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COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,
CANBERRA.

OFFICIAL

YEAR BOOK

OF THE

COMMONWEALTH OF AUSTRALIA

No. 24.—1931

Prepared under Instructions from
The Minister of State for Home Affairs,

BY

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PREFACE.

By the Constitution of the Commonwealth of Australia, the Parliament of the Commonwealth is empowered "to make laws for the peace, order, and good government of the Commonwealth, with respect to Census and Statistics." In the exercise of 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 twenty-fourth Official Year Book issued under the authority of the Commonwealth Government.

The synopsis on pp. ix. to xxii. immediately following shows the general arrangement of the work. In addition to the ordinary Chapters, each issue contains at least one special article dealing with some particular subject of more or less permanent interest. The special index provided at the end of the volume, together with certain references given in the various Chapters, will assist in tracing in previous issues matter which is not printed fully in the present volume. Owing to considerations of economy it is again necessary to present portions of some of the Chapters in a greatly abbreviated form, and the volume as a whole is some 270 pages smaller than the issue of 1929.

Present economic and financial conditions have caused a demand for new information, or information expressed in new terms, concerning many matters of finance, trade, production and industry. The need for economy hampers the collection of this material, and the need for abbreviation precludes adequate presentation of some that is available. The editing of the Year Book is, therefore, particularly difficult this year, involving the continual balancing of the claims of old material and new. Some progress has been made in bringing closer to present day requirements the Chapters dealing with production, trade, population and vital statistics, etc., and a section has been added to the Appendix giving a summary of the chief events in the financial crisis. Attention may be called to new information, or to new treatment of old information in respect to:—

- Chapter VI. Trade—Balance of Payments (pp. 114, 754.).
Exports, Australian Produce, according to Industries (Graph) (p. 140).
- Chapter VII. Transport and Communication—Comparative Telegraph Density (p. 229).
- Chapter VIII. Finance—Commonwealth Revenue and Expenditure (pp. 239, 240).
Commonwealth Public Debt and Interest Payable (pp. 258–261).
Commonwealth and State Finance (pp. 281–284).
Exchange Rates (pp. 294, 295).
Savings Banks Accounts (p. 297).
Fire, Marine and General Insurance (pp. 307, 308).
The Financial Crisis (p. 757).
- Chapter XIII. Labour, Wages and Prices—Retail Price Index-numbers (Change of Base) (pp. 363–371).
Retail Price Index-numbers (Commonwealth Arbitration Court Series—1911 Base). (pp. 768–9).
- Chapter XIV. Defence—Strength of Militia Forces and Senior Cadets (p. 413).
War Pensions (pp. 419, 420).
Settlement of Soldiers on the Land and Losses thereon (pp. 421, 422).
- Chapter XV. The Territories of the Commonwealth—Federal Capital Territory—Finance (pp. 432, 433).

- Chapter XVI. Pastoral Production—Value of Pastoral Production (p. 466).
Consumption of Meats (p. 466).
- Chapter XVII. Agricultural Production—Chief Crops—Area and Yield (pp. 490, 491).
Agricultural Production—Gross and Net Values (pp. 491, 492).
Wheat—Area, Production and Prices (pp. 493, 494).
Wheat—Local Consumption (p. 498).
Rice—Area, Production, etc. (p. 509).
Consumption of Potatoes (p. 511).
Raisins and Currants—Marketing and Prices (p. 524).
Principal Fruit Crops (pp. 526, 527).
Bounties (pp. 532, 533).
- Chapter XVIII. Farmyard Dairy and Bee Products—Butter Stabilization Scheme (pp. 537, 538).
- Chapter XXII. Manufacturing Industry—Power used in Factories (pp. 602–604).
- Chapter XXV. Vital Statistics—Causes of Death (p. 718).
- Chapter XXVI. Miscellaneous—Valuation of Australian Production (p. 744).

The present issue contains a specially-contributed article, dealing with "Canberra Past and Present", placed at the end of Chapter XV., The Territories of the Commonwealth.

Recent information or returns which have come to hand since the various Chapters were sent to press will be found in the Appendix, (pp. 753 to 772).

The material contained in each issue is always carefully examined, but it would be idle to hope that all error has been avoided. I am grateful to those who have been kind enough to point out defects or make suggestions.

My best thanks are due to the State Statisticians, who have collected and compiled the data on which the greater part of the information given in the Year Book is based. Thanks are also due to the responsible officers of the various Commonwealth and State Departments, and to others, who have kindly, and often at considerable trouble, supplied information for this issue.

I wish to express my keen appreciation of the valuable work performed by Mr. J. Stonham, M.A., the Editor of the Year Book, and of the services rendered by the officers in charge of the various branches of the Commonwealth Bureau of Census and Statistics, upon whom has devolved the duty of revising, or in some cases of re-writing, the Chapters relative to their respective branches.

L. F. GIBLIN,

Acting Commonwealth Statistician.

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,

Canberra, 23rd December, 1931.

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STATISTICAL SUMMARY.

STATISTICAL SUMMARY, AUSTRALIA, 1871 TO 1930.

Heading.	Years.						
	1871.	1881.	1891.	1901.	1911.	1921.	1930.
Population ..	Males 928,918	1,247,059	1,736,617	2,004,836	2,382,232	2,798,727	3,304,091
	Females 771,970	1,059,677	1,504,368	1,820,077	2,191,554	2,710,346	3,171,941
	Total 1,700,888	2,306,736	3,240,985	3,824,913	4,573,786	5,509,073	6,476,032
Births ..	No. 63,625	80,004	110,187	102,945	122,193	136,198	123,399
	Rate 38.00	35.26	34.47	27.16	27.21	24.95	19.98
Deaths ..	No. 22,175	33,327	47,430	46,330	47,869	54,076	55,331
	Rate 13.24	14.69	14.84	12.22	10.66	9.91	8.59
Marriages ..	No. 11,623	17,244	23,862	27,753	39,482	46,869	43,255
	Rate 6.94	7.60	7.47	7.32	8.79	8.59	6.71
Agriculture—							
Wheat ..	Area, acs. 1,279,778	3,002,064	3,335,528	5,115,965	7,427,834	9,719,042	14,976,564
	Yld., bshl. 11,917,741	21,443,862	25,675,265	38,561,619	71,636,347	129,038,806	126,384,622
	Av. " 9.31	7.16	7.70	7.54	9.64	13.28	8.47
Oats ..	Area, acs. 225,492	194,816	246,129	461,430	616,794	733,406	1,516,871
	Yld., bshl. 4,251,639	4,795,897	5,726,256	9,789,854	9,561,833	12,147,433	14,424,133
	Av. " 18.85	24.62	23.27	21.22	15.50	16.56	9.52
Barley ..	Area, acs. 48,164	75,864	68,068	74,511	116,466	298,910	451,339
	Yld., bshl. 726,158	1,353,380	1,178,560	1,519,819	2,056,836	6,085,685	7,588,852
	Av. " 15.08	17.84	17.31	20.40	17.66	20.36	17.81
Maize ..	Area, acs. 142,078	165,777	234,428	294,840	340,065	305,186	297,502
	Yld., bshl. 4,576,635	5,726,266	9,261,922	7,034,786	8,939,855	7,840,438	7,946,320
	Av. " 32.21	34.54	32.56	23.86	26.29	25.69	26.71
Hay ..	Area, acs. 303,274	768,388	942,166	1,688,402	2,518,351	2,994,519	2,658,661
	Yld., tons 375,871	767,194	1,067,255	2,024,608	2,867,973	3,902,189	2,725,244
	Av. " 1.24	1.00	1.13	1.20	1.14	1.30	1.02
Potatoes(a) ..	Area, acs. 67,911	76,265	112,884	100,685	130,463	149,144	123,980
	Yld., tons 212,896	243,216	380,477	322,524	301,489	388,091	342,541
	Av. " 3.13	3.19	3.37	2.94	2.31	2.60	2.76
Sugar Cane ..	Area, acs. 11,576	19,708	45,444	86,950	101,010	128,356	222,847
	Yld., tons 176,632	349,627	737,573	1,367,802	1,682,250	2,436,890	3,755,375
(d) Av. " 15.25	17.74	16.23	15.73	16.65	18.99	16.85	16.85
Vineyards ..	Area, acs. 16,253	14,570	48,882	63,677	60,602	92,414	116,225
	Wine, gal. 2,104,000	1,438,000	3,438,000	5,316,087	4,975,147	8,542,573	16,069,112
Total value all agricultural production ..	£ 8,941,000	15,519,000	16,988,000	23,835,000	38,774,000	81,890,000	77,109,000
Pastoral, dairying, etc.—							
Live Stock ..	Sheep No. 40,072,955	65,092,719	106,421,068	72,040,211	96,886,234	86,119,068	106,977,486
	Cattle " 4,277,223	8,010,991	11,112,112	8,401,428	11,828,954	14,441,309	(e) 11,202,134
	Horses " 701,530	1,088,029	1,584,737	1,620,420	2,278,226	2,438,182	(e) 1,845,614
	Pigs " 586,017	703,188	845,888	931,309	1,110,721	960,385	(e) 1,018,324
Wool prod., lb. greasy ..	179,000,000	332,759,000	681,587,000	543,131,661	721,298,258	721,678,346	937,596,816
Butter production ..	lbs. (c)	(c)	42,314,585	103,747,295	212,073,745	267,071,340	299,080,545
Cheese ..	(c)	(c)	10,130,945	11,845,153	15,886,712	32,653,003	30,178,020
Bacon and ham ..	(c)	(c)	16,771,886	34,020,829	53,335,092	58,626,469	70,101,981
Total estimated value of pastoral and dairying production ..	£ 20,736,000	29,538,000	39,256,000	36,890,000	72,883,000	119,399,000	133,961,000
Mineral production—							
Gold ..	£ 7,916,627	5,194,390	5,281,861	14,017,538	10,551,624	4,018,635	1,981,971
Silver and lead ..	£ 36,046	45,622	3,736,352	2,248,598	3,022,177	1,539,932	2,243,313
Copper ..	£ 830,242	714,003	367,373	2,215,431	2,564,278	803,957	810,657
Tin ..	£ 24,020	1,145,869	560,502	448,234	1,209,973	418,418	218,053
Zinc ..	£ 369	200	2,979	4,067	1,415,169	283,455	1,005,409
Coal (black) ..	£ 330,510	637,865	1,912,353	2,602,733	3,927,360	10,983,757	7,453,576
Total value all mineral production ..	£ 9,190,330	7,820,290	12,074,106	21,816,772	23,302,878	19,977,384	15,883,595
Forestry production—							
Quantity of local timber sawn or hewn 1,000 sup. ft. ..	(c)	(c)	(c)	452,131	604,794	590,495	484,637
Manufactories—							
No. of factories ..					14,455	18,023	22,700
Hands employed ..					311,710	378,540	419,194
Wages paid ..					27,528,377	63,050,861	84,717,033
Value of production ..					51,259,004	121,674,119	156,364,432
Total value of output ..					133,022,090	320,331,765	390,912,373

(a) Partly estimated 1871 and 1881. (b) Owing to variation in classification and lack of information effective comparison is impossible. (c) Information not available. (d) Area of productive cane. (e) 1929 figures.

STATISTICAL SUMMARY.—AUSTRALIA, 1871 TO 1930—continued.

Heading.	Years.						
	1871.	1881.	1891.	1901.	1911.	1921.	1930.
Shipping—							
Oversea vessels (No. ent. & cleared { ton.	2,748 1,312,642	3,284 2,549,364	3,775 4,720,307	4,028 6,541,991	4,174 9,984,801	3,674 9,503,018	3,061 10,944,127
Commerce (c)—							
Imports oversea £	17,017,000	29,067,000	37,711,000	42,434,000	66,967,488	103,066,436	131,081,320
.. per head £	10/3/3	12/16/2	11/16/0	11/3/11	14/18/2	18/14/1	20/8/8
Exports oversea £	21,725,000	27,528,000	36,043,000	49,696,000	79,482,258	127,846,536	125,127,148
.. per head £	12/19/6	12/2/8	11/5/6	13/2/2	17/13/10	23/4/1	19/10/2
Total oversea trade £	38,742,000	56,595,000	73,754,000	92,130,000	146,449,746	230,912,971	256,208,468
.. per head £	23/2/9	24/18/10	23/1/6	24/6/3	32/12/2	41/18/2	39/18/10
Customs and excise duties .. £	(e)	4,809,326	7,440,880	8,656,530	13,515,005	27,565,199	41,683,687
.. per head £	(e)	2/2/5	2/6/7	2/5/8	2/19/2	5/0/1	6/9/11
Principal Oversea Exports (a)—							
Wool { lbs. (greasy) £	176,635,800	328,360,200	619,259,800	518,018,100	720,364,900	927,833,700	789,229,800
.. centsals £	9,459,629	13,173,026	19,940,029	15,237,454	26,071,193	47,977,044	36,596,600
Wheat £	479,954	3,218,792	5,876,875	12,156,035	33,088,704	59,968,334	24,234,424
Flour £	193,732	1,189,762	1,938,864	2,774,643	9,641,608	28,044,155	10,036,535
.. tons £	12,988	49,549	33,363	86,814	175,891	359,734	465,733
Butter £	170,415	519,635	328,423	589,004	1,391,529	5,519,881	4,948,927
.. lbs. £	1,812,700	1,298,800	4,239,500	34,607,400	101,722,100	127,347,400	107,663,114
Skins and hides £	45,813	39,383	206,868	1,451,165	4,637,362	7,988,078	7,001,540
Tallow .. £	100,123	316,878	873,695	1,250,938	3,227,236	3,130,810	6,584,614
Meats .. £	914,278	644,149	571,060	677,745	1,935,836	1,441,795	991,592
Timber (undressed) £	566,780	382,965	460,894	2,611,244	4,303,159	5,542,102	6,259,924
Gold .. £	42,586	118,117	38,448	731,301	1,023,960	1,158,166	790,689
Silver and lead £	7,184,833	6,445,365	5,703,532	14,315,741	12,045,766	3,483,239	26,868,539
Copper .. £	37,891	57,954	1,932,278	2,250,253	3,212,584	2,697,180	4,470,528
Coal .. £	593,538	676,515	417,687	1,619,145	2,345,961	705,358	6,670,608
Govt. Railways—							
Lgh. of line open, mls.	970	3,832	9,541	12,579	16,078	23,296	26,605
Capital cost £	19,269,786	42,741,350	99,764,090	123,223,779	152,194,603	237,479,695	329,500,024
Gross revenue £	1,102,650	3,910,122	8,654,085	11,033,468	17,847,837	35,936,900	45,778,437
Working expenses £	608,332	2,141,735	5,630,182	7,133,617	10,945,727	29,960,954	37,996,145
Per cent. of work'g expenses on earnings %	55.17	54.77	65.06	64.6.	61.33	83.39	83.00
Postal—							
Letters and postcards dealt with No.	24,382,000	67,640,000	157,297,000	220,853,000	453,063,000	569,343,456	(d) 796,145,400
.. per head ..	14.54	29.61	49.07	58.28	100.90	104.36	130.29
Newspapers dealt with No.	3,336,000	38,063,000	85,280,000	102,727,000	141,638,000	130,882,425	(d) 188,715,200
.. per head ..	7.95	16.66	26.61	27.10	31.54	24.18	(d) 30.88
Cheque-paying Banks—							
Note circulation £	2,456,487	3,978,711	4,417,269	3,406,175	(b) 876,428	211,187	199,337
Coin & bullion held £	6,168,869	9,108,243	10,712,923	19,737,572	30,024,225	22,092,371	6,131,312
Advances .. £	26,039,573	57,732,824	129,741,583	89,167,499	116,769,133	233,214,626	299,394,981
Deposits .. £	21,856,959	53,840,455	98,345,338	96,965,530	147,103,081	273,866,737	(h) 310,564,326
Savings Banks—							
Number of accounts open ..	100,715	250,070	614,741	964,553	1,600,112	3,327,456	5,105,045
Total deposits £	3,193,285	7,854,480	15,336,592	30,882,643	59,393,682	154,396,051	217,510,517
Aver. per account £	31/14/2	31/8/2	25/5/6	32/0/4	37/2/4	46/8/0	42/12/2
.. head of population £	1/18/9	3/10/5	4/18/7	8/3/0	13/8/5	28/0/4	33/15/7
State Schools—							
Number of schools ..	2,502	4,494	6,231	7,012	8,060	9,445	(g) 10,263
Teachers .. No.	4,641	9,928	12,564	14,500	16,971	20,126	(g) 32,391
Enrolment ..	236,710	432,820	561,153	638,478	638,850	819,042	(g) 925,299
Aver. attendance ..	137.76	255.143	350.773	450.246	663.799	666.498	(g) 777.626

(a) Australian produce, except gold, which includes re-exports. (b) Decrease due to prohibition of re-issue. (c) Figures for Commerce for year 1921 relate to year ended 30th June following. (d) 1927 figures. (e) Not available. (f) Includes Commonwealth Savings Bank deposits. (g) 1929 figures. (h) Excludes Commonwealth Savings Bank deposits.

CHRONOLOGICAL TABLE.

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

NOTE.—The Government was centralized 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. Branch Settlement established at Norfolk Island. French navigator Lapérouse visited 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.—Arrival of "Third Fleet." Territorial seal brought by Governor King.
- 1792 N.S.W.—Visit of *Philadelphia*, first foreign trading vessel.
- 1793 N.S.W.—First free immigrants arrived in the *Bellona*. 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.—Insularity of Tasmania proved by voyage of Bass and Flinders.
- 1800 N.S.W.—First export of coal. First Customs House in Australia established at Sydney. Flinders' charts published.
- 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 settlement at 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. 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.
- 1809 N.S.W.—Isaac Nichols appointed to supervise delivery of overseas letters.
- 1810 N.S.W.—Post-office officially established at Sydney, Isaac Nichols' first post-master. First race meeting in Australia at Hyde Park, Sydney. 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.

Year.

- 1815 N.S.W.—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.
- 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.
- 1818 N.S.W.—Cessation of free immigration. Liverpool Plains, and the Peel, Hastings, and Manning Rivers discovered by Oxley, and Port Essington by Captain King.
- 1819 N.S.W.—First Australian Savings Bank opened at Sydney.
- 1820 Tas.—First importation of pure merino sheep.
- 1821 Tas.—Establishment of penal settlement at Macquarie Harbour.
- 1823 N.S.W.—First Australian Constitution. Discovery of gold at Fish River by Assistant-Surveyor McBrien. Qld.—Brisbane River discovered by Oxley.
- 1824 N.S.W.—Erection into 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 manufacture of sugar. Vic.—Hume and Hovell, journeying overland from Sydney, arrived at Corio Bay. Qld.—Penal settlement founded at Moreton Bay (Brisbane). Fort Dundas Settlement formed at Melville Island, N. Terr.
- 1825 N.S.W.—Extension of western boundary to 129th meridian. Tas.—Separation of Van Diemen's Land (Tasmania). Qld.—Major Lockyer explored Brisbane River to its source, and discovered coal.
- 1826 N.S.W.—Settlement in Illawarra District. Vic.—Settlement at Corinella, Western Port, formed by Captain Wright.
- 1827 N.S.W.—Colony became self-supporting. Feverish speculation in land and stock. Qld.—Darling Downs and the Condamine River discovered by Allan Cunningham. W.A.—Military Settlement founded at King George's Sound by Major Lockyer. First official claim of British Sovereignty over all Australia.
- 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 discovered a route from Brisbane to the Darling Downs, and explored Brisbane River.
- 1829 N.S.W.—Sturt's expedition down Murrumbidgee River. W.A.—Foundation of settlement at Swan River. Foundation of Perth.
- 1830 N.S.W.—Insurrection of convicts at Bathurst. Sturt, voyaging down Murrumbidgee and Murray Rivers, arrived at Lake Alexandrina. Tas.—Trouble with natives. Black line organized 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 on 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 built 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.—Wakefield's first colonization committee. W.A.—Appointment of Executive and Legislative Councils.
- 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. W.A.—Severe reprisals against natives at Pinjarrah.

Year.

- 1835 Vic.—John Batman arrived at Port Phillip; made treaty with the natives for 600,000 acres of land; claim afterwards disallowed by Imperial Government. John Pascoe Fawkner founded Melbourne.
- 1836 N.S.W.—Mitchell's overland journey from Sydney to Cape Northumberland. Vic. "Squatting" formally recognized. Vic.—Proclamation of Port Phillip district as open for settlement. S.A.—Settlement founded at Adelaide under Governor Hindmarsh.
- 1837 N.S.W.—Appointment in London of Select Committee on Transportation. Vic.—Melbourne planned and named by Governor Bourke. First Victorian post-office established in Melbourne. First overlanders from Sydney arrived at Port Phillip.
- 1838 N.S.W.—Discontinuance of assignment of convicts. Qld.—Settlement of German missionaries at Brisbane. S.A.—"Overlanding" of cattle from Sydney to Adelaide along the Murray route by Hawden and Bonny. Settlement at Port Essington, Northern Territory, formed by Captain Bremer.
- 1839 N.S.W.—Gold found at Vale of Clwydd by Count Strezlecki. S.A.—Lake Torrens discovered by Eyre. Port Darwin 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. Vic.—Determination of northern boundary. Qld.—Penal settlement broken up and Moreton Bay district thrown open. S.A.—Eyre began his overland journey from Adelaide to King George's Sound.
- 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 (under Act of 1842). First manufacture of tweed. Qld.—Moreton Bay granted legislative representation.
- 1844 S.A.—Sturt's last expedition inland. Qld.—Leichhardt's expedition from Condamine River to Port Essington.
- 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.
- 1846 N.S.W.—Initiation of meat preserving. Qld.—Foundation of settlement at Port Curtis. S.A.—Proclamation of North Australia. W.A.—Foundation of New Norcia Mission.
- 1847 N.S.W.—Iron smelting commenced near Berrima. Overland mail established between Sydney and Adelaide. Vic.—Melbourne created a City. Qld.—Explorations by Leichhardt, Burnett, and Kennedy.
- 1848 Qld.—Leichhardt's last journey. Kennedy speared by the blacks at York Peninsula. Chinese brought in as shepherds.
- 1849 N.S.W.—Indignation of colonists at arrival of convict ship *Hashemy*. Exodus of population to goldfields of California. Vic.—*Randolph* prevented from landing 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.
- 1851 N.S.W.—Payable gold discovered by Hargreaves at Lewis Ponds and Summerhill Creek. 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," 6th Feb., a day of intense heat, when several persons died and a vast amount of damage to property was occasioned by fires. W.A.—Proclamation of Legislative Council Act.

- Year.
- 1852 N.S.W.—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 Fingal, and at Nine Mile Springs.
- 1853 Tas.—Abolition of transportation.
- 1854 Vic.—Opening of first Victorian railway—Flinders-street to Port Melbourne. Riots on Ballarat gold-fields. Storming of the Eureka Stockade, 3rd Dec.
- 1855 N.S.W.—Opening of railway—Sydney to Parramatta. Mint opened. Gregory's expedition in search of Leichhardt.
- 1856 N.S.W.—Pitcairn Islanders placed on Norfolk Island. W.A.—A. C. Gregory's expedition in search of Leichhardt.
Responsible Government in N.S.W., Vic., S.A., and Tas. (Act of 1855).
- 1857 N.S.W.—Wreck of the *Dunbar* (119 lives lost), and *Catherine Adameon* (21 lives lost), at Sydney Heads. Select Committee on Federation. Vic.—Manhood suffrage and vote by ballot. S.A.—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. Qld.—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 Vic.—Burke and Wills left Melbourne and crossed to Gulf of Carpentaria. S.A.—Copper discoveries at Wallaroo and Moonta.
- 1861 N.S.W.—Anti-Chinese riots at Lambing Flat and Burrangong gold-fields. Opening of first tramway in Sydney. Regulation of Chinese immigration. Vic.—Burke and Wills perished at Cooper's Creek, near Innamincka, S.A.
- 1862 N.S.W.—Abolition of State aid to religion. Real Property Act. S.A.—Stuart crossed the Continent from south to north. W.A.—First export of pearl-shell.
- 1863 Vic.—Intercolonial Conference at Melbourne. S.A.—Northern Territory taken over. W.A.—Initiation of settlement in the North-west district. Henry Maxwell Lefroy discovered and traversed area now comprised in the Coolgardie-Kalgoorlie gold-field.
- 1864 Qld.—First railway begun and opened. First sugar made from Queensland cane. 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. 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. W.A.—Arrival of the *Hougomont*, last convict ship. Tas.—First sod of first railway (Launceston and Western) turned by Duke of Edinburgh.
- 1869 W.A.—First telegraph line opened from Perth to Fremantle.
- 1870 N.S.W.—Intercolonial Exhibition opened at Sydney. Imperial troops withdrawn. Vic.—Intercolonial Congress at Melbourne. S.A.—Commencement of trans-continental telegraph.
- 1871 N.S.W.—Permanent military force raised. 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. Vic.—Mint opened. S.A.—Cable from Java to Port Darwin. Completion of transcontinental telegraph line.
- 1873 N.S.W.—Intercolonial Conference at Sydney. First volunteer encampment. Inauguration of mail service with San Francisco.
- 1874 N.S.W.—Triennial Parliaments Act passed. Intercolonial Conference. W.A.—John and Alexander Forrest arrived at Overland Telegraph from Murchison.
- 1875 Qld.—Transfer of Port Albany Settlement to Thursday Island.
- 1876 N.S.W.—Completion of cable—Sydney (La Perouse) to Wellington (Wakapuaka). W.A.—Giles crosses colony from east to west. Tas.—Death of Truganini, last representative of Tasmanian aborigines.

- Year.
- 1877 W.A.—Opening of telegraphic communication with South Australia.
- 1878 Qld.—Restriction of Chinese immigration.
- 1879 N.S.W.—First artesian bore at Killara. International Exhibition at Garden Palace, Sydney. First steam tramway. W.A.—A. Forrest's explorations in the Kimberley district, and discovery of the Fitzroy pastoral country.
- 1880 N.S.W.—Public Instruction Act passed. Vic.—Opening of first Victorian International Exhibition at Melbourne.
Federal Conference at Melbourne and Sydney.
- 1881 N.S.W.—Further restrictions on Chinese immigration.
Visit to Australia of T.R.H. Prince Albert Victor and Prince George.
- 1882 N.S.W.—Garden Palace destroyed by fire. W.A.—Nugget of gold found between Roebourne 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—repudiated by Imperial authorities.
Federal Conference held at Sydney. Federal Council created.
- 1884 Federation Bill passed in Victoria and rejected in New South Wales. British protectorate declared over New Guinea.
- 1885 N.S.W.—Military contingent sent to the Sudan. Opening of the Broken Hill Proprietary Silver Mines. W.A.—Gold found by prospectors on the Margaret and Ord Rivers in the Kimberley district. Tas.—Silver-lead discovered at Mount Zeehan.
- 1886 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 Southern Cross.
Australasian Conference in London. Australasian Naval Defence Force Act passed.
- 1888 N.S.W.—Centennial celebrations. Restrictive legislation against Chinese, imposing poll-tax of £100. Vic.—Second Victorian International Exhibition held at Melbourne. Qld.—Railway communication opened between Sydney and Brisbane.
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.
- 1889 Qld.—Direct railway communication established between Brisbane and Adelaide. W.A.—Framing of new Constitution.
- 1890 W.A.—Responsible Government granted.
Meeting at Melbourne of Australasian Federation Conference.
- 1891 N.S.W.—Election to Legislative Assembly of 35 Labour members. Arrival of Australian Auxiliary Squadron. Cessation of assisted immigration. W.A.—Discovery of gold on the Murchison.
Federal Convention in Sydney: draft bill framed and adopted.
- 1892 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."
Financial crisis, chiefly affecting the eastern States.
- 1895 N.S.W.—Free-trade tariff. Land and income taxes introduced.
Conference of Premiers at Hobart *re* Federation.
- 1896 N.S.W.—People's Federal Convention at Bathurst.
- 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.

- Year.**
- 1899** First contingent of Australian troops sent to South Africa. Conference of Premiers in Melbourne to consider amendments to Federal Constitution Bill. Referendum—Bill accepted by New South Wales, Victoria, Queensland, South Australia, and Tasmania.
- 1900** N.S.W.—Old-age pensions instituted.
Contingents of naval troops sent to China. Commonwealth Constitution Act received Royal Assent, 9th July. Proclamation of Commonwealth signed, 17th September. Mr. (afterwards Sir) Edmund Barton formed first Federal Ministry.
- 1901** Vic.—Old-age pensions instituted.
Proclamation of the Commonwealth at Sydney. First Federal Parliament opened at Melbourne by the Duke of Cornwall and York. Interstate freetrade established.
- 1902** N.S.W.—Disastrous explosion at Mount Kembla Colliery—95 lives lost. W.A.—Opening of pumping station at Northam in connexion with Gold-fields water supply. Completion of Pacific Cable (all-British).
First Federal Tariff.
- 1903** Vic.—Railway Strike (Enginemens). W.A.—Coolgardie and Kalgoorlie Water Supply Scheme completed.
Inauguration of the Federal High Court.
- 1905** N.S.W.—Re-introduction of assisted immigration.
- 1906** Wireless telegraphy installed between Queenscliff, Vic., and Devonport, Tas.
Papua taken over by Commonwealth.
- 1907** N.S.W.—Telephone, Sydney to Melbourne, opened.
Imperial Conference in London.
- 1908** Vic.—Railway accident at Braybrook Junction (Sunshine)—44 killed, 412 injured; compensation paid, £126,000.
Canberra chosen as site of Federal Capital.
- 1909** Imperial Defence Conference in London—Commonwealth ordered 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.
Referendum on financial relations between the Commonwealth and the States. Penny postage. Arrival of the *Yarra* and *Parramatta*, first vessels of Australian navy. Australian Notes Act passed and first Commonwealth notes issued. Admiral Sir R. Henderson visited Australia to advise on naval defence.
- 1911** First Federal Census. Transfer of Northern Territory to Commonwealth. 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. First sod turned at Port Augusta of Trans-Australian Railway (Port Augusta to Kalgoorlie). Gift of £1,000,000 to charities by Mrs. Walter Hall, Sydney, N.S.W.
- 1913** Arrival of battle cruiser *Australia*, and cruisers *Melbourne* and *Sydney*. Federal Capital named Canberra and foundation stone laid. Appointment of Interstate Commission.
- 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.
European War. Australian Navy transferred to Imperial Navy. Australian troops offered to, and accepted by Imperial Government. Captured vessels added to Australian fleet. Submarine A.E.1 lost at sea whilst on service in the vicinity of New Britain. German Pacific possessions seized by Australian expeditionary force (military and naval). German Cruiser *Emden* destroyed at North Cocos Island by H.M.A.S. *Sydney*.

Year.

- 1915 Opening of Broken Hill Proprietary's Ironworks at Newcastle, N.S.W. Navy Department created.
 Australian troops landed at Gallipoli on 25th April. Loss of Submarine AE2 in operations at the Dardanelles. Census taken of Wealth and Income, and of males in Australia between ages of 17 and 60. Australian troops withdrawn from Gallipoli on 19th December.
- 1916 Record wheat harvest (180,000,000 bushels). Australian mounted troops operate in Egypt; afterwards join Desert Mounted Column. Other Australian troops transferred to France. Visit of Rt. Hon. W. M. Hughes, P.C., K.C., Prime Minister, to Canada, Great Britain, and South Africa, and to troops in England and France. Acquisition of steamships by the Commonwealth. First Military Service Referendum.
- 1917 National Ministry formed. General strike. Kalgoorlie-Port Augusta railway completed. Second Military Service Referendum.
- 1918 Population of Australia reaches 5,000,000. Australian troops in France formed into an Army Corps, commanded by Lieut.-Gen. Sir John Monash. Cessation of hostilities and surrender of Germany. Repatriation Department created. Australia House (Strand, London) opened by the King. Deaths of Sir G. H. Reid and of Lord Forrest of Bunbury.
- 1918-1919 Visit to America and Europe of Rt. Hon. W. M. Hughes, P.C., K.C., Prime Minister, representative at Peace Conference.
- 1919 Epidemic of influenza. Aerial flight England to Australia by Capt. Sir Ross Smith and Lieut. Sir Keith Smith. Death of Hon. Alfred Deakin. Visit to Australia of General Sir W. Birdwood. Visit of Admiral Lord Jellicoe.
- 1920 Visit to Australia of H.R.H. the Prince of Wales. Aerial flight England to Australia by Lieuts. Parer and McIntosh. Deaths of Rt. Hon. Sir Edmund Barton and of Rt. Hon. Sir Samuel Griffith.
- 1921 Visit to Imperial Conference of Rt. Hon. W. M. Hughes, P.C., K.C., Prime Minister. Second Commonwealth Census. Germany's indemnity fixed (Australia's share approximately £63,000,000). Visit of Senator Pearce (Minister for Defence) to Disarmament Conference at Washington. Colliery disaster at Mt. Mulligan, Queensland—75 lives lost. Mandate given to Australia over Territory of New Guinea. First direct wireless press message, England to Australia.
- 1922 Economic Conference at Sydney. First lock on River Murray opened at Blanchetown, South Australia. Queensland Legislative Council abolished.
- 1923 Rt. Hon. S. M. Bruce, P.C., M.C., Prime Minister. Premiers' Conference, Melbourne. First sod, site of Federal Parliament House at Canberra, turned. Pan-Pacific Science Congress, Melbourne. Police dispute in Melbourne, with accompanying riots.
- 1923-24 Visit of Rt. Hon. S. M. Bruce, P.C., M.C., Prime Minister, to Imperial Conference, London, and afterwards to European and Gallipoli battlefields (September, 1923, to March, 1924).
- 1924 H.M.A.S. *Australia* sunk. Sea-plane flight round Australia by Wing-Commander Goble and Lieut. McIntyre. British Empire Exhibition at Wembley. First sale of land leases at Canberra. Visit of British cruiser squadron. Directorate of Commonwealth Bank appointed. Loan by British Government of £34,000,000 for Imperial migration.
- 1925 Visit of American fleet. Solar Observatory established at Canberra. De Pinedo's flight, Rome to Australia and return. Brisbane-Kyogle railway commenced. North Shore (Sydney) Bridge commenced. Department of Markets and Migration established.
- 1926 Population of Australia reached 6,000,000. Referendum—Industry and Commerce, Widening State Powers; proposals rejected. Council for Scientific and Industrial Research established. Cobham's flight, London to Australia and return. North-West Australia Commission established.

Year.

- 1926-27** Visit to Imperial Conference of Rt. Hon. S. M. Bruce, P.C., M.C., Prime Minister; return via America. Equality in Dominion Status; new title for King.
- 1927** Transfer of Seat of Federal Government from Melbourne to Canberra. New Parliament House opened by H.R.H. the Duke of York.
- 1928** Aerial flights from England to Australia by Mr. Bert Hinkler (solo); from America to Australia, and from Australia to New Zealand and return by Messrs. Kingsford Smith and Ulm, with navigator and wireless operator. Visit of British Economic Mission to report on the development of Australian resources. Referendum: State Debts. Commonwealth may take over State Debts; proposals affirmed. Empire Forestry Conference held in Australia.
- 1929** Arrival of H.M.A.S. *Canberra*. Disastrous floods in Tasmania entailing the loss of more than twenty lives. Timber Workers' Strike and Northern Coal-fields Lock-out. Death of the first Commonwealth Statistician, Sir George Knibbs. Memorial stone of National War Memorial unveiled at Canberra. Record flight of "Southern Cross" plane, Australia to U.K. by Capt. Kingsford Smith, Messrs. Ulm, Litchfield, and McWilliams, in under thirteen days. Perth centenary celebrated. Defeat of Bruce-Page Government. Right Hon. J. H. Scullin, P.C., Labour Prime Minister. Abolition of compulsory military training in favour of voluntary system.
- 1930** Wireless phone service with other countries inaugurated. Miss Amy Johnson, first woman to fly solo from U.K. to Australia. East to west trans-Atlantic flight of Capt. Kingsford Smith and an international crew in "Southern Cross" plane. Sales tax introduced. Visit to Imperial Conference of Right Hon. J. H. Scullin, P.C., Prime Minister. Visit of Sir Otto Niemeyer, of Bank of England, to discuss financial questions. Record solo aerial flight of Capt. (now Air-Commodore) Kingsford Smith from England to Australia in 10½ days. First Australian—Right Hon. Sir Isaac Alfred Isaacs, P.C., K.C.M.G., Chief Justice of the High Court—appointed to the office of Governor-General of the Commonwealth.
- 1931** First solo aerial flight between Australia and New Zealand by Mr. Guy L. Menzies. Record solo aerial flights of Flying-Officer C. W. A. Scott—England to Australia in 9 days 3 hours; Australia to England in 10 days 23 hours. First experimental air mail from England to Australia and return. Initiation of Premiers' Conference plan to meet the financial situation, i.e., by conversion of internal loans at lower interest rates, economy in governmental expenditure &c. New reciprocal trade treaty with Canada. Record solo aerial flight between Australia and England by Mr. J. A. Mollison in 8 days 21 hours. Record solo aerial flight between England and Australia by Mr. C. A. Butler in 9 days 1½ hours. Death of Sir John Monash. Defeat of Scullin Government. Hon. J. A. Lyons, Prime Minister, United Australia Party Government.

OFFICIAL YEAR BOOK

OF THE

COMMONWEALTH OF AUSTRALIA, 1930,

AND EARLIER YEARS.

CHAPTER I.

DISCOVERY, COLONIZATION, AND FEDERATION OF AUSTRALIA.

§ 1. General.

Previous issues of the *Official Year Book*, up to and including No. 22, contained in this Chapter some account of the traditional ideas regarding the existence of a "Terra Australis," together with brief details relating to the discovery and annexation of the Australian continent, but it is not proposed to repeat this information in the present volume. (It may be noted here that Captain Cook's arrival and landing at Botany Bay took place on the same day, i.e., 29th April, 1770. See Official Year Book No. 22, page 3.)

§ 2. Establishment of the Commonwealth of Australia.

1. General.—On the 1st January, 1901, the six colonies (now known as States) and the Northern Territory were federated under the name of the "Commonwealth of Australia." The dates of creation and the areas of its component parts, as determined on the final adjustment of their boundaries, are shown in the following table:—

THE COMMONWEALTH OF AUSTRALIA.—AREA, ETC., OF COMPONENT PARTS.

State.	Year of Formation into Separate Colony.	Present Area in Square Miles.	State.	Year of Formation into Separate Colony.	Present Area in Square Miles.
New South Wales(a)	1786	310,372(a)	Tasmania ..	1825	26,215
Victoria ..	1851	87,884	Northern Territory	1863	523,620
Queensland ..	1859	670,500			
South Australia ..	1834	380,070	(b)Area of the Commonwealth ..	..	2,974,681
Western Australia	1829	975,920			

(a) On the 1st January, 1911, the Federal Capital Territory embracing an area of 912 square miles was taken over by the Commonwealth from the State of New South Wales, and on 12th July, 1915, assent was given to an Act taking over a further area of 28 square miles at Jervis Bay; the area of that State therefore is now 309,432 square miles.

(b) The present Dominion of New Zealand became a separate colony in 1841. The addition of its area, 103,862 square miles, to the total shown in the table above, gives a total for Australasia of 3,078,443 square miles.

2. **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 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 to the Commonwealth by proclamation on the 1st January, 1911.

3. **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. By the Jervis Bay Territory Acceptance Act 1915, which was assented to on 12th July, 1915, an area of 28 square miles at Jervis Bay, surrendered by New South Wales according to an agreement made in 1913, was accepted by the Commonwealth.

4. **Transfer of 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.

5. **Transfer of Norfolk Island.**—Although administered for many years by the Government of New South Wales, this island was, until 1st July, 1914, a separate Crown colony. On that date it was taken over by the Federal Parliament as a territory of the Commonwealth.

§ 3. 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), and a summary of the more important facts relating to the subject was embodied in this Chapter in succeeding issues up to and including No. 22, but it has been decided to omit this information from the present volume.

§ 4. The Constitutions of the States and of the Commonwealth.

Information regarding the development of the Constitutions of the various Colonies (now States), together with a brief history of the Federal movement in Australia, were embodied in this Chapter in issues of the Official Year Book preceding No. 22. In the later of those issues, also, "The Commonwealth of Australia Constitution Act" was printed *in extenso*. This information cannot, however be repeated in the present issue.

CHAPTER II.

PHYSIOGRAPHY.

§ 1. General Description of Australia.

1. *Geographical Position.*—(i) *General.* 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 2,943,366 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. 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.”

(ii) *Tropical and Temperate Regions.* Of the total area of Australia nearly 40 per cent. lies within the tropics. Assuming, as is usual, that the latitude of the Tropic of Capricorn is 23° 30' S. (its mean value for 1930 is 23° 26' 54.21"), the areas within the tropical and temperate zones are approximately as follows :—

AUSTRALIA—AREAS OF TROPICAL AND TEMPERATE REGIONS.

(STATES AND TERRITORY PARTIALLY WITHIN TROPICS.)

Area.	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-thirteenths of the whole of Australia (0.386).

2. *Area of Australia compared with Areas of other Countries.*—It is not always realized that the area of Australia is nearly as great as that of the United States of America, that it is four-fifths of that of Canada, that it is over one-fifth of the area of the whole of the British Empire, that it is more than three-fourths of the whole area of Europe, and that it is about 25 times as large as Great Britain and Ireland or Italy. This

great area, coupled with a limited population, renders the solution of the problem of Australian development a particularly difficult one. The areas of Australia and of certain other countries are given in the following table:—

AREA OF AUSTRALIA AND OF OTHER COUNTRIES.

Country.	Area.	Country.	Area.
Continental Divisions—	Sq. miles.	AFRICA—continued.	Sq. miles.
Europe	3,859,076	Belgian Congo	918,000
Asia	16,628,276	Algeria	847,552
Africa	11,240,294	Angola	486,207
North and Central America and West Indies	8,553,436	South African Union	472,347
South America	7,060,511	Portuguese East Africa	293,436
Australasia and Polynesia	3,463,358	Tripolitania	347,497
		Egypt	383,000
Total, exclusive of Arctic and Antarctic Conts.	50,804,951	Tanganyika Territory	374,000
		Abyssinia	350,000
Europe—		Nigeria and Protectorate	335,700
Russia	1,765,332	South-west Africa	332,400
France	212,659	Northern Rhodesia	287,950
Spain (inc. possessions)	194,800	Cyrenaica	285,640
Germany	181,723	Bechuanaland Protectorate	275,000
Sweden	173,156	Madagascar	241,094
Poland	149,953	Kenya Colony and Protec- torate	224,960
Finland	132,608	North and Central America	
Norway	125,086	Canada	3,684,723
Roumania	122,282	United States	3,026,789
Italy	119,710	Mexico	767,198
Jugoslavia	96,134	Alaska	590,884
Great Britain and Northern Ireland	94,633	Newfoundland and Labra- dor	162,734
		Nicaragua	51,660
Asia—		South America—	
Russia	6,475,318	Brazil	3,275,510
China and Dependencies	4,279,170	Argentine Republic	1,153,119
British India and Adminis- tered Territories	1,094,300	Peru	532,047
Arabia and Autonomous States	1,000,000	Bolivia	514,155
Feudatory Indian States	711,032	Colombia (exc. of Panama)	440,846
Persia	628,000	Venezuela	393,874
Dutch East Indies	573,023	Chile	290,119
Turkey	285,334	Ecuador	109,978
Japan (and Dependencies)	265,129	Australasia and Polynesia—	
Afghanistan	245,000	Commonwealth of Australia	2,974,581
Siam	200,148	Dutch New Guinea	160,692
Africa—		New Zealand and Depen- dencies	103,862
French West Africa	1,447,259	Papua	90,540
Anglo-Egyptian Sudan	1,008,100	Territory of New Guinea	89,252
French Equatorial Africa	912,049	British Empire	13,355,426

The figures quoted in the table have, in most cases, been extracted from the Statesman's Year Book for 1930.

3. Areas of Political Subdivisions.—As already stated, Australia consists of six States and the Northern and Federal Capital Territories. The areas of these, and their proportions of the total of Australia, are shown in the following table:—

AUSTRALIA—AREA OF STATES AND TERRITORIES.

State or Territory.	Area.	Percentage on Total.
	Sq. miles.	%
New South Wales	309,432	10.40
Victoria	87,884	2.96
Queensland	670,500	22.54
South Australia	380,070	12.78
Western Australia	975,920	32.81
Tasmania	26,215	0.88
Northern Territory	523,620	17.60
Federal Capital Territory	940	0.03
Total	2,974,581	100.00

4. Coastal Configuration.—(i) *General.* 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 Cape 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).

(ii) *Coast-line.* The lengths of coast-line, exclusive of minor indentations, of each State and of the whole continent, and the area per mile of coast-line, are shown in the following table:—

AUSTRALIA—COAST-LINE AND AREA PER MILE THEREOF.

State.	Coast-line.	Area per Mile of Coast-line.	State.	Coast-line.	Area per Mile of Coast-line.
	Miles.	Sq. miles.		Miles.	Sq. miles.
New South Wales(a)	700	443	South Australia..	1,540	247
Victoria ..	680	129	Western Australia	4,350	224
Queensland ..	3,000	223	Continent (b) ..	11,310	261
Northern Territory	1,040	503	Tasmania ..	900	29

(a) Including Federal Capital Territory.

(b) Area 2,948,366 square miles.

For the entire Commonwealth of Australia 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.

(iii) *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 Nuyts' 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 recognized 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 coast.

5. **Geographical Features of Australia.**—In each of the earlier issues of this Year Book fairly complete information has been given concerning some special geographical element. The nature of this information and its position in the various Year Books can be readily ascertained on reference to the special index following the index to maps and graphs at the end of this work.

6. **Fauna, Flora, Geology, and Seismology of Australia.**—Special articles dealing with these features have appeared in previous Year Books, but limits of space naturally preclude their repetition in each volume. As pointed out in 5 *supra*, however, the nature and position of these articles can be readily ascertained from the special index.

7. **Changing of German Place Names in Australia.**—A list of German place and district names in Australia which were changed during the Great War appeared in Year Book No. 19, pages 50 and 51. Limitations of space, however, preclude its repetition in this issue.

§ 2. Climate and Meteorology of Australia.*

1. **Introductory.**—In Year Book No. 3, pp. 79, 80, 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. In Year Book No. 4, pp. 84 and 87, will be found a short sketch of the creation and organization of the Commonwealth Bureau of Meteorology, and a résumé of the subjects dealt with at the Meteorological Conference in 1907. Space will not permit of the inclusion of this matter in the present issue.

2. **Meteorological Publications.**—Reference to publications issued by the Central Meteorological Bureau will be found in Official Year Book No. 22, pp. 40, 41. The following publications have since been issued:—Volume of "Results of Rainfall Observations made in Western Australia," for all years of record to 1927; Map of Normal Meteorological Conditions in Australia affecting Aviation; and a Paper "A Basis for Seasonal Forecasting", by H. A. Hunt.

3. **General Description of Australia.**—A considerable portion (0.530) of three divisions of Australia 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 square miles belong to the tropical zone, and 1,020,720 to the temperate zone. The whole area of Australia within the temperate zone, however, is 1,825,261 square miles; thus the tropical part is about 0.386, or about five-thirteenths of the whole, or the "temperate" region is half as large again as the "tropical" (more accurately 1.588). 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 7,300 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.

On the coast, the rainfall is often abundant and the atmosphere moist, but in some portions of the interior it is very limited, and the atmosphere dry. The distribution of forest, therefore, with its climatic influence, is very uneven. In the interior, in places, there are fine belts of trees, but there are large areas also which are treeless, and where the air is hot and parching in summer. Again, on the coast, even so far south as latitude 35°, the vegetation is tropical in its luxuriance, and to some extent also in character. Climatologically, therefore, Australia may be said to present a great variety of features.

4. **Meteorological Divisions.**—(i) *General.* Reference to the divisions adopted by the Commonwealth Meteorologist will be found in Official Year Book No. 22, p. 41.

* Prepared from data supplied by the Commonwealth Meteorologist, H. A. Hunt, Esquire.

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

SPECIAL CLIMATOLOGICAL STATIONS—AUSTRALIA.

Locality.	Height above Sea Level.	Latitude. S.	Longitude. E.	Locality.	Height above Sea Level.	Latitude. S.	Longitude. E.
	Feet.	deg. min.	deg. min.		Feet.	deg. min.	deg. min.
Perth ..	197	31 57	115 50	Darwin ..	97	12 28	130 51
Adelaide ..	140	34 56	138 35	Daly Waters ..	691	16 16	133 23
Brisbane ..	137	27 28	153 2	Alice Springs	1,926	23 38	133 37
Sydney ..	138	33 52	151 12	Dubbo ..	870	32 18	148 35
Melbourne ..	115	37 49	144 58	Laverton, W.A.	1,530	28 40	122 23
Hobart ..	177	42 53	147 20	Coolgardie ..	1,389	30 57	121 10

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

The comparison is even more favourable when the Northern Hemisphere is included, for in the United States the 70° isotherm extends in several of the western States so 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 temperature 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 Australia the temperatures are very equable. At Darwin, for example, the difference in the means for the hottest and coldest months is only 8.4°, and the extreme readings for the year, or the highest maximum in the hottest month and the lowest reading in the coldest month, show a difference of under 50°.

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

(ii) *Hottest and Coldest Parts.* A comparison of the temperatures recorded at coast and inland stations shows 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° 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° continuously for days and weeks. The coldest part of Australia is the extreme south-east of New South Wales and extreme east of Victoria—the region of the Australian Alps. Here the temperature seldom, if ever, reaches 100° even in the hottest of seasons.

Tasmania as a whole enjoys a most moderate and equable range of temperature throughout the year, although occasionally hot winds may cross the Straits and cause the temperature to rise to 100° in the low-lying parts.

(iii) *Monthly Maximum and Minimum Temperatures.* The normal monthly maximum and minimum temperatures can be best shown by means of graphs, which exhibit the nature of the fluctuation of each for all available years. In the diagram herein for nine

representative places in Australia, the upper heavy curves show the mean maximum, and the lower heavy curves the mean minimum temperatures based upon daily observations, while the other curves show the humidities.

6. Humidity.—After temperature, humidity is the most important element of climate, as regards its effect on human comfort, rainfall supply, and in connexion with engineering problems generally.

In this publication the *absolute humidity* has been graphically represented in the form of inches of vapour pressure (i.e., that portion of the barometric pressure due to vapour). It is this total quantity of moisture in the air which affects personal comfort, plays an important part in varying the density of the atmosphere, and in heating and refrigerating processes. The more commonly quoted value, called the *relative humidity*, refers to the ratio which the actual moisture contents of the air bear to the total amount possible if saturation existed at the given temperature, and is usually quoted as a percentage. The relative humidity is an important factor in all drying operations, but is much less important than the absolute humidity as affecting animal life.

The mean monthly vapour pressure has also been added to the tables of climatological data for the capital cities included herein.

The normal monthly values of vapour pressure, it should be noted, combine to make the annual curve for this element which is comparable with the maximum and minimum temperature curves, but the relative humidities consisting as they do of the extremes for each month, do not show the normal annual fluctuation which would be approximately midway between the extremes.

The order of stations in descending values of vapour pressure is Darwin, Daly Waters, Brisbane, Sydney, Perth, Adelaide, Melbourne, Hobart and Alice Springs, while the relative humidity diminishes in the order, Sydney, Hobart, Darwin, Brisbane, Melbourne, Perth, Adelaide, Daly Waters and Alice Springs.

7. Evaporation.—(i) *General*. 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"* and dams. The magnitude of the economic loss by evaporation will be appreciated from the tabular records herein, which show that the yearly amount varies from about 32 inches at Hobart to 95 inches at Alice Springs in the centre of the Continent. Over the *inland* districts of the Continent it has been calculated that evaporation equals the rainfall where the annual totals are about 36 inches, the variations above and below this quantity being inverse.

(ii) *Monthly Evaporation Curves*. The curves showing the mean monthly evaporation in various parts of Australia disclose how characteristically different are the amounts for the several months in different localities. The evaporation for representative places is shown on the diagram herein.

(iii) *Loss by Evaporation*. In the interior of Australia the possible evaporation is greater than the actual rainfall. Since the loss by evaporation depends largely on the exposed area, tanks and dams so designed that the surface shall be a minimum are advantageous. Further, 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 naturally of more than ordinary concern in the drier districts of Australia.

8. Rainfall.—(i) *General*. As even a casual reference to climatological maps indicating the distribution of rainfall and prevailing direction of wind would clearly show, 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 zones of the south-east trades and prevailing westerly winds. The southern limit of the south-east trade strikes the eastern shores at about 30° south latitude, and, 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

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

of Western Australia, where 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 to moderate, 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.

(ii) *Factors determining Distribution and Intensity of Rainfall.* (iii) *Time of Rainfall.* In Official Year Book No. 6 (see pp. 72 to 74) some notes were given of the various factors governing the distribution, intensity, and period of Australian rainfall.

(iv) *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 144 and 165 inches. The maximum and minimum falls there are:—Goondi, 241.53 in 1894 and 67.88 inches in 1915, or a range of 173.65 inches; Innisfail, 211.24 in 1894 and 69.87 inches in 1902, or a range of 141.37 inches; Harvey Creek, 254.77 in 1921 and 80.47 inches in 1902, or a range of 174.30 inches.

On four 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 43 years.

Harvey Creek, in the shorter period of 26 years, has three times exceeded 200 inches, the total for 1921 being 254.77 inches, and at the South Johnstone Sugar Experiment Station, where a gauge has recently been established, 202.52 inches were recorded in 1921.

In Tasmania the wettest part is in the West Coast region, the mean annual rainfall at Lake Margaret being 145.94 inches, with a maximum of 175.12 inches in 1924.

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

The inland districts of Western Australia were at one time regarded as the driest part of Australia, but authentic observations in recent years over settled districts in the east of that State show that the annual average is from 10 to 12 inches.

(v) *Quantities and Distribution of Rainfall.* The departure from the normal rainfall increases 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 show. The general distribution is best seen from the rainfall map herein, which shows 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 shown in the following table:—

AVERAGE ANNUAL RAINFALL DISTRIBUTION.

Average Annual Rainfall.	N.S.W. (a)	Victoria.	Queens- land.	South Australia	Northern Territory	Western Australia.	Tas- maria. (b)	Total. (b)
	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.
Under 10 inches	48,749	nil	80,496	310,660	140,500	486,952	nil	1,067,357
10—15 "	78,454	19,270	81,549	36,460	132,780	255,092	nil	603,605
15—20 "	55,762	13,492	111,833	19,940	63,026	94,101	304	358,458
20—25 "	45,140	14,170	143,610	8,620	49,157	44,340	3,844	308,881
25—30 "	30,539	15,579	99,895	3,258	41,608	31,990	3,016	225,885
30—40 "	33,557	14,450	61,963	1,036	37,642	59,520	5,027	213,195
Over 40 "	18,171	10,923	91,154	96	58,907	3,925	11,247	194,423
Total area ..	310,372	87,884	670,500	380,070	523,620	975,920	23,438	2,971,804

(a) Including Federal Capital Territory. (b) Over an area of 2,777 square miles no records are available.

Referring first to the capital cities, the records of which are given in the next table, it will be seen that Sydney, with a normal rainfall of 47.81 inches, occupies the chief place; Brisbane, Perth, Melbourne, Hobart and Adelaide following in that order, Adelaide with 21.09 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 (19.48 inches).

In order to show how the rainfall is distributed throughout the year in various parts of the continent, the figures for representative towns have been selected. (See map.)

The figures for Darwin, typical of the Northern Territory, show that nearly the whole of the rainfall occurs there in the summer months, while little or none falls in the middle of the year. The figures for 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 for the former, and in November for 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 a maximum in the autumn; the averages during the last six months are fair, and moderately uniform. Generally it may be said that approximately one-third of the area of the continent, principally in the eastern and northern parts, enjoys an annual average rainfall of from 20 to 50 or more inches, the remaining two-thirds averaging from 5 to 20 inches.

(vi) *Curves of Rainfall and Evaporation.* The relative amounts of rainfall and evaporation at different times through the year are clearly indicated in the graphs herein. Inspection thereof will show how large is the evaporation when water is fully exposed to the direct rays of the sun and to wind.

(vii) *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. The capitals are dealt with in the order in which they occur in the adopted meteorological divisions.

RAINFALL—AUSTRALIAN CAPITAL CITIES, 1901 TO 1930.

Year.	PERTH.			ADELAIDE.			BRISBANE.			SYDNEY.			MELBOURNE.			HOBART.		
	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1901	36.75	122	..	18.01	124	..	38.48	110	..	40.10	149	..	27.45	113	..	25.11	149	..
2	27.06	93	..	16.02	123	..	16.17	87	..	43.07	180	..	23.08	102	..	21.85	150	..
3	35.69	140	..	25.47	134	..	49.27	136	..	38.62	173	..	28.43	130	..	25.86	139	..
4	34.35	125	..	20.31	117	..	33.23	124	..	45.93	153	..	29.72	128	..	22.41	139	..
5	34.61	116	..	22.28	131	..	36.76	108	..	35.03	145	..	25.64	129	..	32.09	163	..
6	32.37	121	..	26.51	127	..	42.85	125	..	31.89	160	..	22.29	114	..	23.31	155	..
7	40.12	132	..	17.78	125	..	31.46	119	..	31.32	132	..	22.26	102	..	25.92	166	..
8	30.52	108	34.05	24.56	125	21.15	44.01	125	36.55	45.65	167	43.41	17.72	130	25.36	16.50	148	23.29
9	39.11	107	..	27.69	133	..	34.06	111	..	32.45	177	..	25.86	171	..	27.29	170	..
10	37.02	135	..	24.62	116	..	49.00	133	..	46.91	160	..	24.61	167	..	25.22	205	..
11	23.38	108	..	15.99	127	..	35.21	123	..	50.24	155	..	36.01	163	..	26.78	193	..
12	27.85	123	..	19.57	116	..	41.30	114	..	47.51	172	..	20.37	157	..	23.14	181	..
13	38.28	141	..	18.16	102	..	40.81	115	..	57.70	141	..	21.17	157	..	19.36	165	..
14	20.21	128	..	11.39	91	..	33.99	141	..	56.42	149	..	18.57	129	..	15.42	154	..
15	43.61	164	..	19.38	117	..	25.66	93	..	34.83	117	..	20.95	167	..	20.91	196	..
16	35.16	128	..	23.16	142	..	52.80	136	..	44.91	161	..	38.04	170	..	43.39	203	..
17	45.64	146	..	28.90	153	..	40.92	127	..	52.40	151	..	30.57	171	..	30.62	214	..
18	39.58	138	34.98	17.41	107	21.13	24.95	121	37.87	42.99	149	46.64	27.13	160	26.39	26.04	179	25.82
19	30.66	120	..	17.21	105	..	19.36	96	..	58.71	152	..	24.89	141	..	22.48	153	..
20	40.35	124	..	26.70	119	..	39.72	122	..	43.42	159	..	28.27	162	..	18.00	182	..
21	41.09	135	..	22.04	100	..	54.31	167	..	43.34	140	..	29.76	154	..	18.04	159	..
22	31.86	135	..	33.26	117	..	35.82	109	..	39.35	136	..	25.02	151	..	28.27	189	..
23	44.47	134	..	29.79	139	..	23.27	93	..	37.01	123	..	22.64	158	..	32.93	198	..
24	33.79	119	..	23.44	143	..	41.08	114	..	37.01	136	..	36.48	171	..	28.76	197	..
25	31.41	120	..	21.91	118	..	53.10	139	..	50.35	145	..	17.57	144	..	22.40	171	..
26	49.22	167	..	22.20	116	..	30.82	111	..	37.07	127	..	50.81	149	..	25.79	187	..
27	36.59	133	..	16.92	101	..	62.08	130	..	48.56	138	..	17.98	135	..	20.09	183	..
28	44.83	140	38.43	19.43	107	22.34	52.64	145	41.22	40.07	130	43.49	24.09	151	24.75	30.23	205	24.69
29	36.77	122	..	17.51	119	..	39.73	118	..	57.90	129	..	28.81	168	..	26.55	194	..
30	39.30	129	..	18.65	116	..	41.22	144	..	44.47	141	..	25.41	145	..	19.38	152	..
Aver.	34.70	121	..	21.09	123	..	45.12	128	..	47.81	152	..	26.04	138	..	23.88	151	..
No. of Yrs.	55	55	..	92	92	..	81	71	..	91	91	..	87	75	..	88	88	..

NOTE.—The above average rainfall figures for Brisbane, Sydney, Melbourne and Hobart differ slightly from the mean annual falls given in the Climatological Tables, which are for a less number of years. Annual totals from 1860 to 1900 inclusive will be found in Official Year Book No. 15, page 53.

9. Remarkable Falls of Rain.—The following are the most remarkable falls of rain in the various States and in the Northern Territory which have occurred within a period of twenty-four hours. In New South Wales and Queensland falls of less than 20 inches in the twenty-four hours have not been included. For other very heavy falls at various localities reference may be made to Official Year Book No. 14, pp. 60 to 63 and No. 22, pp. 46 to 48:—

HEAVY RAINFALLS—NEW SOUTH WALES, UP TO 1930, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Broger's Creek ..	14 Feb., 1898	20.05	Towamba ..	5 Mar., 1893	20.00
" ..	13 Jan., 1911	20.83	South Head (near		
Cordeaux River ..	14 Feb., 1898	22.58	Sydney) ..	29 Apr., 1841	20.12
Morpeth ..	9 Mar., 1893	21.52	" ..	16 Oct., 1844	20.41

HEAVY RAINFALLS—QUEENSLAND, UP TO 1930, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Babinda (Cairns) ..	1 Feb., 1913	20.51	Kuranda (Cairns) ..	2 Apr., 1911	28.80
" ..	24 Jan., 1916	22.30	Mackay ..	21 Jan., 1918 ^a	24.70
Buderim Mountain	11 ,, 1898	26.20	Macnab Mill ..	6 ,, 1901	23.33
Cairns ..	2 Apr., 1911	20.16	" ..	4 Mar., 1915	22.00
Carbrook ..	23 Jan., 1918	22.66	Mooloolah ..	13 ,, 1892	21.53
Conway ..	29 Mar., 1930	21.82	Mount Molloy ..	31 ,, 1911	20.00
" ..	30 ,, 1930	21.82	" ..	1 Apr., ,,	20.00
Crohamhurst			" ..	2 ,, ,,	20.00
(Blackall Range)	2 Feb., 1893	35.71	Nambour ..	9 Jan., 1898	21.00
Dungeness ..	16 Mar., 1893	22.17	Plane Creek		
Goondi ..	30 Jan., 1913	24.10	(Mackay) ..	26 Feb., 1913	27.73
Harvey Creek ..	3 ,, 1911	27.75	Port Douglas ..	1 Apr., 1911	31.53
" ..	31 ,, 1913	24.72	Sarina ..	23 Jan., 1918	22.60
Innisfail (formerly			Tully ..	12 Feb., 1927	23.86
Geraldton) ..	29 Dec., 1903	21.22	Woodlands (Yepp'n)	31 Jan., 1893	23.07
" ..	7 Apr., 1912	20.50	Yandina ..	1 Feb., 1893	20.08
" ..	31 Jan., 1913	20.91	Yarrabah ..	2 Apr., 1911	30.65
Kamerunga (Cairns)	2 Apr., 1911	21.00	" ..	24 Jan., 1916	27.20
Koumala ..	23 Jan., 1918	22.31	Yeppoon ..	31 ,, 1893	20.05
" ..	24 ,, ,,	20.65	" ..	8 Oct., 1914	21.70
Kuranda (Cairns) ..	1 Apr., 1911	24.30			

^a 37½ hours.

