriters ...	72 0	660 6	662 4	60 0	72 0	60 0
<b>Plastering.</b>						
Fibrous Plaster Fixers ...	78 0	660 6	664 2	...	...	...
Plasterers (Surface) ...	78 0	669 8 to 73 4	664 2	72 0	78 0	68 0
<b>Plumbing and Gasfitting.</b>						
Galvanised Iron Workers ...	72 0	666 0	660 6	62 0	78 0	*60 0
Gasfitters ...	72 0	666 0	660 6	62 0	78 0	*60 0
Plumbers ...	72 0	666 0	660 6	68 0	78 0	*60 0
<b>Roofing.</b>						
Shinglers ...	78 0	671 6	...	...	...	...
Slaters ...	78 0	671 6	...	*72 0	*78 0	*66 0
Tilers ...	78 0	671 6	...	*72 0	*78 0	*66 0
<b>Tuckpointing.</b>						
Tuckpointers ...	72 0	664 2	*666 0	*72 0	*78 0	...

† For footnotes see page 1013. The rates of wages quoted for Builders' Labourers for Sydney, Melbourne, Brisbane, and Adelaide are those payable under State Determinations or Awards. The rates quoted for Perth are the ruling Union or predominant rates, while those for Hobart are the rates fixed by the award of the Commonwealth Arbitration Court, which also awarded the following:—Sydney and Adelaide 60s. 6d., Melbourne 56s. 10d., and Brisbane 55s. per week of 44 hours. The validity of parts of this award has not yet been decided.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	N.S.W.	Victoria.	Q'land.	Sth. Aust.	W. Aust.	Tasmania
GROUP VIII.—MINING.						
<b>Coal Mining.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Blacksmiths ...	56 6	60 0	...	...	...	*60 0
	& 60 0					
Bracemen ...	60 0	50 0	954 0	...	...	...
			& 60 0			
Carpenters ...	56 6	60 0	958 9	...	...	*48 0
	to 72 0		& 59 8			to 54 0
Deputies ...	72 0	*75 0	966 0	...	...	*54 0
	to 87 0		& 69 0			to 60 0
Engine Drivers (Winding and Loco.) ...	66 0	66 0	66 0	...	...	66 0
	to 78 0	to 78 0	& 72 0			to 78 0
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Engine Drivers (Other) ...	60 0	60 0	66 0	75 6	...	60 0
	to 75 0	to 75 0				to 75 0
Labourers (Surface) ...	48 0	45 0	948 0	...	...	*42 0
	to 54 0		& 50 0			to 48 0
„ (Underground) ...	48 0	49 0	951 0	60 6	...	...
	to 54 0					
Miners (Machine) ...	66 0	63 0	963 0	92 6	...	...
	to 76 0		to 66 0			
„ (Manual, Dry Work) ...	†	60 0	963 0	87 6	*48 0	to 66 0
„ ( „ Wet Work) ...	†	65 0	969 0	...	...	...
Platmen or Banksmen ...	60 0	60 0	954 0	*68 6	*39 0	to 45 0
			& 60 0			
Shaftsinkers (Dry Work) ...	966 0	66 0	967 6	...	...	...
		& 72 0	& 69 0			
„ (Wet Work) ...	972 0	466 0	973 6	...	...	...
			& 75 0			
Shiftmen (Dry Work) ...	54 0	61 0	963 0	83 6	*54 0	to 60 0
	to 74 0					
„ (Wet Work) ...	74 0	67 0	969 0	...	...	...
Shotfirers ...	*54 0	...	...	83 6	...	...
	to 67 6					
Shovellers ...	54 0	48 0	...	72 6	...	...
	to 63 0					
Skip Repairers ...	...	51 0	...	...	*48 0	to 51 0
						*48 0
Strikers ...	...	45 0	...	...	...	...
Timbermen ...	63 9	60 0	...	83 6	...	...
	to 74 0					
Weighmen ...	54 0	50 0	...	...	...	...
	to 70 0					
Wheelers ...	51 0	50 0	952 6	71 6	*45 0	...
		& 55 0		& 78 6		
<b>Gold and Other Mining (except Coal).</b>						
Battery Feeders ...	51 0	32 0	42 0	48 0	1260 0	42 0
	to 55 6	to 40 0	to 60 0	to 54 0	to 70 0	to 54 0
Bracemen ...	54 0	42 0	60 0	748 0	1270 0	48 0
	to 63 0	to 50 0	to 78 0	to 60 0	to 74 0	to 60 0
Engine Drivers (Stationary) ...	60 0	54 0	66 0	60 0	85 0	60 0
	to 75 0	to 72 0	to 87 0	to 75 0		to 75 0
„ (Winding & Loco.) ...	66 0	60 0	80 0	86 0	89 0	66 0
	& 78 0	to 78 0	to 93 0	to 84 0		& 78 0

† Piecework rates.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP VIII.—MINING—Continued.						
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Firemen ... ..	54 0	54 0	54 0	54 0	72 0	54 0
	to 60 0	to 60 0	to 75 0	to 69 0		to 60 0
Labourers ... ..	55 0	42 0	54 0	48 0	64 6	45 0
		to 50 0	to 66 0	to 52 0	& 66 0	to 54 0
Miners (Dry Work) ...	57 0	48 0	60 0	57 0	1270 0	45 0
	to 63 0	to 54 0	to 78 0	to 70 0	& 74 0	to 60 0
„ (Machine) ... ..	57 0	52 0	66 0	60 0	1280 0	50 0
	to 63 0	to 66 0	to 87 0	to 75 0	& 84 0	to 66 0
„ (Wet Work) ... ..	63 0	55 0	70 0	60 0	1276 0	50 0
	to 69 0	& 60 0	to 87 0	to 75 0	to 84 0	to 66 0
Platmen ... ..	54 0	42 0	60 0	51 0	1270 0	45 0
	to 63 0	to 50 0	to 78 0	to 60 0	to 74 0	to 54 0
Shaftsinkers (Dry Work) ...	59 0	54 0	60 0	†	1286 0	54 0
	to 78 0	to 62 0	to 78 0		to 90 0	to 66 0
„ (Wet Work) ... ..	65 0	67 6	70 0	†	1290 0	60 0
	to 78 0	to 77 6	to 87 0		to 100 0	to 72 0
Shift Bosses ... ..	60 0	54 0	80 0	75 0	120 0	66 0
	to 72 0	to 60 0		to 81 0		to 78 0
Timbermen ... ..	60 0	50 0	70 0	60 0	1280 0	54 0
	to 72 0	& 54 0	to 87 0	to 69 0	to 84 0	to 69 0

## GROUP IX.—RAILWAY AND TRAMWAY TRANSPORT.

Railways.†	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Engine Drivers (Loco.)—§						
„ (1st class) ...	96 0	87 0	81 0	90 0	90 0	75 0
„ (2nd „ ) ...	90 0	81 0	78 0	84 0	84 0	69 0
						& 72 0
„ (3rd „ ) ...	84 0	69 0	73 6	78 0	78 0	66 0
		to 75 0				& 69 0
„ (4th „ ) ...	78 0	69 0	67 6	72 0	72 0	63 0
„ (5th „ ) ...	72 0	...	63 0	...	66 0	60 0
Firemen (1st class)§	66 0	57 0	54 0	66 0	66 0	54 0
„ (2nd „ )...	60 0	54 0	49 6	61 6	60 0	51 0
„ (3rd „ )...	57 0	51 0	45 0	57 0	57 0	45 0
						& 48 0
Guards (1st class) ...	72 0	69 0	72 0	69 0		66 0
		& 72 0	to 78 0	& 73 6	60 0	& 72 0
„ (2nd „ ) ...	57 0	57 0	61 6	57 0	to	57 0
	to 69 0	to 66 0	to 69 0	to 70 6	75 0	& 63 0
„ (3rd „ ) ...	54 0	51 0	49 6	51 0		48 0
	to 60 0	& 54 0	to 58 6	to 58 6		to 54 0
Porters ... ..	48 0	45 0	45 0	48 0	54 0	42 0
	to 57 0	to 57 0		& 51 0		to 51 0

† Piecework rates.

‡ The hours of labour for Railway Employees are 48 per week (in N.S.W. 96 per fortnight) except in the following cases:—N.S.W.—Porters, 108 to 120 hours per fortnight; VICTORIA—Porters, 48 to 60 hours per week; SOUTH AUSTRALIA—Porters and Signalmen, 48 to 57 hours per week; and TASMANIA—Guards and Shunters, 54, and Porters, 48 to 54 hours per week. Owing to the difference in the classification of grades of Railway Employees in the various States, only minimum and maximum rates are quoted, excluding those for Foremen. § In N.S.W. the rates of wages for 1st class Locomotive Drivers correspond to those fixed for Drivers driving express passenger or mail trains. 2nd to 5th class correspond to the rates of wages fixed for different lengths of service. The classification of Locomotive Drivers and Firemen employed in the Victorian Railway Service fixes different rates of wages for the following grades of service:—(1) Country Passenger Service; (2) First-grade Suburban Passenger Service; (3) Second-grade Passenger Service; and (4) Goods or Switching Service. The rates of wages for these services have been taken as corresponding to the 1st, 2nd, 3rd, and 4th class classification in the other States, with the exception that firemen for only three classes of service are graded.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP IX.—RAILWAY AND TRAMWAY TRANSPORT—Continued.						
Shunters (1st class) ...	s. d. 69 0 to 78 0	s. d. 66 0 & 69 0	s. d. 69 0 to 78 0	s. d. 57 0 to 78 0	s. d. 69 0 to 75 0	s. d. 54 0 to 57 0
„ (2nd „) ...	66 0 to 72 0	60 0 & 63 0	58 6 to 64 6	54 0 & 66 0	63 0 & 66 0	51 0
„ (3rd „) ...	57 0 to 63 0	...	52 6 & 55 6	51 0	...	48 0
„ (Ordinary) ...	54 0	51 0 to 57 0	48 0	...	57 0 & 60 0	...
Signalmen (Special) ...	...	72 0 & 75 0	63 0	...	78 0 & 81 0	...
„ (1st class) ...	75 0 & 78 0	66 0 & 69 0	57 0 & 60 0	60 0 & 66 0	69 0 to 75 0	54 0 & 57 0
„ (2nd „) ...	72 0	60 0 & 63 0	51 0 & 54 0	54 0	63 0 & 66 0	45 0 to 51 0
„ (3rd „) ...	69 0	57 0	48 0	51 0	57 0 & 60 0	...
„ (4th „) ...	66 0	54 0	...	...	54 0 & 57 0	...
<b>Tramways (Electric and Cable)†</b>						
Car Washers or Cleaners ...	48 0	51 0	1 <sup>8</sup> 43 7	*48 0	54 0 to 60 0	48 0
Conductors—1st year ...	48 0	51 0	1 <sup>8</sup> 43 7	*48 0	54 0	45 0
„ 2nd year ...	51 0	54 0	1 <sup>8</sup> 43 11	*50 0	57 0	48 0
„ 3rd year ...	54 0	57 0	1 <sup>8</sup> 55 3	*52 0	60 0	51 0
Firemen (four fires) ...	*57 0	*60 0	54 0	*51 0 & 54 0	*63 0	...
„ (less than four fires) ...	57 0	57 0	54 0	...	*60 0	...
Horse Drivers ...	*50 0	51 0	5 <sup>6</sup> 47 6	48 0	2 <sup>5</sup> 60 0	48 0
Labourers... ...	48 0	51 0	*48 0	48 0	54 0 & 57 0	48 0
Lamp Trimmers ...	45 0	54 0	...	...	...	...
Maintenance men ...	48 0	51 0	1 <sup>8</sup> 44 8	*48 0	54 0 & 57 0	48 0
Motormen or Gripmen—						
1st year ...	54 0	51 0	1 <sup>8</sup> 43 7	*54 0	54 0	51 0
2nd year ...	57 0	54 0	1 <sup>8</sup> 43 11	*56 0	57 0	54 0
3rd year ...	60 0	57 0	1 <sup>8</sup> 55 3	*58 0	60 0	57 0
Night Watchmen ...	56 0	48 0	2 <sup>8</sup> 50 0*	48 0	2 <sup>5</sup> 54 0 to 67 6	50 0
Overhead Wiremen (Leading)	*63 0 & 66 0	63 0	1 <sup>8</sup> 53 2	*63 0	66 0	...
„ „ (Other) ...	*63 0	57 0	1 <sup>8</sup> 46 9	*60 0	57 0	48 0
Pitmen ...	60 0	60 0	...	*54 0	57 0 & 60 0	...
Signalmen ...	60 0 to 66 0	57 0 & 60 0	2 <sup>5</sup> 48 0	*54 0 to 58 0	...	...
Tower Wagon Drivers (Horse)	50 0	51 0	1 <sup>8</sup> 50 0	*48 0	2 <sup>5</sup> 60 0	...
„ „ (Motor)	60 0	...	...	...	...	...
Track Cleaners ...	*45 0	51 0	...	*48 0	54 0 & 57 0	48 0
Trimmers or Fuel Men ...	*51 0 & 54 0	...	48 0	*48 0	*48 0	...

† For Sydney and Brisbane the wages quoted are those determined by State Awards. For Melbourne, Perth, and Hobart the rates are those specified in agreements registered under the Commonwealth Conciliation and Arbitration Act. For Adelaide ruling or predominant rates are quoted.



## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
<b>GROUP X.—OTHER LAND TRANSPORT.</b>						
<b>Carrying (Merchandise).</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Carriers (One Horse) ...	2 <sup>9</sup> 50 0	2 <sup>5</sup> 50 0	5 <sup>3</sup> 47 6	1 <sup>9</sup> 48 0	54 0	2 <sup>5</sup> 42 0
„ (Two Horses) ...	2 <sup>9</sup> 55 0	2 <sup>5</sup> 55 0	5 <sup>3</sup> 52 0	1 <sup>9</sup> 50 0	60 0	2 <sup>5</sup> 47 0
„ (Three Horses) ...	2 <sup>9</sup> 58 0	2 <sup>5</sup> 59 0	5 <sup>3</sup> 55 0	1 <sup>9</sup> 51 0	...	...
Corporation Carters—						
(One Horse) ...	55 0	2 <sup>5</sup> 50 0	2 <sup>5</sup> 48 0	*48 0	60 0	2 <sup>2</sup> 42 0
(Two Horses) ...	...	2 <sup>5</sup> 55 0	& 52 6	*50 0	66 0	2 <sup>2</sup> 47 0
Jinkers (One Horse) ...	2 <sup>8</sup> 54 0	2 <sup>5</sup> 55 0	5 <sup>3</sup> 47 6	1 <sup>9</sup> 48 0	65 0	2 <sup>5</sup> 48 0
„ (Two Horses) ...	2 <sup>8</sup> 59 0	2 <sup>5</sup> 60 0	5 <sup>3</sup> 52 0	1 <sup>9</sup> 50 0	65 0	2 <sup>5</sup> 53 0
Sanitary Carters ...	60 0	2 <sup>5</sup> 55 0	2 <sup>5</sup> 57 6	...	72 0	47 0
Stable Hands ...	3 <sup>1</sup> 49 0	2 <sup>5</sup> 50 0	...	...	...	...
	& 54 0					
Tip Dray Drivers ...	2 <sup>8</sup> 48 0	2 <sup>5</sup> 49 0	...	...	60 0	...
Motor Lorries and Waggon—						
Under 3 tons carrying capacity ...	2 <sup>4</sup> 52 6	60 0	3 <sup>1</sup> 50 0	1 <sup>7</sup> 55 6	...	...
3 tons carrying capacity...	2 <sup>4</sup> 61 6	60 0	3 <sup>1</sup> 57 6	1 <sup>7</sup> 55 6	...	...
<b>Carrying (Passenger).</b>						
Bus or Coach Drivers (Horse) ...	...	2 <sup>5</sup> 54 0	...	54 0	...	3 <sup>0</sup> 42 0
						& 47 0
Chauffeurs ...	5 <sup>7</sup> 45 0	3 <sup>3</sup> 50 0	3 <sup>3</sup> 50 0	...	...	...
<b>Lift Attendants.</b>						
Goods ...	42 0	1 <sup>7</sup> 48 0	1 <sup>7</sup> 45 0	...	...	...
Passenger ...	42 0	3 <sup>1</sup> 45 0	...	2 <sup>8</sup> 30 0*	...	*35 0

## GROUP XI.—SHIPPING, WHARF LABOUR, ETC.

<b>Towing (Tug Boats).</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Engineers... ..	3 <sup>6</sup> 55 0	...	2 <sup>7</sup> 64 2	2 <sup>5</sup> 64 6	...	...
	to 83 5			to 80 0		
Firemen ... ..	57 6	56 6	...	...	...	...
		& 57 8				
Masters ... ..	3 <sup>6</sup> 55 0	78 6	2 <sup>7</sup> 64 2	2 <sup>5</sup> 64 6	1 <sup>9</sup> 75 0	...
	to 83 5	to 87 8		to 80 0	& 77 6	
<b>Waterside Working.</b>						
Coal Lumpers per hour	1 9	1 9	1 9	1 9	1 9	1 9
Lightermen ... ..	66 0	*50 0	2 <sup>6</sup> 56 0	66 0	1 <sup>2</sup> 56 0	*50 0
					& 60 0	
Wharf Labourers per hour	1 9	1 9	1 9	1 9	1 9	1 9
<b>Passenger Vessels (Intra-state).†</b>						
Cooks (Chief) ... per month	160 0	...	240 0	...	240 0	...
	to 270 0					
„ (Second) ... ..	130 0	...	140 0	...	140 0	...
	to 170 0					
„ (Third) ... ..	130 0	...	100 0	...	100 0	...
„ (Ship's) ... ..	170 0	...	...	...	...	...
Nightwatchmen ...	130 0	...	140 0	...	140 0	...
Pantrymen ... ..	140 0	...	130 0	...	130 0	...
„ (Assistant) ...	110 0	...	110 0	...	110 0	...

† Rates quoted are exclusive of value of victualling and accommodation.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
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GROUP XI.—SHIPPING, WHARF LABOUR, ETC.—Continued.						
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Stewards (Second) per month	150 0	...	150 0	...	150 0	...
„ (2nd Saloon) „	140 0	...	150 0	...	150 0	...
„ (Asst. „) „	110 0	...	110 0	...	110 0	...
„ (Steerage) „	130 0	...	130 0	...	130 0	...
„ (Bedroom) „	130 0	...	110 0	...	110 0	...
„ (Bath and Mess Room) „	120 0	...	100 0	...	100 0	...

<b>Passenger Vessels (Interstate).†</b>		s.		s.
Bakers ... per month		240		220
Barmen ... „		110		110
Butchers ... „		180		160
Cooks (Chief) ... „		320		290
„ (Second) ... „		200		200
„ (Third) ... „		150		150
„ (Ship's) ... „		180		180
Pantrymen ... „		130		130
Scullerymen ... „		130		130
Stewards (Second) „		150		150
„ (Chief, 2nd Saloon) „		150		150
„ (Fore cabin) „		130		130
„ (Head Saloon) „		120		120
„ (Bedroom and other) „		110		110

<b>All Vessels (Interstate).†</b>		s.
A.B. Seamen ... per month	...	160
Boatswains ... „	...	180
Donkeymen ... „	...	220
Firemen ... „	...	200
Greasers ... „	...	200
Lamp Trimmers ... „	...	180
Fuel ... „	...	160

<b>Marine Engineers.††</b>	LOWEST CLASS. Under 100 N.H.P.	HIGHEST CLASS. 600 or more N.H.P.
	s.	s.
Chief ... per month	440	680
Second ... „	350	440
Third ... „	310	360
Fourth ... „	...	300
5th, 6th, 7th, 8th ... „	...	240

	INTERSTATE PASSENGER VESSELS.	INTERSTATE CARGO VESSELS.
	Lowest Class, 250 tons & under.	Lowest Class, 250 tons & under.
	Highest Class, over 4000 tons.	Highest Class, over 4000 tons.
<b>Merchant Service.†‡</b>		
Masters ... per month	420s.	400s.
Officers, Chief ... „	300s.	280s.
„ Second ... „	240s.	240s.
„ Third ... „	...	...
„ Fourth & Fifth ... „	...	...

† Rates quoted are exclusive of value of victualling and accommodation. ‡ Minimum rates under the Commonwealth Arbitration Court Award are classified according to nominal horsepower of vessel; the lowest and highest classes are here specified. § Minimum rates under the Commonwealth Award are classified for Interstate vessels, and for vessels within a State according to tonnage; the lowest and highest classes for Interstate passenger and cargo vessels are here given.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	N.S.W.	Victoria.	Q'sland.	S. Aust.	W. Aust.	Tas.
GROUP XII.—AGRICULTURAL, PASTORAL, ETC.						
<b>Farming:</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
General Hands† ...	20 0	20 0	20 0	20 0	20 0	20 0
	to 25 0	to 25 0	to 25 0	to 25 0	to 25 0	to 25 0
Harvesters† ...	30 0	30 0	30 0	30 0	30 0	30 0
	to 40 0	to 40 0	to 40 0	to 40 0	to 40 0	to 40 0
Milkers† ...	15 0	15 0	15 0	15 0	15 0	15 0
	to 25 0	to 25 0	to 25 0	to 25 0	to 25 0	to 25 0
Ploughmen† ...	20 0	20 0	20 0	20 0	20 0	20 0
	to 30 0	to 30 0	to 30 0	to 30 0	to 30 0	to 30 0
Chaff Cutters (Portable) ...	...	50 0	...	...	...	50 0
„ (Stationary) ...	...	52 0	...	...	...	50 0
Thresher (Feeders) ...	...	...	...	...	...	50 0
„ (Machinists) ...	...	...	...	...	...	50 0
<b>Gardening.</b>						
Gardeners ...	54 0	48 0	*48 0	25 51 0*	60 0	*54 0
„ (Labourers) ...	48 0	45 0	*42 0	25 48 0*	to 54 0	*48 0
Nurserymen ...	54 0	48 0	*48 0	25 51 0*	60 0	*54 0
„ (Labourers) ...	48 0	42 0	*42 0	25 48 0*	to 54 0	*48 0
<b>Pastoral Workers.</b>						
Cooks ...	50 0	50 0	50 0	50 0	*60 0	50 0
Shearers ... per 100	24 0	24 0	24 0	24 0	*25 0	24 0
Shed Hands† ...	37 6	37 6	37 6	37 6	*46 0	37 6
Wool Pressers ...	65 0	65 0	65 0	65 0	*60 0	65 0
<b>Rural Workers.</b>						
Fruit Harvesters per hour ...	...	1 1½	...	1 1½	...	...

† Rates of wages quoted are in addition to Board and Lodging provided.

## GROUP XIII.—DOMESTIC, HOTELS, ETC.

NOTE.—Except where otherwise specified the rates of wages specified for Employees in Clubs, Hotels, and Restaurants represent the weekly cash payment where Board and Lodging are provided. If Board and Lodging are not provided, payment has to be made, in lieu thereof, upon an estimated value, fixed by Industrial Determinations for the Capital Towns as follows: Sydney, 15s.; Melbourne, 14s.; Brisbane, 15s.; Adelaide, 15s.; Perth, 15s.; and Hobart, 15s. per week. Of this sum 10s. per week is allocated as value of Board in each instance.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
<b>Clubs (Residential).</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Barmen ...	40 27 0	3 136 0	3 380 0	2 840 0*	2 565 0†	3 135 0
			& 35 0			
Billiard Markers ...	40 24 0	3 128 6	3 350 0	2 825 0	...	3 130 0
			& 30 0			
<b>Cooks (Hotels, Clubs, etc.).</b>						
Chefs ...	40 52 6	3 141 0	3 455 0	2 847 6	2 845 0	3 140 0
	to 100 0	to 56 0	to 70 0	to 80 0	to 65 0	to 80 0
Cooks (Second) ...	40 42 6	3 133 6	3 445 0	2 845 0	2 840 0	3 127 6
	to 70 0	to 41 0	to 50 0	& 55 0	& 45 0	to 60 0
„ (Third) ...	40 35 0	3 133 6	3 445 0	2 840 0	2 835 0	3 127 6
	to 57 6	to 36 0	& 47 6	& 45 0		to 45 0
Kitchenmen ...	40 26 6	3 126 0	3 325 0	2 825 0	2 825 0	3 120 0
			& 30 0			
Lift Attendants ...	3 122 6	3 145 0†	2 820 0	2 825 0	...	...
Porters (Day) ...	40 25 0	3 126 0	3 335 0	2 830 0	2 825 0	3 120 0
„ (Night) ...	41 25 0	3 126 0	3 325 0	2 825 0	2 830 0	3 122 6

† Not in addition to Board and Lodging.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP XIII.—DOMESTIC, HOTELS, ETC.—Continued.						
<b>Hairdressing.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Full Hands ...	2760 0	1965 0	...	...	...	...
Hairdressers ...	2755 0	1955 0	2255 0	1955 0	2555 0	...
<b>Hotels.</b>						
Barmen ...	2838 0	3136 0	3330 0 to 42 6	2840 0*	2565 0†	3130 0 & 35 0
Billiard Markers ...	3125 0	3128 6	3325 0	2825 0 & 30 0	...	3122 6
Handy Men ...	3333 0	3121 0	3322 6	2825 0 to 30 0	2825 0	3115 0 to 20 0
Kitchenmen ...	3338 0	3126 0	3325 0	2825 0 & 30 0	2825 0	3120 0
Lift Attendants ...	3122 6	3145 0†	2820 0	2825 0	...	...
Porters (Day) ...	3138 0	3126 0	3325 0	2830 0	2825 0	3120 0
„ (Night) ...	2838 0	3126 0	3325 0	2825 0	2830 0	3122 6
Waiters (Head) ...	2845 0	3136 0	3335 0	2842 6 & 45 0	...	3125 0 to 40 0
„ (Other) ...	2838 0	3131 0	3320 0	2830 0	2832 6	3120 0 to 30 0
<b>Restaurants.</b>						
Pantrymen ...	3125 0	3126 0	2830 0	2825 0 & 30 0	2825 0	3125 0
Waiters ...	3122 6	3131 0	2840 0	2830 0	2832 6	3120 0

## GROUP XIV.—MISCELLANEOUS AND GENERAL LABOUR.

<b>Bill Posting.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Billposters ...	50 0	51 0	...	*48 0	...	*50 0
<b>Factory Engine Driving.</b>						
Engine Drivers (Stationary)—						
1st class ...	66 0	63 0	72 0	*66 0	72 0	*60 0
2nd class ...	63 0	54 0	64 0	*63 0	66 0	*57 0
3rd class ...	60 0	48 0	56 0	*60 0	60 0	*54 0
Firemen (1st Class) ...	58 0	54 0	54 0	*66 0	*60 0	*51 0
„ (2nd Class) ...	54 0	48 0	...	*54 0	*54 0	*45 0
Greasers ...	54 0	48 0	60 0	*54 0	*54 0	...
Trimmers ...	54 0	48 0	48 0	*54 0	*54 0	...
<b>Fuel Distribution (Coal &amp; Coke).</b>						
Baggers and Loaders ...	2448 0	58 0	...	48 0	...	*49 6
Carters (One Horse) ...	2848 0	2550 0	2547 6	48 0	60 0	1942 0
„ (Two Horses) ...	2851 0	2555 0	2552 0	50 0	60 0	1947 0
Trimmers ...	2448 0	68 0	...	48 0	...	*49 6
<b>Fuel Distribution (Firewood).</b>						
Carters (One Horse) ...	2950 0*	2545 0	2547 6	48 0	54 0	1942 0
„ (Two Horses) ...	2955 0*	2550 0	2552 0	50 0	54 0	1947 0
Other Adults ...	2248 0*	48 0	*42 0	49 0	...	...
Sawyers ...	2260 0*	1756 0	48 0	57 6	...	*48 0
Yardmen ...	54 0	45 0	*42 0	48 0	...	*43 6
<b>Municipal</b>						
Labourers ...	57 0	*51 0	*51 0	*51 0	54 0	*45 0
Street Sweepers ...	49 6 & 54 0	*51 0	*48 0	*51 0	54 0	*45 0

† Not in addition to Board and Lodging.