HEAVY RAINFALLS—WESTERN AUSTRALIA, UP TO 1930, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Balla Balla ..	21 Mar., 1899	14.40	Frazier Downs ..	3 Mar., 1916	11.25
Boodarie ..	21 Jan., 1896	14.53	Gnaraloo ..	20 ,, 1923	11.00
Broome ..	6 ,, 1917	14.00	Kerdiadary ..	7 Feb., 1901	12.00
Cossack ..	3 Apr., 1898	12.82	Minilya ..	15 Jan., 1923	11.50
" ..	16 ,, 1900	13.23	Mundabullangana	12 Feb., 1929	12.05
Croydon ..	3 Mar., 1903	12.00	Obagama ..	28 Feb., 1910	12.00
Derby ..	29 Dec., 1898	13.09	" ..	24 Dec., 1920	13.02
" ..	7 Jan., 1917	16.47	" ..	15 Feb., 1930	10.66
Exmouth Gulf ..	2 Feb., 1918	12.50	Pilbara ..	2 Apr., 1898	14.04
Fortescue ..	3 May, 1890	23.36			

HEAVY RAINFALLS, WESTERN AUSTRALIA—*continued.*

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Point Torment ..	17 Dec., 1906	11.86	Thangoc ..	28 Dec., 1898	11.15
Port George IV. ..	17 Jan., 1915	11.24	Whim Creek ..	3 Apr., 1898	29.41
Roebourne ..	3 Apr., 1898	11.44	" ..	21 Mar., 1899	18.17
Roebuck Plains ..	5 Jan., 1917	14.01	Winderrie ..	17 Jan., 1923	14.23
" ..	6 " "	22.36	Woodstock ..	21 " 1912	13.00
Springvale ..	14 Mar., 1922	12.25	Wyndham ..	27 " 1890	11.60
Tambray ..	6 " 1900	11.00	" ..	4 Mar., 1919	12.50
Thangoc ..	17-19 Feb., '96	24.18	Yeeda ..	7 Jan., 1917	11.75

HEAVY RAINFALLS—NORTHERN TERRITORY, UP TO 1930, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Bathurst Island			Cosmopolitan Gold Mine ..	24 Dec., 1915	10.60
Mission ..	7 Apr., 1925	11.85	Darwin ..	7 " "	11.67
Bonrook ..	24 Dec., 1915	10.60	Groote Eylandt ..	30-31 Mar., '23	12.00a
Borroloola ..	14 Mar., 1899	14.00	Koolpinyah ..	6 Mar., 1930	10.35
Brock's Creek ..	4 Jan., 1914	10.68	Lake Nash ..	21 Mar., 1901	10.25
" ..	24 Dec., 1915	14.33	Pine Creek ..	8 Jan., 1897	10.35
Burrundie ..	4 Jan., 1914	11.61			

(a) Approximate only, as gauge was washed away.

HEAVY RAINFALLS—SOUTH AUSTRALIA, UP TO 1930, INCLUSIVE.

Name of Town or Locality.	Date.	Amount.
		ins.
Wilmington	28 Feb., 1921 ..	3.97
	1 Mar., 1921 ..	7.12

HEAVY RAINFALLS—VICTORIA, UP TO 1930, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Balook ..	27 Sept., 1916	7.23	Murrungowar ..	7 Sept., 1908	8.81
Blackwarry ..	12 May, 1925	7.65	Omeo Valley ..	22 Mar., 1926	7.90
Bruthen ..	28 Jan., 1920	7.00	Reedy Flat ..	28 Jan., 1920	7.08
Buchan ..	17 July, 1925	8.45	Sarsfield ..	13 July, 1925	7.05
Cann River ..	27 Feb., 1919	9.56	Tambo Crossing ..	13 July, 1923	8.89
Hotham Heights ..	8 Jan., 1926	8.40	" ..	29 Jan., 1920	7.80
Mallacoota ..	14 Mar., 1911	7.95	Tonghi Creek ..	27 Feb., 1919	9.90
Mt. Buffalo ..	6 June, 1917	8.53	Wroxham ..	27 Aug., 1919	7.65
" ..	5 Apr., 1929	7.47			

HEAVY RAINFALLS—TASMANIA, UP TO 1930, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Cullenswood ..	5 June, 1923	10.50	Mathinna ..	5 Apr., 1929	13.25
" ..	5 Apr., 1929	11.12	Riana ..	5 " 1929	11.08
Gould's Country ..	8-10 Mar., '11	15.33	Riversdale ..	27 " 1928	5.90
" ..	5 Apr., 1929	12.13	The Springs ..	30-31 Jan., '16	10.75
Lottah ..	8-10 Mar., '11	18.10	Triabunna ..	5 June, 1923	10.20
Mathinna ..	8-10 " "	15.79			

10. **Snowfall.**—Light snow has been known to fall occasionally so far north as latitude 31° 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 so far north as Toowoomba in Queensland. During the winter, for several months, snow covers the ground to a great extent on the Australian Alps, where also the temperature falls below zero Fahrenheit during the night. In the ravines around Kosciusko and similar localities the snow never entirely disappears.

The antarctic "V"-shaped disturbances are always associated with the most pronounced and extensive snowfalls. The barometric gradients are very steep where the "trough line" extends northward, and the apexes are unusually sharp-pointed, and protrude into very low latitudes, sometimes even to the tropics.

11. **Hail.**—Hail falls 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. A summer rarely passes without some station experiencing a fall of stones exceeding in size an ordinary hen-egg, and many riddled sheets of light-gauge galvanized iron bear evidence of the weight and penetrating power of the stones.

The hailstorms occur most frequently 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 29.95 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 and standard gravity have, under anticyclonic conditions in the interior of the continent, ranged as high as 30.77 inches (at Kalgoorlie on the 28th July, 1901) and have fallen as low as 27.55 inches. This lowest record was registered at Mackay during a tropical hurricane on the 21st January, 1918. An almost equally abnormal reading of 27.88 inches was recorded at Innisfail during a similar storm on the 10th March, 1918. The mean annual fluctuations of barometric pressure for the capitals of Australia are shown on the graph herein.

13. **Wind.**—Notes on the distinctive wind currents in Australia were given in preceding Year Books (see No. 6, page 83), but, owing to limitations of space, have not been included herein.

14. **Cyclones and Storms.**—The "elements" in Australia are ordinarily peaceful, and while destructive 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 Strait, 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, or in that part of them which has a north-westerly to a south-westerly circulation.

The north-east coast of Queensland is occasionally visited by hurricanes from the north-east tropics. During the first four 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 first to the S.W. and finally towards the S.E. Only a small percentage, however, reach Australia, the majority recurving in their path to the east of New Caledonia.

Very severe cyclones, locally known as "willy willies," are peculiar to the north-west coast of Western Australia from the months of November to April 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, and cause 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 coastline, 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 Official Year Book (see No. 6, pp. 84, 85, 86).

A special article dealing with "Australian Hurricanes and Related Storms" appeared in Official Year Book No. 16, pp. 80-84.

15. Influences affecting Australian Climate.—(i) *General.* 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 have, however, 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 shows a rise of two-tenths of a degree during the last twenty years, a change probably brought about by the great increase of residential and manufacturing buildings within the city and in the surrounding suburbs. Again, low-lying lands on the north coast of New South Wales, which 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.

(ii) *Influence 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 equalizing 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 shade temperatures by altering the extent of radiating surface by evaporation, and by checking the movement of air, and 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, and when a region is protected by trees, a 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 case of the inland rivers, the River Murray, for example, which has never been known to become dry, deriving its steadiness of flow mainly through the causes indicated.

(iii) *Direct Influence of Forests 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 take the opposite view.

Sufficient evidence exists, however, to prove that, even if the rainfall has not increased, the beneficial climatic effect of forest lands more than warrants their protection and extension. Rapid rate of evaporation, induced by both hot and cold winds, injures crops and makes life uncomfortable on the plains, and, while it may be doubted that the forest aids in increasing precipitation, it must be admitted that it does check 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 the treeless interior of Australia. 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 Official Year Book No. 6, pp. 86 and 95).

16. Rainfall and Temperatures, Various Cities.—The following table shows rainfall and temperature for various important cities throughout the world, for the Federal capital, and for the capitals of the Australian States.

RAINFALL AND TEMPERATURE—VARIOUS CITIES.

Place.	Height above M.S.L.	Annual Rainfall.			Temperature.							
		Average.	Highest.	Lowest.	(a) Mean Summer.	(b) Mean Winter.	Highest on Record.		Lowest on Record.		Average Hottest Month.	Average Coldest Month.
							Fahr.	Fahr.	Fahr.	Fahr.		
		Ft.	Ins.	Ins.	Fahr.	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	35.4	
Auckland ..	125	43.88	74.15	26.32	66.2	52.5	91.0	31.9	67.1	51.8		
Athens ..	351	15.48	33.33	4.56	79.2	49.1	109.4	19.6	81.0	47.4		
Bergen ..	72	77.09	111.58	44.49	65.8	34.2	88.5	4.3	57.9	33.6		
Berlin ..	161	22.72	30.04	14.25	64.8	33.0	98.6	-13.0	60.0	31.8		
Berne ..	1,877	36.30	58.23	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	22.52	32.56	16.50	64.1	33.5	100.0	-23.4	65.5	29.3		
Brussels ..	328	28.35	41.18	17.73	62.6	36.0	95.5	-4.4	63.7	34.5		
Budapest ..	500	25.20	35.28	16.79	68.6	30.2	98.6	-5.1	70.4	28.2		
Buenos Ayres ..	82	35.78	79.72	20.04	72.7	50.9	103.1	22.3	73.8	50.0		
Calcutta ..	21	61.82	98.48	38.43	85.6	68.0	108.2	44.2	86.0	66.4		
Capetown ..	40	25.50	36.72	17.71	68.1	54.7	102.0	37.8	68.8	53.9		
Caracas ..	3,420	30.03	47.36	23.76	68.3	65.3	87.8	48.2	69.2	63.7		
Chicago ..	823	33.28	45.86	24.52	70.0	26.1	103.0	-23.2	72.4	23.7		
Christchurch ..	25	25.16	35.30	13.54	61.3	43.3	95.7	-21.3	61.6	42.4		
Christiana (Oslo) ..	75	63.83	32.21	10.20	61.0	24.5	95.0	-1.1	62.6	28.9		
Colombo ..	40	83.83	139.70	51.60	81.5	79.9	95.8	65.0	82.6	78.9		
Constantinople ..	245	28.75	42.74	14.78	74.0	43.5	103.6	13.0	75.7	42.0		
Copenhagen ..	10	20.79	25.83	15.47	60.4	33.3	85.5	-3.3	61.0	32.4		
Dresden ..	115	26.80	34.49	17.72	62.9	32.4	93.4	-15.3	64.4	31.5		
Dublin ..	47	27.66	35.56	16.60	69.4	32.0	87.2	13.3	60.5	41.6		
Dunedin ..	300	36.96	54.51	22.15	58.3	42.6	94.0	23.0	57.0	41.7		
Durban ..	260	40.79	71.27	27.24	75.6	64.4	110.6	41.1	76.7	63.8		
Edinburgh ..	441	25.21	32.05	16.44	55.8	36.8	87.7	5.0	57.2	38.3		
Geneva ..	1,328	33.48	46.89	21.14	64.4	33.7	94.5	16.7	75.4	45.5		
Geneva ..	157	51.20	108.22	28.21	73.8	46.8	84.9	6.6	58.0	38.4		
Glasgow ..	184	33.49	56.18	29.05	52.7	41.0	84.9	6.6	58.0	38.4		
Greenwich ..	140	23.50	35.54	16.38	62.0	39.5	100.0	6.9	63.5	38.5		
Hong Kong ..	109	84.28	110.72	45.84	86.2	64.8	97.0	32.0	86.7	62.0		
Johannesburg ..	5,750	31.63	50.00	21.66	65.4	54.4	94.0	23.3	68.2	48.0		
Leipzig ..	384	24.69	31.37	17.10	63.1	31.5	97.3	-14.8	64.8	30.6		
Leningrad ..	16	21.30	29.52	13.75	61.1	17.4	97.0	-38.2	63.7	15.2		
Lisbon ..	312	29.18	52.79	17.32	69.6	51.3	94.1	32.5	70.2	49.3		
London (Kew) ..	18	23.80	38.20	16.64	61.2	39.8	94.0	9.4	62.7	38.9		
Madrid ..	22	49.85	88.41	18.45	89.0	76.8	113.0	57.5	89.9	76.1		
Madrid ..	2,149	16.23	27.48	9.13	73.0	41.2	107.1	10.5	75.7	39.7		
Marseilles ..	246	22.24	43.03	12.28	70.5	45.3	100.4	11.7	72.3	44.6		
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	44.63	58.68	33.17	71.4	31.8	102.0	-13.0	73.5	30.2		
Ottawa ..	236	33.40	53.79	25.63	67.2	14.1	98.0	-33.0	69.7	12.0		
Paris ..	164	22.64	29.57	16.46	63.5	37.2	101.1	-14.1	64.9	36.1		
Pekin ..	143	24.40	36.00	18.00	77.7	26.6	114.0	-5.0	79.2	23.6		
Quebec ..	296	40.50	53.79	32.12	63.5	12.4	96.0	-34.0	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	22.27	38.82	9.00	58.8	50.5	101.0	29.0	59.3	49.5		
Shanghai ..	21	45.00	62.52	27.92	78.0	41.1	102.9	10.2	80.4	37.8		
Singapore ..	8	91.99	158.63	32.71	81.2	78.6	94.2	63.4	81.5	78.3		
Stockholm ..	144	19.09	28.27	11.81	59.5	27.3	96.8	-25.6	61.9	26.4		
Tokio ..	65	61.45	86.37	45.72	74.8	39.2	97.9	17.2	77.7	37.5		
Trieste ..	85	42.94	63.14	26.57	73.9	41.3	99.5	14.0	70.3	39.9		
Vienna ..	663	24.50	33.90	16.50	65.7	30.4	97.7	-8.0	67.1	28.0		
Vladivostock ..	55	19.54	33.60	9.39	63.9	11.0	95.7	-21.8	69.4	6.1		
Washington ..	112	43.50	61.33	30.85	74.7	34.5	106.0	-15.0	76.8	32.9		
Wellington (N.Z.) ..	10	48.65	67.68	27.83	61.8	48.6	88.0	23.6	62.5	47.7		
Zürich ..	1,542	45.15	78.27	29.02	63.3	31.3	94.1	-0.8	65.1	29.5		

FEDERAL CAPITAL.

Canberra ..	1,837	22.47	33.71	16.31	(a) 68.0	(b) 43.9	102.6	14.0	69.0	42.6
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STATE CAPITALS.

Perth ..	197	34.70	49.22	20.21	(a) 73.0	(b) 56.0	108.4	34.2	73.9	55.2
Adelaide ..	140	21.09	30.87	11.39	73.1	53.1	116.3	32.0	74.2	51.8
Brisbane ..	137	45.27	88.26	16.17	76.7	59.8	108.9	36.1	77.2	58.5
Sydney ..	138	47.48	82.76	21.49	71.0	54.2	108.5	35.9	71.6	52.8
Melbourne ..	115	25.49	38.04	15.61	66.6	50.1	111.2	27.0	67.6	48.8
Hobart ..	177	23.88	43.39	13.43	61.5	46.9	105.2	27.0	62.2	45.8

(a) Mean of the three hottest months. (b) 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 up to and including the year 1930. These are given in the following tables:—

CLIMATOLOGICAL DATA—PERTH, WESTERN AUSTRALIA.

LAT. 31° 57' S., LONG. 115° 50' E. HEIGHT ABOVE M.S.L. 197 FT.

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

Month.	Bar. corrected to 32° F. in Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation (inches).	No. of Days Lightning.	Mean Amount of Clouds, 9 a.m. and 3 p.m.	No. of Clear Days.
		Greatest Number of Miles in One Day.	Mean Hourly Pressure. (lb.)	Total Miles.	Prevailing Direction. 9 a.m. 3 p.m.				
No. of yrs. over which observation extends	46	33	33	33	33	32	33	23	34
January ..	29.908	797 27/98	0.67	11,148	S S E	10.43	1.5	2.8	14.3
February ..	29.923	656 6/08	0.61	9,687	S S E	8.56	1.4	3.1	11.8
March ..	29.986	351 6/13	0.53	9,871	S S E	7.61	1.4	4.0	11.6
April ..	30.072	955 25/00	0.39	8,218	S E	4.75	1.3	4.4	8.0
May ..	30.068	768 5/12	0.36	8,095	E N E	2.75	2.2	5.5	5.4
June ..	30.056	914 19/27	0.36	7,941	N	1.77	2.1	6.0	3.5
July ..	30.090	1,015 20/26	0.40	8,565	N	1.75	2.3	5.7	5.0
August ..	30.086	966 15/03	0.41	8,727	W	2.36	1.5	5.5	5.2
September ..	30.062	864 11/05	0.46	8,903	S W	3.36	1.4	4.9	5.9
October ..	30.028	809 6/16	0.52	9,309	S S W	5.26	0.9	4.9	5.8
November ..	29.991	777 18/97	0.58	10,016	S	7.62	1.3	3.9	8.3
December ..	29.925	776 6/22	0.64	10,858	S	9.81	1.7	3.1	12.3
Year { Totals ..	—	—	—	—	—	66.03	19.0	—	97.1
Year { Averages ..	30.016	—	0.49	9,320	S	—	—	4.5	—
Year { Extremes ..	—	1,015 20/7/26	—	—	—	—	—	—	—

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).			Extreme Range.	Extreme Temperature (Fahr.).		Mean Hours of Sunshine.
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.	Highest in Sun.		Lowest on Grass.		
No. of yrs. over which observation extends	34	34	34	34	34	34	32	32	33	
January ..	84.4	63.0	73.7	108.4 28/21	48.6 20/25	58.5	177.3 22/14	40.4 1/21	322.3	
February ..	84.6	63.2	73.9	107.4 4/23	47.7 1/02	59.7	169.0 4/99	39.8 1/21	271.4	
March ..	81.2	61.0	71.1	106.4 14/22	45.8 8/03	60.6	167.0 19/18	36.7 8/03	267.0	
April ..	76.2	57.2	66.7	99.7 9/10	39.3 20/14	60.4	157.0 8/16	31.0 20/14	217.3	
May ..	68.8	52.6	60.7	90.4 2/07	34.3 11/14	56.1	142.2 8/24	25.3 11/14	175.1	
June ..	64.0	49.6	56.8	81.7 2/14	35.0 30/20	46.7	135.5 9/14	26.5 30/20	164.3	
July ..	62.7	47.7	55.2	76.4 21/21	34.2 7/16	42.2	133.2 13/15	25.1 30/20	141.7	
August ..	63.7	48.2	56.0	81.0 12/14	35.3 31/08	45.7	145.1 29/21	27.9 10/11	184.7	
September ..	66.3	50.2	58.3	90.9 30/18	38.9 17/13	52.0	153.6 29/16	29.2 21/16	206.4	
October ..	69.2	52.5	60.8	95.3 30/22	40.5 5/24	54.8	154.0 29/14	30.5 4/17	237.1	
November ..	75.7	56.7	66.2	104.6 24/13	42.0 1/04	62.6	167.0 30/25	35.5 (b)	286.8	
December ..	81.0	60.6	70.8	107.9 20/04	48.0 2/10	59.9	168.7 25/15	39.0 12/20	324.6	
Year { Averages ..	73.2	55.2	64.2	—	—	74.2	—	—	2798.7	
Year { Extremes ..	—	—	—	108.4 28/1/21	34.2 7/7/16	—	177.3 22/1/14	25.1 30/7/20	(a)	

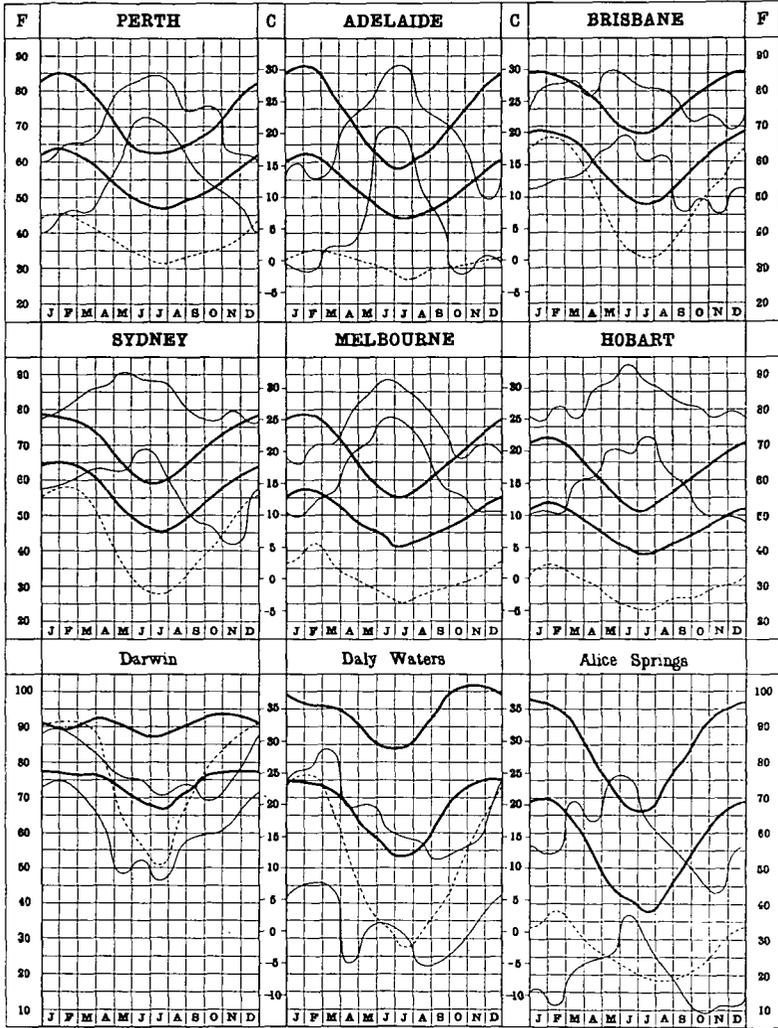
(a) Total for year. (b) 6/1910 and 14/1912.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure (inches).	Rel. Hum. (%)				Rainfall (inches).				Dew. Mean No. Days Dew.
		Mean 9 a.m.	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.		Greatest In One Day.
No. of yrs. over which observation extends	34	34	34	34	55	55	55	54	54	33
January ..	0.441	52	61	41	0.34	3	2.17 1879	0.00 (a)	1.74 28/79	2.5
February ..	0.442	53	65	46	0.43	3	2.98 1915	0.00 (a)	1.63 26/15	3.5
March ..	0.435	57	66	46	0.77	5	4.50 1896	0.00 (a)	2.06 26/23	6.0
April ..	0.402	62	73	51	1.64	7	5.85 1926	0.00 1920	2.62 30/04	9.4
May ..	0.370	74	81	61	5.04	14	12.13 1879	0.16 1/03	2.80 20/79	12.6
June ..	0.342	78	83	68	7.04	17	12.80 1933	2.16 187	3.90 10/20	12.2
July ..	0.320	79	89	69	6.70	17	12.26 1928	2.42 1876	3.00 4/91	13.0
August ..	0.356	73	79	62	5.71	13	12.21 1923	0.46 1902	2.79 7/3	11.5
September ..	0.348	68	75	58	3.46	12	7.84 1923	0.34 1016	1.73 23/09	10.2
October ..	0.355	61	75	54	2.10	12	7.87 1890	0.49 1892	1.38 15/10	6.0
November ..	0.391	54	63	46	0.80	6	2.78 1916	0.00 1891	1.11 30/03	3.8
December ..	0.418	51	63	44	0.58	4	3.05 1888	0.00 1886 1924	1.72 1/88	2.7
Year { Totals ..	—	—	—	—	34.70	121	—	—	—	93.4
Year { Averages ..	0.371	—	—	—	—	—	—	—	—	—
Year { Extremes ..	—	52	84	41	—	—	12.80 6/23	Nil (b)	3.90 10/6/20	—

(a) Various years. (b) Jan., Feb., March, April, Nov., Dec., various years.

ANNUAL FLUCTUATIONS OF NORMAL MAXIMUM AND MINIMUM TEMPERATURE AND HUMIDITY.



EXPLANATION.—The upper and lower heavy lines in each graph represent the maximum and minimum temperatures respectively. The Fahrenheit temperature scales are shown on the outer edge of the sheet under "F" and the centigrade scales in the two inner columns under "C."

The broken line shows the normal absolute humidity in the form of 9 a.m. vapour pressures for which the figures in the outer "F" columns represent hundredths of an inch of barometric pressure.

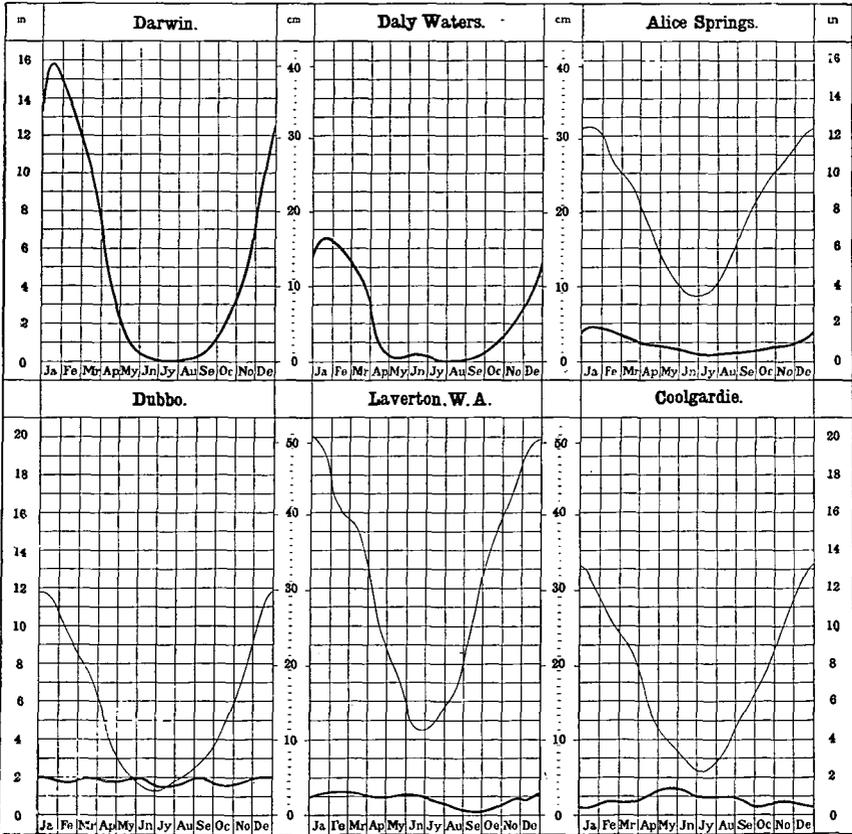
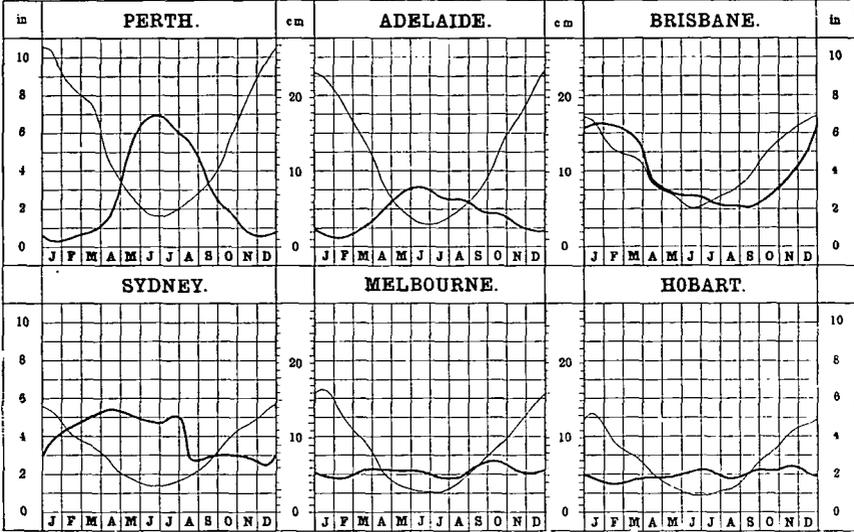
The upper and lower fine lines join the greatest and the least monthly means of relative humidity respectively, the figures under the outer columns "F" indicating percentage values.

The curves for temperature and vapour pressure joining the mean monthly values serve to show the annual fluctuation of these elements, but the relative humidity graphs joining the extreme values for each month do not indicate any normal annual variation.

Fig. 5 Comparison of the maximum and minimum temperature curves affords a measure of the mean diurnal range of temperature. At Perth in the middle of January, for instance, there is normally a range of 21° from 63° F. to 84° F., but in June it is only 15° from 48° F. to 63° F.

The relative humidity curves illustrate the extreme range of the mean monthly humidity over a number of years.

MEAN MONTHLY RAINFALL AND EVAPORATION.



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

At Perth, Adelaide, Brisbane, Melbourne, Hobart, Alice Springs, and Coolgardie the results have been obtained from jacketed tanks sunk in the ground. At Sydney and Dubbo sunken tanks without water jackets are used, whilst at Laverton (W.A.) the records are taken from a small portable jacket evaporation dish of 8 inches in diameter.

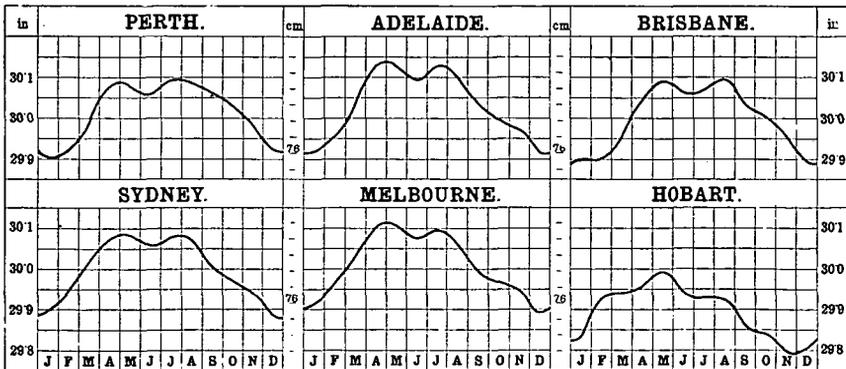
The distance for any date from the zero line to the curve represents the average number of inches, reckoned as per month, of rainfall at that date. Thus, taking the curves for Adelaide in the middle of January, the rain falls on the average at the rate of about three-fourths of an inch per month, or, say, at the rate of about 9 inches per year. In the middle of June it falls at the rate of a little over 3 inches per month, or, say, at the rate of about 37 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.

The mean annual rainfall and evaporation at the places indicated are given in the appended table.

MEAN ANNUAL RAINFALL AND EVAPORATION.

Place.	Rainfall.	Evapora- tion.	Place.	Rainfall.	Evapora- tion.
	In.	In.		In.	In.
Perth ..	34.70	66.03	Darwin ..	60.45	—
Adelaide ..	21.09	54.97	Daly Waters ..	26.47	—
Brisbane ..	45.12	55.95	Alice Springs ..	10.79	95.41
Sydney ..	44.47	39.05	Dubbo ..	21.97	66.37
Melbourne ..	26.04	39.19	Laverton, W.A.	9.56	145.36
Hobart ..	23.88	31.81	Coolgardie ..	10.19	84.99

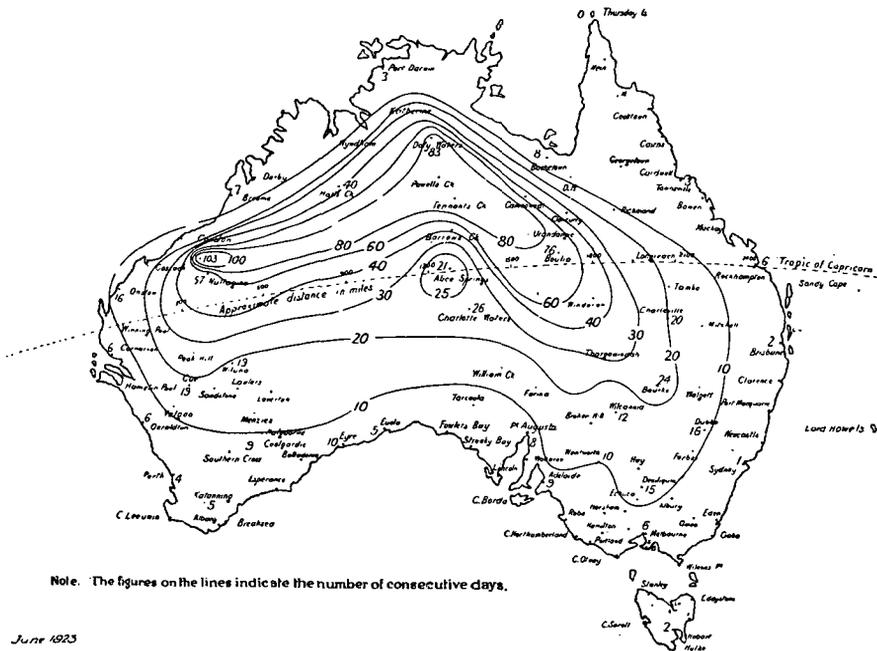
MEAN BAROMETRIC PRESSURE.—CAPITAL CITIES.



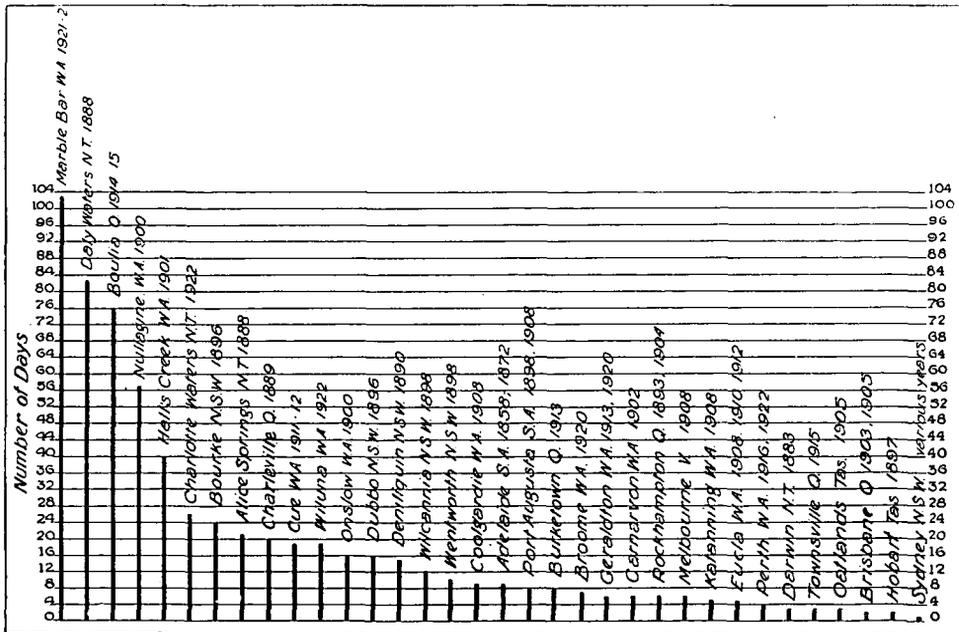
EXPLANATION.—The lines representing the yearly fluctuations of barometric pressure at the State capital cities are means for long periods, and are plotted from the Climatological Tables herein. The pressures are shown in inches on about 2½ times the natural scale, and the corresponding pressures in centimetres are also shown in the two inner columns, in which each division represents one millimetre.

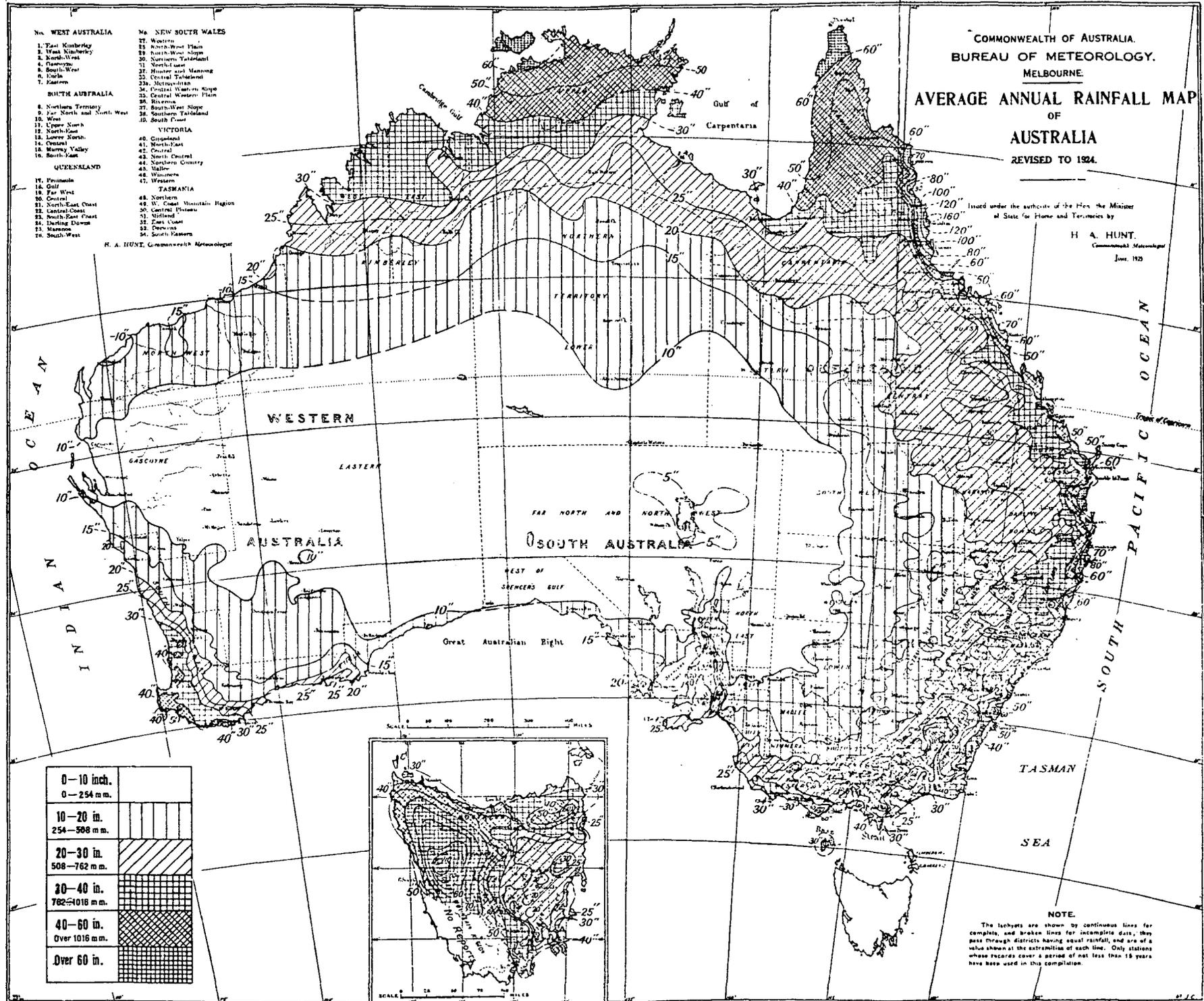
INTERPRETATION.—Taking the Brisbane graph for purposes of illustration, it will be seen that the mean pressure in the middle of January is about 29.87 inches, and there are maxima in the middle of May and August of about 30.99 inches.

Area affected and period of duration of the Longest Heat Waves when the Maximum Temperature for consecutive 24 hours reached or exceeded 100° Fah.



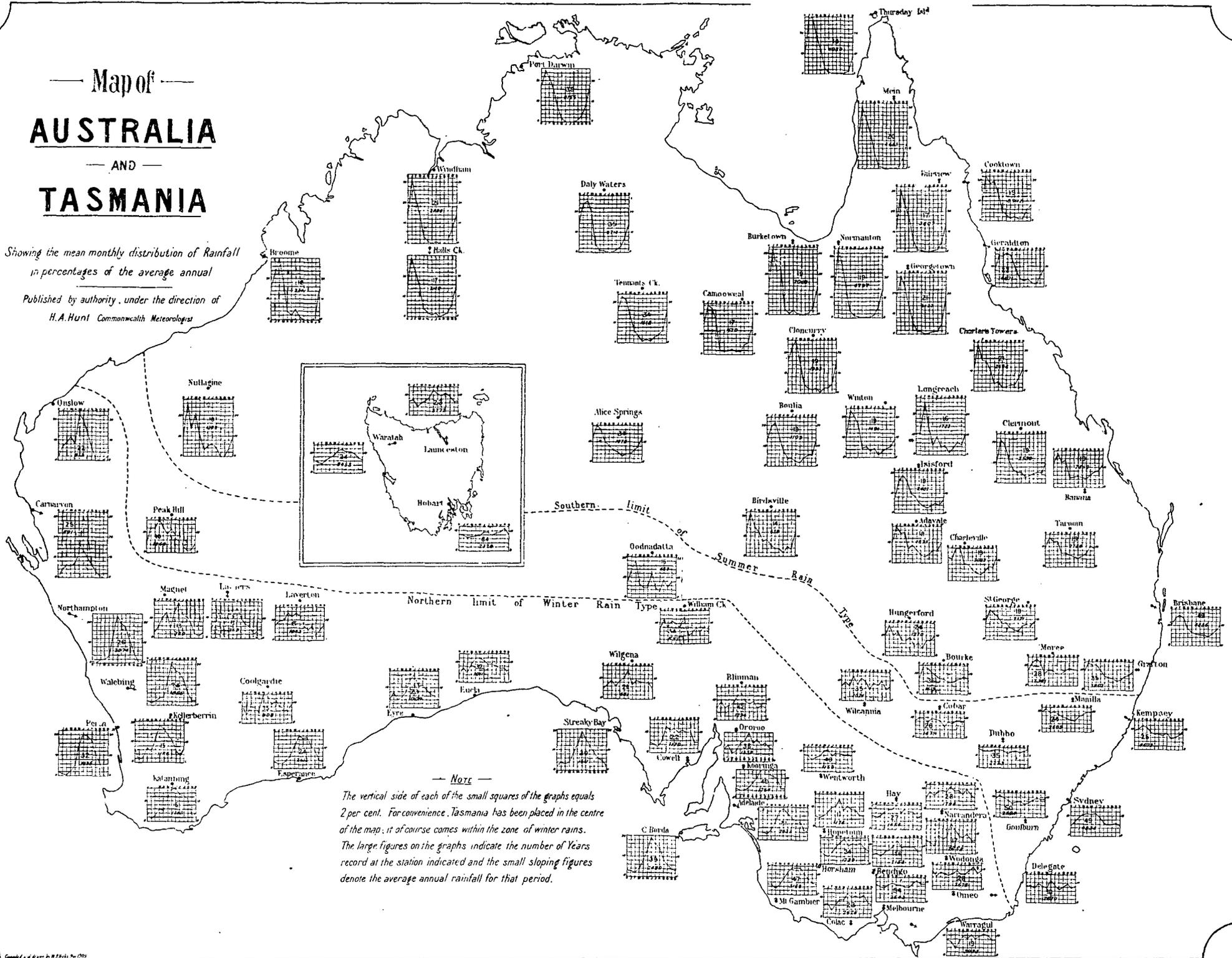
Greatest number of consecutive days on which the Shade Temperature was over 100° Fah at the places indicated.





Map of AUSTRALIA AND TASMANIA

Showing the mean monthly distribution of Rainfall in percentages of the average annual
Published by authority, under the direction of H.A. Hunt Commonwealth Meteorologist



— Note —
 The vertical side of each of the small squares of the graphs equals 2 per cent. For convenience, Tasmania has been placed in the centre of the map; it of course comes within the zone of winter rains.
 The large figures on the graphs indicate the number of Years record at the station indicated and the small sloping figures denote the average annual rainfall for that period.

CLIMATOLOGICAL DATA—ADELAIDE, SOUTH AUSTRALIA.

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 30° F. Mm. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation (Inches).	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 Pressure. (lb.)	Total Miles.	Prevailing Direction.						
					9 a.m.	3 p.m.					
No. of yrs. over which observation extends	74	53	53	53	53		61	59	63	49	
January	29.917	758	19/99	0.34	7,888	S W	S W	9.01	2.3	3.5	8.7
February	29.951	691	22/96	0.29	6,661	S E	S W	7.36	2.1	3.5	7.6
March	30.039	628	9/12	0.24	6,616	S	S W	5.88	2.2	3.9	7.2
April	30.119	773	10/96	0.22	6,110	N E	S W	3.52	1.6	5.0	4.4
May	30.123	760	9/80	0.21	6,272	N E	N W	2.05	1.6	5.7	2.3
June	30.100	750	12/78	0.24	6,496	N E	N	1.25	2.0	6.1	1.6
July	30.124	674	25/82	0.24	6,722	N E	N W	1.29	1.6	5.8	1.8
August	30.097	773	31/97	0.23	7,131	N E	S W	1.89	2.2	5.6	2.6
September	30.041	720	2/87	0.30	7,259	N N E	S W	2.87	2.4	5.2	3.4
October	29.994	768	28/93	0.33	7,853	N N E	S W	4.78	3.4	5.0	4.1
November	29.977	677	2/04	0.33	7,514	S W	S W	6.62	3.4	4.6	5.4
December	29.919	675	12/91	0.34	7,896	S W	S W	8.45	2.6	3.9	7.2
Year { Totals	—	—	—	—	—	—	—	—	—	—	—
Year { Averages	30.033	—	—	0.28	7,035	N E	S W	54.97	27.4	—	56.4
Year { Extremes	—	773	(a)	—	—	—	—	—	—	—	—

(a) 10/4/96 and 31/8/97.

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).		Extreme Range.	Extreme Temperature (Fahr.).		Mean Hours of Sunshine.				
	Mean Max.	Mean Min.	Mean.	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.					
No. of yrs. over which observation extends	74	74	74	74	74	74	53	70	49				
January	86.1	61.5	73.8	116.3	26/58	45.1	21/84	71.2	180.0	18/82	36.5	14/79	311.5
February	86.2	62.1	74.1	113.6	12/99	45.5	23/18	68.1	170.5	10/00	35.8	23/26	263.6
March	80.8	58.8	69.8	103.0	12/01	44.8	—/57	63.2	174.0	17/83	33.8	27/80	240.0
April	73.4	54.6	64.0	98.0	10/66	39.6	15/59	58.4	155.0	1/83	30.2	16/17	181.3
May	65.5	50.2	57.9	89.5	4/21	36.9	(a)	52.6	148.2	12/79	25.6	19/28	149.6
June	60.0	46.7	53.5	76.0	23/65	32.5	27/76	43.5	138.8	18/79	22.9	12/13	123.4
July	59.0	44.7	51.8	74.0	11/06	32.0	24/08	42.0	134.5	26/90	22.1	30/29	138.0
August	62.0	45.9	53.9	85.0	31/11	32.3	17/59	52.7	140.0	31/92	22.8	11/29	165.1
September	66.3	47.9	57.1	90.7	23/82	32.7	4/58	58.0	160.5	30/82	25.0	25/27	184.7
October	72.5	51.5	62.0	102.9	21/22	36.0	—/57	66.9	162.0	30/21	27.8	2/18	223.1
November	78.6	55.4	67.0	113.5	21/65	40.8	2/09	72.7	166.9	20/78	31.5	2/09	264.7
December	83.3	59.0	71.1	114.2	14/76	43.0	(b)	71.2	175.7	7/99	32.5	4/84	301.6
Year { Averages	72.8	53.2	63.0	—	—	—	—	—	—	—	—	—	—
Year { Extremes	—	—	—	116.3	32.0	84.3	180.0	22.1	—	—	—	—	2551.6
				26/1/53	24/7/08		18/1/82	30/7/20	(c)				

(a) 26/1895 and 24/1904.

(b) 16/1861 and 4/1906.

(c) Total for year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure (Inches).	Rel. Hum. (%)				Rainfall (Inches).				Dew. Mean No. Days Dew.			
		Mean 9 a.m.	Mean 9 p.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.		Greatest in One Day.		
No. of yrs. over which observation extends	63	63	63	63	92	92	92	92	92	59			
January	0.340	38	59	30	0.71	4	4.00	1850	Nil	(a)	2.30	2/89	3.8
February	0.356	40	56	30	0.73	4	6.09	1925	Nil	(a)	5.57	7/25	5.8
March	0.345	46	58	36	1.01	6	4.60	1878	Nil	(a)	3.50	5/78	10.6
April	0.335	55	72	37	1.71	9	6.78	1853	0.03	1923	3.15	5/60	13.6
May	0.316	67	76	49	2.78	14	7.75	1875	0.20	1891	2.75	1/53	15.8
June	0.298	76	84	67	3.09	16	8.58	1916	0.42	1836	2.11	1/20	15.3
July	0.276	76	87	68	2.65	16	5.38	1865	0.37	1899	1.75	10/65	17.1
August	0.283	69	77	54	2.51	16	6.24	1852	0.35	1914	2.23	19/51	16.5
September	0.297	61	72	44	2.05	14	5.83	1923	0.45	1896	1.59	20/23	15.5
October	0.301	51	67	29	1.74	11	3.83	1870	0.17	1914	2.24	16/08	12.6
November	0.307	42	57	31	1.14	7	3.55	1851	0.04	1885	1.88	28/58	6.8
December	0.323	39	50	33	1.02	6	3.98	1861	Nil	1904	2.42	23/13	4.5
Year { Totals	—	—	—	—	21.09	123	—	—	—	—	—	—	—
Year { Averages	0.309	53	—	—	—	—	—	—	—	—	—	—	133.1
Year { Extremes	—	—	87	29	—	—	8.58	6/16	Nil	(b)	5.57	7/2/25	—

(a) Various years.

(b) January, February, March, December, various years.

CLIMATOLOGICAL DATA—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. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation (inches).	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 Pressure. (lb.)	Total Miles.	Prevailing Direction. 9 a.m. 3 p.m.				
No. of yrs. over which observation extends	44	18	20	20	44	22	44	43	22
January ..	29.868	361 1/22	0.13	4,904	E	6,718	6.8	6.1	2.5
February ..	29.904	392 28/29	0.14	4,704	S E	5,423	5.6	6.1	2.0
March ..	29.962	485 1/29	0.11	4,544	S S E	4,957	4.6	5.7	4.7
April ..	30.045	400 3/25	0.10	4,186	S & S E	3,936	3.6	4.8	7.8
May ..	30.089	363 7/16	0.09	3,989	S	3,577	3.3	4.6	9.2
June ..	30.072	355 14/28	0.09	4,051	S W	3,557	2.4	4.4	8.6
July ..	30.072	359 2/23	0.09	3,975	S W	3,621	2.7	3.7	12.7
August ..	30.096	331 6/23	0.10	4,212	S W	4,420	3.7	3.7	12.7
September ..	30.042	322 14/23	0.09	4,054	N E & S	4,267	5.8	3.7	12.6
October ..	30.002	325 25/18	0.11	4,531	N E	5,584	6.8	4.4	8.7
November ..	29.958	371 10/23	0.13	4,756	N E	6,340	8.7	4.0	6.4
December ..	29.889	467 15/26	0.14	5,125	N E	7,012	9.3	5.6	3.7
Year { Totals	—	—	—	—	—	—	63.3	—	92.0
Year { Averages	29.999	—	0.11	4,420	S & E	55,949	—	4.8	—
Year { Extremes	—	488 1/3/29	—	—	—	—	—	—	—

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).		Extreme Range.	Extreme Temperature (Fahr.).		Mean Hours of Sunshine.
	Mean Max.	Mean Min.	Mean.	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of yrs. over which observation extends	44	44	44	44	44	44	41	44	22
January ..	85.4	68.9	77.1	108.9 14/02	58.8 4/93	50.1	166.4 10/17	49.9 4/93	225.7
February ..	84.5	68.6	76.5	105.7 21/25	58.7 (a)	47.0	165.2 6/10	49.3 9/89	262.5
March ..	82.3	66.3	74.3	99.4 5/19	52.4 29/13	47.0	161.7 4/25	45.4 29/13	210.3
April ..	79.0	61.5	70.3	95.2 (b)	44.4 25/25	50.8	153.8 11/16	36.7 24/25	210.4
May ..	73.6	55.3	64.4	90.3 21/23	41.3 24/99	49.0	147.0 1/10	29.8 8/97	204.3
June ..	69.3	51.0	60.2	83.9 19/18	36.3 29/08	52.6	136.0 3/18	25.4 23/88	176.5
July ..	68.5	48.5	58.5	83.4 28/98	36.1 (c)	47.3	146.1 20/15	23.9 11/90	209.6
August ..	71.3	49.9	60.6	88.5 25/28	37.4 6/87	51.1	141.9 (e)	27.1 9/99	236.0
September ..	75.7	54.8	65.2	95.2 16/12	40.7 1/96	54.5	155.5 26/03	30.4 1/89	239.3
October ..	79.7	60.0	69.8	101.4 18/93	43.3 3/99	58.1	157.4 31/18	34.9 8/89	255.1
November ..	82.8	64.2	73.5	106.1 13/13	43.5 2/05	57.6	162.3 7/89	38.3 1/05	248.6
December ..	85.1	67.4	76.3	105.9 26/93	56.4 13/12	49.5	161.7 27/26	49.1 3/94	245.5
Year { Averages	78.1	59.7	68.9	—	—	—	—	—	2663.8
Year { Extremes	—	—	—	108.9 14/1/02	36.1 (d)	72.8	166.4 10/1/17	23.9 11/7/90	(f)

(a) 10 and 11/04. (b) 9/96 and 5/03. (c) 12/94 and 2/96. (d) 12/7/94 and 2/7/96. (e) 20/17 and 28/22. (f) Total for year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure (inches).	Rel. Hum. (%)				Rainfall (inches).				Dew. Mean No. Days Dew.
		Mean 9 a.m.	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.		Greatest In One Day.
No. of yrs. over which observation extends	44	44	44	44	79	71	79	79	61	44
January ..	0.660	66	79	53	6.52	14	27.72 1895	0.32 1919	18.31 21/87	7.9
February ..	0.660	69	82	55	6.25	14	40.39 1893	0.68 1849	8.36 16/93	8.0
March ..	0.630	72	85	56	5.71	15	34.04 1870	Nil 1849	11.18 14/08	11.5
April ..	0.527	72	80	60	3.75	12	15.28 1867	0.05 1897	4.97 19/23	13.9
May ..	0.420	73	85	61	2.83	10	13.85 1876	Nil 1846	5.62 9/79	15.0
June ..	0.356	74	84	67	2.84	9	14.03 1873	Nil 1847	6.01 9/93	12.9
July ..	0.323	73	81	61	2.23	8	8.46 1889	Nil 1841	3.54 (c)	14.6
August ..	0.345	69	80	58	2.04	8	14.67 1879	Nil (a)	4.89 12/87	13.1
September ..	0.408	64	76	47	2.00	8	5.43 1886	0.10 1907	2.46 2/94	12.7
October ..	0.476	60	72	49	2.56	9	9.99 1882	0.14 1900	3.75 3/27	11.4
November ..	0.537	60	72	46	3.08	10	12.41 1917	Nil 1842	4.46 16/86	7.7
December ..	0.616	62	70	62	4.86	12	13.99 1910	0.35 1865	6.60 28/71	7.1
Year { Totals	—	—	—	—	45.27	128	—	—	—	135.8
Year { Averages	0.496	68	—	—	—	—	—	—	—	—
Year { Extremes	—	—	85	46	—	—	40.39 2/93	Nil (b)	18.31 21/1/87	—

(a) 1862, 1869, 1880. (b) March, May, June, July, August and November, various years. (c) 15/76 and 16/89.

CLIMATE AND METEOROLOGY OF AUSTRALIA.

CLIMATOLOGICAL DATA—SYDNEY, NEW SOUTH WALES.

LAT. 33° 52' S., LONG. 151° 12' E. HEIGHT ABOVE M.S.L., 138 FT.

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

Month.	Bar. corrected to 32° F. Mm. Sea level and Standard Gravity from hourly readings.	Wind.*				Mean Evaporation (inches).	No. of Days Lightning.	Mean Amount of Clouds, 9 a.m. to 3 p.m. & 9 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	72	64	64	64	64	51	71	69	20
January ..	29.897	627 3/93	0.27	7,066	N E	5.358	4.8	5.8	5.1
February ..	29.943	697 12/69	0.24	6,085	N E	4.208	4.3	5.9	5.4
March ..	30.012	754 20/70	0.19	5,888	E N E	3.619	4.1	5.5	6.0
April ..	30.072	642 6/82	0.17	5,343	W	2.591	3.8	5.0	7.4
May ..	30.080	682 6/98	0.17	5,539	W	1.820	3.1	4.8	7.7
June ..	30.062	642 13/08	0.20	5,950	W	1.428	2.1	4.8	8.9
July ..	30.071	744 17/79	0.20	6,129	W	1.529	2.3	4.4	10.3
August ..	30.069	649 22/72	0.19	5,932	W	1.917	3.1	4.0	10.8
September ..	30.008	771 6/74	0.22	6,183	W	2.702	3.8	4.3	10.0
October ..	29.967	741 4/72	0.25	6,750	E N E	3.878	4.7	4.9	7.2
November ..	29.939	583 12/87	0.25	6,616	E N E	4.620	5.3	5.5	6.1
December ..	29.881	750 3/84	0.26	6,981	E N E	5.385	5.6	5.6	5.0
Year { Totals ..	—	—	—	—	—	39.049	47.0	—	89.9
Year { Averages ..	30.000	—	0.22	6,203	W	—	—	5.0	—
Year { Extremes ..	—	771 6/9/74	—	—	—	—	—	—	—

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).		Extreme Range.	Extreme Temperature (Fahr.).		Mean Hours of Sunshine.
	Mean Max.	Mean Min.	Mean.	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of yrs. over which observation extends	72	72	72	72	72	72	69	72	10†
January ..	78.4	64.9	71.6	108.5 13/96	51.2 14/65	57.3	164.3 26/16	43.7 6/25	232.9
February ..	77.7	65.0	71.3	107.8 8/26	49.3 28/63	58.5	161.2 8/26	43.4 25/91	200.4
March ..	75.7	62.9	69.3	102.6 3/69	48.8 14/80	53.8	158.3 10/26	39.9 17/13	199.1
April ..	71.3	58.1	64.7	91.0 20/22	44.6 27/64	46.4	144.1 10/77	33.3 24/09	179.5
May ..	65.5	52.1	58.8	86.0 1/19	40.2 22/59	45.8	129.7 1/96	29.3 25/17	171.9
June ..	61.1	48.3	54.7	79.8 2/23	38.0 5/20	41.8	125.5 2/23	28.1 24/11	153.3
July ..	59.7	45.9	52.8	78.3 22/26	35.9 12/90	42.4	124.7 19/77	24.0 4/93	189.2
August ..	62.7	47.5	55.1	82.0 31/84	36.8 3/72	45.2	149.0 30/78	26.1 4/09	220.2
September ..	67.0	51.4	59.2	92.3 27/19	40.8 18/64	51.5	142.2 12/78	30.1 17/05	224.2
October ..	71.3	55.8	63.6	98.9 19/98	42.2 6/27	56.7	151.9 30, 31/14	32.7 9/05	234.9
November ..	74.4	59.6	67.0	102.7 21/78	45.8 1/05	56.9	158.5 28/99	36.0 6/06	235.3
December ..	77.2	62.9	70.1	107.5 31/04	48.4 3/24	59.1	164.5 27/89	41.4 3/24	223.0
Year { Averages ..	70.2	56.2	63.2	—	—	—	—	—	2463.9
Year { Extremes ..	—	—	—	108.5 13/1/96	35.9 12/7/90	72.6	164.5 27/12/89	24.0 4/7/93	(a)

(a) Total for year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure inches.	Rel. Hum. (%)				Rainfall (inches).				Dew. Mean No. Days Dew.
		Mean 9 a.m.	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.		Greatest in One Day.
No. of yrs. over which observation extends	72	72	72	72	72	72	72	72	72	71
January ..	0.546	67	78	58	3.62	14	15.26 1911	0.32 1929	7.08 13/11	1.3
February ..	0.564	71	81	59	4.28	14	18.56 1873	0.34 1902	8.90 25/73	2.3
March ..	0.529	72	85	62	4.96	15	18.70 1870	0.42 1876	6.52 9/13	4.3
April ..	0.444	76	87	63	5.51	13	24.49 1861	0.00 1868	7.52 29/60	6.7
May ..	0.357	78	90	63	5.22	15	23.03 1919	0.19 1860	8.36 28/89	7.3
June ..	0.302	78	89	68	4.85	13	16.30 1885	0.18 1904	5.17 16/84	6.3
July ..	0.276	76	88	63	4.79	12	13.21 1900	0.12 1862	5.72 28/08	6.8
August ..	0.291	72	84	56	2.94	11	14.89 1899	0.04 1885	5.33 2/60	6.3
September ..	0.333	66	79	49	2.76	11	14.05 1879	0.08 1882	5.69 10/79	4.5
October ..	0.382	68	77	46	2.91	12	11.74 1916	0.21 1867	6.37 13/02	3.1
November ..	0.444	63	79	42	2.79	12	9.89 1865	0.07 1915	4.23 19/00	2.2
December ..	0.504	64	77	52	2.85	13	15.82 1920	0.23 1913	4.75 13/10	1.6
Year { Totals ..	—	—	—	—	47.48	135	—	—	—	52.7
Year { Averages ..	0.405	70	—	—	—	—	—	—	—	—
Year { Extremes ..	—	—	90	42	—	—	24.49 4/1861	0.04 8/1885	8.90 25/2/73	—

* Early records revised during 1929. Values for period 1867-September, 1885, reduced 20 per cent.; for period September, 1885-March, 1913, reduced 10 per cent. † From 1921 only; previous records discarded owing to a faulty exposure of instrument.

CLIMATOLOGICAL DATA—HOBART, TASMANIA.

LAT. 42° 53' S., LONG. 147° 20' E. HEIGHT ABOVE M.S.L., 177 FT.

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

Month.	Bar. corrected to 32° F. M.S. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation (inches).	No. of Days Lightning.	Mean Amount of Cloud, 9 a.m. 3 p.m. & 9 p.m.	No. of Clear Days.	
		Greatest Number of Miles in One Day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing Direction.					
					9 a.m.					3 p.m.
No. of yrs. over which observation extends	46	20	20	20	24		20	23	68	24
January ..	29.830	500 30/16	0.20	6,000	N N W & N	S E	4.874	0.9	6.0	2.6
February ..	29.920	605 4/27	0.15	4,729	N & N W	S E	3.705	1.2	6.0	2.6
March ..	29.946	443 19/27	0.13	4,911	N & N W	S E	3.032	1.3	5.0	2.5
April ..	29.967	533 27/26	0.14	4,880	N to N W	N W & S E	2.035	0.7	6.1	1.6
May ..	29.989	423 15/27	0.12	4,767	N W to N	N to N W	1.417	0.5	6.1	2.2
June ..	29.959	569 27/20	0.12	4,608	N W & N W	N to N W	0.925	0.6	6.1	2.2
July ..	29.926	489 22/29	0.13	4,863	N N W & N W	N to N W	1.957	0.5	5.8	2.2
August ..	29.922	612 19/26	0.14	5,927	N & N W	N & N W	0.304	0.5	6.0	2.1
September ..	29.846	516 26/15	0.19	5,682	N N W & N	N W & S E	2.015	0.6	6.1	1.4
October ..	29.827	461 8/12	0.20	6,016	N to N W	S E & N W	3.093	0.7	6.3	1.2
November ..	29.804	508 18/15	0.20	5,835	N to N W	S E	3.953	0.8	6.4	1.5
December ..	29.808	486 30/20	0.18	5,716	N	S E	4.504	1.0	6.3	1.2
Year { Totals ..	—	—	—	—	—	—	31.814	9.5	—	23.8
Year { Averages ..	29.895	—	0.16	5,253	N to N W	S E & N W	—	—	6.1	—
Year { Extremes ..	—	612 19/8/26	—	—	—	—	—	—	—	—

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).			Extreme Range.	Extreme Temperature (Fahr.).		Mean Hours of Sunshine.			
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.	Highest in Sun.		Lowest on Grass.					
									60		60	60	84
No. of yrs. over which observation extends	60	60	60	84	84	84	43	63	36				
January ..	71.1	52.9	62.0	105.0	3/72	65.0	160.0	30.6	19/97	217.0			
February ..	71.3	53.4	62.4	104.4	12/99	65.4	165.0	24/98	28.3	—/87	181.6		
March ..	68.0	50.8	59.4	99.0	—/61	63.8	150.0	3/05	27.5	30/02	178.4		
April ..	62.7	47.7	55.2	90.0	1/56	60.0	142.0	18/93	25.0	—/86	140.5		
May ..	57.3	43.7	50.5	77.8	5/21	48.6	128.0	(c)	20.0	19/02	132.4		
June ..	52.8	41.0	46.9	75.0	7/74	47.0	122.0	12/94	21.0	6/87	106.0		
July ..	52.0	39.5	45.8	72.0	22/77	45.0	121.0	12/93	18.7	16/86	124.3		
August ..	55.0	41.0	48.0	77.0	3/76	47.0	129.0	—/87	20.1	7/09	146.7		
September ..	58.7	43.2	51.0	81.7	23/26	51.7	138.0	23/93	18.3	16/26	149.2		
October ..	62.7	45.5	54.1	92.0	24/14	60.0	156.0	9/93	23.8	(d)	172.5		
November ..	66.0	48.2	57.1	98.0	23/88	62.8	154.0	19/92	26.0	1/08	202.5		
December ..	69.2	51.2	60.2	105.2	30/97	67.2	157.0	30/18	27.2	—/86	201.4		
Year { Averages ..	62.2	40.5	54.4	—	—	—	—	—	—	—	1952.5		
Year { Extremes ..	—	—	—	105.2	30/12/97	27.0	18/7/66	78.2	165.0	24/2/98	18.3	16/9/26	(e)

(a) 27/49 and 1/00. (b) 5/86 and 13/05. (c) —/89 and —/93. (d) 1/86 and —/99. (e) Total for year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure (inches)	Rel. Hum. (%)				Rainfall (inches).				Dew. Mean No. Days Dew.	
		Mean 9 a.m.	Mean 3 p.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.		Greatest In One Day.
No. of yrs. over which observation extends	44	44	44	44	88	87	88	87	64	21	
January ..	0.333	58	72	47	1.87	10	5.91 1893	0.03 1841	2.96 30/16	0.6	
February ..	0.356	63	77	53	1.47	9	9.15 1854	0.07 1847	4.50 27/544	1.6	
March ..	0.332	67	77	58	1.67	10	7.60 1854	0.02 1843	2.79 5/19	4.3	
April ..	0.301	73	84	58	1.91	11	6.50 1900	0.07 1904	5.02 20/09	9.5	
May ..	0.269	78	89	65	1.89	13	6.37 1905	0.10 1843	3.22 14/58	12.8	
June ..	0.241	80	91	68	2.22	14	8.15 1889	0.22 1852	4.11 13/89	8.8	
July ..	0.230	80	94	72	2.17	15	6.02 1922	0.30 1850	2.51 18/22	8.7	
August ..	0.238	75	92	64	1.62	14	10.16 1858	0.23 1854	4.35 12/58	3.8	
September ..	0.256	68	85	60	2.10	15	7.14 1844	0.39 1847	2.79 18/44	4.8	
October ..	0.273	64	73	51	2.27	15	6.67 1906	0.26 1850	2.58 4/06	2.5	
November ..	0.262	59	72	50	2.47	14	8.94 1849	0.16 1863	3.97 7/49	1.1	
December ..	0.315	57	67	45	2.02	12	9.00 1875	0.11 1842	2.82 21/29	0.8	
Year { Totals ..	—	—	—	—	23.88	152	—	—	—	65.1	
Year { Averages ..	0.281	67	—	—	—	—	—	—	—	—	
Year { Extremes ..	—	—	94	45	—	—	10.16	0.02	—	—	
							8/1858	3/1843	5.02	20/4/09	

(a) 4.18 on 23/64 also.

CHAPTER III.

GENERAL GOVERNMENT.

§ 1. Scheme of Parliamentary Government.

1. **General.**—A brief account of the general legislative powers of the Commonwealth and States is given in preceding issues of the *Official Year Book* (see No. 13, pp. 927 to 951, and No. 22, page 64). It is not proposed to repeat this information in the present issue.

2. **Powers and Functions of the Governor-General and of the State Governors.**—A detailed statement of the powers and functions of the Governor-General and of the State Governors will be found in preceding issues of the *Official Year Book* (see No. 18, pp. 78 to 80), but considerations of space preclude the repetition of this information in the present volume.

3. **Governor-General and State Governors.**—The present Governor-General is the Right Honorable SIR ISAAC ALFRED ISAACS, P.C., K.C.M.G. He assumed office on the 22nd January, 1931.

The following is a list of the Governors of the various States of the Commonwealth. Later information, if available, will be found in the Appendix.

New South Wales ..	Air Vice-Marshal SIR PHILIP WOOLCOTT GAME, G.B.E., K.C.B., D.S.O.
Victoria ..	Lieut.-Colonel the RT. HON. ARTHUR HERBERT TENNYSON, BARON SOMERS, K.C.M.G., D.S.O., M.C.
Queensland ..	Lieut.-General SIR THOMAS HERBERT JOHN CHAPMAN GOODWIN, K.C.B., C.M.G., D.S.O.
South Australia ..	Brigadier-General SIR ALEXANDER GORE ARKWRIGHT HORE-RUTHVEN, V.C., K.C.M.G., C.B., D.S.O.
Western Australia ..	Colonel SIR WILLIAM ROBERT CAMPION, K.C.M.G., D.S.O.
Tasmania ..	Lieut.-Governor—Sir HERBERT NICHOLLS, K.C.M.G.

4. **The Cabinet and Executive Government.**—(i) *General.* In both the Commonwealth and the State Legislatures the forms of government have been founded on their prototypes in 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 are vested in the Governor-General in Council, and in the State Governments 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.

(ii) *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 the 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.

(iii) *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 connexion with the resignation or acceptance of office by a Ministry is described fully in previous issues of the Year Book. (See No. 6, page 942.)

(iv) *Ministers in Upper or Lower Houses.* The subjoined table shows the number of Ministers with seats in the Upper or Lower Houses of each Parliament in May, 1931.

AUSTRALIAN PARLIAMENTS—MINISTERS IN UPPER OR LOWER HOUSES,
1931.

Ministers with Seats in—	C'wealth.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
The Upper House ..	2	1	4	..	2	1	1	11
The Lower House ..	11	12	8	10	4	7	6	58
Total	13	13	12	10	6	8	7	69

(v) *The Cabinet.* (a) *General.* The meetings of this body are private and deliberative. The actual Ministers of the day are alone present, 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.

(b) *Commonwealth Ministers of State.* A statement showing the names of Ministers of State who have held office from the inauguration of the Commonwealth Government to 1925 will be found in Official Year Book No. 18, pages 82 and 83, but considerations of space preclude its inclusion in the present issue.

(c) *State Ministries.* A list of the members of the Ministry in each State in May, 1931, will be found in § 3 of this chapter.

5. Number and Salary of Members of the Legislatures.—The following table shows the number and annual salary of members in each of the legislative chambers in May, 1931 :—

MEMBERS OF COMMONWEALTH AND STATE PARLIAMENTS, AND ANNUAL SALARIES, 1931.

Members in—	C'wealth.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
MEMBERS.								
Upper House ..	36	86	34	(a)	20	30	18	224
Lower House ..	76	90	65	72	46	50	30	429
Total ..	112	176	99	72	66	80	48	653
ANNUAL SALARY.								
Upper House ..	£ 1,000 (b)	£ ..	£ 191 (c)	£ (a)	£ 380 (d)	£ 540 (e)	£ 333-450 (f)	..
Lower House ..	£ 1,000 (b)	£ 744	£ 469 (c)	£ 500	£ 380 (d)	£ 540 (e)	£ 360-450 (f)	..

(a) Council abolished in 1922. (b) Subject to a special income tax of 10 per cent. on each periodical payment of salary. (c) Rate per annum for nine months from 1st October, 1930. (d) For twelve months from 1st December, 1930. (e) For twelve months from 1st October, 1930. (f) Rate per annum from 3rd October, 1930, to 30th September, 1931.

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.

6. 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. In the States, laws are enacted in the name of the Sovereign by and with the consent of the Legislative Council (except in Queensland) 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.]

§ 2. Parliaments and Elections.

1. Qualifications for Membership and for Franchise.—The conspectus in § 4 of "General Government" in Year Book No. 13 contains particulars, as in 1920, relating to the legislative chambers in the Commonwealth and State Parliaments, and shows concisely the qualifications necessary for membership and for the franchise in each House. (These are, in the main, applicable in 1931, but it must be remembered that Queensland abolished the Upper House in 1922). It has further to be remembered that in 1925 the Commonwealth Parliament passed an Act removing the disqualification on racial grounds from (a) natives of British India and (b) persons who have become naturalized. Disqualification of persons otherwise eligible, either as members or voters, is generally 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 a Government contract except as a member of an incorporated company of more than twenty-five persons, or being an undischarged bankrupt.

2. **The Federal Government.**—The Senate consists of 36 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 half the members 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, 28 ; Victoria, 20 ; Queensland, 10 ; South Australia, 7 ; Western Australia, 5 ; Tasmania, 5 ; Northern Territory, 1—total, 76. The Constitution provides for a minimum of five members for 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, the whole State constitutes the electorate. For the purposes of elections for the House of Representatives, the State is divided into single electorates corresponding in number with the number of members to which the State is entitled. Members of both Houses are paid at the rate of £1,000 per annum. The *Income Tax (Salaries) Act 1930*, however, provides for an income tax of 10 per cent. on each periodical payment of salary. Further information regarding the Senate and the House of Representatives is given in earlier issues.

3. **Federal Elections.**—There have been eleven complete Parliaments since the inauguration of Federation. The fifth Parliament, which was opened on the 9th July, 1913, was dissolved on the 30th July, 1914, in somewhat unusual circumstances. Under Section 57 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 an interval of three months, 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. The first session of the twelfth Parliament opened on the 20th November, 1929. The first meeting at Parliament House, Canberra, was opened by H.R.H. the Duke of York on 9th May, 1927. Particulars regarding Commonwealth elections since 1917 may be found in the table given hereunder :—

FEDERAL ELECTIONS, 1917 to 1929.

Date.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted.		
	Males.	Fem.	Total.	Males.	Fem.	Total.	Males.	Fem.	Total.
THE SENATE.									
5th May, 1917 ..	1,444,133	1,391,194	2,835,327	1,184,663	1,018,138	2,202,801	82.03	73.18	77.69
13th December, 1919	1,439,816	1,410,044	2,849,862	1,094,534	938,403	2,032,937	76.02	65.55	71.33
16th December, 1922	1,494,508	1,487,916	2,982,424	966,551	761,695	1,728,246	64.67	51.19	57.95
14th November, 1925	1,656,286	1,645,730	3,302,016	1,515,608	1,499,345	3,014,953	91.51	91.11	91.31
17th November, 1928	1,723,552	1,721,214	3,444,766	1,617,752	1,606,748	3,224,500	93.86	93.35	93.61
12th October, 1929 ..	1,773,014	1,769,936	3,542,950	*	*	*	..	..	..

* No election.

THE HOUSE OF REPRESENTATIVES.

(CONTESSED ELECTORATES.)

5th May, 1917 ..	1,262,527	1,207,938	2,470,465	1,041,552	892,926	1,934,478	82.50	73.92	78.30
13th December, 1919	1,395,165	1,367,468	2,762,633	1,063,029	914,816	1,977,845	76.19	66.90	71.59
16th December, 1922	1,396,020	1,378,254	2,774,274	920,177	726,686	1,646,863	65.91	52.72	59.36
14th November, 1925	1,635,842	1,632,897	3,268,739	1,499,006	1,488,194	2,987,200	91.63	91.14	91.39
17th November, 1928	1,450,202	1,463,951	2,914,153	1,362,675	1,366,137	2,728,812	93.96	93.32	93.64
12th October, 1929 ..	1,557,525	1,560,505	3,118,030	1,479,100	1,478,447	2,957,547	94.96	94.74	94.85

The percentage of electors who exercised the franchise at each election rose from 53.04 for the Senate and 55.69 for the House of Representatives in 1901 to 77.69 and 78.30 respectively in 1917. The next election in 1919 showed a considerable falling off, and in 1922 the decrease was still more marked, the respective percentages for that year being 57.95 and 59.36, or very little more than those for 1901. Compulsory voting was introduced prior to the election in 1925, and an exceedingly heavy vote was cast in that year. In 1928 the results of the previous election were exceeded, and the exceptional average of nearly 94 per cent. of possible votes was recorded for each House. The highest percentage recorded, however, was in respect of the 1929 House of Representatives election, when 94.85 per cent. of the electors in the contested divisions voted.

4. *Federal Referenda.*—According to Section 128 of the Constitution, any proposed law for the alteration of the Constitution must, in addition to being passed by an absolute majority of each House of Parliament, be submitted to a referendum of the electors in each State, and must further be approved by a majority of the States and of the electors who voted before it can be presented for Royal Assent. Several referenda have been held from time to time, but in three cases only has any proposed law been assented to by the required majority of the electors. A statement dealing with the various referenda up to and inclusive of the year 1919, and the voting thereon was given in previous issues of the Official Year Book (see No. 18, pp. 87 to 89), but space will not permit of the incorporation of this information in the present volume. In the year 1926 a referendum was held in relation to proposed laws entitled respectively "Industry and Commerce" and "Essential Services." The result of the voting was: Industry and Commerce, votes in favour, 1,247,088; votes not in favour, 1,619,655. Essential Services, votes in favour, 1,195,502; votes not in favour, 1,597,793.

A referendum was taken in 1928 in respect of a proposed law entitled "State Debts 1928" and a majority of votes was cast in each State in favour of the proposal, the voting for the Commonwealth being as follows: in favour, 2,237,391; not in favour, 773,852.

5. *The Parliament of New South Wales.*—(i) *Constitution.* The Legislative Council in this State is a nominee chamber, the Legislative Assembly being an elective body. Theoretically the Legislative Council may contain an unlimited number of members, and the number of members in March, 1931, was eighty-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 held not to include officers of His Majesty's sea or land forces on full or half-pay, or retired officers on pensions. A Bill for the abolition of the Legislative Council was passed in December, 1930. The High Court of Australia, however, in a judgment delivered in March, 1931, held that this legislation was in conflict with the Constitution. The matter is to be made the subject of an appeal to the Privy Council. The Legislative Assembly consists of ninety members elected in single-seat electoral districts, who hold their seats during the existence of the Parliament to which they are elected. The duration of Parliament is limited to three years.

(ii) *Particulars of Elections.* Since the introduction of responsible government in New South Wales there have been twenty-eight complete Parliaments, the first of which opened on the 22nd May, 1856, and was dissolved on the 19th December, 1857, while the twenty-eighth was dissolved on the 18th September, 1930. The twenty-ninth Parliament opened on the 25th November, 1930. The elections of 1920, 1922, and 1925 were contested on the principle of proportional representation, but a reversion to the system of single seats and preferential voting was

made at the later appeals to the people. Particulars of voting at elections from 1920 to 1930 are given below :—

LEGISLATIVE ASSEMBLY ELECTIONS, NEW SOUTH WALES, 1920 to 1930.

Year.	Electors Qualified to Vote.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1920	593,244	561,193	1,154,437	363,115	285,594	648,709	61.21	50.89	56.19
1922	6 6,662	614,361	1,251,023	466,949	408,515	875,464	73.34	66.49	69.98
1925	678,749	660,331	1,339,080	489,126	435,853	924,979	72.06	66.00	69.07
1927	714,886	694,607	1,409,493	591,820	558,957	1,150,777	83.79	81.25	82.54
1930	724,471	716,314	1,440,785	682,747	673,676	1,356,423	95.09	94.79	94.94

The principle of one elector one vote was adopted in 1894, and that of compulsory enrolment in 1922. Compulsory voting was introduced in the 1930 election, and, as the above table shows, the percentage of electors who voted in contested electorates rose to nearly 95.

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.—(i) *Constitution.* 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 May, 1931, 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. An elector for the Legislative Assembly may vote once only, 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.

(ii) *Particulars of Elections.* Since the introduction of responsible government in Victoria there have been twenty-nine complete Parliaments, the first of which opened on the 21st November, 1856, and closed on the 9th August, 1859, while the twenty-ninth was dissolved on the 1st November, 1929. The thirtieth Parliament was opened on the 11th December, 1929. The election for the Legislative Assembly in 1927 was the first held since the institution of compulsory voting. Particulars of voting at elections during the years 1916 to 1928 are given in the subjoined table. Particulars of the election held in June, 1931, will, if available, be found in the Appendix.

VICTORIAN ELECTIONS, 1916 to 1929.

LEGISLATIVE COUNCIL (LAST ELECTION 1928).

Year.	Electors Enrolled.		Electors Enrolled in Contested Electorates.	Electors who Voted.	Percentage of Electors who Voted in Contested Electorates.
1916	300,321	92,421	37.71
1919	317,593	133,058	30.35
1922	353,440	161,731	29.07
1925	399,510	172,875	32.41
1928	444,278	268,164	31.84

VICTORIAN ELECTIONS, 1916 TO 1929—*continued.*

LEGISLATIVE ASSEMBLY.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1917	397,585	430,645	828,230	172,317	184,682	356,999	54.30	54.12	54.21
1920	418,085	450,763	868,848	232,604	235,621	468,225	66.23	61.38	63.70
1921	414,818	456,638	871,456	167,812	158,415	326,227	61.29	53.53	57.26
1924	433,357	467,070	900,427	190,153	180,810	370,963	63.02	55.72	59.24
1927	480,485	512,726	993,211	377,941	402,458	780,399	92.02	91.51	91.76
1929	496,996	532,174	1,029,170	308,532	330,836	639,368	94.11	93.36	93.72

The franchise was extended to women by the Adult Suffrage Act 1908, and voting at elections for the Legislative Assembly was made compulsory in 1926.

7. The Parliament of Queensland.—(i) *Constitution.* As pointed out previously the Legislative Council in Queensland was abolished in 1922, the date of Royal Assent to the Act being the 23rd March. The Legislative Assembly is composed of seventy-two members, and the State is divided into that number of electoral districts. A modified system of optional preferential voting is in operation. (See Year Book No. 6, page 1183.)

(ii) *Particulars of Elections.* Since the establishment of responsible government in Queensland there have been twenty-four complete Parliaments, the first of which opened on the 29th May, 1860, and dissolved on the 20th May, 1863, while the twenty-fourth Parliament was dissolved on the 11th April, 1929. The first session of the twenty-fifth Parliament began on the 20th August, 1929. At the elections held in May, 1915, the principle of compulsory voting was introduced for the first time in Australia. Of the total number of electors enrolled at the 1929 elections, 90.52 per cent. went to the polls. Statistics regarding the last five elections are given below:—

QUEENSLAND LEGISLATIVE ASSEMBLY ELECTIONS, 1918 to 1929.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1918	233,342	191,074	424,416	176,768	163,901	340,669	75.75	85.78	80.27
1920	238,750	206,931	445,681	187,575	168,651	356,226	78.57	81.50	79.93
1923	257,001	219,476	476,477	194,287	174,980	369,267	80.72	83.96	82.23
1926	253,571	224,526	478,097	209,139	191,916	401,055	89.77	90.13	89.94
1929	270,327	239,672	509,999	228,601	209,647	438,248	89.69	91.45	90.52

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.

8. The Parliament of South Australia.—(i) *Constitution.* 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. The State is divided into five districts, which return four members each to the Legislative Council. For the House of Assembly, eight districts return three members each, and eleven districts two members each.

(ii) *Particulars of Elections.* Since the inauguration of responsible government in South Australia there have been twenty-six complete Parliaments, the first of which was opened on the 22nd April, 1857. The twenty-sixth Parliament opened on the 17th May, 1927, and closed on the 20th February, 1930. The first session of the twenty-seventh Parliament began on the 27th May, 1930. Particulars of voting at recent elections are given below :—

SOUTH AUSTRALIAN ELECTIONS, 1918 to 1930.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.

LEGISLATIVE COUNCIL.

1918	71,510	23,461	94,971	42,987	11,800	54,787	60.11	50.30	57.69
1921	69,986	23,062	93,048	38,597	11,309	49,906	64.23	53.96	61.57
1924	67,429	22,018	89,447	36,626	10,492	47,118	65.79	54.94	63.02
1927	100,376	37,395	137,771	46,686	17,742	64,428	67.55	59.91	65.26
1930	(a)	(a)	133,274	(a)	(a)	100,040	(a)	(a)	75.06

HOUSE OF ASSEMBLY.

1918	126,669	132,043	258,712	71,501	62,742	134,243	56.45	47.52	51.89
1921	134,091	137,931	272,022	91,451	77,600	169,051	70.10	57.64	63.77
1924	141,944	147,899	289,843	87,712	73,453	161,165	69.65	56.05	62.71
1927	152,997	156,591	309,588	110,127	104,611	214,738	80.64	74.31	77.43
1930	(a)	(a)	325,244	(a)	(a)	222,819	(a)	(a)	71.36

(a) Not available.

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.

9. The Parliament of Western Australia.—(i) *Constitution.* In this State both Chambers are elective. For the Legislative Council there are thirty members, each of the ten Provinces returning three members, while the Legislative Assembly is composed of fifty members, one member being returned by each of the fifty electoral districts. At the expiration of two years from the date of election to a seat in the Legislative Council, and every two years thereafter, the junior member for the time being for each province retires. Seniority is determined (a) by the date of election, (b) if two or more members are elected on the same day, then the junior 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.

(ii) *Particulars of Elections.* Since the establishment of responsible government in Western Australia there have been thirteen complete Parliaments, the first of which was opened on the 30th December, 1890, while the fourteenth Parliament was elected on 12th April, and 10th May, 1930. The preferential system of voting in use in

Western Australia is described in Year Book No. 6, page 1184. Particulars relating to the last five Assembly and Council elections are given in the tables below :—

WESTERN AUSTRALIAN ELECTIONS.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.

LEGISLATIVE COUNCIL.

1922	40,360	14,838	55,198	17,524	4,763	22,287	46.16	33.81	42.82
1924	43,897	14,904	58,801	16,552	4,569	21,121	47.06	39.25	45.12
1926	39,566	15,120	54,686	23,956	8,136	32,092	60.55	53.80	58.68
1928	54,822	19,076	73,898	24,877	8,151	33,028	51.99	46.75	50.59
1930	54,651	18,927	73,578	20,198	6,252	26,450	51.58	48.50	50.81

LEGISLATIVE ASSEMBLY.

1917	93,106	73,845	166,951	45,453	40,167	85,620	59.46	65.51	62.15
1921	89,523	75,165	164,688	54,747	44,211	98,958	69.16	65.22	67.34
1924	101,717	88,152	189,869	55,591	43,800	99,391	66.00	59.00	62.32
1927	113,072	97,877	210,949	76,307	66,199	142,506	74.32	72.42	73.42
1930	122,576	107,500	230,076	75,206	63,807	139,013	75.44	73.30	74.44

Women's suffrage was granted by the Electoral Act of 1899. At the 1921 elections the first woman member elected to an Australian Parliament was returned.

10. The Parliament of Tasmania.—(i) *Constitution.* 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. There are five House of Assembly districts corresponding to the Commonwealth electoral districts, each 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.) The annual salaries of members of the House of Assembly range from £360 to £450, and of the Legislative Council from £333 to £450 according to the area of the electorate and the distance from the capital.

In 1924 and again in 1925 the House of Assembly contested, with at least temporary success, the power of the Legislative Council to amend money bills. The matter was settled by "The Constitution Act 1926," which provides that all money bills shall originate in the Assembly, that all money votes shall be recommended by the Governor, and that the Council may amend bills other than those for appropriating public moneys or fixing a rate for income or land tax. The Council has no power to insert a provision for the appropriation of money or the imposing of a burden on the people.

(ii) *Particulars of Elections.* The first Tasmanian Parliament opened on 2nd December, 1856, and closed on 8th May, 1861. There have been twenty-three complete Parliaments since the inauguration of responsible government. Particulars of the voting at the last five elections for the House of Assembly are given hereunder :—

TASMANIAN ELECTIONS, HOUSE OF ASSEMBLY, 1916 to 1928.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1916	54,466	52,855	107,321	41,427	37,557	78,984	76.06	71.05	73.60
1919	53,205	54,336	107,541	37,037	34,027	71,064	69.61	62.62	66.08
1922	54,958	55,591	110,549	38,457	31,295	69,752	69.96	56.30	63.09
1925	56,667	58,234	114,901	41,322	35,959	77,281	72.92	61.81	67.25
1928	55,058	56,898	111,956	46,769	44,910	91,679	84.94	78.94	81.90

Particulars of the House of Assembly election held in May, 1931, will, if available, be found in the Appendix.

The suffrage was granted to women under the Constitution Amendment Act 1903, and compulsory voting came into force on the passing of the Electoral Act in 1928.

3. Administration and 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 following 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 1931.

Number of Parliament.	Date of Opening.	Date of Dissolution.
First	9th May, 1901	23rd November, 1903
Second	2nd March, 1904	5th November, 1906
Third	20th February, 1907	19th February, 1910
Fourth	1st July, 1910	23rd April, 1913
Fifth	9th July, 1913	30th July, 1914 (a)
Sixth	8th October, 1914	23rd March, 1917
Seventh.. .. .	14th June, 1917.. .. .	31st October, 1919
Eighth	26th February, 1920	6th November, 1922
Ninth	28th February, 1923	3rd October, 1925
Tenth	13th January, 1926	9th October, 1928
Eleventh	9th February, 1929	16th September, 1929
Twelfth.. .. .	20th November, 1929	

(a) 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.

2. **Governors-General and Ministries.**—The following statements show the names of the several Governors-General, and 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. From 1st January, 1901, to 9th January, 1903.
 Rt. Hon. HALLAM BARON TENNYSON, P.C., G.C.M.G. From 17th July, 1902, to 9th January, 1903 (Acting).
 Rt. Hon. HALLAM BARON TENNYSON, P.C., G.C.M.G. From 9th January, 1903, to 21st January, 1904.
 Rt. Hon. HENRY STAFFORD BARON NORTHCOTE, P.C., G.C.M.G., G.C.I.E., C.B. From 21st January, 1904, to 9th September, 1908.
 Rt. Hon. WILLIAM HUMBLE EARL OF DUDLEY, P.C., G.C.B., G.C.M.G., G.C.V.O., &c. From 9th September, 1908, to 31st July, 1911.
 Rt. Hon. THOMAS BARON DENMAN, P.C., G.C.M.G., K.C.V.O. From 31st July, 1911, to 18th May, 1914.
 Rt. Hon. SIR RONALD CRAUFURD MUNRO FERGUSON (afterwards VISCOUNT NOVAR OF RAITH), P.C., G.C.M.G. From 18th May, 1914, to 6th October, 1920.
 Rt. Hon. HENRY WILLIAM BARON FORSTER OF LEFE, P.C., G.C.M.G. From 6th October, 1920, to 8th October, 1925.
 Rt. Hon. JOHN LAWRENCE BARON STONEHAVEN, P.C., G.C.M.G., D.S.O. From 8th October, 1925, to 22nd January, 1931.
 Lieut.-Colonel the Rt. Hon. ARTHUR HERBERT TENNYSON, BARON SOMERS, K.C.M.G., D.S.O., M.C. From 3rd October, 1930, to 22nd January, 1931 (Acting).
 Rt. Hon. SIR ISAAC ALFRED ISAACS, P.C., K.C.M.G. From 22nd January, 1931.

(b) **MINISTRIES.**

- (i) BARTON GOVERNMENT, 1st January, 1901, to 23rd September, 1903.
 (ii) FIRST DEAKIN GOVERNMENT, 23rd September, 1903, to 26th April, 1904.
 (iii) WATSON GOVERNMENT (Labour), 26th April to 17th August, 1904.
 (iv) REID-MCLEAN GOVERNMENT, 17th August, 1904, to 4th July, 1905.
 (v) SECOND DEAKIN GOVERNMENT, 4th July, 1905, to 12th November, 1908.
 (vi) FIRST FISHER GOVERNMENT (Labour), 12th November, 1908, to 2nd June, 1909.
 (vii) THIRD DEAKIN GOVERNMENT, 2nd June, 1909, to 29th April, 1910.
 (viii) SECOND FISHER GOVERNMENT (Labour), 29th April, 1910, to 24th June, 1913
 (ix) COOK GOVERNMENT, 24th June, 1913, to 17th September, 1914.
 (x) THIRD FISHER GOVERNMENT (Labour), 17th September, 1914, to 27th October, 1915.
 (xi) FIRST HUGHES GOVERNMENT (Labour), 27th October, 1915, to 14th November, 1916.
 (xii) SECOND HUGHES GOVERNMENT (Labour), 14th November, 1916, to 17th February, 1917.
 (xiii) AUSTRALIAN NATIONAL WAR GOVERNMENT, 17th February, 1917, to 10th January, 1918.
 (xiv) AUSTRALIAN NATIONAL WAR GOVERNMENT, 10th January, 1918, to 9th February, 1923.
 (xv) BRUCE-PAGE GOVERNMENT, 9th February, 1923, to 22nd October, 1929.

(c) **SCULLIN GOVERNMENT, from 22nd October, 1929 (Labour).**

DEPARTMENTS.	MINISTERS (May, 1931).
Prime Minister, Minister for External Affairs, and Minister for Industry	Rt. Hon. JAMES HENRY SCULLIN, P.C.
Treasurer	Hon. EDWARD GRANVILLE THEODORE.
Vice-President of the Executive Council	Hon. JOHN BARNES.
Attorney-General	Hon. FRANK BRENNAN.
Postmaster-General and Minister for Works and Railways	Hon. ALBERT ERNEST GREEN.
Minister for Markets and Minister for Transport	Hon. PARKER JOHN MOLONEY.
Minister for Trade and Customs	Hon. FRANCIS MICHAEL FORDE.
Minister for Home Affairs	Hon. ARTHUR BLAKELEY.
Minister for Health, and Minister for Repatriation	Hon. JOHN McNEILL.
Minister for Defence	Hon. JOSEPH BENEDECT CHIFLEY.
Assistant Ministers	{ Hon. EDWARD JAMES HOLLOWAY. Hon. JOHN BRAIDWOOD DOOLEY. Hon. CHARLES ERNEST CULLEY.

3. State Ministries.—The names of the members of the Ministries in each State in May, 1931, are shown in the following statement. The date on which each Ministry was sworn in is stated in parentheses :—

STATE MINISTRIES, 1931.

NEW SOUTH WALES (4th November, 1930). (Labour.)

<i>Premier and Colonial Treasurer—</i> HON. J. T. LANG.	<i>Minister of Justice—</i> HON. J. LAMARO.
<i>Secretary for Mines and Minister for Labour and Industry—</i> HON. J. M. BADDELEY.	<i>Secretary for Public Works—</i> HON. M. A. DAVIDSON.
<i>Attorney-General—</i> HON. A. A. LYSAGHT.	<i>Minister for Health—</i> HON. J. MCGIRR.
<i>Minister for Agriculture and Minister for Forests—</i> HON. W. F. DUNN.	<i>Minister for Local Government—</i> HON. W. J. MCKELL.
<i>Colonial Secretary—</i> HON. M. GOSLING.	<i>Assistant Minister for Labour and Industry—</i> HON. W. T. ELY.
<i>Minister for Education—</i> HON. W. DAVIES.	<i>Vice-President of the Executive Council and Government Representative in the Legislative Council—</i> HON. J. M. CONCANNON, M.L.C.
<i>Secretary for Lands—</i> HON. J. M. TULLY.	

VICTORIA (12th December, 1929). (Labour.)

<i>Premier, Treasurer, and Minister of Markets—</i> HON. E. J. HOGAN.	<i>Minister for Agriculture, Attorney-General and Solicitor-General—</i> HON. W. SLATER.
<i>Chief Secretary—</i> HON. T. TUNNECLIFFE.	<i>Commissioner of Public Works, Minister of Mines, Minister in Charge of Immigration, and Vice-President of the Board of Land and Works—</i> HON. J. P. JONES, M.L.C.
<i>Minister of Public Instruction and Minister of Labour—</i> HON. J. LEMMON.	<i>Minister of Forests, Minister of Public Health, and Vice-President of the Board of Land and Works—</i> HON. W. J. BECKETT, M.L.C.
<i>President of the Board of Land and Works, Commissioner of Crown Lands and Survey, and Minister of Water Supply—</i> HON. H. S. BAILEY.	<i>Ministers without Portfolio—</i> HON. R. WILLIAMS, M.L.C. HON. E. L. KIERNAN, M.L.C. HON. G. C. WEBBER. HON. R. T. POLLARD.
<i>Minister of Railways, Minister in Charge of Electrical Undertakings, and Vice-President of the Board of Land and Works—</i> HON. J. CAIN.	

QUEENSLAND (21st May, 1929).

<i>Premier, Chief Secretary, and Vice-President of the Executive Council—</i> HON. A. E. MOORE.	<i>Minister for Lands—</i> HON. W. A. DEACON.
<i>Minister for Public Instruction and Works—</i> HON. R. M. KING.	<i>Minister for Agriculture and Stock—</i> HON. H. F. WALKER.
<i>Treasurer—</i> HON. W. H. BARNES.	<i>Minister for Railways—</i> HON. G. MORGAN.
<i>Home Secretary—</i> HON. J. C. PETERSON.	<i>Minister for Labour and Industry—</i> HON. H. E. SIZEB.
<i>Attorney-General—</i> HON. N. F. MACGROARTY.	<i>Minister for Mines—</i> HON. E. A. ATHERTON.

SOUTH AUSTRALIA (17th April, 1930). (Labour.)

<p><i>Premier, Treasurer, and Minister of Education—</i> HON. L. L. HILL.</p> <p><i>Chief Secretary, Minister of Agriculture, and Commissioner of Forest Lands—</i> HON. S. R. WHITFORD, M.L.C.</p> <p><i>Attorney-General and Minister of Railways—</i> HON. W. J. DENNY, M.C.</p>	<p><i>Commissioner of Crown Lands and Minister of Mines and of Marine—</i> HON. R. S. RICHARDS.</p> <p><i>Commissioner of Public Works, Minister of Industry, and Minister of Labour and Employment—</i> HON. J. McINNES.</p> <p><i>Minister of Local Government, of Immigration, of Repatriation, and of Irrigation—</i> HON. J. JELLEY, M.L.C.</p>
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WESTERN AUSTRALIA (24th April, 1930).

<p><i>Premier and Treasurer—</i> HON. SIR J. MITCHELL, K.C.M.G.</p> <p><i>Minister for Lands, Immigration, and Health—</i> HON. C. G. LATHAM.</p> <p><i>Attorney-General—</i> HON. T. A. L. DAVY.</p> <p><i>Minister for Railways, Mines, Police, Forests, and Industry—</i> HON. J. SCADDAN, C.M.G.</p>	<p><i>Minister for Public Works and Labour—</i> HON. J. LINDSAY.</p> <p><i>Chief Secretary and Minister for Education—</i> HON. N. KEENAN, K.C.</p> <p><i>Minister for Country Water Supplies and Trading Concerns—</i> HON. C. F. BAXTER, M.L.C.</p> <p><i>Minister for Agriculture—</i> HON. P. D. FERGUSON.</p>
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TASMANIA (15th June, 1928).

<p><i>Premier, Treasurer, and Minister Controlling Hydro-Electric Department—</i> HON. J. C. McPHEE.</p> <p><i>Chief Secretary and Minister for Railways and Mines—</i> HON. C. E. W. JAMES.</p> <p><i>Attorney-General and Minister for Education—</i> HON. H. S. BAKER.</p>	<p><i>Minister for Lands, Works, Forestry, and Agriculture—</i> HON. SIR W. H. LEE, K.C.M.G.</p> <p><i>Ministers without Portfolio—</i> HON. A. L. WARDLAW, M.L.C. HON. C. W. GRANT. HON. E. HOBBS.</p>
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4. *The Course of Legislation.*—The actual legislation by the Commonwealth Parliament up to the end of the 1930 session is indicated in alphabetical order in "Vol. XXVIII. of the Acts of the Parliament of the Commonwealth of Australia, passed during the year 1930, with Tables, Appendix, and Indexes." A "Chronological Table of Acts passed from 1901 to 1930, showing 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 should be made to these for complete information. In previous issues of the Official Year Book an analytic table was included showing the nature of Commonwealth legislation in force at the end of the latest year available. A classified analysis up to the end of the year 1928 will be found in No. 22, pp. 76 to 84, but it has not been found possible to renew the table in later issues.

5. *Legislation During the Current Year.*—In issues of the Official Year Book prior to No. 23, the plan was adopted of giving a summary of the more important legislative enactments of the Commonwealth and State Parliaments during the current year, but considerations of space preclude the inclusion of this information in later issues.

§ 4. Cost of Parliamentary Government.

The following statement shows 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 30th June, 1930. In order to avoid incorrect conclusions as to the cost of the Governor-General's or Governor's establishment, it may be pointed out that a very large part of the expenditure (with the exception of the item "Governor's salary") under the head of Governor-General or Governor represents official services entirely outside the Governor's personal interests, and carried out at the request of the Government.

COST OF PARLIAMENTARY GOVERNMENT, 1929-1930.

Particulars.	C'wth.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
1. Governor-General or Governor—								
Governor's salary ..	£ 12,000	£ 5,000	£ 5,000	£ 3,000	£ 5,000	£ 4,000	£ 3,000	£ 37,000
Official Secretary's salary ..	..	824	(c)	380	100	350	..	1,654
Clerks, etc. ..	414	389	176	..	372	407	..	4,479
Orderlies ..	..	429	637	1,342	..	313	..	..
Other messengers ..	..	181	..	..	1,109	..	..	1,290
Wages—Housemaids, stewards, gamekeepers, etc. ..	n 9,709	1,301	1,170	1,505	..	968	663	15,316
Wages—Country residence ..	..	864	612	..	301	121	..	1,898
Furniture, stores, and stationery ..	1,239	239	2,099	..	432	65	1,136	11,768
Postal, cables, etc. ..	598	122	277	2,225	48	113	..	..
Travelling expenses and conveyance of officers ..	2,198	..	..	..	..	977	..	..
Incidental expenses (country residence) ..	..	..	133	..	21	..	..	13,693
Other expenses ..	£ 5,384	..	5,740	415	647	500	200	..
Allowance to Lieut.-Governor ..	..	..	..	250	..	..	..	250
Total	31,542	10,002	15,844	9,117	8,030	7,814	4,999	87,348
2. Executive Council—								
Salaries of Officers ..	(a)	834	450	30	..	113	(g)	1,427
Other expenses ..	(a)	46	81	71	..	..	(g)	198
Total	(a)	880	531	101	..	113	(g)	1,625
3. Ministry—								
Salaries of Ministers ..	15,300	22,542	10,000	10,902	7,750	8,200	5,250	79,944
Ministerial functions ..	(b)	..	(b)	..	..	4,230	323	4,553
Special Reports for Cabinet ..	(b)	17	(b)	..	..	..	..	17
Premiers' Conference ..	127	74	(b)	..	128	..	..	329
Travelling expenses ..	4,593	..	(b)	..	490	2,416	846	8,346
Total	20,020	22,633	10,000	10,902	8,368	14,846	6,419	93,188
4. Parliament—								
A. Upper House :								
President and Chairman of Committees ..	2,000	1,829	1,149	..	800	1,800	300	7,878
Allowance to members ..	35,746	..	5,951	..	6,749	16,478	7,770	72,694
Railway passes ..	5,760	17,744 d	8,500	..	1,212	5,576	1,013	39,805
Postage for members ..	1,095	80	(e)	..	36	140	..	1,351
B. Lower House :								
Speaker and Chairman of Committees ..	2,000	2,685	2,128	1,530	1,400	1,800	350	11,893
Allowance to members ..	74,107	66,680	28,339	35,552	15,956	29,909	12,253	262,796
Railway passes ..	12,160	18,542	(f)	12,490	2,788	12,370	1,663	60,013
Postage for members ..	2,900	2,700 d	1,209	1,453	241	340	..	8,843
Carried forward ..	135,768	110,260	47,276	51,026	29,182	68,413	23,349	465,273

COST OF PARLIAMENTARY GOVERNMENT—*continued.*

Particulars.	C'wth.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
	£	£	£	£	£	£	£	£
Brought forward ..	135,768	110,260	47,276	51,025	20,182	68,413	23,349	465,273
4. Parliament—continued.								
<i>C. Both Houses :</i>								
Standing Committee on Public Works—								
Remuneration of members ..	2,000	5,123	1,466	..	1,892	..	286	10,767
Salaries of Staff and contingencies ..	2,287	2,036	1,172	..	1,354	..	50	6,899
Printing—								
<i>Hansard</i>	12,480	11,290	6,457	3,960	2,440	1,956	..	38,583
Other	22,523	13,837	7,611	3,591	8,522	1,425	4,183	61,692
Parliamentary reporting staff								
Salaries	13,400	8,946	7,023	3,075	5,875	4,719	..	43,038
Contingencies ..	209	..	59	..	114	130	..	512
Library								
Salaries	5,822	2,883	2,088	948	780	100	(h)	12,621
Contingencies ..	3,808	951	1,000	664	504	273	(h)	7,200
Salaries of other officers and staff	38,237	26,726	13,464	7,352	6,568	4,284	2,839	99,470
Travelling expenses of officers and staff	509	..	..	..	..	..	(h)	509
Other	11,274	..	..	..	174	472	(h)	11,920
<i>D. Miscellaneous—</i>								
Fuel, light, heat, power, water	2,518	..	243	3,065	1,080	..	..	..
Posts, telegraphs, telephones	808	1,872	..	345	539	..	..	..
Furniture, stores, and stationery	1,351	851	1,081	114	440	..	..	..
Other	48,351	496	214	4,088	1,873	1,767	956	72,052
Total	301,345	185,271	89,154	78,227	61,337	83,539	31,663	830,536
5. Electoral—								
Salaries	81,784	4,743	1,018	3,466	3,731	2,495	(g)	97,237
Cost of elections, contingencies, etc.	154,664	12,491	31,674	9,886	13,554	18,113	2,249	242,631
Total	236,448	17,234	32,692	13,352	17,285	20,608	2,249	339,868
6. Royal Commissions, Select Committees, etc., including fees and other expenses of Commissioners, fees of counsel, costs incurred by Ministers, cost of overtime worked by Departments preparing information, bonuses, etc.								
Total	13,174	18,493	331	7,071	52	505	..	39,626
Total	13,174	18,493	331	7,071	52	505	..	39,626
GRAND TOTAL	602,529	254,513	148,552	118,770	95,072	127,425	45,330	1,392,191
<i>Cost per head of population ..</i>	<i>1s. 11d.</i>	<i>2s. 1d.</i>	<i>1s. 8d.</i>	<i>2s. 7d.</i>	<i>3s. 3d.</i>	<i>6s. 1d.</i>	<i>4s. 2d.</i>	<i>4s. 4d.</i>

(a) Included under Governor-General. (b) Not available separately. (c) Included under Executive Council. (d) Both Houses. (e) Included under Lower House. (f) Included under Upper House. (g) Duties performed by Chief Secretary's Department. (h) Included under Miscellaneous, etc. (i) Including £1,700 for passes of certain members of former Upper House. (k) Includes rent of buildings, Melbourne and Canberra, £2,199. (l) Includes interest and sinking fund, Parliament House, Canberra, £35,065. (m) Includes £2,000 allowance to Governor-General for residence at Canberra. (n) Maintenance of house and grounds.

Figures showing total cost and cost per head during each of the last five years are given in the next table.

COST OF PARLIAMENTARY GOVERNMENT, 1925-26 TO 1929-30.

Year.	C'wlth.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
TOTAL.								
	£	£	£	£	£	£	£	£
1925-26 ..	511,474	229,246	121,415	107,166	94,130	103,871	40,240	1,207,042
1926-27 ..	530,414	248,744	148,816	109,887	106,703	115,383	37,258	1,297,205
1927-28 ..	473,288	302,880	128,507	115,118	89,166	118,190	49,206	1,276,415
1928-29 ..	614,841	282,762	132,766	134,125	85,021	111,609	46,017	1,407,741
1929-30 ..	602,529	254,513	148,552	118,770	95,072	127,425	45,330	1,392,191

PER HEAD OF POPULATION.

	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1925-26 ..	1 8	1 11	1 5	2 5	3 4	5 5	3 9	3 11
1926-27 ..	1 9	2 1	1 9	2 6	3 9	6 1	3 6	4 3
1927-28 ..	1 6	2 6	1 6	2 7	3 1	6 0	4 7	4 1
1928-29 ..	1 11	2 4	1 6	2 11	2 11	5 6	4 3	4 5
1929-30 ..	1 11	2 1	1 8	2 7	3 3	6 1	4 2	4 4

§ 5. Strength of the Civil Service.

The strength of the permanent Civil Service at a definite point of time is not available as the dates to which annual records are made up vary in different State Departments. The following table excludes temporary (except railways and Government tramways) and part-time officers (registrars of births and deaths, postal contractors, etc.); naval, air, and military employees; and certain others, such as those employed in State trading undertakings:—

CIVIL SERVICE—NUMBER OF PERMANENT OFFICERS, 1929-30.

State, etc.	Railways and Tramways (a).		Police.		Teachers.		Other Departments.		Total Persons.
	M.	F.	M.	F.	M.	F.	M.	F.	
Commonwealth ..	1,412		13	..	..	..	25,341	3,575	30,341
New South Wales ..	52,737		3,701	8	5,196	6,891	6,471	1,718	76,722
Victoria ..	29,497		2,134	7	3,857	5,871	3,232	839	45,437
Queensland ..	18,372		1,229	..	1,968	2,311	3,844	1,193	28,917
South Australia ..	8,334		771	13	1,465	2,153	1,507	162	14,405
Western Australia ..	9,714		576	5	724	1,474	1,461	274	14,228
Tasmania ..	1,569		236	1	367	1,025	583	194	3,975
Northern Territory ..	(b)		42	..	5	7	(b)	(b)	54
Australia	(c)	(c)	8,702	34	13,582	19,732	42,439	7,955	121,635
	121,635		8,736		33,314		50,394		214,079

(a) Salaried and wages staff; includes temporary employees—Municipal Tramways excluded.
 (b) Included with Commonwealth. (c) Not available.

§ 6. Consular Representatives of Foreign Countries in Australia.

The following tabular statement shows the number of consular representatives of foreign countries in each State for the year 1931 :—

CONSULAR REPRESENTATIVES IN AUSTRALIA, 1931.

Country.	Number of Consular Representatives in—						Total Aust.
	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	
Argentine Republic	1	2	..	1	..	1	5
Austria	1	1	..	..	..	..	2
Belgium	3	1	1	1	1	1	8
Bolivia .. ..	..	..	1	..	..	..	1
Brazil	2	1	..	..	..	1	4
Chile	1	1	..	1	..	..	3
China	2	2	..	..	..	..	4
Colombia	2	1	..	..	..	..	3
Costa Rica	2	..	..	..	..	..	2
Czechoslovakia	2	1	1	1	1	..	6
Denmark	3	2	3	2	2	1	13
Ecuador	1	..	..	..	..	..	1
Estonia	1	..	..	..	..	..	1
Finland	1	1	1	1	1	..	5
France	3	1	1	1	1	1	8
Germany	4	..	1	..	1	..	6
Greece	2	..	1	..	2	..	5
Guatemala .. ..	..	1	..	..	..	..	1
Honduras	1	1	..	..	..	..	2
Italy	1	2	3	1	1	1	9
Japan	3	2	1	1	1	..	8
Jugoslavia	1	1	..	..	1	..	3
Latvia .. ..	..	..	1	1	..	..	2
Liberia	1	..	..	1	..	..	2
Mexico	1	..	..	..	..	..	1
Netherlands	3	1	5	1	1	1	12
Nicaragua .. ..	..	1	..	..	..	..	1
Norway	3	2	3	3	3	2	16
Panama	1	1	1	..	..	..	3
Paraguay	1	..	..	..	1	..	2
Peru	2	1	..	1	..	..	4
Poland	1	..	..	..	..	..	1
Portugal	1	1	1	..	..	..	3
Roumania	1	..	..	..	..	..	1
Salvador .. ..	..	1	..	..	..	..	1
Siam	1	..	..	..	..	..	1
Spain	2	2	1	1	1	..	7
Sweden	3	1	3	3	2	1	13
Switzerland	1	1	1	..	..	..	3
U.S.A.	5	3	2	1	..	..	11
Uruguay	1	1	..	..	..	..	2
Venezuela	1	..	..	..	..	..	1
Total	66	37	32	22	20	10	187a

(a) In addition, Northern Territory has a Consul for the Netherlands, and New Guinea Consuls for Germany and Sweden.

Countries having Consuls-General in Sydney are Belgium, Chile, China, Costa Rica, Denmark, Ecuador, France, Germany, Greece, Italy, Japan, Netherlands, Norway, Paraguay, Poland, Siam, Sweden, and United States. Those having Consuls-General in Melbourne are Argentine Republic, Colombia, Honduras, and Peru.

CHAPTER IV. LOCAL GOVERNMENT.

§ 1. Introduction.

1. **General.**—The construction and maintenance of roads, bridges and ferries are generally part of the functions of local authorities, but in New South Wales and South Australia, more especially in the large unincorporated areas, these duties are undertaken directly by the Government. In some States, moreover, a certain proportion of the roads and bridges is constructed and maintained by the Government, which, in addition, advances money for main roads to be expended by municipalities under the supervision of special Boards. Although roads, bridges and ferries constructed and maintained directly by Government do not properly come under the heading of "Local Government," they have been included in this chapter for the sake of convenience.

2. **Municipalities, Shires, etc.**—A description of the various systems of municipal government in the different States, and their development from the earliest date, was published in 1919 by the Commonwealth Bureau of Census and Statistics in a separate work entitled "Local Government in Australia." Limits of space preclude the incorporation of the information contained therein in the Official Year Book.

3. **Water Supply and Sewerage.**—In the cities of Sydney and Melbourne the control of water supply and sewerage is in the hands of special Boards, while in Adelaide and Perth these services are under the direct supervision of Government Departments. In most of the other cities and towns, the municipal councils, or, in some cases, water trusts, are the controlling bodies which either construct the works out of their own resources or take them over after they have been constructed by the Government.

4. **Harbours.**—The majority of the harbours in Australia are managed by Boards, the members of which are either elected by persons interested or appointed by the Government. In a few instances, however, they are directly controlled by the Government. Only those which are controlled by Boards are dealt with in the following pages.

5. **Fire Brigades.**—In all the States, the management of fire brigades is undertaken by Boards. The members of these Boards are usually elected by the councils of municipalities and insurance companies within the districts placed under their jurisdiction, together with one or more appointed by the Government, while occasionally volunteer or country fire brigades are represented.

§ 2. Government Roads, Bridges, Etc.

1. **New South Wales.**—(i) *General.* The control of all roads, bridges and ferries with the exception of those proclaimed as "National" and of those in the unincorporated areas of the Western Division, which still remain under its jurisdiction, was transferred, in 1920, from the Public Works Department to local authorities. The Government has also adopted the policy of assisting municipal and shire councils to recondition certain main roads by doing the work in the first instance, and recovering in instalments from the councils concerned one-half of the cost.

(ii) *Roads, Bridges and Ferries.* At the 30th June, 1927, the "National" works consisted of 58 miles of roads, 288 bridges with a total length of 108,295 feet, and 18 ferries, while in the unincorporated areas of the Western Division there were 5,688 miles of roads (of which 177 miles were metalled or ballasted, 220 formed only, and 2,932 cleared only), 96 bridges of a total length of 13,495 feet, 489 culverts, and 6 hand punts under the control of the Public Works Department. (Information collected triennially.)

(iii) *Expenditure on Roads, Bridges and Ferries.* The total expenditure by the Government during 1929-30 was £4,939,199, comprising expenditure from votes of the Public Works Department £464,271, from funds of the Main Roads Board £4,093,621 and endowments and grants to Councils from votes of the Local Government Department £381,307.

The Government expenditure in connexion with the Sydney Harbour Bridge, £1,648,812 in 1929-30 and £6,463,944 to the 30th June, 1930, is not included in these figures. Of the total sum expended to date, £5,289,940 was provided by General Loan Account and the balance from proceeds of municipal and shire rates.

2. Victoria.—(i) *General*. A small sum is expended annually by the State Government on roads and bridges, and a considerable amount of loan money is advanced in each year to the Country Roads Board for the purpose of constructing and maintaining main and developmental roads, the amount so expended during the year ending 30th June, 1929, being £746,254, and in 1929–30, £531,363. An annual payment of £50,000 is also made out of Consolidated Revenue to the Board for maintenance works.

(ii) *Direct Expenditure by Government*. The amount of money expended directly by the Government through the Public Works Department on roads and bridges during the year 1929–30 was £116,063.

(iii) *Country Roads Board*. The duties of this Board were given in some detail in Year Book No. 15, p. 526.

Loans to the amount of £4,822,000 have been authorized from time to time for permanent works under the Country Roads Acts. One half of the amount expended on permanent works and one-third of the amount expended on maintenance must be refunded by the municipalities affected, 6 per cent. of the amount due in respect of permanent works being payable annually, and the cost of maintenance allocated to each municipality must be paid before the 1st of July in each year. A special rate, not exceeding 6d. in the pound, may be levied in any ward or riding of a municipality for the purpose of such repayment.

All registration fees, licence fees and fines under the Motor Car Act, all licence fees and fines under the Motor Omnibus Act, all licence fees for unused roads and water frontages, and all registration fees and fines for traction-engines are credited to the Country Roads Board Fund. The total loan expenditure for permanent works to the 30th June, 1930, was £4,574,591. Respecting permanent and maintenance works for the year ended 30th June, 1930, the total revenue of the Board was £1,698,575, made up as follows:—Motor registration and licence fees £1,137,913; unused roads, etc., licence fees £24,926; contributions by municipalities for permanent works £127,755, and for maintenance works £152,436; and other sources £255,545. The expenditure for the year was £1,270,635, comprising permanent works £185,121 and maintenance works £1,085,514.

(iv) *Developmental Roads*. For the purpose of constructing and maintaining subsidiary or developmental roads, the Government has been authorized to borrow sums aggregating £6,475,000. The work is carried out under the supervision of the Country Roads Board, and the State provides the whole of the money and makes provision out of State funds for liquidating the liability; the municipalities, however, are required to bear a proportion of the interest on the outlay during the period of the loan and to maintain the roads when constructed. The amount expended during the year ended 30th June, 1930, was £452,918, and the total expenditure to that date was £5,906,967.

3. Queensland.—Under “The Main Roads Act of 1920” a Main Roads Board was constituted, consisting of three members appointed by the Governor in Council. Subsequently the Board was abolished and its powers conferred upon a single Commissioner.

The duties of the Commissioner, as defined by “The Main Roads Acts, 1920 to 1929,” are to carry out such surveys and investigations as are deemed necessary or expedient to determine what roads shall be main, developmental or tourist roads or State highways, and, under certain circumstances, to undertake the construction and maintenance of such roads. Before any road can be proclaimed a main, developmental or tourist road the Local Authorities through whose areas such road passes have the right to lodge objections thereto, and the Commissioner must consider such objections and, if necessary, vary his decision. No such action is necessary in the case of State highways.

Local Authorities are not liable for the return of any expenditure for construction on State Highways or on arterial roads declared under the Federal Aid Roads Act. They are, however, responsible for 50 per cent. of maintenance of the former and 33½ per cent. of the latter roads.

At 30th June, 1930, there were 7,416 miles of roads gazetted in the State, comprising 6,919 miles of main, 439 miles of developmental and 58 miles of tourist roads; 1,247 miles of roadway and 21,989 lineal feet of bridges had been completed at that date, and 188 miles of road and 6,400 lineal feet of bridges were in course of construction. In addition, there were at 30th June, 1930, 124 miles of roads in course of construction under the State Unemployment Relief Scheme.

During the year ended 30th June, 1930, the receipts of the Commission amounted to £1,463,506, including £350,000 from the Treasury Loan Fund, £485,322 from motor fees, £491,333 from the Commonwealth for works under the Federal Aid Road scheme and £8,397 from the State Unemployment Relief Scheme. Disbursements amounted to £1,461,095, including £269,424 on permanent works, £712,865 on works under the Federal Aid Roads scheme, £21,636 on the maintenance of roads and £9,556 on works under the State Unemployment Relief scheme.

4. **South Australia.**—The Highways Act 1926 created a Commissioner of Highways and provided for a Main Roads Fund. The Commissioner is virtually empowered to determine upon which roads he will spend the moneys available, in doing which he has to take into account (a) the moneys voted, or likely to be voted, by Parliament for main roads; (b) whether the road is or will be the main trunk route: (i) connecting any large producing area, or any area capable of becoming in the near future a large producing area, with its market or nearest port or railway station; (ii) connecting two or more large producing areas, or areas capable of becoming in the near future large producing areas, or between two or more large centres of population; (iii) between the capital and any large producing area or any large centre of population; (iv) between the capitals of this State and any other State; and (c) whether the area through which the road passes is, or in the near future will be, sufficiently served by a railway or railways.

The Main Roads Fund is to be credited with (a) licence fees and registration fees under the Motor Vehicles Acts 1921 to 1929; (b) licence fees under the Vehicles (Licensing) Act 1925; (c) fines, penalties, and forfeitures in respect of convictions for offences against the Motor Vehicles Acts (exclusive of any sum received for costs), or the Width of Tires Acts; (d) fees for hawkers' licences issued by the Treasurer; (e) contributions from Councils; (f) all sums appropriated by Parliament for main roads; (g) all loans raised and appropriated for main roads. In accordance with recent legislation a portion of these receipts is temporarily payable into general revenue.

The expenditure from the Main Roads Fund for the year ended 30th June, 1930, was £705,743; the amount received from the Commonwealth Government for expenditure on Federal Aid Roads was £261,415; the amount allocated for roads in newly settled areas, etc., was £23,000; and grants in aid of rates collected paid to Councils amounted to £149,000. In the sparsely-settled districts outside the incorporated areas, the roads and bridges are constructed and maintained by the Public Works Department, which expended during the same period £24,140.

5. **Western Australia.**—In Western Australia the construction, maintenance, and management of roads and bridges throughout the State are under the control of municipalities and district road boards which are subsidized by the Government.

6. **Tasmania.**—(i) *Construction.* In Tasmania the cost of construction of roads and bridges is borne almost entirely by the State Government.

Up to the 30th June, 1930, the loan expenditure on these works was £4,920,698 (roads, £4,081,711; tracks, £232,386; bridges, £606,601). In addition, half the proceeds of the sale of land has formed a Crown Lands Fund for the construction of roads to new holdings. Under this provision £681,600 has been expended. This fund has in recent years more than met the demands on it, and expenditure therefrom since 1918 has been limited to £10,000 annually, the balance being used for redemption of debt.

The Government loan expenditure during the year 1929–30 on the construction of roads and bridges was £168,531, and expenditure from the Crown Lands Fund £2,217. In addition, the sum of £177,268 provided by the Commonwealth Government was expended on roads: the conditional expenditure by the State Government is included in the above figures. The amount of new-road mileage for the year was 81 miles cleared, 121 miles formed, 138 miles metalled, and 12 miles gravelled, including 50, 51½, 83 and 12 miles respectively constructed out of Federal and State votes under the Federal Aid Roads and Federal Relief schemes. Twenty-six new bridges also were constructed during the year.

(ii) *Maintenance.* The maintenance of roads, other than "State highways," is undertaken by the municipalities out of their own funds. All bridges of a value of over £50 are maintained by the State Government. The maintenance of "State highways" is provided for by the *State Highways Act 1929*, which created the State Highways Trust Fund to which is to be paid from Consolidated Revenue and credited annually in each financial year for the purposes of the Act a sum equal to the amount

of all motor taxes collected in the immediately preceding financial year and paid into the Treasury, less 2 per cent. The length of "State highways" is 1019 miles and the expenditure thereon for 1929-30, £63,498.

7. Summary of Net Loan Expenditure on Roads and Bridges.—Figures showing the total expenditure on roads and bridges in the States are not available. The subjoined statement, however, gives the amounts of net loan expenditure by the State Governments up to the 30th June, 1930.

**ROADS AND BRIDGES.—GOVERNMENT NET LOAN EXPENDITURE TO THE
30th JUNE, 1930.**

Expenditure.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
Total to 30/6/30	13,324,976	11,267,931	3,441,105	3,202,453	1,975,797	4,920,698	38,132,960

The following table shows the annual net loan expenditure on roads and bridges by the central Governments in each State during the years 1925-26 to 1929-30 :—

ROADS AND BRIDGES.—NET LOAN EXPENDITURE BY STATES, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land. (a)	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
1926 ..	972,793	1,155,087	356,517	246,908	96,835	192,469	3,020,609
1927 ..	1,726,420	1,104,345	313,121	475,601	184,912	144,327	3,948,726
1928 ..	2,558,070	917,540	262,203	144,866	364,223	176,118	4,423,020
1929 ..	3,124,075	802,306	342,152	20,033	384,685	204,546	4,877,797
1930 ..	1,615,873	601,593	356,967	Cr. 31,419	315,325	168,531	3,026,870

(a) Includes expenditure on main roads through local authorities.

The two tables given above show 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.

§ 3. Municipalities, Shires, Etc.

I. New South Wales.—(i) *General.* Practically the whole of the State, with the exception of the Western Division, has been divided into municipalities and shires, the total area incorporated at the end of 1929 being 184,091 square miles, of which 2,508 square miles are included in the former and 181,583 in the latter. 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.

(ii) *Municipalities.—(a) Summary.* The following table gives the number, area and population of municipalities, together with the length of roads and the number of bridges and ferries therein for the year 1929 :—

MUNICIPALITIES, NEW SOUTH WALES.—SUMMARY, 1929.

Year.	No. of Municipal- ties.	Sydney and Suburbs.		Country.		Length of Roads.	Bridges.	Ferries.
		Area.	Population.	Area.	Population.			
		Acres.	No.	Acres.	No.	Miles.	No.	No.
1929	181	116,183	1,145,400	1,488,889	627,900	10,858	645(a)	38(a)

(a) Year 1927—latest available.

Of the 10,858 miles of roads, 5,780 were blocked, metalled, ballasted or gravelled, 1,973 formed only, and 1,812 cleared only, while 1,293 miles were natural surface.

(b) *Unimproved and Improved Values.* The table hereunder gives a comparison of the unimproved and improved values for the year 1929 :—

MUNICIPALITIES, NEW SOUTH WALES.—CAPITAL VALUES, 1929.

Year.	Sydney.	Suburbs.	Total Metropolis.	Country.	Grand Total.
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UNIMPROVED VALUE.

1929	£ 60,983,094(a)	£ 101,554,575	£ 162,537,669	£ 48,817,667	£ 211,355,336
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IMPROVED VALUE.

1929	£ 193,988,920a	£ 286,500,311	£ 480,489,231	£ 147,017,246	£ 627,506,477
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(a) Exclusive of Federal Government and other non-rateable properties not now valued.

(c) *Revenue and Expenditure.* Particulars of the revenue and expenditure of municipalities for the year ending 31st December, 1929, under various headings, are given below:—

MUNICIPALITIES, NEW SOUTH WALES.—REVENUE AND EXPENDITURE, 1929.

Particulars.	Sydney.	Suburbs.	Country.	Total.
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REVENUE.

General fund	£ 4,401,958 (a)	£ 2,956,502	£ 1,700,249	£ 4,656,751 (b)
Trading accounts		47,546	1,175,469	1,223,015 (b)
Special and local funds		131,677	495,560	627,237 (b)
Gross revenue	4,401,958	3,135,725	3,371,278	10,908,961

EXPENDITURE.

General fund	£ 4,136,653 (a)	£ 3,452,425	£ 1,797,767	£ 5,250,192 (b)
Trading accounts		44,437	993,514	1,037,951 (b)
Special and local funds		145,121	439,856	584,977 (b)
Gross expenditure	4,136,653	3,641,983	3,231,137	11,009,773

(a) Items of revenue and expenditure for the city of Sydney cannot be allocated to the different headings shown for municipalities.

(b) Exclusive of Sydney.

(d) *Assets and Liabilities.* The financial position of the municipalities as at the 31st December, 1929, is shown by the following statement of assets and liabilities.

MUNICIPALITIES, NEW SOUTH WALES.—ASSETS AND LIABILITIES, 1929.

Particulars.	Sydney.	Suburbs.	Extra Metro-politan.	Country.	Total.
ASSETS.					
	£	£	£	£	£
Bank balances and cash	} 34,348,139 (a)	615,257	52,600	622,010	1,289,957 (b)
Outstanding rates		168,221	50,714	241,487	460,422 (b)
Sundry debtors		205,043	36,391	375,337	616,771 (b)
Stores and materials		55,771	6,479	126,291	188,541 (b)
Land, buildings, furniture, etc. ..		1,782,281	220,034	7,310,268	9,312,583 (b)
Other		241,790	51,687	107,512	400,969 (b)
Total	34,348,139	3,068,363	417,975	8,782,905	46,617,382

(a) Comprises the following:—Land and buildings, £13,539,394; machinery, plant and stores, £13,747,023; sundry debtors, £695,494; cash and bank balances, £1,960,966; investments, £3,446,549; loan flotation expenses, discounts, revenue account, £599,030; and Bunnerong preliminary expenses, construction plant and interest suspense, £359,683. (b) Exclusive of Sydney.

LIABILITIES.

Loans, outstanding interest and sundry creditors	} 34,348,139 (a)	5,383,361	438,969	3,035,062	8,857,392 (b)
Debts due to Government and interest thereon		142,669	25,890	3,242,377	3,410,936 (b)
Bank overdrafts		522,045	29,116	332,862	934,023 (b)
Other		60,927	12,336	115,374	188,687 (b)
Total	34,348,139	6,109,002	506,361	6,775,675	47,739,177

(a) Comprises the following:—Debentures, £21,982,936; sundry creditors, £2,685,836; bank overdrafts, £2,249,305; sinking fund reserves, £2,455,587; reserves, revenue accounts, &c., £2,193,972; and depreciation reserve, £2,780,503. (b) Exclusive of Sydney.