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP XIV.—MISCELLANEOUS AND GENERAL LABOUR—Continued.						
<b>Musicians.</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Orchestral ...	160 0 & 80 0	160 0	160 0	*160 0	160 0	*160 0
<b>Shop and Other Assistants.</b>						
Boot Salesmen ...	1752 6	1752 6	1755 0	1757 6*	57 6	*40 0 to 60 0
Chemists' Assistants ...	58 6	...	240 0 to 70 8	...	...	...
Clerks ...	1735 0 to 50 0	*50 0	...	...	...	...
Clothing (Men's) Salesmen ...	1725 0 to 52 6	1742 6 to 60 0	1755 0	1757 6	57 6	*40 0 to 60 0
Confectionery Salesmen ...	2552 6	...	1750 0	...	...	...
Drapery Salesmen ...	1752 6	60 0	1755 0	1757 6	57 6	40 0 to 60 0
Fruit Salesmen ...	2552 6	...	1750 0	...	...	...
Furniture Salesmen ...	1752 6	60 0	1755 0	1757 6*	62 6	*40 0 to 60 0
Grocery Salesmen ...	2352 6	1755 0	1750 0	2455 0	57 6	52 0
<b>Hardware.</b>						
Managers (Branch) ...	1763 0	1780 0	...	1790 0*	...	...
„ (Departmental) ...	1763 0	1780 0 & 90 0	...	1780 0 to 90 0	...	1590 0
Salesmen (Junior) ...	1735 0 to 50 0	1740 0	...	1737 6 to 52 6	...	1540 0 to 55 0
„ (Outside) ...	...	1770 0	...	1745 0 to 65 0	...	...
„ (Senior) ...	1752 6	1760 0	1755 0	1755 0 & 57 6	62 6	1560 0
<b>Storemen—Packing, Cleaning, etc.</b>						
Night Watchmen ...	4250 0	3754 0	3742 0	2856 0	56 0	3740 0* & 45 0
Office Cleaners ...	49 0	1742 0	...	...	...	...
Packers (General) ...	1353 0	648 0	6150 0	1750 0	55 0	*50 0 to 60 0
Storemen (General)	1350 0	648 0	6150 0	1750 0	55 0	*50 0
<b>Wholesale Grocery.</b>						
Packers (Head) ...	55 0 to 80 0	55 0 to 70 0	6154 0 to 79 0	1755 0	*60 0	48 0
„ (Other) ...	51 0	50 0	6150 0	50 0	55 0	*37 6
Storemen (Head) ...	55 0 to 80 0	60 0 to 80 0	6154 0 to 79 0	1755 0	*60 0	*50 0
„ (Other) ...	50 0	57 6	6150 0	50 0	55 0	*40 0
<b>Wholesale Hardware.</b>						
Packers ...	1351 0	1747 6	46 0	50 0	55 0	1545 0 to 55 0
Storemen ...	1350 0	1747 6	46 0	50 0	55 0	1545 0 to 55 0

**MINIMUM RATES OF WAGES FOR JOURNEYWOMEN OR ADULT FEMALE WORKERS  
IN THE MAIN OCCUPATIONS IN THE CAPITAL TOWN OF EACH STATE FOR  
A FULL WEEK'S WORK AT 31st DECEMBER, 1914.**

*(See Explanatory Note at top of page 1013.)*

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
<b>GROUP III.—FOOD, DRINK, TOBACCO, ETC.</b>						
Biscuitmaking ...	s. d. 23 0	s. d. 22 6	s. d. *20 0 to 22 6	s. d. ...	s. d. ...	s. d. ...
Buttermaking ...	...	30 0	...	...	...	...
Cheesemaking ...	...	30 0	...	...	...	...
Confectionery—Chocolate Dippers	22 0	22 0	22 0	22 0	*20 0 to 22 6	...
" Other Adults ...	20 0	20 0	17 6	20 0	*20 0 to 22 6	...
Jam Making and Preserving—						
Fillers ...	30 0	30 0	*17 6	21 0	...	20 0
Other Adults ...	20 0	23 0	*17 6	21 0	...	20 0
Pastrycooks ...	22 6	...	20 0	...	...	...
Tea Packing—Headwomen	*27 6 to 30 0	28 6	...	...	...	...
" Other Adults ...	*20 0	17 6 to 22 6	...	...	...	...
Tobacco Working (Cigars)—						
Ringers ...	25 0	24 0	...	...	...	...
Wrapper Leaf Strippers...	25 0	25 0	...	...	...	...

**GROUP IV.—CLOTHING, HATS, BOOTS, ETC.**

Bootmaking—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Machinists (Wax Thread) ...	35 0	35 0	28 0	*25 0 to 30 0	...	...
Other Adults ...	28 0	28 0	28 0	20 0	*25 0 to 30 0	22 6
Dressmakers ...	*20 0 to 25 0	21 6	*20 0 to 25 0	16 0	*25 0 to 30 0	*20 0
Dyers and Cleaners ...	*21 0	25 0	...	...	...	...
Hatmaking (Straw)—Finishers	10 25 0	*25 0	...	...	...	...
" Machinists	10 30 0	*30 0	...	...	...	...
Milliners ...	*25 0	25 0	*21 0	*20 0	*25 0 to 30 0	*20 0
Shirtmakers ...	*20 0 to 25 0	22 6	*20 0	16 0	...	...
Tailoring (Order)—						
Machinists (Coat Hands) ...	28 6	25 6	26 0	25 6	40 0	*22 6 to 27 6
" (Trousers, Vest Hands)	24 0	25 6	26 0	25 6	40 0	...
Tailoresses (Coat Hands) ...	30 0 & 35 0	26 0	26 0	26 0	45 0	25 0 to 30 0
" (Trousers, Vest Hands)	25 0 & 29 0	24 0	23 6	24 0	35 0	...
Tailoring (Ready Made)—						
Machinists (Coat Hands) ...	25 0	24 0	24 0	22 6	40 0	*20 0 to 25 0
" (Trousers, Vest Hands)	23 0	24 0	21 6	22 6	40 0	...
Tailoresses (Coat Hands) ...	25 0 & 28 6	24 0	21 0	22 6	45 0	*25 0 to 30 0
" (Trousers, Vest Hands)	23 0 & 24 0	22 6	21 0	20 0	35 0	...

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUP IV.—CLOTHING, HATS, BOOTS, ETC.—Continued.						
Textile Working (Woollen Mills)	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Comb Minders ...	21 0	22 6	...	...	...	*20 0
Drawers and Menders ...	30 0	22 6	...	...	...	*20 0
Gillbox Minders ...	21 0	22 6	...	...	...	*20 0
Other Adults ...	21 0	21 0	...	...	...	*20 0
Warpers ...	30 0	30 0	...	...	...	*25 0
Weavers, Loom ...	35 0	30 0	...	...	...	*25 0
Tiemaking—						
Machinists ...	*22 6	20 0	...	...	...	...
Needlewomen ...	*25 0	22 6	...	...	...	...
Boxers, Pressers and other ...	*20 0	20 0	...	...	...	...
Underclothing ...	*20 0 to 25 0	20 0	*20 0	16 0	*25 0	*16 0
Waterproof Clothing—						
Garmentmakers ...	*20 0	27 6	...	...	...	...
Needlewomen ...	to 25 0	22 6	...	...	...	...

## GROUPS I., II., V. AND VI.—PRINTING AND OTHER MANUFACTURES.

Bedding and Furniture—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Bedding Machinists ...	30 0	27 6	*27 6	25 6	...	27 6
Mattress (Wire) Workers ...	...	34 0	...	25 6	...	27 6
Picture Frame Workers ...	*25 0	*22 6	...	...	...	...
Bookbinding—Folders ...	*23 0	21 0	20 0	22 0	...	...
„ Sewers ...	*25 0	23 0	20 0	22 0	...	...
Brassworking—Coremakers ...	37 0	30 0	...	...	...	...
„ Other Adults ...	*20 0	20 0	...	...	...	...
Brushmaking—		to 25 0				
Bass Broom Drawers ...	...	...	...	21 0	...	...
Bench Drawers ...	...	21 0	...	21 0	...	...
Machinists (Treadle Knot) ...	...	21 0	...	21 0	...	...
Candlemaking—Forewomen ...	30 0	27 6	21 6	...	...	...
Cardboard Box Making—						
Box Makers ...	*25 0	25 0	...	*20 0	...	...
Other Adults ...	*20 0	23 0	...	*20 0	...	...
	to 22 6			to 22 6		
Jewellery—						
Chainmakers ...	36 0	35 0	...	35 0	...	...
Enamel Fillers ...	20 0	...	...	35 0	...	...
	to 30 0					
Gilders ...	36 0	45 0	...	35 0	...	...
Polishers ...	36 0	45 0	...	35 0	...	...
Scratch Brushers ...	35 0	35 0	...	35 0	...	...
Workers, n.e.i. ...	40 0	55 0	...	35 0	...	...
Leather Small Goods—						
Hand Stitchers ...	26 0	25 0	...	...	...	...
Other Adults ...	26 0	20 0	...	...	...	...
Paper Makers ...	22 6	21 0	...	...	...	...
Paper Bag Makers ...	22 6	20 0	...	...	...	...
Polish Makers ...	...	25 0	...	...	...	...
Potteries ...	20 0	23 0	...	...	...	...

## WEEKLY RATES OF WAGES, ETC.—Continued.

Industry and Occupation.	Sydney.	Melb.	Brisbane.	Adelaide.	Perth.	Hobart.
GROUPS I., II., V. AND VI.—PRINTING AND OTHER MANUFACTURES—Continued.						
Printing—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Jobbing Office Assistants ...	23 0	22 0	20 0	22 6	...	...
Lithographic Feeders ...	25 0	22 0	20 0	22 6	...	...
Rubber Workers ...	27 0	27 0	...	...	...	...
Saddlery and Harness Makers ...	24 0	24 0	24 0	30 0	...	...
Sail Making ...	30 0	*24 0	...	...	...	...
Soap Making ...	21 0	27 6	...	...	...	...
Tent and Tarpaulin Making—						
Machinists ...	12 27 6 to 32 6	24 0 & 27 6	...	...	...	...

## GROUP XIII.—DOMESTIC, HOTELS, ETC.

NOTE.—Except where otherwise specified the rates of wages specified for Employees in Hotels and Restaurants represent the weekly cash payment where Board and Lodging are provided. If Board and Lodging are not provided, payment has to be made in lieu thereof, upon an estimated value, fixed by Industrial Determinations for the Capital Towns as follows: Sydney, 15s.; Melbourne, 14s.; Brisbane, 15s.; Adelaide, 15s.; Perth, 15s.; and Hobart, 15s. per week. Of this sum 10s. per week is allocated as value of Board in each instance.

Hotels—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Barmaids ...	28 25 0	31 23 6	27 25 0	...	28 65 0†	31 20 0 & 25 0
Housemaids ...	33 14 0	28 16 0	33 15 0	28 18 6 & 20 0	19 20 0	31 12 0 & 15 0
Laundresses ...	33 20 0	28 21 0	20 0	...	...	...
Waitresses (Head) ...	28 20 0	28 16 0	...	28 20 0 & 25 0	...	31 20 0 & 25 0
„ (Other) ...	28 17 6	28 15 0	28 15 0	28 18 6 & 20 0	19 22 6	31 15 0 & 20 0
Laundries—						
General Hands ...	17 6	*24 0	...	18 0	36 0	...
Machinists (Shirt and Collar) ...	23 6	*30 0	...	...	42 0	...
Sorters ...	20 0	*25 0	...	20 0	36 0	...
Starchers ...	15 0	*24 0	...	18 3	36 0	...
Washers ...	22 0	*24 0	...	18 0	36 0	...
Office Cleaners ...	32 1 0	22 6	...	...	...	...
Restaurants—Pantry Maids ...	31 20 0 & 24 0	31 15 0	28 16 0	28 22 6	19 20 0	31 15 0
„ Waitresses ...	31 17 6 to 24 0	31 15 0	28 16 0	28 18 6	19 22 6	31 15 0

## GROUP XIV.—SHOP ASSISTANTS, CLERKS, ETC.

Saleswomen, Clerks, etc.—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Cashiers ...	17 21 0 to 30 0	32 0	...	...	...	...
Clerical Assistants ...	17 21 0 to 30 0	36 0	...	...	...	...
Saleswomen—						
Boot ...	17 30 0	17 30 0	30 0	17 22 6 to 27 6	...	...
Drapery ...	17 30 0	32 0	30 0	17 22 6 to 27 6	...	...
Fruit and Confectionery ...	35 20 0	...	30 0	...	...	...
News Agent and Bookstall ...	19 & 30 0	...	30 0	...	...	...
Tobacconist ...	40 0	...	30 0	...	...	...

† Not in addition to Board and Lodging.



## § 6. Strikes and Lockouts.

1. **General.**—The systematic collection of information regarding strikes and lockouts throughout the Commonwealth was initiated at the beginning of the year 1913. An examination of the available data for past years contained in official reports, newspapers, and other publications, shewed that there was insufficient material available for the compilation of anything like complete or comprehensive information regarding industrial disputes in the Commonwealth for years prior to 1913. In the State of New South Wales a considerable amount of information regarding strikes and lockouts is available from the 1st July, 1907, and has been published in the New South Wales Industrial Gazette (April, 1913, and January, 1914). The particulars given are, however, stated to be incomplete for the period from July, 1907, to April, 1912.

Under the system initiated in 1913 information as to the occurrence of an industrial dispute is derived from a number of sources, of which the following are the most important:—(a) Reports by labour agents and correspondents who have been appointed in all the most important industrial centres of the Commonwealth; (b) monthly reports sent in by secretaries of trade unions, and (c) newspaper, trade and labour journals, and other publications.

(i.) *Collection of Particulars.* As soon as information is obtained as to the existence of an industrial dispute involving stoppage of work, forms\* are despatched to the several parties concerned, viz., secretaries of trade unions, employers' organisations, and individual employers. The first parts of these forms have to be returned immediately. They provide for the insertion of information as to the locality in which the dispute exists, its cause or object, the date of commencement, and the number of persons involved directly and indirectly. The second parts of the forms, which are to be returned as soon as the dispute is terminated, provide for information regarding the date of termination, the conditions or terms on which work was resumed, the method of settlement, the estimated loss in wages, and (if the result involves a change in rates of wages or hours of labour) particulars as to the number affected, etc.

If the information given by one party to the dispute substantially agrees with that furnished by the other, the facts are considered to be accurate, and the result is included in the final returns. In all cases where discrepancies or inconsistent accounts are received, special enquiries are instituted, ordinarily through the labour agents and correspondents. The whole of the available information is then determined as judicially as possible, making the summarised result to agree not necessarily with the testimony of a single individual, but to harmonise with the concurrent evidence of the majority, or of those whose returns appear to be the most reliable. It may, therefore, happen that the particulars, as presented in this report concerning certain disputes, will not agree with the returns as submitted by participants in such disputes. The figures, as published, however, have been determined only after careful consideration of all available particulars.

(ii.) *Definitions and Explanations of Terms.* Industrial disputes involving stoppage of work may be classified under three main headings, viz., (a) a strike; (b) a lockout; or (c) a sympathetic strike. For the purposes of these investigations the following definitions have been accepted:—

- (a) A strike is defined as a concerted withdrawal from work by a part or all of the employees of an establishment or of several establishments, with a view to enforcing a demand on the part of the employees, or of resisting some demand made by their employers.
- (b) A lockout is a refusal on the part of an employer or several employers, to permit a part or all of the employees to continue at work, such refusal being made to enforce a demand on the part of the employers, or to resist some demand made by their employees.

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\* As these forms have been prescribed under the Census and Statistics Act 1905, it is compulsory upon prescribed persons to furnish the information required.

- (c) A sympathetic strike is one in which the employees of an establishment, or of several establishments, make no demand for their own benefit, but leave work in order to assist employees of some *other* establishment or establishments, on strike or locked out, for the purpose of enforcing or resisting a demand.

In view of the difficulty which may often occur in distinguishing clearly whether a stoppage of work constitutes a strike or a lockout, for the purposes of these investigations all stoppages are grouped under the general heading—strikes and lockouts. Certain stoppages of work have been excluded from the tabulations, for the reason either that they do not come within the definition of a strike or lockout, or that they are not of sufficient magnitude. Disputes involving less than ten workpeople or which lasted for less than one day, except where the aggregate number of working days lost exceeded ten days, have been excluded, with the exception of four small disputes which occurred during the first quarter of the year 1913. Other dislocations of industry which have been excluded from the tables are those in which the relationship of employer and employee did not exist. Instances of this class of dispute are the dislocations which occurred in the rabbit-trapping industry, in which the trappers are not employees of the freezing companies. As the companies refused to pay the price demanded by the men, trapping was discontinued, but this does not constitute a strike within the above definition. During the period under review numerous stoppages of work occurred for the purpose of holding meetings to discuss grievances and union matters. The majority of these stop-work meetings were held by builders' labourers and colliery employees. Particulars regarding these dislocations are not included in the tabulations, since they do not fall within the definition of a "strike" or "lockout," that is to say, the stoppage is not necessarily for the purpose of enforcing or resisting demands.

In the tables given in this section an establishment means the place of work operated by a person, firm, company, or Government Department. The shops, factories, places of business or construction or repairing works of different employers in the same locality, or of the same employer in different localities, are considered as separate establishments.

The heading, "Workpeople directly involved in dispute"\* includes only those workpeople who actually joined in the demand and who, on refusal of such demand, ceased work. In the case of a lockout, the term is used to include the number of workpeople whom the employer refused to allow to work unless they complied with his demand.

The number of workpeople involuntarily thrown out of work refers only to those employees who were involuntarily thrown out of work as the result of an industrial dispute, caused by certain other employees going on strike or through an employer or employers locking out certain other employees, whose absence from work rendered it impossible for work to proceed in the establishment or establishments affected by the dispute. It often occurs also that when one section of employees is engaged in an industrial dispute the effect of such dispute is to cause loss of time to other employees, following occupations which are dependent upon those followed by the workpeople actually on strike or locked out.

The number of working days lost is obtained by multiplying the number of workpeople directly involved by the duration of the dispute in working days. In the case of a dispute where workpeople are involuntarily thrown out of work the number of these workpeople is multiplied by the number of days they were idle, and the result is added to the number of days lost by the workpeople directly involved.

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\* The same persons may, of course, be involved in two or more disputes in a single year, in which case they would be duplicated in the statistics of the number of workpeople involved in disputes. This remark also applies to those workpeople involuntarily thrown out of work.

**2. Comparative Summary of Disputes in 1913 and 1914.**—The systematic collection of information as to strikes and lockouts\* throughout the Commonwealth was first undertaken as from the 1st January, 1913, and particulars concerning disputes occurring during the year 1913 were published in Labour Report No. 5. The following table gives particulars of the number of industrial disputes beginning in 1914, and also the number of workpeople involved in these disputes. The number of working days lost and the estimated total loss in wages during 1914 for all disputes in existence during that period are also shewn. For purposes of comparison, similar particulars are furnished for the year 1913. They do not, therefore, agree in all respects with somewhat similar particulars published in Labour Report No. 5, inasmuch as the particulars given in that Report relate solely to disputes which began in 1913, irrespective of the date on which they terminated.

**INDUSTRIAL DISPUTES IN EACH STATE AND TERRITORY.—COMPARATIVE PARTICULARS FOR 1913 AND 1914.**

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	F.T.*	N.T.†	C'wlth.
No. of disputes, 1914 ...	235	44	18	13	18	6	1	2	337
"      "      1913 ...	134	29	17	9	9	8	1	1	208
No. of workpeople ... 1914	56,281	7,051	1,686	1,191	4,409	313	50	68	71,049
involved ... 1913	40,011	6,177	2,006	288	967	464	200	170	50,283
No. of working days ... 1914	727,726	93,932	27,857	15,275	124,175	3,286	350	552	993,153
lost ... 1913	447,979	77,587	77,178	2,412	12,492	987	1,400	2,500	622,535
Total ... estimated ... 1914 £	363,326	43,747	13,176	7,697	70,552	1,459	170	348	500,475
loss in wages ... 1913 £	208,468	32,596	37,684	1,029	5,615	434	600	1,675	288,101

\* Federal Capital Territory.

† Northern Territory.

While anything in the nature of a definite measurement of the general loss to the community or the special loss to employers entailed through these disputes is not available, some rough idea of the magnitude of such losses may be obtained. For the whole of the manufacturing industries of the Commonwealth during the past five years the average proportion of the "wages paid" to the "value added in process of manufacture" is, approximately, 50 per cent., while the proportion of wages paid to the "total value of output" is 20 per cent. Assuming that these proportions apply approximately to all industries affected by the above disputes, it follows that the aggregate resulting loss in "added value" would amount, approximately, to £1,000,000. The reduction in the "total value of output" would be about £2,500,000, and on a basis of an average profit of 10 per cent. on the value of the output there would be an immediate and direct loss to employers of about £250,000, that is, about half the amount of loss in wages. The resultant indirect loss and damage to trade and business may, in some instances, of course, be large compared with the direct losses, but the necessary data for the estimation of these indirect losses is not obtainable.

The above table shews that 337 industrial disputes commenced during the year 1914, as compared with 208 during the preceding year. The number of workpeople involved in strikes and lockouts was also greater, the figures for the respective years being 71,049 during 1914, and 50,283 in 1913. These figures relate to the total number of workpeople affected by disputes, whether directly or indirectly concerned. The number of working days lost during the year 1914 was 993,153, which was considerably greater than the number lost (622,535) during the previous year. The estimated total loss in wages during twelve months ending 31st December, 1914, was £500,475, as compared with the estimated total amount of loss of £288,101 during the year 1913.

The number of disputes was greater in 1914 than in 1913 in each of the States and Territories, with the exception of Tasmania and the Federal Capital Territory. In New South Wales the number of disputes recorded for 1914 was 235, as compared with 134 during the year 1913. In Victoria, 44 disputes commenced in 1914, as against 29 in 1913, while in Western Australia there were 18 disputes in 1914 and 9 in 1913.

**3. Number and Magnitude of Industrial Disputes in the Commonwealth, Classified according to Industrial Groups.—Comparative Particulars for 1913 and 1914.**—The following table gives particulars of disputes in the Commonwealth during the years 1913 and 1914, classified according to industrial groups. The system of classification selected is similar to that adopted in connection with labour organisations, unemployment, rates of wages, etc. (see Report No. 5, Labour and Industrial Branch, page 6).

**INDUSTRIAL DISPUTES IN THE COMMONWEALTH, CLASSIFIED ACCORDING TO INDUSTRIAL GROUPS, 1913 AND 1914.**

Industrial Group.	No. of Disputes.		No. of Work-people involved in Disputes.		No. of Working Days Lost.		Total Estimated Loss in Wages.	
	1913.	1914.	1913.	1914.	1913.	1914.	1913.	1914.
I. Wood, Furniture, Timber, etc.	4	5	105	556	1,612	3,086	652	1,345
II. Engineering, Metal Wks., etc.	11	29	585	8,039	11,689	114,635	5,423	60,249
III. Food, Drink, etc. ....	7	9	1,263	2,670	16,330	61,696	7,903	27,020
IV. Clothing, Hats, Boots, etc. ....	4	1	483	54	2,352	25	1,048	5
V. Books, Printing, etc. ....	1	3	8	163	384	2,212	185	1,078
VI. Other Manufacturing ....	10	14	2,731	1,535	29,017	14,184	11,492	6,764
VII. Building ....	10	16	232	4,321	2,303	140,881	1,171	72,735
VIII. Mines, Quarries, etc. ....	103	186	33,537	48,785	389,854	582,967	182,724	293,722
IX. Rail and Tramway Services	16	23	6,343	1,994	81,806	44,791	43,216	24,720
X. Other Land Transport ....	2	6	428	580	2,120	2,612	1,037	1,176
XI. Shipping, Wharf Labour ....	18	11	2,278	682	37,108	8,783	16,752	4,282
XII. Pastoral, Agricultural, etc. ....	4	5	515	359	840	6,942	334	2,815
XIII. Domestic, Hotel, etc. ....	1	1	25	48	75	73	36	22
XIV. Miscellaneous ....	17	28	1,750	1,263	47,045	10,266	16,128	4,542
<b>Commonwealth, All Groups</b>	<b>208</b>	<b>337</b>	<b>50,283</b>	<b>71,049</b>	<b>622,535</b>	<b>993,153</b>	<b>288,101</b>	<b>500,475</b>

Of the 337 disputes which commenced during the year 1914, no fewer than 186, or 55 per cent., occurred in the mining industry (Group VIII.), the number of employees (48,785) involved in these disputes representing 69 per cent. of the total number of workpeople involved in all disputes during the year. Employees in Engineering and Metal Works (Group II.), were involved in 29 disputes during the period under review, the number of workpeople involved being 8039, and the loss in working days 114,635. In Group XIV. (Miscellaneous), 28 stoppages of work were recorded. Building Operations (Group VII.), were affected by 16 disputes, involving 4321 workpeople, who lost 140,881 working days. Persons engaged in industries included in Other Manufacturing (Group VI.), were involved in 14 disputes, while 23 disputes affected workpeople in Railway and Tramway Services (Group IX.). In Group XI. (Shipping, Wharf Labour, etc.), 11 disputes were recorded, while employees engaged in the manufacture and distribution of Food and Drink (Group III.), were involved in 9 disputes. The number of disputes in other groups was comparatively small.

## § 7.—Retail Prices, House Rents, and Cost of Living.

**1. Introduction.**—In Report No. 1, issued in December, 1912, the results of certain investigations into the subjects of Prices, Price-Indexes and Cost of Living in past years were published, and some account was given of the methods employed for the collection of the data and of the technique adopted in the computation of the results. An important discussion of the theory upon which the calculation of the index-numbers is based was given, but being necessarily too technical for the ordinary reader, was relegated to Appendixes. In Reports Nos. 2 and 5 results of further investigations were given, and in those Reports, and in Labour Bulletins Nos. 1 to 8, information was given as to variations in retail and wholesale prices, house-rent, and cost of living up to the end of 1914.

It must here suffice to state that the method adopted for the computation of the index-numbers is what may very properly be called the "aggregate expenditure" method. The first process is, of course, to work out the average price of each commodity included, and numbers (called "mass-units") representing the *relative* extent to which each commodity was on the average used or consumed are then computed. The price in any year of each commodity multiplied by its corresponding "mass-unit" represents, therefore, the relative total expenditure on that commodity in that year *on the basis of the adopted regimen*. It follows, therefore, that by taking for any year the sum of the price of each commodity multiplied by its corresponding "mass-unit," a figure is obtained which represents the relative aggregate or total expenditure of the community in that year on all the commodities, etc., included. By computing these aggregate expenditures for a series of years and taking the expenditure in any desired year as "base," that is, making the expenditure in that year equal to 1000 units, the relative expenditure in any other year, that is to say, the "index-numbers," are readily ascertained. A numerical example of the technique and methods adopted for the computation of index-numbers was given in Report No. 2 (pp. 44 and 45).

**2. Scope of Investigation.**—It was pointed out in Report No. 1 that, in any investigation into the question of change in cost of living of a community, a careful distinction must be drawn between two things, viz:—

- (a) Variations in the *purchasing power* of money, and
- (b) Variations in the *standard of living*.

In Report No. 2, attention was drawn to the fact that the second element (b) can be limited, at any rate to some extent, by the exercise of self denial and thrift, and that such limitation is at the disposal of each individual; the former (a) is not subject to this possibility. Thus, from this aspect, social economics are concerned *primarily* with an accurate estimation of variations in the purchasing power of money and only secondarily with the question of the general standard of living which has been reached. The first desideratum demands that we shall select a suitable list of commodities, the quantities of each being taken in due proportion to their relative average consumption, and, keeping this list with the quantities constant, ascertain what it costs to purchase the whole group. In this way we can compare the cost in different areas or districts at the same time, as well as the variation in any one place from time to time. This is the "aggregate expenditure" method explained above.

As explained in Report No. 1, special steps were taken to conduct the investigation back as far as 1901 for the capital towns only. The collection of current monthly returns as to prices and of quarterly returns of house rents commenced in thirty of the more important towns of the Commonwealth in January, 1912.