(iii) *Shires.—(a) Summary.* The following table gives the number, area, population, and unimproved capital value of shires, together with the length of the roads, and the number of bridges and ferries therein. It is not possible to give the improved capital value or the assessed annual value, as shires are not compelled to make these valuations.

SHIRES, NEW SOUTH WALES.—SUMMARY, 1929.

Year.	No. of Shires.	Area.	Population.	Unimproved Capital Value.	Length of Roads.	Bridges.	Ferries.
		sq. miles.	No.	£	miles.	No.	No.
1929	138	181,583	691,090	166,657,924	93,482(a)	3,943(a)	173(a)

(a) Year 1927—collected triennially.

Of the 93,482 miles of roads, 19,693 were metalled or ballasted, 14,937 formed only, and 29,992 cleared only, the balance being natural surface.

(b) *Revenue and Expenditure.* The revenue and expenditure of shires for the year 1929 are shown in the following table. Included in the receipts are Government grants amounting to £1,488,832, which together with other Government endowment make a total for Government assistance of £1,743,780.

SHIRES, NEW SOUTH WALES.—REVENUE AND EXPENDITURE, 1929.

Particulars.	Revenue.	Particulars.	Expenditure.
	£		£
<i>General Fund—</i>		<i>General Fund—</i>	
General rates (including interest)	1,442,508	Administrative expenses	223,112
Government endowment	254,948	Public works	2,844,235
Public works	1,547,715	Health administration	134,532
Health administration]	126,842	Public services	42,642
Public services	18,085	Shire property	24,155
Shire property	48,184	Miscellaneous (a)	151,220
Loan Rates	53,477	<i>Special, Local, and Trading Funds</i>	365,319
Miscellaneous	17,912		
<i>Special, Local, and Trading Funds</i>	402,579		
Total revenue	3,912,250	Total expenditure	3,785,215

(a) Includes interest on loans and overdraft, &c.—£87,122.

(c) *Assets and Liabilities.* The finances of the shires at the end of the year 1929 showed an excess of assets of £89,005. The following table gives particulars of assets and liabilities as at the 31st December, 1929 :—

SHIRES, NEW SOUTH WALES.—ASSETS AND LIABILITIES, 1929.

Assets.	Amount.	Liabilities.	Amount.
	£		£
Bank balances and cash	438,356	Loans outstanding, interest and sundry creditors	1,647,627
Outstanding rates	271,375	Bank overdrafts	448,241
Sundry debtors	181,685	Other	186,819
Stores and materials	70,473	Debts due to the Government and interest thereon	416,937
Land, buildings, furniture, plant, machinery, etc.	1,807,007		
Other	19,733		
Total	2,788,629	Total	2,699,624

2. *Victoria.*—(i) *General.* Local Government is established throughout the State, the various divisions being termed cities, towns, boroughs, or shires. Melbourne and Geelong were incorporated under special statutes prior to the establishment of a general system of local government, and except in a few details are not subject to the provisions of the Local Government Act.

The financial years of the cities of Melbourne and Geelong end on the 31st December and the 31st August respectively; those of all other municipalities on the 30th September.

(ii) *Municipalities.* (a) *Summary.* The following table shows the number of cities, towns, boroughs, and shires, with estimated population, number of ratepayers and dwellings, and value of rateable property for the year 1929 :—

MUNICIPALITIES, VICTORIA.—SUMMARY, 1929.

Year ending 30th September.	Number of Municipalities.	Estimated Population.	Number of Ratepayers (both sexes).	Estimated Number of Dwellings.	Estimated Value of Rateable Property.		
					Total.	Annual.	
CITIES, TOWNS, AND BOROUGHES.							
1929	..	No. 56	No. 1,188,160	No. 336,756	No. 276,651	£ 385,884,089	£ 21,493,990
SHIRES.							
1929	..	140	654,780	275,065	161,577	294,765,524	14,792,565

(b) *Revenue and Expenditure.* The table hereunder shows the revenue from various sources, and the expenditure under various heads of municipalities during the year 1929 :—

MUNICIPALITIES, VICTORIA.—REVENUE AND EXPENDITURE, 1929.

Items.	Revenue.	Items.	Expenditure from Revenue.
	£		£
Taxation { Rates	3,925,207	Salaries, etc.	469,036
{ Licences	155,412	Sanitary work, street cleaning, etc.	498,729
{ Dog fees	30,445	Health	87,858
{ Market and weigh-bridge dues	142,968	Lighting	179,167
Government endowments and grants	143,987	Contributions to Fire Brigades	73,278
Contributions for streets, etc.	326,457	Public Works { Construction	426,736
Sanitary charges	199,516	{ Maintenance	2,148,727
Rents	149,570	Formation of private streets, etc.	484,388
Electric light and gas works	1,323,422	Electric Light and Gas Works	947,504
Other sources	685,793	Redemption of loans	344,784
		Interest on loans	731,534
Total Revenue	7,082,777	Charities	43,599
Loans	1,987,275	Other expenditure.. .. .	778,632
Total Receipts	9,070,052	Total from Revenue..	7,213,972

Items.	Expenditure from Loans.
	£
Roads and Bridges	1,004,614
Water and Irrigation	15,587
Sewerage and Drainage	100,531
Electric Light and Gas	239,180
Public Buildings	167,424
Other purposes	366,522
Total from Loan	1,893,858
Grand Total	9,107,830

(c) *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 shows the amount of municipal assets and liabilities for the year 1929 :—

MUNICIPALITIES, VICTORIA.—ASSETS AND LIABILITIES, 1929.

Items.	Assets.	Items.	Liabilities.
MUNICIPAL FUND—	£	MUNICIPAL FUND—	£
Uncollected rates ..	424,366	Due on current contracts ..	128,795
Streets formed, &c., payments outstanding ..	841,731	Arrears due sinking funds ..	99
Rents and interest outstanding ..	21,073	Overdue interest ..	6,340
Cash in hand or in bank ..	437,203	Bank overdrafts ..	963,850
Other assets ..	387,629	Other liabilities ..	1,026,424
LOAN FUND—		LOAN FUND—	
(a) Sinking funds—		Loans outstanding ..	13,345,104
Amount at credit ..	697,793	Due on loan contracts ..	118,025
Arrears due ..	99		
(b) Unexpended balances ..	750,761		
PROPERTY—			
Buildings, markets, tramways, etc. ..	5,318,200		
Waterworks ..	390,440		
Gasworks ..	234,810		
Electric Light Works ..	2,549,340		
Plant and machinery ..	599,960		
Other assets ..	186,290		
Total ..	12,839,695	Total ..	15,588,637

3. Queensland.—(i) *General.* The whole of the State (except islands along the coast and 606 square miles in area) is incorporated into cities, towns, and shires under the Local Authorities Act of 1902 and its amendments.

(ii) *Municipalities.* (a) *Summary.* The following table gives particulars of the area, population, number of inhabited dwellings, and assets and liabilities of cities and towns and of shires for the year 1929 :—

MUNICIPALITIES, QUEENSLAND.—SUMMARY, 1929.

Year.	No.	Area.	Population.	Number of Inhabited Dwellings.	Rateable Value.	Assets.	Liabilities.	
							Government Loans.	Total.

CITIES AND TOWNS.

Year.	No.	sq. miles.	No.	No.	£	£	£	£
1929(a) ..	28	843	(b)	111,028	31,380,282	20,414,316	6,384,275	23,699,979

SHIRES.

1929(a) ..	124	669,051	(b)	88,826	48,643,433	1,867,782	1,650,040	2,491,638
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(a) Figures relating to assets and liabilities include waterworks, sewerage works, electric light works, and railways and tramways controlled by local authorities. The Metropolitan Water Supply and Sewerage was taken over by the Brisbane City Council on the 2nd April, 1928.

(b) Estimated population of Queensland, 930,871 persons.

(b) *Revenue and Expenditure.* The revenue and expenditure (including loan moneys) of cities and towns, and of shires for the year 1929 are given hereunder :—

MUNICIPALITIES, QUEENSLAND.—REVENUE AND EXPENDITURE, 1929.

Year.	Revenue.			Expenditure.			
	Rates.	Government Loans and Subsidies. (a)	Total.	Public Works and Services. (b)	Government Loan Redemption.	Office Expenses and Salaries.	Total.
CITIES AND TOWNS.							
1929 ..	£ 1,646,955	£ 306,882	£ 6,246,764(c)	£ 3,147,677	£ 135,750	£ 272,502	£ 5,815,515c
SHIRES.							
1929 ..	1,023,188	421,711	1,796,937	1,262,919	60,347	132,591	1,822,712

(a) Includes Main Road Receipts. (b) Includes Expenditure on Main Roads. (c) Includes Metropolitan Water Supply and Sewerage taken over by the Brisbane City Council on the 2nd April, 1928.

The figures in the foregoing tables cover all the activities of the local authorities throughout Queensland such as :—Road repairs, street lighting, etc. ; waterworks, electric light, and railways and tramways controlled by local bodies.

4. *South Australia.*—(i) *General.* A large proportion of South Australia is unincorporated, the balance being under municipal corporations in the larger cities and towns, and district councils in outside areas. These bodies are subsidized by the Government, and special grants allocated on the recommendation of the Commissioner of Highways are given for the maintenance and construction of main roads.

(ii) *Local Authorities.* (a) *Summary.* During the past five years the number of corporations and district councils has increased by 5, the total being 196, of which 11 corporations and 10 district councils are in the metropolitan area, and 28 corporations and 147 district councils in outside areas. According to the latest available information there are about 1,046 miles of roads in use for general traffic under the control of corporations, and about 46,759 miles under the control of district councils, and of these totals, 16 miles are wood-blocked, 211 miles are bitumen and concrete, and 13,702 miles are tar-paved, metalled or gravelled. The following table gives the area, population, number of occupied dwellings, capital and assessment values and outstanding loans for corporations and district councils separately for the year 1929 :—

LOCAL AUTHORITIES, SOUTH AUSTRALIA.—SUMMARY, 1929.

Year.	Area.	Estimated Population.	Occupied Dwellings.	Capital Value.	Assessment Value.	Outstanding Loans.
MUNICIPAL CORPORATIONS.						
1929 ..	Acres. 65,625	No. 246,289	No. 56,043	£ 79,053,946	£ 4,013,167	£ 803,177
DISTRICT COUNCILS.						
1929 ..	33,483,423	321,497	75,443	110,065,961	5,673,701	(a) 359,564

(a) Includes advances through District Councils to settlers for vermin-proof fencing, etc., amounting to £251,826.

(b) *Revenue and Expenditure.* The next table gives the revenue and expenditure of corporations and district councils for the year 1929, showing in separate columns the receipts and expenditure on main roads. The figures differ slightly from those shown in the Summary Table in § 4 hereinafter, which exclude transfers between the Government Grants and General Accounts. The financial year of municipal corporations ends on the 30th November and that of district councils on the 30th June.

LOCAL AUTHORITIES, SOUTH AUSTRALIA.—REVENUE AND EXPENDITURE, 1929.

Year.	Local Government (exclusive of Government Grants Account).						Government Grants Account (Main Roads).	
	Revenue (including Loans).			Expenditure.			Revenue.	Expenditure.
	Rates.	Subsidies.	Total.	Roads.	Other Public Works and Services.	Total.		

MUNICIPAL CORPORATIONS.

1929	..	£ 538,675	£ 53,727	£ 950,007	£ 329,791	£ 345,613	£ 901,422	£ 42,069	£ 39,866
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DISTRICT COUNCILS.

1929	..	449,337	97,523	734,618	384,647	118,000	745,066	408,563	393,895
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5. *Western Australia.*—(i) *General.* In this State there are three forms of local authorities, namely:—(a) municipalities, (b) district road boards, and (c) local boards of health, the two former covering the whole of the State. Local boards of health are of three descriptions, (a) municipal, the members being the same as those of the municipal council of the municipality in which each is situated, (b) those under the control of road boards, and (c) those not under the control of road boards or municipalities. Several of the latter two are inactive. The financial year of municipalities and municipal boards of health terminates on the 31st October, and that of road boards and other local boards of health on the 30th June.

(ii) *Municipalities.* (a) *Summary.* The following table gives various particulars regarding municipalities for the year 1930.

MUNICIPALITIES, WESTERN AUSTRALIA.—SUMMARY, 1930.

Year ended 31st Oct.—	Municipalities.	Area.	Population.	Dwelling Houses.	Valuation of Rateable Property.		Length of Roads and Streets.	
					Capital Value.	Annual Value.		
1930	..	No. 21	Acres. 59,543	No. 190,994	No. 38,678	£ 47,908,676	£ 2,616,083	Miles. (a) 781

(a) *Exclusive of cleared roads.*

(b) *Revenue and Expenditure.* Revenue and expenditure of municipalities during the year 1930 are given hereunder:—

MUNICIPALITIES, WESTERN AUSTRALIA.—REVENUE AND EXPENDITURE, 1930.

Year ended 31st October—	Revenue.				Expenditure.			
	From Rates.	From Govt. Grants.	From other Sources.	Total.	Works and Improvements.	Interest and other Charges on Loans.	Other Expenses.	Total.
1930 ..	£ 355,364	£ 15,325	£ 1,097,796	£ 1,468,485	£ 382,807	£ 295,408	£ 808,164	£ 1,486,379

(c) *Assets and Liabilities.* The table below shows the assets and liabilities of municipalities at the 31st October in the financial year 1930:—

MUNICIPALITIES, WESTERN AUSTRALIA.—ASSETS AND LIABILITIES, 1930.

31st October—	Assets.				Liabilities.	
	Balance in Hand.	Value of Property.	Accrued Sinking Funds.	Total.	Outstanding Debentures and Bonds.	Total.
1930	£ 136,951	£ 2,896,315	£ 468,806	£ 3,740,826	£ 2,744,192	£ 2,983,139

(iii) *District Road Boards.* (a) *Summary.* The next table shows the unimproved value, and in some instances the returns furnish also the annual value, but those portions of districts rated under the annual value are not included in the area rated under the unimproved capital value. The population at the date of the census of 4th April, 1921, was 160,970, and the number of dwellings 41,662.

On the 30th June, 1930, the population was estimated at 231,352, and the number of dwelling-houses at 54,646. One district, however, only gives figures at time of the 1921 census.

DISTRICT ROAD BOARDS, WESTERN AUSTRALIA.—SUMMARY, 1930.

Year ended 30th June—	Number of Road Districts.	Area.	Unimproved Capital Value (Approximate).	Length of Roads in Existence.	Assets.	Liabilities.	Out-standing Loans.
1930 ..	No. 126	sq. miles. 975,828	£ 25,612,116 ^a	miles. 20,115 ^b	£ 881,822	£ 864,424	£ 683,213

(a) Exclusive of one Board which rates under the annual value only.

(b) Exclusive of cleared roads.

(b) *Revenue and Expenditure.* The revenue and expenditure of district road boards are shown in the following table for the year 1930:—

DISTRICT ROAD BOARDS, WESTERN AUSTRALIA.—REVENUE AND EXPENDITURE, 1930.

Year ended 30th June—	Revenue.				Expenditure.			
	Rates.	Government Grants.	Other.	Total.	Adminis- tration.	Works.	Other.	Total.
1930 ..	£ 301,105	£ 201,135	£ 531,521	£ 1,033,761	£ 73,055	£ 626,294	£ 342,174	£ 1,041,523

(iv) *Local Boards of Health. (a) General.* On the 31st October, 1930, there were 21 local boards of health within municipalities, and on the 30th June, 1930, 89 under control of road boards, and 21 extra-municipal boards. Of the extra-municipal boards 8 were inactive during the year.

(b) *Finances.* The appended table shows the number of boards, their revenue and expenditure, and the assets and liabilities of such as were active during 1930. The financial year of municipal boards ends on the 31st October, and that of other boards on the 30th June.

LOCAL BOARDS OF HEALTH, WESTERN AUSTRALIA.—FINANCES, 1930.

Year.	Number.	Revenue.			Expenditure.		Assets.	Liabilities.
		Rates.	Sanitary Charges and Rubbish Fees.	Total.	Sanitary and Rubbish Service.	Total.		
1930 ..	131	£ 84,825	£ 69,926	£ 170,484	£ 109,269	£ 172,762	£ 104,225	£ 24,885

6. Tasmania.—(i) *General.* The whole State, with the exception of the cities of Hobart and Launceston, which were incorporated under separate Acts, is divided into municipal districts.

(ii) *Municipalities. (a) Summary.* The following table gives the number of municipalities, valuations, outstanding loans and length of roads for the year 1929–30. The latest available figure for inhabited dwellings is for the year 1921, when the number was 45,950.

MUNICIPALITIES, TASMANIA.—SUMMARY, 1929–30.

Year.	Number of Municipalities.	Valuations.			Outstanding Loans.	Length of Roads.
		Annual Value.	Unimproved Value.	Total Capital Value.		

HOBART AND LAUNCESTON.

1929–30 ..	No. 2	£ 1,198,831	£ 7,017,180	£ 18,456,646	£ 2,520,486	Miles. 197
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COUNTRY MUNICIPALITIES.

1929–30 ..	47	1,591,372	16,213,543	32,858,657	507,291	12,379
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(b) *Revenue and Expenditure.* The next table gives the revenue and expenditure of all municipalities for the year 1929-30 :—

MUNICIPALITIES, TASMANIA.—REVENUE AND EXPENDITURE, 1929-30.

Year.	Revenue.			Expenditure.			
	Rates.	Government Grants.	Total.	Adminis- tration.	Works and Services.	Interest and Sinking Fund.	Total.

HOBART AND LAUNCESTON.

	£	£	£	£	£	£	£
1929-30 ..	281,090	1,729	625,915 ^a	47,446	399,757 ^a	175,081	623,129 ^a

COUNTRY MUNICIPALITIES.

1929-30 ..	198,613	71,666	400,217 ^a	40,816	310,339 ^a	42,011	407,159 ^a
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(a) Excluding Loans.

7. *Basis for Municipal Rating and Limits for Rates.*—These matters were dealt with at some length in Official Year Book, No. 17, pp. 124-25, but limitations of space preclude their repetition in the present issue.

§ 4. Summary of Local Government Finance.

1. *General.*—In the preceding parts of this chapter certain particulars have been given regarding local authorities in each individual State. In this paragraph, comparative figures are given for each State regarding the financial operations of the local governing bodies referred to in § 3. The particulars in the next two tables refer to financial years as follows :—New South Wales : calendar year 1929. Victoria : 30th September, 1929, except Melbourne, 31st December, and Geelong, 31st August, 1929. Queensland : calendar year 1929. South Australia : Corporations, 30th November, and district councils, 30th June, 1929. Western Australia ; Municipalities, 31st October, 1929, district road boards, 30th June, 1929. Tasmania : 30th June, 1930.

2. *Number, Revenue, Expenditure, and Valuation of Local Authorities.*—The sub-joined table shows the number, revenue, and expenditure, including loan money, and valuation of local authorities in each State and in Australia during the years indicated above. It should be noted that, excepting in Queensland and Tasmania, the metropolitan water supply systems are not under municipal control ; the particulars given of revenue and expenditure for the four States other than Queensland and Tasmania do not, therefore, include revenue and expenditure on account of these systems.

LOCAL AUTHORITIES (a) IN EACH STATE.—FINANCIAL SUMMARY, 1929.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.(b)	Tasmania.	Total.
No. of local authorities (a)	319	196	152	196	149	49	1,061

RECEIPTS.

	£	£	£	£	£	£	£
Rates—							
General ..	4,993,878	3,925,207	2,043,568 626,575	988,012	490,868	174,960	15,320,093
Other ..	1,588,004						
Government grants, etc. . .	2,156,874	143,987	492,056	564,133	189,699	73,395	3,620,144
Loans and other sources ..	6,082,455	5,000,858	4,881,502	550,955	1,760,913	534,213	18,810,896
Total ..	14,821,211	9,070,052	8,043,701	2,103,100	2,625,758	1,087,311	37,751,133

EXPENDITURE.

	£	£	£	£	£	£	£
Works, services, etc. ..	11,863,135	5,792,741	4,410,596	1,603,263	1,603,677	772,275	26,045,687
Interest on loans and overdrafts	1,762,265	731,534	1,146,949	69,457	174,472	217,092	11,088,010
Redemptions, sinking funds, etc. ..	1,169,588	344,784	496,010	58,262	158,757		
Administration								469,036	405,093	178,797	152,601
Other ..	1,769,735	1,179,579	161,932	338,767	14,838		
Total ..	14,794,988	9,107,830	7,638,227	2,071,711	2,428,474	1,092,467	37,133,697

VALUATIONS.

Capital value of property ..	c 911,731,000	680,649,613	280,023,715	189,124,907	f 42,550,101	51,315,303	(d)
Annual value of property ..	(d)	36,286,555	(d)	9,688,868	f 2,456,987	2,790,203	(d)

(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, and road board districts, etc.

(b) Exclusive of Local Boards of Health.

(c) Improved capital value of rateable property for the year 1923. The value of improvements in country shires has been assumed by the State Statistician as equivalent to the unimproved value. The total unimproved capital value for municipalities and shires for 1929 is £378,013,260.

(d) Not available.

(e) Rateable value.

(f) Municipalities only. District Road Boards are rated on unimproved capital value and/or annual value, the total of the unimproved capital value being £24,573,070 and the annual value, £322,044.

3. Local Government Loans, 1929.—The following table shows the amount of loans raised by local authorities during the year 1929, of loans current at the end of that year, the liability on account of interest and sinking fund, and the loans redeemed during 1929:—

LOCAL AUTHORITIES.—LOANS, 1929.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
Loans from General Government—	£	£	£	£	£	£	£
Raised during year ..	..	10,321	236,537	54,451	169,712	38,401	509,422
Current at end of year ..	..	926,304	8,034,315	297,390	227,735	464,004	9,949,838
Loans from other Sources—							
Raised during year ..	3,436,554	2,205,966	1,413,887	123,186	405,555	23,778	7,608,926
Current at end of year ..	31,525,584	12,418,800	14,156,081	865,351	3,015,791	2,563,683	64,545,290
Total—							
Raised during year ..	3,436,554	2,216,287	1,650,424	177,637	575,267	62,179	8,118,348
Current at end of year ..	31,525,584	13,345,104	22,190,396	1,162,741	3,243,520	3,027,777	74,495,128
Current Loans, exclusive of those obtained from General Government, raised within Australia ..	24,220,584	12,418,800	5,637,729	865,351	2,447,691	1,377,186	46,967,341
Annual Liability on account of Interest ..	1,703,689	(b) 648,105	1,146,949	65,256	190,889	(c) 192,248	3,947,136
Total Sinking Fund at end of year ..	2,520,138	697,892	1,074,107	27,427	503,838	374,726	5,198,128
Amount of Loans Redeemed during year ..	(a)	28,059	327,484	52,997	313,616	201,997	(a)

(a) Not available.

(b) Interest paid.

(c) Interest and Sinking Fund.

§ 5. Water Supply, Sewerage, and Drainage.

1. New South Wales.—(i) *General*. In Sydney and its suburbs the water supply and sewerage systems are controlled by the Metropolitan Water, Sewerage and Drainage Board, and in Newcastle and its suburbs by the Hunter District Water Supply and Sewerage Board. In country districts, both waterworks and sewerage works are constructed by the Public Works Department, and, when completed, handed over to the municipalities affected, by which the cost must be repaid.

(ii) *Metropolitan Waterworks*. (a) *General*. During the year ended 30th June, 1930, operations were carried on in connexion with the construction of the Nepean and Woronora dams, the 36 million gallon service reservoir at Killara, and elevated reservoirs at Canterbury and Vaucluse. A considerable mileage of rising and gravitation mains was laid for the amplification of the system, and an additional pumping plant was installed. The maximum day's consumption in the metropolitan area was 138,571,000 gallons. The length of mains is now 4,117 miles.

(b) *Water Supplied, etc.* The following table gives the number of houses, the estimated population supplied, and other details for the year ended 30th June, 1930 :—

WATERWORKS, SYDNEY.—WATER SUPPLIED, 1929-30.

Year ended 30th June—	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Supply for the Year.	Average Daily Supply.		Mains Laid.
					Per House.	Per Head of Estimated Population.	
	No.	No.	1,000 Gallons.	1,000 Gallons.	Gallons.	Gallons.	Miles.
1930 ..	307,945	1,539,725	81,462	29,733,497	264	52.91	138

(c) *Finances*.—The following statement shows the revenue and expenditure on account of the services of waterworks, sewerage and drainage during the year 1929-30.

WATERWORKS, SEWERAGE, AND DRAINAGE, SYDNEY, 1929-30.

Item.	Revenue.	Working Expenses, Sinking Fund Contribution, and Renewals.	Capital Indebtedness.	Percentage of Working Expenses and Sinking Fund Con- tribution on Revenue.	Percent- age of Revenue on Capital Cost.	Interest.	Surplus or Deficit.
	£	£	£	%	%	£	£
Water ..	1,722,140	a 708,605	22,526,429	41.15	7.65	973,083	+40,452
Sewerage	981,775	b 329,288	13,979,173	33.54	7.02	614,543	+37,944
Drainage	49,775	c 19,777	673,891	39.73	7.39	13,140	+16,858
Total	2,753,690	1,057,670	37,179,493	38.41	7.41	1,600,766	+95,254

(a) Includes payment of £50,486 to State Debt Commissioners in reduction of Capital Indebtedness and £139,000 in Renewals.

(b) Includes payment of £35,029 to State Debt Commissioners in reduction of Capital Indebtedness, and £20,000 on Renewals.

(c) Includes payment of £1,399 to State Debt Commissioners in reduction of Capital Indebtedness, and £1,500 on Renewals.

(iii) *Metropolitan Sewerage and Drainage Systems*. (a) *General*. In addition to the usual progress made in connecting additional houses, 68 miles of new sewers were laid, the total length at 30th June, 1930, being 1,794 miles. The quantity of sewage pumped was 5,704 million gallons.

(b) *Houses Drained, Population Served, Length of Sewers, etc.* Particulars as at 30th June, 1930, are given hereunder :—

SEWERAGE AND DRAINAGE SYSTEMS, SYDNEY.—PARTICULARS OF SERVICES, 30th JUNE, 1930.

Year ended 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.
1930	200,573	1,002,865	1,794.43	75.67	614,958	1,417

(iv) *Newcastle Water Supply. (a) General.* The supply is drawn from the Chichester Reservoir, and is piped about 50 miles to Newcastle. The storage reservoir capacity is 5,000 million gallons. In addition to supplying Newcastle, water is reticulated in Maitland, 20 miles distant from Newcastle, and the Cessnock coalmining field, as well as areas adjoining these centres. The supply also extends to the farming areas of Miller's Forest and the lakeside resorts of Belmont and Toronto.

Water can also be supplied from the Hunter River at Maitland, if required.

Reservoirs distributed throughout the Water Supply District number 32, with a total storage capacity of 47,217,000 gallons.

The net addition to lengths of water-mains laid was 21 miles, bringing the total length of mains to 860 miles.

(b) *Particulars of Services.* The following table supplies details for the year ended 30th June, 1930 :—

NEWCASTLE WATER SUPPLY.—SUMMARY, 1929-30.

Year ended 30th June—	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Quantity Supplied for the Year.	Average Daily Supply.		Mains Laid.
					Per House.	Per Head of Estimated Population.	
	No.	No.	1,000 gallons.	1,000 gallons.	Gallons.	Gallons.	Miles.
1930 ..	41,674	208,370	8,300	3,029,342	189	39.83	21

(c) *Finances.* The next table gives the revenue, working expenses, capital debt, and net profit for the year ended 30th June, 1930 :—

NEWCASTLE WATER SUPPLY.—FINANCES, 1929-1930.

Year ended 30th June—	Revenue.	Management, Working Expenses, and Sinking Fund.	Capital Debt.	Percentage of Management and Working Expenses on Revenue.	Percentage of Revenue on Capital Debt.	Interest on Capital Debt.	Surplus.
	£	£	£	%	%	£	£
1930 ..	231,698	98,253	2,830,415	42.41	8.19	142,660	—9,215

(v) *Newcastle Sewerage Works. (a) General.* The sewerage works for Newcastle and suburbs as originally designed have been completed by the Department of Public Works and vested in the Board.

The amplification, extension, and improvement of such sewerage works was authorized by "The Newcastle and Suburbs Sewerage Amplification Act 1928" passed on the 21st May, 1928. The estimated cost of the work, which is still under construction, is £761,625. Schemes for the sewerage of Stockton and West Maitland are being investigated, and the Cessnock system is under construction at an estimated cost of £153,000.

The stormwater drainage of Newcastle and adjoining areas is divided into two catchment areas, viz., the works in the Cottage Creek Stormwater Area, estimated to cost £200,000, and the works in the Throsby Creek Stormwater Area, estimated to cost £660,000.

(b) *Sewerage Connexions and Length of Sewers.* During the year ended 30th June, 1930, the number of properties connected with sewers was 593, making a total of 20,642. New sewers of a length of 9 miles were constructed by the Board, bringing the total length of sewers under the Board's control to 199 miles.

(c) *Finances.* Particulars in regard to chief items for the year 1929-30 are given hereunder:—

NEWCASTLE SEWERAGE.—FINANCES, 1929-30.

Year ended 30th June—	Revenue.	Management, Working Expenses and Sinking Fund.	Capital Debt.	Percentage of Management, Working Expenses and Sinking Fund on Revenue.	Percentage of Revenue on Capital Debt.	Interest on Capital Debt.	Surplus.
1930 ..	£ 88,487	£ 39,178	(a) £1,607,443	% 44.28	% 5.50	£ 34,820	£ 14,489

(a) Includes £548,274 expenditure on stormwater drainage works not yet transferred to and vested in the Board.

(vi) *Water Supply and Sewerage in Country Towns*.* (a) *General.* Under the *Local Government Act 1919*, the Public Works Department may, upon application by any municipal or shire council, construct, out of moneys voted therefor by Parliament, waterworks or sewerage works, and when completed transfer the control thereof to the council. In each case the cost, with interest, is repayable by instalments spread over a period corresponding to the probable life of the work.

(b) *Waterworks.* Up to the 30th June, 1930, waterworks in 81 towns had been completed and handed over to the respective local authorities. The capital cost of these works was £2,922,282, and the annual repayment instalments totalled £152,627. In addition to the foregoing, the Broken Hill and Junee water supplies are administered by the Public Works Department under special Acts; these services entailed capital expenditures of £481,795 and £220,308 respectively.

(c) *Sewerage and Stormwater Drainage Works.* Up to the 30th June, 1930, sewerage works in thirteen towns, and stormwater drainage works in sixteen towns had been completed. Capital expenditure thereon totalled £969,406. The repayment instalments total £48,943 per annum.

2. *Victoria.*—(i) *A. Melbourne and Metropolitan Board of Works.* (a) *General.* All land within 13 miles of the Post Office at the corner of Bourke and Elizabeth-streets, Melbourne, together with the remaining areas of the City of Mordialloc and the Shire of Moorabbin and a further portion of the Shire of Dandenong, but excluding 11 square miles in the Shires of Keilor and Braybrook under the control of the Keilor and St. Albans Waterworks Trust, is included within the metropolitan area for water supply, sewerage, main drainage and river improvement purposes. This territory covers 434 square miles of land area, and in 1930 embraced 25 cities, 1 shire, and parts of 12 other shires, or a total of 38 municipalities or portions thereof. In addition, the Board supplies water to certain municipalities outside the metropolitan area.

The Board's liability on the 30th June, 1930, for loans raised was £23,365,020. The Board is still empowered to borrow £1,774,914 before reaching the limit of its borrowing powers.

(b) *Revenue and Expenditure.* The ordinary receipts and expenditure for the year 1929-30 were £1,900,014 and £1,764,096 respectively, and the loan receipts and expenditure £2,948,283 and £3,103,090 respectively.

* Excluding the area of operations of the Hunter District Water Supply and Sewerage Board (Newcastle).

B. Melbourne Water Supply. (a) *Quantity of Water, Number of Houses, and Population Supplied.* The following table gives particulars of services for the year 1929-30. The rate levied was sixpence in the pound on the net annual value of the property served.

WATER SUPPLY, MELBOURNE.—PARTICULARS OF SERVICES, 1929-30.

Year ended 30th June—	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Consumption.	Total Water Consumption for the Year.	Average Daily Consumption.		Length of Mains, Reticu- lation, etc.
					Per House.	Per Head of Estimated Population.	
1930 ..	No. 250,224	No. 1,108,492	1,000 Gallons. 61,723	1,000 Gallons. 22,528,935	Gallons. 246.7	Gallons. 55.7	Miles. 2,698

(b) *Capital Cost, Revenue, Expenditure and Surplus.* The total cost of construction, revenue, working expenses (exclusive of renewals), percentage of working expenses to revenue, interest and surplus for the year ended 30th June, 1930, together with the total amounts to that date are given below :—

WATER SUPPLY, MELBOURNE.—FINANCES, 1929-30.

Year ended 30th June—	Capital Cost.	Revenue.	Working Expenses. (a)	Percentage of Working Expenses on Revenue.	Interest. (b)	Surplus.
1930	£ 716,597	£ 785,203	£ 147,353	% 18.77	£ 522,549	£ 115,301
Total to date ..	10,390,281	16,060,840	2,762,878	17.20	7,513,720	5,784,242

(a) *Exclusive of renewals.* (b) *Includes interest on renewals and sinking funds.*

C. Melbourne Sewerage. (a) *Number of Houses Connected, etc.* Particulars of services for the year 1929-30 are given below. The rate levied was tenpence in the pound on the net annual value of the property served.

SEWERAGE, MELBOURNE.—PARTICULARS OF SERVICES, 1929-30.

Year ended 30th June—	Number of Houses for which Sewers are Provided.	Estimated Population for which Sewers are Provided.	Average Daily Pumping.	Total Sewage Pumped for the Year.	Average Daily Pumping.		Length of Sewers, etc.
					Per House.	Per Head of Estimated Population.	
1930 ..	No. 230,941	No. 1,023,069	1,000 Gallons. 40,155	1,000 Gallons. 14,656,680	Gallons. 173.9	Gallons. 39.2	Miles. 2,346

(b) *Capital Cost, Revenue, Expenditure and Deficiency.* The total cost of construction, revenue, working expenses (exclusive of renewals), percentage of working expenses on revenue, interest and deficiency for the year ended 30th June, 1930, together with the totals to that date, are given below :—

SEWERAGE, MELBOURNE.—FINANCES, 1929-30.

Year ended 30th June—	Capital Cost.	Revenue.	Working Expenses. (a)	Percentage of Working Expenses on Revenue.	Interest. (b)	Deficiency.
1930 ..	£ 610,487	£ 833,715	£ 164,004	% 19.67	£ 681,359	£ 11,648
Total to date	12,272,133	11,357,604	2,626,579	23.13	11,394,408	2,663,383

(a) Exclusive of renewals.

(b) Includes interest on renewals and sinking funds.

(c) *Metropolitan Sewage Farm.* The total area of the farm at the 30th June, 1930, was 22,634 acres. The following table gives details in connexion therewith for the year 1929-30, together with totals to that date :—

METROPOLITAN SEWAGE FARM.—FINANCES, 1929-30.

Year ended 30th June—	Capital Cost.	Revenue.	Working Expenses. (a)	Interest.	Net Cost of Sewage Purification.	Trading Profit.
1930	£ 48,594	£ 55,066	£ 38,351	£ 56,398	£ 39,683	£ 45,080
Total to date ..	1,071,983	804,015	481,008	852,394	495,473	506,782

(a) Exclusive of renewals.

(d) *Disposal of Night-soil from Unsewered Premises.* The total number of pans cleaned by the Board at its depots at Brooklyn, Campbellfield, and Moorabbin, where the night-soil was disposed of by burial, was 1,182,893, for the year 1929-30.

D. *Melbourne Drainage and Rivers—Capital Cost, Revenue, Expenditure and Surplus.* The following table gives details in connexion therewith for the year ended 30th June, 1930, together with totals to that date :—

DRAINAGE AND RIVERS, MELBOURNE.—FINANCES, 1929-30.

Year ended 30th June—	Capital Cost.	Revenue.	Working Expenses. (a)	Percentage of Working Expenses on Revenue.	Interest. (b)	Surplus.
1930	£ 360,845	£ 87,454	£ 20,148	% 23.04	£ 47,384	£ 19,922
Total to date ..	956,048	264,190	79,307	30.02	79,459	105,424

(a) Exclusive of renewals.

(b) Includes interest on renewals and sinking funds.

(ii) *Geelong Waterworks and Sewerage Trust.* (a) *General.* The Geelong Waterworks and Sewerage Trust, constituted in 1908, consists of five commissioners. The amount of loan money which may be raised is limited to £725,000 for water supply undertaking, £710,000 for sewerage undertaking, and £270,000 for sewerage installation to properties under the deferred payment system. The population supplied is about 45,130.

(b) *Water Supply.* The catchment area is about 16,000 acres. The storage capacity of all the reservoirs is 2,738,119,808 gallons, and there are 270 miles of reticulation mains within the city of Geelong and its suburbs. Arrangements have been made with the State Rivers and Water Supply Commission for a supplementary supply of a minimum quantity of 500 million gallons of water per annum from the Commission's works now being constructed to tap the watersheds of the upper reaches of the river Barwon. The total expenditure on waterworks to the 30th June, 1930, was £687,047, and the revenue for the year 1929-30 was £56,499; the sinking fund for redemption of loans amounted to £44,003.

(c) *Sewerage Works.* The sewerage scheme consists of a main outfall sewer to the ocean at Black Rock, about 9 miles from Geelong, and 139 miles of reticulation mains have already been laid. The drainage area is 9,489 acres, and the number of buildings within the drainage area is 11,400, and within the sewered areas 11,098, while 11,030 buildings have been connected with the sewers. The total expenditure to 30th June, 1930, on sewerage works was £630,571 and on the cost of sewerage installations under deferred payment conditions £251,615, of which £53,035 is outstanding. The revenue amounted to £42,563. The sinking fund for redemption of loans amounted to £43,752.

(iii) *The Ballarat Water Commission and the Ballarat Sewerage Authority.* (a) *General.* The Ballarat Water Commission was constituted on 1st July, 1880, and the Ballarat Sewerage Authority on the 30th November, 1920. The members of the Water Commission are the Sewerage Authority. The Commissioners number seven; three (one of whom is chairman) being appointed by the Government, and four being elected by the Council of the City of Ballarat.

(b) *Water Supply.* The Water Supply District embraces an area of about 27 square miles, containing a population of about 43,000. The total storage capacity of the six reservoirs is 2,215,558,327 gallons.

The capital cost of construction of the waterworks is £651,681. The liabilities are loans due to the Government, amounting to £303,026 as at 31st December, 1930. The revenue for the year was £35,955.

(c) *Sewerage.* The scheme as designed provides for a population of 90,000 persons. The capital cost of construction to 31st December, 1930, is £305,654. The method of sewage disposal is by sedimentation, oxidation, and sludge digestion. Forty-nine sewered areas have been declared as at 1st January, 1931, comprising 6,471 tenements.

The scheme is being financed by debenture issue loans from various financial institutions, £345,090 having been provided up to 31st December, 1930, for constructional works, and £125,000 for house connexions.

(iv) *Bendigo Sewerage Authority.* The members of the Bendigo City Council constitute this Authority. The sewerage district comprises the populated area of the city of Bendigo. The works when completed are estimated to cost £450,000. Expenditure to end of December, 1929, was £281,648 for sewerage scheme and £150,354 for house connexions.

(v) *Water Supply in Country Towns and Districts.* Most of the country waterworks are controlled by the State Rivers and Water Supply Commission, but in some instances the control is by waterworks trusts or by municipal corporations.

The following table gives particulars regarding waterworks under the control of trusts and municipal corporations for the year 1930 :—

COUNTRY WATERWORKS, VICTORIA.—FINANCES, 1930.

Year.	Under Waterworks Trusts.				Under Municipal Corporations.			
	Number of Trusts.	Capital Cost.	Capital Indebtedness.	Current Interest Outstanding.	Number of Corporations.	Capital Cost.	Capital Indebtedness.	Current Interest Outstanding.
1930 ..	No. 105	£ 1,710,087	£ 1,346,325	£ 12,462	No. 28	£ 846,437	£ 551,120	£ 4,006

3. Queensland.—(i) *Water Supply and Sewerage Department, Brisbane City Council.*
(a) *General.* The whole of the water supply in the metropolitan area and the bulk supply to the City of Ipswich is filtered.

The available storage in the Brisbane River is 500 million gallons, the catchment area being approximately 4,000 square miles. In Lake Manchester, the storage capacity is 7,000 million gallons, and the catchment area 28.5 square miles. The capacity of Enoggera and Gold Creek Reservoirs is 1,000 million gallons, and 434 million gallons respectively, and the catchment area 12.8 and 3.8 square miles respectively.

The total capacity of the service reservoirs on Tarragindi Hill, Eildon Hill, Bartley's Hill, Highgate Hill, Roles Hill, Wickham Terrace, and Paddington (elevated tank) is approximately 27,356,000 gallons.

(b) *Waterworks. Summary.* The following table gives a summary of operations for the year 1930 :—

WATERWORKS, BRISBANE.—SUMMARY, 1930.

Year.	Length of Reticulation Mains.	Number of Tenements Connected. (a)	Estimated Population Supplied.	Quantity Supplied.	Average Daily Supply.	Average Daily Supply per Head of Estimated Population.
	Miles.	No.	No.	1,000 Gallons	Gallons.	Gallons.
1930	803½	63,191	325,945	4,682,556	12,828,920	39.36

(a) Exclusive of Ipswich, which is a bulk supply.

The total length of the trunk mains is 203½ miles.

(c) *Sewerage.* At the 31st December, 1930, 13,727 premises were connected to the Council's sewerage system, the estimated population served being 68,635 persons. The total length of sewers in operation is 376 miles, consisting of 225 miles of sewers within premises, and 151 miles of main and reticulation sewers.

(d) *Waterworks and Sewerage Works Finances.* The subjoined table gives particulars regarding finance during the year 1930 :—

WATER AND SEWERAGE WORKS, BRISBANE.—FINANCE, 1930.

Year.	Capital Cost.	Net Revenue from Rates.	Management and Working Expenses.	New Works Construction.	Interest and Redemption of Loans, including Sinking Fund.
	£	£	£	£	£
1930	7,985,521	653,900	171,432	202,162	545,587

(ii) *Country Towns Water Supply.* In addition to the city of Brisbane, there were at the end of the year 1929, thirty-seven country towns in Queensland provided with water supply systems constructed by municipalities chiefly from Government loans. The subjoined statement gives particulars of all water supply systems, exclusive of Brisbane, for the year 1929 :—

COUNTRY WATER SUPPLY SYSTEMS, QUEENSLAND, 1929.

<i>Cost of Construction to 31st December, 1929—£2,163,418.</i>					
<i>Receipts.</i>			<i>Expenditure.</i>		
	£			£	
Rates and sales of water	..	226,208	Office and salaries	..	17,751
Government and other loans	..	73,489	Construction	..	107,425
Other	..	27,564	Maintenance	..	89,700
			Interest and redemption	..	92,822
			Other expenses	..	19,870
Total	..	327,261	Total	..	327,568
Assets	..	1,857,621	Liabilities	..	1,510,779

4. South Australia.—(i) *General*. The water supply and sewerage systems in this State are constructed and maintained by the Public Works Department.

(ii) *Adelaide Waterworks*. (a) *Summary*. The following table gives particulars for the year 1929–30, the figures for consumption being recorded by gaugings taken at the reservoirs and including evaporation and absorption. There are 50,769 meters in the Adelaide District.

ADELAIDE WATERWORKS.—SUMMARY, 1929–30.

Year ended 30th June—	Number of Assessments.	Annual Value.	Area Supplied.	Capacity of Reservoirs.	Length of Mains.	Annual Consumption.
	No.	£	Acres.	Million Gallons.	Miles.	1,000 Gallons.
1930	135,269	5,592,698	115,939	7,753	1,280	7,370,000

(b) *Finances*. Particulars for the year 1929–30 are given below:—

ADELAIDE WATERWORKS.—FINANCES, 1929–30.

Year ended 30th June—	Capital Cost.	Revenue.		Expenses.			Percentage of Net Revenue on Capital Cost.
		Rates.	Total.	Engineering Branch.	Revenue Branch.	Total.	
1930 ..	£ 3,653,497	£ 402,637	£ 488,230	£ 78,276	£ 11,926	£ 90,202	% 10.89

(iii) *Adelaide Sewerage*. Particulars for the year 1929–30 are given hereunder:—

ADELAIDE SEWERAGE.—SUMMARY, 1929–30.

Year ended 30th June—	Length of Sewers.	Number of Connections.	Capital Cost of Revenue-Producing Works.	Revenue.		Working Expenses.		Percentage of Net Revenue on Capital Cost.
				Rates, etc.	Total.	Maintenance, etc.	Total.	
1930 ..	Miles. 542	No. 55,748	£ 1,614,439	£ 195,195	£ 203,274	£ 27,406	£ 36,034	% 10.36

(iv) *Country Towns Water Supply*. (a) *Summary*. The chief items of information regarding these undertakings are set forth in the table below for the year 1929–30. There are 32,982 meters in country districts.

COUNTRY TOWNS WATERWORKS, SOUTH AUSTRALIA.—SUMMARY, 1929–30.

Year ended 30th June—	Number of Assessments.	Area Supplied.	Capacity of Reservoirs.	Length of Mains.	Annual Consumption.
	No.	Acres.	Million Gallons.	Miles.	1,000 Gallons.
1930	48,923	11,834,574	9,096	4,700	1,438,000

(b) *Finances.* The next table gives financial information for the year 1929-30:—

COUNTRY TOWNS WATERWORKS, SOUTH AUSTRALIA.—FINANCES, 1929-30.

Year ended 30th June—	Capital Cost.	Revenue.		Working Expenses.			Percentage of Net Revenue on Capital Cost.
		Rates.	Total.	Engin- ing Branch.	Revenue Branch.	Total.	
1930 ..	£ 9,160,481	£ 180,743	£ 227,776	£ 109,219	£ 8,215	£ 117,434	% 1.20

(v) *Other Sewerage Systems.* Information in summarized form is given below regarding the two suburban sewerage systems, viz., the Glenelg system and the Port Adelaide and Semaphore system, for the year 1929-30:—

**SUBURBAN SEWERAGE SYSTEMS, SOUTH AUSTRALIA.—SUMMARY,
1929-30.**

Year ended 30th June—	Length of Sewers.	Number of Con- nexions.	Capital Cost.	Revenue.		Working Expenses.		Percentage of Net Revenue on Capital Cost.
				Rates.	Total.	Mainten- ance.	Total.	
1930 ..	Miles. 141	No. 10,294	£ 806,136	£ 45,578	£ 46,214	£ 11,761	£ 12,687	% 4.16

5. Western Australia.—(i) *General.* The water supply and sewerage systems of Western Australia are all under the management of Government Departments, and are divided into the following categories:—(a) Metropolitan Water Supply, Sewerage and Drainage, covering Perth, Fremantle, Claremont, Guildford, Midland Junction, and Armadale District, (b) Goldfields Water Supply, (c) Water Supply of other towns, (d) Agricultural Water Supply, (e) Other Mines Water Supply, and (f) Artesian and sub-artesian waters.

(ii) *Metropolitan Water Supply, Sewerage and Drainage.* (a) *General.* The sources of the metropolitan water supply are the Victoria Reservoir, Mundaring Reservoir, thirteen bores, and the Armadale, Churchman Brook, Canning River, and Wongong pipe head dams. The sewerage system consists of septic tanks and percolating filters for Perth, and septic tanks and ocean outfall for Fremantle and Subiaco. At the 30th June, 1930, the number of premises connected with sewers was 22,269.

(b) *Summary.* The following table gives particulars regarding water supply for the year 1929-30:—

METROPOLITAN WATER SUPPLY, WESTERN AUSTRALIA.—SUMMARY, 1930.

Year ended 30th June—	Estimated Population Supplied.	Number of Houses Supplied.	Water Supplied.	Average Daily Supply.		Number of Meters.	Length of Mains.
				Per Head.	Per House.		
1930	No. 214,000	No. 50,573	1,000 Gallons. 4,072,879	Gallons. 52.32	Gallons. 220.64	No. 37,394	Miles. 841

(c) *Finances.* The table hereunder gives separate information for the water supply and sewerage and drainage branches for the year 1929-30 :—

**METROPOLITAN WATER SUPPLY AND SEWERAGE AND DRAINAGE,
WESTERN AUSTRALIA.—FINANCES, 1929-30.**

Year ended 30th June—	Water Supply.			Sewerage and Drainage.		
	Capital Cost.	Revenue.	Expendi- ture.	Capital Cost.	Revenue.	Expendi- ture.
1930 ..	£ 3,187,198	£ 279,459	£ 248,088	£ 1,508,115	£ 119,506	£ 94,401

(iii) *Goldfields Water Supply.* The source of supply for the Coolgardie and adjacent goldfields, as well as for towns and districts on or near the pipe-line, is the Mundaring Reservoir, which has a capacity of 4,650 million gallons. There are three classes of consumers—the railways, the mines, and “other,” and in 1929-30 the railways consumed 8 per cent., the mines 20 per cent., and “other” 72 per cent. of the supply. The following table gives details for the year 1929-30 :—

GOLDFIELDS WATER SUPPLY, WESTERN AUSTRALIA.—SUMMARY, 1930.

Year ended 30th June—	Total Con- sumption.	Number of Services.	Length of Water Mains.	Capital Cost.	Revenue.	Expendi- ture.
1930 ..	1,000 gallons. 1,222,000	No. 10,657	Miles. 1,518	£ 3,717,439	£ 182,094	£ 196,538

(iv) *Water Supply of Other Towns.* During the year 1929-30 there were 27 towns provided with water supplies, of which 12 are controlled by Water Boards and 15 by the Public Works Department. The total supplies to the latter towns for the year ending 30th June, 1930, were as follows :—Domestic, 150,000,000 gallons, and Railways, 45,000,000 gallons. The estimated population was 20,000, and the average daily domestic consumption was 20 gallons per head.

(v) *Agricultural Water Supply.* During the year 1929-30, 3 tanks were excavated and 12 wells sunk, all of which yielded fresh water. During the twenty years from the 1st July, 1910, to the 30th June, 1930, 489 tanks were built, 367 wells sunk, and 3,452 bores put down to a total depth of 152,474 feet. Of the bores mentioned, 517 yielded fresh and 287 stock water.

(vi) *Artesian and Sub-artesian Waters.* Up to the 30th June, 1930, the total number of bores put down in search of artesian or sub-artesian water was 245, including 49 sunk in the metropolitan area, ranging in depth from 30 to 4,006 feet.

6. *Tasmania.*—(i) *Hobart Water Supply.* The cost of this undertaking to the 30th June, 1930, was £448,524, but a considerable amount of reticulation work has been done out of revenue and not charged to capital account. The outstanding loans at 30th June, 1930, amounted to £340,337. At the same date the number of tenements supplied in the city and suburbs was 10,500 and the length of reticulation mains 129½ miles. The revenue for the year 1930 was £39,320.

(ii) *Hobart Sewerage System.* The revenue for the year ended 30th June, 1930, was £39,363. Up to that date 80⅞ miles of sewers had been laid in connexion with the original city system at a cost of £214,616 and 8,400 tenements connected. Since the original city was sewerred, the Municipalities of Queenborough and New Town have been included

in the city, and are now being sewered. In Queenborough 25½ miles of sewers, connecting with 1,439 tenements, have been constructed at a cost of £120,017. In New Town a total of 36½ miles of sewers has been laid, and 1,420 properties connected. The cost to 30th June, 1930, including surveys and sewerage outfall, was £111,944.

§ 6. Harbour Boards and Trusts.

1. *New South Wales.*—(i) *Sydney Harbour Trust.* (a) *General.* The Sydney Harbour Trust, which consists of three Commissioners appointed by the Government, controls the whole of the wharves resumed by the Government in 1901. The Commissioners also provide and maintain the lighting and marking of the harbour, and carry out all necessary dredging. The whole of what might be termed city wharves is owned by the Commissioners and leased to various shipping companies, but the Trust directly operates and maintains a certain number of unleased wharves. Outside the city area the wharves are, to a large extent, privately controlled, but all structures beyond high-water mark are held under leases issued by the Trust. The extent of wharfage accommodation now available for use totals 77,030 lineal feet, inclusive of 9,267 lineal feet privately owned, 4,693 lineal feet of cross wharf and 3,427 lineal feet of ferry wharves.

The depth of water at the entrance to the port is not less than 80 feet, and in the channels there are 40 feet at low-water spring tides. The foreshores of Sydney Harbour are about 200 miles in length. The area of the water in the port is 14,284 acres, of which 3,000 acres have a depth ranging from 35 to 160 feet.

Since its inception, the Trust has incurred capital expenditure of £7,740,927 on the reconstruction and extension of the wharfage and improvements to the port and vested area. Over 14,381 lineal feet of old and obsolete wharfage have been demolished, and 35,962 lineal feet of new berths have been constructed. Other improvements include 2,972,400 square feet of floor area of new sheds and nearly 4 miles of new roadways.

During the year 1930, 1,211,880 tons of material were dredged at a cost of £52,231. In the process of towing such material, 35,502 miles were run at a cost of £38,773.

(b) *Finances.* The subjoined table gives particulars concerning the finances of the Trust for the year 1930:—

SYDNEY HARBOUR TRUST.—FINANCES, 1929-30.

Year ended 30th June—	Revenue.				Working Expenditure.	Total Capital Debt.	Interest.	Balance.
	Wharfage and Harbour Rates.	Tonnage Rates and Berthing Charges.	Other Sources.	Total.				
1930 ..	£ 611,845	£ 42,780	£ 363,309	£ 1,017,934	£ 381,420	£ 11,705,791	£ 6629,807	£ 6,707

(a) Includes £40,134 for renewals of structures and plant. (b) Includes £32,683 sinking fund contributions.

2. *Victoria.*—(i) *Melbourne Harbour Trust.* (a) *General.* Information regarding the origin and constitution of this Trust will be found in Official Year Book No. 12, pp. 970 *et seq.* In 1930, the length of sheds in the port was 19,257 feet, covering an area of 1,261,720 square feet. The quantity of material raised by the dredging and excavation done in the improvement of the river and bay amounts to 101,683,104 cubic yards. The Trust has expended £342,017 in reclaiming land within its jurisdiction.

(b) *Finances.* During the year ended 31st December, 1930, the revenue of the Trust amounted to £627,342, and the ordinary expenditure to £495,626, leaving, after provision for depreciation and renewals account (£40,000) and sinking fund (£80,000), a net surplus on revenue account of £11,716. The capital expenditure for the year was £511,858. Up to 31st December, 1930, the total capital expenditure amounted to £8,370,388. The capital debt is £4,193,465.

(ii) *Geelong Harbour Trust.* The Geelong Harbour Trust was constituted in 1905, and is under the control of three Commissioners appointed by the Governor in Council. Revenue and expenditure for the year 1930, were £84,630, and £57,629 respectively, while loans raised to the end of that year amounted to £621,314.

(iii) *Harbour Boards.* The Harbour Boards Act of 1927 provides for the constitution of Harbour Boards for the following ports :—Gippsland Lakes ; Welshpool ; Warrnambool ; Port Fairy ; Portland. These ports have, hitherto, been under the control of the Department of Ports and Harbours of Victoria. The first board to be constituted under this Act is the Warrnambool Harbour Board.

3. *Queensland.*—(i) *Bowen Harbour Board.* (a) *General.* The Bowen Harbour Board consists of seven members, of whom two are appointed by the Governor in Council and the remainder elected by the electors of the Town of Bowen and adjacent shires. The district under its jurisdiction comprises the area within the boundaries of the Town of Bowen, the Shires of Prosperine and Wangaratta, and division I. of the Shire of Ayr.

(b) *Finances.* The capital expenditure for the year 1930 was £3,200 while for the same period the receipts were £14,837 and the expenditure £15,549.

(ii) *Bundaberg Harbour Board.* (a) *General.* The Bundaberg Harbour Board consists of nine members, of whom one is appointed by the Governor in Council, four elected by the electors of the City of Bundaberg, and two each by the electors of the Shires of Gooburrum and Woongarra.

(b) *Finances.* Receipts for the year 1930 amounted to £6,650 as compared with £5,843 in 1929, while expenditure for corresponding periods totalled £5,433 and £7,566 respectively with interest and redemption on loans for the half-year ended 31st December, 1930, not yet paid.

(iii) *Cairns Harbour Board.* (a) *General.* The Cairns Harbour Board consists of twelve members, representing the city of Cairns and eight adjoining shires. The wharves which are all under the control of this Board, consist of 1,900 lineal feet, all reinforced ferro-concrete structures, 1,500 feet of which form an unbroken quay line. Railway facilities are provided on the wharves together with cold stores and mechanical sugar handling equipment. The total tonnage of outward cargo from the port for 1930 was 198,431 tons, of which sugar comprised 150,000 tons.

(b) *Finances.* The gross revenue of the Board, derived from harbour, berthage, and miscellaneous dues, etc., for the year 1930, was £56,309.

(iv) *Gladstone Harbour Board.* (a) *General.* The Gladstone Harbour Board is composed of seven members, two of whom are appointed by the Governor in Council and five elected by the electors of the town of Gladstone and the shires of Calliope and Miriam Vale.

(b) *Finances.* The total capital expenditure to the end of 1930 amounted to £91,489. The revenue for 1930 was £8,366 and the expenditure £8,533.

(v) *Mackay Harbour Board.* (a) *General.* The Mackay Harbour Board consists of nine members elected by the electors of the city of Mackay and the shires of Pioneer, Sarina, Mirani and Nebo.

(b) *Finances.* Capital expenditure for the year 1930 was £12,315 ; receipts totalled £13,397 ; total expenditure amounted to £18,700.

(vi) *Rockhampton Harbour Board.* (a) *General.* The Rockhampton Harbour Board consists of eleven members, of whom seven are elected by the electors on the rolls for the city of Rockhampton, the town of Mount Morgan and the shires of Fitzroy and Livingstone. The remaining four are elected by the councillors of groups of inland shires

(b) *Finances.* The revenue for the year 1930 was £26,008; and the expenditure was £26,981, which included £451 interest on loans and overdraft.

(vii) *Townsville Harbour Board.* (a) *General.* The Townsville Harbour Board is composed of nine members, of whom two are appointed by the Governor in Council, and the remaining seven are elected by the electors of Townsville and adjacent towns and shires. All harbour works and conveniences for the use of shipping are under the control of the Board.

(b) *Finances.* The total expenditure since the inception of the Board is £1,976,145, while the receipts for the year 1930 were £54,846 and the expenditure £61,680.

4. *Western Australia.*—(i) *Fremantle Harbour Trust.* (a) *General.* Fremantle Harbour is controlled by a Board of five Commissioners appointed by the Governor in Council. A description of the works was given in a previous Year Book (see No. 12, p. 973). Since that account was written, the inner harbour and entrance channel have been dredged to a depth of 36 feet below the lowest known low water. The berthage accommodation at all the quays has also been deepened to 36 feet.

(b) *Finances.* The following table gives financial data for the year 1929–30 :—

FREMANTLE HARBOUR TRUST.—FINANCES, 1929–30.

Year ended 30th June—	Revenue.	Expenditure.	Gross Amount Paid to the Treasury.				Total.
			Interest.	Sinking Fund.	Renewals Fund.	Surplus Revenue.	
1930	£ 560,764	£ 369,915	£ 98,288	£ 8,668	£ 2,000	£ 193,568	£ 302,524

(ii) *Bunbury Harbour Board.* (a) *General.* The Bunbury Harbour Board consists of five members, appointed by the Government. The jetty is 4,900 feet long, with berthage accommodation of 2,700 feet on the west side and 3,000 feet on the east side, and is electrically lighted.

(b) *Finances.* Details for the year 1930 are given hereunder. Surplus revenue is paid into Consolidated Revenue Fund to meet interest and sinking fund :—

BUNBURY HARBOUR BOARD.—1930.

Year ended 30th June—	Capital Expenditure.	Revenue.	Expenditure.	Paid to Consolidated Revenue Fund.
1930	£ 455,721	£ 24,255	£ 36,087	£ 8,250

5. *Tasmania.*—(i) *Marine Board of Hobart.* (a) *General.* The Marine Board of Hobart consists of nine wardens elected by the ship-owners of the Port of Hobart and the importers and exporters of goods into or from any port within the jurisdiction of the Board.

(b) *Finances.* The following table gives details for the year ended 30th June, 1930:—

MARINE BOARD OF HOBART.—FINANCES, 1929-30.

Year ended 30th June—	Capital Debt.	Revenue.			Expenditure.			
		Harbour Improve- ments, Debentures, etc.	General.	Total.	Harbour Improve- ments.	Interest and Sinking Fund.	General.	Total.
1930 ..	£ 21,453	£ ..	£ 45,067	£ 45,067	£ ..	£ α 7,398	£ 36,591	£ α 43,989

(a) Including £5,832 from revenue in reduction of loans.

(ii) *Marine Board of Launceston.* (a) *General.* The Marine Board of Launceston consists of five wardens, three elected by the ratepayers of the city of Launceston and two by ratepayers of the municipalities within the Tamar District.

(b) *Finances.* The following table gives details for the year ended 30th June, 1930:—

MARINE BOARD OF LAUNCESTON.—FINANCES, 1929-30.

Year ended 30th June—				Total Capital Debt.	Revenue.	Expenditure.
1930 ..	..	..	..	£ 279,115	£ 61,716	£ 63,858

(iii) *Marine Board of Burnie.* The length of the breakwater is 1,250 feet, with a depth up to 42 feet at low water, and a wharf alongside, 630 feet in length by 91 feet wide, with a depth at low water from 24 to 40 feet. There are two other timber wharves 600 feet and 400 feet long respectively. The receipts for the year ending 30th June, 1930, were £21,557, and the expenditure £21,862, including £16,278 interest on loans.

§ 7. Fire Brigades.

1. *New South Wales.*—(i) *General.* Under the Fire Brigades Act of 1909-27, a Board of Fire Commissioners consisting of eight members operates, and fire districts have been constituted. The cost of maintenance of fire brigades is borne in proportions of quarter, quarter, and half, by the Government, the municipalities, and the insurance companies concerned, but the expenditure must be so regulated that the proportion payable by the councils in a fire district shall not exceed the amount obtainable from ¼d. in the £ rate on the unimproved capital value of rateable land in the fire district: provided that the Board, with the consent of the Minister, and at the special request of the councils of the municipalities or shires constituting or forming part of a fire district or a majority in number of such councils may, as to that district, exceed the limit above provided.

(ii) *Sydney Fire District.* The Sydney fire district includes the City of Sydney and suburbs, comprising a total area of 255 square miles. On the 31st December, 1930, the Board had under its control in this district 76 stations. The receipts for the year 1930 were £342,334, made up as follows:—From the Government, £83,813; municipalities, £83,813; fire insurance companies, £166,661; firms, £965; and from other sources, £7,082. The disbursements for the year were £333,853.

2. *Victoria.*—(i) *General.* The Fire Brigades Act of 1928 provides for a Metropolitan Fire Brigades Board, and a Country Fire Brigades Board, each consisting of nine members, with local committees in country districts. The income of each board is derived in equal proportions from the Treasury, the municipalities, and insurance companies.

(ii) *Metropolitan Fire Brigade Board.* On the 30th June, 1930, the Board had under its control 42 stations. The total receipts for the year 1929–30 were £266,800, comprising contributions £189,291, receipts for services £24,589, and interest and sundries £52,920. The expenditure was £249,075, made up as follows:—Salaries £118,509, interest and repayments of principal £19,851, and other expenditure £110,715.

(iii) *Country Fire Brigades Board.* At 30th June, 1930, there were 120 municipal councils and 112 insurance companies included in the operations of the Act. The brigades are composed chiefly of volunteers, but in the large centres a few permanent station-keepers and partially-paid firemen are employed. Complete fire alarm systems are installed in 38 of the larger provincial cities and townships. There were 151 registered brigades at 30th June, 1930. For the year 1929–30 the revenue was £32,088 and the expenditure £34,351.

3. *Queensland.*—(i) *General.* The Act of 1920 made provision for the retention of existing fire districts, and for the constitution of new districts. For each district there must be a Fire Brigades Board consisting of seven members, and the cost of maintenance of each brigade is proportioned as follows:—The Treasurer two-sevenths, insurance companies three-sevenths, and local authorities two-sevenths. All volunteer fire brigades in a district must be registered.

(ii) *Fire Brigades Boards.* At the end of the year 1930 there were fire brigades in 28 towns. The total revenue for the year 1929 was £78,938, received mainly from the following sources:—Government £21,328, local authorities £21,346, and insurance companies £31,759. The total expenditure for the year was £79,719, the chief items being salaries and wages £51,788, buildings, repairs, etc., £1,775, and plant, stores, etc., £7,313.

4. *South Australia.*—(i) *General.* The Fire Brigades Act of 1913 and amendments provide for a Board of five members, and the expenses and maintenance of brigades are defrayed as to two-ninths by the Treasury, five-ninths by insurance companies, and two-ninths by the municipalities concerned.

(ii) *Fire Brigades Board.* At the end of 1930 there were altogether 26 fire brigade stations. The total revenue for the year 1930 was £48,958.

5. *Western Australia.*—(i) *General.* Under the 1916 Act every municipal or road board district is constituted a fire district under the control of the Western Australian Fire Brigades Board. The income of the Board is derived as to two-eighths from Government, three-eighths from municipalities, and three-eighths from insurance companies.

(ii) *Western Australian Fire Brigades Board.* The whole of the brigades throughout the State are now controlled by the Western Australian Fire Brigades Board, and number 39. The revenue and expenditure for the year ended 30th September, 1930, were £60,037 and £60,535 respectively. The estimated value of land and buildings was £68,600 and of plant £38,500.

6. *Tasmania.*—(i) *General.* The municipal council of any municipality may, under the Act of 1920, petition the Governor to proclaim the municipality or any portion of it to be a fire district, each district to have a Board of five members. The expenses of each Board are borne in equal proportions by contributions from the Treasurer, the municipality concerned, and insurance companies insuring property within the district.

(ii) *Hobart Fire Brigade Board.* The revenue of the Board for the year 1930 amounted to £6,729.

CHAPTER V. LAND TENURE AND SETTLEMENT.

§ 1. Introduction.

1. **General.**—A comprehensive description of the land tenure systems of the several States was given in Official Year Book No. 4 (pp. 235 to 333), while later alterations were referred to in subsequent issues. In this chapter a summary is given of the principal features of existing land legislation. In previous issues an account of the various tenures under which Crown lands may be taken up was given, but considerations of space preclude its repetition herein. (See Year Book No 22, p.p. 133-195; see also 2 hereunder for a conspectus of legislation at present in force.) Special paragraphs are devoted to the settlement of returned soldiers on the land, the tenure of land by aliens, and advances to settlers. Particulars as to the areas of land alienated in each State and similar matter are also included.

2. **State Land Legislation.**—The legislation in force relating to Crown lands, Closer Settlement, Returned Soldiers' Settlement, and other matters dealt with in this chapter is summarized in the following conspectus:—

STATE LAND LEGISLATION.

New South Wales.	Victoria.	Queensland.
CROWN LANDS ACTS.		
Crown Lands Act 1913-1930 : Western Lands Act 1901-1930 : Crown Lands Purchase Validation Act 1923. Crown Lands Amendment (Disposal) Act 1923. Crown Lands and Closer Settlement (Amending) Act 1924. Prickly Pear Act 1924-1930.	Land Act 1928.	Land Acts 1910-1930. Upper Burnett and Callide Land Settlement Act 1923. Prickly Pear Land Acts 1923-1930. Sugar Workers' Selections Acts 1923-1930.
CLOSER SETTLEMENT ACTS.		
Closer Settlement Act 1904-1919 : Closer Settlement Purchases Validation Act 1923. Closer Settlement and Returned Soldiers' Settlement (Amendment) Act 1927.	Closer Settlement Act 1928-1929.	Closer Settlement Acts 1906-1930.
MINING ACTS.		
Mining Act 1906-1924 : Mining Leases (Validation) Act 1924.	Mines Act 1928.	Mining Acts 1898-1930 : Mining for Coal and Mineral Oil Act 1912 : Petroleum Acts 1923-1929 : Miners' Homestead Leases Act 1913-1930 : Coal Mining Act 1925-1930.
SOLDIERS' SETTLEMENT ACTS.		
Returned Soldiers' Settlement Act 1916-1928.	Closer Settlement Act 1928-1929 (Part II.).	Discharged Soldiers' Settlement Act 1917-1930.
ADVANCES TO SETTLERS ACTS.		
Government Savings Bank Act 1906-1923 : Returned Soldiers' Settlement Act 1916-1925.	State Savings Bank Act 1915-1922 : Primary Products Advances Act 1919-1922 : Closer Settlement Act 1928-1929 : Fruit Act 1915-1920 : Cultivation Advances Act 1928.	State Advances Act 1916 : Co-operative Agricultural Products and Advances to Farmers Act 1914-1919 : Agricultural Bank Act 1923-1929.

3. North Australia and Central Australia Land Legislation.—In the Territories of North Australia and Central Australia, the legislation relating to Crown lands is embodied in the Crown Lands Ordinance 1927–1930, that relating to mining in the Northern Territory Mining Act 1903, the Gold Dredging Act 1899, the Tin Dredging Ordinance 1911–1920, the Mineral Oil and Coal Ordinance 1922–1923, and the Encouragement of Mining Ordinance 1913–1926; and that relating to Advances to Settlers in the Wire and Wire Netting Act 1927, and the Encouragement of Primary Production Ordinance 1927–1928.

4. Federal Capital Territory Land Legislation.—In the Federal Capital Territory the Ordinances relating to Crown lands are the Leases Ordinance 1918–1927, the Public Parks Ordinance 1928, the City Area Leases Ordinance 1924–1929, the Church Lands Leases Ordinance 1924–1930, and the Leases (Special Purposes) Ordinance 1925–1930.

STATE LAND LEGISLATION—*continued.*

South Australia.	Western Australia.	Tasmania.
CROWN LANDS ACTS.		
Crown Lands Act 1929: Pastoral Act 1904–1929.	Land Act 1893–1980.	Crown Lands Act 1911–1924.
CLOSER SETTLEMENT ACTS.		
Crown Lands Act 1929.	Agricultural Lands Purchase Act 1909–1922: Closer Settlement Act 1927.	Closer Settlement Act 1913–1924.
MINING ACTS.		
Mining Act 1893–1928: Gold Dredging Act 1905: Mining on Private Property Act 1909–1916.	Mining Act 1904–1923: Sluicing and Dredging for Gold Act 1899.	Mining Act 1917–1929: Aid to Mining Act 1924.
RETURNED SOLDIERS' SETTLEMENT ACTS.		
Discharged Soldiers' Settlement Act 1917–1925.	Discharged Soldiers' Settlement Act 1918–1919.	Returned Soldiers' Settlement Act 1916–1923.
AGRICULTURAL GRADUATES SETTLEMENT ACTS.		
Agricultural Graduates Act 1922.		
ADVANCES TO SETTLERS ACTS.		
Irrigation Act 1930: Discharged Soldiers' Settlement Act 1917–1925: State Bank Act 1925–1928: Advances to Settlers on Crown Lands Act 1914–1927: Agricultural Graduates Act 1922.	Agricultural Bank Act 1906–1930.	State Advances Act 1907–1927: Advances to Fruit-growers Act 1918–1921: Closer Settlement Act 1913–1929: Returned Soldiers' Settlement Act 1916–1923.

5. Administration and Classification of Crown Lands.—In each of the States there is 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 decentralized 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 lands 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 North Australia Commission is charged with the general administration of the Lands Ordinance and of Crown lands in the Northern Territory. In the Federal Capital Territory the administration of the Leases Ordinances is in the hands of the Department of Home Affairs.

Crown lands are generally 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, therefore, as well as the amount of purchase money or rent, and the conditions as to improvements and residence, vary considerably. The administration of special Acts relating to Crown lands is in some cases in the hands of a Board under the general supervision of the Minister, e.g., the Western Lands Board in New South Wales.

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 licences of Crown Lands for mining and auxiliary purposes.

6. Classification of Tenures.—The tabular statement which follows shows the several tenures under which Crown lands may be acquired or occupied in each State. In the Northern Territory perpetual leases of pastoral and agricultural land are granted, as well as miscellaneous leases, and grazing and occupation licences. The mining leases and holdings are, generally speaking, similar to those of the States. In the Federal Capital Territory only city leases and leases of other lands are issued.

STATE CROWN LANDS—TENURES.

New South Wales.	Victoria.	Queensland.
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FREE GRANTS, RESERVATIONS AND DEDICATIONS.

Free Grants: Reservations: and Dedications.	Free Grants: Reservations.	Free Grants: Reservations.
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UNCONDITIONAL PURCHASES OF FREEHOLD.

Auction Sales: After-auction Purchases: Special Purchases: Improvement Purchases.	Auction Sales.	Sales (at or after auction): Unconditional Selections.
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CONDITIONAL PURCHASES OF FREEHOLD.

Residential Conditional Purchases: Non-residential Conditional Purchases: Additional Conditional Purchases: Conversions of various Leasehold Tenures into Conditional Purchases: Purchases of Town Leases: Suburban Holdings: Returned Soldiers' Special Holdings: Residential Leases: Week-end Leases.	Residential Selection Purchase Leases: Non-residential Selection Purchase Leases: Licences of Auriferous worked-out Lands: Conditional Purchase Leases of Swamp or Reclaimed Lands: Selection Purchase Leases of Mallee Lands: Murray River Settlements: Special Settlement Areas: Conversions into Selection Purchase Leases.	Agricultural Farms: Agricultural Homesteads: Free Homesteads: Prickly Pear Selections.
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STATE CROWN LANDS—TENURES—*continued.*

New South Wales.	Victoria.	Queensland.
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LEASES AND LICENCES UNDER LAND ACTS.

<p>Conditional Leases : Conditional Purchase Leases : Special Conditional Purchase Leases : Homestead Selections : Homestead Farms : Settlement Leases : Special Leases : Annual Leases : Scrub Leases : Snow Leases : Inferior Lands Leases : Crown Leases : Improvement Leases and Leases under Improvement Conditions : Occupation Licences : Leases of Town Lands : Suburban Holdings : Weekend Leases : Residential Leases : Leases in Irrigation Areas : Western Lands Leases : Forest Leases : Forest Permits.</p>	<p>Perpetual Leases : Auriferous Lands Licences : Leases of Swamp or Reclaimed Lands : Perpetual Leases of Swamp or Reclaimed Lands : Grazing Licences : Perpetual Leases (Mallee) : Miscellaneous Leases and Licences : Bee Farm Licences : Bee Range Area Licences : Eucalyptus Oil Licences : Forest Leases : Forest Licences : Forest Townships.</p>	<p>Perpetual Lease Selections : Perpetual Lease Prickly Pear Selections : Pastoral Leases : Preferential Pastoral Leases : Stud Holdings : Prickly Pear Leases : Occupation Licences : Special Leases : Grazing Selections : Development Grazing Selections : Auction Perpetual Leases : Pastoral Development Leases.</p>
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CLOSER SETTLEMENT.

<p>Sales by Auction and Tender : After-auction Sales and Tenders : Settlement Purchases.</p>	<p>Sales of Land : Conditional Purchase Leases : Conditional Purchase Leases in Mountainous Areas.</p>	<p>Agricultural Farms : Unconditional Selections : Perpetual Lease Selections : Settlement Farm Leases : Perpetual Town, Suburban and Country Leases.</p>
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LEASES AND LICENCES UNDER MINING ACTS.

<p>Holdings under Miners' Rights : Gold Mining Leases : Mineral Leases : Coal and Oil Mining Leases : Business Licences : Residence Areas.</p>	<p>Holdings under Miners' Rights : Gold Mining Leases : Mineral Leases : Business Areas : Residence Areas.</p>	<p>Holdings under Miners' Rights : Permits to Prospect for Petroleum : Petroleum Leases : Licences to Prospect for Coal and Mineral Oil : Gold Mining Leases : Mineral Leases : Business Areas : Residence Areas : Miners' Homestead Leases and Miners' Homestead Perpetual Leases.</p>
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SETTLEMENT OF DISCHARGED SOLDIERS AND SAILORS.

<p>Soldiers' Group Purchases : Returned Soldiers' Special Holding Leases : Returned Soldiers' Special Holding Purchases : also Purchases and Leases under Crown Lands Act of lands set apart for application by discharged soldiers exclusively.</p>	<p>(Same Tenures as under the Land and Closer Settlement Acts.)</p>	<p>Agricultural Farms : Perpetual Lease Selections : Perpetual Town and Suburban Leases.</p>
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STATE CROWN LANDS—TENURES—*continued.*

South Australia.	Western Australia.	Tasmania.
FREE GRANTS, RESERVATIONS, AND DEDICATIONS.		
Free Grants : Reservations.	Free Grants : Reservations.	Free Grants : Reservations.
UNCONDITIONAL PURCHASES OF FREEHOLD.		
Auction Sales.	Auction Sales.	Auction Sales : After-auction Sales : Sales of Land in Mining Towns.
CONDITIONAL PURCHASES OF FREEHOLD.		
Agreements to Purchase : Special Agreements to Purchase (40 years' term) : Homestead Blocks.	Conditional Purchases with Residence : Conditional Purchases without Residence : Conditional Purchases by Direct Payment : Conditional Purchases of Land for Vineyards, etc. : Conditional Purchases of Inferior Lands : Conditional Purchases by Pastoral Lessees : Conditional Purchases of Grazing Lands : Homestead Farms : Village Allotments : Workingmen's Blocks : Special Settlement Leases.	Selections for Purchase : Additional Selections for Purchase : Homestead Areas : Selections in Mining Areas : Sales by Auction : Sales by Private Contract : After-auction Sales : Special Settlement Areas.
LEASES AND LICENCES UNDER LAND ACTS.		
Perpetual Leases : Special Perpetual Leases (Free Period) : Perpetual Leases of Homestead Blocks : Miscellaneous Leases : Grazing and Cultivation Leases : Licences : Licences of Resumed Land : Pastoral Leases : Leases of Unoccupied Pastoral Land : Irrigation Blocks : Town Allotments in Irrigation Areas : Forest Leases.	Pastoral Leases : Special Leases : Residential Leases : Leases of Town and Suburban Lands : Irrigation Leases.	Grazing Leases : Pastoral Leases : Leases of Land covered with Button Grass, etc. : Leases of Mountainous Land : Miscellaneous Leases : Temporary Licences : Occupation Licences : Residence Licences : Business Licences : Forest Leases, Licences and Permits.
CLOSER SETTLEMENT.		
Sales by Auction : Agreements to Purchase : Miscellaneous Leases.	Conditional Purchases : Town and Suburban Areas.	Leases with Right of Purchase : Special Sales.
LEASES AND LICENCES UNDER MINING ACTS.		
Holdings under Miners' Rights : Search Licences : Occupation Licences : Gold Leases : Mineral Leases : Business Areas : Residence Areas : Miscellaneous Leases (Salt and Gypsum).	Holdings under Miners' Rights : Gold Mining Leases : Mineral Leases : Business Areas : Residence Areas : Miners' Homestead Leases.	Holdings under Miners' Rights : Prospectors' Licences : Gold Mining Leases : Mineral Leases.
SETTLEMENT OF DISCHARGED SOLDIERS AND SAILORS.		
Perpetual Leases : Pastoral Leases : Agreements to Purchase.	Ordinary Tenure : Special Tenure.	Free Grants : Ordinary Tenure : Special Tenure.
AGRICULTURAL GRADUATES SETTLEMENT ACTS.		
Agreements to Purchase.		

§ 2. Free Grants, Reservations, and Dedications.

1. *New South Wales.*—(i) *Free Grants.* Crown lands may, by notification in the *Gazette*, be dedicated for public purposes and be granted therefor in fee-simple. Such lands may be placed under the care and management of trustees, not less than three in number, appointed by the Minister.

(ii) *Reservations.* Temporary reservations of Crown lands from sale or lease may be made by the Minister.

(iii) *Areas Granted and Reserved.* During the year 1929–30 the total area for which free grants were prepared was 4,411 acres, including grants of 3,783 acres of land resumed under the 12th clause of the Public Roads Act 1902. During the same period 4,133 acres were dedicated and permanently reserved, the number of separate dedications being 111.

On the 30th June, 1930, the total area reserved, including temporary reserves, was 17,450,459 acres, of which 5,270,818 acres were for travelling stock, 2,406,285 acres for forest reserves, 658,884 acres for water, 1,101,827 acres for mining, and the remainder for temporary commons, railways, recreation reserves and parks, reserves for aborigines, and miscellaneous purposes.

2. *Victoria.*—(i) *Free Grants.* The Governor may grant, convey or otherwise dispose of Crown lands for public purposes.

(ii) *Reservations.* The Governor may temporarily or permanently reserve from sale, lease or licence any Crown lands required for public purposes, and may except any area of Crown lands from occupation for mining purposes or for residence or business under any miner's right or business licence.

(iii) *Areas Granted and Reserved.* During the year 1929, one acre was granted without purchase, and reservations of both a permanent and temporary nature, comprising a net area of 7,298 acres, were made. At the end of 1929, the total area reserved was 7,709,871 acres, consisting of roads, 1,794,218 acres; water reserves, 314,111 acres; agricultural colleges, etc., 87,042 acres; permanent forests and timber reserves under Forests Act, 4,418,384 acres; forests and timber reserves under Land Acts, 329,385 acres; reserves in the Mallee, 410,000 acres; and other reserves, 356,731 acres.

3. *Queensland.*—(i) *Free Grants.* The Governor may grant in trust any Crown land which is or may be required for public purposes. Under the Irrigation Act land to be used for the purpose of any undertaking under that Act may be vested in fee-simple in the Irrigation Commission.

(ii) *Reservations.* The Governor may reserve from sale or lease, either temporarily or permanently, any Crown land which is or may be required for public purposes. Reserved lands may be placed under the control of trustees who are empowered to lease the same for not more than 21 years with the approval of the Minister.

Under the State Forests and National Parks Act, the Governor may permanently reserve any Crown lands and declare them to be a State Forest or a National Park.

(iii) *Areas Granted and Reserved.* During the year 1930 the area of reserves cancelled was 222,701 acres less than the area set apart as reserves. The total area reserved, up to the end of 1930 was 17,926,139 acres, made up as follows:—timber reserves, 3,432,945 acres; State forests and national parks, 2,058,646 acres; for use of aborigines, 6,241,992 acres; and general, 6,192,556 acres.

4. *South Australia.*—(i) *Free Grants.* The Governor may dedicate Crown lands for any public purpose and grant the fee-simple of such lands, with the exception of foreshores and land for quays, wharves or landing-places, which are inalienable in fee-simple from the Crown.

(ii) *Reservations.* The Governor may reserve Crown lands for (a) the use and benefit of aborigines, (b) military defence, (c) forest reserves, (d) railway stations, (e) park lands, or (f) any other purpose that he may think fit.

(iii) *Areas Granted and Reserved.* During the year 1930 free grants were issued for a total area of 245 acres. During the same year reserves comprising 77,840 acres were proclaimed. At the 30th June, 1930, the total area reserved was 16,414,324 acres including 14,016,000 acres in the north-west of the State set apart as an aboriginal reserve in 1921.

5. Western Australia.—(i) *Free Grants.* The Governor may dispose of, in such manner as for the public interest may seem best, any lands vested in the Crown for public purposes, and may grant the fee-simple of any reserve to secure the use thereof for the purpose for which such reserve was made.

(ii) *Reservations.* The Governor may reserve any lands vested in the Crown for public purposes. Areas not immediately required may be leased from year to year. Reserves may be placed under the control of a local authority or trustees, with power to lease them for a period not exceeding 21 years, or may be leased for 99 years. Temporary reserves may also be proclaimed.

(iii) *Areas Granted or Reserved.* During the year ended 30th June, 1930, a few small areas of land were granted in fee-simple, and approximately 1,167,246 acres were reserved for various purposes. At the 30th June, 1930, the total area reserved was about 33,760,000 acres.

6. Tasmania.—(i) *Free Grants.* The only mention in the Crown Lands Act respecting free grants of land is that the Governor may agree with the Governor-General of the Commonwealth for the grant of any Crown land to the Commonwealth, and it is expressly stated that no lands may be disposed of as sites for religious purposes except by way of sale under the Act. Under the Returned Soldiers' Settlement Act of 1916, returned soldiers who applied prior to 31st March, 1922, are eligible to receive free grants of Crown land not exceeding £100 each in value, but these grants are conditional on the land being adequately improved.

(ii) *Reservations.* The Governor in Council may except from sale or lease, and reserve to His Majesty any Crown land for public purposes, and vest for such term as he thinks fit any land so reserved in any person or corporate body. Any breach or non-fulfilment of the conditions upon which such land is reserved renders it liable to forfeiture. A school allotment, not exceeding 5 acres in area, may also be reserved.

(iii) *Areas Granted or Reserved.* During the year ended 31st December, 1930, the area granted free was 472 acres, all of which was granted to soldiers under the Returned Soldiers' Settlement Act, while during the same year, free leases were issued to 2 local bodies for municipal purposes, and 4,117 acres were reserved, of which 498 acres were for forest reserves, 100 acres for recreation purposes, 39 acres for gravel reserves, 11 acres for cemetery purposes, one acre for a public hall, 15 acres for a stock resting reserve, 3,451 acres for a scenery reserve and 2 acres for school purposes. The total area reserved to the end of 1930 was 4,774,473 acres.

7. North Australia and Central Australia.—(i) *Reservations.* The Governor-General may resume for public purposes any Crown lands, not subject to any right of or contract for purchase, and may reserve, for the purpose for which they are resumed, the whole or any portion of the land so resumed.

(ii) *Areas Reserved.* The area of land held under reserve at 31st December, 1930, was—North Australia, 8,049 square miles, and Central Australia, 21,875 square miles.

§ 3. Unconditional Purchases of Freehold.

1. New South Wales.—(i) *Auction Purchases.* Crown lands, not exceeding in the aggregate 200,000 acres in any one year, may be sold by public auction in areas not exceeding half-an-acre for town lands, 20 acres for suburban lands, and 640 acres for country lands, at the minimum upset price of £8, £2 10s., and 15s. per acre respectively. At least 10 per cent. of the purchase-money must be paid at the time of sale, and the balance within three months, or the Minister may allow the payment of such balance to be deferred for a period not exceeding 10 years, 5 per cent. interest being charged. Town blocks in irrigation areas may also be sold by auction.

(ii) *After-auction Purchases.* In certain cases, land offered at auction and not sold may be purchased at the upset price, but one-quarter of the purchase-money must be paid as deposit with the application, and the balance as notified in the *Gazette*. Any such application is, however, subject to the approval of the Minister.

(iii) *Special Purchases.* Under certain circumstances, land may be sold in fee-simple, the purchaser paying the cost of survey and of reports thereon, in addition to the purchase-money. The minimum upset price per acre is the same as in the case of land sold by auction.

(iv) *Improvement Purchases.* The owner of improvements in authorized occupation by residence, under any mining or Western Lands Act of land within a gold-field or mineral field, may purchase such land without competition at a price determined by the local Land Board, but at not less than £8 per acre for town lands or £2 10s. per acre for other lands. The area must not exceed $\frac{1}{4}$ acre within a town or village, or 2 acres elsewhere, and no person may purchase more than one such area within 3 miles of a similar prior purchase by him.

2. *Victoria.*—(i) *General.* Lands specially classed for sale by auction 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 fee at the time of the sale, together with a deposit of 12 $\frac{1}{2}$ per cent. of the whole price; the residue is payable in equal half-yearly instalments with interest. Any unsold land in a city, town or borough, areas specially classed for sale, isolated pieces of land not exceeding 50 acres in area, and sites for churches or charitable purposes, if not more than three acres in extent, may be sold by auction on the same terms. Swamp or reclaimed lands may also be sold by auction, subject to the condition that the owner keeps open all drains, etc., thereon.

(ii) *Areas sold at Auction and by Special Sales.* During the year 1929, a total of 1,162 acres was disposed of under this tenure, 606 acres being country lands, while 556 acres of town and suburban lands were sold by auction.

3. *Queensland.*—(i) *General.* During the years 1917 to 1929 the law precluded land being made available for any class of selection which gave the selector the right to acquire the freehold title. By reason of the amending Act of 1929 land may now be made available under terms that will enable the freehold title to be obtained.

(ii) *Sales by Auction.* Crown land may be offered for sale by auction, with no conditions imposed, in areas not exceeding 640 acres. The minimum purchasing price is 10s. per acre and is payable on 10 years terms.

(iii) *Unconditional Selection.* The freehold title may also be acquired unconditionally where Crown land is made available and acquired as "Unconditional Selection." The maximum area allowed for this class of selection is 1,280 acres. The purchase price ranges from 13s. 4d. per acre upwards and is payable in 20 annual instalments. A deed of grant may be obtained, at any time on payment of the balance of the purchase price owing.

4. *South Australia.*—(i) *Sales by Auction.* The following lands may be sold by auction for cash :—(a) special blocks, (b) Crown lands which have been offered for lease and not taken up within 2 years, (c) town lands, and (d) suburban lands, which the Governor excepts from the operations of the Land Board. A purchaser must pay 20 per cent. of the purchase money in cash, and the balance within one month or within such extended time as the Commissioner of Crown Lands may allow. Town lands may be sold subject to the condition that they cannot be transferred or mortgaged for 6 years.

(ii) *Areas Sold, etc.* During the year ended 30th June, 1930, the area of town lands and special blocks sold by auction was 267 acres. In addition, 5,160 acres were sold at fixed prices, and the purchases of 34,246 acres on credit were completed, making a total of 39,673 acres.

5. *Western Australia.*—(i) *Sales by Auction.* Town, suburban, and village lands, after being surveyed into lots and notified in the *Gazette*, must be sold by auction. Ten per cent. of the purchase money must be paid in cash, together with the value of any improvements, and the balance in four equal quarterly instalments. Suburban land must be fenced within 2 years, and, until that is effected, no Crown grant may be issued.

(ii) *Areas Sold.* During the year ended 30th June, 1930, the area of town and suburban allotments sold was 1,305 acres in 613 allotments.

6. Tasmania.—(i) *Sales by Auction.* Town lands may be sold by auction for cash or on credit, no conditions being imposed beyond the payment of the purchase money. No town land, the price of which is less than £15, may be sold on credit.

(ii) *After-auction Sales.* Town lands, not within 5 miles of any city, which, after having been offered at auction, have not been sold, may be sold at the upset prices by private contract.

(iii) *Sales of Land in Mining Towns.* Any town land in a mining area may be sold by auction for cash, provided that any person, being the holder of a residence licence or business licence in lawful occupation of a residence area or business area and the owner of permanent improvements of a value equal to or greater than the upset price, is entitled to purchase such area at the upset price, prior to the sale by auction. The upset price of the unimproved value must not be less than £10, and the area must not exceed $\frac{1}{2}$ acre.

(iv) *Areas Sold.* During the year 1930 the area sold by auction or by special sale amounted to 30 acres.

§ 4. Conditional Purchases of Freehold.

1. New South Wales.—(i) *General.* The various methods of obtaining Crown lands by conditional purchase are given in some detail in preceding issues of the Official Year Book (see No. 22 pp. 141-2), but it is not proposed to repeat this information in the present volume.

(ii) *Areas Sold by Auction, by Special Purchase, and by Improvement Purchase (exclusive of Town Blocks within Irrigation Areas).* During the year ended 30th June, 1930, the total area sold was 1,212 acres, of which 372 acres were sold by auction and 157 acres as after-auction purchases, while 24 acres were sold as improvement purchases and 659 acres as special purchases. The amount realized for the sale of the whole area was £93,003.

(iii) *Areas Alienated as Conditional Purchases.* At the 30th June, 1930, the total number of conditional purchases in existence was 65,343, covering an area of 20,397,734 acres. The following table gives particulars of conditional purchases, including non-residential conditional purchases and special area conditional purchases, for the year ended 30th June, 1930, together with the total area for which deeds had been issued up to 30th June, 1930 :—

CONDITIONAL PURCHASES, NEW SOUTH WALES, 1929-30.

Year ended 30th June—	Applications Received.(a)		Applications Confirmed.(a)		Areas for which Deeds have been Issued.	
	Number.	Area.	Number.	Area.	During the Year.	To end of Year.
1930	266	Acres. 52,771	177	Acres. 29,116	Acres. 299,485	Acres. 23,741,923

(a) Exclusive of conversions from other tenures.

2. Victoria.—(i) *General.* Allusion to the methods of obtaining Crown lands by conditional purchase will be found on pp. 143-4 of Official Year Book No. 22.

(ii) *Areas Purchased Conditionally.* Exclusive of selection in the Mallee country, the total area purchased conditionally in 1929 was 65,294 acres, comprising 62,401 acres with residence and 2,893 acres without residence. The number of selectors was 277.

3. Queensland.—(i) *General*. From 1917 until the passing of "The Lands Acts Amendment Act of 1929" the law prohibited land being made available for any class of selection which gave the selector the right to acquire the freehold title. The 1929 measure, however, amended the law in this respect, but considerations of space preclude the publication of details herein.

(ii) *Lands Acquired*. During the year 1930 the following new selections were acquired :—Agricultural farms to the number of 293 comprising an area of 77,777 acres, and 94 prickly pear selections of a total area of 53,405 acres. No agricultural homestead and no free homestead selections were made during the year.

4. South Australia.—(i) *General*. The various methods of obtaining Crown lands by conditional purchase will be found in Official Year Book No. 22, pp. 144-5.

(ii) *Lands Allotted*. The land allotted under Agreements to Purchase, exclusive of land for Soldier Settlement, during the year 1929-30 was 278,880 acres, comprising Eyre's Peninsula Railway Lands 186,924 acres, Murray Railway Lands 13,751 acres, Pinnaroo Railway Lands 19,509 acres, Closer Settlement Lands 5,199 acres, Buckleboo Railway Lands 10,142 acres, and other Crown lands 43,355 acres.

5. Western Australia.—(i) *General*. Allusion to the methods of obtaining Crown lands by conditional purchase is made in some detail in Official Year Book No. 22, pp. 145-7.

(ii) *Areas Alienated*. During the year ended the 30th June, 1930, the number of holdings for which Crown grants were issued was 2,240, covering free homestead farms 69,165 acres and conditional purchases 561,514 acres. The number of holdings conditionally alienated for the year was 2,114, the total area affected being 1,562,056 acres, comprising conditional purchases by deferred payments with residence and without residence of 1,446,302 and 8,331 acres respectively, conditional purchases by direct payments (without residence) 1,299 acres, and free homestead farms 106,124 acres. Under the heading "Deferred payments (with residence)" are included conditional purchases of grazing lands.

6. Tasmania.—(i) *General*. Preceding issues of the Official Year Book (see No. 22, pp. 148-9) give details regarding the methods of acquiring Crown lands by conditional purchase, but it is not proposed to repeat the information in this volume.

(ii) *Areas Conditionally Purchased*. During the year 1929, conditional purchases of 36,102 acres were completed. The total area sold conditionally was 22,292 acres, comprising selections for purchase 21,259 acres, auction sales on credit 735 acres, and town and suburban allotments 298 acres. The numbers of applications received and confirmed during the year were 463 and 192 respectively.

§ 5. Leases and Licences under Land Acts.

1. New South Wales.—(i) *General*. Information regarding the methods of obtaining leases and licenses of Crown lands is given in preceding issues of the Official Year Book (see No. 22, pp. 149-152), but it is not proposed to repeat this matter in the present issue.

(ii) *Areas Occupied under Leases and Licences*. On the 30th June, 1930, the area of leases and licences under the control of the Department of Lands, the Water Conservation and Irrigation Commission, and the Western Land Board, comprised 113,381,359 acres of Crown lands.

The following table shows the areas which were granted under lease or licence during the year 1929-30, and those held under various descriptions of leases and licences at the end of that year :—

AREAS (a) TAKEN UP AND (b) OCCUPIED UNDER LEASE OR LICENCE.—NEW SOUTH WALES, 1929-30.(a)

Particulars.	Area taken up during the Year.	Particulars.	Area occupied at end of Year.
<i>Areas taken up under Crown Lands Act.</i>	Acres.		Acres.
Occupation licences .. .. .	.. .. .	Outgoing pastoral leases	147,294
Conditional leases	26,440	Occupation licences { (i) Ordinary	2,049,400
Conditional purchase leases	4,059	licences { (ii) Preferential	723,934
Settlement leases	6,133	Homestead leases	11,722,588
Improvement leases	7,505	Conditional leases	173,333
Annual leases	135,518	Conditional purchase leases	2,848,724
Scrub leases .. .. .	.. .. .	Settlement leases	759,007
Special leases	83,273	Improvement leases	1,127,013
Residential leases	450	Annual leases	286,078
Permissive occupancies	557,409	Scrub leases	272,300
Prickly-pear leases	20,898	Snow leases	707,417
Crown leases	282,154	Special leases	53,732
Homestead farms	122,233	Inferior land leases .. .. .	.. .. .
Homestead selections and grants	5,128	Residential leases (on gold and mineral fields)	8,624
Suburban holdings	824	Church and school lands	1
Week-end leases	4	Permissive occupancies (b)	4,213,614
Leases of town lands .. .. .	.. .. .	Prickly-pear leases	62,343
Returned soldiers' special holdings .. .. .	.. .. .	Crown leases	5,631,875
Inferior land leases .. .. .	.. .. .	Homestead farms	4,086,663
Irrigation farms	63,250	Homestead selections and grants	1,190,090
Snow leases	264,100	Suburban holdings	51,779
<i>Areas taken up under Western Lands Act.</i>		Week-end leases	112
Leases	773,671	Leases of town lands	16,883
Permissive occupancies	35,678	Returned soldiers' special holdings	220,240
		Irrigation farms and blocks	77,128,113
		Western land leases and licences (c) .. .. .	.. .. .
Total	2,388,727	Total	113,381,359

(a) See also § 7. 1. (ii), hereinafter. (b) Permissive occupancies in the Western Division not included. (c) Includes permissive occupancies.

2. Victoria.—(i) *General.* Information regarding the methods of obtaining leases and licences of Crown lands may be found in preceding issues of the Official Year Book (see No. 22, pp. 154-5).

(ii) *Areas held under Leases and Licences.* The area of Crown lands occupied under leases and licences in 1929 was 7,481,669 acres, comprising grazing licences (exclusive of Mallee) 5,610,956 acres, Mallee lands 1,738,449 acres, auriferous lands (licences) 38,727 acres, swamp lands (leases) 2,519 acres, perpetual leases, 5,046 acres, and perpetual leases under Land Act 1928, 85,972 acres.

3. Queensland.—(i) *General.* In preceding issues of the Official Year Book reference was made to the methods of obtaining leases and licences of Crown lands (see No. 22, pp. 155-7). The Land Acts Amendment Act of 1929, however, amended the law considerably, but limitations of space preclude the inclusion of a detailed account in this issue.

(ii) *Areas taken up under Lease or Licence.* The total area taken up under lease or licence during the year 1929 was 53,033,970 acres, made up as follows:—Pastoral leases 42,740,200 acres; occupation licences 3,928,000 acres; grazing farms 443,997 acres; grazing homesteads 3,134,030 acres; perpetual lease selections 178,858 acres; perpetual lease prickly-pear selections 257,255 acres; auction perpetual leases—town 121 acres, suburban 57 acres, and country 1,353 acres; special leases 51,269 acres; leases of reserves 66,510 acres, and prickly-pear leases 2,232,320 acres.

The following particulars are available respecting leases taken up in 1930:—

Grazing farms	691,514 acres.
Grazing homesteads	1,866,464 acres.
Perpetual lease selections	53,785 acres.
Perpetual lease prickly-pear selections	37,542 acres.
Agricultural farms	77,697 acres.
Prickly-pear selections	53,405 acres.

The gross area held at the end of the year 1929 for purely pastoral purposes was 368,456 square miles.

Two non-competitive perpetual leases were issued during 1929, the total area being 12 acres.

The total areas occupied under lease or licence will be found in a table at the end of this chapter.

4. South Australia.—(i) *General*. The methods by which Crown lands may be obtained by lease or licence are given at some length in preceding Year Books (see No. 22, pp. 157-8).

(ii) *Areas Leased*. The total area leased during 1929-30 under the different forms of lease tenure was 471,657 acres, made up as follows:—Perpetual leases—irrigation and reclaimed lands 970 acres, non-irrigable land in irrigation areas 3,052 acres, and other Crown lands 230,891 acres; pastoral leases 74,880 acres; and miscellaneous leases—grazing 117,939 acres, grazing and cultivation 43,922 acres, and closer settlement lands 3 acres.

The total areas held under lease are given in the table at the end of this chapter.

5. Western Australia.—(i) *General*. In preceding Year Books some account is given of the methods of acquiring Crown lands under various forms of leasehold tenure (see No. 22, p. 159).

(ii) *Areas Leased*. The number of leases issued by the Lands Department during the year ended 30th June, 1930, was 309, and the total area of leases issued 8,693,510 acres, comprising pastoral leases 8,626,234 acres, special leases 1,818 acres, and leases of reserves 65,458 acres.

The total areas leased are given in the table at the end of this chapter.

6. Tasmania.—(i) *General*. The various forms of tenure of Crown lands under leases, licences, or permits are alluded to in some detail in preceding issues of the Official Year Book (see No. 22, pp. 160-1).

(ii) *Areas Leased*. The area of pastoral leases during the year 1929 was 243,853 acres.

The total areas leased are given in the table at the end of this chapter.

7. North Australia and Central Australia.—(i) *General*. Reference to the various forms of tenure of Crown lands under leases, licences, and permits may be found in Official Year Book No. 22, pp. 161-2.

(ii) *Areas held under Leases, Licences, and Permits*. The following table shows the total areas held under lease, licence, and permit, and areas of reserves, at the end of the year 1930:—

NORTHERN TERRITORY.—AREAS HELD UNDER LEASES, LICENCES, OR PERMITS, AND AREAS OF RESERVES, 1930.

Particulars.	North Australia.	Central Australia.	Total.
	Square Miles.	Square Miles.	Square Miles.
Leases and licences—			
Pastoral leases	134,215	69,830	204,045
Pastoral permits	2,084	..	2,084
Grazing licences	21,244	3,747	24,991
Agricultural leases	183	..	183
Miscellaneous leases, including water leases ..	8	387	395
Total	157,734	73,964	231,698
Reserves—			
Aboriginal native	8,049	21,875	29,924
Prospecting for mineral oil and coal	1,000	..	1,000
Mission station	611	901	1,512
Other	1,931	..	1,931
Total	11,591	22,776	34,367

8. **Federal Capital Territory.**—(i) *General.* Reference to the various leases of Crown lands may be found in Official Year Book No. 22, p. 163.

(ii) *Areas of Acquired, Leased, etc., Lands.* At the end of the year 1930 the area of acquired lands was 213,830 acres; of lands alienated, 66,904 acres; of lands in process of alienation, 39,977 acres; of leases, 279,032 acres; and unoccupied, 197,767 acres. These figures are exclusive of 17,920 acres in the Jervis Bay area.

The number of leases granted under the City Area Leases Ordinance 1924–29 to the 30th June, 1930, was 495 representing a capital value of £274,626.

Seven leases for church purposes have been granted under the Church Lands Leases Ordinance 1924–27, which requires the lessees to submit a definite building programme within a specified period.

Five leases have been granted to date under the Leases (Special Purposes) Ordinance 1925–29, for church and scholastic purposes.

One hundred and ninety-two leases granted under the City Area Leases Ordinance have been surrendered or forfeited, representing a capital value of £107,990.

§ 6. Closer Settlement.

1. **New South Wales.**—(i) *General.* Particulars regarding the methods of acquisition and disposal of land for closer settlement are given in preceding Year Books (see No. 22, pp. 163–4), but this information will not be repeated in the present volume.

(ii) *Areas Acquired and Disposed of.* Up to the 30th June, 1930, 1,861 estates, including 953 single farm propositions acquired for discharged soldiers or sailors, had been acquired for closer settlement.

The number of farms allotted under the Promotion Sections of the Closer Settlement Acts to date is 3,796, the area 1,818,406 acres, and the amount advanced by the Crown £8,450,113.

The following statement gives particulars of the aggregate areas opened up to the 30th June, 1930 :—

CLOSER SETTLEMENT AREAS (a).—NEW SOUTH WALES, TO 30th JUNE, 1930.

To 30th June—	Areas.			Values.		
	Acquired Lands.	Adjoining Crown Lands.	Total.	Cost of Acquired Lands.	Value of Adjoining Crown Lands.	Total.
	Acres.	Acres.	Acres.	£	£	£
1930	4,073,971	196,369	4,270,340	14,593,799	414,291	15,008,090

(a) Includes 64 long-term leases resumed for closer settlement.

The total area was divided into 7,436 farms, comprising 4,233,785 acres, the remaining area being reserved for public purposes (roads, stock routes, schools, etc.).

The following table gives particulars regarding the disposal of the farms by closer settlement purchase at the 30th June, 1930 :—

CLOSER SETTLEMENT ALLOTMENTS.—NEW SOUTH WALES, AT 30th JUNE, 1930.

To 30th June—	Farms Allotted to Date.			Total Amount received in respect of Closer Settlement Farms.
	Number.	Area.	Capital Value.	
	No.	Acres.	£	
1930	7,928	4,156,222	15,219,517	7,055,518

2. Victoria.—(i) *General*. The methods of acquiring and of disposing of land for closer settlement are given in some detail in preceding issues of the Official Year Book (see No. 22, pp. 165-6).

(ii) *Areas acquired and made available for Closer Settlement*. The following statement shows the operations under the provisions of the Closer Settlement Acts to the 30th June, 1930 :—

CLOSER SETTLEMENT.—VICTORIA, TO 30th JUNE, 1930.

(INCLUDING IRRIGATED AREAS.)

To 30th June—	Total Area Acquired by Government.	Total Cost.	How Made Available for Settlement.					Number of Applications Granted.	Total Receipts (Land and Advances).	Repayments of Principal.	Area Available for Settlement at 30th June.
			Farm Allotments.	Workmen's Homes Allotments.	Agricultural Labourers' Allotments.	Town Allotments. (a)	Roads and Reserves.				
	Acres.	£	Acres.	Acres.	Acres.	Acres.	Acres.	No.	£	£	Acres.
1930	1,111,167	8,399,672	944,835	786	3,509	53,879	3,003	7,800	8,187,474	2,115,541	51,145

(a) Includes all land sold other than under Conditional Purchase Lease.

3. Queensland.—(i) *General*. Information regarding methods of acquiring and of disposing of land for closer settlement will be found in Official Year Book No. 22, pp. 166-7.

(ii) *Areas Acquired and Selected*. The total area acquired to 30th June, 1930, was 970,778 acres, costing £2,292,881. The following are the particulars of transactions under the Closer Settlement Act up to 30th June, 1930 :—Total area selected 910,725 acres; number of selectors 3,047; agricultural farms 2,115; unconditional selections 257; perpetual lease selections 582; prickly-pear selections 5; perpetual lease prickly-pear selections 10; area sold by auction 12,870 acres; and number of settlement farm leases 78.

4. South Australia.—(i) *General*. Allusion to the acquisition and disposal of land for closer settlement will be found in Official Year Book No. 22, p. 167.

(ii) *Areas Acquired and Selected*. The following table shows the area of land acquired for the purposes of closer settlement, and the manner in which it has been dealt with to the 30th June, 1930 :—

CLOSER SETTLEMENT.—SOUTH AUSTRALIA, TO 30th JUNE, 1930.

To 30th June—	Area of Lands Repurchased.	Agreements with Covenants to Purchase.	Total Area Leased as Homestead Blocks.		Perpetual Leases.	Miscellaneous Leases.	Sold.	Remainder Un-occupied (including Roads and Land in Irrigation Areas).
			Right of Purchase.	Perpetual Lease.				
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1930	781,447	522,095	321	1,210	33,261	81	192,533	31,916

The total area repurchased at 30th June, 1930, was 781,447 acres. The purchase money was £2,510,959. Of the total area, 749,531 acres have been allotted to 2,740 persons, the average area to each being 274 acres.

5. Western Australia.—(i) *General*. Preceding issues of the Official Year Book contain references to the methods of acquiring and of disposing of land for closer settlement (see No. 22, p. 168).

(ii) *Areas Acquired and Selected*. The total area acquired for closer settlement up to the 30th June, 1930, was 560,703 acres, costing £575,368. Of this area, 19,404 acres have been set aside for roads, reserves, etc., leaving a balance of 541,299 acres available for selection. Particulars of operations under the Act for the year ending 30th June, 1930, are as follows:—Area selected during the year 4,784 acres; number of farms, etc., allotted to date 965; total area occupied to date 448,266 acres; balance available for selection 93,033 acres; and total revenue £565,342.

6. Tasmania.—(i) *General*. A brief statement regarding the acquisition and disposal of land for closer settlement is given in preceding issues of the Official Year Book (see No. 22, pp. 168–9).

(ii) *Areas Acquired and Selected*. Up to the 30th June, 1930, 36 areas had been opened up for closer settlement. The total purchase money paid by the Government was £366,097, and the total area acquired amounted to 101,231 acres, including 10,000 acres of Crown lands.

7. Summary.—The following table gives particulars of operations under the Closer Settlement Acts at the 30th June, 1930:—

CLOSER SETTLEMENT.—TOTAL AREAS ACQUIRED AND ALLOTTED AT 30th JUNE, 1930.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Area acquired (a) acres	4,270,340	1,111,167	970,778	781,447	560,703	101,231	7,785,666
Purchase price (b) £	14,593,799	8,358,819	2,292,881	2,510,959	575,368	366,097	28,697,923
Farms, etc., allotted	No. 7,928	(c) 7,800	3,047	2,740	965	310	22,790
	acres 4,156,222	c1,008,140	910,725	749,531	448,266	82,000	7,349,884

(a) Includes Crown lands—New South Wales, 192,369 acres; Victoria, 67,762 acres; Tasmania, 10,000 acres. (b) Private lands only. (c) Includes 676 allotments of a total area of 66,859 acres granted to discharged soldiers under the Discharged Soldiers Settlement Acts.

§ 7. Leases and Licences under Mining Acts.

1. New South Wales.—(i) *General*. Information regarding the various forms of leases and licences under Mining Acts is given in preceding issues of the Official Year Book (see No. 22, p. 170).

(ii) *Areas Occupied under Mining Acts*. The following table gives particulars of operations for the year 1929–30:—

AREAS TAKEN UP UNDER MINING ACTS.—NEW SOUTH WALES, 1929–30.

Purposes for which Issued or Occupied.	Areas Taken up during Year.	Total Areas Occupied at End of Year.
	Acres.	Acres.
Gold-mining	1,106	4,726
Mining for other minerals	26,960	269,575
Authorities to prospect	32,314	14,821
Other purposes	1,377	21,646
Total	61,757	310,768

2. Victoria.—(i) *General*. Particulars of the various forms of leases and licences under Mining Acts are given in preceding issues of the Official Year Book (see No. 22, p. 171).

(ii) *Leases and Licences Issued*. During the year 1930, leases, licences, etc., were issued covering an area of 26,777 acres, the rent, fees, etc., for which amounted to £855. The area occupied at the end of the year was 71,628 acres.

3. Queensland.—(i) *General*. In preceding Official Year Books an account is given of the various forms of leases and licences under Mining Acts (see No. 22, pp. 171–2).

(ii) *Areas held under Lease or Licence*. During the year 1930 the number of miners' rights issued was 5,359, and of business licences 11. The following table gives particulars regarding the areas of lands taken up under lease or licence, and the total areas occupied for the year 1930. In addition, an area estimated at 25,000 acres was at the end of 1930 held under miners' rights and dredging claims.

AREAS TAKEN UP UNDER MINING ACTS.—QUEENSLAND, 1930.

Particulars.	Areas Taken up during Year.	Total Areas Occupied at End of Year.
	Acres.	Acres.
Gold-mining	500	832
Mining for other minerals	4,222	28,716
Coal-prospecting licences	6,756	6,756
Miners' homestead leases	18,247	320,289
Mineral oil-prospecting areas .. .. .	..	..
Petroleum-prospecting permits	524,520	1,509,540
Total	554,245	1,866,133

4. South Australia.—(i) *General*. Reference to the various forms of leases and licences under Mining Acts is made in preceding issues of the Official Year Book (see No. 22, p. 173).

(ii) *Areas Occupied under Mining Acts*. The following table gives particulars of operations for the year 1930:—

AREAS TAKEN UP UNDER MINING ACTS.—SOUTH AUSTRALIA, 1930.

Particulars.	Areas Taken up during Year.	Total Areas Occupied at End of Year.
	Acres.	Acres.
Gold-mining leases	157	579
Mineral and miscellaneous leases	2,360	47,991
Claims	6,009	14,249
Search licences and permits	119,680	103,680
Occupation licences	8	58
Total	128,214	166,557

5. Western Australia.—(i) *General*. A brief explanation of the various forms of leases and licences under Mining Acts will be found in Official Year Book No. 22, pp. 174-5.

(ii) *Particulars of Areas Occupied*. The following table gives particulars of operations for the year 1930, the figures being exclusive of holdings under miners' rights and mineral oil licences. Of the areas shown as taken up in 1930, the area under lease was 1,453 acres for gold-mining, 458 for mining for other minerals, and 110 for miners' homesteads—a total of 2,021 acres. The balance was taken up under licences.

AREAS TAKEN UP UNDER MINING ACTS.—WESTERN AUSTRALIA, 1930.

Particulars.	Areas Taken up during Year.	Total Areas Occupied at End of Year.
	Acres.	Acres.
Gold-mining	22,097	21,668
Mining for other minerals	22,303	90,060
Other Purposes	1,530	33,957
Total	45,930	145,685

6. Tasmania.—(i) *General*. A description of the various forms of leases and licences under Mining Acts is given in preceding Official Year Books (see No. 22, pp. 175-6).

(ii) *Leases and Licences Issued and Areas Occupied*. During the year 1930, the number of leases issued was 178, of which the more important were 14 for gold-mining, covering 184 acres; and 66 for tin, covering 2,619 acres. Two licences to search for coal and oil were also granted. The following table gives particulars of operations for the year 1930:—

AREAS TAKEN UP UNDER MINING ACTS.—TASMANIA, 1930.

Particulars.	Areas Taken up during Year.	Total Areas Occupied at End of Year.
	Acres.	Acres.
Gold-mining	913	1,117
Mining for other minerals	7,382	27,671
Licences to search for coal or oil	2,212	980
Other purposes	113	2,453
Total	10,620	32,221

7. Northern Territory.—(i) *General*. A brief statement regarding the various forms of leases and licences under Mining Acts is given in Official Year Book No. 22, pp. 176-7.

(ii) *Leases Issued and Areas Occupied.* (a) *North Australia.* During 1929-30, 19 mineral blocks were taken up. At the 30th June, 1930, there existed 20 mineral leases for 540 acres, 4 gold-mining leases for 66 acres, 47 protected (approved) gold-mining leases for 895 acres, 15 mineral reef claims for 160 acres, and protected (approved) mining lease applications for 34 blocks covering 1,020 acres. In addition, 2 exclusive prospecting licences covering approximately 5 square miles were issued.

(b) *Central Australia.* During 1929-30, 5 gold-mining blocks with an area of 200 acres and 82 mineral blocks (3,040 acres) were taken up. At the 30th June, 1930, a total area of 840 acres was held under gold-mining leases and approved gold-mining leases and 3,560 acres under mineral leases and approved mineral leases.

8. *Summary.*—The following table shows the areas under leases and licences for mining purposes and the total areas occupied for mining purposes for the year 1930 :—

CROWN LANDS, LEASES AND LICENCES FOR MINING PURPOSES, 1930.

Year.	N.S.W. (a)	Victoria.	Q'land.(b)	S. Aust.(b)	W. Aust.(b)	Tas.(b)	Total. (c)
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AREAS FOR WHICH LEASES AND LICENCES ISSUED DURING YEAR.

1930 ..	Acres. 61,757	Acres. 26,777	Acres. 554,245	Acres. 128,214	Acres. 45,930	Acres. 10,620	Acres. 827,543
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TOTAL AREAS OCCUPIED AT END OF YEAR.

1930 ..	310,768	71,628	1,866,133	166,557	145,685	32,221	2,592,992
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(a) Year 1929-30. (b) Exclusive of lands held under miners' rights only. (c) Exclusive of Northern Territory, see 7 above.

§ 8. Settlement of Returned Soldiers and Sailors.

1. *General.*—Information in regard to the methods adopted in each State for providing land for the settlement of returned soldiers and sailors, together with the conditions under which such land could be acquired, is given in preceding issues of the Official Year Book (see No. 18, pp. 187-189), but limits of space preclude its repetition herein.

Particulars respecting the position of soldier settlement in each State at the latest available date are, however, given in the sub-sections immediately following.

2. *New South Wales.*—At the 30th June, 1930, the area set apart exclusively for soldiers was 9,746,361 acres, of which 1,912,664 acres comprised acquired land purchased at a cost of £8,085,108. The number of soldiers settled was 10,051, of whom 3,860 subsequently transferred, forfeited, or surrendered their holdings. The area of the farms held at that date was 8,039,358 acres, of which 6,454,022 acres were Crown lands (including 4,090,397 acres in the Western Division taken up under the Western Lands Act), 1,504,486 acres of acquired lands, and 80,850 acres within Irrigation Areas.

3. *Victoria.*—At the 30th June, 1930, the area acquired or set apart for soldier settlement was 2,500,844 acres, of which 1,763,090 acres comprised private land purchased at a cost of £13,360,408. The number of farms allotted was 8,446, containing 2,165,038 acres.

4. Queensland.—At the 30th June, 1929, the area acquired or set apart for soldier settlement was 577,633 acres, of which 41,101 acres comprised private land, purchased at a cost of £270,480. The number of farms allotted was 1,148, containing 440,992 acres. Some of these selections were acquired under the ordinary provisions of the Land Act, and do not include areas specially set apart for soldiers.

As special records are not now kept respecting the areas held by discharged soldier settlers later information cannot be given.

5. South Australia.—At the 30th June, 1930, the area acquired or set apart for soldier settlement was 2,915,660 acres, of which 1,563,050 acres comprised private land purchased at a cost of £4,358,042. The number of farms allotted was 2,417, containing 2,295,583 acres.

6. Western Australia.—At the 30th June, 1930, the area of land acquired or set apart for soldier settlement was 14,287,643 acres, of which 345,110 acres comprised private land purchased at a cost of £605,076. The number of farms allotted was 1,134, containing 14,287,643 acres. Assistance has been given to 5,213 returned soldiers, and the Agricultural Bank holds 3,661 properties as security for advances. The area held, including pastoral leases, is approximately 25,864,000 acres, and advances approved amount to £6,586,370.

7. Tasmania.—At the 30th June, 1930, the area acquired or set apart for soldier settlement was 339,000 acres, of which 268,209 acres comprised private land purchased at a cost of £2,010,225. The number of farms allotted was 1,968, containing 333,300 acres.

8. Summary.—The following table gives a summary of the area acquired, the purchase price thereof, and the number and area of farms allotted in all the States to the 30th June, 1930 :—

**SOLDIER SETTLEMENT.—AREAS ACQUIRED AND ALLOTTED AT
30th JUNE, 1930.**

Particulars.	N.S.W.	Victoria.	Q'land.(b)	S. Aust.	W. Aust.	Tas.	Total.
Area acquired or set apart—							
(i) Private land acquired .. acres	1,912,664	1,763,090	41,101	1,563,050	345,110	268,209	5,893,224
(ii) Crown lands set apart .. „	7,833,697	737,754	536,532	1,352,610	13,942,533	70,791	24,473,917
Farms, etc., allotted { No.	(a)6,191	8,446	1,148	2,417	1,134	1,968	21,304
{ acres	8,039,358	2,165,038	440,992	2,295,583	14,287,643	333,300	27,561,914
Price paid by Government for private land acquired ..	£ 8,085,108	13,360,408	270,480	4,358,042	605,076	2,010,225	28,689,339

(a) Farms occupied.

(b) At 30th June, 1929. No later information available.

§ 9. Tenure of Land by Aliens.

Information regarding the terms and conditions under which land can be held by aliens is contained in previous issues of the Official Year Book (see No. 18, pp. 190-1), but limits of space preclude its repetition in the present issue.

§ 10. Advances to Settlers.

1. New South Wales.—(i) *General*. A detailed statement regarding the terms and conditions governing advances to settlers will be found in preceding issues of the Official Year Book (see No. 22, pp. 179-180).

(ii) *Amount of Advances*. The following table gives particulars respecting advances, etc., to 30th June, 1930 :—

ADVANCES TO SETTLERS.—NEW SOUTH WALES, 1929-30.

Particulars.	Advances made during 1929-30.	Total Advances at 30th June, 1930.	Amount outstanding at 30th June, 1930.
	£	£	£
Government Savings Bank Advances ..	2,696,210	26,392,200	14,260,961
Soldier Settlement Advances ..	146,302	7,522,368	4,023,385
Advances for Purchase of Wire Netting ..	42,788	988,842	367,361
Advances to Necessitous Farmers ..	600,593	4,333,551	(a) 1,039,443
Advances to Civilian Settlers on Irrigation Areas	45,492	625,515	224,354
Shallow Boring Advances	64,059	576,875	258,289
Total	3,595,444	40,439,351	20,173,793

(a) Includes interest charges accrued, £48,724.

2. Victoria.—(i) *General*. In preceding issues of the Official Year Book an account is given of the terms and conditions governing advances to settlers (see No. 22, pp. 180-1).

(ii) *Amount of Advances*. The following table gives particulars respecting advances, etc., to 30th June, 1930 :—

ADVANCES TO SETTLERS.—VICTORIA, 1929-30.

Authority Making Advances.	Advances made to—	Advances made during 1929-30.	Total Advances at 30th June, 1930.	Amount Outstanding at 30th June, 1930.
		£	£	£
State Savings Bank	Civilians	882,377	9,895,432	5,118,538
	Discharged soldiers ..	95,655	790,140	593,147
Closer Settlement Board	Closer Settlement settlers	1,041,662	12,553,164	9,064,967
	Soldier settlers	116,706	22,554,659	18,145,577
Treasurer	Cool stores, canneries, etc.	..	615,182	384,859
Total		2,136,400	46,408,577	33,307,088

3. Queensland.—(i) *General*. Reference may be made to preceding issues of the Official Year Book for detailed information regarding terms and conditions of advances to settlers (see No. 22, pp. 182-3).

(ii) *Amount of Advances.* The following table gives particulars of advances, etc., to 30th June, 1930 :—

ADVANCES TO SETTLERS.—QUEENSLAND, 1929-30.

Act under which Advances were made.	Advances made during Year 1929-30.	Total Advances made to 30th June, 1930.	Amount outstanding at 30th June, 1930.
	£	£	£
Agricultural Bank Acts	318,731	5,732,890	2,457,279
Discharged Soldiers' Settlement Act (a)	15,238	2,384,748	1,272,811
Water Facilities	12,959	62,327	57,661
Wire Netting, Marsupial Proof Fencing, &c.	38,941	729,959	532,123
Seed Wheat	1,554	(b)55,845	9,670
Drought Relief .. .. .	..	67,381	44,806
Total	387,423	9,033,150	4,374,350

(a) Includes advances to group settlements through the Lands Department as well as advances through the Agricultural Bank. (b) Includes accrued interest to 30th June, 1930.

4. South Australia.—(i) *General.* A brief statement regarding the terms and conditions of advances to settlers is given in preceding issues of the Official Year Book (see No. 22, pp. 183-4).

(ii) *Amount of Advances.* The following table gives particulars respecting advances, etc., to 30th June, 1930 :—

ADVANCES TO SETTLERS.—SOUTH AUSTRALIA, 30th JUNE, 1930.

Particulars.	Advances made during 1929-30.	Total Advances at 30th June, 1930.	Amount outstanding at 30th June, 1930.
	£	£	£
Department of Lands—			
Advances to soldier settlers	103,617	5,381,612	3,942,121
Advances to blockholders .. .. .	..	41,451	102
Advances for sheds and tanks .. .. .	..	75,693	60,428
Advances in drought-affected areas	508,674	1,650,821	858,586
Advances under Closer Settlement Acts	9,398	2,407,173	1,550,079
Advances under Agricultural Graduates Settlement Act	1,302	22,152	21,939
State Bank of South Australia	158,735	4,726,027	1,416,786
Advances to settlers for improvements	45,356	769,583	371,426
Advances under Vermin and Fencing Acts	63,168	1,269,707	466,429
Advances under Loans to Producers Act	54,706	247,710	224,815
Irrigation Commission—			
Civilians	12,292	255,179	141,054
Soldier settlers	36,465	(a)1,151,179	1,068,833
Total	993,713	17,998,287	10,122,598

(a) Since June, 1927, a considerable sum has been written off advances to soldier settlers under Section 8 of the Discharged Soldiers' Settlement Relief Act 1925.

5. Western Australia.—(i) *General.* Reference to advances to settlers made by the Agricultural Bank, which was established in 1895, will be found in Official Year Book No. 22, p. 184.

(ii) *Amount of Advances.* The following table gives particulars respecting advances, etc., to 30th June, 1930 :—

ADVANCES TO SETTLERS.—WESTERN AUSTRALIA, 1929-30.

Particulars.	Advances made during Year 1929-30.	Total Advances at 30th June, 1930.	Amount outstanding at 30th June, 1930 (inclusive of interest).
	£	£	£
Development loans	725,698	8,023,687	5,151,792
Soldier settlement loans	46,504	5,937,592	4,900,112
Advances to rural industries	5,091	31,017	36,521
Cropping advances	311,642	12,930,742	1,752,496
Group Settlement advances	882,570	882,570	882,570
Total	1,971,505	27,805,608	12,723,491

6. Tasmania.—(i) *General.* A description of the terms and conditions of advances to settlers is incorporated in previous issues of the Official Year Book (see No. 22, p. 185).

(ii) *Amount of Advances.* The following table gives particulars respecting advances, etc., to 30th June, 1930 :—

ADVANCES TO SETTLERS.—TASMANIA, 30th JUNE, 1930.

Authority making Advances.	Advances made to—	Advances made during 1929-30.	Total Advances to 30th June, 1930.	Amount outstanding at 30th June, 1930.
		£	£	£
Agricultural Bank ..	Settlers ..	50,252	424,407	279,907
„ ..	Orchardists' Relief, 1926 ..	..	46,832	26,506
Minister for Lands ..	Soldier Settlers ..	5,385	689,956	220,097
„ ..	Closer Settlers ..	1,100	27,575	12,031
„ ..	Fruit Growers ..	..	1,897	543
Total .. .. .	.. .. .	56,737	1,190,667	539,084

7. North Australia and Central Australia.—(i) *General.* A brief statement explanatory of the terms and conditions of advances to settlers is given in preceding issues of the Official Year Book (see No. 22, p. 186).

(ii) *Amount of Advances.* During the financial year 1929-30 the sum of £4,882 was advanced, making the total amount advanced to 30th June, 1930, £18,953 (approximately). The balance outstanding at 30th June, 1930, including interest, was £18,159.

8. Summary of Advances.—The following table gives a summary for each State to the 30th June, 1930 :—

ADVANCES TO SETTLERS.—AUSTRALIA, 30th JUNE, 1930.

State.	Advances made during 1929-30.	Total Advances to 30th June, 1930.	Amount outstanding at 30th June, 1930.
	£	£	£
New South Wales	3,595,444	40,439,351	20,173,793
Victoria	2,136,400	46,408,577	33,307,088
Queensland.. ..	387,423	9,033,150	4,374,350
South Australia	993,713	17,998,287	10,122,598
Western Australia	1,971,505	27,805,608	12,723,491
Tasmania	56,737	1,190,667	539,084
North and Central Australia ..	4,882	18,953	18,159
Total	9,146,104	142,894,593	81,258,563

§ 11. Alienation and Occupation of Crown Lands.

1. General.—The figures given in the previous parts of this chapter show separately the areas alienated, in process of alienation, or occupied under various tenures. The following tables set out in summarized form the position in regard to the tenure of land in each State, in the Northern Territory, and in the Federal Capital Territory during the latest year for which information is available. The area unoccupied includes roads, permanent reserves, forests, etc. In some cases, lands which are permanently reserved from alienation are occupied under leases and licences, and have been included therein. Lands occupied under leases or licences for pastoral purposes are frequently held on short tenures only, and could thus be made available for settlement practically whenever required.

2. New South Wales.—At the 30th June, 1930, of the total area of New South Wales, 22.1 per cent. had been alienated absolutely, 12.0 per cent. was in process of alienation, 57.4 per cent. was held under leases and licences, and the remaining 8.5 per cent. was unoccupied.