**3. Commodities and Requirements Included.**—The 47 items of expenditure included are divided into four groups, viz.:—(i.) groceries and bread, (ii.) dairy produce, (iii.) meat, and (iv.) house rent. These items cover about 60 per cent. of the total expenditure of a normal family. There are very cogent reasons for the restriction of the inquiries to the items mentioned. If the comparisons made are to be satisfactory, no confusion must arise between changes in standard of living and changes arising from a variation of the purchasing power of money. In order to avoid such confusion the items selected are such as are sensibly identical and identifiable in the various localities. The most important group of expenditure which is not included is clothing, the cost of which amounts to about 13 per cent. of the total expenditure. Owing to influences of individual taste, fashion, and the enormous variety of production, articles included in this group are practically not comparable and identifiable. As regards fuel and light, the cost of which amounts to about 4 per cent. of the total expenditure, while these commodities are comparable and identifiable, the usage or relative consumption in the towns included in the inquiries varies to such an extent that their inclusion on an assumed constant regimen would tend to produce a fictitious result in so far as relative cost of living is concerned.

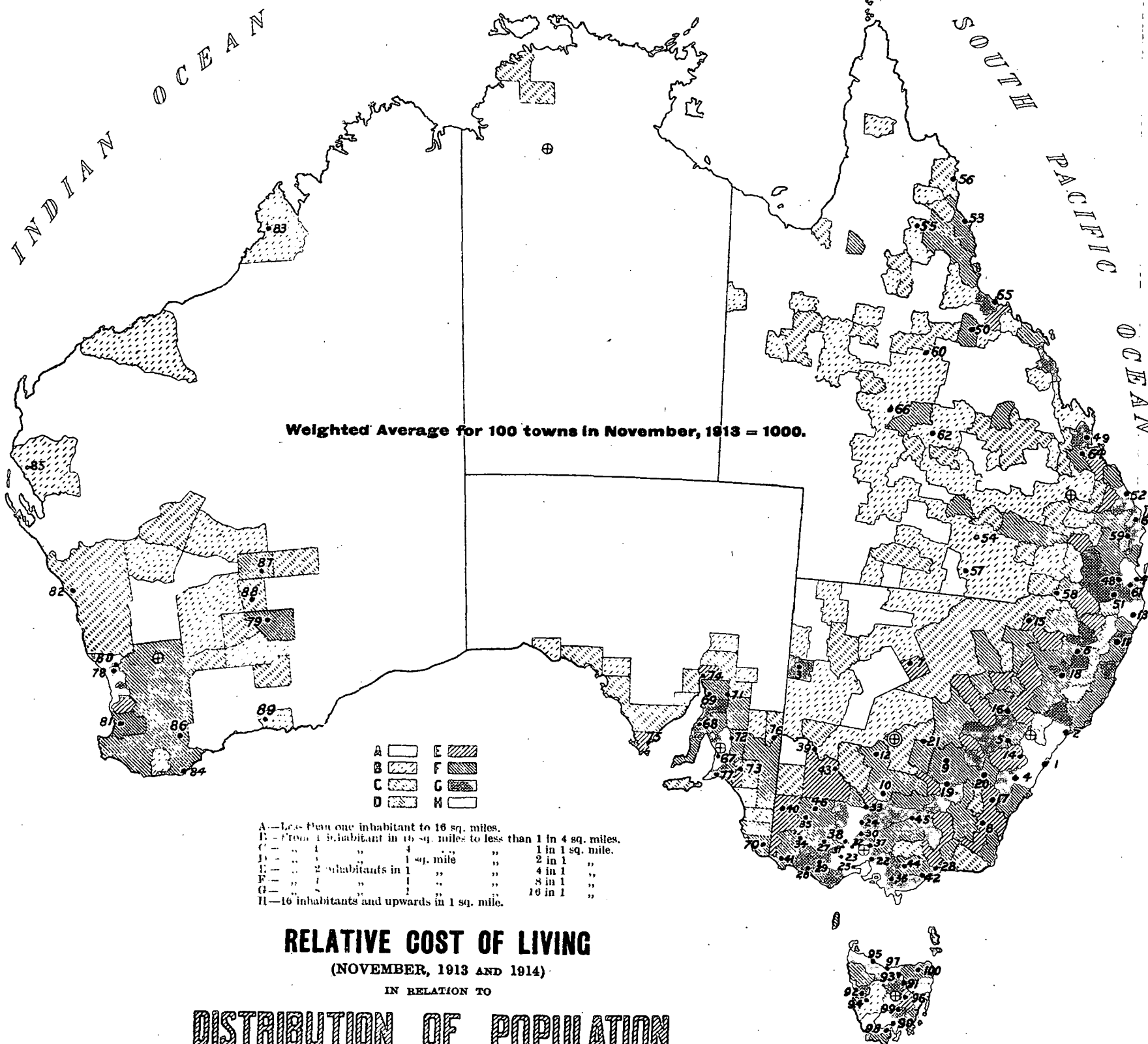
1913. 1914.

	A	B	A	B
1 SYDNEY.	1,109.	634.	1,124.	651.
2 Newcastle.	980.	637.	972.	648.
3 Broken Hill.	1,118.	768.	849.	773.
4 Goulburn.	974.	629.	1,035.	667.
5 Bathurst.	892.	583.	909.	608.
6 Armidale.	875.	601.	948.	618.
7 Cobar.	987.	661.	881.	742.
8 Cooma.	861.	638.	975.	662.
9 Cootamundra.	977.	632.	990.	653.
10 Deniliquin.	838.	606.	943.	675.
11 Grafton.	919.	632.	922.	654.
12 Hay.	918.	688.	939.	740.
13 Lismore.	931.	695.	1,042.	729.
14 Lithgow.	915.	628.	938.	625.
15 Morda.	981.	681.	1,041.	696.
16 Mudgee.	824.	569.	895.	640.
17 Queanbeyan.	1,052.	650.	980.	635.
18 Tamworth.	902.	599.	1,068.	649.
19 Wagga Wagga.	867.	584.	849.	670.
20 Yass.	843.	637.	1,049.	676.
21 West Wyalong.	866.	631.	852.	669.
22 MELBOURNE.	964.	568.	1,019.	628.
23 Ballarat.	767.	566.	845.	636.
24 Bendigo.	815.	573.	873.	641.
25 Geelong.	872.	579.	943.	639.
26 Warrnambool.	865.	581.	914.	620.
27 Ararat.	833.	577.	915.	641.
28 Bairnsdale.	796.	579.	838.	615.
29 Camperdown.	866.	572.	815.	625.
30 Castlemaine.	773.	547.	811.	636.
31 Creswick.	730.	577.	808.	636.
32 Daylesford.	779.	590.	817.	638.
33 Echuca.	811.	607.	857.	672.
34 Hamilton.	871.	594.	926.	636.
35 Horsham.	849.	534.	988.	670.
36 Korumburra.	839.	596.	892.	625.
37 Kyneton.	768.	562.	790.	611.
38 Maryborough.	745.	573.	808.	626.
39 Mildura.	972.	608.	1,053.	696.
40 Nhili.	867.	593.	905.	656.
41 Portland.	796.	592.	904.	624.
42 Sale.	784.	551.	874.	634.
43 Swan Hill.	975.	618.	1,000.	649.
44 Walhalla.	790.	687.	808.	693.
45 Wangaratta.	825.	589.	965.	662.
46 Warracknabeal.	810.	555.	877.	647.
47 BRISBANE.	878.	583.	919.	627.
48 Toowoomba.	840.	603.	898.	646.
49 Rockhampton.	863.	617.	920.	668.
50 Charters Towers.	907.	658.	997.	752.
51 Warwick.	822.	590.	863.	635.
52 Bundaberg.	851.	621.	893.	650.
53 Cairns.	1,067.	704.	1,140.	809.
54 Charleville.	1,089.	704.	1,041.	722.
55 Chillagoe.	1,153.	834.	1,052.	892.
56 Cooktown.	937.	745.	1,003.	799.
57 Cunnamulla.	992.	724.	1,047.	779.
58 Goondiwindi.	958.	639.	988.	680.
59 Gympie.	791.	600.	819.	653.
60 Hughenden.	1,145.	756.	1,288.	803.
61 Ipswich.	874.	606.	900.	632.
62 Longreach.	1,047.	728.	1,123.	823.
63 Maryborough.	782.	584.	830.	624.
64 Mount Morgan.	880.	637.	951.	696.
65 Townsville.	996.	636.	1,123.	769.
66 Winton.	1,147.	803.	1,136.	817.
67 ADELAIDE.	1,056.	619.	1,078.	698.
68 Kadina-Moonta.	862.	636.	941.	690.
69 Port Pirie.	872.	644.	973.	729.
70 Mt. Gambier.	816.	568.	894.	614.
71 Petersburg.	896.	613.	1,099.	742.
72 Kapunda.	847.	618.	901.	690.
73 Murray Bridge.	811.	618.	1,004.	640.
74 Port Augusta.	931.	660.	1,115.	770.
75 Port Lincoln.	963.	674.	1,034.	716.
76 Renmark.	985.	666.	1,041.	696.
77 Victor Harbour.	924.	637.	1,103.	720.
78 PERTH.	1,116.	719.	1,131.	762.
79 Kalgoorlie.	1,277.	912.	1,344.	988.
80 Midland Junction.	1,079.	731.	1,106.	777.
81 Bunbury.	1,113.	757.	1,155.	819.
82 Geraldton.	1,317.	783.	1,344.	856.
83 Broome.	942.	642.	943.	943.
84 Albany.	1,147.	793.	1,184.	817.
85 Carnarvon.	1,343.	960.	1,316.	965.
86 Katanning.	1,154.	748.	1,180.	774.
87 Leonora.	1,265.	1,042.	1,324.	1,069.
88 Menzies.	1,153.	1,026.	1,286.	1,133.
89 Ravensthorpe.	1,147.	1,019.	1,150.	1,010.
90 HOBART.	875.	645.	1,042.	702.
91 Launceston.	911.	596.	999.	668.
92 Zeehan.	934.	717.	928.	758.
93 Beaconsfield.	769.	654.	806.	710.
94 Queenstown.	988.	724.	1,062.	746.
95 Burnie.	956.	606.	1,011.	683.
96 Campbell Town.	701.	599.	756.	660.
97 Devonport.	898.	623.	879.	633.
98 Franklin.	909.	654.	919.	703.
99 Oatlands.	820.	628.	874.	682.
100 Scottsdale.	788.	570.	844.	632.

Weighted Average 1,000. 621. 1,035. 665.

\* House rent not available.

A.—Heavy figures denote index-numbers for Food, Groceries, and Rent of 5-roomed Houses.  
B.—Light figures denote index-numbers for Food and Groceries only.

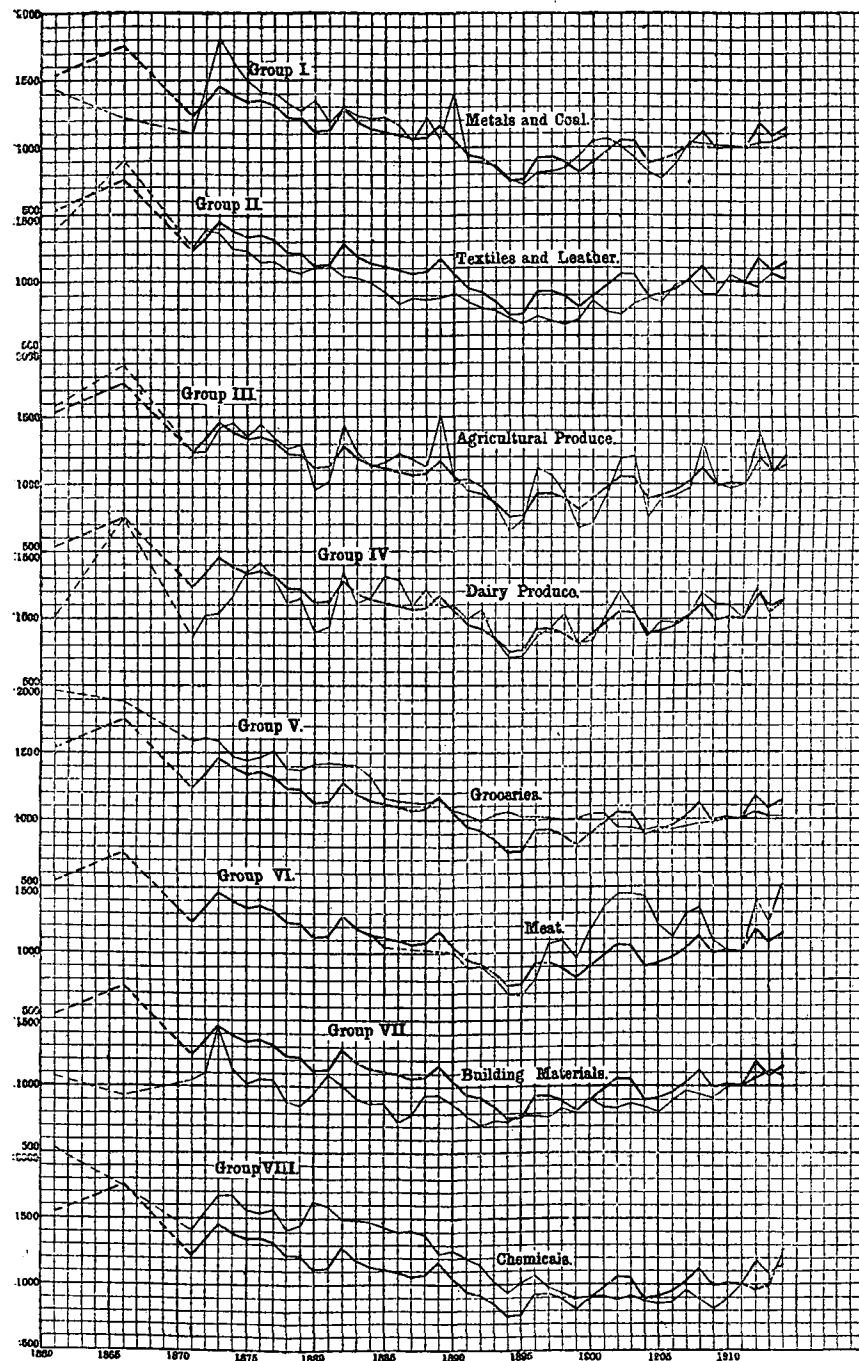


## RELATIVE COST OF LIVING

(NOVEMBER, 1913 AND 1914)

IN RELATION TO

## DISTRIBUTION OF POPULATION



EXPLANATORY NOTE.—The scale for each graph is shown by the figures on the left of the diagram, the line marked 1000 shewing the base line (for the year 1911) in each case. The heavy line in each graph represents the index-numbers for all groups combined, the light line indicating in each case the index-numbers for the separate group.

In Report No. 2 (pages 46-7) a tabular statement was given furnishing particulars of the commodities and items included, the units of measurement for which prices are collected, and the mass-units shewing the relative extent to which each item is used or consumed.

4. **Variations in the Cost of Living in each Metropolitan Town, 1901 to 1914.**—In Reports Nos. 1, 2 and 5, and Labour Bulletins Nos. 1 to 8, index-numbers were given for each of the four groups, and for all groups combined, for each capital town since 1901, the expenditure in 1911 being taken in each case as base (=1000). In this section only summarised results are given. Firstly, for food and groceries; secondly, for house rent; and thirdly, for all groups combined—the weighted average expenditure for all capital towns in 1911 being taken in each case as base (=1000). The index-numbers are fully comparable with each other, that is to say, they shew not only the variations from year to year in each capital town, but also the relative cost as between the towns.

(i.) *Food and Groceries.* The index-numbers thus computed for the three groups comprising groceries and food are shewn in the following table:—

**RETAIL PRICES IN METROPOLITAN TOWNS, INDEX-NUMBERS FOR GROCERIES  
AND FOOD (GROUPS I., II., and III.), 1901 to 1914.**

TOWN.	1901.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Sydney ...	917	1,029	877	972	964	936	1,030	1,012	1,000	989	1,124	1,131	1,156
Melbourne	965	974	916	952	945	925	995	949	960	935	1,082	1,024	1,091
Brisbane	965	987	892	945	959	947	1,023	983	1,000	1,018	1,102	1,042	1,078
Adelaide...	1,028	981	940	993	982	951	1,010	1,025	1,001	1,020	1,154	1,119	1,215
Perth ...	1,184	1,283	1,210	1,258	1,237	1,197	1,226	1,212	1,251	1,346	1,345	1,267	1,302
Hobart ...	1,011	1,054	981	1,030	1,047	1,010	1,055	1,093	1,073	1,058	1,190	1,164	1,212
Weighted Average*	972	1,019	924	986	980	955	1,031	1,006	1,005	1,000	1,129	1,095	1,144

\* For all capital towns.

The above figures are directly comparable in every respect; thus it will be seen that the same quantity of food and groceries, which cost £1000 in the capital towns considered as a whole in 1911, would have cost £917 in Sydney in 1901, £1346 in Perth in 1911, or £1091 in Melbourne in 1914.

(ii.) *House Rent.*—In the following table index-numbers are given computed for the weighted average house rent in each of the capital towns from 1901 to 1914, taking the average rent for the six capital towns in 1911 as the base (= 1000). The average rent has been obtained for each town separately by multiplying the average predominant rent for each class of house (*i.e.*, houses having less than 4 rooms, 4 rooms, 5 rooms, 6 rooms, 7 rooms, and over 7 rooms) by a number ("weight") representing the relative number of houses of that class in the particular town. The sum of the products thus obtained, divided by the sum of the weights, gives the weighted average for all houses. The number of houses in each class for each town was obtained from the results of the 1911 census. It should be observed, therefore, that these index-numbers are based on the weighted average rents for all houses, and that they do not refer to any particular class of houses. The actual predominant rents for each class were given in appendixes to Reports Nos. 1, 2 and 5, and an examination of these figures shews that for some classes of houses the increase has been greater, and in some less, than the general increase indicated in the following table:—



**HOUSE RENTS IN METROPOLITAN TOWNS, INDEX-NUMBERS SHEWING  
WEIGHTED AVERAGE RENTS (GROUP IV.), 1901 to 1914.**

TOWN.	1901.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Sydney ...	858	856	866	887	891	911	922	955	988	1,090	1,183	1,246	1,279
Melbourne	733	747	764	771	782	804	828	842	916	970	1,016	1,089	1,126
Brisbane	488	507	508	519	524	575	616	662	700	767	804	863	882
Adelaide	629	629	626	702	761	812	872	940	1,018	1,112	1,160	1,125	1,040
Perth ...	801	803	798	739	716	684	678	667	696	810	880	928	914
Hobart ...	667	673	674	681	686	708	727	749	776	805	829	837	914
Weighted Average*	751	756	766	782	793	816	839	867	919	1,000	1,063	1,118	1,135

\* For all capital towns.

NOTE.—The above figures are directly comparable in every respect.

It may be seen that, except in Adelaide, where rents remained constant from 1901 to 1904, and in Perth, where they decreased from 1903 to 1909, there has been a uniform increase in each metropolitan town during the whole of the period under review. The increase has been greater in Adelaide (where the average rent in 1901 was only 629, compared with 1112 in 1911, and 1125 in 1913), and in Brisbane than in the other towns. It should be observed, however, that at the commencement of the period, rents were exceptionally low in Adelaide, and were comparatively low in Brisbane (see Appendix IV. to Report No. 1). The graph for Perth presents features entirely different from those for the other towns; the fall in rents commencing in 1903 and lasting until 1907 is followed, after another temporary decline in 1909, by a rapid rise. In 1914 rents fell slightly in Adelaide and Perth, but rose in the other towns.

(iii.) *Cost of Living.*—The weighted averages for all four groups are of importance, as indicating the general results of this investigation so far as cost of living is concerned. The following table shews the index-numbers for groceries, food, and house rent for each metropolitan town, the weighted average cost for the six capital towns in 1911 being taken as base (= 1000):—

**COST OF LIVING IN METROPOLITAN TOWNS, INDEX-NUMBERS SHEWING WEIGHTED  
AVERAGE RESULTS FOR ALL GROUPS (GROCERIES, DAIRY PRODUCE, MEAT,  
AND HOUSE RENT), 1901 to 1914.**

TOWN.	1901.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Sydney ...	893	958	872	937	934	926	986	989	995	1,031	1,148	1,178	1,206
Melbourne	870	881	854	878	878	875	926	905	942	950	1,055	1,051	1,105
Brisbane	769	790	734	770	780	794	856	851	877	915	979	969	997
Adelaide	864	837	812	873	891	894	953	990	1,006	1,058	1,157	1,121	1,143
Perth ...	1,027	1,085	1,041	1,045	1,023	985	1,001	988	1,023	1,126	1,154	1,128	1,143
Hobart ...	869	897	855	886	899	886	920	952	951	954	1,042	1,050	1,050
Weighted Average*	880	910	858	901	902	897	951	948	970	1,000	1,101	1,104	1,140

\* For all capital towns.

NOTE.—The above figures are directly comparable in every respect.

Generally speaking, prices were low in 1904, high in 1902 and 1908, and rose steadily each year since 1909. The general trend of the graph for Perth is different to that for the other towns, owing mainly to the decline in house rents in that place, which occurred from 1903 to 1907, and again in 1909.

The general result for all the six towns shews that cost of living was only 0.3 per cent. higher in 1913 than in 1912. The cost-of-living index-number for 1914 was 3.3 per cent. higher than for 1913. It was higher in 1914 in every capital city than in 1913.

5. **Relative Cost of Living in Different Towns, 1914.**—The index-numbers given in the preceding paragraphs shew changes in the cost of living separately for each individual town during the years 1901 to 1914. The figures given in the table below shew the relative cost of living in 1914 in the thirty towns for which particulars are now being collected. The weighted aggregate expenditure for all towns for the year 1914 has been taken as base and made equal to 1000, hence the columns are comparable both horizontally and vertically.

**COST OF LIVING, 1914.—INDEX-NUMBERS SHEWING RELATIVE COST IN EACH OF THIRTY TOWNS (INCLUDING 4, 5, AND 6-ROOMED HOUSES AND ALL HOUSES), COMPARED WITH WEIGHTED AVERAGE COST FOR ALL TOWNS.**

Town.	Groceries and Food.	HOUSE RENT.				GROCERIES, FOOD, AND RENT, INCLUDING HOUSES HAVING—			
		4-r'm'd Houses only.	5-r'm'd Houses only.	6-r'm'd Houses only.	All Houses. Weightd Average.	4 Rooms.	5 Rooms.	6 Rooms.	All Houses Weightd Average.
<b>N. S. WALES—</b>									
Sydney ...	611	365	440	521	472	976	1,051	1,132	1,083
Newcastle ...	604	223	300	368	289	827	904	972	893
Broken Hill ...	732	207	263	325	227	939	995	1,057	969
Goulburn ...	621	207	336	458	394	828	957	1,079	1,015
Bathurst ...	579	211	289	373	308	790	868	952	887
<b>VICTORIA—</b>									
Melbourne ...	577	296	376	467	416	873	953	1,044	993
Ballarat ...	575	132	193	263	237	707	768	838	812
Bendigo ...	581	172	220	290	247	753	801	871	828
Geelong ...	581	193	281	386	328	774	862	967	909
Warrnambool ...	568	207	280	331	294	775	848	899	862
<b>QUEENSLAND—</b>									
Brisbane ...	570	208	273	360	326	778	843	930	896
Toowoomba ...	576	132	229	259	278	758	805	835	854
Rockhampton ...	606	187	231	296	281	793	837	902	887
Charters Towers ...	670	168	230	272	217	838	900	942	887
Warwick ...	576	132	213	260	243	708	789	836	819
<b>S. AUSTRALIA—</b>									
Adelaide ...	643	307	377	463	384	950	1,020	1,104	1,027
Moonta, etc. ...	640	159	226	271	222	793	866	911	862
Port Pirie ...	660	249	297	355	288	909	957	1,015	948
Mt. Gambier ...	562	184	251	316	267	746	813	878	829
Petersburg ...	671	277	348	405	340	948	1,019	1,076	1,011
<b>W. AUSTRALIA—</b>									
Perth ...	689	283	350	426	337	972	1,039	1,115	1,026
Kalgoorlie, etc. ...	875	293	331	436	284	1,168	1,206	1,311	1,156
Mid. Junc., etc. ...	700	229	318	398	292	929	1,018	1,098	992
Bunbury ...	737	255	315	403	261	992	1,052	1,140	998
Geraldton ...	769	401	513	591	412	1,170	1,282	1,360	1,181
<b>TASMANIA—</b>									
Hobart ...	641	264	313	377	338	905	954	1,018	979
Launceston ...	598	212	302	362	313	810	900	960	911
Zeehan ...	683	139	176	219	123	812	859	902	806
Beaconsfield ...	637	83	97	116	93	720	734	753	730
Queenstown ...	690	230	281	318	227	920	971	1,008	917
<b>Weighted Average</b>	<b>611</b>	<b>290</b>	<b>363</b>	<b>444</b>	<b>389</b>	<b>901</b>	<b>974</b>	<b>1,055</b>	<b>1,000</b>

6. **Variation in Purchasing Power of Money, 1901 to 1914.**—The tables in paragraph 4 give the relative cost of living in the six capital towns from 1901 to 1914 in the form of index-numbers. In the following tables similar information is given as regards variations in cost of living (groceries, food, and house-rent), the base being taken as 20s. for the weighted average in the six capital towns in 1911. The figures therefore shew the sums which would have to be paid in each town and in each year in order to purchase such relative quantities (indicated by the mass-units) of the several commodities, and to pay such sums for house-rent as would in the aggregate cost £1, according to the weighted average prices and rents in the six capital towns in 1911.

**PURCHASING POWER OF MONEY.—AMOUNT NECESSARY ON THE AVERAGE IN EACH YEAR FROM 1901 TO 1914 TO PURCHASE IN EACH CAPITAL TOWN WHAT WOULD HAVE COST ON THE AVERAGE £1 IN 1911 IN THE AUSTRALIAN CAPITALS REGARDED AS A WHOLE.**

Year.	Sydney.	Melb'rne	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average of 6 Capital Towns
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1901 ...	17 10	17 5	15 5	17 3	20 6	17 5	17 7
1902 ...	19 7	18 1	16 0	17 3	21 7	17 10	18 7
1903 ...	19 2	17 7	15 9	16 9	21 8	17 11	18 2
1904 ...	17 5	17 1	14 8	16 3	20 10	17 1	17 2
1905 ...	18 9	17 7	15 5	17 6	20 11	17 9	18 0
1906 ...	18 8	17 7	15 7	17 10	20 5	18 0	18 0
1907 ...	18 6	17 6	15 11	17 11	19 9	17 9	17 11
1908 ...	19 9	18 6	17 1	19 1	20 0	18 5	19 0
1909 ...	19 9	18 1	17 0	19 10	19 9	19 0	19 0
1910 ...	19 11	18 10	17 6	20 2	20 6	19 0	19 5
1911 ...	20 7	19 0	18 4	21 2	22 6	19 1	20 0*
1912 ...	22 11	21 1	19 7	23 2	23 1	20 10	22 0
1913 ...	23 7	21 0	19 5	22 5	22 6	21 1	22 1
1914 ...	24 1	22 1	19 11	22 10	22 10	21 10	22 10
1914 (1st Quarter	24 0	21 4	19 7	22 4	22 3	21 1	22 4
1914 2nd "	24 3	22 7	19 9	23 6	22 10	22 0	23 1
1914 3rd "	24 2	22 5	20 1	23 2	23 3	21 10	23 0
1914 4th "	24 1	22 1	20 4	22 5	23 0	22 3	22 10

\* Basis of Table.

(i.) *Groceries and Food only.* The following table has been computed in the same manner as that indicated above, but relates to *groceries and food* (46 items) *only*. The average expenditure for the six capital towns in 1911 has again been taken as the basis of the table (= 20 shillings) and the figures are, of course, comparable throughout.

**PURCHASING POWER OF MONEY.—GROCERIES AND FOOD ONLY.—AMOUNT NECESSARY ON THE AVERAGE IN EACH YEAR FROM 1901 TO 1914 TO PURCHASE IN EACH CAPITAL TOWN WHAT WOULD HAVE COST ON THE AVERAGE £1 IN 1911 IN THE AUSTRALIAN CAPITALS REGARDED AS A WHOLE.**

Year.	Sydney.	Melb'ne.	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average of 6 Capital Towns.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1901 ...	18 4	19 4	19 4	20 7	23 8	20 3	19 4
1902 ...	21 4	20 4	20 4	20 6	25 6	21 0	21 1
1903 ...	20 7	19 6	19 9	19 8	25 8	21 1	20 4
1904 ...	17 6	18 4	17 10	18 10	24 3	19 8	18 5
1905 ...	19 5	19 1	18 11	19 10	25 2	20 7	19 8
1906 ...	19 3	18 11	19 2	19 8	24 9	20 11	19 7
1907 ...	18 9	18 6	18 11	19 0	23 11	20 2	19 1
1908 ...	20 7	19 11	20 6	20 2	24 6	21 1	20 7
1909 ...	20 3	19 0	19 8	20 6	24 3	21 10	20 1
1910 ...	20 0	19 2	20 0	20 0	25 0	21 6	20 1
1911 ...	19 9	18 8	20 4	20 5	26 11	21 2	20 0*
1912 ...	22 6	21 8	22 0	23 1	26 11	23 10	22 6
1913 ...	22 8	20 6	20 10	22 5	25 4	23 3	21 11
1914 ...	23 1	21 10	21 7	24 4	26 0	24 3	22 11
1914 (1st Quarter	23 0	20 7	20 11	22 11	24 11	23 3	22 1
1914 2nd "	23 3	22 4	21 2	25 0	25 11	24 7	23 2
1914 3rd "	23 1	22 0	21 8	24 7	26 9	24 3	23 0
1914 4th "	23 1	22 4	22 6	24 8	26 7	24 10	23 3

\* Basis of Table.

(ii.) *House Rent only.* The following table gives similar particulars for *house rent only*, the average for the six towns in 1911 being again taken as the basis of the table (= 20 shillings).

**PURCHASING-POWER OF MONEY.—HOUSE RENT.—AMOUNT PAYABLE ON THE AVERAGE IN EACH YEAR FROM 1901 TO 1914 FOR HOUSE RENT IN EACH CAPITAL TOWN, COMPARED WITH A RENT OF £1 IN 1911 IN THE AUSTRALIAN CAPITALS REGARDED AS A WHOLE.**

Year.		Sydney.	Melb'ne.	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average of 6 Capital Towns.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1901	...	17 3	14 8	9 9	12 7	16 0	13 4	15 1
1902	...	17 3	14 11	9 10	12 7	15 11	13 5	15 2
1903	...	17 4	14 11	10 1	12 7	16 0	13 6	15 3
1904	...	17 5	15 3	10 2	12 7	16 0	13 6	15 4
1905	...	17 10	15 5	10 5	14 0	14 9	13 7	15 8
1906	...	17 11	15 8	10 6	15 3	14 4	13 9	15 11
1907	...	18 4	16 1	11 6	16 3	13 8	14 2	16 4
1908	...	18 7	16 7	12 4	17 5	13 7	14 7	16 10
1909	...	19 2	16 10	13 3	18 10	13 4	15 0	17 5
1910	...	19 10	18 4	14 0	20 4	13 11	15 6	18 5
1911	...	21 10	19 5	15 4	22 3	16 3	16 1	20 0*
1912	...	23 8	20 4	16 1	23 2	17 7	16 7	21 3
1913	...	24 11	21 10	17 3	22 6	18 7	17 10	22 4
1914	...	25 7	22 6	17 8	20 10	18 3	18 3	22 8
1914	1st Quarter	25 6	22 5	17 8	21 6	18 5	18 1	22 8
	2nd "	25 9	22 10	17 10	21 5	18 5	18 3	23 0
	3rd "	25 8	22 11	17 10	21 1	18 4	18 5	22 11
	4th "	25 5	21 10	17 4	19 3	17 11	18 6	22 2

\* Basis of Table.

**7. Monthly Fluctuations in Retail Prices of Food and Groceries, July, 1914, to February, 1915.**—The following table has been prepared in order to shew the variations in retail prices of food and groceries since July, 1914, the last month prior to the outbreak of war. Particulars for each town are given in the form of index-numbers for food and groceries in each of the months specified. In addition, the index-numbers for the whole of the year 1912 are given in the first column, and in the last column the percentage increase or decrease is shewn for each town in February, 1915, compared with July, 1914.

The aggregate result for the thirty towns covered by the investigations shews that prices were 6.2 per cent. higher in February, 1915, than in July, 1914. This result does not, however, shew the full import of the rise in prices, since these months, July to February, practically cover the period of change from winter to summer, a period during which prices may ordinarily be expected to fall. Thus from July, 1912, to February, 1913, prices of food and groceries decreased 5.3 per cent., and from July, 1913, to February, 1914, they fell 0.2 per cent. Prices of the 46 commodities included were 15.6 per cent. higher in February last than in February, 1912, 11.3 per cent. higher than in February, 1913, and 11.8 per cent. higher than in February, 1914.

**RETAIL PRICES INDEX-NUMBERS (FOOD AND GROCERIES), FOR EACH OF THIRTY TOWNS, FOR THE MONTHS SPECIFIED, WITH WEIGHTED AVERAGE FOR ALL TOWNS IN 1912 AS BASE (=1000).**

Particulars.	1912.	1914.						1915.		Increase or Decrease from July, 1914, to Feb., 1915.
	Base for Whole Year. (= 1000)	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
<b>NEW SOUTH WALES—</b>										
Sydney ... ..	986	1,011	1,020	1,007	999	1,000	1,041	1,098	1,060	4.8
Newcastle ... ..	994	1,006	1,013	1,002	1,000	996	1,041	1,081	1,071	6.6
Broken Hill ... ..	1,186	1,287	1,215	1,164	1,170	1,187	1,260	1,283	1,313	2.0
Goulburn ... ..	990	1,037	1,036	1,024	1,021	1,025	1,068	1,080	1,060	2.2
Bathurst ... ..	950	962	974	946	933	934	1,007	1,026	1,038	7.9
* Weighted Average ...	995	1,022	1,027	1,012	1,006	1,007	1,050	1,103	1,071	4.8
<b>VICTORIA—</b>										
Melbourne ... ..	949	970	974	954	958	965	1,010	1,019	1,034	6.6
Ballarat ... ..	973	967	974	986	966	976	986	1,029	1,049	8.5
Bendigo ... ..	976	971	976	971	965	984	1,013	1,019	1,049	8.0
Geelong ... ..	952	955	958	977	965	981	1,015	1,003	1,038	8.7
Warrnambool ... ..	927	953	955	957	963	953	979	977	1,007	5.7
* Weighted Average ...	952	969	973	958	960	968	1,009	1,019	1,036	6.9
<b>QUEENSLAND—</b>										
Brisbane ... ..	966	926	953	976	977	962	1,019	1,057	1,035	11.8
Toowoomba ... ..	964	912	916	984	985	993	1,050	1,071	1,074	17.8
Rockhampton ... ..	1,002	1,013	1,030	1,011	1,022	1,026	1,071	1,111	1,095	8.1
Charters Towers ... ..	1,134	1,092	1,102	1,101	1,141	1,155	1,235	1,250	1,206	10.4
Warwick ... ..	1,004	949	942	941	947	975	1,009	1,053	1,076	13.4
* Weighted Average ...	985	948	970	990	995	988	1,044	1,080	1,061	11.9
<b>SOUTH AUSTRALIA—</b>										
Adelaide ... ..	1,012	1,097	1,069	1,068	1,076	1,072	1,098	1,134	1,138	3.7
Kadina, Moonta, Wallaroo ...	1,012	1,079	1,089	1,070	1,027	1,060	1,095	1,138	1,155	7.0
Port Pirie ... ..	1,048	1,132	1,132	1,113	1,103	1,120	1,168	1,200	1,219	7.7
Mt. Gambier ... ..	904	933	947	928	928	943	981	1,001	1,030	10.4
Petersburg ... ..	1,018	1,175	1,160	1,135	1,119	1,140	1,148	1,165	1,169	0.5 §
* Weighted Average ...	1,011	1,093	1,070	1,067	1,071	1,070	1,098	1,134	1,140	4.3
<b>WESTERN AUSTRALIA—</b>										
Perth ... ..	1,179	1,175	1,183	1,158	1,150	1,170	1,179	1,206	1,239	5.4
Kalgoorlie and Boulder ...	1,471	1,460	1,493	1,502	1,500	1,518	1,526	1,517	1,532	4.9
Mid. Junction & Guildford ...	1,209	1,188	1,197	1,182	1,174	1,194	1,217	1,251	1,306	9.9
Bunbury ... ..	1,231	1,244	1,266	1,255	1,265	1,258	1,265	1,260	1,307	5.1
Geraldton ... ..	1,237	1,268	1,303	1,329	1,318	1,315	1,323	1,374	1,385	9.2
* Weighted Average ...	1,243	1,236	1,253	1,237	1,231	1,249	1,258	1,278	1,308	5.7
<b>TASMANIA—</b>										
Hobart ... ..	1,044	1,063	1,065	1,060	1,071	1,078	1,122	1,114	1,136	6.9
Launceston ... ..	986	1,003	1,000	1,004	1,001	1,026	1,053	1,045	1,086	8.3
Zeehan ... ..	1,142	1,133	1,140	1,132	1,137	1,165	1,228	1,205	1,197	5.6
Beaconsfield ... ..	1,053	1,079	1,091	1,073	1,062	1,090	1,124	1,132	1,136	5.3
Queenstown ... ..	1,130	1,153	1,154	1,142	1,140	1,145	1,165	1,202	1,217	5.6
* Weighted Average ...	1,036	1,054	1,055	1,051	1,056	1,071	1,108	1,103	1,128	7.0
† Weighted Aver. for C'wealth	1,000	1,021	1,025	1,015	1,014	1,018	1,057	1,088	1,084	6.2

\* Average for the five towns. † Average for thirty towns. § Basis of Table. § Decrease.

## § 8. Investigation into Cost of Living in 100 Towns in Commonwealth.

1. **Introduction.**—In order to supplement the information as to cost of living, which is collected each month for the thirty towns specified in the preceding section, a special investigation was initiated in November, 1913, as to cost of living in seventy additional towns in the Commonwealth. This investigation was repeated in November, 1914, and it is intended to carry it out in that month each year, thus making information available annually in all for 100 towns.

2. **Map shewing relative Cost of Living.**—On the map on page 1043 each town is shewn by means of a number, the reference list at the side of the map indicating the town corresponding to each number and its relative cost-of-living index-numbers for the years 1913 and 1914. The figures in black type relate to the cost of food, groceries and rent of 5-roomed houses, while those in light type refer to food and groceries only. A glance at the map shews that the distribution of the 100 towns selected is in close approximation to the density of population (indicated by hatching). The weighted average cost for all the 100 towns is taken as the base.

## § 9. Wholesale Prices.

1. **General.**—The results of an investigation into wholesale prices in Melbourne were given in some detail in Report No. 1, from 1871 to the end of September, 1912. In Report No. 2 summarised results were included for the whole of the latter year, and in Report No. 5 those for the year 1913.

The index-numbers up to the year 1911 are based on the prices of eighty commodities, but since that year the number has been increased to ninety-two.\* The methods followed for the computation of the wholesale price index-numbers are the same as those adopted in regard to retail prices. The commodities included, the units of measurement for which the prices are taken, and the mass-units, indicating the relative extent to which each commodity, in the units of measurement specified, is used or consumed, are shewn in a tabular statement in Report No. 2 (page 61).

2. **Index-Numbers and Graphs.**—Index-numbers have been computed for each group of commodities, as well as for all groups together. The index-numbers for the several groups, and for all groups together, are shewn in the following table.

(i.) *Table of Index-numbers.*—The index-numbers have in each case been computed with the prices in the year 1911 as base; that is to say, *they shew the amount which would have had to be expended in each of the years specified in order to purchase what would have cost £1000 in 1911, distributed in purchasing the relative quantities (indicated by the mass-units), of the several commodities included in each group, and in all groups respectively.* Thus, in the last column it may be seen that the cost of the relative quantities of the various commodities was 1229 in 1871, and 974 in 1901, as compared with 1000 in 1911, 1170 in 1912, 1088 in 1913, and 1149 in 1914. In other words, prices were lower in 1911 than in either 1871 or 1914, and the purchasing power of money in 1911 was, accordingly, greater. Again, prices were lower in 1901 than in 1911, and the purchasing power of money in the former year was therefore greater.

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\* In the computation of the index-numbers for years prior to 1911, the aggregate expenditure on 80 commodities in 1911 is taken as base (=1000), while for later years the aggregate expenditure on 92 commodities is taken.

**MELBOURNE WHOLESALE PRICES INDEX-NUMBERS, 1861 to 1914, COMPUTED TO YEAR 1911 AS BASE.**

YEAR.	I. Metals and Coal.	II. Hute. Leather. &c.	III. Agri- cultural Produce. &c.	IV. Dairy Produce.	V. Gro- ceries.	VI. Meat.	VII. Building Ma- terials.	VIII. Chem- icals.	All com- modities together.
1861 ...	1,438	1,381	1,583	1,008	1,963	...	1,070	2,030	1,538
1871 ...	1,096	1,257	1,236	864	1,586	...	1,044	1,409	1,229
1881 ...	1,178	1,115	1,012	935	1,421	...	1,091	1,587	1,121
1891 ...	895	847	1,024	995	1,032	888	780	1,194	45
1901 ...	1,061	774	928	1,029	1,048	1,345	841	917	974
1902 ...	1,007	756	1,193	1,215	945	1,447	837	881	1,051
1903 ...	923	834	1,209	1,069	936	1,443	875	921	1,049
1904 ...	821	885	754	876	916	1,427	845	875	890
1905 ...	772	850	894	980	942	1,209	801	859	810
1906 ...	882	978	916	972	923	1,110	896	864	848
1907 ...	1,037	1,017	973	1,020	948	1,294	963	961	1,021
1908 ...	1,033	901	1,312	1,198	968	1,335	935	891	1,115
1909 ...	1,014	907	1,000	1,119	978	1,088	911	815	993
1910 ...	1,004	1,052	969	1,100	999	1,008	996	898	1,003
1911 ...	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1912 ...	1,021	991	1,370	1,206	1,052	1,357	1,057	978	1,170
1913 ...	1,046	1,070	1,097	1,054	1,024	1,252	1,128	995	1,088
1914 ...	1,099	1,032	1,207	1,137	1,021	1,507	1,081	953	1,149

NOTE.—The figures given in this table are comparable in the vertical columns, but are not directly comparable horizontally. The index-numbers are reversible.

(ii.) *Graphs.*—The index-numbers are shown for each group and for all groups combined in the graphs on page 1044. The heavy line, repeated on each graph, represents the index-numbers for the weighted average for all groups, and is shown so that comparison may be made between the price levels for all commodities and those for the commodities comprised in each group separately. The index-numbers for the individual groups are represented by the light lines. The broken lines at the commencement of each graph show the index-numbers for the separate years 1861 and 1866, the continuous records commencing with the year 1871. The actual index-numbers for the whole period were given in Report No. 1.

3. *Seasonal Fluctuations and Tables of Prices.*—Information as to seasonal fluctuations in wholesale prices was given in Report No. 2 (page 64) and tables of prices of each commodity were given in Appendixes to Reports Nos. 1, 2 and 5.

4. *Fluctuations in Wholesale Prices, July 1914 to March 1915.*—Since the outbreak of war, prices of many commodities have increased considerably. This is shown in the following table in which the index-numbers are given for each group for the month of March, 1915, taking July, 1914, the last month before the outbreak of war, as base (= 1000) for each group:—

**MELBOURNE WHOLESALE PRICES.—VARIATIONS BETWEEN JULY 1914, and MARCH, 1915.**

Particulars.	I. Metals and Coal.	II. Hute. Leather, etc.	III. Agri- cultural Produce, etc.	IV. Dairy Produce.	V. Groceries	VI. Meat.	VII. Building Ma- terials.	VIII. Chem- icals.	All Groups.
July, 1914 ...	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
January, 1915	1,101	855	1,982	1,039	1,052	1,052	1,051	1,489	1,280

In Group II., although nearly all the commodities fell slightly in price between July, 1914, and March, 1915, the decline in the index-number was due mainly to the fall in price of cotton from 7½d. per lb. in July, 1914, to 5½d. in March, 1915. If this commodity had been omitted the index-number for Group II. for March, 1915, would have been 947. All the other groups show increases, ranging from 4 per cent. in Group IV. (Dairy Produce) to nearly 100 per cent. in Group III. (Agricultural Produce, etc.).

## SECTION XXXIV.

## MISCELLANEOUS.

## § 1. Immigration.

## (A) The Encouragement of Immigration into Australia.

1. **Introduction.**—Various measures have from time to time been adopted by the Commonwealth and State Governments, as well as by private societies and individuals, with a view to promoting the immigration of suitable classes of settlers into Australia. Some of the States of the Commonwealth are at present pursuing immigration policies of a vigorous nature; in others, relatively little is being done. The activities of the Commonwealth Government (which is vested with constitutional powers in regard to immigration under Sec. 51, xxvii., of the Constitution Act 1900) with respect to the encouragement of immigration, have hitherto practically been confined to advertising in handbooks, newspapers, and periodicals, the resources and attractions of Australia.

2. **State Immigration.**—The advertising in the United Kingdom of the resources of the individual States has been carried out by their Agents-General in London. Various means have been adopted, including newspaper advertising; the publication of illustrated pamphlets bearing on the resources and principal primary industries of the State; lectures by officers who have a knowledge of the conditions prevailing in the State; official displays at the principal agricultural, manufacturing, and similar exhibitions; cinematographic pictures typical of industrial life and scenic views; and pictures and lantern slides.

(i.) *Nominated and Assisted Passages.* Arrangements have been made by most of the State Governments with several of the principal shipping companies for substantial reductions in the amounts of passage money to be paid by immigrants. These reductions are generally granted to all persons desiring to settle on the land or engaging in any form of rural industry, to domestic servants, and to any others who satisfy one of the several Agents-General in London that they will make suitable settlers. Provision has also been made whereby settlers may nominate their relatives or friends for passage to Australia at greatly reduced rates.

(ii.) *Reception on Arrival.* Immigrants whose coming is advised are met on board the vessel on arrival by Government officers, who make themselves acquainted with the needs of the passengers and assist and advise them in various ways. To those desirous of settling on the land, information and assistance is rendered by officers of the Lands Department, and special concessions are granted in respect of fares on the Government railways. In other cases endeavours are made to obtain employment for each applicant according to his special needs and qualifications.

(iii.) *Numbers of Immigrants.* Particulars of the net immigration to the Commonwealth are given on pages 100 and 107, and of assisted immigration on page 112, hereinbefore.



(iv.) *Recent Immigration.* During 1910 and the three subsequent years, a great advance has been made in Australian immigration generally, the State Governments having adopted more active and direct means than had hitherto existed for making the advantages and opportunities of their respective States better known to the people of the United Kingdom, Europe, and America. In Victoria, to which State a small number of emigrants from America had been attracted (chiefly by the irrigable areas), it was decided to further enlighten American and Canadian home-seekers with regard to irrigated lands, and a delegation was accordingly sent to Vancouver by the Victorian Government to arrange for a special excursion of land-seekers, who arrived in Australia early in May, 1912. Many of them have since taken up land in the irrigable areas and other portions of the State. It appears likely that the success of the Victorian experiment will result in definite steps being initiated by the other States of the Commonwealth to attract population from similar sources.

(v.) *Uniform Rates for State-aided Immigrants.* The matter of State-aided immigration to Australia was discussed at the Premiers' Conference, held in Melbourne early in 1912, and this resulted, amongst other things, in the fixing of a scale of minimum rates of passage money which immigrants to any of the States would be charged in future, such rates to operate as from 31st March, 1912. It was expressly agreed, however, that, while no State should charge a lower amount than those mentioned, no objection would be made to higher rates being imposed. The minimum scale of passage rates arranged at the Conference is as follows:—(a) Farmers, farm hands, skilled artisans, and all nominated, assisted, or indentured male immigrants, £6. (b) Adult females, £3. (c) Children of immigrants under 12 years of age, £1 10s. Age limits for all State-aided immigrants were also fixed as follows:—(a) Males, married women and widows, 45 years. (b) Single women, 35 years. The only free immigrants to be those whom the shipping companies carry free. It was also arranged that the maximum bonus payable to immigration agents be as follows:—(a) Per adult, £1; per child under 12 years, 10s. (b) In the case of an assisted immigrant recruited by an agent nominating his wife and family within twelve months of his arrival in the State, a similar bonus on account of the wife and family be paid to the agent. (c) In the cases of immigrants with capital of £200 and over, which capital is deposited with the Agent-General for transmission to the State, an additional bonus of 1 per cent. to the agent on the capital so deposited.

**3. Commonwealth Scheme of Immigration.**—For the financial year 1913-14 a sum of £50,000 was voted to the Commonwealth Department of External Affairs for advertising the attractions of Australia for settlers, farm workers, and tourists. The State Immigration Bureaux co-operate with the Department of External Affairs in keeping the High Commissioner for Australia in London advised as to the openings for agricultural workers, and as to general information concerning matters of interest to intending settlers. A press advertising campaign has been initiated, the Commonwealth carrying on the general advertising of Australia by means of paragraphs and illustrated articles in British, European, and American publications, while the several States advertise for the class of immigrants they specially require. Bioscope films are utilised for the illustration of lectures. Exhibitions are held throughout the chief rural districts and at the important agricultural shows in Great Britain, and handbooks for settlers and tourists, as well as folders and other publications, have been issued. Pictorial posters are also utilised.

**4. The High Commissioner for Australia and the Agents-General.**—Intending settlers or immigrants may, on application, obtain information from the High Commissioner for Australia—

THE RIGHT HON. SIR G. H. REID, P.C., G.C.M.G., ETC.  
COMMONWEALTH OFFICES,  
72 VICTORIA STREET,  
LONDON, S.W.

Information regarding individual States may be obtained from the officials specified below :—

### AUSTRALIAN AGENTS-GENERAL.

<i>New South Wales</i>	Sir T. A. COGHLAN* ...	123-125 Cannon St., London, E.C.
<i>Victoria</i> ...	Sir PETER MCBRIDE ...	Melbourne Place, Strand, London
<i>Queensland</i> ...	Major Sir T. B. ROBINSON	Marble Hall, 409-10, Strand, London
<i>South Australia</i>	HON. A. A. KIRKPATRICK ...	85 Gracechurch St., London, E.C.
<i>Western Australia</i>	Sir NEWTON J. MOORE, K.C.M.G. ...	15 Victoria St., Westminster, London
<i>Tasmania</i> ...	Hon. SIR J. MCCALL, M.D.	56 Victoria St., Westminster, London

\* Retiring in 1915, successor Hon. B. R. Wise, K.C.

### (B) The Regulation of Immigration into Australia.

1. **Pre-Federal Restrictions.**—(i.) *Alien Races.* The several States of Australia had regarded it as desirable, long prior to Federation, to impose certain restrictions upon the admission of persons wishing to become inhabitants of those States. The influx of Chinese, for example, was limited by stringent statutes, and later, general Acts were passed in some of the States which had the effect of restricting the immigration of other—principally Asiatic—races.

(ii.) *Undesirable Immigrants.* Further restrictions were placed upon the admission of persons who were undesirable as inhabitants, either for medical or moral reasons, or who were likely to be an economic burden upon the community.

2. **Powers and Legislation of the Commonwealth.**—(i.) *Constitutional Powers.* By Chap. I., Pt. V., Sec. 51, xxvii. and xxviii. of the Commonwealth Constitution Act the Parliament of the Commonwealth is empowered to make laws with respect to immigration and emigration and the influx of criminals. (See page 26 herein.)

(ii.) *Legislation.* The powers above specified have now been exercised by the Commonwealth Government, and the laws passed in pursuance thereof supersede the State laws above referred to.

The first Act passed, dealing with this matter, was the Immigration Restriction Act 1901, which contained provisions restricting the immigration of the classes of persons previously mentioned, and also persons under contract to perform manual labour. The provisions regarding contract labour were repealed and amended by the Contract Immigrants Act 1905, and the principal Act was also amended by the Immigration Restriction Amendment Act 1905, and subsequently by the Immigration Restriction Acts of 1908 and 1910, and the Immigration Act of 1912. The immigration of alien races and undesirable persons is now regulated by Immigration Acts 1901-12. Admission of immigrants under contract to perform manual labour is, however, still controlled by the provisions of the Contract Immigrants Act 1905, and will be permitted if the contract is in writing, is made by or on behalf of some person named, who must be resident in Australia, and approved by the Minister. Such approval, which must be obtained before the immigrant lands in Australia, will not be given if the contract is made with the view of affecting an industrial dispute, or if the remuneration and other terms are not as advantageous to the contract immigrant as those current for workers of the same class at the place where the contract is to be carried out.

There is an additional provision where the proposed immigrant is not a British subject born in the United Kingdom or descendant of such a person. In such case it has to be proved that there is a difficulty in the employers obtaining in the Commonwealth a worker of at least equal skill and ability.

In case of infraction of the law it is provided that the contract is absolutely void and the immigrant and employer are both liable to penalties, and the employer is also liable to pay the immigrant until he obtains employment, or, at the option of the immigrant, to provide expenses for his return to the country whence he came.

**3. Prohibited Immigrants.**—(i.) *Provisions of the Acts.* Persons comprised in the following classes are prohibited from entering the Commonwealth, viz. :—(a) Any person who fails to pass the dictation test; that is to say, who fails to write out not less than fifty words of a language prescribed by regulation when dictated to him by an officer administering the Act. (b) Any person not possessed of the prescribed certificate of health. (c) Any idiot, imbecile, feeble-minded person, or epileptic. (d) Any person suffering from a serious transmissible disease or defect. (e) Any person suffering from pulmonary tuberculosis, trachoma, or with any loathsome or dangerous communicable disease, either general or local. (f) Any person suffering from any other disease or mental or physical defect, which from its nature is, in the opinion of an officer, liable to render the person concerned a charge upon the public or upon any public or charitable institution. (g) Any person suffering from any other disease, disability, or disqualification which is prescribed. (ga) Any person who has been convicted of a crime and sentenced to imprisonment for one year or more, unless five years have elapsed since the termination of the imprisonment. (gb) Any person who has been convicted of any crime involving moral turpitude, but whose sentence has been suspended or shortened conditionally on his emigration, unless five years have elapsed since the expiration of the term for which he was sentenced. (gc) Any prostitute, procurer, or person living on the prostitution of others.

Regarding (a) it may be stated that the Act of 1901 provided for the dictation of not less than fifty words of a European language. The Act of 1905 provided for the retention of this test until regulations be passed prescribing the languages to be employed. No such regulations have yet been made, and the provision of the Act of 1901 is therefore *de facto* still in force. It may be stated that in general practice the dictation test is not imposed upon persons of European race.

Regarding (b), the Amending Act of 1912 provides for the establishment of Commonwealth Medical Bureaux at places outside the Commonwealth, and the appointment of medical referees to examine intending immigrants and issue certificates of health in the prescribed form, on payment of a prescribed fee. A chief medical officer has already been appointed to take charge of the Bureaux attached to the High Commissioner's Office in London. He will arrange for the selection of suitable medical referees for appointment to act at various centres throughout the United Kingdom.

Provision is also made for the medical examination of, and the issue of certificates of health to, intending immigrants who embark at a port where there is no medical referee, or who arrive in the Commonwealth without a certificate in the prescribed form.

Pending the proper organisation in the United Kingdom of the Medical Bureaux and the appointment of medical referees, the requirement that immigrants must produce a certificate of health on arrival in Australia will not be enforced.

(ii.) *Exemptions.* To these restrictions there are the following exemptions, viz. :—(a) Any person holding an exemption certificate. (b) Members of the King's regular land and sea forces. (c) The master and crew of any public vessel of any Government. (d) The master and crew of any other vessel landing during the stay of the vessel in a Commonwealth port. The exemption of members of a crew during the vessel's stay in port is subject to the production of identification cards to an officer on demand. This provision will not be enforced in respect of white members of a crew, but there is a further provision which empowers an officer to refuse any member of a crew permission to land unless he is satisfied that such person is free from a communicable disease. Before the ship can obtain her outward clearance the crew must, at the demand of an officer administering the Act, be mustered, and if any member of the crew be missing,

and would otherwise, in the opinion of the officer, have been a prohibited immigrant, then such person is deemed to be a prohibited immigrant, and until the contrary be proved, to have entered the Commonwealth contrary to the Act. (e) Any Commissioner or, other person accredited from, the Imperial or any other Government.