The following table gives particulars for the year ended 30th June, 1930 :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—NEW SOUTH WALES, 1929-30.(a)

Particulars.	Acres.	Particulars.	Acres.
1. Alienated.		2. In Process of Alienation.	
Granted and sold prior to 1862	7,146,579	Conditional purchases ..	20,397,734
Sold by auction and other sales, 1862 to date	15,009,617	Closer settlement purchases ..	2,833,699
Conditionally sold, 1862 to date	23,741,974	Soldiers' group purchase ..	425,859
Granted under Volunteer Land Regulations, 1867 to date	172,198	Other forms of sale ..	23,599
Granted for public and religious purposes	259,079	Total	23,680,891
	46,329,447	3. Held under Leases and Licences.	
Less lands resumed or reverted to Crown	2,579,086	Total under Lands Department, Water Conservation and Irrigation Commissioner, and Western Lands Commissioners	113,381,359
		Mineral and auriferous leases and licences (Mines Department)	310,768
Total	43,750,361	Total	113,692,127
		4. Unoccupied (approximate)	
			16,913,121

(a) Exclusive of Lord Howe Island, 3,220 acres.
Area of State—198,036,500 acres.

3. *Victoria*.—The total area of the State of Victoria is 56,245,760 acres, of which 46.6 per cent. had been alienated absolutely up to the end of the year 1929; 14.1 per cent. was in process of alienation under deferred payments and Closer Settlement Schemes; 13.4 per cent. was occupied under leases and licences; while 25.9 per cent. was unoccupied.

The following table shows the distribution :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—VICTORIA, 1929.

Particulars.	Acres.	Particulars.	Acres.
1. <i>Alienated</i>	26,204,928	3. <i>Leases and Licences held—</i>	
2. <i>In Process of Alienation—</i>		Under Lands Department ..	7,481,669
Exclusive of Mallee, etc. ..	1,907,900	Under Mines Department ..	57,807
Mallee Lands	5,344,849	Total	7,539,476
Under Closer Settlement Acts ..	664,563		
Village Settlements	720	4. <i>Unoccupied Crown Lands</i> ..	14,583,324
Total	7,918,032		
Total	7,918,032		

Total area of State—56,245,760 acres.

4. *Queensland*.—The total area of this State is 429,120,000 acres, of which, on the 31st December, 1929, 4.3 per cent. was alienated absolutely; 1.4 per cent. was in process of alienation; and 74.0 per cent. was occupied under leases and licences. The remainder (20.3 per cent.) was either unoccupied or held as reserves, or for roads.

The distribution is shown in the following table :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—QUEENSLAND, 1929.

Particulars.	Acres.	Particulars.	Acres.
1. <i>Alienated Absolutely—</i>		3. <i>Occupied under Leases and Licences—</i>	
By Purchase	18,397,595	Pastoral Leases	203,842,480
Without Payment	88,589	Occupation Licences	20,262,680
Total	18,486,184	Grazing Farms and Homestead	76,124,204
		Scrub Selections	12,435
2. <i>In Process of Alienation</i> ..	5,911,240	Leases—Special Purposes ..	752,510
		Under Mines Department ..	344,858
		Perpetual Lease Selections ..	4,698,247
		Auction Perpetual Leases ..	19,525
		Prickly-pear Leases	11,706,320
		Total	317,763,259
		4. <i>Reserves, Surveyed Roads and Surveyed Stock Routes</i> ..	20,626,904
		5. <i>Unoccupied</i>	66,332,413

Total area of State—429,120,000 acres.

5. *South Australia*.—The area of the State of South Australia is 243,244,800 acres, and at the end of the year 1930, 4.9 per cent. was alienated absolutely; 1.7 per cent. in process of alienation; 47.9 per cent. occupied under leases and licences; and 45.5 per cent. unoccupied.

The subjoined table shows the distribution :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—SOUTH AUSTRALIA,
1930.

Particulars.	Acres.	Particulars.	Acres.
1. <i>Alienated—</i>		3. <i>Held under Lease and Licence—</i>	
Sold	11,811,902	Right of Purchase Leases ..	1,777,796
Granted for Public Purposes	232,975	Perpetual Leases, including	
		Irrigation Leases ..	15,373,688
		Pastoral Leases ..	97,440,085
		Other Leases and Licences ..	1,695,276
		Mining Leases and Licences	166,557
Total	12,044,877	Total	116,453,402
2. <i>In Process of Alienation</i> ..	4,175,985	4. <i>Area Unoccupied</i>	110,570,536

Total area of State—243,244,800 acres.

6. *Western Australia.*—The total area of Western Australia is 624,588,800 acres, of which, at the 30th June, 1930, 2.3 per cent. was alienated absolutely ; 3.5 per cent. was in process of alienation ; while 39.3 per cent. was occupied under leases and licences issued either by the Lands or the Mines Departments. The balance of 54.9 per cent. was unoccupied.

The following table shows the distribution :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—WESTERN AUSTRALIA,
1929–30.

Particulars.	Acres.	Particulars.	Acres.
1. <i>Alienated Absolutely</i> ..	14,506,064	3. <i>Leases and Licences in Force—</i>	
2. <i>In Process of Alienation—</i>		(i) Issued by Lands Department—	
Midland Railway Concessions	54,800	Pastoral Leases ..	241,504,687
Free Homestead Farms ..	908,889	Special Leases ..	46,664
Conditional Purchases ..	6,707,300	Leases of Reserves ..	2,346,343
Selections from the late W.A. Company ..	5,297	Residential Lots ..	74
Selections under the Agricultural Lands Purchase Act	526,110	(ii) Issued by Mines Department—	
Special Occupation Leases and Licences ..	900	Gold-mining Leases ..	5,910
Homestead or Grazing Leases	13,315,282	Mineral Leases ..	47,201
Poison Land Leases or Licences	14,989	Miners' Homestead Leases ..	31,472
Village Allotments ..	87	(iii) Issued by Forests Department—	
Working-men's Blocks ..	87	Timber Leases and Concessions ..	44,218
		Timber Permits ..	1,358,680
Total	21,533,054	Total	245,385,249
		4. <i>Area Unoccupied</i>	343,164,433

Total area of State—624,588,800 acres.

7. *Tasmania.*—At the end of the year 1929, 34.0 per cent. of the total area had been alienated absolutely ; 3.3 per cent. was in process of alienation ; 25.8 per cent. was occupied under leases and licences for either pastoral, agricultural, timber, or mining purposes, or for closer or soldier settlement, or occupied or reserved by the Crown ; the remainder (36.9 per cent.) was unoccupied.

The following table shows the distribution :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—TASMANIA, 1929.

Particulars.	Acres.	Particulars.	Acres.
1. <i>Alienated Absolutely</i>	5,698,697	3. <i>Leases and Licences</i> —continued.	
		(ii) <i>Issued by Mines Department</i>	53,359
2. <i>In Process of Alienation</i>	560,070	(iii) <i>Occupied by Commonwealth and State Departments</i> ..	18,100
3. <i>Leases or Licences</i> —		(iv) <i>Reserved for Public Purposes</i>	1,500,000
(i) <i>Issued by Lands Department</i> —		Total	4,335,635
Islands	112,000		
Ordinary Leased Land	2,035,049	4. <i>Area Unoccupied</i>	6,183,598
Land Leased for Timber	266,261		
Closer Settlement	82,000		
Soldier Settlement	126,630		
Other Leases	142,236		

Total area of State—16,778,000 acres.

8. *North Australia and Central Australia.*—(i) *North Australia.* The area of North Australia is 183,715,840 acres, of which, at the end of 1930, only 0.26 per cent. was alienated absolutely; 54.95 per cent. was held under leases and licences; while the remaining 44.79 per cent. was unoccupied.

(ii) *Central Australia.* Of the total area of Central Australia, viz., 151,400,960 acres, only 11 acres were alienated absolutely, while of the remainder, 31.27 per cent. was held under leases and licences.

(iii) *Distribution of Tenures.* The following shows the mode of occupancy of areas at the end of 1930 :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—NORTH AND CENTRAL AUSTRALIA, 1930.

Particulars.	North Australia.	Central Australia.	Total.
	Acres.	Acres.	Acres.
1. <i>Alienated</i>	477,842	11	477,853
2. <i>Leased</i> —			
Right of purchase			
Pastoral	85,897,760	44,691,200	130,588,960
Other leases and licences	15,052,371	2,645,999	17,698,370
Total	100,950,131	47,337,199	148,287,330
3. <i>Unoccupied (a)</i>	82,287,867	104,063,750	186,351,617
4. <i>Total area</i>	183,715,840	151,400,960	335,116,800

(a) Including Aboriginal and other Reserves, Mission Stations, and lands occupied by Commonwealth Departments.

At the end of the year 1930 only 0.14 per cent. was alienated absolutely; 44.26 per cent. was held under leases and licences; while the remaining 55.60 per cent. was unoccupied.

9. *Federal Capital Territory.*—Particulars of the alienation and occupation of Crown lands in the Territory (exclusive of Jervis Bay area) for the year 1930 are as follows :—Alienated 66,904 acres; in process of alienation 39,977 acres; leased 279,032 acres; and unoccupied 197,747 acres. The area of acquired lands was 213,830 acres. The total area of the Territory (exclusive of Jervis Bay area, 17,920 acres) is 583,660 acres.

Alienated land comprised in 1930 11.5 per cent. of the total area, land in process of alienation 6.8 per cent., land held under lease 47.8 per cent., and unoccupied land 33.9 per cent. of the total area.

§ 12. Classification of Alienated Holdings According to Size.

The classification of private 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.

The following table gives particulars of the number and areas of private holdings of alienated land and land in process of alienation at the latest date for which the information has been compiled:—

CLASSIFICATION OF HOLDINGS (ONE ACRE AND OVER) IN AREA SERIES, 1928-29.

Size of Holdings.	N.S.W. (a)	Victoria.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Total. (b)
NUMBER.							
1 and under 50 acres	14,190	19,791	6,202	4,812	3,164	3	48,162
50 " 100 "	7,527	8,388	1,776	874	2,108	1	20,674
100 " 500 "	25,710	25,979	5,907	3,093	4,779	19	65,496
500 " 1,000 "	11,394	12,449	4,570	3,204	726	18	32,361
1,000 " 5,000 "	10,948	6,929	4,632	7,768	775	15	31,067
5,000 " 10,000 "	1,255	297	133	440	146	3	2,274
10,000 " 20,000 "	524	90	33	116	67	1	831
20,000 " 50,000 "	214	15	8	23	29	..	289
50,000 and over ..	59	..	..	7	5	..	71
Total ..	71,830	73,938	23,261	20,337	11,799	60	201,225

AREA.							
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1 and under 50 acres	322,082	374,677	113,921	63,130	58,351	91	932,252
50 " 100 "	584,269	601,533	143,072	72,827	147,259	65	1,549,025
100 " 500 "	6,739,650	6,384,766	1,745,181	746,982	1,095,434	5,267	16,717,280
500 " 1,000 "	8,056,717	8,828,038	3,409,573	2,756,642	593,506	12,778	23,657,254
1,000 " 5,000 "	21,865,261	11,858,819	8,277,929	16,394,494	1,600,262	30,050	60,026,815
5,000 " 10,000 "	8,587,485	2,047,281	912,394	3,003,200	1,017,754	21,354	15,589,468
10,000 " 20,000 "	7,240,069	1,196,469	457,244	1,568,720	924,784	12,600	11,419,886
20,000 " 50,000 "	6,374,610	390,876	188,305	617,972	812,306	..	8,384,069
50,000 and over ..	5,337,288	..	..	519,326	383,633	..	6,240,247
Total ..	65,107,431	31,682,459	15,247,619	25,763,293	6,033,289	82,205	144,516,296

(a) Year 1924-25. (b) Information not available for Queensland and the Northern Territory.

§ 13. Present Position of Land Settlement.

1. Condition of Public Estate.—The position in regard to land settlement in each State and Territory and in Australia as a whole in 1929 is shown in the table hereunder.

During the past ten years, the area alienated absolutely in the whole of Australia increased by 12,903,330 acres, and that in process of alienation by 7,333,078 acres, or a total of 20,236,408 acres during the decade, while the area leased advanced from 938,685,701 acres in 1919 to 954,970,623 acres in 1929.

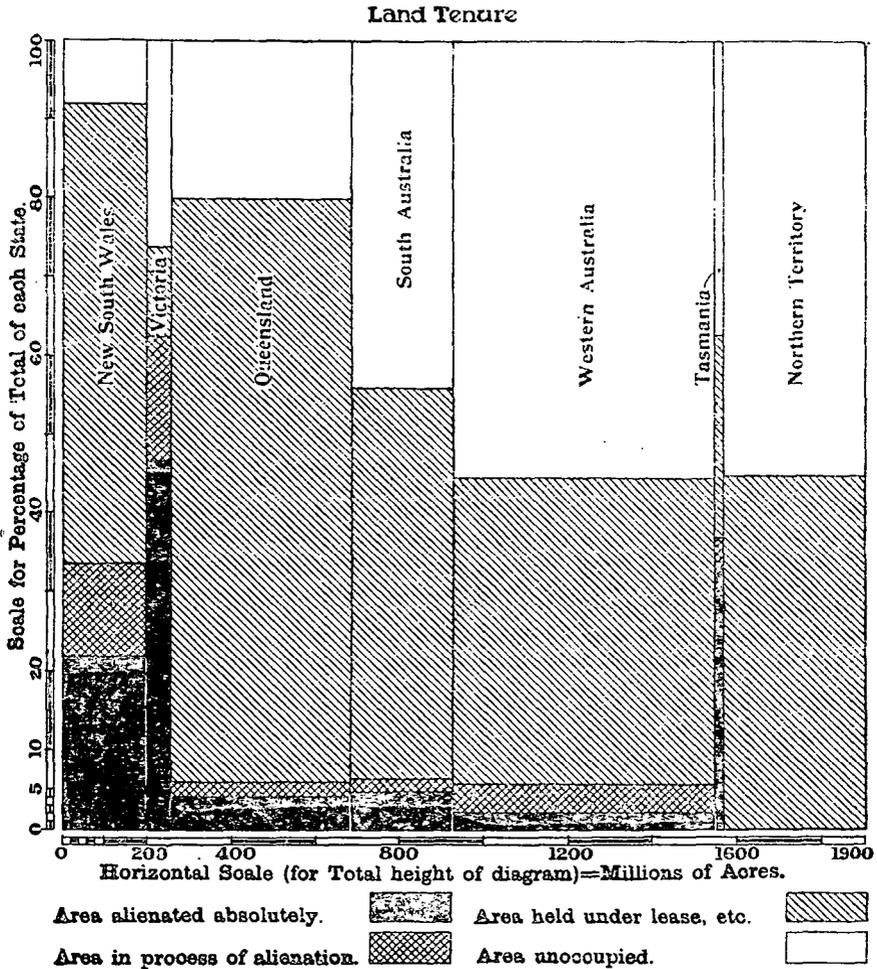
AREAS ALIENATED, IN PROCESS OF ALIENATION, HELD UNDER LEASE OR LICENCE, AND UNOCCUPIED, 1929.

Year.	Alienated.		In Process of Alienation.		Held under Lease or Licence.		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 (a).—AREA, 198,036,500 ACRES.								
1929 ^e	643,491,984	21.96	23,153,865	11.69	114,164,082	57.65	17,223,349	8.70
VICTORIA.—AREA, 56,245,760 ACRES.								
1929	26,204,928	46.59	7,918,032	14.08	7,539,476	13.40	14,583,324	25.93
QUEENSLAND.—AREA, 429,120,000 ACRES.								
1929	18,486,184	4.31	5,911,240	1.38	317,763,259	74.05	86,959,317	20.26
SOUTH AUSTRALIA.—AREA, 243,244,800 ACRES.								
1929	12,004,959	4.94	3,933,568	1.62	118,249,913	48.61	109,056,360	44.83
WESTERN AUSTRALIA (a).—AREA, 624,588,800 ACRES.								
1929	13,594,254	2.18	21,804,506	3.49	243,724,065	39.02	345,465,975	55.31
TASMANIA.—AREA, 16,778,000 ACRES.								
1929	5,698,697	33.96	560,070	3.34	4,335,635	25.84	6,183,598	36.86
NORTHERN TERRITORY.—AREA, 335,116,800 ACRES.								
1929	477,853	0.14	..	..	148,905,274	44.44	185,733,673	55.42
FEDERAL CAPITAL TERRITORY.—AREA, 601,580 ACRES.								
1929 ^c	46,968	8.05	60,844	10.42	288,919	49.50	186,929	32.03
AUSTRALIA.—AREA, 1,903,732,240 ACRES.								
1929 ^d	120,005,827	6.30	63,342,125	3.33	954,970,623	50.16	765,392,525	40.21

(a) To 30th June. (b) Excludes lands alienated but subsequently resumed or reverted to the Crown.

(c) Excludes Jervis Bay area, 17,920 acres. (d) Excludes Lord Howe Island, 3,220 acres, and Jervis Bay area, 17,920 acres. (e) Excludes Lord Howe Island, 3,220 acres.

2. Diagram showing Condition of Public Estate.—The following diagram shows the condition of the public estate at the end of the year 1929. The square itself represents the total area of Australia, while the relative areas of individual States are shown by the vertical rectangles. The areas alienated absolutely, in process of alienation under systems of deferred payments, and the areas held under leases or licences, are designated by the differently-shaded areas as described in the reference given below the diagram, while the areas unoccupied are left unshaded.



CHAPTER VI.

TRADE.

§ 1. Introductory.

Constitutional Powers of the Commonwealth in regard to Commerce.—The powers vested in the Commonwealth Parliament by the Commonwealth Constitution Act with respect to oversea trade and commerce will be found in Sub-section 51 (i) and Sections 86 to 95 of the Act.

§ 2. Commonwealth Legislation affecting Oversea Trade.

1. **General.**—In previous issues of the Year Book brief particulars of the various Commonwealth Acts and amendments thereof affecting oversea trade have been given in chronological order. It is not proposed to repeat this information in the present issue.

2. **Customs Tariff 1921–1930.**—The Tariff Schedule now in operation incorporates Customs Tariff 1921 (Act No. 25 of 1921), Customs Tariff 1922 (Act No. 16 of 1922), Customs Tariff (Sugar) 1922 (Act No. 32 of 1922), Customs Tariff 1923 (Act No. 22 of 1923), Customs Tariff 1924 (Act No. 1 of 1924), Customs Tariff 1926 (Act No. 26 of 1926), Customs Tariff (No. 2) 1926 (Act No. 45 of 1926), Customs Tariff 1928 (Act No. 2 of 1928), Customs Tariff (No. 2) 1928 (Act No. 35 of 1928), Customs Tariff (No. 3) 1928 (Act No. 36 of 1928), and Customs Tariff 1930 (Act No. 3 of 1930).

The Tariff Schedule provides a British Preferential Tariff, an Intermediate Tariff, and a General Tariff. The rates of duty set out in the Schedule in the column headed "British Preferential Tariff" apply to goods the produce or manufacture of the United Kingdom, subject to the condition that the goods have been shipped in the United Kingdom to Australia, and have not been transhipped, or, if transhipped, then only if it is proved satisfactorily that the intended destination of the goods, when originally shipped from the United Kingdom, was Australia (Section 8 of Act No. 25 of 1921).

The provisions of the British Preferential Tariff may be applied wholly or in part to any portion of the British Dominions, and the provisions of the Intermediate Tariff may be applied wholly or in part to any portion of the British Dominions or to any foreign country by negotiation.

The rates of duty set out in the column headed "General Tariff" apply to all goods to which the rates set out in either of the columns headed "British Preferential Tariff" or "Intermediate Tariff" do not apply (Act No. 25 of 1921, Section 10). The General Tariff applies to all importations, excepting importations the produce or manufacture of the United Kingdom shipped in the United Kingdom to Australia, and excepting also goods covered by the Customs Tariff (New Zealand Preference) Acts No. 3 of 1922, and No. 38 of 1926, the Proclamation relating to Canadian Preference, and the Customs Tariff (Papua and New Guinea Preference) Act No. 6 of 1926.

On the 24th November, 1927, an amending Tariff Schedule was introduced into the House of Representatives. This Schedule embodied a reduction or abolition of some revenue-producing items; a further measure of protection to some Australian industries; and an expansion and extension of preference to British trade. The principal items affected were textiles and metals and machinery. These amendments were ratified by the Customs Tariff Act, 1928 (No. 2 of 1928), and do not affect the operations of the Customs Tariff (New Zealand Preference) Act of 1922–1926, or the Customs Tariff (Papua and New Guinea Preference) Act of 1926.

The Customs Tariff 1921-1928 was amended as from the 23rd August, 1929, by increasing the customs duties payable on ale, spirits, and beverages; tobacco; silk and artificial silk; petroleum; and motor chassis. Certain excise duties were also increased.

On the 22nd November, 1929, another amending schedule to the Customs Tariff 1921-1928 and the Excise Tariff 1921-1928 came into operation. This extensive schedule provided for an increase of import duties under many items, the principal items affected being ale, spirits and beverages; tobacco; agricultural products and groceries; textiles and attire; metals and machinery; petroleum; motor bodies and motor chassis.

On the 11th December, 1929, a further amending schedule came into operation.

The Customs Tariff Act of 1930 amended the schedule so far as the imports of dressed timber n.e.i. are concerned.

A special customs duty of 50 per cent. of the amount of duty already imposed on certain items was introduced as from the 3rd April, 1930.

By proclamation of the 4th April, 1930, the importation of 78 items of goods into the Commonwealth was prohibited; the principal items affected being spirits, cigarettes, manufactured tobacco, batteries, and wireless receiving sets.

Further amending schedules were introduced into the House of Representatives on the following dates viz:—19th June, 1930, 9th July, 1930, 25th July, 1930, 5th November, 1930, 3rd December, 1930, and 26th March, 1931.

3. Preferential Tariffs.—(i) British Preference.—The Commonwealth Tariff 1908 (Act No. 7, 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. This favourable treatment of the United Kingdom was again extended by Customs Tariff 1921 (No. 25 of 1921), and when this Act was incorporated in Customs Tariff 1921-1930 further concessions were granted.

On the introduction of the preferential treatment of British goods by the Commonwealth Tariff, 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 was required in regard to goods only partially manufactured in the United Kingdom, that the final process or processes of manufacture should have been performed in the United Kingdom and that the expenditure on material of British production and/or British labour should have been not less than one-fourth of the factory or works cost of the goods in the finished state. These conditions were superseded during the year 1925.

Important alterations in the conditions governing the entry of goods into the Commonwealth under the British Preferential Tariff were made during 1925. The amended conditions have applied to goods invoiced to Australia since the 1st April, 1925.

Under the new conditions Preference is granted in the Commonwealth as follows:—

- (a) To goods which are wholly produced or wholly manufactured in the United Kingdom.

As to manufactured goods, these will only be considered "wholly manufactured in the United Kingdom" if in the raw materials used and in the finished goods no manufacturing process has been performed outside the United Kingdom which is being commercially performed in the United Kingdom.

The Minister shall determine what are to be regarded as raw materials, and in such determination may include partially manufactured Australian materials.

- (b) To goods, not wholly produced or wholly manufactured in the United Kingdom in the terms of paragraph (a), provided they contain at least 75 per cent. of United Kingdom labour and/or material in their factory or works cost.
- (c) Notwithstanding anything contained in the preceding paragraphs, to goods of a class or kind not commercially manufactured in Australia provided they contain at least 25 per cent. of United Kingdom labour and/or material in their factory or works cost.
- (d) It is essential in every case that the final process or processes of manufacture shall take place in the United Kingdom, and that the goods are consigned therefrom direct to Australia.

It is also provided that the conditions of preference set out above shall apply (in addition to goods from the United Kingdom) to goods, claiming preference, shipped from any country to which the Commonwealth of Australia has extended Tariff Preference, whether the rates granted be those of the "British Preferential Tariff," the "Intermediate Tariff," or special rates.

On the basis of the imports during 1913, the preferential provisions of the Tariff of 1908-11 covered 65 per cent. of the imports of merchandise of United Kingdom origin, the margin of preference being equal to 5 per cent. of the value of the goods. On the same basis the Tariff of 1921-30 has extended the application of the Preferential Tariff rates to 95 per cent. of the imports from the United Kingdom, and, at the same time has increased the margin of preference to 13.9 per cent. *ad valorem*. The average equivalent *ad valorem* rate of duty payable under the Tariff of 1921-1930 on goods of United Kingdom origin is about 35 per cent., whereas the same goods under the General Tariff rates would be called upon to pay an average rate of about 50 per cent.

An application of the Tariff of 1921-30 to the imports from the United Kingdom entered for home consumption during the year 1929-30 shows that the value of the goods of United Kingdom origin which participated in the preferential provisions of the Tariff was £48,427,054, upon which duty to the amount of £8,322,312 was collected. Under the General Tariff the same goods would have been required to pay £15,048,332 duty. Thus, had the conditions of the General Tariff operated on these goods, £6,726,020 additional duty would have been paid, representing an average of 13.9 per cent. on the value of the goods. The principal classes which benefited under the Preferential Tariff and the value of preference granted during the year 1929-30 were textiles, £2,205,353; metals and metal manufactures, £1,446,343; machines and machinery, £881,007; apparel, £328,567; and paper, £406,998.

Of £48,427,054 worth of goods mentioned above, £25,180,605 were "free", while the same goods if they had been imported from other countries would have paid duty to the amount of £3,363,984, representing an average *ad valorem* rate of 13.3 per cent.

The value of goods from countries other than the United Kingdom which were adversely affected by the preferential provisions of the Tariff amounted to £52,720,394, and the duty collected thereon was £17,959,622, or £7,110,101 more than would have been paid under the British Preferential Tariff Rates.

(ii) *South African Preference.*—By the Customs Tariff (South African Preference) Act 1906 it was provided that certain goods, specified in the Schedule to that Act, imported from, and the produce or manufacture of, any of the British South African Colonies or Protectorates included in the South African Customs Union, should be admitted to the Commonwealth at preferential rates as compared with the general rates then in force under the Schedule to the Customs Tariff 1902. Section 5 of Customs Tariff (Act No. 26 of 1926) repealed the Customs Tariff (South African Preference) 1906, also Section 15 of the Customs Tariff 1921-24, which provided for a continuance of the South African Preference as set out in the Act of 1906. The repeal came into operation on the first day of July, 1926, and the provisions of the Customs Tariff 1921-30 now apply in relation to goods imported from South Africa and entered for home consumption since that date.

(iii) *New Zealand Preference.*—The Customs Tariff (New Zealand Preference) 1922 (No. 3 of 1922) was assented to on the 23rd August, 1922, and repealed Act No. 27 of 1921. The Act was proclaimed on the 1st September, 1922, and the duties of Customs provided for in the Schedule of the Act came into force on and from that date. The Act provided that the duties of Customs on goods imported direct from, and the produce or manufacture of, the Dominion of New Zealand shall be in accordance with the following rates:—

- (a) On all goods described in the Tariff Schedule against which rates of duty are set out in the column headed "Proposed Duties against New Zealand" the rates so set out.
- (b) On all goods other than those provided for in paragraph (a) the rates of duty for the time being applicable to goods to which the British Preferential Tariff applies.

The Act ratifies and confirms the agreement made on the 11th April, 1922, between the Commonwealth of Australia and the Dominion of New Zealand, and provides that, from and after the 1st May, 1922, duties of Customs on goods not being the produce or manufacture of New Zealand which are imported into the Commonwealth from that Dominion and upon which, if they had been imported into the Commonwealth direct from the country of origin, there would have been payable duties of Customs at the rates set out in the British Preferential Tariff, shall be in accordance with the rates set forth in that particular tariff.

The Customs Tariff (New Zealand Preference, No. 2) Act No. 36 of 1922, assented to on 18th October, 1922, relates to the rates of duty on certain imports from New Zealand specified in the Schedule to the Act. The goods specified are—Meats, preserved in tins or other airtight vessels; sheets and roofing slates composed of cement and asbestos or of similar materials; dairying machines and implements, viz.,—curd agitators and curd mixers; and corn (millet) brooms.

New Zealand Re-exports Act 1924 (No. 21 of 1924) assented to on 16th September 1924, relates to the value for duty of goods not the produce or manufacture of New Zealand, which are imported into Australia from New Zealand.

The Customs Tariff (New Zealand Preference) (No. 38 of 1926) ratifies an agreement made on the 30th April, 1926, between the Commonwealth of Australia and the Dominion of New Zealand relating to preferential duties of Customs. This agreement is supplemental to an agreement under seal made on 11th April, 1922. Clause 2 of the principal agreement is varied further, as set out hereunder:—

“The Commonwealth shall not impose any Customs duty or increase the rate of any Customs duty on any article the produce or manufacture of the Dominion entering the Commonwealth from the Dominion, and the Dominion shall not impose any Customs duty or increase the rate of any Customs duty on any article the produce or manufacture of the Commonwealth entering the Dominion from the Commonwealth (whether such article is or is not specifically enumerated in the Schedule hereto, and whether such article is or is not dutiable at the date of this agreement) except by mutual agreement, until after six calendar months' notice to the other party to this agreement.”

The Customs Tariff (New Zealand Preference) Act 1928 (No. 25 of 1928) provided that, from the 15th June, 1928, the rate of duty payable on butter and cheese produced or manufactured in the Dominion and imported direct from New Zealand would be increased from twopence to sixpence per pound.

(iv) *Papua and New Guinea Preference.*—The Customs Tariff (Papua and New Guinea Preference) 1926 (No. 6 of 1926) was assented to on 15th February, 1926, and relates to Customs Preference on goods the produce of Papua and the Territory of New Guinea. The importation into Australia, direct from Papua or New Guinea, of such of the goods specified in the Schedule to the Act as were produced in the Territory shall, notwithstanding anything contained in the Customs Tariff 1921-1924, be free of duty. The items specified in the Schedule are:—Coffee; dried litchi fruit; various native fresh fruits; fungi; ginger; ragoon beans; coconuts; and seeds, viz., kapok and sesame. The total imports from Papua during the year 1929-30 were valued at £105,098 and the value of preference granted amounted to £20,894 on an amount of £42,836 representing imports which were dutiable. Of imports to the value of £341,860 from the Territory of New Guinea during 1929-30, a total of only £11,739 was otherwise dutiable and the value of preference granted on the items included was £5,859.

4. *Reciprocal Tariffs.*—(i) *General.* The Tariff Act of 1921 introduced a new feature into Australian Tariffs in the form of an Intermediate Tariff. In submitting the Schedule to Parliament, the Minister for Trade and Customs made the following statement of the object of the Intermediate Tariff:—“ . . . the Minister is empowered under the Bill to enter into reciprocal arrangements with other Dominions of the British Crown. The Minister will be able, if we can arrange a satisfactory reciprocal agreement, to extend to other Dominions in individual items the British preference rate, or the intermediate rate, or, it may be, the general rate. Such agreements will be subject to the ratification of Parliament. The provision simply means that if any of our sister self-governing Dominions desires to enter into reciprocal trade relationships with us, the Minister, with the British Preference Tariff, the Intermediate Tariff, and the General Tariff before him, may bargain with the sister Dominion and come to an agreement which, as I say, must subsequently be ratified by Parliament. . . . There is a

provision of a somewhat similar character in regard to other countries than the Dominions, the only difference being that the Minister is empowered to extend to countries other than the Dominions only the Intermediate Tariff; that is to say, in entering into such negotiations, he is precluded from offering to those countries what we might term, for the purposes of this Bill, the Empire rate. He is confined in his negotiations with these other countries to the Intermediate Tariff."

(ii) *Union of South Africa.* Until 1922, the Union of South Africa was the only British Dominion with which Australia had a reciprocal Tariff arrangement. The Commonwealth Customs Tariff (South African Preference) Act (No. 17 of 1906) and subsequent amending Acts provided preferential rates of duty to be applied to certain imported goods "when those goods are imported from and are the produce or manufacture of any of the British South African Colonies or Protectorates which are included within the South African Customs Union."

The Customs Tariff (South African Preference) 1906 was repealed by the Customs Tariff 1926. The repeal came into operation on the 1st July, 1926, and the provisions of the Customs Tariff 1921-30 thenceforward apply to goods imported from South Africa.

(iii) *Dominion of New Zealand.* On the 11th April, 1922, an agreement was made between the Commonwealth of Australia and the Dominion of New Zealand whereby goods specified in the schedule attached to the agreement should be admitted at the rates of duty set out in the schedule. In addition to the goods specially mentioned in the schedule, it is provided that "all other goods being the produce or manufacture of Australia or New Zealand shall be dutiable at the rates applicable to goods being the produce or manufacture of the United Kingdom, upon entry into New Zealand or Australia respectively." This agreement was ratified by the Commonwealth Parliament in the Customs Tariff (New Zealand Preference) 1922, and by Proclamation dated 24th August, 1922, came into operation on the 1st September, 1922. A variation of the original agreement was ratified by the Customs Tariff (New Zealand Preference) No. 38 of 1926, whilst a further amendment of certain rates of duty came into operation from the 15th June, 1928, under the Customs Tariff (New Zealand Preference) Act No. 25 of 1928. In section 2, § 3 "Commonwealth Legislation affecting Oversea Trade" of this chapter, the full text of the variation of the agreement is given.

It is estimated that during 1929-30, imports from New Zealand of goods otherwise dutiable and amounting in value to £576,180 were admitted free under the provisions of the Preferential Tariff and the duty thus remitted was £214,894. In addition, goods valued at £119,171, which were dutiable under both general and preferential tariffs, were admitted under the preferential agreement, the duty remitted on such goods being £25,827. The total value of the preference granted on the import of New Zealand goods thus was £240,721, representing a preference of 34.6 per cent. The principal items which benefited under the preferential provisions were undressed timber, valued at £450,604; fish, £83,088; meat, £46,485; milk and cream, dried, £20,964; the amount of duty remitted being £192,310, £15,593, £11,971, and £6,178 respectively.

(iv) *Dominion of Canada.* The negotiations for a reciprocal trade treaty between Canada and Australia reached finality during September, 1925, and a reciprocal Tariff agreement between the two countries is now in operation. The commodities on which Canada grants preferential rates of duty to Australia are:—Beeswax, butter, brandy, champagne, cheese, currants, eggs, eucalyptus oil, fruits (dried, fresh, and pulped), fruits in cans, glue, honey, lard, meat (fresh and canned), onions, raisins, sugar, tallow, vegetables in tins, and wine. Australia's preferential duties apply to the following Canadian imports:—Cash registers, corsets, fish, gloves, goloshes and rubber sand boots, etc., iron and steel tubes or pipes, printing machinery, paper (printing, typewriting and writing), typewriters, and vehicles, viz., motor chassis (unassembled and assembled), and vehicle parts, including undergear, axles, springs, hoods, wheels and bodies.

Imports of Canadian origin entitled to preference were valued in 1929-30 at £2,245,951, the principal items being motor car chassis and vehicle parts £695,660, paper £905,154, and fish £531,788. During 1929-30 £630,883 duty would have been payable under the General Tariff of which the duty remitted under the preferential agreement amounted to £458,213, being equivalent at 19.1 per cent. on the total imports. Australian exports to Canada subject to preference amounted to £530,658, the principal items being dried fruits, £155,567; meats, £132,080; sugar, £81,250; and butter, £72,997.

(v) *Papua and New Guinea.*—Customs Tariff (Papua and New Guinea) Preference 1926 provides for Customs Preference on goods the produce of Papua and on goods the produce of the Territory of New Guinea. Imports into Australia, direct from the Territory of Papua or the Territory of New Guinea, of such of the goods specified in the schedule to the Act as were produced in the Territory from which they were imported, shall, notwithstanding anything contained in the Customs Tariff 1921–1930, be free of duty. The goods specified in the schedule are coffee, dried litchi fruit, various local fresh fruits, edible fungi, green ginger, coco-nuts and kapok and sesame seeds.

5. *Preferential Tariff of the United Kingdom.*—The post-war Tariff of the United Kingdom provides Preferential Customs rates on certain goods where it is shown to the satisfaction of the Commissioners of Customs and Excise that such goods have been consigned from and grown, produced, or manufactured in the British Empire. Manufactured articles generally are not entitled to the preferential rates unless 25 per cent. of their value is the result of labour within the British Empire. The principal items of interest to Australia which are accorded preferential treatment under the Tariff of the United Kingdom are :—Fruits, dried and preserved ; jam ; fruit pulp ; preserved milk ; wine ; and brandy.

In the Budget submitted to the House of Commons during June, 1925, clauses dealing with increased Imperial preference on Empire-grown tobacco, preserved and dried fruits, jams and jellies, spirits, wine, sugar, and hops were proposed and adopted. The new rates of duty took effect on 1st July, 1925, excepting that relating to hops, which came into operation on 16th August, 1925. On the basis of the quantities of dried fruits, spirits, wine, sugar, canned fruits and jams and jellies imported into the United Kingdom from Australia during the year 1929, as shown in the Annual Statement of the Trade of the United Kingdom, it is estimated that £1,376,956 additional duty would have been collected if the same quantities of goods had been dutiable under the rates applicable to imports from foreign countries. The main items receiving preference and the amount of rebate were sugar, £688,450 ; wine, £409,496 ; and dried fruits, £273,834.

6. *Tariff Board Act 1921 (No. 21 of 1921).*—This Act, which was assented to on the 15th December, 1921, as amended by Tariff Board Act 1923 (No. 25 of 1923), provides for the appointment of a Tariff Board consisting of four members, one of whom shall be an administrative officer of the Department of Trade and Customs. This member shall be appointed Chairman of the Board. The purpose of the Tariff Board is to assist the Minister in the administration of matters relating to trade and customs. The more important matters which the Minister shall refer to the Board for inquiry and report include the classification of goods for duty ; the determination of the value of goods for duty ; any disputes arising out of the interpretation of any Customs or Excise Tariff ; the necessity for new, increased or reduced duties ; the necessity for granting bonuses ; any proposal for the application of the British Preferential Tariff or the Intermediate Tariff to any part of the British Dominions or any foreign country ; and any complaint that a manufacturer is taking undue advantage of the protection afforded him by the tariff by charging unnecessarily high prices for his goods or acting in restraint of trade. The Minister may refer to the Board for inquiry and report the following matters :—the general effect of the working of the Customs Tariff and the Excise Tariff ; the fiscal and industrial effects of the Customs laws of the Commonwealth, the incidence between the rates of duty on raw materials and on finished or partly finished products ; and any other matter affecting the encouragement of primary and secondary industries in relation to the tariff.

7. *Tariff Board Act 1924 (No. 29 of 1924).*—This Act, which was assented to on 28th September, 1924, amended the Tariff Board Act 1921–23. Section 5 of the Principal Act provided for a Tariff Board consisting of three members. The section was amended by Tariff Board Act (No. 25 of 1923) by omitting the word “ three ” and inserting in its stead the word “ four.”

Section 6, sub-section (3), of the principal Act was amended during 1924 (Act No. 29 of 1924) by providing that members of the Board shall be appointed for a term not being less than one year nor more than three years. This amending Act provides that in inquiries conducted by the Board relating to any revision of the Tariff, any proposa!

for a bounty, or any complaints that a manufacturer is taking undue advantage of the protection afforded him by the Tariff, shall be held in public and evidence in such inquiries shall be taken in public on oath, unless any witness objects to giving any evidence in public which the Board is satisfied is of a confidential nature, when the Board may take such evidence in private. Evidence taken by the Board in connexion with any inquiry under the Customs Tariff (Industries Preservation) Act 1921-22 shall be taken in public on oath. Section 37 of the Principal Act relating to duration of Act is repealed.

The latest Annual Report of the Tariff Board, issued in accordance with Section 18 (1) of the Tariff Board Act 1921-29, reviews the work of the Board during the year ended 30th June, 1930. During the year the Board furnished 87 reports to the Minister for Trade and Customs as follows:—Requests for admission of goods under by-law, 1; operation of deferred duties, 33; operation of the Customs Tariff (Industries Preservation) Act 1921-22, 6; requests for tariff revision and bounty, 45; Navigation Act, 1; and duties and restrictions on importations of timber, 1. The report also deals with the questions of the prices of products of protected industries, labour costs, overhead and profits of manufacturers.

8. Tariff Board Act 1929 (No. 5 of 1929).—This Act, assented to in March, 1929, amended the Tariff Board Act 1921-24 by making provision whereby an officer of the Department of Trade and Customs may be appointed Chairman of the Board, also for the appointment of two of its members as a committee for making special inquiries.

9. Customs Tariff (Industries Preservation) Act 1921 (No. 28 of 1921).—This Act assented to on the 16th December, 1921, provides that after inquiry and report by the Tariff Board, special duties shall be collected in the following cases when the importation of the goods referred to might be detrimental to an Australian industry:—In the case of goods sold for export to Australia at a price less than the fair market price for home consumption or at a price which is less than a reasonable price, a special dumping duty shall be collected equal to the difference between the price at which the goods were sold and a fair market price. Similar provision is made for goods consigned to Australia for sale. With regard to goods exported to Australia at rates of freight less than the rates prevailing at the time of shipment, there shall be collected a dumping freight duty equal to 5 per cent. of the fair market value of the goods at the time of shipment. Special duties are also imposed in the case of goods imported from countries whose currency is depreciated. Provision is also made for the protection of the trade of the United Kingdom in the Australian market from depreciated foreign currency.

The Act provides that the Minister for Trade and Customs, after inquiry and report by the Tariff Board, may publish a notice in the *Commonwealth Gazette* specifying the goods upon which special rates of duty under this Act shall be charged and collected.

Since the Act came into operation approximately 300 notices have been gazetted, including about 130 which revoked previous gazettals, the majority of the notices being made under Sections 8 and 9 of the Act and relating to commodities from countries with depreciated currency to the detriment of Australian or British industries. Over 50 per cent. of the gazettals relate to goods imported from Germany. Three gazettals affect certain goods imported from all countries, while 2 affect goods from all countries excepting United Kingdom. Separate notices have been issued relating to goods from 17 different countries. The commodities brought under the various sections of the Act exceed 150, and cover a very wide range of goods.

Several amendments of the Act were recommended by the Tariff Board and put into effect by the Customs Tariff (Industries Preservation) Act 1922, assented to on 9th October, 1922.

10. Commerce (Trade Descriptions) Act 1905 (No. 16 of 1905).—This Act was assented to on the 8th December, 1905, and brought into operation by proclamation on the 8th June, 1906. It 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. An amending Act passed in 1926 added brushware to the original list. The goods to which a trade description must be applied are:—(a) Articles used for food or drink by man, or used in the manufacture or preparation of articles used for

food or drink by man ; (b) medicines or medicinal preparations for internal or external use ; (c) manures ; (d) apparel (including boots and shoes), and the materials from which apparel is manufactured ; (e) jewellery ; (f) agricultural seeds and plants ; and (g) brushware.

11. Acts Passed in 1930.—The following Acts relating to Australian production and trade were assented to during the year 1930 :—

- Customs Tariff Act (No. 3 of 1930).* An Act amending the Schedule relating to Timber, dressed or moulded, n.e.i.
- Customs Tariff Validation Act (No. 4 of 1930).* An Act providing for the validation of collections of Customs duties under Tariff proposals introduced on the 21st November, 1929.
- Customs Act (No. 6 of 1930).* An Act amending the *Customs Act 1901–1925* with respect to refund, rebate or remission of duty.
- Australian Industries Preservation Act (No. 7 of 1930).* An Act amending the *Australian Industries Preservation Act 1906–10*, with respect to the exemption of certain agreements for the carriage of goods.
- Wine Export Bounty Act (No. 10 of 1930).* An Act providing for the payment of bounty on the export of fortified wine.
- Cotton Industries Bounty Act (No. 13 of 1930).* An Act providing for the payment of bounties on the production of seed cotton, lint and cotton yarn.
- Commerce (Trade Descriptions) Act (No. 15 of 1930).* An Act amending the *Commerce (Trade Descriptions) Act 1905–1926*.
- Flax and Linseed Bounties Act (No. 45 of 1930).* An Act providing for the payment of bounties on the production of flax and linseed.
- Dried Fruits Export Control Act (No. 46 of 1930).* An Act amending the *Dried Fruits Export Control Act 1924*.
- Canned Fruits Export Control Act (No. 47 of 1930).* An Act amending the *Canned Fruits Export Control Act 1926*.
- Wine Overseas Marketing Act (No. 48 of 1930).* An Act amending the *Wine Overseas Marketing Act 1929*.
- Gold Bounty Act (No. 75 of 1930).* An Act providing for the payment of a bounty on the production of gold.

§ 3. Method of Recording Imports and Exports.

1. Value of Imports.—The recorded value of goods imported from countries beyond Australia as shown in the following tables 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 their fair market value in the principal markets of the country whence the goods were exported. Acting upon a recommendation of the Tariff Board the section of the Customs Act relating to the valuation of imports was amended, and Section 154 (1) of the Customs Act 1901–1930 now provides that “when any duty is imposed according to value, the value for duty shall be the sum of the following :—

- (a) (i) the actual money price paid or to be paid for the goods by the Australian importer plus any special deduction, or
- (ii) the current domestic value of the goods, whichever is the higher ;
- (b) all charges payable or ordinarily payable for placing the goods free on board at the port of export ; and
- (c) ten per centum of the amounts specified under paragraphs (a) and (b) of this sub-section.

“Current domestic value” is defined as “the amount for which the seller of the goods to the purchaser in Australia is selling or would be prepared to sell for cash, at the date of exportation of those goods, the same quantity of identically similar goods to any and every purchaser in the country of export for consumption in that country.”

Section 157 of the Customs Act provides that when the invoice value of imported goods is shown in any currency other than British currency, the equivalent value in British currency shall be ascertained according to a fair rate of exchange. Under this section it was the practice of the Department of Trade and Customs, until the 8th December, 1920, to convert on the basis of the mint par of exchange. Since the date mentioned, in consequence of a ruling of the High Court, all conversions have been based on the commercial rates of exchange.

2. *Value of Exports.*—Prior to the 1st July, 1929, the recorded value of all goods exported was taken as representing the value in the principal markets of the Commonwealth in the ordinary commercial acceptance of the term. Owing to the inflated values arbitrarily allotted in recent years to commodities which are subject to governmental control or subsidy, some change in the practice of valuation of exports of such commodities became desirable. Accordingly a new basis was adopted as from the 1st July, 1929, for the statistical valuation of exports of sugar, butter and goods on which bounty or rebate is paid which will show for—(a) *Sugar*—the value f.o.b. at which sold to overseas buyers or an f.o.b. value equal to the London market price if shipped on consignment; (b) *Butter*—the current market value less the amount paid as export bonus; (c) *Goods on which bounty or rebate is paid on export*—the value in the principal markets of the Commonwealth in the ordinary commercial acceptance of the term, less the value of any bounty or rebate.

From the 1st July, 1930, the basis adopted for the value of exports of wool provides that the export value of wool sold in Australia for export will be the actual price paid plus the cost of services incurred in placing the wool on board ship, and for wool shipped on consignment the f.o.b. equivalent of ruling Australian prices is to be adopted.

3. *Customs Area.*—The Customs Area, to which all overseas trade statistics issued by this Bureau apply, is the whole area of the Commonwealth of Australia, comprising the States of New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania and Northern Australia (contiguous territory). Other (non-contiguous) territories and mandated areas are treated as outside countries, and trade transactions between the Commonwealth and these non-contiguous territories are part of the overseas trade of the Commonwealth. Such transactions are shown separately, i.e., the trade of the Commonwealth with each particular country is separately recorded and tabulated.

4. *Statistical Classification of Imports and Exports.*—The Oversea Trade Bulletin No. 27 for the year 1929–30, from which the summary figures in this Year Book are extracted, was compiled according to a revised classification which came into operation on 1st July, 1922. In order to meet the demand for more detailed information relating to imports and exports the existing statistical classification was revised and considerably extended during the early part of 1922. The new classification is divided into 21 classes, with 1,660 separate import items and 523 export items.

5. *The Trade Year.*—From the 1st July, 1914, the statistics relating to Oversea Trade are shown according to the fiscal year (July to June). Prior to that date the figures related to the calendar year.

6. *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 and exports were not on uniform lines. The figures in the following table for years prior to federation have been carefully compiled and may be taken as representative of the overseas trade of 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. Prior to 1905 the value of ships imported or exported was not included in the returns of trade.

7. *Ships' Stores.*—Prior to 1906 goods shipped in Australian ports on board overseas vessels 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. A table showing the value of these stores shipped each year since 1906 is given later in this Chapter.

§ 4. Oversea Trade.

1. Total Oversea Trade.—The following table shows the total trade of the Commonwealth with oversea countries from the earliest date for which records are available. To economize space, the period 1826 to 1920-21 has been divided into quinquennia, and the figures shown represent the annual averages for the quinquennia specified. The figures for individual years were published in earlier issues of the Year Book. (See note to table below).

OVERSEA TRADE.—AUSTRALIA, 1826 TO 1929-30.

Period (a).	Recorded Value (c).			Value per Inhabitant.			Percentage of Exports on Imports.
	Imports.	Exports.	Total.	Imports.	Exports.	Total.	
	£1,000.	£1,000.	£1,000.	£ s. d.	£ s. d.	£ s. d.	%
1826 to 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 4 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
1861 „ 65	20,132	18,699	38,831	15 17 1	14 14 9	30 11 10	93.0
1866 „ 70	18,691	19,417	38,108	12 7 4	12 16 11	25 4 3	103.9
1871 „ 75	21,982	24,247	46,229	12 7 2	13 13 6	26 0 8	110.3
1876 „ 80	24,622	23,772	48,394	11 19 7	11 10 9	23 10 4	96.6
1881 „ 85	34,895	28,055	62,950	14 4 3	11 9 5	25 13 8	80.4
1886 „ 90	34,675	26,579	61,254	11 16 11	9 1 0	20 17 11	76.6
1891 „ 95	27,335	33,683	61,018	8 5 2	10 2 5	18 7 7	123.2
1896 „ 1900	33,763	41,094	74,857	9 5 4	11 5 6	20 10 10	121.7
1901 „ 5	39,258	51,237	90,495	10 1 10	13 2 9	23 4 7	130.5
1906 „ 10	51,508	69,336(b)	120,844	12 4 8	16 9 11	28 14 7	134.6
1911 „ 15-16	73,411	74,504	147,915	15 7 4	15 12 10	31 0 2	101.5
1916-17 to 1920-21	100,735	115,066	215,801	19 7 9	22 2 10	41 10 7	114.2
1921-22 ..	103,066	127,847	230,913	18 14 1	23 4 1	41 18 2	124.0
1922-23 ..	131,758	117,870	249,628	23 7 8	20 18 4	44 6 0	89.5
1923-24 ..	140,618	119,487	260,105	24 9 1	20 15 8	45 4 9	85.0
1924-25 ..	157,143	162,030	319,173	26 15 1	27 11 3	54 6 10	103.1
1925-26 ..	151,638	148,772	300,410	25 6 2	24 16 6	50 2 8	98.0
1926-27 ..	164,717	145,140	309,857	26 19 1	23 15 0	50 14 1	88.1
1927-28 ..	147,945	143,213	291,158	23 14 7	22 19 5	46 14 0	96.8
1928-29 ..	143,648	144,850	288,498	22 13 4	22 17 2	45 10 6	100.8
1929-30 ..	129,546	125,127	254,673	20 3 11	19 10 2	39 14 1	96.6

(a) The figures given for the years 1826 to 1920-21 represent the annual averages for the quinquennial periods. The trade of the individual years will be found in Official Year Book No. 21 and earlier issues. From 1916-17 onwards the particulars relate to fiscal years. (b) Prior to 1906 ships' stores were included in the general exports. For value of these goods shipped each year since 1906 see later table, page 141. (c) For actual values for recent years, showing merchandise and bullion and specie separately, see Appendix.

The graphs which accompany this Chapter show the movement of Australian oversea trade from 1855 onwards. In previous issues of the Year Book the fluctuations in such trade have been considered in some detail up to the high imports during the year 1920-21. The enhanced price of commodities and the peculiar conditions affecting Australian trade were responsible for the high value of imports during that year, and in making comparisons with imports during pre-war years, these factors should be taken into consideration.

In 1921-22 the consequent reaction took place and both imports and exports declined. The following year, 1922-23, showed an increase in imports, whilst exports decreased still further. In 1923-24, imports had advanced, but exports were practically the same value as in the previous year. The heavy importation of goods continued during 1924-25 and the value of the oversea trade amounted to £319,173,455, of which

£157,143,296 represented imports and £162,030,159 exports. These figures, so far as total trade and exports are concerned, are the highest recorded, while the figure of imports has been exceeded on two occasions only.

During 1925-26 both imports and exports declined; the total overseas trade showing a decrease of £19 millions compared with the previous year. Exports declined over thirteen millions, due to the reduced quantities of wheat and butter exported. In 1926-27 imports were greater than in any previous year, and exceeded those of 1925-26 by £13,078,416. Exports decreased in value, due mainly to smaller exports of sugar, wool, butter, beef, and zinc.

In 1927-28 the total trade was £18,698,921 less than in 1926-27 and less than either of the two earlier years, due to a decline of £16,771,624 in imports and of £1,927,297 in exports when compared with the corresponding figures for 1926-27. Imports of merchandise showed a large decrease of £17,191,219, owing to reduced imports of motor cars, cotton, linen and silk piece goods, petroleum and rubber. A noticeable feature was the increase in exports of merchandise, which was attributable to increased exports of wool, butter, sugar, apples, beef, hides and zinc. The value of imports per head was less than that in any year since 1922-23.

During 1928-29 the total value of overseas trade was £2,659,707 less than that for the previous year, and was equivalent to the lowest rate per head of population experienced during the last five years. Imports declined by £4,297,089, but exports increased by £1,637,382. Exports were £1,202,571 in excess of imports; a similar excess not having occurred since the year 1924-25. Substantial reductions were experienced in imports of textiles, machinery, rubber, leather, wood and apparel. There was a large decrease in exports of wool and apples, but exports of wheat, sugar, flour, butter, and beef were in excess of those for the previous year.

In the year 1929-30 the decline in the total trade continued, the amount being £33,825,250 less than the previous year. Imports decreased by £14,101,946, and exports by £19,723,304. The value of trade per head of population was the lowest experienced since the war year of 1917-18. There was a heavy fall in imports of textiles, apparel, yarns, metal manufactures, machines and machinery as the result of increased Customs Duties and the efforts to improve the national balance of payments overseas. Exports of wool declined by £25,000,000 and wheat by £10,000,000, but were partly offset by shipments overseas of gold specie amounting to £27,000,000, the excess of imports for the year being £4,418,787.

2. *Balance of Trade.*—The foregoing table shows the percentage of exports on imports for quinquennial periods from 1826 to 1920-21 and for each financial year since 1920-21. Prior to the quinquennial period 1891-95 the balance of trade, with two exceptions, due to temporary dislocations, had been on the side of imports, while from that period to 1919-20 the position was reversed. During the subsequent decennial period to 1929-30, there has been an excess of imports, though exports were in excess in the years 1921-22, 1924-25, 1928-29, and 1930-31.

In recent years, shipments of gold both ways for monetary purposes have impaired the significance of the foregoing table, and at the same time the recorded values of exports have been exaggerated on account of sugar and butter. A table of revised values for recent years, separating commodity from gold movement, will be found in the Appendix.

The following table presents a record of the balance of visible trade since 1914, and of the net obligations abroad of Australian Governments beyond those which are accounted for in the values of imports and exports.

On the credit side, the balance of visible trade has been amended by correcting the inflated export values for sugar and butter which were recorded before July, 1929. The B.A.W.R.A. additions to recorded exports are given in a separate column. The net public imports of capital are expressed as the increase of Public debt raised abroad.

The debit side includes all Government interest payable abroad, and other net payments made by Australian Governments, excluding of course payments for goods, which are recorded as imports. The principal items are for purchases of securities abroad by sinking funds, repayment of principal of British war debt, payment for war-ships and post-office orders, and the principal contra items are for reparations, and payments for Commonwealth steamers sold abroad.

No attempt is made to give a complete picture of the balance of international payments. On the credit side, the private investment of capital would be a large item, and on the debit side, dividends paid abroad and expenses of tourists abroad would make a considerable contribution. The net effect is difficult to estimate even roughly on the data available. The last column of the table giving "addition to funds abroad" must be taken to give only the effect of the operations covered by the table, which may be drastically modified by the movements of private capital.

The data for payments for Government services are defective for past years, so that the results are only approximate. The table is therefore closed at 1927-28, and a new table for the last three years, for which the data are more satisfactory, will be found in the Appendix.

**BALANCE OF AUSTRALIAN TRADE FROM 1st JULY, 1914, TO
30th JUNE, 1928.**

Year.	Estimated excess of Exports.	Increase in Public Debt (Commonwealth and State) raised abroad.	B.A.W.R.A. Dividends.	Total of Columns (2), (3), and (4).	Approximate annual obligations abroad for interest and Government services.	Addition to Funds available abroad.	
						For the Year.	Accumulated from 1st July, 1914.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000
1914-15 ..	- 3.8	6.7	..	2.9	16.0	-13.1	-13.1
1915-16 ..	- 3.0	2.7	..	- 0.3	17.2	-17.5	-30.6
1916-17 ..	21.7	18.4	..	40.1	18.4	21.7	- 8.9
1917-18 ..	19.1	19.4	..	38.5	22.0	16.5	7.6
1918-19 ..	11.6	2.2	..	13.8	22.2	- 8.4	- 0.8
1919-20 ..	50.8	10.8	..	61.6	23.2	38.4	37.6
1920-21 ..	-31.6	13.4	7.7	-10.5	24.3	-34.8	2.8
1921-22 ..	24.8	40.3	9.9	75.0	26.7	48.3	51.1
1922-23 ..	-13.9	7.9	5.9	- 0.1	26.8	-26.9	24.2
1923-24 ..	-21.1	41.6	5.3	25.8	28.5	- 2.7	21.5
1924-25 ..	4.2	2.6	..	6.8	29.5	-22.7	- 1.2
1925-26 ..	- 5.5	40.4	..	34.9	32.0	2.9	1.7
1926-27 ..	-20.7	11.7	..	- 9.0	33.2	-42.2	-40.5
1927-28 ..	- 6.7	54.3	3.9	51.5	35.0	16.5	-24.0
Total ..	25.9	272.4	32.7	331.0	355.0	..	-24.0

The indebtedness of the Commonwealth to the United Kingdom incurred for war purposes during the period 1914-15 to 1917-18 has not been included in the annual increase in Public Debt raised overseas during those years.

3. Value of Imports, Production and Exports.—The following table shows the imports and exports of manufactured goods under certain industrial groups during the year 1928-29 compared with the value of the output of factories engaged in corresponding industries in Australia during the same year. In addition, particulars are given concerning the total imports and exports of all commodities, including both manufactured goods and unmanufactured material, and the total Australian production. The balance shown as not exported represents the value of goods which were used mainly for local consumption or carried over into the next year for shipment overseas or otherwise. The basis of valuation of imports is that assessed for duty purposes; in the case of exports it is the value in the principal Australian markets; and for production either the factory cost of the manufactured goods, the export value or wholesale price of the raw material.

VALUE OF IMPORTS, PRODUCTION, AND EXPORTS—AUSTRALIA, 1928-29.

Industrial Group.	Imports.	Value of Australian Production.	Total.	Exports.	Balance not exported.
	£	£	£	£	£
Foodstuffs of Animal Origin ..	2,272,248	39,282,478	41,554,726	15,296,740	26,257,986
Foodstuffs of Vegetable Origin ..	4,684,512	52,004,696	56,689,208	12,322,838	44,366,370
Spirituous and Alcoholic Liquors ..	1,876,944	8,698,720	10,575,664	593,268	9,982,396
Tobacco and preparations thereof ..	789,352	6,812,791	7,602,143	528,598	7,073,545
Apparel, Textiles and Manufactured Fibres—					
Apparel	5,619,813	41,583,460	47,203,273	158,185	47,045,088
Textiles	24,440,235	9,446,006	33,886,241	109,848	33,776,393
Manufactured Fibres	6,357,635	919,882	7,277,517	76,142	7,201,375
Oils, Fats and Waxes	11,115,674	1,590,812	12,706,486	345,644	12,360,842
Paints and Varnishes	784,594	2,267,275	3,051,869	80,850	2,971,019
Stones and Minerals	105,687	2,149,583	2,255,270	38,305	2,216,965
Metals, Metal Manufactures and Machinery—					
Machines and Machinery	21,131,727	33,480,968	54,612,695	646,668	53,966,027
Metals	19,970,426	27,097,663	47,068,089	506,619	46,561,470
Rubber and Leather	2,085,359	14,328,543	16,413,902	639,341	15,774,561
Wood and Wicker	1,915,673	25,895,118	27,810,791	1,187,466	26,623,325
Earthenware, Cements, China, Glass and Glassware	2,357,952	7,050,136	9,408,088	82,478	9,325,610
Paper and Stationery—					
Paper	5,139,769	3,804,588	8,944,357	25,340	8,919,017
Stationery	2,323,909	17,361,488	19,685,397	21,052	19,664,345
Jewellery, Timepieces and Fancy Goods	1,904,254	817,531	2,721,785	31,465	2,690,320
Optical, Surgical and Scientific Instruments	1,371,941	412,505	1,784,446	346,696	1,437,750
Drugs, Chemicals and Fertilizers	4,486,306	9,026,773	13,513,079	562,825	12,950,254
Miscellaneous	4,431,288	15,731,042	20,162,330	439,543	19,722,787
Total of above manufactured goods	125,165,298	319,762,058	444,927,356	34,019,911	410,907,445
All other items (manufactured and unmanufactured):	18,482,583	100,683,230	119,165,813	110,830,541	8,335,272
Grand Total	143,647,881	420,445,288	564,093,169	144,850,452	419,242,717

The import figure of £18,482,583 for all other items consists mainly of raw materials. The production total of £100,683,230 for other items comprises raw materials, manufacturing processes, and manufactured items of which there are no imports, whilst the export total of £110,830,541 for the same group consists of raw materials.

§ 5. Direction of Oversea Trade.

1. Imports according to Country of Origin.—The following table shows the value of the imports into Australia stated to be the produce or manufacture of the undermentioned countries during the past five years:—

AUSTRALIAN IMPORTS.—COUNTRIES OF ORIGIN, 1925-26 TO 1929-30.

Country of Origin.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
United Kingdom	65,840,655	67,795,177	63,098,037	57,028,288	54,254,702
British Possessions—					
Canada	3,754,425	4,324,421	3,278,269	4,871,643	3,502,421
Ceylon	1,614,084	2,153,219	1,931,770	1,966,171	2,125,141
India	6,628,036	6,661,408	5,559,038	6,052,506	5,021,449
Malaya (British)	1,701,508	2,025,757	1,804,602	1,133,963	812,513
New Zealand	2,651,062	3,123,038	3,306,143	2,202,580	1,677,009
Pacific Islands—					
Nauru	351,696	429,978	342,169	516,544	442,516
Territory of New Guinea	345,603	627,403	561,631	526,285	341,860
Other Islands	785,137	890,075	845,218	848,640	719,404
Papua	348,210	242,939	131,470	117,962	105,098
South African Union	897,306	927,993	652,283	586,879	302,879
Other British Possessions	731,520	754,451	904,745	639,831	869,651
Total British Possessions	19,786,587	22,160,677	19,317,336	19,463,004	15,919,941
Total British Countries	85,627,242	89,955,854	82,415,373	76,491,242	70,174,643
Foreign Countries—					
Belgium	850,276	941,954	936,804	910,797	985,005
China	691,751	785,068	685,518	633,217	568,664
France	3,758,740	4,767,163	3,877,113	3,700,303	3,070,645
Germany	2,821,789	4,359,514	4,621,469	4,545,501	4,341,678
Italy	1,446,618	1,564,843	1,362,061	1,449,629	1,350,849
Japan	4,372,083	5,183,470	4,282,614	4,707,299	4,181,643
Netherlands	818,786	1,092,242	972,633	1,145,378	1,134,921
Netherlands East Indies	6,191,895	6,451,688	5,703,345	7,091,619	6,282,653
Norway	1,106,234	1,055,020	925,867	890,414	655,523
Pacific Islands	129,028	157,720	173,802	220,174	268,409
Philippine Islands	311,457	215,176	208,547	163,030	174,518
Sweden	1,871,123	1,847,290	1,873,877	1,480,808	1,671,786
Switzerland	1,997,768	2,458,810	2,117,676	1,969,079	1,566,721
United States of America	37,234,257	41,394,277	35,005,736	35,308,345	30,316,208
Other Foreign Countries	2,409,131	2,486,505	2,782,535	2,941,046	2,302,069
Total Foreign Countries	66,010,936	74,760,740	65,529,597	67,156,639	59,371,292
Total	151,638,178	164,716,594	147,944,970	143,647,881	129,545,935

(a) Excluding Outside Packages, £1,535,385.

In view of the effect that the varying prices of commodities have upon the value of imports, it is somewhat difficult to ascertain from the preceding table the relative importance of the various countries in the import trade of Australia in successive years. A better idea of the proportion of imports supplied by each country during each year may be obtained from the following table of percentages.

2. Percentage of Imports from Various Countries.—The following table gives the relative proportions of the import trade of Australia which have been supplied by British countries and foreign countries respectively.