(iii.) *General Provisions.* An immigrant may be required to pass the dictation test at any time within two years after he has entered the Commonwealth. This applies particularly to coloured persons, but any immigrant found within three years of entering the Commonwealth to be suffering from a prohibitory disease or defect may be deemed to be a prohibited immigrant unless it is proved to the Minister's satisfaction that he was free from the disease or disability at the time of his arrival in Australia.

A prohibited immigrant within the meaning of (a) above may, at the discretion of an officer, be allowed to enter the Commonwealth, or to remain within it, upon depositing £100 and within thirty days either obtaining an exemption certificate or departing from the Commonwealth; in either case the deposit is returned.

The punishment for breach of the Act by a prohibited immigrant is imprisonment for six months and deportation in addition to or in substitution for such imprisonment, if so ordered.

**4. Liability of Shipmasters and Others.**—The master, owners, agents, and charterers of a vessel from which a prohibited immigrant enters the Commonwealth are jointly and severally liable to a penalty not exceeding £100 for each entrant. The vessel may be detained as security, but may be released upon the giving of a bond with two sureties for the payment of any penalties; the vessel may be seized and sold in default of payment of penalties. The master, owners, agents, and charterers may be required to provide a return passage for the prohibited immigrant, and to pay for his maintenance during his detention prior to deportation. Masters of vessels are authorised to prevent such a person from landing, and to obtain any necessary assistance.

Under the Immigration Restriction Act 1908, any person on board a vessel at the time of her arrival from any place outside Australia at any port in Australia who is not (a) a *bonâ fide* passenger of the vessel, or (b) a member of the crew of the vessel whose name is on the articles, is deemed to be a stowaway, unless the master gives notice that the person is on board the vessel, and does not permit him to land until an officer has had an opportunity of satisfying himself that the person is not a prohibited immigrant. The master, owners, agents, and charterers of a vessel are jointly and severally liable to a penalty of £100 for each stowaway brought into any port in Australia. The Immigration Act 1912 provides for a penalty of £200 for each stowaway in cases where the master has been convicted of a similar offence within the preceding twelve months. Power is given to search vessels for stowaways. The Immigration Restriction Act 1910 provides penalties for being concerned in bringing immigrants secretly to the Commonwealth.

**5. Agreements with other Countries.**—Arrangements may be made with the Government of any country regulating the admission into Australia of the subjects or citizens of such country, such subjects not being, during the subsistence of the arrangement, required to pass the dictation test.

Persons who have resided either continuously or from time to time in the Commonwealth for a period of five years in the whole, and who are about to depart from it, being persons who, if they return, would be prohibited immigrants, may obtain a certificate of exemption entitling them to return.

Certificates of exemption are granted by the Minister of External Affairs, whose department administers the Act, and also by the Collector of Customs in each State.

**6. Statistics.**—The following tables shew the number of persons who desired but were not permitted to land, those who were allowed to land, and the nationality of the persons admitted.

**PERSONS ADMITTED OR REFUSED ADMISSION TO COMMONWEALTH UNDER  
PROVISIONS OF IMMIGRATION RESTRICTION ACT, 1906 to 1914.**

Year.	Persons Admitted who Passed Education Test.	Persons Admitted without Passing Education Test.	Persons Refused Admission.
1906 ...	Nil	57,646	53
1907 ...	Nil	72,089	62
1908 ...	1	75,670	108
1909 ...	1	83,324	108
1910 ...	Nil	94,543	42
1911 ...	Nil	139,020	83
1912 ..	Nil	163,990	187
1913 ...	Nil	140,251	109
1914 ...	Nil	110,701	54

**NATIONALITY OF PERSONS ADMITTED, 1906 to 1914.**

Nationality.	1906.	1907.	1908.(a)	1909.(a)	1910.	1911.	1912.	1913.	1914.
	Without Test.	Without Test.	Without Test.	Without Test.	Without Test.	Without Test.	Without Test.	Without Test.	Without Test.
<b>EUROPEANS—</b>									
Austrians ...	691	651	736	895	815	1,184	855	794	676
Belgians ...	33	64	45	35	50	84	95	63	63
British ...	47,396	60,172	64,374	71,201	81,457	124,061	146,602	122,443	93,136
Danes ...	259	280	227	272	269	393	371	444	478
Dutch ...	91	94	120	187	175	307	435	289	287
French ...	1,866	1,685	1,546	1,347	1,160	1,166	1,288	1,491	1,187
Germans ...	1,339	1,909	1,911	2,109	2,449	2,517	3,501	3,155	3,395
Greeks ...	240	202	296	327	380	583	736	480	772
Italians ...	839	992	902	1,078	883	1,365	1,632	1,963	1,642
Maltese ...	...	...	...	...	...	41	122	193	464
Poles ...	5	6	22	24	11	34	17	7	12
Portuguese ...	3	6	5	10	3	6	9	25	12
Rumanians ...	...	...	12	11	3	13	24	9	34
Russians ...	293	388	349	466	735	994	1,159	1,334	1,446
Scandinavians ...	776	1,173	825	891	1,210	1,384	1,303	1,285	1,489
Spaniards ...	32	187	57	56	49	128	118	116	169
Swiss ...	68	78	78	131	109	130	209	202	230
Turks ...	8	6	4	14	10	10	6	5	19
Other Europeans (b) ...	18	29	112	16	22	27	(d) 57	5	165
<b>AMERICANS—</b>									
N. Americans ...	887	889	687	692	746	914	1,386	1,713	1,529
S. Americans ...	12	15	10	14	13	17	37	14	31
American Indians ...	...	...	...	...	...	31	9	...	1
Negroes ...	4	9	4	6	14	13	47	7	23
West Indians ...	...	13	23	6	13	11	8	1	3
<b>ASIATICS—</b>									
Afghans ...	3	9	15	3	2	14	17	7	2
Arabs ...	...	8	13	1	1	1	18	14	19
Burmese ...	...	...	...	1	...	...	...	1	1
Chinese ...	1,134	1,424	1,771	1,729	1,817	2,009	2,250	2,286	1,975
Cingalese ...	6	12	10	10	14	4	17	8	9
Eurasians ...	...	...	...	6	14	7	13	2	...
Filipinos ...	120	57	27	37	66	17	13	12	4
Hindoo ...	75	129	74	130	156	188	157	187	305
Japanese ...	356	521	555	509	610	459	698	822	387
Javanese ...	52	1	...	52	4	12	6	3	20
Malays ...	436	370	230	303	304	479	326	303	291
Syrians ...	66	58	45	73	95	104	75	31	19
<b>OTHER RACES—</b>									
Maoris ...	2	8	48	108	62	31	32	41	21
Mauritians ...	...	...	3	3	4	9	2	7	1
Pacific Islanders ...	156	121	89	94	54	69	92	105	101
Papua ...	368	493	430	439	622	139	196	171	189
St. Helena Blacks ...	...	...	1	1	...	...	...	...	...
Unspecified ...	32	30	14	31	141	(e) 65	(e) 102	(e) 214	(e) 104
<b>Total ...</b>	<b>57,646</b>	<b>72,089</b>	<b>75,670</b>	<b>83,324</b>	<b>94,543</b>	<b>139,020</b>	<b>163,990</b>	<b>140,251</b>	<b>110,701</b>

(a) One person was admitted, after passing the test, in each of the years 1908 and 1909. (b) Not specified. (c) Bulgarians. (d) Including 162 Bulgarians. (e) A large percentage of these immigrants was Timorese.

The following table has been prepared, shewing to what extent immigration has taken place into the several States of the Commonwealth from 1906 to 1914 :—

### IMMIGRATION INTO THE SEVERAL STATES OF THE COMMONWEALTH, 1906-1914.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	C'wealth.
1906	35,987	10,555	2,459	1,909	4,798	1,801	137	57,646
1907	46,022	12,314	3,862	2,544	4,839	2,380	128	72,089
1908	48,068	12,840	4,474	2,788	5,142	2,171	187	75,670
1909	51,170	13,602	6,720	3,169	6,343	2,172	148	88,324
1910	53,029	14,942	10,353	3,988	9,881	2,168	182	94,543
1911	69,640	21,488	17,778	7,039	18,386	4,563	126	139,020
1912	86,239	34,568	11,820	10,035	16,624	4,480	224	163,990
1913	73,946	29,121	10,496	8,220	15,985	2,350	133	140,251
1914	67,221	20,727	8,594	4,820	6,954	2,249	143	110,701

## § 2. Patents, Trade Marks, and Designs.

**1. Devolution of Jurisdiction upon the Commonwealth.**—Prior to the establishment of Federation, and for a few years thereafter, each Australian State possessed independent jurisdiction in respect of patents, copyrights, trade marks, and designs, and had, with the exception of Tasmania in regard to copyrights, enacted its own laws. Any person, therefore, who desired to obtain the grant of a patent, or the registration of any copyright, trade mark, or design had necessarily, with the exception aforesaid, to incur the trouble and expense of making separate applications. The Commonwealth Constitution Act conferred upon the Federal Parliament power to legislate respecting these matters. (See page 26 hereinbefore.) The Patents Act of 1909 applied the laws relating to patents for inventions to the Territory of Papua.

The State Acts, though in general based upon the Imperial Statutes dealing with these subjects, were not wholly governed by them. The Commonwealth Acts, both in regard to principle and practice, have the same general foundation as the Imperial Statutes, but in some respects have been modified and brought into line with the totality of Australian experience.

**2. Patents.**—The first Commonwealth Patents Act was passed in 1903, and was amended in 1906, 1909, and 1910. (See page 44 hereinbefore.) Under these Acts, which are administered by a "Commissioner of Patents," the powers and functions vested under the States Acts became vested in the Commonwealth. A single Commonwealth patent now gives throughout the Commonwealth and the Territory of Papua that protection which formerly could only be obtained by procuring a patent in each State and the said Territory. The rights of State patentees or the patentees in the Territory of Papua are in all cases reserved to them. The holder of a State patent in force may obtain, for a period not exceeding the unexpired time thereof, a Commonwealth patent for the invention comprised in the State patent; provided, however, that any State other than the State in which the patent under the States Patent Act was granted may be excepted from the patent if the Commissioner of Patents is satisfied that the invention either (a) is not novel, (b) has been made the subject of a pending application, or (c) has been published, in such State. Comparatively small fees, totalling £8, are now sufficient to obtain for an inventor protection throughout the Commonwealth and the Territory of Papua, and the only renewal fee (£5) is payable before the expiration of the seventh year of the patent, or within such extended time, not exceeding one year, and upon payment of further fees as may be allowed.

(i.) *Applications for Patents.* Any of the following persons may make application for a patent:—(a) The actual inventor. (b) His assignee, agent, attorney, or nominee. (c) The actual inventor or his nominee jointly with the assignee of a part interest in the invention. (d) The legal representative of a deceased actual inventor or of his assignee. (e) Any person resident in the Commonwealth to whom the invention has been communicated by the actual inventor, his legal representative, or assignee (if the actual inventor, his legal representative, or assignee is not resident in the Commonwealth). An application for a patent must be for one invention only, and must be made in the form prescribed, and lodged by being left at or sent by post to the Patent Office at Melbourne. It must be accompanied by either a provisional or a complete specification. The application must contain a declaration in the prescribed form setting out the facts relied on to support the application, and must be signed by the applicant before a witness.

(ii.) *Term for which Granted.* The term for the duration of every patent is limited to fourteen years from the date of application. A patent ceases if the patentee fails to pay the renewal fee within the prescribed time.

(iii.) *Opposition to Grant of Patent.* Within three months of the advertisement of the acceptance of a complete specification, or within such further time, not exceeding one month, as the Commissioner on application made within the three months allows, any person may give notice at the Patent Office of opposition to the grant on any of the following grounds:—(a) That the applicant has obtained the invention from the opponent or from a person of whom he is the legal representative or assignee or nominee. (b) That the invention has not been communicated to the applicant by the actual inventor, his legal representative or assignee (if the actual inventor, his legal representative or assignee is not resident in the Commonwealth). (c) That the invention has been patented in the Commonwealth on an application of prior date or has been patented in a State. (d) That the complete specification describes or claims an invention other than that described in the provisional specification, and that the opponent has applied for a patent for such other invention in the interval between the leaving of the provisional and complete specifications. (e) Want of novelty. (f) Prior publication.

The case is heard and decided by the Commissioner, from whose decision an appeal lies to the High Court or to the Supreme Court of the State in which the Patent Office is situated.

(iv.) *Single Patent for Cognate Inventions, etc.* The provisions of the Act relative to single patents for cognate inventions, patents of addition and revocation of patents, will be found in detail in previous issues of the Year Book. (See No. 6, p. 1163.)

(v.) *Compulsory Working and Licenses.* At any time not less than four years after the date of a patent, and not less than two years after the 13th December, 1911, any person may apply to the High Court or the Supreme Court of the State in which the Patent Office is situated for an order declaring that the patent article or process is not manufactured or carried on to an adequate extent in the Commonwealth. From and after the time when any such order may take effect, the patent is not deemed to be infringed by the manufacture or carrying on in the Commonwealth of the patented article or process, or by the vending within the Commonwealth of the patented article made within the Commonwealth. Any person interested may, after the expiration of two years from the granting of the patent, present a petition to the Commissioner alleging that the reasonable requirements of the public with respect to a patented invention have not been satisfied and praying for the grant of a compulsory license or, in the alternative, for the revocation of a patent. If the parties do not come to an arrangement between themselves, the Commissioner, on being satisfied that a *prima*

*facie* case has been made out, must refer the petition to the High Court or the Supreme Court of the State in which the Patent Office is situated. If the Commissioner is not satisfied that a *prima facie* case has been made out he may dismiss the petition.

(vi.) *Restoration and Surrender of Patents, and Contracts and Proceedings.* The provisions of the Act with reference to restoration and surrender of patents, contracts, etc., are given in detail in previous issues of the Year Book. (See No. 6, p. 1164.)

(vii.) *International Protection of Patents.* The Patents Act contains provisions under which the international arrangements for the protection of patents contained in the Imperial Acts could be made applicable to the Commonwealth by order of the King-in-Council. Applicants for patents, subject to the country in which first application is made being a party to the arrangement, are now, if they apply in Australia within twelve months of their first foreign application, entitled to make application for patents for their inventions in priority to other applicants, and such patents have the same date as the date of the first application abroad. Corresponding arrangements have also been made by the Commonwealth with New Zealand.

(viii.) *Patent Attorneys.* Any person on passing the prescribed examination, and on paying a fee of £5, may be registered by the Commissioner as a patent attorney. A solicitor may practise as a patent attorney without passing the prescribed examination and without being registered as a patent attorney. No person may describe himself as a patent attorney, or as a patent agent, or as an agent for obtaining patents unless he is registered or entitled to practise as a patent attorney.

(ix.) *Patent Office Publications.* Complete specifications are printed shortly after they become open to public inspection by advertisement of acceptance, or under Section 121 of the Act, provided the complete specification is not accepted and advertised. Each specification is open to public inspection. A number of publications, of which a list may be found in the Australian Official Journal of Patents, is on sale at the Government Printing Office, Melbourne.

The *Australian Official Journal of Patents* is issued weekly, and contains lists of applications and proceedings, with illustrated notes of accepted complete specifications. A supplementary annual volume contains statistics, indexes to names of persons concerned, classified indexes to subject matter of applications lodged, and a numerical index to proceedings on Commonwealth applications which have been advertised during the year; there are also names and number indexes to proceedings on State applications.

(x.) *Applications Filed, Provisional Specifications Accepted, and Letters Patent Sealed.* The numbers of individual inventions in respect of which applications were filed in the States or Commonwealth during each year from 1908 to 1914 inclusive are shewn in the following table. The number of applications accompanied by provisional specifications and the number of patents sealed in respect of applications made in each year are also shewn.

**PATENTS.—APPLICATIONS FILED AND LETTERS PATENT SEALED IN THE  
COMMONWEALTH, 1908 to 1914.**

Year ... ..	1908.	1909.	1910.	1911.	1912.	1913.	1914.
No. of Applications ... ..	2,840	3,309	3,605	3,497	4,071	4,163	3,436
accompanied by provisional specifications ... ..	1,811	2,165	2,294	2,290	2,273	2,626	2,232
Letters patent sealed during each year ...	1,630	1,269	1,552	2,027	1,502	1,495	2,098

(xi.) *Revenue of Patent Office.* The revenue of the Commonwealth Patent Office for each year from 1908 to the end of the year 1914 is shewn in the subjoined table:—



## REVENUE OF COMMONWEALTH PATENT OFFICE, 1908 to 1914.

Particulars.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
	£	£	£	£	£	£	£
Fees collected under							
States Patents Acts ...	2,006	1,703	1,940	768	118	50	16
Patents Acts 1903-10 ...	14,146	14,087	17,042	19,640	18,542	18,800	21,575
Receipts from publications	146	216	208	237	305	283	274
Petty receipts ...	32	33	33	48	50	49	81
Total ...	16,330	16,039	19,223	20,693	19,015	19,182	21,946

3. **Trade Marks.**—The remarks made concerning the unification of the patent system of the Commonwealth apply equally to trade marks. Under the Trade Marks Act 1905, which came into force on the 2nd July, 1906, the Commissioner of Patents is appointed to act also as “Registrar of Trade Marks.” The Trade Marks Act of 1905 was amended by the Patents, Trade Marks, and Designs Act 1910, assented to on the 14th November, 1910, and by the Trade Marks Act 1912, and is now cited as The Trade Marks Act 1905-1912. The principal objects of the amending Act were to enlarge the scope of marks capable of registration, and repeal the provisions of the Act of 1905 relating to the “Workers Trade Mark,” the provisions regarding which were held to be unconstitutional. Special provisions for the registration of a “Commonwealth Trade Mark” are contained in the Act of 1905 and are applicable to all goods included in or specified by a resolution passed by both Houses of Parliament that in their opinion the conditions as to remuneration of labour in connection with their manufacture are fair and reasonable.

(i.) *Essential Particulars of Trade Marks.*—

Section 15. “A registrable trade mark shall consist of essential particulars with or without additional matter.”

Section 16. (1) “A registrable trade mark must contain or consist of at least one of the following essential particulars:—(a) The name of a company, individual, or firm represented in a special or particular manner; (b) the signature of the applicant for registration or some predecessor in his business; (c) an invented word or invented words; (d) a word or words having no direct reference to the character or quality of the goods, and not being according to its signification a geographical name or a surname; (e) any other distinctive mark, but a name, signature, or word or words, other than such as fall within the descriptions in the above paragraphs (a), (b), (c) and (d) shall not, except by order of the Registrar, Law Officer, or Court, be deemed a distinctive mark.”

(2) “For the purposes of this section ‘distinctive’ means adapted to distinguish goods of the proprietor of the trade mark from those of other persons.”

(3) “In determining whether a trade mark is so adapted, the Registrar, Law Officer, or Court may, in the case of a trade mark in actual use, take into consideration the extent to which such user has rendered such trade mark in fact distinctive for the goods with respect to which it is registered or proposed to be registered.”

(ii.) *State Registrations.* State registrations cease to be in force at the expiration of fourteen years from the date of the Commonwealth Act, or at the time when, under the State Trade Marks Act, the trade mark would, if after the commencement of the Commonwealth Act no fee for the continuance of its registration were paid, first become liable to removal from the register, whichever first happens. It is also provided that no fee shall be receivable nor shall any act be done after the commencement of the Commonwealth Act for the continuance of the registration of a trade mark under a State Act.

Commonwealth registration of a State registered mark may be effected, and the fact of its registration in a State prior to the coming into force of the Commonwealth Act, may entitle the registered proprietor in the State to Commonwealth registration, notwithstanding the existence of defects which might be ground for refusal of an application for the registration of a new trade mark.

(iii.) *Duration of Registration and General Provisions.* The registration of a trade mark is for a period of fourteen years, but may be renewed from time to time. International and intercolonial arrangements for the mutual protection of trade marks may be made in a manner similar to that provided for the protection of patents. In this regard Australia has become a party to the International Convention for the protection of industrial property. Registration may be opposed by any person lodging a notice of opposition at the Trade Marks Office within three months after the advertisement of the application, or such further time, not exceeding three months, as may, on application made within the first three months, be allowed.

(iv.) *Publications.* The *Australian Official Journal of Trade Marks* is issued weekly, and contains lists of applications and proceedings, with representations of marks (when accepted) sought to be registered. *Designs.* Lists of registered owners of designs and the subject matter of applications are published weekly in the official *Journal of Trade Marks*. Indexes to names of applicants and subject matter of applications are compiled and are on sale.

**4. Designs.**—The Designs Act of 1906 came into operation on the 1st January, 1907, being subsequently amended by the Patents, Designs and Trade Marks Acts 1910, and the Designs Act 1912, and is now cited as the Designs Act 1906-12. Under this Act a Commonwealth Designs Office has been established and the Commissioner of Patents appointed "Registrar of Designs."

(i.) *Registration.* Any new and original design which has not been published in Australia before the lodging of an application for its registration may be registered in respect of all or any of the articles enumerated in the classification contained in the regulations, which comprise jewellery, paperhangings, carpets, floor-cloths, lace, hosiery, millinery, wearing apparel, textile fabrics, bookbinding, and articles composed wholly or chiefly of a variety of solid substances. A separate application must be made in respect of each class in which the owner of the design desires it to be registered. After an application for the registration of a design has been lodged, the design may be published and used without prejudice to the validity of the registration.

(ii.) *Duration of Copyright in Designs.* The registration takes effect as from the date of the lodging of the application, and, subject to the provisions of the Act, remains in force for a period of five years from that date. Provision is made by the amending Act of 1912 for an extension of the period of registration to 15 years, subject to applications for extension being made and the prescribed fees paid before the expiration of 5 and 10 years respectively. The owner of a registered design must within two years after registration substantially use the design, or cause it to be used, in Australia, and if he fails to do so the copyright ceases. If, however, such design is used in any manufacture abroad, the above period is limited to six months.

(iii.) *General.* The Act also contains provisions regarding the remedies for infringement of designs and the rectification of the register. Arrangements for the international and intercolonial protection of copyright in designs were made by the same proclamation referred to above with regard to patents and trade marks. The owner of a registered design must cause each article to which the design is applied to be marked before delivery for sale with the prescribed mark to denote that the design is registered.

**5. Applications for Trade Marks and Designs.**—The following table gives particulars of trade mark and design applications received and registered under the Commonwealth Acts from 1908 to 1914 inclusive:—

**TRADE MARK AND DESIGN APPLICATIONS RECEIVED AND REGISTERED UNDER:  
COMMONWEALTH ACTS 1908 to 1914.**

Applications.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
<b>RECEIVED.</b>							
Trade Marks ...	1,580	1,688	1,729	1,977	1,803	1,957	1,619
Designs ...	155	187	186	203	235	301	267
<b>REGISTERED.</b>							
Trade Marks ...	3,150	1,455	1,190	1,323	1,389	1,468	1,272
Designs ...	180	166	160	180	211	281	220

The following table shews the revenue of the Trade Mark and Design Office during the years 1911 to 1914 :—

**REVENUE OF TRADE MARK AND DESIGN OFFICE, 1911 to 1914.**

Particulars.	1911.			1912.			1913			1914.		
	Trade Marks.	Designs	Publications	Trade Marks.	Designs	Publications	Trade Marks.	Designs	Publications	Trade Marks.	Designs	Publications.
	£	£	£	£	£	£	£	£	£	£	£	£
Fees collected under State Acts ...	56	...	...	67	...	...	38	...	...	42	...	...
Fees collected under Commonwealth Acts ...	5,018	180	127	5,012	198	98	5,260	293	123	4,610	266	102
Total ...	5,074	180	127	5,079	198	98	5,298	293	123	4,652	266	102

**6. Enemy Patents and Trade Marks.**—On the outbreak of the European war the Commonwealth Government deemed it advisable to extend the powers of the Governor-General of the Commonwealth during the continuance of hostilities with reference to patents, trade marks, and designs, the property of alien enemies.

Acts Nos. 15 and 16 of 1914 were accordingly passed by the Commonwealth Parliament in November, 1914, giving the Governor-General power to make regulations as follows:—

- (a) for avoiding or suspending in whole or in part any patent or license the person entitled to the benefit of which is the subject of any State at war with the King;
- (b) for avoiding or suspending the registration, and all or any rights conferred by the registration, of any trade mark or design the proprietor whereof is a subject as aforesaid;
- (c) for avoiding or suspending any application made by any such person under any of the Acts referred to in this section;
- (d) for enabling the Minister to grant, in favour of persons other than such persons as aforesaid, on such terms and conditions, and either for the whole term of the patent or registration or for such less period, as the Minister thinks fit, licenses to make, use, exercise or vend patented inventions and registered designs so liable to avoidance or suspension as aforesaid; and
- (e) for extending the time within which any act or thing may or is required to be done under any of the Acts referred to in this section.

The regulations prescribed by the Governor-General for giving effect to the provisions of these Acts may be found in the official journals issued by the Commonwealth Commissioner of Patents (see *Australian Official Journal of Patents*, vol. 20, No. 47 *et seq.*)..

To the end of March, 1914, fourteen applications had been made under these Acts to avoid or suspend patents, of which one was granted and two refused, the others being.

withdrawn. Eleven applications were also made to avoid or suspend trade marks, of which four were granted, four refused, and three withdrawn. In addition, four patents were suspended in favour of the Engineer-in-Chief for the Commonwealth Railways and such person or persons as may be licensed by the Minister.

### § 3. Copyright.

1. **Copyright Legislation.**—Prior to the 1st January, 1907, the date on which the Commonwealth Copyright Act of 1905 came into operation, the subject of copyright was regulated by the laws of the separate States. In general, the State Laws were under the like provisions of the Imperial Copyright Law, including the Law of 1842 and the earlier unrepealed or subsequent Acts, the most important of which were the Colonial Copyright Act 1847 and the International Copyright Act of 1886. They were also generally included under British international relations embracing the Berne-Paris provisions of the International Copyright Union and the reciprocal relations with the United States of America, but, with the exception that in the Austria-Hungary Treaty, New South Wales and Tasmania were not parties, because they did not exercise the right of ratification especially reserved to individual colonies.

Though the Commonwealth Copyright Act of 1905 took the place of the State Copyright Acts formerly in force, it left unaffected existing rights under the State Laws, but transferred the administration thereof to the Commonwealth. Provision was also made under the Law of 1905 for the registration of International and State Copyrights. In order to obtain local, as distinguished from British or Imperial, protection, the Act required that a book must have been "printed from type set up in Australia, or plates made therefrom, or from plates or negatives made in Australia in cases where type is not necessarily used," and published in Australia, after the commencement of the Act, before or simultaneously with its first publication elsewhere. The "Common Law of England" was specifically applied to unpublished literary compositions. Artistic works were not protected in Australia under either the Commonwealth Act of 1905 or Imperial Law unless "made in Australia."

Copyright in the case of literary works endured for a period of forty-two years from the date of first publication, or the life of the author or the last surviving joint-author and seven years thereafter, whichever was the longer. If, however, first publication of a book took place after the death of the author the duration of copyright was limited to forty-two years. Performing right and lecturing right subsisted separately for a like period from first public performance or delivery simultaneously with first public performance or delivery elsewhere. But the lecturing right ceased when the lecture was published as a book. Copyright in artistic works subsisted for the term of forty-two years from the date of the making thereof, or for the author's life and seven years, whichever was the longer.

Provision was also made for the assignment of copyright, performing right, and lecturing right, either wholly or in part, and either generally or limited to any particular place or period, and owners of any of the rights specified could grant any interest therein, by license; but such an assignment or grant would not be valid unless it was in writing, signed by the owner of the right.

The Act of 1905 prohibited the importation of all pirated books or artistic works "in which copyright is subsisting in Australia (whether under this Act or otherwise)," and provided for the forfeiture of such works, on condition of written notice of the copyright by the owner of the copyright or his agent to the Minister, directly or through the Commissioners of Customs of the United Kingdom.

Registration of any copyright, performing right, or lecturing right was required as a prerequisite for legal action, but copyright and performing right existed, and in some cases could be enforced, without registration.

2. **The Copyright Act of 1912.**—The Copyright Act of 1905 was repealed by the Copyright Act of 1912, which was assented to and became operative on 20th November, 1912. Subject to modifications relating to procedure and remedies, the Commonwealth Law of 1912 adopted the British Copyright Act of 1911, and declared the latter law to be

in force within the Commonwealth as from the 1st July, 1912. The British Act extends throughout the whole of His Majesty's dominions, but is not to be in force in a self-governing dominion unless enacted by the legislature thereof either in full or with modifications relating exclusively to procedure and remedies necessary to adapt the Act to the circumstances of the dominion.

Under the Commonwealth Law of 1912, copyright subsists in "every original literary, dramatic, musical, and artistic work," first published within parts of His Majesty's dominions to which the British Copyright Act of 1911 extends, and in the case of an unpublished work, the author of which was "at the date of the making of the work," a British subject or a resident domiciled within the aforesaid parts of His Majesty's dominions (or under protection through international copyright provisions). The old Common Law right is abrogated by the Act of 1912, and all copyright property is now the creature of statute from the date when it takes shape, either written in words or in some other material form.

Copyright is defined to mean the sole right to produce or reproduce the work or any substantial part thereof in any material form whatsoever, or any translation thereof, to publish, perform, or deliver the work in public, to dramatise or novelise it, and in the case of a literary, dramatic, or musical work, to make any record, cinematograph film or other contrivance by means of which it may be mechanically performed or delivered, or to authorise any of such acts. Architectural works of art are included as to design, but not as to process or methods of construction.

Copyright in a musical work also includes the sole right to make any record, perforated roll, or other contrivance by means of which the work may be mechanically performed or delivered, and to authorise any of such acts. Conditions governing the making of mechanical contrivances of musical works published before and after the commencement of the British Act are separately prescribed. In the case of a musical work published after the commencement of said Act, if the work has already been mechanically performed with the consent of the owner of the copyright, then anyone can make mechanical contrivances for reproducing it by giving the notice and paying royalties as prescribed. But such contrivances must not alter or omit anything from such work unless similar alterations have been made by the author himself, or they are reasonably necessary for the adaptation of such contrivance. In the case of a musical work published before the commencement of the British Act, certain modifications are prescribed.

The author of a work is the first owner of the copyright therein, except in the case of mechanical contrivances made before the commencement of the Act, or where an engraving, photograph, or portrait is executed on commission, or "where the author was in the employment of some other person under a contract of service or apprenticeship, and the work was done in the course of his employment by that person." Copyright in Government publications vests in the Crown.

The owner may assign the copyright "either wholly or partially, and either generally or subject to limitations to the United Kingdom, or any self-governing dominion or other part of His Majesty's dominions to which the British Copyright Act extends, and either for the whole term of the copyright or for any part thereof, and may grant any interest in the right by license, but no such assignment or grant shall be valid unless it is in writing signed by the owner of the right in respect of which the assignment or grant is made, or by his duly authorised agent." In the case of partial assignment, the original owner and the assignee become respectively the owners of the residual and assigned portions of the copyright. But an assignment, except by will, becomes null and void twenty-five years after the death of the author, when the entire right reverts to his heirs.

Copyright subsists during the life of the author and fifty years after his death, provided that at any time after the expiration of twenty-five years, or in the case of a work subsisting at the date of the passing of the Imperial Copyright Act 1911 (i.e., 16th December, 1911), thirty years after, anyone on giving the requisite notice and paying royalties of 10 per cent. on the published price has the right to publish the work. In

the case of works of joint authorship, copyright subsists during the life of the author who dies first and for a term of fifty years afterwards, or during the life of the author who dies last, whichever period is the longer. In the case of posthumous works, copyright subsists for fifty years from first publication or performance, whichever is the earlier. Photographs are protected for fifty years from the date of the making of the original negative, and records, perforated rolls, etc., for mechanical musical instruments for fifty years from the date of making of the original plates. Copyright in Government publications subsists for a period of fifty years from the date of first publication.

Works in which copyright subsisted immediately before the commencement of the British Act, *i.e.*, 1st July, 1912, shall, as from that date, be entitled to the substituted rights prescribed by the Act, including the extended term. The Act also reserves (in default of compensation by the person entitled to restrain production or performance) to anyone who has before the 26th July, 1910, incurred any expenditure or liability in connexion with a then lawful production or performance of a work, any rights or interests arising therefrom, which were subsisting and valuable.

The Commonwealth Copyright Act of 1912 prohibits the importation of pirated literary, dramatic, musical, and artistic works on conditions similar to those prescribed by the repealed Law of 1905.

The owner of any original literary, dramatic, musical, or artistic copyright under the Commonwealth Law, or of the sole right to perform, or authorise the performance, of any musical or dramatic work in the Commonwealth or any part thereof, may obtain registration of his right, on filing an application in the prescribed form at the Copyright Offices, Commonwealth Offices, Melbourne.

**3. Applications for Copyright.**—The following table gives particulars of copyright applications received and registered under the Commonwealth Acts from 1910 to 1914 inclusive:—

**COPYRIGHT APPLICATIONS RECEIVED AND REGISTERED UNDER COMMONWEALTH ACTS, 1910 to 1914.**

Year.				Copyrights.			
				Literary.	Artistic.	International and State.	Total.
APPLICATIONS RECEIVED.							
1910	...	...	...	464	569	6	1,039
1911	...	...	...	440	466	15	921
1912	...	...	...	463	415	8	886
1913	...	...	...	505	340	...	845
1914	...	...	...	743	219	5	967
APPLICATIONS REGISTERED.							
1910	...	...	...	361	495	12	868
1911	...	...	...	379	412	11	802
1912	...	...	...	401	318	10	729
1913	...	...	...	429	245	...	674
1914	...	...	...	693	184	5	882

The revenue from copyright for the years 1912, 1913 and 1914 was £145, £169, and £239 respectively.

In addition to the applications for copyright received and registered under the Commonwealth Act, applications for registration under State Acts may be registered. No applications, however, were received in 1913 or 1914.

### § 4. Old-age and Invalid Pensions.

1. **General.**—A system for providing for the relief of the aged poor by some means which did not involve the stigma associated in so many minds with the idea of charitable aid, and which, while protecting the recipients from actual want, still left to them as large a degree of freedom as possible, has long been sought for by economists, statesmen, and social reformers. The difficulties surrounding a satisfactory solution of the question are numerous and great, and various schemes have been propounded with the object of overcoming them. Two of the principal objections which have been urged against the introduction of a general system of old-age pensions are—

- (i.) its costliness;
- (ii.) its tendency to induce thriftlessness.

The former is undoubtedly a serious difficulty, since in any normally constituted population the number of persons aged say sixty-five years and upwards will represent about 5 per cent. of the total population, and the provision of the funds required to pay to these a sum which would provide them with even the barest necessities of life would be a very considerable burden upon the State Treasury. To reduce this burden various suggestions have been made, of which probably the most effective have been those which provide, the one for a contribution to the pension fund by the pensioner during his earlier years, and the other for a reduction of the amount of pension payable to those in receipt of income from other sources. The former of these is the principle which has been acted upon in the scheme in operation in Germany, while the latter is that which underlies the schemes in vogue in the Commonwealth, New Zealand, and the United Kingdom.

The objection which has sometimes been raised to the payment of old-age pensions on the score of the tendency to thriftlessness thereby induced is one which, in Australia, at all events, is not accorded much weight, the general feeling being that the number of cases in which the prospect of a pension of, say, 10s. per week from sixty-five onwards would lead to thriftlessness in earlier years, is so small as to be practically negligible.

2. **Introduction of Old-age Pensions into Australia.**—The credit of introducing old-age pensions into the Southern Hemisphere belongs, not to the Commonwealth, but to her sister dependency, the Dominion of New Zealand, where pensions have been payable since 1st April, 1898. The first State of the Commonwealth to make provision for the payment of old-age pensions was Victoria, whose legislation on the subject came into operation on 18th January, 1901. Later in the same year, viz., on 1st August, 1901, the pension system of New South Wales came into force, while in the case of Queensland old-age pensions became payable from 1st July, 1908. Finally, an Act providing for the payment of old-age pensions throughout Australia was passed by the Commonwealth Parliament in 1908, pension payments thereunder commencing on 1st July, 1909. This Act superseded the State Acts in so far as provision for old age is concerned.

3. **Commencement of Commonwealth Act.**—The Commonwealth Invalid and Old-age Pensions Act was assented to on the 10th June, 1908, and payment of old-age pensions commenced as from 1st July, 1909. Provision is also made in the Act for the payment of invalid pensions. The part of the Act relating thereto, however, did not come into operation on the commencement of the Act, but it was provided that it should commence on some subsequent date to be fixed by proclamation. This proclamation was made on the 19th November, 1910, the first payments thereunder being made on the 15th December, 1910.

4. **Administration of Commonwealth Act.**—The general administration of the Act is, subject to the control of the Minister, placed in the hands of the Commissioner of Pensions, who is assisted by a Deputy Commissioner appointed in each State. Power is

given to the Commissioner and the Deputy Commissioners to summon witnesses, receive evidence on oath, and require the production of documents for the purposes of the Act.

Each State is divided into districts, each of which is placed in charge of a Registrar, whose duties consist in receiving and investigating pension claims and in keeping such books and registers as are required for carrying out the provisions of the Act.

**5. Pension Age.**—For an old-age pension the age qualification is similar to that previously in force in New South Wales under the State Act, viz., attainment of the age of sixty-five years, or, in the event of permanent incapacitation for work, attainment of the age of sixty years. The Act also provides that the age qualification for women may be fixed by proclamation at sixty years instead of sixty-five. This proclamation was made on the 19th November, 1910, the first payments thereunder being made on the 15th December, 1910. For an invalid pension the age qualification is attainment of the age of sixteen years if accompanied by permanent incapacitation for work.

**6. Length of Residence.**—In the original Act of 1903 the residential qualification for an old-age pension was the same as that of the New South Wales Act, viz., continuous residence for twenty-five years. Owing, however, to the fact that in the other two States in which pensions were payable under the State régime the residential qualification was only twenty years, an amendment of the Act was passed by the Federal Parliament in August, 1909, reducing the Commonwealth term to twenty years also, thus rendering impossible the chance of lapse of pension through transfer from State to Commonwealth. For an invalid pension continuous residence for at least five years is required. In neither case, however, is continuous residence in Australia deemed to have been interrupted by occasional absences not exceeding in the aggregate one-tenth of the total period of residence. The applicant for any pension must be residing in Australia on the date when he makes his claim, and in the case of an invalid pension must have been incapacitated while in Australia.

**7. Rates of Pension.**—The rate of pension payable, whether for old age or invalidity, is required by the Act to be determined by the Commissioner or one of the Deputy Commissioners, and is to be fixed at such amount as he deems reasonable and sufficient, having regard to all the circumstances of the case, but must not exceed £26 per annum in any event, nor be at such a rate as will make the pensioner's income, together with pension, exceed £52 per annum.

**8. Limitations in respect of Income and Property.**—With a view to restricting the pensions to persons actually needing assistance, provision was made in all the State Acts reducing the payment when the applicant already possessed income or property above a given amount. This principle is also embodied in the Commonwealth Act. In the case of independent income it has already been mentioned that the pension payment must be so modified that the aggregate income, inclusive of pension, does not exceed £52 per annum. Payments received by way of benefit from any registered friendly society, or during illness, infirmity, or old age from any trade union, provident society, or other society or association, are not, for the purposes of the Commonwealth Act, treated as income. As regards accumulated property, the pension is subject to a deduction of £1 per annum for every complete £10 by which the net capital value of the property exceeds £50. Also, if both husband and wife are pensioners (except when they are living apart pursuant to any decree, judgment, order, or deed of separation), the deduction in the case of each of them shall be £1 for every complete £10 by which the net capital value of the accumulated property exceeds £25. From the capital value of accumulated property is deducted the capital value of a home in which the pensioner permanently resides, and all charges and encumbrances existing on the property, other than the home. Accumulated property whether in or out of Australia, to the value of £310 or upwards will disqualify for a pension, as will also an applicant's direct or indirect deprivation of



himself of such property with the object of obtaining a pension. In the case of husband and wife, except where they are living apart pursuant to any decree, judgment, order or deed of separation, the net capital value of the accumulated property of each is deemed to be half the total net capital value of the accumulated property of both, and the amount of property in such case allowed prior to deduction is £50 if including, and £25 if not including a home.

**9. Character of Applicant for Pension.**—In all the State Acts provision was made that the recipients of old-age pensions should be persons of good moral character, and, in New South Wales and Victoria, imprisonment for extended periods would act as a disqualification. In the Commonwealth Act it is also provided that "no person shall receive an old-age pension unless he is of good character," but a similar provision is not made in the case of invalidity.

**10. Number of Commonwealth Claims and Old-age Pensions.**—During the first year of practical working of the Commonwealth Act, viz., that ended 30th June, 1910, the number of cases considered was 76,168. Of these 39,875 were cases in which a State old-age pension was exchanged for one payable by the Commonwealth. The remaining 36,293 were new applications received during the year, of which 30,526 were granted, 3921 were rejected, and 1846 were still in course of consideration on 30th June, 1910.

Details of the several States as at 30th June, 1914, are as follows :—

**COMMONWEALTH OLD-AGE PENSIONS, YEAR ENDED 30th JUNE, 1914.**

	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'w'lt'h.
Claims examined during year ending 30th June, 1914 ...	5,192	4,460	1,983	1,419	729	648	14,431
Claims rejected ...	724	203	424	1	61	51	1,464
Claims granted ...	4,468	4,257	1,559	1,418	668	597	12,967
Transfers from other States ...	351	275	85	165	74	57	1,007
Existing 30th June, 1913 ...	30,869	25,434	11,221	7,752	3,484	4,183	82,943
	35,688	29,966	12,865	9,335	4,226	4,837	96,917
To be deducted—							
Deaths ...	2,755	2,285	845	686	227	313	7,111
Cancellations, and transfers to other States ...	768	531	262	253	90	122	2,026
	3,523	2,816	1,107	939	317	435	9,137
Old-age Pensions existing on 30th June, 1914 ...	32,165	27,150	11,758	8,396	3,909	4,402	87,780

**11. Sexes of Old-age Pensioners.**—Of the 87,780 persons in receipt of pensions at 30th June, 1914, 37,346 (or 43 per cent.) were males, and 50,434 (or 57 per cent.) were females. Details for the several States are as follows :—

SEXES OF PENSIONERS, 30th JUNE, 1914.

State.	Males.	Females.	Total.	*Masculinity.
New South Wales ... ..	14,217	17,948	32,165	79.21
Victoria... ..	10,904	16,246	27,150	67.12
Queensland ... ..	5,559	6,199	11,758	89.68
South Australia ... ..	3,232	5,164	8,396	62.59
Western Australia ... ..	1,874	2,035	3,909	92.88
Tasmania ... ..	1,560	2,842	4,402	54.89
Total ... ..	37,346	50,434	87,780	74.05

\* Number of males to each 100 females.

12. Ages and Conjugal Condition of Old-age Pensioners Admitted during 1913-14.

—The recorded ages of the 12,967 persons to whom pensions were granted during the year 1913-14 varied considerably, ranging from 1728 at age 60 to one at age 98. Particulars for quinquennial age groups are as follows :—

AGES AND CONJUGAL CONDITION OF PENSIONERS ADMITTED DURING 1913-14.

Age at Admission.	Males.				Females.				Grand Total.
	Single.	Married.	Widowed	Total.	Single.	Married.	Widowed	Total.	
60-64 ... ..	89	251	73	413	288	1,932	1,878	4,098	4,511
65-69 ... ..	725	1,863	678	3,266	132	779	768	1,679	4,945
70-74 ... ..	230	625	298	1,153	40	347	495	882	2,035
75-79 ... ..	83	262	159	504	18	112	335	465	969
80-84 ... ..	24	70	99	193	8	24	161	193	386
85-89 ... ..	2	18	21	41	...	4	50	54	95
Above 90 ... ..	...	3	9	12	...	...	14	14	26
Total ... ..	1,153	3,092	1,337	5,582	486	3,198	3,701	7,385	12,967

13. Commonwealth Claims for Invalid Pensions.—The situation as at 30th June, 1914, was as follows :—

COMMONWEALTH INVALID PENSIONS.—YEAR ENDED 30th JUNE, 1914.

	N.S.W.	Vic.	Q.	S.A.	W.A.	Tas.	Total C'wealth.
Claims examined during year ending 30th June, 1914 ... ..	2,296	1,799	904	454	340	364	6,157
Claims rejected ... ..	517	272	201	77	84	71	1,222
Claims granted ... ..	1,779	1,527	703	377	256	293	4,935
Transfers from other States ... ..	46	40	12	27	9	8	142
Existing 30th June, 1913 ... ..	5,799	3,918	1,510	956	574	982	13,739
	7,624	5,485	2,225	1,360	839	1,283	18,816
Deduct—							
Deaths ... ..	530	508	146	118	37	102	1,441
Cancellations and Transfers to other States ... ..	186	133	56	63	36	36	510
	716	641	202	181	73	138	1,951
Invalid Pensions existing 30th June, 1914 ... ..	6,908	4,844	2,023	1,179	766	1,145	16,865

14. **Sexes of Invalid Pensioners.**—Of the 16,865 persons in receipt of an invalid pension on 30th June, 1914, 8454 or 50.13 per cent. were males, and 8411 or 49.87 per cent. were females. Details for the several States are as follows :—

**SEXES OF INVALID PENSIONERS, 30th JUNE, 1914.**

State.	Males.	Females.	Total.	*Masculinity.
New South Wales ... ..	3,537	3,371	6,908	104.92
Victoria ... ..	2,310	2,534	4,844	91.16
Queensland ... ..	1,113	910	2,023	122.31
South Australia ... ..	526	653	1,179	80.55
Western Australia ... ..	435	331	766	131.42
Tasmania ... ..	533	612	1,145	87.09
Commonwealth ... ..	8,454	8,411	16,865	100.51

\* Number of males per 100 females.

15. **Ages and Conjugal Condition of Invalid Pensioners Admitted during 1913-14.**—The recorded ages of the 4935 persons who received invalid pensions in the period under review varied from 16 to 85. The following table gives particulars for those up to age 20 and in decennial age groups after age 20 :—

**AGE AND CONJUGAL CONDITION OF INVALID PENSIONERS ADMITTED IN 1913-14.**

Age at Admission.	Males.				Females.				Grand Total.
	Single.	Married.	Widowed	Total.	Single.	Married.	Widowed	Total.	
16-19 ... ..	147	...	...	147	118	...	...	118	265
20-29 ... ..	216	33	...	249	263	13	6	282	531
30-39 ... ..	154	171	5	330	186	43	27	256	586
40-49 ... ..	158	262	18	438	189	117	111	417	855
50-59 ... ..	244	447	107	798	191	348	486	1,025	1,823
60-69 ... ..	168	353	113	634	18	39	82	139	773
70-79 ... ..	17	21	12	50	6	7	29	42	92
80 and over ... ..	4	1	1	6	1	...	3	4	10
Total ... ..	1,108	1,288	256	2,652	972	567	744	2,283	4,935

16. **Cost of Administration.**—Under the State régime the cost of administration differed considerably in the several States, and for 1908-9 represented in New South Wales 4.17 per cent. of the amount actually paid in pensions. In Victoria for the same year the corresponding percentage was 0.70. During the year 1913-14 the total cost to the Commonwealth of administering the Old-age and Invalid Pensions Department was £46,946, or about 1.8 per cent. of the amount actually paid in pensions. Details concerning the cost of administration for 1913-14 are as follows :—

	£
Salaries ... ..	14,964
Temporary assistance ... ..	1,526
Services of magistrates, registrars, clerks of courts, and police ... ..	4,848
Commission to Postmaster-General's Dept., at 12s. 6d. per £100 paid ... ..	15,985
Postage and telegrams ... ..	2,050
Other expenses ... ..	7,573
Total ... ..	£46,946

The actual sum disbursed in Old-age and Invalid Pensions in the financial year 1913-14, apart from the cost of administration, was approximately £2,579,265.

17. **Liability Undertaken in Granting Old-age Pensions.**—As an indication of the extent of the responsibility which an old-age pension scheme involves, it may be mentioned that in connection with the evidence tendered to the Commonwealth Commission on Old-age Pensions a computation was made of the total liability in respect of accrued pensions which the Commonwealth would have incurred if, at 31st March, 1901, the date of the Census, 39 per cent. of the persons aged sixty-five and upwards were entitled to pensions of ten shillings per week. The present value at that date of the liability so computed was £10,415,820. (See Minutes of Evidence of Royal Commission on Old-age Pensions, p. 80.)

The following table gives detailed statistical information concerning the working of the Act since 1st July, 1909:—

#### INVALID AND OLD-AGE PENSIONS SUMMARY.

Financial Year ended 30th June.	Number of Pensioners.			Amount Paid in Pensions.	Amount Paid to Asylums for Maintenance of Pensioners.	Total Payment to Pensioners and Asylums.	Cost of Administration	Cost of Administration per £100 paid to Pensioners and Asylums.	Average Fortnightly Pension on last day of Financial Year
	Old-Age.	Invalid.	Total.						
				£	£	£	£	£ s. d.	s. d.
1910	65,492	...	65,492	1,497,330	155	1,497,485	37,146	2 9 7 %	19 1
1911	75,502	7,451	82,953	1,868,648	2,592	1,871,240	39,244	2 1 11 %	19 1
1912	79,071	10,763	89,834	2,148,034	7,447	2,155,481	41,794	1 18 9 %	19 0
1913	82,943	13,739	96,682	2,289,048	13,287	2,302,335	44,523	1 18 8 %	19 6
1914	87,780	16,865	104,645	2,579,265	14,236	2,593,501	46,946	1 16 3 %	19 5

#### § 5. Maternity Allowance.

The Federal Parliament, during the session of 1912, passed an Act (assented to on 10th October, 1912) providing under certain circumstances for the payment of maternity allowances. The scope and main provisions of the Act will be gathered from the following sections and sub-sections, given in full:—

4. "Subject to this Act, there shall be payable out of the Consolidated Revenue Fund, which is hereby appropriated accordingly, a maternity allowance of Five pounds to every woman who, after the commencement of this Act, gives birth to a child, either in Australia or on board a ship proceeding from one port in the Commonwealth or a Territory of the Commonwealth to another port in the Commonwealth or a Territory of the Commonwealth."
5. (1) "A maternity allowance shall be payable in respect of each occasion on which a birth occurs, and the child is born alive, or is a viable child, but only one allowance shall be payable in cases where more than one child is born at one birth."
6. (1) "The maternity allowance shall be payable only to women who are inhabitants of the Commonwealth or who intend to settle therein."
- (2) "Women who are Asiatics or are aboriginal natives of Australia, Papua, or the islands of the Pacific, shall not be paid a maternity allowance."

The following table gives particulars of the working of the Act from 10th October, 1912, when it came into operation, up to 30th June, 1914:—

**STATEMENT SHEWING PARTICULARS OF CLAIMS WITH REGARD TO THE  
MATERNITY ALLOWANCE OF £5 FROM 10th OCTOBER, 1912,  
TO 30th JUNE, 1914.**

Period.	N.S.W.	Vic.	Q.	S.A.	W.A.	Tas.	C'wlth.
NUMBER OF CLAIMS PASSED.							
10th October, 1912, to 30th June, 1913 ...	31,045	22,796	12,130	7,589	5,385	3,611	82,556
30th June, 1913, to 30th June, 1914 ...	51,239	36,060	19,710	12,766	9,190	6,033	134,998
Total ... ..	82,284	58,856	31,840	20,355	14,575	9,644	217,554
NUMBER OF CLAIMS REJECTED.							
10th October, 1912, to 30th June, 1913 ...	291	114	74	52	59	29	619
30th June, 1913, to 30th June, 1914 ...	301	148	101	69	57	33	709
Total ... ..	592	262	175	121	116	62	1,328
NUMBER OF CLAIMS UNDER CONSIDERATION.							
30th June, 1913 ...	558	483	188	118	236	46	1,629
30th June, 1914 ...	628	381	143	84	117	24	1,377
TOTAL NUMBER OF CLAIMS RECEIVED.							
10th October, 1912, to 30th June, 1913 ...	31,894	23,393	12,392	7,759	5,680	3,686	84,804
30th June, 1913, to 30th June, 1914 ...	51,610	36,106	19,766	12,801	9,128	6,044	135,455
Total ... ..	83,504	59,499	32,158	20,560	14,808	9,730	220,259
AMOUNT PAID.							
10th October, 1912, to 30th June, 1913 ...	£ 155,225	£ 113,980	£ 60,650	£ 37,945	£ 26,925	£ 18,055	£ 412,780
30th June, 1913, to 30th June, 1914 ...	256,195	180,300	98,550	63,830	45,950	30,165	674,990
Total ... ..	411,420	294,280	159,200	101,775	72,875	48,220	1,087,770

The cost of administration for the period from 30th June, 1913, to 30th June, 1914, was £10,281, and the amount disbursed in claims for the same period was £674,990.

## § 6. Local Option.

1. **General.**—The principles of local option as to the sale of fermented and spirituous liquors have been applied in all the States of the Commonwealth. The last State to adopt these principles was Western Australia, where provision was made for a system of local option by the Licensing Act 1911.

2. **New South Wales.**—The Act in force relating to local option in this State is the Liquor Act 1912, which consolidates the laws relating to publicans, brewers and other persons engaged in the brewing, manufacture or sale of liquor. The local option vote is taken in every electorate on the day fixed for the poll therein at each general election. The option with regard to licenses extends to public-houses, wineshops, and clubs, and the persons entitled to vote are those entered on the Parliamentary electoral rolls. The first local option vote under the Liquor (Amendment) Act of 1905 was taken at the general election in 1907, and the second at the election in 1910, while the vote in 1913 was taken under the Liquor Act 1912. In 1907, when the first local option vote was taken, there were 3023 hotels in existence; of this number 293 were ordered to be closed at varying dates. At the election of 1910 there were 2869 hotels, and of these, 28 were ordered to be closed. At the 1913 election there were 2719 hotels, of which 23 will be closed in accordance with the local option vote. The number of wine licenses at the time of the vote of 1907 was 633, of which 46 were abolished. In 1910, 5 out of 565 were closed, and in 1913, 7 out of 514 were ordered to be closed. The resolutions to be submitted, and the effects of such resolutions, if carried, are given *in extenso* in previous issues of this book. The following statement shews the number of electorates in which each of the resolutions was carried:—

### NEW SOUTH WALES.—EFFECTS OF LOCAL OPTION VOTES, 1907, 1910, and 1913.

Particulars.	General Election, 1907.		General Election, 1910.		General Election, 1913.	
	Elector-ates.	Votes.	Elector-ates.	Votes.	Elector-ates.	Votes.
<i>Results in favour of—</i>						
(a) Continuance ...	25	209,384	76	324,973	74	380,707
(b) Reduction ...	65	75,706	14	38,856	15	44,453
(c) No license ...	Nil	178,580	Nil	212,889	Nil	245,202

3. **Victoria.**—The Acts dealing with the subject of local option as to the sale of fermented and spirituous liquors, and with the compulsory closing of hotels in this State, are the Licensing Acts 1890, 1906, and 1907. Other Acts, now repealed, which dealt with the subject, are the Licensing Acts 1876, 1885, and 1888.

The last division of the Act of 1906 relates to the subject of local option; this division, however, does not come into force until the 1st January, 1917. In the meantime, in order to reduce the number of victuallers' licenses in Victoria, a Licenses Reduction Board has been constituted.

(i.) *The Licenses Reduction Board.* Although the operations of this Board are not conducted in accordance with the principles of local option, the duties of the Board are, until the 31st December, 1916, after which date a system of local option comes into force under the Act of 1906, to reduce the number of licenses in excess of the statutory number, and to award compensation according to the scheme provided for by that Act. The Board consists of three members at a salary of £800 per annum each, who may not engage in any business or employment other than the duties of their office as members of the Board. The Board was first appointed on the 21st May, 1907. A Compensation Fund has also been established under the Act, and is

raised by means of a compensation fee at the rate of 3 per cent. on the value of liquor purchased by every licensed victualler. The owner of the premises is chargeable with two-thirds, and the tenant with one-third of the compensation fee. The total amount paid into the Compensation Fund was £48,233 for the year 1907, £48,543 for 1908, £49,300 for 1909, £48,875 for 1910, £51,716 for 1911, £55,275 for 1912, £58,947 for 1913, and £60,138 for 1914. When any reduction of licensed premises has been made, the remaining hotels, which will be benefited, are to bear a *pro rata* assessment to make up the amount of license fees lost. The amount so lost up to the end of the year 1914 was £13,435, of which sum £3239 was remitted, and £10,196 apportioned among 1855 hotels in proportion to the benefit which, in the opinion of the Board, they will derive from the closing. By an amendment to the Act in 1912, the Board has been given discretion in certain circumstances to allot less than the amount lost. The maximum compensation, which is payable out of the Compensation Fund referred to above, is to be based on the results of the three years preceding the 31st December, 1906, in the case of owners, and of the three years preceding the 31st December, 1905, in the case of licensees. Up to the 31st December, 1914, 803 hotels had been closed by the Board, 214 of this number having surrendered their licenses. In all cases compensation, where claimed, was awarded, the total paid amounting to £395,025, or an average of £494 each. 212 of these hotels were situated in the metropolitan district, while the remaining 591 were in country districts. In three owners' cases and 166 licensees' cases no claims for compensation were made. The following table shews particulars of the operations of the Board up to the 31st December, 1914.