**AUSTRALIAN IMPORTS.—PERCENTAGES FROM COUNTRIES OF ORIGIN,
1925-26 TO 1929-30.**

Country of Origin.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	per cent.				
United Kingdom	43.42	41.16	42.65	39.70	41.88
British Possessions—					
Canada	2.48	2.62	2.22	3.39	2.70
Ceylon	1.07	1.31	1.31	1.37	1.64
India	4.37	4.04	3.76	4.21	3.88
Malaya (British)	1.12	1.23	1.22	0.79	0.63
New Zealand	1.75	1.90	2.23	1.53	1.30
Pacific Islands—					
Nauru	0.23	0.26	0.23	0.36	0.34
Territory of New Guinea	0.23	0.39	0.38	0.37	0.26
Other Islands	0.50	0.54	0.57	0.59	0.56
Papua	0.23	0.14	0.09	0.08	0.08
South African Union	0.59	0.56	0.44	0.41	0.23
Other British Possessions	0.48	0.46	0.61	0.45	0.67
Total British Possessions	13.05	13.45	13.06	13.55	12.29
Total British Countries	56.47	54.61	55.71	53.25	54.17
Foreign Countries—					
Belgium	0.56	0.57	0.63	0.63	0.76
China	0.46	0.48	0.46	0.44	0.44
France	2.48	2.89	2.62	2.58	2.37
Germany	1.86	2.65	3.12	3.16	3.35
Italy	0.95	0.95	0.92	1.01	1.04
Japan	2.88	3.15	2.89	3.28	3.23
Netherlands	0.54	0.66	0.66	0.80	0.88
Netherlands East Indies	4.08	3.92	3.86	4.94	4.85
Norway	0.73	0.64	0.63	0.62	0.51
Pacific Islands	0.09	0.10	0.12	0.15	0.21
Philippine Islands	0.21	0.13	0.14	0.11	0.13
Sweden	1.23	1.12	1.27	1.03	1.29
Switzerland	1.32	1.49	1.43	1.37	1.21
United States of America	24.55	25.13	23.66	24.58	23.40
Other Foreign Countries	1.59	1.51	1.88	2.05	2.16
Total Foreign Countries	43.53	45.39	44.29	46.76	45.83
Total	100	100	100	100	100

The percentage of imports from the United Kingdom declined during the first two years of the quinquennial period under review, with a slight recovery in 1927-28, and a further substantial decrease in 1928-29, the proportion decreasing from 43.42 per cent. in 1925-26 to 39.70 per cent. in 1928-29. In 1929-30, however, imports from United Kingdom recovered 2.18 per cent. During the period, imports from the United States declined from 24.55 per cent. in 1925-26 to 23.40 per cent. in 1929-30, the noticeable feature being an increase or fall each year corresponding somewhat to the decline or recovery in the imports from the United Kingdom. Imports from British possessions during the five years have generally shown a downward tendency, whilst those from foreign countries are rising, due mainly to increased imports from Germany and Netherlands East Indies. There have been no outstanding alterations in the proportions of the imports supplied by other countries. Comparing the proportion of imports supplied by the United Kingdom during 1929-30 with that for 1925-26, it will be seen that there was a reduction of 1.54 per cent., whilst trade with British Possessions declined 0.76, and trade with foreign countries correspondingly increased 2.30 per cent. The table on page 117 shows that, while imports from British countries decreased by £6,316,599 in 1929-30, imports from foreign countries decreased to the extent of £7,785,347.

3. Direction of Exports.—The following tables show a large decrease in the proportion of Australian exports to the United Kingdom during the year 1926–27, a partial recovery in the two subsequent years, and a particularly heavy increase in 1929–30. This is due to exceptionally large shipments of gold amounting to £22,948,732 in 1929–30 as compared with £2,029,559 in 1928–29. The exports of gold to the following countries increased during 1929–30, viz. :—Ceylon, £398,500; India, £2,218,502; New Zealand, £250,005; and the United States, £1,000,000. There has been a steady decline in the proportion exported to France, Italy, Norway and Netherlands during the quinquennial period. During 1929–30, exports to most countries decreased in value, the largest reductions occurring in the exports to Belgium, Egypt, France, Germany, Italy, Japan, Russia and India. This decrease was due to the reduced export prices obtained for Australian primary produce; mainly wool and wheat. Exports to the United States rapidly increased during the year 1927–28, but have more speedily declined in the subsequent years; the proportion being 12.82 per cent. in 1926–27 and 4.18 per cent. in 1929–30. The value of imports from United States annually exceeds the value of exports from Australia to that country by more than £20,000,000, but the difference has been very marked during recent years, the value of imports from United States in 1928–29 being no less than 29 millions in excess of the value of the Australian exports. Exports to British countries (excluding exports of bullion and specie), during the quinquennial period have oscillated about 4 per cent. from year to year. The following table shows the value of exports from Australia to the more important countries during the five years 1925–26 to 1929–30 :—

EXPORTS FROM AUSTRALIA TO VARIOUS COUNTRIES, 1925–26 TO 1929–30.

(INCLUDING BULLION AND SPECIE.)

Country.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
United Kingdom	61,547,790	48,351,780	54,279,714	55,172,552	66,306,195
British Possessions—					
Canada	858,934	1,171,687	856,767	813,992	743,742
Ceylon	506,100	478,606	556,587	603,742	905,691
Fiji	570,828	440,280	485,882	468,211	457,733
Hong Kong	671,824	463,041	482,359	600,889	387,115
India	3,364,063	3,637,382	2,588,903	8,874,947	5,452,421
Malaya (British)	2,132,016	1,930,250	2,030,680	1,984,481	1,399,321
Mauritius	66,190	109,188	87,086	129,752	72,178
New Zealand	5,157,262	4,484,395	3,854,635	3,730,565	3,874,400
Papua	250,678	223,293	203,618	173,042	170,692
South African Union	2,201,531	1,741,831	2,547,194	1,953,313	1,050,107
Other British Possessions	1,293,983	1,336,096	1,231,624	1,524,021	1,222,534
Total British Possessions	17,074,314	15,925,114	15,225,335	20,887,805	15,684,934
Total British Countries	78,622,104	64,276,894	69,505,049	70,060,357	81,991,120
Foreign Countries—					
Belgium	6,175,337	8,393,127	9,320,508	9,044,614	5,536,231
Chile and Peru	726,118	265,197	356,013	428,431	207,014
China	745,784	410,073	310,482	1,117,142	295,157
Egypt	2,919,742	3,853,649	3,046,892	3,015,200	1,792,223
France	18,549,742	17,627,139	15,166,747	15,141,155	10,134,578
Germany	6,035,720	9,908,625	12,027,313	9,730,889	6,246,960
Italy	4,654,818	5,514,300	5,138,034	5,169,404	2,761,293
Japan	11,043,159	10,362,990	12,571,282	11,518,086	6,555,603
Netherlands	1,068,639	1,309,668	492,466	653,335	451,603
Netherlands East Indies	2,163,691	2,052,857	1,945,734	2,075,664	2,122,722
Norway	183,432	76,800	1,936,515	5,026	21,891
Pacific Islands	437,001	448,585	448,218	506,367	358,955
Philippine Islands	563,369	483,722	456,959	430,993	390,760
Russia	10	1,092	2,204,460	1,574,093	343,023
Spain	216,083	78,651	3,573	22,899	82,899
Sweden	151,339	139,046	430,266	413,938	135,405
United States of America	12,953,877	18,579,094	8,954,823	5,831,794	5,233,772
Other Foreign Countries	501,969	1,450,798	820,566	1,210,450	466,540
Total Foreign Countries	70,149,830	80,863,473	73,708,021	68,790,095	43,136,019
Total	148,771,934	145,140,367	143,213,070	144,850,452	125,127,148

4. Percentage of Exports to Various Countries.—The next table gives the relative proportions of the export trade of Australia with the countries specified, together with the proportions shipped to the United Kingdom, British Possessions and foreign countries respectively :—

**EXPORTS FROM AUSTRALIA.—PERCENTAGES TO VARIOUS COUNTRIES,
1925-26 TO 1929-30.**

Country.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	per cent.				
United Kingdom	41.43	33.37	37.90	38.09	(a) 52.99
British Possessions—					
Canada	0.58	0.81	0.60	0.56	0.59
Ceylon	0.34	0.33	0.39	0.42	0.72
Fiji	0.39	0.31	0.34	0.34	0.29
Hong Kong	0.45	0.32	0.33	0.41	0.21
India	2.27	2.44	1.81	6.13	4.36
Malaya (British)	1.43	1.33	1.42	1.37	1.12
Mauritius	0.04	0.08	0.03	0.09	0.04
New Zealand	3.33	2.93	2.69	2.58	3.10
Papua	0.17	0.15	0.14	0.12	0.14
South African Union	1.48	1.20	1.99	1.35	0.84
Other British Possessions	0.87	0.92	0.86	1.05	1.13
Total British Possessions	11.35	10.82	10.63	14.42	12.54
Total British Countries	52.78	44.19	48.53	52.51	65.53
Foreign Countries—					
Belgium	4.16	5.73	6.51	6.24	4.42
Chile and Peru	0.49	0.18	0.25	0.30	0.12
China	0.50	0.28	0.21	0.77	0.22
Egypt	1.97	2.66	2.13	2.70	1.43
France	12.49	12.17	10.59	10.45	8.10
Germany	4.70	6.84	8.40	6.72	4.99
Italy	3.13	3.81	3.60	3.57	2.21
Japan	7.43	7.15	8.78	7.95	5.24
Netherlands	0.73	0.91	0.34	0.45	0.37
Netherlands East Indies	1.46	1.42	1.36	1.43	1.70
Norway	0.12	0.05	0.01	0.00	0.02
Pacific Islands	0.29	0.31	0.31	0.35	0.28
Philippine Islands	0.38	0.33	0.32	0.30	0.31
Russia	0.00	0.00	1.54	1.09	0.21
Spain	0.15	0.05	0.00	0.01	0.07
Sweden	0.10	0.10	0.30	0.29	0.11
United States of America	8.72	12.82	6.25	4.03	4.18
Other Foreign Countries	0.40	1.00	0.57	0.84	0.49
Total Foreign Countries	47.22	55.81	51.47	47.49	34.47
Total	100	100	100	100	100

(a) Includes heavy shipments of gold.

5. Principal Imports and Exports—Countries.—The total value of imports from, and exports to, each of the more important countries during 1929-30 in order of value of total trade, together with brief particulars of the principal commodities interchanged with such countries, is given hereunder. Should further details be required reference may be made to the annual publication "Oversea Trade Bulletin, No. 27," issued by this Bureau, which gives details of the trade with Australia of 38 of the principal countries of the world

during the past five years. This publication also furnishes information regarding the country of origin of each statistical item of import for the years 1928-29 and 1929-30, showing the value and (where available) the quantity imported from each country. The value of each item imported into each of the States is also shown. The publication referred to also gives information as to the country to which each item of exports was shipped during these years.

United Kingdom. *Total Imports of United Kingdom Origin, £54,254,702.* The two outstanding classes of goods imported were—Machines, machinery, and manufactures of metal, £19,279,528, and apparel, textiles, yarns, etc., £18,427,684. Imports of the undermentioned goods also contributed largely to the total:—Paper and stationery; drugs and chemicals; whisky; cigarettes; rubber and rubber manufactures; optical, surgical, and scientific instruments; chinaware and earthenware; glass and glassware; and fancy goods.

Total Exports to United Kingdom, £66,306,195. Of this total £65,793,753 represented Australian produce. The principal items of export were—Gold specie, £22,947,022; wool, £12,648,045; butter, £5,936,242; wheat, £5,376,889; and sugar, £2,112,961. Other commodities which bulked largely were—Pig lead; frozen meats; hides and skins; dried and fresh fruits; flour; wine; copper; and zinc.

United States of America. *Total Imports of United States Origin, £30,316,208.* The following were the more important items of import:—Motor chassis, bodies, etc., £4,677,777; petroleum and shale spirit, etc., £4,075,864; undressed timber, £1,811,759; unmanufactured tobacco, £1,739,423; rubber manufactures; metal manufactures; apparel, textiles, etc.; electrical machinery, materials and appliances; motive-power machinery; lubricating (mineral) oil; kerosene; musical instruments; paper and stationery; sulphur; and sausage casings.

Total Exports to United States, £5,233,772. Of this total £5,056,599 represented Australian produce. The principal exports were—Hides and skins, £1,658,986; wool, £1,154,433; gold specie, £1,000,000; sausage casings; pearlshell; and ores. The value of the exports of the above commodities represents 89 per cent. of the total exports to the United States.

France. *Total Imports of French Origin, £3,070,645.* Chief imports were—Piece goods of silk or containing silk, £642,515; velvets, velveteens, plushes, etc., £175,720; trimmings for attire, £135,173; blouses, skirts, etc.; woollens; rubber manufactures; paper and stationery; perfumery and toilet preparations; dressed furs; brandy; gums and resins; lace for attire; gloves; wine; piece goods of cotton and linen; hats and caps; and olive oil.

Total Exports to France, £10,134,578. Of this total £9,893,340 was Australian produce. Principal exports were—Wool, £8,075,006; sheep skins, £1,611,157; copra; concentrates; wheat; precious stones unset, cameos, etc.; and frozen mutton.

Japan. *Total Imports of Japanese Origin, £4,181,643.* Principal imports—Piece goods of silk or containing silk, £2,387,213; cotton and linen piece goods, £291,258; raw silk; undressed timber; plywood; apparel and attire; crockery and other household ware; glass and glassware; oils; fancy goods; and fish.

Total Exports to Japan, £6,555,003. Of this total, £6,519,625 was Australian produce. Chief exports—Wool, £4,434,746; wheat, £702,913; tallow; zinc; pig lead; trochus shell; beef; milk and cream; and infants' and invalids' food.

Germany. *Total Imports of German Origin, £4,341,678.* Principal imports—Machinery and metal manufactures, £1,417,616; apparel and textiles, £1,021,931; drugs, chemicals and fertilizers, £355,118; paper and stationery, £238,806; toys, £135,960; timepieces; fancy goods; bags and baskets; and pianos.

Total Exports to Germany, £6,246,960. Of this total, £6,193,768 was the produce of Australia. Chief exports were—Wool, £4,626,041; pig lead, £419,870; apples, £342,104; hides and skins, £331,606; beef; sausage casings; zinc bars, blocks, etc.; and eucalyptus oil.

Belgium. *Total Imports of Belgian Origin, £985,005.* Principal imports were—Glass and glassware, £253,576; velvets, etc., £66,310; cotton and linen piece goods, £65,939; cameos, and precious stones unset, £61,644; paper, £45,386; arms; gloves; and electrical machinery.

Total Exports to Belgium, £5,536,231. Of this total £5,524,775 was the produce of Australia. Chief items were—Wool, £3,316,902; pig lead, £711,556; beef, £394,244; zinc concentrates, £241,115; hides and skins, £204,301; zinc bars blocks, etc., £109,000; wheat, £104,100; silver and silver-lead ore and concentrates; and copper in matte.

India. Total Imports of Produce or Manufacture of India, £5,021,449. Bags and sacks valued at £2,896,501 represent 57 per cent. of the total imports. The other principal items were—Hessians, £550,937; linseed, £451,172; tea, £340,759; hides and skins, £271,597; gums and resins; coffee and chicory; rice; mats, matting of coir; paraffin wax; kapok; and jute.

Total Exports to India, £5,452,421. Of this total £5,447,308 represented Australian produce. The chief exports were—Gold specie, £2,218,502; wheat, £1,937,543; silver, £846,971; horses; tallow; wool; milk and cream; undressed timber; and jams and jellies.

Netherlands East Indies. Total Imports of Netherlands East Indies Origin, £6,282,653. The principal imports were—Petroleum spirit; including benzine, etc., £3,175,089; tea, £1,101,911; crude petroleum, £898,971; kapok, £269,613; kerosene; flax and hemp; coffee and chicory; and crude rubber.

Total Exports to Netherlands East Indies, £2,122,722. Of this total £2,101,670 was the produce of Australia. Chief exports were—Flour, £924,620; butter, £476,915; preserved milk and cream, £336,379; leather, £56,084; biscuits; bacon and hams; medicines; fruit juices and syrups; and soap.

New Zealand. Total Imports of New Zealand Origin, £1,677,009. The principal items were—Timber, £459,278; hides and skins, £250,145; gold, £164,235; wool, £163,551; horses, £84,090; flax and hemp, £83,656; fish, £82,957; meats; linseed and other seeds; and grain and pulse.

Total Exports to New Zealand, £3,874,400. Of this total £3,102,529 was Australian produce. The chief items were—Machinery and metal manufactures, £480,801; timber, £347,181; manufactured tobacco, £291,985; apparel, textiles, and manufactured fibres, £250,278; gold, £250,005; coal, £218,813; talking machines, phonographs, etc., £173,296; fruits, dried and fresh, £165,309; tea; horses; and medicines.

Italy. Total Imports of Italian Origin, £1,350,849. Chief imports were—Silk piece goods, £211,371; hats, £145,925; hides and skins, £133,680; metals, metal manufactures and machinery, £119,427; edible nuts, £49,458; essential oils; flax and hemp; and pneumatic tyres.

Total Exports to Italy, £2,761,293. Of this total, £2,743,756 was Australian produce. Chief exports were—Wool, £1,641,166; wheat, £738,685; hides and skins, £152,088; beef, £102,112; tallow, £102,018; and copra.

Canada. Total Imports of Canadian Origin, £3,502,421. The principal imports were—Printing paper, £894,435; Chassis for motor cars, £656,269; fish preserved in tins, £544,789; undressed timber, £307,228; agricultural, etc., implements and machinery, £143,570; other vehicles and parts, £112,362; dressed timber, £104,367; iron and steel pipes and tubes, £75,564; electrical machinery and appliances, £50,661; motive-power machinery; gloves; and rubber manufactures.

Total Exports to Canada, £743,742. Of this total £737,786 was Australian produce. Chief items were—Fruits, dried, £139,513; meats, £130,361; wool—greasy, scoured and tops, £82,850; sugar (cane), £81,250; butter, £72,997; and hides and skins.

Malaya (British). Total Imports of Malayan (British) Origin, £812,513. Principal items were—Rubber and manufactures thereof, £545,161; spices, £138,902; sago and tapioca, £35,863; tin ingots; oils; gums and resins; fruits and vegetables, preserved; bamboo and cane.

Total Exports to Malaya (British), £1,399,321. Of this total, £1,375,486 was the produce of Australia. Chief exports were—Flour, £556,317; milk and cream, £344,028; butter, £119,132; frozen meats, £104,425; metals, metal manufactures and machinery; fruits, fresh and preserved; soap; bacon and hams; leather; and sheep.

Pacific Islands (British and Foreign). Total Imports of Produce of the Pacific Islands £1,772,189. Chief items were—Rock phosphates, £988,280; copra, £447,577; gold bullion, £115,524; shells; hides and skins; timber; fruits, fresh; molasses; and cocoa beans.

Total Exports to Pacific Islands, £1,646,164. Of this amount £1,197,288 was the produce of Australia. The exports to these islands cover a very wide range of commodities. The outstanding groups were—Foodstuffs of vegetable origin, £416,242; machines machinery and metal manufactures, £239,705; foodstuffs of animal origin, £215,870; tobacco, cigars and cigarettes, £132,272; coal and coke, £99,495; and apparel, textiles, etc., £92,159. The chief individual items were—Flour; tobacco; coal; frozen meats; meats preserved in tins; timber; bran, pollard, and sharps; cocoa and chocolate; rice; and ale, beer, etc.

South African Union. Total Imports of Produce of South African Union, £302,879. Principal items were—Precious stones, £139,259; fish, £64,599; asbestos, crude, £29,564; tobacco; maize; and glue pieces and sinews.

Total Exports to South African Union, £1,050,107. Of this total £1,041,515 was the produce of Australia. Chief exports were—Wheat, £406,211; flour, £194,870; timber, £188,958; tallow, £75,420; milk and cream, £35,293; lead, pig; gelatine and glue of all kinds; and soap.

Egypt. Total Imports of Egyptian Origin, £54,108. Chief items were—Asphalt, bitumen and natural pitch, £35,783; and gums and resins, £10,577.

Total Exports to Egypt, £1,792,223. Principal items were—Flour, £1,291,730; wheat, £300,528; frozen meat, £111,563; and butter, £53,939.

Ceylon. Total Imports of Ceylon Origin, £2,125,141. The chief items were—Tea, £1,796,972; crude rubber, £197,029; nuts, £51,968; fibres; cocoa beans; and yarns.

Total Exports to Ceylon, £905,691. Of this total £903,526 was Australian produce. The principal exports were—Gold specie, £398,500; flour, £222,343; undressed timber, £120,873; frozen meats; milk and cream; butter; and fresh fruits.

Sweden. Total Imports of Swedish Origin, £1,671,786. Chief items were—Timber, £444,185; paper, £366,023; wood pulp, £263,998; dairy implements and machinery, £91,224; paper boards, £84,904; matches, £71,482; vacuum cleaners, £34,341; electrical machinery and appliances; and roller bearings and ball bearings.

Total Exports to Sweden, £135,405. Chief items were—Wool, greasy, £55,335; hides—cattle, £40,166; and apples, fresh, £22,930.

Russia. Total Imports of Russian Origin, £149,556. Chief items were—Salmon in tins; dressed furs; bristles, horsehair drafts; and hides and skins.

Total Exports to Russia, £343,023. Chief item was wool, £328,285.

Switzerland. Total Imports of Swiss Origin, £1,566,721. Chief items were—Piece goods of silk, £528,538; clocks and watches, £260,563; trimmings and ornaments for attire, £164,095; handkerchiefs; cheese; talking machines; lace for attire; and other apparel and textiles.

Total Exports to Switzerland, £17,553. Chief item was—Timepieces and parts, £6,440.

Netherlands. Total Imports of Netherlands Origin, £1,134,921. Principal items were—Electrical machinery and appliances, £421,266; artificial silk, £134,551; paper, £101,338; caramel, caramel paste, cocoa butter, etc., £48,050; jewellery, £46,631; gin, £33,638; piece goods; glass and glassware; and drugs and chemicals.

Total Exports to Netherlands, £451,603. Chief exports were—Ores—Iron, £148,255; wheat, £113,960; wool, £44,061; fresh apples, £36,314; copra, £25,890; tallow, £24,754; and flour, £16,121.

China. Total Imports of Chinese Origin, £568,664. The principal items were—Tea, £54,509; ginger, £46,178; edible nuts, £40,594; oils, £35,834; rice, £35,184; bristles, horsehair drafts, £35,020; cosies and cushions, etc., £30,697; hats and caps, £29,644; silk piece goods; tung, turkey red, etc., oil; and lace for attire.

Total Exports to China, £273,507. Of this total £262,872 was Australian produce. Principal items were—Milk and cream, £99,505; butter, £58,646; leather, £41,355; sandalwood, £19,521; meats, £9,849; jams and jellies; and undressed timber.

Norway. Total Imports of Norwegian Origin, £655,523. Principal items were—Paper, £219,061; dressed timber, £212,565; preserved fish, £167,770; ores, clays etc.; and calcium carbide.

Total Exports to Norway, £21,891. Chief item was—Vessels transferred abroad, £19,500.

Philippine Islands. *Total Imports of Philippine Islands Origin, £174,518.* Chief items were—Timber, £79,219; hemp, £77,844; tobacco and cigars; and hats and caps.

Total Exports to Philippine Islands, £390,750. Principal items were—Frozen meats, £150,807; flour, £102,408; butter, £66,814; cattle, £22,316; bacon and hams; milk and cream; onions; and eucalyptus oil.

Hong Kong. *Total Imports of Hong Kong Origin, £17,420.* Chief items were—Ginger, £6,143; clouded bamboo, £2,452; grass straw; and wicker, bamboo and cane.

Total Exports to Hong Kong, £337,115. Chief items were—Butter, £58,993; sandalwood, £57,688; leather, £49,301; frozen meats, £36,406; flour, £31,439; milk and cream; béche-de-mer; pig lead; and bacon and hams.

Spain. *Total Imports of Spanish Origin, £220,574.* Chief items were—Edible nuts, £77,678; corks, etc., £70,990; liquorice; wine; and paints and varnishes.

Total Exports to Spain, £82,899. Chief items were—Wool—greasy, £65,176; and hides and skins, £16,479.

6. Imports—States, and Total.—Imports are recorded at the port of landing and are credited to the State in which the port is situated. Complete records are not obtainable of interstate trade, and the State totals represent, therefore, the value of oversea goods consigned to the various States. They do not, moreover, represent the consumption within each State, as a proportion of the imports into New South Wales and Victoria are subsequently transhipped to the other States. The extent of this transhipment is indicated by the fact that in 1929–30 the excess of imports over exports in New South Wales amounted to £8.4 per head and in Victoria to £3.0 per head, whereas in the other States there was an excess of exports amounting to £8.1 per head in Queensland, South Australia £10.0, Western Australia £17.4, and Tasmania £5.4. The total imports for the last five years are given hereunder.

IMPORTS.—STATES, AND TOTAL, 1925–26 TO 1929–30.

State.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
	£	£	£	£	£
New South Wales ..	64,009,929	68,933,904	65,081,801	63,491,751	56,517,208
Victoria ..	50,327,055	55,560,936	47,911,131	46,005,650	41,881,524
Queensland ..	13,772,854	13,497,758	11,760,214	11,594,348	11,326,844
South Australia ..	14,079,788	15,507,260	12,509,300	11,305,866	9,228,785
Western Australia ..	7,896,174	9,447,033	9,011,294	9,453,169	8,761,171
Tasmania ..	1,518,210	1,732,889	1,640,817	1,765,052	1,792,529
Northern Territory ..	34,168	36,814	30,413	32,045	37,874
Total ..	151,638,178	164,716,594	147,944,970	143,647,881	129,545,935

(a) Excluding outside packages, £1,535,385.

7. Exports—States, and Total.—The following table gives the value of exports shipped from each State during the last five years. It must be noted that the value of goods transferred from one State to another for shipment to oversea countries is shown as an export from the State from which the goods were finally dispatched.

EXPORTS.—STATES, AND TOTAL, 1925–26 TO 1929–30.

State.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
	£	£	£	£	£
New South Wales ..	54,001,814	62,815,077	51,882,915	49,288,900	35,761,807
Victoria ..	33,107,576	34,741,689	31,728,558	39,437,225	36,499,943
Queensland ..	26,384,916	14,721,201	21,855,054	23,251,716	18,821,824
South Australia ..	19,450,144	17,123,012	18,030,143	14,811,542	15,009,496
Western Australia ..	12,611,631	13,067,922	16,252,679	15,301,307	16,004,694
Tasmania ..	2,970,226	2,396,496	3,434,456	2,706,042	2,970,913
Northern Territory ..	35,902	29,786	29,265	53,720	58,471
Total ..	148,562,209	144,895,183	143,213,070	144,860,452	125,127,148

8. Trade of Principal Ports.—The next table gives the value of imports received at, and exports despatched from, the principal ports of Australia during 1928-29 and 1929-30.

OVERSEA TRADE.—PRINCIPAL PORTS, 1928-29 AND 1929-30.

Port.	1928-29.			1929-30.		
	Imports.	Exports.	Total.	Imports.	Exports.	Total.
<i>New South Wales.</i>	£	£	£	£	£	£
Sydney	61,451,153	48,183,967	109,615,120	54,746,941	34,561,106	89,308,047
Newcastle ..	1,705,951	980,340	2,686,291	1,601,026	853,713	2,454,739
Other Ports ..	334,647	144,593	479,240	189,241	346,988	516,229
Total	63,491,751	49,288,900	112,780,651	56,517,208	35,761,807	92,279,015
<i>Victoria.</i>						
Melbourne ..	44,446,014	34,321,608	78,767,622	40,782,668	34,436,204	75,218,872
Geelong	1,449,618	3,141,361	4,590,979	958,265	939,467	1,897,732
Other Ports ..	110,018	1,974,256	2,084,274	140,591	1,124,272	1,264,863
Total	46,005,650	39,437,225	85,442,875	41,881,524	36,499,943	78,381,467
<i>Queensland.</i>						
Brisbane	9,954,107	15,246,478	25,200,585	9,541,510	13,666,876	23,208,386
Rockhampton ..	304,983	640,506	945,489	303,684	612,583	916,267
Townsville ..	752,859	2,562,519	3,315,378	944,482	1,733,962	2,678,444
Other Ports ..	582,399	4,802,213	5,384,612	537,168	2,808,403	3,345,571
Total	11,594,348	23,251,716	34,846,064	11,326,844	18,821,824	30,148,668
<i>South Australia.</i>						
Port Adelaide, including Adelaide	11,101,541	9,889,856	20,991,397	8,879,188	9,156,449	18,035,637
Port Pirie	104,917	3,456,179	3,561,096	288,300	3,696,760	3,985,060
Wallaroo	52,293	936,388	988,681	40,543	929,333	969,876
Other Ports ..	47,115	529,119	576,234	20,754	1,226,954	1,247,708
Total	11,305,866	14,811,542	26,117,408	9,228,785	15,009,496	24,238,281
<i>Western Australia.</i>						
Fremantle (Perth)	9,218,962	11,525,249	20,744,211	8,409,499	12,323,070	20,732,569
Bunbury	38,774	1,261,516	1,300,290	20,005	1,194,920	1,214,925
Other Ports ..	195,433	2,514,542	2,709,975	331,667	2,486,704	2,818,371
Total	9,453,169	15,301,307	24,754,476	8,761,171	16,004,694	24,765,865
<i>Tasmania.</i>						
Hobart	890,542	2,052,717	2,943,259	869,947	2,444,565	3,314,512
Launceston ..	820,316	530,844	1,351,160	765,099	416,246	1,181,345
Other Ports ..	54,194	122,481	176,675	157,483	110,102	267,585
Total	1,765,052	2,706,042	4,471,094	1,792,529	2,970,913	4,763,442
<i>Northern Territory.</i>						
Port Darwin ..	32,045	53,720	85,765	37,874	58,471	96,345
Grand Total	148,647,881	144,860,452	288,498,883	129,545,935	125,127,148	254,673,083

§ 6. Exports to Eastern Countries.

1. Principal Articles Exported.—The following table shows the value of exports of Australian and other produce from Australia to Eastern countries during the last five years. The principal countries concerned in this trade are China, India and Ceylon, Japan, Netherlands East Indies and Timor (Portuguese), Philippine Islands, Malaya (British), and Hong Kong. During the year 1928–29 the export trade with Eastern countries increased considerably, due mainly to exceptionally heavy shipments of wheat to India. Increased exports of butter, flour, meats, milk and cream, sandalwood and skins also were made in 1928–29, but exports of copper, jams, timber and wool declined. The heavy decline in exports to Eastern countries, which occurred in 1929–30, was caused by reduced shipments of wheat to India and a fall in the export price of wool shipped to Japan and other countries.

EXPORTS FROM AUSTRALIA TO EASTERN COUNTRIES.—PRINCIPAL COMMODITIES, 1925–26 TO 1929–30.

Article.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
	£	£	£	£	£
Biscuits	117,268	92,263	85,791	76,893	58,990
Butter	794,427	761,498	834,136	873,290	826,016
Cheese	11,299	12,109	10,708	10,629	12,163
Coal	211,899	215,701	180,628	67,006	27,089
Copper	19,620	17,568	..	..	..
Grain and pulse—					
Wheat	4,058,427	1,991,341	1,415,714	8,756,564	2,644,742
Flour	2,262,492	1,827,140	1,779,947	1,853,074	1,851,621
Other (prepared and unprepared) ..	13,911	19,708	21,054	56,385	77,226
Hay, chaff, and compressed fodder ..	22,082	30,966	18,797	16,131	20,362
Horses	105,092	104,048	110,353	114,316	122,737
Iron Ore .. .. .	..	..	..	..	92,831
Iron and steel (scrap)	4,994	19,096	12,004	18,307	26,597
Jams and jellies	66,010	60,881	55,765	46,498	33,296
Lead, Pig	375,148	144,737	112,963	123,953	92,323
Leather	420,446	322,195	300,983	325,544	164,089
Meats	477,799	488,038	479,303	562,899	555,613
Milk and cream	1,334,361	921,597	1,107,450	1,221,484	919,376
Pearl shell and trochus shell	95,522	87,263	95,950	95,327	66,612
Sandalwood	252,800	251,625	194,616	278,236	89,427
Skins, hoofs, horns, bones, sinews, tallow	690,184	651,228	547,190	578,041	540,389
Sulphate of ammonia	56,054	30,079	3,105	..	..
Timber (undressed)	199,959	332,129	239,806	151,712	139,116
Wool	5,896,777	7,892,553	10,371,128	8,906,488	4,512,341
Other merchandise	1,303,388	1,171,877	1,297,468	1,329,404	1,047,579
Total merchandise	18,784,457	17,445,418	19,274,862	25,302,183	13,920,535
Specie, and gold and silver bullion ..	2,407,407	2,274,885	1,669,388	1,845,964	3,516,873
Total Exports	21,191,924	19,720,303	20,944,250	27,208,147	17,437,408

2. Destination of Exports.—The next table shows the destination of the merchandise exported to Eastern countries during the last five years.

EXPORTS OF MERCHANDISE FROM AUSTRALIA TO PRINCIPAL EASTERN COUNTRIES.—1925–26 TO 1929–30.

Country.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
	£	£	£	£	£
China	745,784	410,073	310,482	1,075,718	273,507
East Indies	2,131,407	2,050,872	1,948,963	2,059,017	2,081,500
Hong Kong	661,979	463,041	482,350	600,869	336,315
India and Ceylon	1,524,743	1,757,470	1,490,102	7,702,148	2,894,139
Japan	11,043,159	10,362,090	12,571,282	11,518,986	6,555,003
Malaya (British)	2,114,016	1,917,250	2,007,680	1,974,431	1,389,821
Philippine Islands	563,369	483,722	456,980	430,998	390,750
Total	18,784,457	17,445,418	19,274,862	25,302,183	13,920,535

§ 7. Classified Summary of Australian Oversea Trade.

1. Imports.—The following table shows the value of imports into Australia during each of the last five years, arranged in classified order in accordance with the statistical classification which came into operation on 1st July, 1922 :—

AUSTRALIAN IMPORTS.—IN CLASSES, 1925-26 TO 1929-30.

Classes.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
I. Animal foodstuffs, etc. . .	2,473,756	3,099,388	2,866,708	2,367,393	2,182,397
II. Vegetable foodstuffs; non-alcoholic beverages, etc. . .	7,087,836	7,553,785	6,605,536	6,246,824	6,087,798
III. Alcoholic liquors, etc. . .	2,297,733	1,813,612	1,767,497	1,876,044	1,533,368
IV. Tobacco, etc. . .	2,760,176	2,704,754	2,990,620	2,694,546	2,422,648
V. Live animals . . .	133,257	167,030	120,007	159,325	213,229
VI. Animal substances, etc. . .	1,127,972	1,731,921	1,182,966	1,072,615	1,953,561
VII. Vegetable substances, etc. . .	3,568,614	3,484,472	3,242,367	3,009,229	2,879,321
VIII. Apparel, textiles, etc. . .	30,055,392	42,416,066	38,438,491	39,710,916	32,546,428
IX. Oils, fats, and waxes . . .	10,065,509	10,977,790	9,872,014	11,106,944	11,565,261
X. Paints and varnishes . . .	705,743	814,378	778,663	784,694	688,195
XI. Stones and minerals, etc. . .	766,149	941,453	1,000,830	1,010,951	1,688,078
XII. Metals, metal manufactures, and machinery . . .	45,403,640	51,232,059	42,801,866	42,987,433	36,323,308
XIII. Rubber and leather, etc. . .	5,727,019	5,593,757	4,157,292	2,043,661	2,070,294
XIV. Wood and wicker, etc. . .	5,911,637	5,516,478	5,818,541	4,880,755	4,629,167
XV. Earthenware, etc. . .	2,456,061	2,610,987	2,422,822	2,455,467	2,251,940
XVI. Paper and stationery . . .	7,126,461	7,936,028	7,873,998	7,778,529	7,912,167
XVII. Jewellery, etc. . .	2,746,403	2,849,587	2,621,411	2,658,148	2,144,442
XVIII. Optical, surgical, and scientific instruments . . .	1,843,897	1,853,812	1,464,794	1,443,856	1,414,638
XIX. Drugs, chemicals, etc. . .	4,316,437	5,027,176	4,811,212	5,213,338	5,082,161
XX. Miscellaneous . . .	5,492,718	5,695,935	4,979,163	4,979,198	3,653,811
XXI. Gold and silver; and bronze specie . . .	426,674	643,226	1,048,152	367,715	325,723
Total . . .	151,638,178	164,716,504	147,944,970	143,647,881	129,545,935 (a)

(a) Excluding outside packages, £1,535,385.

2. Exports.—In the appended tables the exports from Australia are shown in classes according to the same classification as for imports, distinguishing (a) Australian Produce (b) Other Produce (Re-exports); and (c) Total Exports.

EXPORTS FROM AUSTRALIA.—IN CLASSES, 1925-26 TO 1929-30.

Classes.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
I. Animal foodstuffs, etc. . .	16,415,297	12,105,989	13,264,785	15,861,935	14,649,566
II. Vegetable foodstuffs; non-alcoholic beverages, etc. . .	33,673,876	32,689,285	28,993,658	36,875,173	22,515,068
III. Alcoholic liquors, etc. . .	404,009	875,036	1,103,910	544,538	601,653
IV. Tobacco, etc. . .	475,352	382,669	379,976	420,499	363,457
V. Live animals . . .	221,876	246,343	235,534	279,189	240,763
VI. Animal substances, etc. . .	72,116,824	69,168,778	76,503,648	71,456,507	43,827,255
VII. Vegetable substances, etc. . .	678,292	398,192	553,415	594,334	337,089
VIII. Apparel, textiles, etc. . .	177,491	164,180	180,023	172,474	200,859
IX. Oils, fats, and waxes . . .	1,825,232	1,589,341	1,274,373	1,624,612	1,070,626
X. Paints and varnishes . . .	46,945	47,906	34,858	50,320	51,567
XI. Stones and minerals, etc. . .	3,239,825	2,174,545	2,585,864	1,634,414	1,944,020
XII. Metals, metal manufactures, and machinery . . .	7,082,368	6,143,178	6,097,113	5,995,367	5,774,932
XIII. Rubber and leather, etc. . .	782,138	655,949	628,192	576,419	523,887
XIV. Wood and wicker, etc. . .	1,421,642	1,492,037	1,260,639	1,178,698	1,042,042
XV. Earthenware, etc. . .	93,169	89,426	120,945	77,650	89,260
XVI. Paper and stationery . . .	153,809	157,194	158,854	162,098	178,437
XVII. Jewellery, etc. . .	132,991	103,975	104,087	61,178	110,115
XVIII. Optical, surgical, and scientific instruments . . .	96,555	159,653	182,650	240,004	249,529
XIX. Drugs, chemicals, etc. . .	601,642	615,884	489,740	581,000	535,148
XX. Miscellaneous . . .	500,891	589,382	995,243	677,772	562,722
XXI. Gold and silver; and bronze specie . . .	5,473,435	12,303,031	3,738,905	3,892,352	27,748,839
Total . . .	145,704,799	142,151,058	138,947,447	141,758,288	122,616,894

(a) AUSTRALIAN PRODUCE.

EXPORTS FROM AUSTRALIA.—IN CLASSES, 1925-26 TO 1929-30—*continued.*

Classes.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
(b) OTHER PRODUCE.—RE-EXPORTS.					
	£	£	£	£	£
I. Animal foodstuffs, etc.	24,074	39,598	21,655	22,379	15,858
II. Vegetable foodstuffs; non-alcoholic beverages, etc.	359,249	283,405	285,375	225,730	215,301
III. Alcoholic liquors, etc.	47,069	35,322	40,525	29,873	83,304
IV. Tobacco, etc.	79,820	83,657	103,393	108,099	97,191
V. Live animals	5,408	10,363	27,010	25,196	63,403
VI. Animal substances, etc.	54,893	33,618	38,627	40,878	34,665
VII. Vegetable substances, etc.	576,471	680,755	502,739	409,360	318,216
VIII. Apparel, textiles, etc.	375,336	381,919	368,666	358,381	384,686
IX. Oils, fats, and waxes	136,630	78,053	86,180	89,620	78,826
X. Paints and varnishes	10,812	8,623	8,118	10,530	7,981
XI. Stones and minerals, etc.	2,048	2,375	2,980	1,589	1,587
XII. Metals, metal manufactures, and machinery	541,795	622,751	718,443	742,469	636,016
XIII. Rubber and leather, etc.	35,908	66,136	67,857	61,404	78,645
XIV. Wood and wicker, etc.	50,203	44,640	57,129	61,677	57,316
XV. Earthenware, etc.	17,029	13,849	13,828	16,201	16,345
XVI. Paper and stationery	87,482	76,838	91,405	82,647	83,463
XVII. Jewellery, etc.	100,948	124,140	53,049	166,093	69,590
XVIII. Optical, surgical, and scientific instruments	94,749	110,636	91,405	106,092	108,785
XIX. Drugs, chemicals, etc.	51,602	46,848	47,986	65,962	47,468
XX. Miscellaneous	361,914	239,583	1,628,303	433,871	167,608
XXI. Gold and silver; and bronze specie	53,695	6,200	10,650	34,168	10
Total	3,067,135	2,989,309	4,265,623	3,092,219	2,510,264

(c) TOTAL EXPORTS.—AUSTRALIAN PRODUCE AND RE-EXPORTS.

	£	£	£	£	£
I. Animal foodstuffs, etc.	16,439,371	12,145,587	13,286,440	16,884,314	14,665,424
II. Vegetable foodstuffs; non-alcoholic beverages, etc.	34,033,125	32,972,690	29,279,033	36,600,909	22,730,369
III. Alcoholic liquors, etc.	451,078	910,358	1,144,435	574,411	684,957
IV. Tobacco, etc.	555,172	466,326	483,369	523,598	460,648
V. Live animals	227,284	256,711	262,594	304,386	360,166
VI. Animal substances, etc.	72,171,717	69,202,396	76,602,275	71,497,445	48,864,920
VII. Vegetable substances, etc.	1,252,763	1,078,947	1,056,154	1,005,694	650,305
VIII. Apparel, textiles, etc.	552,737	548,099	549,589	530,655	535,545
IX. Oils, fats, and waxes	1,061,862	1,687,394	1,360,553	1,714,432	1,149,452
X. Paints and varnishes	57,757	55,929	43,276	60,850	59,548
XI. Stones and minerals, etc.	3,241,873	2,178,920	2,588,844	1,634,003	1,945,607
XII. Metals, metal manufactures, and machinery	7,624,163	6,765,929	6,815,556	6,137,886	6,410,998
XIII. Rubber and leather, etc.	818,046	722,685	696,049	637,823	602,532
XIV. Wood and wicker, etc.	1,472,045	1,536,677	1,317,818	1,240,375	1,099,358
XV. Earthenware, etc.	110,228	103,275	134,773	93,381	104,606
XVI. Paper and stationery	244,291	234,032	250,299	245,655	261,900
XVII. Jewellery, etc.	233,959	227,815	157,136	227,271	179,705
XVIII. Optical, surgical, and scientific instruments	191,304	270,289	274,055	346,696	358,314
XIX. Drugs, chemicals, etc.	653,244	662,732	537,726	646,962	582,616
XX. Miscellaneous	952,805	828,945	2,623,551	1,011,643	730,330
XXI. Gold and silver; and bronze specie	5,527,130	12,309,231	3,749,555	3,926,520	27,748,849
Total	148,771,934	145,140,367	143,213,070	144,850,452	125,127,148

3. Imports of Principal Articles.—The next table shows the quantity, where available, and the value of the principal articles imported into Australia. The articles are given in the order in which they appear in the detailed classification.

PRINCIPAL COMMODITIES IMPORTED.—AUSTRALIA, 1925-26 TO 1929-30.

Article.		1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Fish preserved in tins	lb.	25,581,258	30,067,897	23,496,685	28,266,411	28,039,277
	£	1,164,223	1,418,103	1,141,493	1,265,510	1,342,016
Tea	lb.	47,087,973	52,428,163	45,378,944	50,038,049	50,790,402
	£	3,639,633	3,908,607	3,473,808	3,506,605	3,298,705
Whisky	gal.	1,349,086	925,710	1,031,212	1,024,807	946,523
	£	1,645,173	1,134,779	1,104,257	1,216,154	1,113,512
Tobacco and preparations thereof	£	2,760,176	2,704,754	2,960,620	2,994,546	2,422,648
Copra	cwt.	646,740	784,896	611,367	576,414	520,262
	£	826,442	918,164	701,156	651,683	497,320
Socks and stockings	£	1,645,621	1,659,624	1,348,950	1,148,409	792,456
Gloves	£	518,912	559,582	505,512	520,121	487,869
Hats and caps	£	691,667	870,124	952,126	983,059	683,501
Trimmings and ornaments	£	997,826	1,245,534	917,323	869,714	721,257
Carpets and carpeting	£	1,267,304	1,464,201	1,423,745	1,389,022	1,343,932
Floorcloths and linoleums	£	1,306,723	1,308,612	1,202,198	1,046,787	796,865
Piece Goods—						
Canvas and duck	£	914,514	836,142	711,209	689,991	645,828
Cotton and linen	£	10,350,581	10,028,947	8,593,908	7,571,863	7,488,675
Silk or containing silk	£	5,257,051	6,866,738	5,963,339	6,532,742	5,500,268
Woolen or containing wool	£	2,320,426	2,450,573	2,525,179	1,490,957	1,201,118
Sewing silks, cottons, etc.	£	917,818	895,434	917,949	789,032	873,955
Bags and sacks	£	4,188,115	4,316,592	3,640,348	4,098,972	2,906,817
Yarns—						
Cotton	£	494,901	836,437	672,496	858,986	939,609
Woolen	£	427,882	568,843	315,157	253,890	301,829
Kerosene	gal.	25,371,581	33,543,260	34,704,643	40,091,368	41,162,038
	£	921,271	1,264,257	1,036,323	1,159,438	1,089,938
Lubricating (mineral) oil	gal.	11,497,059	13,818,490	12,232,088	16,861,428	13,532,413
	£	942,952	1,153,357	936,253	1,319,081	1,139,560
Petroleum spirit, benzine, etc.	gal.	116,566,839	145,702,909	177,670,753	199,998,104	239,875,732
	£	6,519,015	6,648,567	6,067,217	6,816,287	7,429,485
Electrical machinery and appliances	£	4,721,523	5,755,495	5,405,227	4,809,652	4,583,660
Electrical cable and wire, covered	cwt.	216,452	317,919	331,348	288,484	306,183
	£	1,433,177	1,079,972	1,721,688	1,317,115	1,517,817
Agricultural machinery	£	781,766	722,094	691,343	611,875	443,707
Metal-working machinery	£	476,974	599,252	509,574	398,684	407,190
Traction engines and road rollers	£	909,322	1,248,601	1,196,660	1,239,124	1,059,300
Iron and Steel—						
Pipes and tubes	£	1,590,127	1,691,954	1,554,577	1,805,565	1,990,469
Plate and sheet	£	4,181,354	4,723,733	4,703,837	3,964,003	3,713,883
Cutlery	£	872,086	984,835	819,094	812,669	673,658
Tools of trade	£	1,146,850	1,257,031	1,057,318	1,074,219	922,499
Motor cars, chassis, bodies, and parts	£	11,978,123	14,177,762	8,255,671	10,677,344	6,794,769
Rubber and rubber manufactures	£	5,273,954	5,085,980	3,721,194	2,497,423	1,684,621
Timber, undressed, including Logs(a)	sp. ft.	392,019,451	367,820,251	431,652,496	323,088,698	338,462,347
	£	3,795,111	3,455,414	3,754,286	3,054,597	2,915,619
Crockery	£	740,929	766,157	748,167	741,481	694,219
Glass and glassware	£	1,277,871	1,301,772	1,210,762	1,215,092	1,098,219
Paper, printing	£	2,853,232	3,232,956	3,086,023	3,046,868	3,129,705
Stationery and paper manufactures	£	2,649,472	2,781,311	2,926,753	2,800,175	2,738,781
Drugs, chemicals, and fertilizers	£	4,316,437	5,027,176	4,811,212	5,213,338	5,082,161
Musical instruments, pianos, etc.	£	1,240,556	1,450,828	961,052	646,638	343,242
All other articles	£	51,700,588	55,716,250	53,666,064	50,829,180	47,334,832
Total Imports	£	151,638,178	164,716,594	147,944,970	143,647,881	129,545,935

(a) Exclusive of undressed timber not measured in super. feet.
 (b) Excluding Outside Packages, £1,535,385.

4. Exports of Principal Articles of Australian Produce.—The following table shows both quantity and value of the principal articles of Australian produce exported. The articles are given in the order in which they appear in the detailed classification.

PRINCIPAL COMMODITIES EXPORTED.—AUSTRALIA, 1925-26 TO 1929-30.

Article.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Butter (b)	centl. 978,998	765,165	991,649	1,024,428	1,073,661
	£ 7,006,930	5,447,224	6,006,933	7,545,430	7,001,540
Cheese	centl. 68,728	36,438	69,267	85,310	30,894
	£ 270,712	131,163	260,235	326,700	124,716
Eggs in shell	doz. 1,531,744	3,151,905	1,104,000	2,916,398	3,570,219
	£ 116,681	233,670	85,844	219,929	255,571
Meats	£ 7,455,403	5,193,812	4,811,522	6,335,049	6,259,924
Milk and cream	centl. 259,950	177,525	206,228	259,852	164,935
	£ 1,476,205	1,080,963	1,188,504	1,424,318	997,512
Fruits, dried	centl. 550,520	633,620	631,661	1,071,543	1,144,081
	£ 1,458,396	1,647,172	1,600,093	2,299,330	2,169,832
Fruits, fresh	centl. 1,496,545	757,598	1,865,851	826,528	1,959,418
	£ 1,553,650	805,260	1,818,624	641,680	1,861,428
Barley	centl. 364,764	1,010,740	625,722	939,507	323,771
	£ 142,048	383,103	291,656	228,707	99,040
Wheat	centl. 32,536,637	44,385,189	31,825,414	49,137,747	24,234,424
	£ 17,187,888	20,785,414	14,629,899	20,336,199	10,056,585
Flour	centl. 10,020,693	9,869,282	8,675,500	11,276,066	9,314,667
	£ 6,839,281	6,254,316	5,229,463	5,998,000	4,948,927
Sugar (cane) (b)	cwt. 4,127,120	1,292,301	3,051,227	3,988,887	3,684,216
	£ 5,253,156	1,679,623	3,068,621	5,222,198	2,210,468
Wine (b)	gal. 1,718,048	3,077,588	3,769,257	1,736,787	2,183,593
	£ 368,100	829,789	1,038,626	496,739	553,658
Tobacco, manufactured	centl. 17,589	14,101	13,856	16,780	13,727
	£ 455,209	369,618	352,991	399,036	347,717
Hides and skins	£ 8,274,355	8,547,108	9,896,827	9,280,898	6,564,614
Wool (in terms of greasy wool)	centl. 8,810,019	8,277,997	7,865,460	8,577,417	7,892,288
	£ 63,203,415	60,053,358	66,095,901	61,612,095	36,566,600
Pearlshell	cwt. 48,631	45,451	44,119	45,058	58,503
	£ 391,695	352,624	337,469	330,010	450,615
Sandalwood	cwt. 164,702	173,309	128,248	189,403	72,495
	£ 252,807	252,401	193,292	273,238	90,427
Tallow (unrefined)	cwt. 837,572	839,692	663,714	777,563	598,583
	£ 1,609,673	1,415,888	1,080,308	1,384,191	991,592
Coal	ton 794,340	807,148	555,617	346,658	294,503
	£ 881,679	965,699	690,995	428,754	346,916
Concentrates	cwt. 5,885,004	2,504,583	6,432,199	3,944,942	4,154,519
	£ 2,029,619	979,928	1,659,520	994,821	1,388,905
Copper	cwt. 95,672	83,045	146,473	131,991	219,582
	£ 280,061	161,411	285,708	319,192	625,649
Lead	cwt. 2,608,991	2,591,327	3,276,400	2,892,551	2,322,401
	£ 4,524,142	3,852,792	3,516,236	3,233,380	3,431,939
Zinc—bar, block, dust	cwt. 582,253	547,190	840,832	652,931	658,846
	£ 1,070,202	932,491	1,231,752	913,191	1,100,457
Tin—Ingots	cwt. 35,816	37,206	30,235	25,634	17,128
	£ 486,473	549,559	369,888	282,636	167,863
Leather	sup. ft. 648,161	576,074	537,700	489,375	444,439
Timber, undressed, including Logs (a)	sup. ft. 112,101,019	123,669,022	97,964,091	91,170,142	81,348,857
	£ 1,333,259	1,422,933	1,164,801	1,100,325	965,647
Soap	centl. 158,467	165,533	174,307	168,393	159,822
	£ 239,239	291,346	310,695	297,037	292,669
Gold	£ 4,318,072	11,367,771	2,804,249	2,958,187	26,868,594
Silver	£ 1,155,355	935,230	934,623	934,198	830,240
All other articles	£ 5,373,653	4,954,723	5,606,112	5,133,929	4,808,104
Total Exports (Australian Produce)	£ 145,704,790	142,151,058	158,947,647	141,758,233	122,616,884

(a) Exclusive of undressed timber not measured in super. feet. (b) Basis of valuation amended as from the 1st July, 1929, vide § 3, par. 2 ante. The corresponding figures for the previous years on the amended basis are:—

Article.	1925-26.	1926-27.	1927-28.	1928-29.
Butter	£ 6,954,211	£ 4,981,234	£ 6,727,323	£ 7,159,446
Sugar (Cane)	2,770,329	1,107,808	2,161,916	2,390,810

5. Imports of Merchandise, Specie and Bullion.—The table hereunder gives the value of imports into Australia during each of the last five years, grouped under the headings—Merchandise, and Specie and Bullion. The imports of merchandise are shown under the sub-headings of "free" and "dutiable" goods.

IMPORTS OF MERCHANDISE, SPECIE AND BULLION.—AUSTRALIA, 1925-26 TO 1929-30.

Year.	Merchandise.			Specie and Bullion.	Total Imports.
	Free Goods.	Dutiable Goods.	Total Merchandise.		
	£	£	£	£	£
1925-26 ..	55,369,337	95,828,088	151,217,425	420,753	151,638,178
1926-27 ..	59,188,128	104,939,631	164,127,759	588,835	164,716,594
1927-28 ..	53,243,691	93,692,849	146,936,540	1,008,430	147,944,970
1928-29 ..	53,607,067	89,674,382	143,281,449	366,432	143,647,881
1929-30 ..	52,452,095	76,771,054	129,223,149	322,786	129,545,935

(a) Excluding Outside Packages, £1,535,385.

6. Exports of Merchandise, Specie and Bullion—The next table shows the value of exports from Australia during each of the last five years, grouped under the headings—Merchandise, and Specie and Bullion, giving the exports of Australian Produce and Other Produce separately.

EXPORTS OF MERCHANDISE, SPECIE AND BULLION.—AUSTRALIA, 1925-26 TO 1929-30.

Year.	Merchandise.			Specie and Bullion.			Total Exports. (a)
	Australian Produce.	Other Produce.	Total Merchandise.	Australian Produce.	Other Produce.	Total Specie and Bullion.	
	£	£	£	£	£	£	£
1925-26 ..	140,269,075	3,013,440	143,282,515	5,435,724	53,695	5,489,419	148,771,934
1926-27 ..	129,853,952	2,983,109	132,837,061	12,297,106	6,200	12,303,306	145,140,367
1927-28 ..	135,217,349	4,254,973	139,472,322	3,730,098	10,650	3,740,748	143,213,070
1928-29 ..	137,865,881	3,058,051	140,923,932	3,892,352	34,168	3,926,520	144,850,452
1929-30 ..	94,868,045	2,510,254	97,378,299	27,748,839	10	27,748,849	125,127,148

(a) Does not include the value of Ships' Stores. See later table.

7. Imports in Tariff Divisions.—In the following table the imports into Australia during the last five years have been classified in accordance with the sixteen divisions of the Customs Tariff 1921-30.

**IMPORTS CLASSIFIED ACCORDING TO DIVISIONS OF THE CUSTOMS TARIFF.
AUSTRALIA, 1925-26 TO 1929-30.**

Tariff Division.	Imports.				
	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
I. Ale, Spirits, and Beverages	2,542,058	2,105,189	2,043,132	2,157,814	1,823,775
II. Tobacco and preparations thereof	2,760,176	2,704,754	2,960,620	2,694,546	2,422,648
III. Sugar	47,295	47,436	56,446	44,080	49,282
IV. Agricultural Products and Groceries	11,990,787	12,884,727	11,401,193	10,732,856	10,156,819
V. Textiles, Felts and Furs, and Manufactures thereof, and Attire	36,200,527	38,935,456	35,243,751	33,291,416	28,935,639
VI. Metals and Machinery	30,395,043	33,997,641	32,154,389	29,278,935	27,311,871
VII. Oils, Paints, and Varnishes	10,779,584	11,878,797	10,694,945	11,939,811	12,330,568
VIII. Earthenware, Cement, China, Glass, and Stone	3,443,166	3,458,945	3,396,236	3,221,320	2,851,314
IX. Drugs and Chemicals	2,907,140	3,234,162	3,238,754	3,253,824	3,326,255
X. Wood, Wicker, and Cane	5,911,637	5,514,674	5,815,279	4,877,474	4,629,167
XI. Jewellery and Fancy Goods	3,785,389	3,821,279	3,187,725	3,282,764	2,773,249
XII. Hides, Leather, and Rubber	6,179,311	6,116,816	4,650,108	3,433,966	3,418,138
XIII. Paper and Stationery	7,126,461	7,952,349	7,852,230	7,767,229	8,224,459
XIV. Vehicles	15,127,485	17,572,619	10,762,597	13,830,360	9,121,772
XV. Musical Instruments	1,241,344	1,452,955	962,576	648,261	344,925
XVI. Miscellaneous	7,627,608	9,094,214	8,576,785	9,186,039	8,439,544
— Free Goods not specially mentioned in Tariff	3,152,414	3,355,746	3,939,724	3,640,734	3,063,924
Total Merchandise	151,217,425	164,127,759	146,936,540	143,281,449	129,223,149
Specie and Bullion	420,753	588,835	1,008,430	366,432	322,786
Grand Total	151,638,178	164,716,594	147,944,970	143,647,881	129,545,935

(a) Excluding Outside Packages, £1,535,385.

§ 8. Excise.

While it does not come under the heading of overseas trade, the accompanying information in regard to excise has been inserted here for purpose of convenience. The following table shows, in detail, the quantities of spirits, beer and tobacco on which excise duty was paid in Australia during each of the five years 1925-26 to 1929-30.

QUANTITIES OF SPIRITS, BEER, AND TOBACCO ON WHICH EXCISE DUTY WAS PAID.—AUSTRALIA, 1925-26 TO 1929-30.

Article.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	proof gal.	proof gal.	proof gal.	proof gal.	proof gal.
Spirits—					
Brandy (Pure Australian Standard Brandy) ..	224,956	233,269	230,817	226,756	215,011
Brandy (Blended Wine Brandy, etc.) ..	2,699	1,670	1,224	831	1,337
Gin (Distilled from Barley, Malt, Grain, or Grape Wine, etc.) ..	50,821	51,469	48,429	59,136	121,072
Whisky (Australian Standard Malt Whisky) ..	183,622	204,060	206,922	217,372	270,211
Whisky (Australian Blended Whisky) ..	11	..	..	152	287
Rum (Australian Standard Rum) ..	557,611	552,401	550,211	518,176	488,411
Rum (Blended) ..	137	..	..	..	..
Liqueurs ..	312	1,041	163	358	852
Spirits, n.e.i. ..	448	2,144	1,759	923	172
Spirits for Industrial or Scientific Purposes ..	136,406	138,739	138,279	137,887	125,898
Spirits for Fortifying Wine (Distilled from Doradillo Grapes) ..	597,903	542,934	406,489	248,263	258,286
Spirits for Fortifying Wine	928,796	998,005	797,258	571,399	495,532
Spirits for making Vinegar	70,486	60,389	43,303	45,005	30,275
Spirits for Manufacture of Scents, etc. (a)	33,787	38,194	36,173	36,109	42,871
Amylic Alcohol and Fusel Oil ..	31	31	25	55	115
Total, Spirits ..	2,788,026	2,824,346	2,461,052	2,062,422	2,050,330
Beer	gal. 67,372,272	gal. 70,105,029	gal. 70,755,600	gal. 71,160,596	gal. 65,095,178
Tobacco—Manufactured, n.e.i.	lb. 13,007,572	lb. 13,125,604	lb. 13,110,308	lb. 13,529,775	lb. 13,859,202
Tobacco—Hand-made ..	407,156	321,258	308,574	274,213	206,161
Tobacco—Fine-cut, suitable for Cigarettes ..	21,628	24,228	24,396	18,110	2,991
Total, Tobacco ..	13,436,356	13,471,090	13,443,278	13,822,098	14,068,354
Cigars—Machine-made ..	33,107	40,841	36,425	46,442	48,627
Cigars—Hand-made ..	406,664	390,990	348,002	291,842	287,618
Total, Cigars ..	439,771	431,831	384,427	338,284	336,245
Cigarettes—Machine-made ..	5,016,871	5,212,345	5,318,668	5,336,298	5,243,588
Cigarettes—Hand-made ..	28,415	19,046	6,939	4,807	463
Total Cigarettes ..	5,045,286	5,231,391	5,325,607	5,341,105	5,244,051
Snuff	100	..	..	..	..

(a) Liquid gallons.

§ 9. Net Customs and Excise Revenue collected under the Divisions of the Tariff.

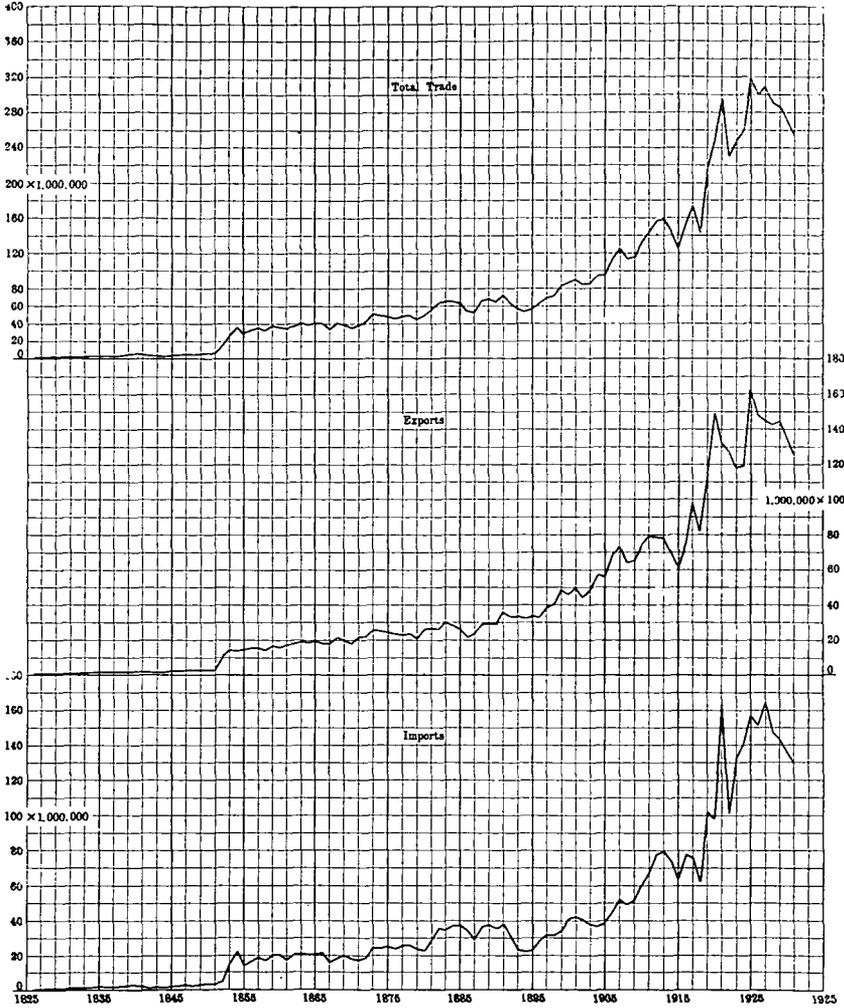
The following statement shows the net Customs and Excise Revenue collected in the Commonwealth under each Division of the Customs Tariff 1921-30 during the years 1925-26 to 1929-30 inclusive :—

NET CUSTOMS AND EXCISE REVENUE COLLECTED UNDER THE DIVISIONS OF THE TARIFF, 1925-26 TO 1929-30.