#### VICTORIA.—OPERATIONS OF LICENSES REDUCTION BOARD, 31st DECEMBER, 1914.

Particulars.	Licenses in December, 1906.			Hotels Deprived of Licenses	Compensation Awarded.		Hotels Surrendered.	Compensation Awarded.	
	Number in Existence.	Statutory Number.	* Number in Excess.		Owner.	Licensee.		Owner.	Licensee.
Metropolitan & Suburban	1,020	877	401	201	£ 152,824	£ 29,223	11	£ 5,523	£ 1,149
Country ...	2,440	1,622	976	388	139,420	21,213	203†	41,232	4,441
Total ...	3,460	2,499	1,377	589	292,244	50,436	214	46,755	5,590

\* In some districts the number of hotels was below the statutory number; in these districts the total number of hotels less than the statutory number was 418. † Four of these hotels have not yet been awarded compensation.

No reduction of any licensed premises is allowed in any licensing district in which the number of licensed premises is below the statutory number, but new licenses may, until 1917, be granted in such districts provided that a majority of the electors vote in favour of the increase, and that at least one-third of the number of electors on the roll record their votes. The statutory number varies yearly with the change of the population. The number of hotels below the statutory number in the districts referred to for the year 1914 was 1008.

Where a deprivation sitting is held before 30th June the Acts specify that a deprived license expiring on or before the 31st December following shall not be renewed. Where the sitting takes place after 30th June the license may be renewed for a period making in all six months from the first day of such sitting. To avoid difficulties on this score the Board holds its deprivation sittings in the first half of the year and its compensation and re-allotment sittings in the second half. Surrenders take effect on the date fixed by the Board at the time of acceptance.

In addition to those scheduled above, the Board, up to the 31st May, 1915, had deprived 73 hotels of their licenses, of which 1 was surrendered, making a grand total of 876.

In previous issues reference has been made to the methods of procedure to be followed on the coming into force of the system of local option on 1st January, 1917.

4. **Queensland.**—The local option clauses of "The Liquor Acts of 1912-1914" provide for the following:—

- (i.) The conditions under which new licenses may be granted until the completion of the business of the Licensing Court in April, 1916.
- (ii.) The continuance of the local option clauses of "The Licensing Act of 1885" until the 31st December, 1916.
- (iii.) The institution of a new scheme, under which electors from and after the year 1917 will have the opportunity of voting every three years on the question of reduction of licenses.

(i.) *New Licenses.* With regard to the granting of "new licenses" from the 1st April, 1913, and until the completion of the business of the Licensing Court in April, 1916, it is provided that no new licensed victualler's or wine seller's or provisional licenses shall be granted, unless at a local option vote of the electors of the local option area in which the premises or proposed premises are situated, a resolution "that new licenses shall be granted in this local option area" has been carried.

If the resolution is carried, the Court may, but need not, grant applications; but if the resolution is not carried, the Court shall not grant any application during the said years in the said local option areas.

The Acts of 1912 and 1914 provided that a local option vote following on an application for a license might be taken in any of the years 1913, 1914, 1915, and 1916 in a local option area, but having been taken once should not be taken again during those years in the same local option area. During 1913 a vote was taken in 10 districts on the resolution "that new licenses be granted." In five of these, the resolution was carried, the other five districts declaring against any increase in the number of licenses. In 1914, 16 districts voted on the same resolution, in 11 of which it was carried.

(ii.) *Continuance of Present System until 1917.* With the exception of the third resolution, viz., "that no new licenses be granted," the local option provisions of "The Licensing Act of 1885" remain in full force and effect until the 31st December, 1916, with certain modifications and additions. These will be found fully described in previous issues of the Year Book (see No. 6, p. 1177).

(iii.) *General Local Option.* The first vote may be taken in the year 1917, either on the same day as the election of senators takes place, or if no senate election is held in 1917 before the 30th September, then on a day to be appointed by the Governor-in-Council, and the vote will be by ballot.

The vote will be taken on the request of one-tenth of the number of electors in an area, which is defined in the request, and such area may be:—(a) an electoral district, (b) an electoral division of an electoral district, or, (c) a group of two or more divisions of an electoral district, provided that the whole of such local option area is wholly comprised within one and the same electoral district.

There must be a separate request for each resolution on which a vote is required to be taken.

The resolutions on which a vote may be taken are:—(a) reduction by one-fourth of the existing number, (b) further reduction by one-fourth of the existing number, (c) further reduction by one-fourth of the existing number, (d) prohibition, and (e) new licenses.

In previous issues of the Year Book (see No. 6, p. 1178) will be found fuller reference to the effect of the carrying of any of these resolutions.

5. **South Australia.**—In this State the subject of local option is now regulated by Part V. of the Licensing Act 1908.

Under this Act, each electoral district for the House of Assembly is constituted a local option district, and each electoral district may be divided into local option districts by proclamation of the Governor. A quorum consisting of 500 electors, or one-tenth of



the total number of electors, whichever be the smaller number, in any district may petition the Governor for a local option poll. The persons entitled to vote at the poll are those whose names appear on the electoral roll and who reside in the local option district.

The resolutions to be submitted under the Act, together with the effects such resolutions would have, are set out in detail in previous issues of the Year Book (see No. 6, p. 1179).

*Local Option Polls.* On the 2nd April, 1910, local option polls were taken under the Act of 1908 in twenty-four districts; the electors in the remaining nine local option districts did not petition for polls. A resolution that the number of licenses be reduced, was carried in only one district, Wallaroo; in the remaining 23 districts a resolution that the number of licenses be not increased or reduced, was carried. At the General Election of the House of Assembly held on the 10th February, 1912, no local option polls were held in any local option district. At the general election to be held on the 27th March, 1915, a local option poll will be taken in the local option district of Flinders Southern. (See Appendix, Section XXV., *General Government*.)

6. **Western Australia.**—The law relating to local option in Western Australia is contained in Part V. (sections 75 to 86) of the Licensing Act 1911, which was assented to on 16th February, 1911, and came into force on the 7th April following. Prior to the passing of this Act there was no provision for any system of local option in Western Australia.

The resolutions to be submitted under the above-mentioned Act and the effect such resolutions would have, are given in detail in previous issues of the Year Book (see No. 6, p. 1180).

The first vote under the Act of 1911 was taken on 26th April, 1911, the main question being confined (as prescribed by the Act when the vote is taken prior to 1920) to a resolution "that the number of licenses be increased," the only other questions submitted being those of State control of new publicans' general licenses and State management throughout all licensing districts.

The following table shows the result of this local option poll:—

**WESTERN AUSTRALIA.—RETURN SHEWING THE RESULT OF LOCAL OPTION  
POLL OF 26th APRIL, 1911.**

Result of Local Option Poll.		Do you vote that all new Publicans' General Licenses be held by the State.		Are you in favor of State Management throughout all Licensing Districts.	
Votes given in favor of the number of Licenses in the various districts being increased.	Votes given in favor of the number of Licenses in the various districts not being increased.				
		Yes.	No.	Yes.	No.
4,554	17,623	27,007	14,387	26,631	14,944

Under the 1911 Act a second poll was due on 26th April, 1914, but an amending Act was passed in December, 1913, continuing the present conditions until April, 1915. Subsequently, by an amending Act of 1915, the present conditions were further continued until 1918.

7. **Tasmania.**—In this State the subject of local option is dealt with in Part VI. (sections 72 to 84) of the Licensing Act 1902, as subsequently amended by section 8 of the Licensing Act 1908, which later Act, however, does not come into full operation until the first of January, 1917. Other Acts which formerly dealt with the subject, but are now repealed, are the Licensing Acts 1889-1890, the Inn Keepers Relief Act 1894, and the Licensing Act Amendment Act 1898. Under the Act of 1902, opposition to the grant of a license may be made (i.) by any resident ratepayer, (ii.) by petition of rate-payers resident in the neighbourhood, or (iii.) by local option poll.

## PREFERENTIAL VOTING.—VALUATION OF COMMONWEALTH PRODUCTION. 1079

The conditions under which applications may be made to the Licensing Bench, opposing the granting of licenses, are set out in detail in previous issues of the Year Book. (See No. 6, p. 1181.)

*Local Option Poll.* Any number of ratepayers not less than seven, resident in the neighbourhood of the house in respect of which a provisional certificate or an hotel license has been applied for, may require, by petition lodged with the Clerk of Petty Sessions, that a poll of the ratepayers resident in the neighbourhood be taken upon the question whether such provisional certificate be granted or not. If a majority of the votes taken be against the granting of the certificate the Licensing Bench must refuse to grant it.

Particulars as to operations under Part VI. of the Act are not available.

### § 7. Preferential Voting.

In previous issues of the Year Book, a description in detail has been given of the systems of preferential voting now in force in the States of Victoria, Queensland, Western Australia and Tasmania. It is not intended to repeat the description in the present issue.

### § 8. Valuation of Commonwealth Production.

The want of uniformity in methods of compilation and presentation of Australian statistics renders it an extremely difficult task to make anything like a satisfactory valuation of the various elements of production. At present there is so little accurate statistical knowledge regarding such industries as forestry, fisheries, poultry, and bee-farming, that any valuation of the production therefrom can only be regarded as the roughest approximation. As a matter of fact complete information as to value of production in all States is available in regard to the mining industry alone, and even in this case adjustments have to be made before the returns are strictly comparable. Careful estimates have been made in connection with the value of production from the agricultural and pastoral industries, which, it is believed, in the main give fairly accurate results. In the case of manufactories, prior to 1909, five of the States collected statistics of the value of production, while for the sixth State, Tasmania, an estimate has been prepared which it is believed gives a fair approximation. The returns given in the following table are fuller and more approximate than those which have been given previously, and the returns collected in 1909 and subsequent years, however, may be taken as substantially correct. The table hereunder shews the approximate value of the production from all industries during the years 1907 to 1913 :—

ESTIMATED VALUE OF PRODUCTION FROM INDUSTRIES, 1907 to 1913.

Year.	Agriculture.	Pastoral.	Dairy, Poultry, & Bee-farming.	Forestry and Fisheries.	Mining.	Manufacturing.*	Total.
	£1000.	£1000.	£1000.	£1000.	£1000.	£1000.	£1000.
1907 ... ..	30,500	50,660	15,584	4,826	28,301	36,155	166,026
1908 ... ..	37,150	47,259	15,045	4,286	24,580	36,637	164,957
1909 ... ..	41,056	50,864	15,064	4,462	23,039	39,713	174,198
1910 ... ..	39,752	56,993	17,387	4,789	23,215	45,598	187,734
1911 ... ..	38,774	50,725	19,107	5,728	23,480	50,767	188,581
1912 ... ..	45,754	51,615	20,280	6,432	25,629	57,022	206,732
1913 ... ..	46,260	57,866	20,341	6,338	25,808	61,586	218,199

\* These amounts differ from those given in Section XIII., Manufacturing Industries, owing to certain products which are there included having been included in Dairy Farming and Forestry in this table.

The total production from all industries during 1913 was £218,199,000, equal to an average of £45 8s. 6d. per inhabitant.

In Year Books Nos. 1 to 5 will be found the value of production in each State at decennial intervals since 1871, and for the year 1909. Details for individual States are not available for subsequent years owing to discontinuance by the Customs Department of the collection of statistics of interstate trade.

## § 9. Norfolk Island.

**1. Area, Location, etc.**—Norfolk Island, discovered by Captain Cook in 1774, is situated in latitude  $29^{\circ} 3' 45''$  south, longitude  $167^{\circ} 58' 6''$  east. Its total area is 8528 acres, the island being about 5 miles long and 3 miles wide. From Sydney it is distant 930 miles, and from New Zealand 400 miles. The coast line is 20 miles, and its form that of an irregular ellipse. Except on the south-west, inaccessible cliffs rise from the water's edge. The climate is equable, and the average annual rainfall 43 inches.

**2. Settlement.**—The first colonisation, in 1788, was by Lieutenant King, who in H.M.S. *Sirius* established a small penal station as a branch settlement of that at Port Jackson. The settlement was abandoned in 1806, and thence for 20 years its chief use was as a whaling station and place of call for British warships.

From 1826 to 1855 it was again made a penal station. In 1844 it was annexed to Van Diemen's Land (Tasmania).

The descendants of the *Bounty* mutineers having become too numerous to subsist on Pitcairn Island were removed thence to Norfolk Island in 1856. The new community numbered 193, 94 males and 99 females, and were the descendants of British sailors and Tahitian women.

In 1856 the island was severed from Tasmania, and created a distinct and separate settlement under the jurisdiction of New South Wales. In 1897 it was made a dependency under the Governor of that Colony, and was administered by the Chief Secretary's Department through a resident Chief Magistrate, in whom was vested the executive government of the settlement, and the penal supervision of its affairs. In 1913, however, a Bill was passed by the Federal Parliament providing for the taking over of the Island as a territory of the Commonwealth. The Act came into force on 1st July, 1914, and the Island is now administered by the Department of External Affairs, through an Administrator and Chief Magistrate.

**3. Population and Live Stock.**—The population on 31st December, 1914, was 408 males, 380 females, total 788. Of these, 91 males and 10 females were Melanesians being trained at the mission station. The latest returns of live stock shew that there are in the island 1420 cattle, 554 horses, 885 sheep, and 102 pigs.

**4. Production, Trade, etc.**—In 1914 the imports were valued at £11,450, of which £10,716 was imported from New South Wales, and the balance from New Zealand. The exports were valued at £1599, the chief items being fruit, £255; seeds, £232; lemon juice, £276; and hides, £158. Nearly all the export trade was with the Commonwealth, only small amounts going to New Zealand and the South Sea Islands. There is little other production. A monthly steam service is maintained with Sydney; other communication is irregular. The "all red" cable from Great Britain via Vancouver, Fanning Island and Fiji, bifurcates at Norfolk Island, one line connecting with New Zealand, the other with Brisbane.

**5. Social Condition.**—Education is free and compulsory, and there is a public school under the N.S.W. Department of Public Instruction, and with standards corresponding to the State public schools. The number of scholars enrolled is 137 (71 boys and 66 girls). A mission station has for many years been in existence for the education and general training of Melanesians, mostly from the Santa Cruz and Solomon Islands.

The magistrate's court has criminal jurisdiction in all crimes except capital offences, civil jurisdiction in all matters, and authority to grant probate and letters of administration.

### § 10. Lord Howe Island.

1. **Area, Location, etc.**—Between Norfolk Island and the Australian coast is Lord Howe Island in latitude  $31^{\circ} 30'$  south; longitude  $159^{\circ} 5'$  east. It was discovered in 1788. The total area is 3220 acres, the island being seven miles in length and from one-half to one and three-quarter miles in width. It is distant 436 miles from Sydney. The flora is varied and the vegetation luxuriant, with shady forests, principally of palms and banyans. The highest point is Mount Gower, 2840 feet. The climate is mild and the rainfall abundant.

2. **Settlement.**—The first settlement was by a small Maori party in 1853; afterwards a colony was settled from Sydney. Constitutionally, it is a dependency of New South Wales, and is supervised by a visiting magistrate.

3. **Population.** The population at the Census of 3rd April, 1911, was 56 males, 49 females, total 105.

4. **Production, Trade, etc.**—The principal product is the seed of the native or *Kentia* palms. A monthly steamship service is maintained with Sydney. The lands belong to the Crown. The occupants pay no rent, and are tenants on sufferance.

### § 11. Interstate Conferences.

1. **Interstate Conferences, 1914.**—In Year Book No. 7, pages 1055 to 1062, will be found an account of the following conferences :—

- (1) Premiers' Conference, held in Melbourne, March, 1914.
- (2) Murray River Waters Conference, held in Melbourne, March, 1914.
- (3) Treasurers' Conference, held in Melbourne, May, 1914.

In the present edition the Murray Water conference is referred to fully in the section dealing with Water Conservation (page 507).

2. **Premiers' Conference, 1915.**—On the 5th of May, 1915, and following days, a conference of Premiers was held in Sydney. The Prime Minister of the Commonwealth attended by invitation, in order to confer with the Premiers on matters of joint interest to Commonwealth and States. The following are the more important resolutions adopted :—

(i.) *Strategic Railways.* Resolved: That this Conference, recognising the importance of strategic railways, and being anxious to assist the Commonwealth in this connection, but recognising also the importance of avoiding unprofitable and unnecessary multiplications of new lines, is of opinion that the best interests of all will be conserved by an immediate conference between the military advisers of the Commonwealth and the Railway Commissioners of the States directly affected on the question of route; such conference to report to the Commonwealth Government and the Governments of the six States.

(ii.) *Uniform Railway Gauge.* Resolved: That, in the opinion of this Conference, a commission of two leading railway experts, preferably from outside the Commonwealth, should be forthwith appointed by the Government of the mainland States to consider, report, and advise upon the question of unifying the gauge of Australian railways, particularly as to—

- (a) The need for a uniform gauge ;
- (b) The most suitable gauge in the circumstances of existing and probable future development in Australia ;
- (c) The best method of carrying out the unification of gauge deemed advisable ;
- (d) What benefits will result (1) to the Commonwealth ; and (2) to each of the States ;
- (e) The probable cost of such unification.

The expenses of this commission to be borne by the States upon a population basis.

(iii.) *Uniform Federal and State Rolls.* Resolved : That steps be taken to secure electoral roll uniformity between Commonwealth and State.

(iv.) *Old-age and Invalid Pensions.* Resolved : That a more liberal interpretation of the ruling relating to the admission of pensioners to benevolent asylums and payment for their maintenance in institutions be accepted by the Pensions Department, and that when application for admission is made a decision be arrived at without the application having to stand over for three months for consideration, also that full pension rates should be paid to institutions on account of pensioners received within them, either temporarily or permanently.

(v.) *Uniform Food and Drug Standards.* Resolved : That in the opinion of this Conference it is desirable to bring into uniformity as far as practicable the clauses of the various States' Pure Food Acts dealing with the question of guarantee of goods, so as to secure ample protection to the public, and to prevent the use for advertising purposes of any words indicating the existence of a guarantee, and that the Attorney-General of Queensland be requested to prepare a Bill giving effect to the above resolution, for circulation among the States.

(vi.) *Lands Acquisition Bill before Federal Parliament.* Resolved : That it be referred to the States Attorneys-General to draft a clause to the effect that the Commonwealth will obtain the consent of the State Governments prior to any acquisition being made.

(vii.) *Uniform Light and Harbour Dues.* Resolved : That steps be taken to adjust the harbour dues in the various States so that, as far as possible, shipping shall not be diverted from one State to another in consequence of differential charges.

(viii.) *National Insurance against Unemployment.* Resolved : That in the opinion of this Conference it is desirable to introduce a scheme of national insurance on the lines of the British National Insurance Act, and legislation on this subject should be uniform amongst the States ; the Attorney-General of Queensland to prepare a Bill for submission to the Attorney-General of each State with a view to its early enactment by each of the States.

(ix.) *Metallurgical Industries.* Resolved : That this Conference, recognising the great importance to Australia of the treatment of refractory ores and the manufacture of goods and materials from the products thereof, is of opinion that a joint inquiry should be conducted by the States, if possible with the co-operation of the Federal Government, as to any method by which such industries may be established.

## § 12. Interstate Commission.

In accordance with the provisions of the Commonwealth Constitution Act (sections 101 to 104, see page 33) an Act providing for the appointment of the commission was assented to on the 24th December, 1912. The personnel of the commission was, however, not decided until the 11th August, 1913, when Messrs. A. B. Piddington (as Chief Commissioner), G. Swinburne, and N. Lockyer, were appointed. On the 8th

September, 1913, a request was received from the Executive Government of the Commonwealth that the commission should investigate and report as soon as practicable upon the following matters :—

- (a) Any industries now in urgent need of tariff assistance ;
- (b) Anomalies in the existing tariff Acts which are either technical in character or are due to or arise from the incidence of the taxation ;
- (c) The lessening, where consistent with the general policy of the tariff Acts of the cost of the ordinary necessities of life, without injury to the workers engaged in any useful industry.

In accordance with the Government's suggestions, investigations were made by the Commissioners, and a Tariff Investigation Report was presented by them on the 22nd April, 1915. The matters dealt with in the report comprise :—Progress of manufacturing industries ; comparison of the value of output of manufacturing industries with the value of imports ; conflicting interests of different industries ; profits to manufacturers ; salaries and wages ; local prejudice against the use of Australian goods ; complaints of lessening efficiency of workers ; the future of Australian manufacturing industries in the relation to employment ; large-scale industry ; duties on raw materials ; interstate freights ; prohibiting duties ; export duties ; mode of stating the *ad valorem* rates of duty chargeable.

# APPENDIX.

Recent information and returns which have come to hand since the various sections of this book were sent to press, are given hereunder.

## SECTION III.

### PHYSIOGRAPHY.

#### § 1. General Description of Australia.

In the Official Year Book of the Commonwealth, No. 5, pages 51 to 80, the latest available information at that date regarding the islands off the coast of each State was given. A subsequent Admiralty survey of the north-west and Kimberley Coasts of Western Australia has resulted in the following list of islands being added to those already given:—

Name.	Geographical Position.		Approx. Distance from Main-land.	Area in Acres.	Name.	Geographical Position.		Approx. Distance from Main-land.	Area in Acres.
	Lat.	Long.				Lat.	Long.		
	°	'	Miles.			°	'	Miles.	
Koolan ...	16.7	123.46	1	7,200	Allora ...	16.25	123.10	5	720
Longitude ...	16.3	123.22	15	20	Red ...	15.14	123.14	16	160
Margaret ...	16.22	123.23	8	40	Dégerando ...	15.21	123.12	18	630
Wall ...	16.22	123.23	9	30	White ...	15.4	123.21	17	30
Gregory ...	16.19	123.19	15	270	Lucas ...	15.12	124.31	4	650
Doris ...	16.18	123.18	15	40	Commerson ...	15.9	124.39	7½	280
Gibson ...	16.19	123.18	15	180	d'Aguesseau ...	15.10	124.34	5	40
Salier ...	16.19	123.16	18	270	Forbin ...	15.4	124.42	11½	70
Wood ...	16.24	123.20	10	540	Desfontaines ...	15.0	124.50	7	1,170
Leila ...	16.31	123.23	2½	30	Bernouilli ...	15.0	124.46	11½	110
Wybron ...	16.27	123.21	8	5	Desaix ...	14.41	124.53	12	80
Vickery ...	16.29	123.21	5	20	Fontanes ...	14.41	124.56	10	120
Scott ...	16.29	123.21	4½	20	Mably ...	14.45	124.42	11	60
Kessel ...	16.29	123.22	4½	10	Augereau ...	14.43	125.9	†	360
Pope ...	16.30	123.22	4	20	Tournefort ...	14.50	125.3	8½	100
Whipp ...	16.30	123.22	3½	10	Corvisart ...	14.32	125.1	15	80
Honey ...	16.30	123.23	2½	270	Suffren ...	14.33	124.57	21	60
Pasco ...	16.31	123.24	2	900	Combe ...	14.26	125.3	17	40
Hazel ...	16.31	123.23	2½	180	Water ...	14.20	125.30	5	50
MacMahon ...	16.30	123.22	4	200	Warn ...	14.20	125.20	17	30
Dean ...	16.23	123.12	9½	20	Lavoisier ...	14.13	125.39	1	150
Hunt ...	16.24	123.13	10	210	Laplace ...	14.11	125.40	4	200
Holtham ...	16.27	123.7	2½	40	Oliver ...	14.5	125.44	13	450
Lyra ...	16.27	123.6	2	280	Berthoud ...	14.17	125.50	7	120
Middle ...	16.27	123.5	1½	60	Racine ...	14.15	125.50	7	160
Jackson ...	16.26	123.6	2	540	Moliere ...	14.14	125.50	7½	150
Talboys ...	16.24	123.4	4	20	Lagrange ...	14.13	125.46	5	120
Rees ...	16.23	123.5	4	30	White ...	14.11	125.50	9	110
Apex ...	16.24	123.3	1½	10	Lafontaine ...	14.10	125.47	9	360
Leonie ...	16.25	123.6	2½	30	Montesquieu ...	14.6	125.44	10	810
Tallon ...	16.25	123.7	4	540	Borda ...	14.14	126.00	3	2,340
Salural ...	16.23	123.7½	5	30	Steeple Head ...	14.27	125.58	2	720
Poolingin ...	16.24	123.8	6	50	Clerk ...	14.24	125.19	9	15
Imp ...	16.23	123.8	5	50	Monge ...	14.12	125.37	2½	40*
Lalowan ...	16.27	123.9	5	630	Louis ...	14.1	126.36	2	110†
Packer ...	16.33	123.48	½	400	Governor ...	13.57	126.42	1	500†
Swan ...	16.21	123.48	½	30					

\* Three islands.

† Two islands.

‡ Four islands.

## SECTION IV. POPULATION.

### § 4. Elements of Growth of Population.

**3. Net Immigration, p. 100.**—The following table gives particulars of net immigration for the year 1914 :—

#### NET IMMIGRATION,\* 1914.

Particulars.	States.						Territories.		C'wlth.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W.A.	Tas.	North-ern.	Federal	
Arrivals ...	+396,370	305,451	120,544	105,007	27,270	42,647	1,102	†	111,086
Departures ...	+401,558	306,622	117,146	111,555	31,097	47,005	778	†	128,456
Excess of arrivals over departures	+—5,188	—1,171	3,398	—6,548	—3,827	—4,358	324	—†61	—17,370

\* Figures for States and Territories represent Interstate, Interterritorial and Oversea migration; those for Commonwealth represent Oversea migration only. † Including Federal Territory. ‡ Included with New South Wales migration.

**5. Total Increase, p. 103.**—The following table gives particulars of the total increase in population for each State and Territory and for the Commonwealth during the year 1914 :—

#### TOTAL INCREASE OF POPULATION, 1914.

Particulars.	States.						Territories.		C'wlth.
	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	North-ern.	Federal	
Excess of births over deaths ...	34,921	19,719	13,151	8,191	6,161	4,099	—23	44	86,263
Excess of arrivals over departures	—5,115	—1,171	3,398	—6,548	—3,827	—4,358	324	—73	—17,370
Total increase	29,806	18,548	16,549	1,643	2,334	—259	301	—29	68,893

NOTE. — signifies excess of departures over arrivals.

### § 8. Enumerations and Estimates.

**5. Estimates of Population, pp. 114 to 117.**—The following table shows the estimated population of each State and the Commonwealth on the 31st December, 1914 :—

#### ESTIMATED POPULATION ON 31st DECEMBER, 1914.

Particulars.	States.						Territories.		C'wlth.
	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	North-ern.	Federal	
Males ...	966,675	712,594	364,526	220,550	179,188	103,590	3,252	1,056	2,551,431
Females ...	894,847	718,073	312,181	221,140	143,830	97,826	721	903	2,389,521
Total ...	1,861,522	1,430,667	676,707	441,690	323,018	201,416	3,973	1,959	4,940,952



## SECTION V. VITAL STATISTICS.

### § 1. Births.

1. **Male and Female Births, p. 145.**—The total number of male and female births registered, and the birth rates per 1000 of the population in each State and Territory and in the Commonwealth, during the year 1914, were as follows:—

#### BIRTHS AND BIRTH RATES, 1914.

Particulars.	States.						Territories.		C'with.
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Federal	
Males ...	27,452	18,545	10,120	6,668	4,663	3,094	31	31	70,604
Females ...	26,189	17,677	9,762	6,236	4,541	2,923	27	24	67,379
Total ...	53,641	36,222	19,882	12,904	9,204	6,017	58	55	137,983
Birth rates ...	28.96	25.45	29.46	29.33	28.45	30.33	15.46	20.79	28.05

### § 2. Marriages.

1. **Marriages, p. 159.**—The following statement shews the number of marriages registered in each State and Territory and in the Commonwealth, and the marriage rates per 1000 of the mean population, during the year 1914:—

#### MARRIAGES AND MARRIAGE RATES, 1914.

Particulars.	States.						Territories.		C'with.
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Federal	
No. of marriages	17,357	11,829	5,894	4,010	2,660	1,543	17	1	43,311
Marriage rates*	9.37	8.31	8.73	9.11	8.22	7.78	4.53	0.38	8.80

\* Number of marriages, not persons married, per 1000 of mean population.

### § 3. Deaths.

1. **Male and Female Deaths, p. 166.**—The number of deaths registered in each State and Territory and in the Commonwealth during 1914, and the death rates per 1000 of the mean population, are shewn in the following table:—

#### MALE AND FEMALE DEATHS AND DEATH RATES, 1914.

Particulars.	States.						Territories.		C'with.
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Federal	
Male ...	10,984	9,017	4,132	2,321	1,942	1,063	69	7	29,835
Female ...	7,736	7,486	2,599	2,092	1,101	855	12	4	21,885
Total ...	18,720	16,503	6,731	4,713	3,043	1,918	81	11	51,720
Death rates...	10.11	11.59	9.97	10.71	9.41	9.67	21.59	4.16	10.51

## SECTION VII. PASTORAL PRODUCTION.

### § 1. Initiation and Growth of Pastoral Industry.

3. Increase in Numbers (p. 276).—The following table shews the estimated number of horses, cattle, sheep, and pigs in the Commonwealth at 31st December, 1914 :—

#### PRELIMINARY FIGURES—LIVE STOCK AT END OF 1914.

States and Territories.	Horses.	Cattle.	Sheep.	Pigs.
New South Wales ... ..	710,000	2,590,000	36,287,000	*287,896
Victoria ... ..	552,053	1,862,542	12,051,685	243,196
Queensland ... ..	734,912	5,869,741	22,977,996	164,500
South Australia... ..	267,877	300,579	4,208,461	69,893
Western Australia*	156,636	834,265	4,421,375	47,966
Tasmania* ... ..	43,941	205,743	1,745,356	37,990
Northern Territory*	22,792	417,643	67,109	1,018
Federal Territory ... ..	1,700	7,000	136,000	*194
Commonwealth ... ..	2,489,911	11,087,513	81,894,982	852,653

\* 1913 figures, number for 1914 not yet available.

## SECTION VIII. AGRICULTURAL PRODUCTION.

### § 4. Wheat.

1. Progress of Wheat Growing, p. 310.—The following table shews the estimated area under wheat and the prospective yields of wheat in each State and the Commonwealth for the season 1914-15 :—

#### ESTIMATED AREA UNDER WHEAT AND PROSPECTIVE YIELDS, 1914-15.

Particulars.	N.S.W.*	Vic.†	Q'land.†	S. Aust.†	W. Aust.	Tas.	C'wealth.
Estimated area ... Acres	3,423,888	2,863,535	126,880	2,502,630	‡	20,487	\$8,937,420
Prospective yield Bush.	12,784,529	3,940,947	1,582,427	3,527,425	2,700,000	371,229	24,906,560
Average yield per acre "	3.73	1.38	12.47	1.41	‡	18.12	\$2.48

\* Including Federal Territory.  
Western Australia.

† Final figures.

‡ Not available.

§ Exclusive of

### § 21. Government Loans to Farmers.

4. Transactions in each State, p. 363.—The following table gives particulars of transactions of the Agricultural Bank of Western Australia for the year 1913 :—

#### AGRICULTURAL BANK, WESTERN AUSTRALIA, 1913.

Amount advanced to 30th June, 1913.	Improvements Effected to 30th June, 1913.						
	Clearing.	Culti-vating.	Ring-barking.	Fencing.	Draining.	Wells & Reser-voirs.	Build-ings.
£ 2,582,938	£ 1,471,636*	£ 124,893†	£ 246,472	£ 429,782	£ 5,945	£ 138,615	£ 87,075
							£ 2,518,204

\* Including £40,877 for poison and blacklog grubbing.

† Including £4321 for orchards.

## SECTION XII.

## MINES AND MINING.

## § 2. Gold.

**2. Production of Gold at Various Periods, p. 396.**—The Australian gold yield for 1914 is shewn in the subjoined table. The figures are open to final revision, but the totals will not be materially altered :—

## GOLD RAISED IN AUSTRALIA, 1914.

Particulars.	States.						Territories.		C'wealth.
	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Federal	
Quantity Fine ozs.	124,507	409,706	248,395	6,258	1,232,977	26,244	2,532	...	2,050,619
Value ... .. £	528,873	1,740,320	1,055,114	26,581	5,237,351	111,475	10,757	...	8,710,471

## § 8. Iron.

**2. Production of Iron, p. 415.**—On the 2nd June, 1915, the iron and steel works of the Broken Hill Proprietary Company Limited at Port Waratah, Newcastle, were officially opened. The works, which cover an area of over 300 acres, were erected at a cost of nearly £1,500,000. The steel is made by the open hearth process. While the operations of the works will at first be practically confined to the manufacture of steel rails, it is intended to extend the industry so as to include the production of bar, rod, angle, and sheet iron.

## SECTION XIX.

## COMMONWEALTH FINANCE.

## § 5. War Finance (p. 710).

On page 710 a short sketch was given of the measures which were taken to ensure the stability of Australian finance upon the outbreak of the European war in August, 1914. In view of the importance of the subject, a further note is appended, shewing the situation as disclosed by the Federal Prime Minister as at 14th April, 1915. In the interim it had been found that the Imperial loan of £18,000,000, to which reference was made on page 710, was insufficient to defray the expenses of the Expeditionary Forces. The British Government consequently agreed to advance a further £6,500,000 for war purposes, making a total of £24,500,000 to be received by the Commonwealth Government up to 31st December, 1915. Furthermore, the British Government agreed to advance an additional sum of £3,500,000 in order that Commonwealth works, already in progress, might continue without hindrance. These new advances constitute a fresh Imperial loan of £10,000,000.

In purely local finance the most important events are the payment of 3,000,000 sovereigns by the banks into the Treasury vaults, the consequent large expansion of the note issue, and the advances by the Commonwealth Government to the States in pursuance of the agreement referred to already on page 710. Appended is the Australian Notes Account as at 12th April, 1915, which summarises the situation :—

## AUSTRALIAN NOTES ACCOUNT, 12th APRIL, 1915.

<i>Dr.</i>					<i>Cr.</i>
		£		£	
Gold in Treasury ...	...	10,109,165	Notes in circulation ...	...	26,664,329
Account current in bank ...	...	19,523	Net interest ...	...	601,460
Investments ...	...	11,016,750			
(a) Loans to States—					
New South Wales ...	...	2,466,668			
Victoria ...	...	1,650,000			
South Australia ...	...	966,668			
West Australia ...	...	1,033,332			
Tasmania ...	...	333,332			
		27,595,438			
Deduct amount which shortly will be obtained by the issue of Australian notes, but which has been temporarily advanced to the States out of general funds ...	...	329,655			
		£27,265,783			£27,265,783

(a) Instalments of the total loan of £18,000,000.

## SECTION XXV.

## GENERAL GOVERNMENT.

## § 2. Parliaments and Elections.

7. **The Parliament of Queensland, p. 842.**—On the 22nd May, 1915, Parliamentary elections were held in Queensland, at which, for the first time in Australian history, voting on the part of all adults was compulsory. At the time of going to press, the actual returns of the voting were not available, but it would appear that about 95 per cent. of the electors voted. It is intended to institute legal proceedings against those who have wilfully failed to comply with the Act.

The result of the election was that the Government of the day were defeated. The following is a list of the members of the new Cabinet (see page 833):—

Premier, Chief Secretary, Attorney-General and Secretary for Mines,	Hon. T. J. RYAN.
Treasurer and Secretary for Public Works ...	Hon. E. G. THEODORE.
Home Secretary ...	Hon. D. BOWMAN.
Secretary for Agriculture ...	Hon. W. LENNON.
Secretary for Lands ...	Hon. J. MCE. HUNTER.
Secretary for Railways ...	Hon. J. ADAMSON.
Secretary for Public Education ...	Hon. H. F. HARDACRE.
Minister without Portfolio ...	Hon. W. HAMILTON.

8. **The Parliament of South Australia, p. 843.**—At the general elections held on the 27th March, 1915, out of 19 districts only 14 were contested.

The following table shows the number of electors on the rolls in the contested districts, and the numbers of electors who voted:—

### PARLIAMENTARY ELECTION, SOUTH AUSTRALIA, 1915.

State.	Electors on Rolls.			Electors who Voted.*			Percentage of Electors Voting.		
	Males.	Fem.	Total.	Males.	Fem.	Total.	Males.	Fem.	Total.
South Australia ...	91,815	89,701	181,516	70,853	65,168	136,021	77.17	72.65	74.93

\* Subject to slight amendment.

On the same day a referendum was held as to the hour for the closing of bar-rooms in licensed premises (see page 1078). Out of a total of 178,362 votes, 100,418 were cast in favour of closing bar-rooms at 6 p.m., those in favour of closing at 11 p.m. being 61,362. Electors had the choice of voting for hours other than the two mentioned, but the votes so cast were comparatively few.

## SECTION XXVIII.

### DEFENCE.

#### § 5. Australian Contingents.

4. **The European War, 1914, p. 954.**—The First Australian Division and the First Light Horse Brigade which left the Australian rendezvous on 1st November, 1914, and the Fourth Brigade which left about two months later, landed in Egypt, for the defence of that newly-declared province of the Empire, and to undergo further war training in the vicinity of Cairo. Towards the end of April, 1915, these troops left Egypt for the Dardanelles, and on the 25th April came under fire. Acting in conjunction with British, Indian, and French troops, and under the command of General Sir Ian Hamilton, who, as Inspector-General of Oversea Forces, had visited Australia shortly before the outbreak of war (see Official Year Book No. 7, p. 1067), they attacked positions on the Gallipoli Peninsula (Dardanelles). The operation is regarded as having been exceedingly difficult, but the allied troops effected a landing in the face of determined resistance, and have firmly established themselves in Turkish territory. The number of casualties announced by the Defence Department to 8th June, 1915, are as follows:—

Particulars.					Officers.	Other Ranks.	Total.
Died*	...	...	...	...	128	913	1,041
Wounded	...	...	...	...	245	5,409	5,654
Missing	...	...	...	...	14	96	110
Sick	...	...	...	...	9	134	143
Total	...	...	...	...	396	6,552	6,948

\* Killed in action, died of wounds, illness, etc.

(1.) *Australian Imperial Force.*—The number despatched or in training for service in Europe was, on the 14th April, 1915, as follows:—

## AUSTRALIAN IMPERIAL FORCE.

Unit.	Officers.	Other Ranks.	Total.	Horses.	Vehicles.
1st Australian Division—					
Headquarters ...	698	17,677	18,375	5,857	1,331
Three Infantry Brigades ...					
Divisional Troops ...					
1st Light Horse Brigade ...	100	1,868	1,968	2,027	168
2nd Light Horse Brigade ...	92	1,876	1,968	2,024	168
3rd Light Horse Brigade ...	92	1,876	1,968	2,024	168
4th Infantry Brigade ...	148	4,391	4,539	527	188
Lines and Communication Units—					
Reserve Park ...	89	1,727	1,816	430	323
Divisional Ammunition Park ...					
Divisional Supply Column ...					
A.M.C. Hospitals ...					
A.S.C., A.V.S., and A.P.C details...					
First Reinforcements ...	36	2,795	2,831	2,000	...
Second Reinforcements ...	44	3,183	3,227	2,000	...
Third Reinforcements ...	44	3,183	3,227	2,000	...
Fourth Reinforcements ...	44	3,183	3,227	2,000	...
Fifth Reinforcements ...	44	3,183	3,227	2,000	...
Sixth Reinforcements ...	44	3,183	3,227	2,000	...
Seventh Reinforcements ...	...	2,580	2,580	2,000	...
Royal Australian Naval Reserve Bridging Train ...	7	278	285	418	61
Australian Flying Corps ...	4	41	45	...	...
4th Light Horse Brigade ...	93	1,906	1,999	2,058	175
5th Infantry Brigade ...	148	4,403	4,551	527	172
6th Infantry Brigade ...	148	4,403	4,551	527	172
7th Infantry Brigade ...	108	4,403	4,511	527	172
Total ...	1,983	66,139	68,122	30,946	3,098

Recruiting has continued since the above table was prepared. The latest available total is given on the following page.

(2.) *Australian Naval and Military Expeditionary Force.*—This force was raised and despatched for service in German New Guinea. It consisted of—

Unit.	Officers.	Other Ranks.	Total.
Australian Naval Reserve ...	18	420	438
Infantry ...	44	1,040	1,084
Total ...	62	1,460	1,522

The above force served from 15th August, 1914, to 4th March, 1915, and is now disbanded. The casualties were :—

Particulars.	Officers.	Other Ranks.	Total.
Killed in action ...	2	5	7
Wounded ...	1	5	6
Died ...	...	7	7
Total ...	3	17	20

German New Guinea is now occupied by a later unit, despatched on and after 28th November, 1914, and consisting of 29 officers and 428 other ranks.

(3.) *Total Commonwealth Expeditionary Forces*.—The following table shews the total Commonwealth forces, serving and training, and including casualties, from the commencement of the war to 31st May, 1915:—

**STRENGTH OF COMMONWEALTH FORCES, DESPATCHED, AND IN TRAINING,  
TO 31st MAY, 1915.**

Officers.	Other Ranks.	Total.
2,758	79,516	82,274

### § 6. Special Defence Legislation.

1. **War Precautions Act 1914**.—On the outbreak of war in Europe, the Federal Parliament passed an Act to enable the Governor-General to make regulations and orders for the safety of the Commonwealth during the state of war. The following are the provisions of the Act, as assented to on the 29th October, 1914, and amended on the 30th April, 1915:—

1. This Act may be cited as the *War Precautions Act 1914*, and shall be incorporated and read as one with the *Defence Act 1903-1912*.

2. (i.) This Act shall continue in operation during the continuance of the present state of war, and no longer.

(ii.) For the purposes of this Act, the present state of war means the period from the fourth day of August One thousand nine hundred and fourteen, at the hour of eleven o'clock post meridiem reckoned according to Greenwich standard time, until the issue of a proclamation by the Governor-General that the war between His Majesty the King and the German Emperor and between His Majesty the King and the Emperor of Austria and King of Hungary has ceased.

3. All regulations and orders made by the Governor-General since the commencement of the present state of war shall be deemed to have been made in pursuance of the powers conferred by this Act, and any contravention thereof or non-compliance therewith, whether before or after the commencement of this Act, shall be deemed to be an offence against this Act and shall be punishable accordingly.

4. (i.) The Governor-General may make regulations for securing the public safety and the defence of the Commonwealth, and in particular with a view—

- (a) To prevent persons communicating with the enemy, or obtaining information for that purpose or for any purpose calculated to jeopardise the success of the operations of any of His Majesty's forces, in Australia or elsewhere, or the forces of His Majesty's allies, or to assist the enemy; or
- (b) To prevent the transmission abroad, except through the post, of any letter, post-card, letter-card, written communication, or newspaper; or
- (c) To secure the safety of His Majesty's forces and ships and the safety of any means of communication or of any railways, ports, harbors, or public works; or

- (d) To prevent the spread of false reports or reports likely to cause disaffection to His Majesty or public alarm, or to interfere with the success of His Majesty's forces by land or sea, or to prejudice His Majesty's relations with foreign powers ; or
- (e) To secure the navigation of vessels in accordance with directions given by or under the authority of the Naval Board ; or
- (f) Otherwise to prevent assistance being given to the enemy or the successful prosecution of the war being endangered,

and for conferring such powers and imposing such duties as he thinks fit, with reference thereto, upon the Naval Board and the Military Board, and the members of the naval and military forces of the Commonwealth, and other persons.

(ii.) Any such regulations or any orders made thereunder affecting the pilotage of vessels may supersede any enactment (whether of the Commonwealth or a State), order, by-law, regulation, or provision as to pilotage.

(iii.) The Minister may—

- (a) Require that there shall be placed at his disposal the whole or any part of the output of any factory or workshop in which arms, ammunition, or warlike stores or equipment, or any articles required for the production thereof are manufactured ; and
- (b) Take possession of and use for the purpose of His Majesty's naval or military service any such factory or workshop or any plant thereof ;

and the power to make regulations under this Act shall extend to the making of regulations in relation to the matters specified in this sub-section.

5. (i.) The Governor-General may by order published in the *Gazette* make provision for any matters which appear necessary or expedient with a view to the public safety and the defence of the Commonwealth, and in particular—

- (a) For prohibiting aliens, either generally or as regards specified places, and either absolutely or except under specified conditions and restrictions, from landing or embarking in the Commonwealth ;
- (b) For deporting aliens from the Commonwealth ;
- (c) For requiring aliens to reside and remain within certain places or districts ;
- (d) For prohibiting aliens from residing or remaining in any areas specified in the order ;
- (e) For requiring aliens residing in the Commonwealth to comply with such provisions as to registration, change of abode, travelling, trading, or otherwise as are specified in the order ;
- (f) For applying to naturalised persons, with or without modifications, all or any provisions of any order relating to aliens ;
- (g) For requiring any person to disclose any information in his possession as to any matter specified in the order ;
- (h) For preventing money or goods being sent out of Australia except under conditions approved by the Minister ;
- (i) For appointing officers to carry the order into effect, and for conferring on such officers and on the Minister, and on the Naval Board and the Military Board such powers as are necessary or expedient for the purposes of the order ; and
- (j) For conferring on such persons as are specified in the order such powers with respect to the administration of oaths, arrest, detention, search of premises and persons, inspecting, impounding, or retention of books, documents and papers, and otherwise as are specified in the order, and for any other matters necessary or expedient for giving effect to the order.

(ii.) Any provision of any order made under this section with respect to aliens may relate either to aliens in general or to any class or description of aliens.



6. (i.) Any person who contravenes, or fails to comply with, any provision of any regulation or order made in pursuance of this Act shall be guilty of an offence against this Act.

(ii.) An offence against this Act may be prosecuted either summarily or upon indictment, or, if the regulations so provide, by court-martial, but an offender shall not be liable to be punished more than once in respect of the same offence.

(iii.) The punishment for an offence against this Act shall be as follows :—

(a) If the offence is prosecuted summarily—a fine not exceeding One hundred pounds or imprisonment for a term not exceeding six months, or both ;

(b) If the offence is prosecuted upon indictment—a fine of any amount or imprisonment for any term, or both :

Provided that where it is proved that the offence is committed with the intention of assisting the enemy the person convicted of such an offence shall be liable to suffer death ;

(c) If the offence is prosecuted by court-martial—the same punishment as if the offender had been a person subject to military law and had on active service committed an offence under section 5 of the Army Act :

Provided that where it is proved that the offence is committed with the intention of assisting the enemy the person convicted of such an offence by a court-martial shall be liable to suffer death.

(iv.) For the purpose of the trial of a person summarily or upon indictment for an offence against this Act the offence shall be deemed to have been committed either at the place in which it actually was committed or (subject to the Constitution) at any place in which the person may be.

(v.) For the purpose of the trial by court-martial of a person for an offence under the regulations the person may be proceeded against and dealt with as if he were a person subject to military law and had on active service committed an offence under section 5 of the Army Act.

(vi.) Notwithstanding the preceding provisions of this section, no person other than an alien enemy or a person subject to the Naval Discipline Act or to military law shall be tried by court-martial for an offence against this Act :

Provided that before the trial of any person to whom this sub-section applies and as soon as practicable after arrest the general nature of the charge shall be communicated to him in writing and notice in writing shall at the same time be given in the prescribed form of his rights under this sub-section.

(vii.) In the event of any special military emergency arising out of the present war the Governor-General may, by proclamation, forthwith suspend the operation of sub-section (vi.) of this section, either generally or as respects any area specified in the proclamation, without prejudice, however, to any proceedings under this section which may be then pending in any civil court :

Provided that while such proclamation is in force, any sentence passed by a court-martial against a person to whom sub-section (vi.) of this section applies shall be referred to the Governor-General for confirmation, mitigation, or remission.

(viii.) The regulations may authorise a civil court or court-martial, in addition to any other punishment, to order the forfeiture of any goods in respect of which an offence against this Act has been committed.

7. Whoever aids, abets, counsels, or procures, or is in any way directly or indirectly knowingly concerned, in the commission of any offence against this Act, shall be deemed to have committed that offence, and shall be punishable accordingly.

8. (i.) When any person is convicted of an offence against this Act, the Court before which he is convicted may, either in addition to or in lieu of any punishment provided for the offence, require him to enter into recognisances with or without sureties to comply with the provisions of the regulations or order in relation to which the offence was committed.

(ii.) If any person fails to comply with an order of the Court requiring him to enter into recognisances, the Court may order him to be imprisoned for any term not exceeding six months.

9. If any question arises on any proceedings under any order made in pursuance of this Act, or with reference to anything done or proposed to be done under any such order, whether any person is an alien or not, or is an alien of a particular class or not, the onus of proving that that person is not an alien, or, as the case may be, is not an alien of that class, shall lie upon that person.

10. The Governor-General may, by order published in the *Gazette*, revoke, alter, or add to any order made in pursuance of this Act as occasion requires.

11. All powers given under this Act, or under any instrument issued in pursuance of this Act, shall be in addition to and not in derogation of any other powers exercisable apart from this Act.

**2. Enemy Contracts Annulment Act.**—This Act was passed by the Commonwealth Government, and assented to on the 24th May, 1915. The following are the provisions of the Act:—

1. This Act may be cited as the *Enemy Contracts Annulment Act* 1915.

2. In this Act, "enemy subject" means—

- (a) Any person who is an enemy within the meaning of any Proclamation relating to trading with the enemy made by the King or the Governor-General and published in the *Gazette*, or
- (b) Any person, firm, or company, the business whereof is managed or controlled, directly or indirectly, by or under the influence of enemy subjects, or is carried on wholly or mainly for the benefit or on behalf of enemy subjects, notwithstanding that the firm or company may be registered or incorporated within the King's dominions.

3. (i.) In this section, "enemy contract" means any contract—

- (a) To which an enemy subject is a party, or
- (b) In which an enemy subject has, in the opinion of the Attorney-General, a material interest, or
- (c) Which is or is likely to be for the benefit of enemy subjects or of enemy trade.

(ii.) Any party to a contract may file with the Attorney-General of the Commonwealth a copy of the contract, and apply to the Attorney-General of the Commonwealth for a declaration that the contract is or is not an enemy contract within the meaning of this section.

(iii.) If the Attorney-General declares that the contract is an enemy contract, then, upon the publication of his declaration in the *Gazette*, the contract shall be deemed to be an enemy contract.

(iv.) If the Attorney-General declares that the contract is not an enemy contract, then, upon the publication of his declaration in the *Gazette*, the contract shall be deemed not to be an enemy contract.

(v.) Every enemy contract made before the commencement of the present war is hereby declared to be and to have been null and void, as from the commencement of the present war, as regards all rights and obligations thereunder except such rights and obligations as relate to goods which had already been delivered or acts which had already been performed at that time, or such as arise out of, or in consideration for, such delivery or performance.

(vi.) Every enemy contract made before or after the commencement of this Act, during the continuance of the present war, is hereby declared to be null and void, and of no effect whatever.

4. (i.) Either party to a contract to which this section applies may, by notice in writing to the other party, terminate the contract as regards all rights and obligations relating to any future supply or delivery under the contract.

(ii.) A contract to which this section applies is any contract for the sale or delivery of goods, the performance of which—

(a) Is by operation of law or by the terms of the contract suspended, or

(b) Is or may be by act of a party suspended, or

(c) Is claimed by the party against whom the notice is given to be suspended, during or on account of the present war.

(iii.) A notice of termination of a contract, given before the passing of this Act, shall be as good and effective to terminate the contract as if this Act had been passed before the notice was given.

(iv.) No action shall be brought against any party to a contract, to which this section applies, by reason of any non-performance of the contract after the commencement of the war.

### § 7. Internment of Enemy Subjects.

The following table shews the estimated number of male enemy subjects (natives of Germany, Austria-Hungary, and Turkey, whether naturalised or otherwise, but exclusive of persons of British parentage), in each State at the 31st July, 1914, the estimated number naturalised, and also the number interned in each military district at 27th May, 1915. While the States and military districts are not quite conterminous, they approximate sufficiently to admit of the comparison :—

#### MALE ENEMY SUBJECTS IN THE COMMONWEALTH, SHEWING THE NUMBERS NATURALISED AND INTERNED.

State and Military District.		Male Enemy Subjects.*	Number Naturalised.*	Number not Naturalised.*	Number Interned.†
Queensland	1st Military Dist.	8,080	6,640	1,440	137
New South Wales	2nd " "	6,460	4,330	2,130	1,342
Victoria	3rd " "	4,920	3,300	1,620	420
South Australia	4th " "	3,270	2,630	640	355
Western Australia	5th " "	3,190	1,280	1,910	628
Tasmania	6th " "	380	320	60	58
Total	... ..	26,300	18,500	7,800	2,940

\* These figures are based on Census returns, and can only be considered as a rough approximation. † Including a small number of naturalised subjects.

The number of female enemy subjects in the Commonwealth at 31st July, 1914, is estimated at about 12,000.

## SECTION XXII.

### PUBLIC INSTRUCTION.

#### § 5. Universities.

**4. University Extension.**—*Educational Conference on Trade Unionism.* The first Australian Educational Conference on Trade Unionism was held in Sydney on the 5th and 7th June, 1915. This conference was held under the auspices of the Workers' Educational Association of New South Wales, the New South Wales Trade and Labour Council, and the Sydney Economic Research Society. This Conference was the first of its kind held in Australia, and represents a useful extension of the activities of the Workers' Educational Association, a body whose main object is to bring the workers into direct touch with the higher sources of learning (see page 781 hereinbefore). The importance of the conference lies not only in the varied nature of the papers discussed, but also in the combination of interests represented, and in the active discussion on the several papers. The number of delegates present was considerably over 100. About 65 of these were delegates from trade unions, including many of the most important unions in the Commonwealth. The other delegates comprised members of the Federal and State Legislatures, and of the staff of Sydney University, ministers of religion, members of the learned professions, and of the Commonwealth and State Public Services. Papers were read on the following subjects, viz.:—"The Relationship of Trade Unionism to Co-operation, Co-partnership, and Profit-sharing;" "Trade Unionism and Industrial Efficiency;" "Trade Union Administration and Industrial and Craft Unionism;" "The Historical Development of Trade Unionism in Australia;" "The Effect of Industrial Legislation in the Aims and Ideals of the Workers;" and "The Relation of Industrial Arbitration to Socialism."

It is understood that one result of the conference is that a considerable stimulus will be given to the study of social and industrial problems of vital importance not only to trade unionists but to other sections of the community also.

## SECTION XXXIII.

### LABOUR AND INDUSTRIAL STATISTICS.

**Control of Trade and Prices during War.**—Shortly after the outbreak of war, steps were taken to hold a conference of Federal and State Ministers to discuss the financial position and other matters, and it was decided that for the purpose of controlling the prices of foodstuffs, each State should introduce *uniform* legislation, since it was obvious that this was necessary in view of all the circumstances.

Particulars of the various Acts passed by the State Governments will be found in Labour Bulletin No. 6, September, 1914, pages 132-147.

As a further outcome of the conference, in addition to the various State Boards and Commissions, a Federal Royal Commission, consisting of the Hon. Alfred Deakin (chairman), the Hon. Dugald Thomson, formerly Minister for Home Affairs, and Mr. G. H. Knibbs, C.M.G., Commonwealth Statistician, was appointed to collect information and report upon such matters as the supply of foodstuffs and other necessities required by and available for Australia during the war; the amount then available and likely to be so for export, having due regard to the requirements of Australia; the development of fresh sources of supply; and any other important matters relating to conditions of trade and industry arising from the war. This commission ceased to exercise its functions after the 30th October, 1914.

Further information regarding the operations under the various Acts will be published in future issues of the Labour Bulletin.

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