Division.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
CUSTOMS.	£	£	£	£	£
1. Ale, Spirits, and Beverages	2,944,613	2,907,671	2,824,488	2,660,897	2,599,812
2. Tobacco, and Manufactures thereof	2,076,311	2,202,563	2,371,018	2,409,949	3,069,236
3. Sugar	20,154	20,098	16,823	11,553	10,102
4. Agricultural Products, and Groceries	1,287,979	1,547,448	1,402,145	1,272,314	1,277,057
5. Textiles, Felts, and Furs, etc.	5,180,743	6,237,294	5,805,203	5,361,904	5,165,448
6. Metals and Machinery	5,189,767	5,649,391	5,282,385	4,947,773	4,756,575
7. Oils, Paints, and Var-nishes	951,095	2,172,342	2,593,612	3,091,281	4,141,316
8. Earthenware, Cement, China, etc.	688,705	734,704	704,112	710,100	712,518
9. Drugs and Chemicals	525,339	560,879	519,291	534,881	538,182
10. Wood, Wicker, and Cane	1,349,546	1,386,297	1,598,192	1,682,021	1,805,012
11. Jewellery and Fancy Goods	866,904	953,530	844,941	870,176	1,028,410
12. Leather and Rubber	1,770,476	1,574,832	1,125,936	746,899	525,709
13. Paper and Stationery	682,326	747,796	759,251	763,023	878,408
14. Vehicles	3,064,576	3,345,546	2,535,334	3,193,681	2,316,889
15. Musical Instruments	465,987	520,568	363,739	267,256	137,682
16. Miscellaneous	1,008,006	1,192,144	1,040,627	998,500	1,116,672
TOTAL, CUSTOMS DUTIES	28,072,527	31,753,103	29,787,097	29,422,208	30,079,028
EXCISE.					
Beer	5,848,257	6,104,384	6,155,381	6,191,276	6,104,070
Spirits	2,026,135	2,065,041	1,871,288	1,755,941	1,882,456
Starch	15,539	9,646	4,643	134	..
Tobacco	1,567,521	1,575,086	1,571,267	1,614,336	1,641,763
Cigars	60,703	59,617	51,859	46,404	29,526
Cigarettes	1,828,448	1,896,104	1,930,429	1,936,083	1,901,038
Petrol .. .. .	..	..	..	..	45,686
Playing Cards .. .. .	..	..	..	..	120
Snuff	20	..	..	..	..
TOTAL, EXCISE DUTIES	11,346,623	11,709,878	11,584,867	11,544,174	11,604,659
TOTAL, CUSTOMS AND EXCISE DUTIES ..	39,419,150	43,462,981	41,371,964	40,966,382	41,683,687
Miscellaneous Receipts—					
Customs	Dr. 234,106*	71,995	62,307	83,650	77,231
Excise	12,236	11,669	12,322	10,944	11,574
GRAND TOTAL ..	39,197,280	43,546,645	41,446,593	41,060,976	41,772,492

* Includes refunds of amounts previously paid into Revenue under the heading "Import Duties."

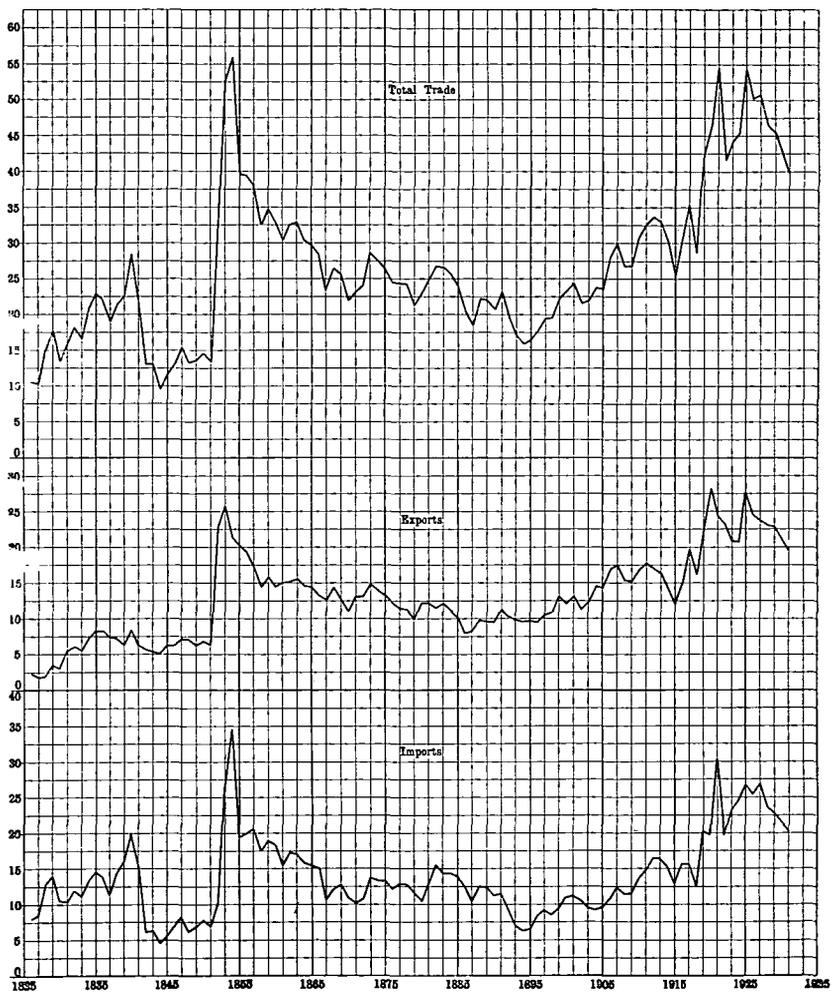
VALUE OF TOTAL TRADE, EXPORTS, AND IMPORTS, AUSTRALIA, 1826 TO 1929-30.



(See page 113.)

EXPLANATION.—The base of each square represents an interval of two years, and the vertical height ten million pounds sterling for imports and exports, and twenty million pounds sterling for total trade.

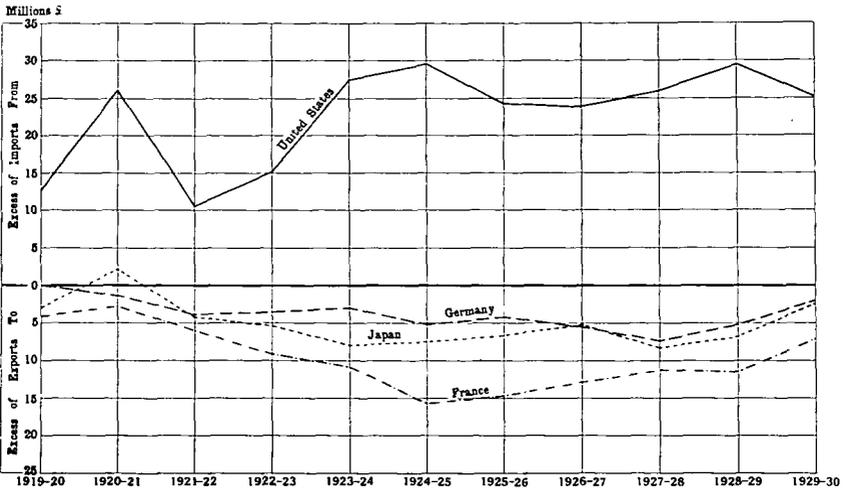
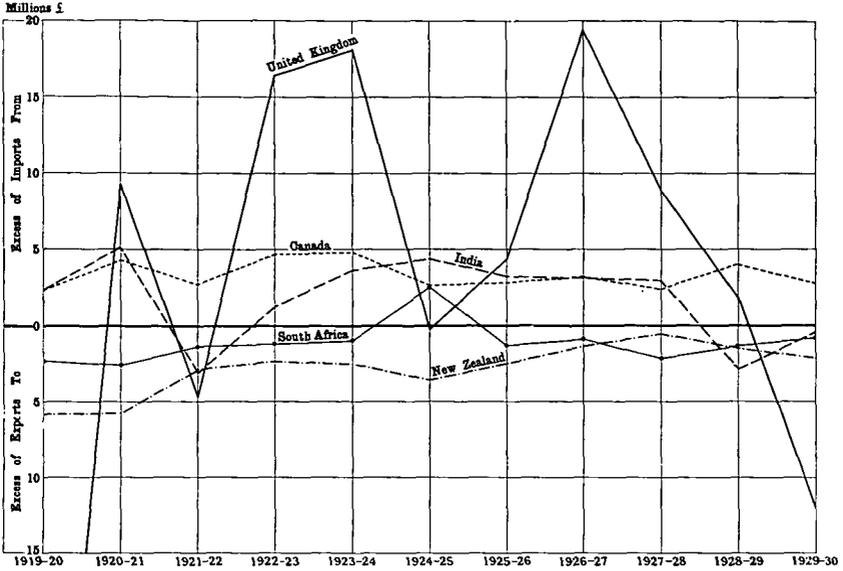
VALUES PER HEAD OF POPULATION OF TOTAL TRADE, EXPORTS AND IMPORTS
—AUSTRALIA, 1826 TO 1929-30.



(See page 113.)

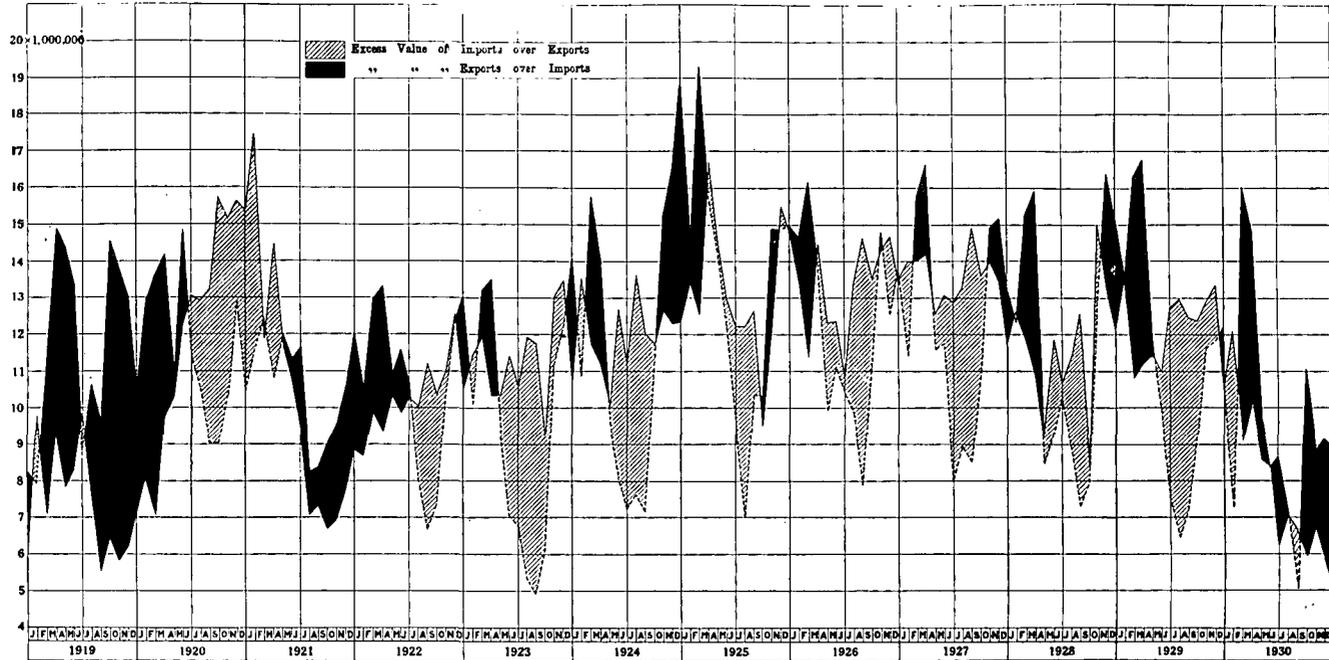
EXPLANATION.—The base of each square represents an interval of two years, and the vertical height £2 10s. 0d. per head of the population.

BALANCE OF AUSTRALIAN TRADE WITH OTHER COUNTRIES, 1919-20 TO 1929-30.



EXPLANATION.—The base of each square or rectangle represents one year, and the vertical height five million pounds sterling.

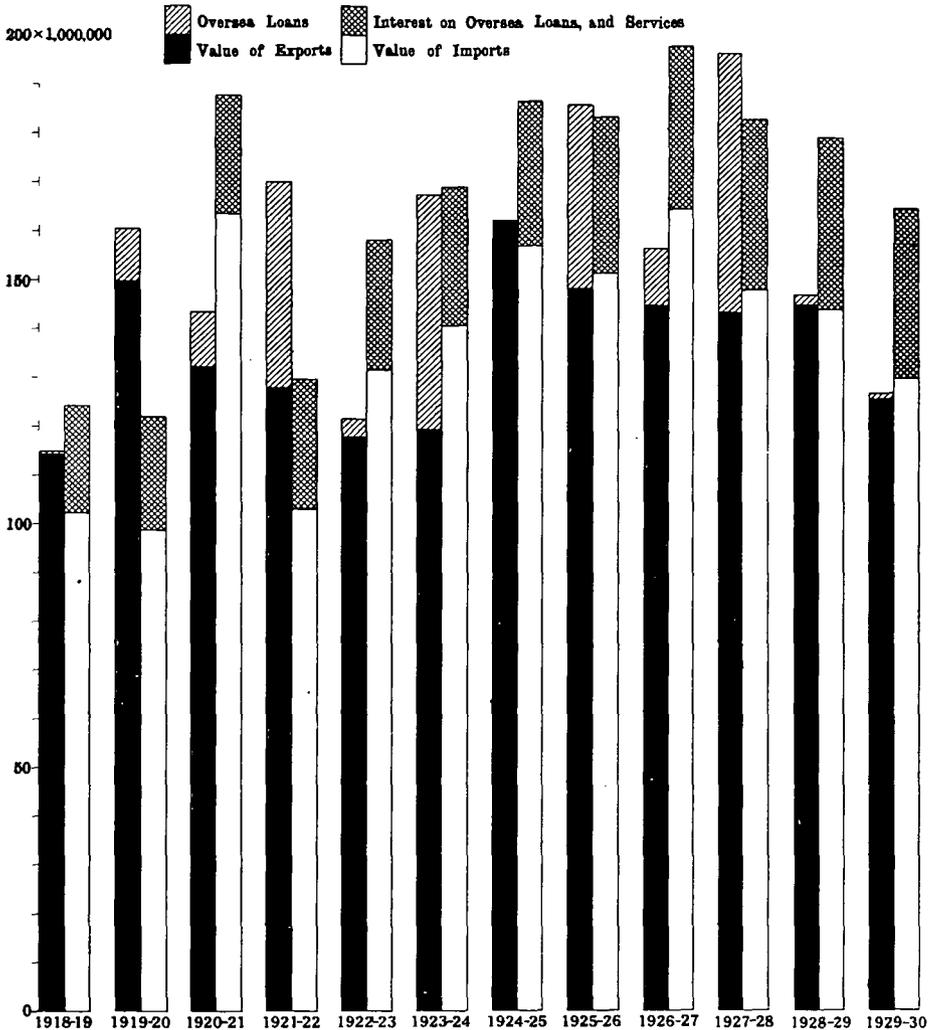
VALUE OF MONTHLY IMPORTS AND EXPORTS—AUSTRALIA, 1919 to 1930.



EXPLANATION.—The base of the graph has been divided into months, but the vertical lines are drawn for each six months only.

The vertical height represents £1,000,000 in the case of both Imports and Exports. The values of Imports and Exports are shown for each month, Imports being indicated by a continuous line and Exports by a dotted line. The areas in light shading represent an excess of Imports over Exports, and the dark shading an excess of Exports over Imports.

VALUE OF IMPORTS AND EXPORTS, AMOUNT OF LOANS RAISED OVERSEA, AND INTEREST PAYABLE OVERSEA—AUSTRALIA 1918-19 to 1929-30.

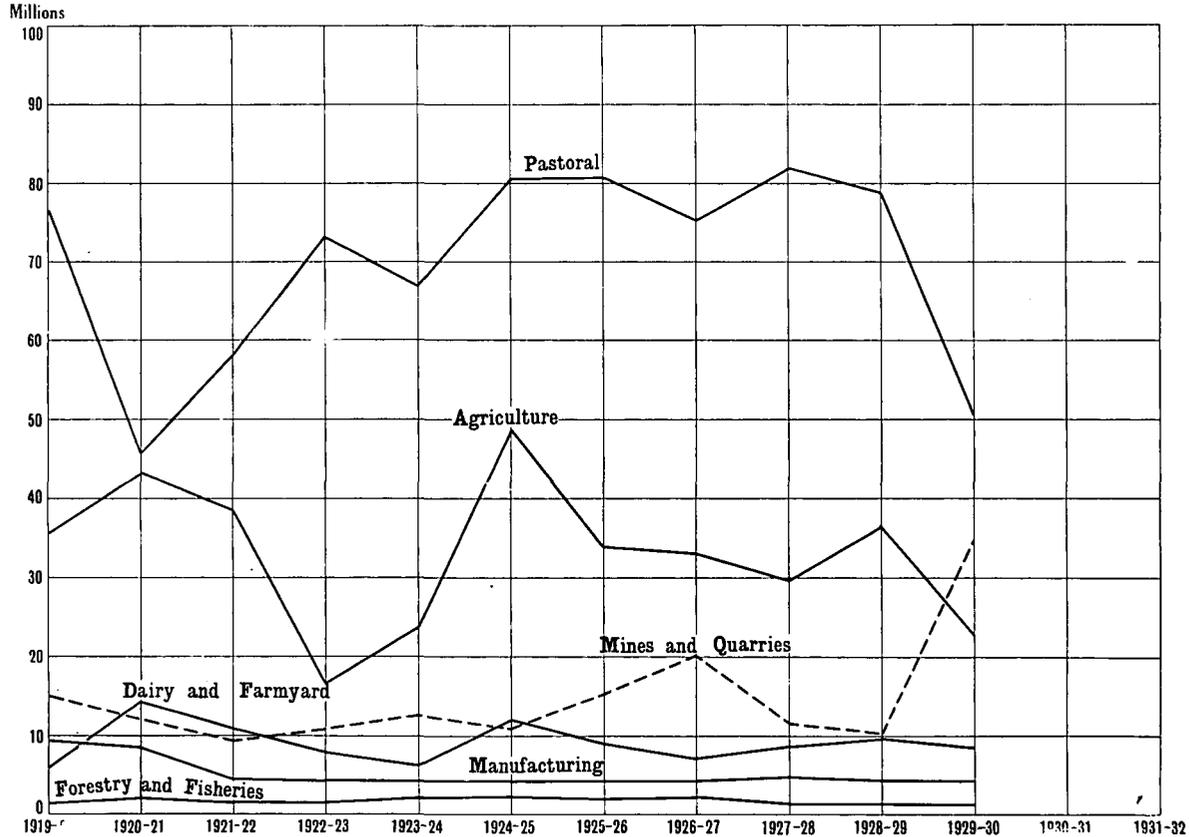


EXPLANATION.—Each vertical division of the scale represents £10,000,000. The key to the shading is given above on the graph.

Two columns are given for each year, one made up of the value of Exports and the amount of new loans raised oversea (i.e., the increase in net indebtedness); the other column consisting of the value of Imports, and the Interest on all oversea loans including services.

The first column represents items which make credit available abroad for the payments indicated in the second column. (See § 4. 2, page 114.)

EXPORTS OF AUSTRALIAN PRODUCE ACCORDING TO INDUSTRIES, 1919-20 TO 1929-30.



EXPLANATION.—The base of each rectangle represents one year, and the vertical height ten million pounds Australian currency. (The Mines and Quarries Group includes exports of Bullion and Specie.)

§ 10. Ships' Stores.

Prior to 1906 goods shipped in Australian ports on board oversea vessels as ships' stores were included in the general exports. From 1906, ships' stores have been specially recorded as such, and have been omitted from the export figures. The value of these stores shipped each year during the period 1906 to 1929-30, showing bunker coal separately, is given in the following table:—

VALUE OF STORES SHIPPED IN AUSTRALIAN PORTS ON OVERSEA VESSELS, 1906 TO 1929-30.

Period.	Bunker Coal.	All Stores (including Coal).	Period.	Bunker Coal.	All Stores (including Coal).
	£	£		£	£
1906	575,471	875,966	1917-18 ..	632,910	1,389,291
1907	663,724	998,897	1918-19 ..	857,507	1,765,367
1908	867,707	1,196,106	1919-20 ..	1,487,872	2,688,371
1909	781,113	1,071,677	1920-21 ..	2,027,133	3,560,648
1910	740,567	1,080,133	1921-22 ..	2,178,101	3,152,604
1911	858,783	1,238,446	1922-23 ..	1,988,890	2,887,399
1912	1,008,259	1,431,985	1923-24 ..	1,672,160	2,614,948
1913	1,018,595	1,458,702	1924-25 ..	1,485,957	2,714,562
1914 (1st six mths.)	533,288	771,581	1925-26 ..	1,331,789	2,773,422
1914-15	829,875	1,587,757	1926-27 ..	1,421,927	2,781,312
1915-16	719,510	1,544,872	1927-28 ..	1,306,225	2,601,034
1916-17	748,852	1,676,116	1928-29 ..	1,009,163	2,316,116
			1929-30 ..	742,383	2,046,561

§ 11. Exports according to Industries.

1. Classification.—The following table gives an analysis of the exports of Australian produce according to the main classes of industry in which the goods were produced.

EXPORTS OF AUSTRALIAN PRODUCE ACCORDING TO INDUSTRIAL ORIGIN.

VALUE OF EXPORTS AS RECORDED.

Industrial Group.	1913. (a)		1923-29.		1929-30.	
	£	Index No.	£	Index No.	£	Index No.
Agriculture	10,677,734	100	36,671,056	343	22,869,702	214
Pastoral	42,057,346	100	78,869,394	188	50,648,170	120
Dairy and Farmyard ..	3,854,734	100	9,700,842	252	8,543,215	222
Mines and Quarries ..	14,712,242	100	10,339,796	70	34,811,999b	237
Fisheries	424,849	100	417,563	98	501,802	118
Forestry	1,106,549	100	1,448,045	131	1,130,061	102
Total Primary Produce ..	72,833,454	100	137,446,696	189	118,504,949	163
Manufacturing	2,304,693	100	4,311,537	187	4,111,935	178
Total	75,138,147	100	141,758,233	189	122,616,884	163

(a) Base year.

(b) Including £27,748,839, bullion and specie.

2. *Effect of Price Changes.*—If the effect of price changes be eliminated from the above figures by the application of the export price index-numbers, the relative quantitative results will be approximately as follows:—

EXPORTS OF AUSTRALIAN PRODUCE.—ELIMINATION OF PRICE CHANGES.

Industrial Group.	1913. (a)		1928-29.		1929-30.	
	£	Index No.	£	Index No.	£	Index No.
Agriculture	10,677,734	100	27,285,012	256	17,417,899	163
Pastoral	42,057,346	100	45,615,611	108	41,927,293	100
Dairy and Farmyard	3,854,734	100	6,178,880	160	6,141,780	159
Mines and Quarries	14,712,242	100	8,580,744	58	28,961,729	197
Fisheries	424,849	100	506,751	119	526,550	124
Forestry	1,106,540	100	853,287	77	701,901	63
Total Primary Produce	72,833,454	100	89,020,285	122	95,677,152	131
Manufacturing	2,304,693	100	2,486,469	108	2,394,836	104
Total	75,138,147	100	91,506,754	122	98,071,988	131

(a) Base year.

3. *Relative Importance of Industrial Groups.*—In the first of the two preceding tables the value of commodities in each industrial group of exports of Australian produce is that recorded at date of shipment from Australia, while in the second table the effect of price changes during the period has been taken into account. In the table showing exports according to recorded value the pastoral group was responsible for the highest proportion of exports during each year. In 1913 the value of commodities included in this group represented 55.97 per cent. of the total exports, as compared with 55.63 per cent. during 1928-29, and 41.31 per cent. during 1929-30. Wool constitutes the greater part of the exports in the pastoral group.

The value of the items included in the mining group in 1929-30 exceeded that for 1928-29 by £24,472,203, owing to the exceptionally heavy shipments of gold necessitated by the oversea trade balance adjustments. The value of agricultural produce exported in 1928-29 was over twenty-six million pounds in excess of mineral exports, but this position was reversed in 1929-30 in which year exports of minerals were £11,942,297 in excess of agricultural products. The agricultural group, which was equivalent to 14.21 per cent. of the total exports during 1913, increased to 18.65 per cent. in 1929-30.

The value of exports of dairy and farmyard produce increased from 5.13 per cent. during 1913 to 6.97 per cent. in 1929-30, due to an increase in the exports of butter. Exports included in the fisheries and forestry groups have not varied to a marked extent and the manufacturing group exports which were 3.07 per cent. in 1913 represented 3.35 per cent. in 1929-30.

The recorded value of exports for all industrial groups shows an increase of 89 per cent. during 1928-29 and 63 per cent. during 1929-30, as compared with the total value of exports during the year 1913. The effect of eliminating price changes during the period is shown in the second table. Higher prices of commodities in 1928-29 inflated the value of exports and to a less extent in 1929-30, nevertheless, on the basis of prices ruling in 1913 the exports of 1928-29 and 1929-30 were greater than those of 1913, the increases for the respective years being 22 per cent. and 31 per cent. The effect of eliminating price changes is particularly noticeable in the figures for the individual groups, Excluding the mineral group, which includes greatly increased gold shipments, agriculture made the greatest advance, the figure for 1929-30 revealing an increase of

63 per cent. on that of 1913. Dairy and farmyard came next in order with an increase of 59 per cent., followed by fisheries 24 per cent., and manufacturing 4 per cent. Exports of pastoral produce showed no increase during 1929-30 in comparison with 1913 exports and a heavy decline occurred in forestry, amounting to 47 per cent.

4. Australian Production and Exports according to Industry.—The following table shows the total value of Australian Production and Australian Exports during the period of ten years, 1920-21 to 1929-30, classified according to industries; the proportion of each industrial group to total production and to total exports; and in the last column the percentage exported of the production of each industrial group:—

VALUE OF AUSTRALIAN PRODUCTION AND EXPORTS, ACCORDING TO INDUSTRY, 1920-21 TO 1929-30.

Industrial Group.	Value of Production during Ten Years.	Percentage on Total Production.	Value of Exports during Ten Years.	Percentage on Total Exports.	Percentage Exported of the Production in each Industrial Group.
	£1,000.	%	£1,000.	%	%
Agriculture	905,642	21.88	327,398	24.60	36.15
Pastoral	1,052,245	25.42	692,718	52.05	65.83
Dairy and Farmyard	473,508	11.44	95,040	7.14	20.07
Mining	217,908	5.26	148,829	11.18	68.30
Forestry and Fisheries	117,745	2.84	19,401	1.46	16.48
Total Primary Produce	2,767,048	66.84	1,283,386	96.43	46.38
Manufacturing	1,372,587	33.16	47,567	3.57	3.47
Total	4,139,635	100.00	1,330,953	100.00	32.15

The figures relating to value of production and value of exports are subject to the qualifications mentioned in 2 *ante*. A period of ten years is embraced, and the values of production and of exports therein give a very fair index of the relative importance of the several industrial groups. Of the total production 66.8 per cent. was classified as primary produce and 33.2 per cent. as manufactured articles. The main contributing groups in the primary produce section were pastoral with 25.4 per cent., and agriculture with 21.9 per cent. of the total production.

Exports of primary produce represented 96.4 per cent. of the total exports. The pastoral group, with 52.1 per cent. of the total, shows the highest percentage, followed by the agricultural and mining groups with 24.6 per cent. and 11.2 per cent. respectively. Exports of goods classified in the manufacturing group represented only 3.6 per cent. of the total.

The figures in the last column of the table are of special interest, as they show the percentage exported of the production of each industrial group. Of the total primary production during the period 46.4 per cent. was exported. Over one-third of the agricultural production and two-thirds of the mining and pastoral production were sent abroad.

Exports of bullion and specie are included as part of the total production of the mining industry. Twenty per cent. of the produce included in the dairy and farmyard group was exported.

The percentage of manufactured goods exported was comparatively small, only 3.5 per cent. of the production during the period being sent abroad.

§ 12. Movement of Specie and Bullion.

1. Imports and Exports.—The following tables show the value of gold and silver, specie and bullion, and of bronze specie imported into and exported from Australia during the years 1925-26 to 1929-30 :—

IMPORTS AND EXPORTS, SPECIE AND BULLION, AUSTRALIA, 1925-26
TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
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IMPORTS.

	£	£	£	£	£
Gold—Specie ..	65,790	81,278	539,532	502	17,372
Bullion ..	292,672	487,242	432,566	346,948	273,451
Total ..	358,462	568,520	972,098	347,450	290,823
Silver—Specie ..	58,833	16,578	30,778	13,932	25,419
Bullion ..	3,414	3,667	5,298	4,923	6,480
Total ..	62,247	20,245	36,076	18,855	31,899
Bronze—Specie ..	44	70	256	127	64
GRAND TOTAL ..	420,753	588,835	1,008,430	366,432	322,786

EXPORTS.

	£	£	£	£	£
Gold—Specie ..	4,006,382	10,763,242	2,197,297	2,915,797	26,866,824
Bullion ..	345,707	609,167	610,861	68,358	1,715
Total ..	4,352,089	11,372,409	2,808,158	2,984,155	26,868,539
Silver—Specie ..	63,966	19,760	52,007	33,327	32,605
Bullion ..	1,073,356	911,107	880,550	908,971	847,635
Total ..	1,137,322	930,867	932,557	942,298	880,240
Bronze—Specie ..	8	30	33	67	70
Total—					
Australian Produce	5,435,724	12,297,106	3,730,098	3,892,352	27,748,839
Other Produce ..	53,695	6,200	10,650	34,168	10
GRAND TOTAL ..	5,489,419	12,303,306	3,740,748	3,926,520	27,748,849

2. Imports and Exports by Countries.—The next table shows the imports and exports of specie and bullion from and to various countries during the year 1929-30.

AUSTRALIAN IMPORTS AND EXPORTS—SPECIE AND BULLION BY COUNTRIES, 1929-30.

Country.	Imports.			Exports.		
	Specie.	Bullion.	Total.	Specie.	Bullion.	Total.
	£	£	£	£	£	£
Australia (a) ..	21,276	554	21,830	..	..	..
United Kingdom ..	4,118	9,184	13,302	22,973,722	2,112	22,975,834
India and Ceylon ..	..	..	..	2,617,002	846,971	3,463,973
Malaya (British) ..	..	..	..	10,000	..	10,000
New Zealand ..	15,907	151,993	167,900	250,000	123	250,123
Pacific Islands—						
Fiji	1	13	14	450	144	594
Gilbert and Ellice Islands Colony ..	..	..	..	580	..	580
Nauru .. ..	..	..	..	..	..	..
Solomon Islands ..	..	..	..	2,875	..	2,875
Territory of New Guinea .. ..	..	115,511	115,511	1,650	..	1,650
Hong Kong .. ..	..	..	..	800	..	800
Other British Coun- tries .. ..	..	..	..	20	..	20
Total British Countries ..	41,302	277,255	318,557	25,857,099	849,350	26,706,449
Netherlands East Indies .. ..	..	..	..	42,100	..	42,100
China	902	..	902	..	..	..
Egypt	651	..	651	..	..	..
Pacific Islands: New Hebrides .. ..	..	..	..	300	..	300
United States of America .. ..	..	2,676	2,676	1,000,000	..	1,000,000
Total Foreign Countries ..	1,553	2,676	4,229	1,042,400	..	1,042,400
GRAND TOTAL ..	42,855	279,931	322,786	26,899,499	849,350	27,748,849

(a) Australian produce re-imported.

§ 13. Effect of Prices on Value of Exports.

1. General.—In comparing the value of exports from, and of imports into, any country for a series of years, the question naturally arises as to the extent to which any variation in the aggregate value is due to fluctuations in prices, or to increase or decrease of actual quantities, for, in aggregates expressed in value—the only possible method when the commodities differ—the two sources of variation are confused. The method of computation adopted has been dealt with in detail in issue No. 21 of the Year Book, Page 231.

2. Effect on Export Values.—The following table shows the value of total exports (Australian and other produce) as actually recorded in each year specified, together with the value computed on the assumption that the prices of 1901 were maintained. The table also shows the yearly "price levels" based upon the results so ascertained, and furnishes a measure of the influence of prices on the value of exports in 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 the figures therein show that, had the prices of 1901 remained constant, the value of the exports of merchandise during the year 1929-30, for example, would have been £61,738,488 only, instead of £98,225,928—the value actually recorded. The difference between these amounts (£36,487,440) results from a rise of 59 per cent. (i.e., from 1,000 to 1,591) in the prices of commodities for the period intervening between 1901 and 1929-30.

The column "Price levels" shows that prices as indicated by the exports rose from the beginning of the decade to the year 1906. 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. From that year to 1920-21 prices steadily increased, but there was a considerable decline during 1921-22. An upward trend was manifested during 1922-23, and the high prices realized for wool during 1923-24 and 1924-25 were responsible for the exceptional increase in the price levels of the pastoral group for those years, the index-number for 1924-25 reaching a level greatly in excess of any previous year. Prices were on a lower level in 1925-26 and 1926-27, and the price-level for the combined group of commodities in the latter year declined to 2,080, for which the lower price of wool was mainly responsible. In 1927-28 an upward trend in price-levels was apparent, but in 1928-29 prices declined to a level which was lower than that experienced in any of the previous five years, as the result of the fall in prices of wheat and wool. This downward trend continued and was accentuated in 1929-30, owing to a serious decline in the export values of primary produce in conformity with the general fall in the prices of such commodities in all oversea markets. The general price level for 1929-30 had fallen to the same level, 1,591, as that which obtained in 1915-16. The agricultural produce price level in 1929-30 was the lowest experienced since the year 1923-24, and that for pastoral produce was the lowest since the year 1915-16. Dairy produce and other groups also declined appreciably in value.

AUSTRALIAN EXPORTS.—VALUES AND PRICE LEVELS, 1901 TO 1929-30.

Year.	Exports of Specie and Gold Bullion.	Other Exports.		Total Exports (including Specie and Gold Bullion).		Price-Levels. (a) Year 1901 = 1,000.
		Values as Recorded.	Values Computed on Mass Prices of 1901.	Values as Recorded.	Values Computed on Mass Prices of 1901.	
I.	II. £	III. £	IV. £	V. £	VI. £	VII.
1901 ..	14,347,776	35,348,396	35,348,396	49,696,172	49,696,172	1000
1906 ..	16,895,059	52,842,704	42,005,330	69,737,763	58,900,389	1258
1911 ..	11,561,639	67,920,619	58,501,825	79,482,258	70,063,464	1161
1916-17 ..	11,521,815	86,433,667	43,985,398	97,955,482	55,507,213	1965
1917-18 ..	6,483,265	74,945,956	35,962,551	81,429,221	42,445,816	2084
1918-19 ..	7,252,202	106,711,774	52,489,805	113,963,976	59,742,007	2033
1919-20 ..	5,654,909b	144,168,600	64,103,424	149,823,509	68,516,379	2249
1920-21 ..	5,371,421b	126,787,491	56,249,996	132,158,912	60,330,722	2254
1921-22 ..	3,487,615b	124,358,920	72,259,686	127,846,535	75,225,164	1721
1922-23 ..	2,231,780b	115,638,367	56,713,275	117,870,147	58,818,605	2039
1923-24 ..	2,814,622b	116,672,542	47,121,382	119,487,164	49,742,586	2476
1924-25 ..	958,210b	161,071,949	57,464,127	162,030,159	58,373,048	2803
1925-26 ..	4,416,063	144,146,146	66,982,410	148,562,209	71,398,473	2152
1926-27 ..	11,392,199	133,502,984	64,184,127	144,895,183	75,576,326	2080
1927-28 ..	2,860,198	140,352,872	62,938,508	143,213,070	65,798,706	2230
1928-29 ..	3,017,549	141,832,903	68,884,363	144,850,452	71,901,912	2059
1929-30 ..	26,901,214	98,225,928	61,738,488	125,127,148	88,639,702	1591

(a) These are index-numbers for the total group of exports, excluding specie and gold bullion.

(b) Including premium on gold exported 1919-20, £1,241,954, or 28.8 per cent. on standard price; 1920-21, £1,290,695, or 32.1 per cent.; 1921-22, £522,137, or 17.6 per cent.; 1922-23, £126,450, or 6.0 per cent.; 1923-24, £193,418, or 8.72 per cent.; 1924-25, £49,289, or 6.7 per cent.

3. Price-Levels of Exports.—The following table of index-numbers shows the variations in price of the different classes of goods exported, grouped according to industrial origin:—

AUSTRALIAN EXPORTS.—PRICE-LEVELS, 1901 TO 1929-30.

Year.	Agricultural Produce.	Pastoral Produce.	Dairy Produce.	Mineral Produce.(a)	Miscellaneous.	All Classes.(a)
1901	1,000	1,000	1,000	1,000	1,000	1,000
1906	1,155	1,344	1,021	1,113	991	1,258
1911	1,243	1,193	1,085	944	1,227	1,161
1916-17 ..	1,726	2,131	1,690	1,650	1,357	1,965
1917-18 ..	1,954	2,250	1,624	1,760	1,401	2,084
1918-19 ..	1,864	2,166	1,855	1,692	1,775	2,033
1919-20 ..	2,145	2,393	2,023	1,787	2,150	2,249
1920-21 ..	3,177	2,093	2,854	1,813	2,179	2,254
1921-22 ..	2,108	1,717	1,507	1,427	1,845	1,721
1922-23 ..	1,931	2,213	1,845	1,459	1,701	2,039
1923-24 ..	1,700	2,930	1,785	1,529	1,803	2,476
1924-25 ..	2,304	3,303	1,654	1,600	1,942	2,803
1925-26 ..	2,230	2,306	1,717	1,589	1,859	2,152
1926-27 ..	2,028	2,269	1,707	1,438	1,861	2,080
1927 28 ..	1,959	2,551	1,670	1,288	1,873	2,230
1928-29 ..	1,779	2,306	1,765	1,342	1,759	2,059
1929-30 ..	1,739	1,612	1,563	1,339	1,658	1,591

(a) Excluding gold.

§ 14. 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 system of record, are more or less 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. 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. In later years, moreover, a very substantial difference in the value of imports would arise from the different methods of converting the moneys of foreign countries, *i.e.*, from the application of current rates of exchange or of the mint par. Lastly, 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, represented, prior to the war, 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, normally, about 4 per cent., and in New Zealand even less.

2. "Special Trade" of Various Countries.—Special trade may be defined according to the interpretation 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 possible to imports entered for consumption in the various countries specified, and to exports of their domestic products. It is to be noted, however, that these figures do not invariably 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. Nevertheless, a comparison of this character reveals approximately the

extent of the external trade which otherwise would not be manifest. The figures relating to foreign countries have been extracted from the League of Nations Memorandum on International Trade and Balance of Payments.

**IMPORTS FOR HOME CONSUMPTION, AND EXPORTS OF DOMESTIC PRODUCTS
(MERCHANDISE ONLY), VARIOUS COUNTRIES, 1929.**

Country.	Trade.			Trade per Inhabitant.		
	Imports.	Exports.	Total.	Imports.	Exports.	Total.
	£1,000	£1,000	£1,000	£ s. d.	£ s. d.	£ s. d.
Australia(a) ..	128,248	94,868	223,116	19 19 10	14 15 9	34 15 7
United Kingdom	1,116,019	732,188	1,848,207	25 1 7	16 9 0	41 10 7
Canada ..	257,400	231,206	488,606	28 12 0	25 13 10	54 5 10
India ..	188,513	242,756	431,269	0 11 10	0 15 0	1 6 10
New Zealand ..	47,850	53,419	101,269	32 15 0	36 11 2	69 6 2
Union of South Africa (b) ..	79,406	93,638	173,044	9 18 7	11 14 0	21 12 7
United States of America ..	893,269	1,063,631	1,956,900	8 8 7	10 0 7	18 9 2
Argentine Republic	173,869	187,069	360,938	17 7 7	18 14 2	36 1 9
Belgium ..	203,156	184,388	387,544	26 14 7	24 5 2	50 19 9
China ..	168,919	128,906	297,825	0 7 7	0 5 10	0 13 5
Denmark ..	93,638	89,100	182,738	27 5 2	25 18 10	53 4 0
France ..	471,281	404,869	876,150	11 15 7	10 2 5	21 18 0
Germany ..	660,619	622,050	1,282,669	10 9 10	9 17 5	20 7 3
Italy ..	231,000	161,494	392,494	5 10 0	3 17 0	9 7 0
Japan ..	206,250	199,856	406,106	2 9 2	2 7 7	4 16 9
Netherlands ..	228,113	165,000	393,113	30 6 2	21 18 5	52 4 7
Norway ..	58,369	41,044	99,413	20 18 7	14 14 5	35 13 0
Sweden ..	97,969	100,237	198,206	16 2 7	16 10 0	32 12 7
Switzerland ..	106,425	82,706	189,131	26 12 2	20 13 7	47 5 9

(a) Year ended 30th June, 1930.

(b) Including bullion and specie.

§ 15. Trade of the United Kingdom with Australia compared with that of Competing Countries.

Proportion of Trade from United Kingdom and Competing Countries.—The failure of the United Kingdom to maintain the position formerly held in the import trade of Australia has been a matter of more than ordinary interest for some years. Since 1908 a permanent resident Commissioner appointed by the British Board of Trade has been located in Australia for the purpose of advising manufacturers and merchants in the United Kingdom with regard to Australian trade affairs. From the 8th August, 1907, the Commonwealth Customs Tariffs have provided preferential rates of Customs Duties on certain goods the produce or manufacture of the United Kingdom, with the object of assisting the British manufacturer to retain or improve his position in this market. The main provisions in these Acts relating to preference are dealt with on a previous page in this Chapter.

In an investigation into the relative position, as compared with other countries, occupied by the United Kingdom in the import trade of Australia, the comparison must, of course, be restricted to those classes of goods which are produced or manufactured in the United Kingdom. The imports to Australia include many commodities, such as tea, rice, raw coffee, unmanufactured tobacco, petroleum products, copra, timber, etc., which the United Kingdom could not supply. These items, in addition to others not available from that country, have, therefore, been omitted from the computation hereunder.

The imports into Australia have been classified under nine headings, and the trade of the United Kingdom therein is compared with that of France, Germany, Japan, and the United States. These countries have been selected as the principal competitors with the United Kingdom for the trade of Australia under the specified headings. Totals for the five years 1913 and 1926-27 to 1929-30 are shown in the table hereunder.

AUSTRALIAN IMPORTS.—PRODUCTS OF VARIOUS COUNTRIES, 1913 AND 1926-27 TO 1929-30.

Nature of Imports.	Year.	United Kingdom.	France.	Germany.	Japan.	U.S. of America.	All Countries.
		£	£	£	£	£	£
Foodstuffs of animal origin	1913 ..	301,025	3,093	12,071	6,988	230,229	947,697
	1926-27	519,771	5,423	3,259	63,233	653,399	3,099,388
	1927-28	543,121	5,551	2,802	64,836	419,525	2,866,708
	1928-29	563,780	4,670	2,019	101,843	488,882	2,367,393
	1929-30	497,727	3,776	1,752	136,663	399,159	2,182,397
Spirituous and alcoholic liquors	1913 ..	1,227,561	343,394	143,426	1,689	2,805	1,947,248
	1926-27	1,444,151	205,596	8,584	16	3	1,815,612
	1927-28	1,427,503	178,672	9,115	35	85	1,767,497
	1928-29	1,548,720	189,731	7,649	69	67	1,876,944
	1929-30	1,307,566	148,424	7,472	..	65	1,583,368
Apparel, textiles, and manufactured fibres	1913 ..	12,254,561	961,025	1,712,395	475,973	623,542	19,935,750
	1926-27	23,507,668	2,819,357	1,214,544	4,029,647	2,507,897	42,416,966
	1927-28	21,665,829	2,274,573	1,344,516	3,286,503	2,430,423	38,488,491
	1928-29	18,947,016	2,144,072	1,194,409	3,620,535	2,727,318	36,710,916
	1929-30	18,427,684	1,593,457	1,021,931	2,988,352	2,093,022	32,546,428
Metals, metal manufactures and machinery	1913 ..	13,005,483	217,148	2,380,152	7,657	3,817,705	21,670,212
	1926-27	23,543,644	442,932	1,259,743	27,762	20,171,023	51,282,059
	1927-28	23,530,677	252,298	1,301,313	19,932	15,235,464	42,801,886
	1928-29	20,593,894	151,183	1,418,863	26,218	16,472,338	42,987,433
	1929-30	19,279,528	136,187	1,417,616	23,205	12,591,938	36,323,308
Paper and stationery	1913 ..	1,789,577	21,930	266,453	10,656	403,679	3,134,750
	1926-27	5,025,992	161,928	197,501	20,010	714,200	7,936,028
	1927-28	4,735,665	203,940	225,769	17,220	679,462	7,873,998
	1928-29	4,639,952	156,192	221,447	20,457	744,437	7,778,629
	1929-30	4,824,566	171,983	238,806	19,687	733,526	7,912,167
Jewellery, timepieces, and fancy goods	1913 ..	521,290	88,070	263,688	19,307	138,217	1,442,292
	1926-27	913,971	115,002	393,943	114,259	809,317	2,849,587
	1927-28	781,800	100,686	393,619	99,773	247,725	2,621,411
	1928-29	745,533	103,615	430,623	101,251	234,098	2,658,148
	1929-30	645,328	94,202	380,120	97,398	207,541	2,144,442
Earthenware, cements, glass, etc.	1913 ..	650,138	40,245	453,188	21,403	62,887	1,565,727
	1926-27	1,522,388	43,534	147,281	155,266	221,180	2,610,987
	1927-28	1,432,079	25,483	173,246	126,508	172,230	2,422,822
	1928-29	1,400,213	34,721	192,494	148,560	170,096	2,455,467
	1929-30	1,291,885	27,919	169,449	123,118	140,907	2,251,940
Drugs, chemicals, and fertilizers	1913 ..	1,020,847	245,426	304,179	139,178	210,758	2,721,902
	1926-27	2,092,824	289,227	231,468	47,662	1,000,132	5,027,176
	1927-28	2,004,417	268,284	236,200	44,795	940,899	4,811,212
	1928-29	1,888,485	327,529	281,381	55,452	933,344	5,213,338
	1929-30	1,835,367	273,687	355,118	46,264	1,053,804	5,082,161
Rubber and leather and manufactures thereof and substitutes therefor	1913 ..	485,216	68,686	347,045	683	433,837	1,717,035
	1926-27	1,126,592	212,953	78,178	7,949	1,333,284	5,593,757
	1927-28	707,437	151,734	89,391	3,569	938,476	4,157,292
	1928-29	558,855	124,684	98,736	1,835	633,750	2,943,661
	1929-30	509,313	67,006	91,271	968	498,702	2,070,294
Total above-mentioned imports	1913 ..	32,155,498	1,989,017	5,382,627	683,629	5,982,659	55,082,613
	1926-27	61,706,969	4,295,952	3,534,831	4,458,824	26,060,440	122,631,560
	1927-28	56,881,528	3,461,221	3,775,571	3,662,171	21,064,292	107,811,317
	1928-29	50,930,448	3,236,397	3,848,241	4,076,220	22,405,280	104,991,829
	1929-30	48,619,259	2,516,641	3,683,635	3,435,655	17,628,664	92,096,505
Total imports (less bullion and specie)	1913 ..	40,948,803	2,222,631	7,029,325	950,300	10,907,512	78,196,109
	1926-27	67,786,167	4,767,123	4,350,513	5,183,470	41,394,015	164,127,759
	1927-28	62,676,412	3,676,897	4,621,419	4,282,614	31,005,221	146,936,540
	1928-29	57,012,018	3,700,279	4,545,501	4,707,289	35,307,341	143,281,
	1929-30	54,241,400	3,070,645	4,341,678	4,181,643	30,313,532	129,220,212

Stated as percentages the figures in the preceding table are shown below :—

**AUSTRALIAN IMPORTS.—PRODUCTS OF VARIOUS COUNTRIES.—PERCENTAGES,
1913 AND 1926-27 TO 1929-30.**

Nature of Imports.	Year.	United Kingdom.	France.	Germany.	Japan.	U.S. of America.	All Countries.
Foodstuffs of animal origin	1913 ..	31.77	0.33	12.74	0.74	30.52	100
	1926-27	16.77	0.17	0.11	2.04	21.08	100
	1927-28	18.95	0.19	0.09	2.23	14.63	100
	1928-29	23.81	0.20	0.11	4.30	20.65	100
	1929-30	22.81	0.17	0.08	6.26	18.29	100
Spirituos and alcoholic liquors	1913 ..	63.04	17.64	7.37	0.09	0.14	100
	1926-27	79.55	11.32	0.47	..	..	100
	1927-28	80.76	10.11	0.52	..	..	100
	1928-29	82.51	10.11	0.40	..	..	100
	1929-30	82.58	9.37	0.47	..	..	100
Apparel, textiles, and manufactured fibres	1913 ..	61.48	4.82	8.59	2.39	3.13	100
	1926-27	55.42	6.65	2.87	9.48	5.91	100
	1927-28	56.30	5.91	3.49	8.54	6.31	100
	1928-29	51.61	5.84	3.25	9.86	7.43	100
	1929-30	56.61	4.90	3.14	9.18	6.43	100
Metals, metal manufactures, and machinery	1913 ..	64.17	1.00	10.98	0.04	17.62	100
	1926-27	49.82	0.86	2.46	0.05	39.33	100
	1927-28	55.09	0.59	3.04	0.05	35.60	100
	1928-29	47.90	0.35	3.30	0.06	38.32	100
	1929-30	53.08	0.37	3.90	0.06	34.66	100
Paper and stationery	1913 ..	57.41	0.70	8.50	0.34	12.88	100
	1926-27	63.46	2.04	2.49	0.25	9.00	100
	1927-28	60.14	2.59	2.87	0.22	8.63	100
	1928-29	60.29	2.01	2.84	0.26	9.57	100
	1929-30	60.98	2.17	3.02	0.25	9.27	100
Jewellery, time-pieces, and fancy goods	1913 ..	36.14	6.11	18.28	1.34	9.58	100
	1926-27	32.07	4.04	13.82	4.01	10.86	100
	1927-28	29.82	3.84	15.02	3.81	9.45	100
	1928-29	28.05	3.90	16.20	3.80	8.84	100
	1929-30	30.01	4.39	17.73	4.54	9.07	100
Earthenware, cements, glass, etc.	1913 ..	41.52	2.57	28.94	1.37	4.02	100
	1926-27	58.31	1.67	5.64	5.95	8.47	100
	1927-28	59.11	1.05	7.15	5.22	7.11	100
	1928-29	57.02	1.41	7.84	6.05	6.93	100
	1929-30	57.36	1.24	7.52	5.47	6.26	100
Drugs, chemicals, and fertilizers	1913 ..	37.49	9.02	11.18	0.04	7.74	100
	1926-27	41.63	5.75	4.60	0.95	19.90	100
	1927-28	41.66	5.58	4.91	0.93	19.56	100
	1928-29	36.22	6.28	5.40	1.06	17.90	100
	1929-30	36.11	5.39	6.99	0.91	20.73	100
Rubber and leather and manufactures thereof, and substitutes therefor	1913 ..	28.26	4.00	20.21	0.04	25.27	100
	1926-27	20.14	3.81	1.40	0.14	24.73	100
	1927-28	17.02	3.65	2.15	0.09	22.57	100
	1928-29	18.98	4.24	3.85	0.06	21.53	100
	1929-30	24.60	3.24	4.41	0.04	19.74	100
Total above-mentioned articles	1913 ..	58.38	3.61	10.68	1.24	10.86	100
	1926-27	50.32	3.50	2.88	3.64	21.99	100
	1927-28	52.76	3.21	3.50	3.40	19.54	100
	1928-29	53.48	3.40	4.04	4.28	23.52	100
	1929-30	62.79	2.73	4.00	3.73	19.14	100
Total imports (less bullion and specie)	1913 ..	52.37	2.84	8.99	1.22	13.95	100
	1926-27	41.30	2.90	2.66	3.16	25.22	100
	1927-28	42.66	2.64	3.15	2.91	23.82	100
	1928-29	39.79	2.58	3.17	3.29	24.64	100
	1929-30	41.98	2.38	3.36	3.24	23.46	100

The total value of the commodities included in the competitive classes increased from £55,082,613 during 1913 to £122,631,560 during 1926-27, and thereafter declined each year to £92,096,505 in 1929-30. The principal classes of goods in the latter year

were—(a) metals, metal manufactures and machinery, £36,323,308 and (b) apparel, attire, and manufactured fibres, £32,546,428. The value of goods included in these two groups represented 75 per cent. of the total value of competitive commodities during 1929–30.

Of the total value of competitive goods the United Kingdom supplied 52.79 per cent. during 1929–30, as against 58.38 per cent. during 1913, and 61.15 per cent. in 1922–23. In seven of the nine competitive groups of imports, the proportion supplied by the United Kingdom increased during 1929–30 as compared with the previous year. The groups which showed reduced proportions were—foodstuffs of animal origin, and drugs, chemicals and fertilizers. The United Kingdom supplied Australia during 1929–30 with 82.58 per cent. of the total overseas purchases of spirituous and alcoholic liquors; 56.61 per cent. of apparel and attire; 60.98 per cent. of paper and stationery; 57.36 per cent. of earthenware, glassware, etc.; and 53.08 per cent. of metal manufactures and machinery.

The share of Japan in the competitive trade increased from 1.24 per cent. in 1913 to 4.28 per cent. in 1928–29 and declined to 3.73 per cent. in 1929–30. The most important classes of goods imported from Japan are as follows:—Apparel and textiles, earthenware, glass and glassware, brushware, foodstuffs of animal origin and fancy goods.

The position of the United States of America in this competitive trade improved from 10.86 per cent. in 1913 to 23.52 in 1928–29, but was not maintained in 1929–30 during which year a decrease to 19.14 per cent. was experienced. In the latest pre-war year (1913) the value of goods from the United States in the "competitive" groups was £5,982,659, and in 1929–30 it was £17,628,664. The following are the principal groups of commodities in which United States sales to Australia during 1929–30 were greater than those of 1913:—Apparel and textiles, manufactured metals and machinery (including motor cars, chassis, etc.), paper and stationery, and drugs, chemicals, and fertilizers.

The position of France declined from 3.61 per cent. in 1913 to 2.73 per cent. in 1929–30. Apparel and textiles are the most important imports from France.

The proportion of the imports supplied by Germany in 1913 was 10.68 per cent. as compared with 58.38 per cent. from the United Kingdom; 3.61 per cent. from France; 1.24 per cent. from Japan; and 10.86 per cent. from the United States. From 1914–15 to 1921–22 imports from Germany were on a very small scale, but have increased since the latter year. The percentage of the imports for 1929–30 was 4.00 per cent. as compared with 0.86 per cent. in 1923–24. The principal classes of imports from Germany were manufactured metals and machinery, and apparel and textiles.

The percentages for the total value of competitive goods decreased in the year 1929–30 for all the countries under consideration. The largest decrease is shown in the percentage imported from the United States of America which fell from 23.52 per cent. to 19.14 per cent.

§ 16. Commonwealth Trade Representation in Overseas Countries.

The Commonwealth is represented in the United Kingdom by the High Commissioner for Australia (Maj.-Gen. Hon. Sir G. de L. Ryrie, K.C.M.G., C.B., V.D.), with headquarters at Australia House, London. Oversea trade matters affecting Australia come within the scope of the duties attaching to the office of High Commissioner.

The Commonwealth has a Trade Representative in France, with headquarters at Paris. This official is attached to the High Commissioner's office, London.

The first appointment of a Commissioner for Australia in the United States of America was made in 1918, and oversea trade matters come within the scope of the duties attaching to that office.

Early in 1921 a Commonwealth Trade Commissioner was appointed in China, with offices at Shanghai and Hong Kong. This office was terminated in 1923. In 1922, an Australian Trade Representative in the East was appointed, with headquarters at Singapore, but the appointment was terminated in March, 1925.

In April, 1929, a Commercial Representative for Australia was appointed in the Dominion of Canada. The functions of this officer are to develop the sales of Australian products to Canada and generally to represent Australia in a commercial capacity in that Dominion.

CHAPTER VII.

TRANSPORT AND COMMUNICATION.

A. SHIPPING.

§ 1. System of Record.

So far as oversea vessels are concerned the system of record treats Australia as a unit, and counts, therefore, only one entry and one clearance for each voyage, without regard to the number of States visited.

On the arrival at, or departure from, a port in Australia, whether from or for an oversea country or from another port in Australia, the master or agent must "enter" the vessel with the Customs authorities at the port, and supply certain prescribed information in regard to the ship, passengers, and cargo. At the end of each month the information so obtained is entered on forms which are forwarded to the Commonwealth Bureau of Census and Statistics. These forms, which collectively provide a complete record of the movements of every vessel in Australian waters, furnish the material for the compilation of the Shipping and Migration Returns. The arrangement referred to has been in operation since the 1st July, 1924.

From the 1st July, 1914, the statistical year for the record of Trade and Shipping of Australia was altered from the calendar year to the fiscal year ending 30th June.

In all instances the tonnage quoted is net tonnage.

§ 2. Oversea Shipping.

1. **Total Movement.**—The following table gives the number and tonnage of oversea steam^a and sailing vessels entering Australian ports during the years 1925-26 to 1929-30 :—

TOTAL OVERSEA SHIPPING, ENTERED.—AUSTRALIA, 1925-26 TO 1929-30.

Year.	Steam.		Sailing.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1925-26	1,537	5,245,222	46	58,583	1,583	5,303,805
1926-27	1,598	5,512,840	26	46,030	1,624	5,558,870
1927-28	1,544	5,373,485	33	45,560	1,577	5,419,045
1928-29	1,564	5,521,725	18	29,858	1,582	5,551,583
1929-30	1,499	5,413,192	23	31,254	1,522	5,444,446

The average tonnage of vessels entered has risen from 3,350 tons per vessel in 1925-26 to 3,577 tons in 1929-30.

Particulars regarding the total oversea movement of shipping for each year from 1822 to 1920-21 will be found in Official Year Book No. 15, p. 507.

2. Shipping Communication with various Countries.—In view of the defects in records purporting to show vessels and tonnage for particular countries (as pointed out on p. 265 of Official Year Book No. 17) it has been decided to restrict the statistics relating to the direction of shipping to and from Australia to the following tables in which countries situated on the main trade routes have been grouped. The grouping into larger geographical divisions to some extent avoids the limitations referred to, except in the case of Africa owing to its geographical situation as a place of call for vessels proceeding to or from other ports.

OVERSEA SHIPPING, AUSTRALIA.—DIRECTION, 1925-26 TO 1929-30.

Countries.	Cargo and Ballast.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
TONNAGE ENTERED.						
United Kingdom and European Countries	Cargo	1,815,268	1,834,752	1,939,468	1,759,576	2,043,137
	Ballast	21,444	31,287	3,950	35,563	19,840
New Zealand	Cargo	507,238	474,639	453,965	476,987	457,812
	Ballast	256,003	212,953	170,033	147,819	166,948
Astatic Countries and Islands in the Pacific	Cargo	1,090,062	1,217,572	1,187,969	1,372,717	1,329,505
	Ballast	210,196	288,287	199,833	353,350	121,907
Africa	Cargo	23,070	16,540	34,325	57,453	42,304
	Ballast	66,494	91,582	55,595	75,807	52,103
North and Central America	Cargo	1,283,073	1,353,526	1,366,499	1,254,911	1,194,358
	Ballast	..	27,228	5,566	11,430	8,305
South America	Cargo	10,373	1,840	10,739	5,920	8,227
	Ballast	20,584	8,684	..	..	..
	Cargo	4,729,084	4,898,869	4,992,965	4,927,564	5,075,343
	Ballast	574,721	660,001	426,080	624,019	369,103
Total .. ..	..	5,303,805	5,558,870	5,419,045	5,551,583	5,444,446

TONNAGE CLEARED.

United Kingdom and European Countries	Cargo	2,344,201	2,543,362	2,416,656	2,315,817	2,247,735
	Ballast	17,590	15,224	..	..	5,537
New Zealand	Cargo	678,616	627,538	601,802	514,588	544,643
	Ballast	57,710	41,020	23,518	29,189	43,584
Astatic Countries and Islands in the Pacific	Cargo	1,120,019	1,181,485	1,104,361	1,390,401	1,061,434
	Ballast	273,054	298,862	453,271	444,169	594,752
Africa	Cargo	154,250	155,300	159,238	122,965	45,114
	Ballast	3,418	16,425	2,722	672	4,205
North and Central America	Cargo	492,088	445,835	474,279	536,134	633,692
	Ballast	162,008	199,200	238,166	164,290	306,620
South America	Cargo	58,090	74,531	28,643	29,356	12,356
	Ballast	3,840	6,309	3,597	..	..
	Cargo	4,847,264	5,023,051	4,784,979	4,907,261	4,544,974
	Ballast	517,620	577,049	721,274	638,320	954,707
Total .. ..	..	5,364,884	5,605,100	5,506,253	5,545,581	5,499,681

3. Nationality of Oversea Shipping.—(i) *General.* The greater part of the shipping visiting Australia is of British nationality, though in 1927-28 the proportion of British tonnage, 73.39 per cent., was the lowest recorded since 1920-21, in which year the percentage was 69.69 per cent. The percentage in 1929-30 was 73.43 per cent.

Particulars of the nationality of overseas shipping for the last five years are given in the following table:—

OVERSEA SHIPPING, AUSTRALIA.—NATIONALITY OF VESSELS ENTERED.]
1925-26 TO 1929-30.

Nationality.	Tonnage.				
	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
BRITISH—					
Australian	381,178	405,968	395,680	206,188	211,890]
United Kingdom	2,967,317	3,097,888	3,011,435	3,286,445	3,244,561]
Canadian	68,091	86,701	72,079	77,907	57,282
New Zealand	492,255	458,716	403,176	415,517	399,209
Other British	76,226	102,201	94,863	120,580	84,928
Cargo.. ..	3,549,627	3,704,196	3,637,889	3,703,435	3,726,326
Ballast	435,440	447,278	339,344	403,202	271,544
Total British	3,985,067	4,151,474	3,977,233	4,106,637	3,997,870
Per cent. on total	75.14	74.68	73.39	73.97	73.43
FOREIGN—					
Danish	85,152	61,376	61,311	34,016	72,431
Dutch	124,824	115,363	130,500	147,843	154,036
French	109,417	99,832	97,596	118,842	106,939
German	76,650	140,810	157,381	137,766	105,435
Italian	62,046	61,583	76,921	54,716	63,840
Japanese	246,193	210,486	168,323	286,607	207,910
Norwegian	264,037	302,958	284,036	255,270	307,943
Swedish	96,625	111,920	106,159	92,397	86,540
United States	205,391	231,468	341,263	289,228	267,827
Other Foreign	48,403	71,600	18,322	28,261	73,675
Cargo.. ..	1,179,457	1,194,673	1,355,076	1,224,129	1,349,017
Ballast	139,281	212,723	86,736	220,817	97,559
Total Foreign	1,318,738	1,407,396	1,441,812	1,444,946	1,446,576
Per cent. on total	24.86	25.32	26.61	26.03	26.57
Cargo.. ..	4,729,084	4,898,869	4,992,965	4,927,564	5,075,343
Per cent. on total	89.16	88.13	92.14	89.76	93.22
Ballast	574,721	660,001	426,080	624,019	369,103
Per cent. on total	10.84	11.87	7.86	11.24	6.78
Grand Total	5,303,805	5,558,870	5,419,045	5,551,583	5,444,446

The Australian tonnage which entered Australia from overseas during the year 1929-30 represented 3.89 per cent. of the total tonnage entered. This figure was less than the average for the quinquennium, which was 5.87 per cent., the decrease being due mainly to the disposal of vessels owned by the Commonwealth Government to foreign or other Australian owners, and the sale effected in April, 1928, of the five Bay liners and the freighters *Fordsdale* and *Ferndale* to the White Star Line.

(ii) *Proportion of British and Foreign with Cargo. (a) Tonnage of Vessels.* The relative proportions of British and foreign tonnage which entered Australia with cargo during the last five years are given in the next table. These figures may be considered to indicate more accurately the proportion of the actual carrying trade done than does the total tonnage.

**OVERSEA SHIPPING, AUSTRALIA.—PERCENTAGE BRITISH AND FOREIGN
ENTERED WITH CARGO, 1925-26 TO 1929-30.**

Nationality.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
British	75.06	75.61	72.86	75.16	73.42
Foreign	24.94	24.39	27.14	24.84	26.58
Total	100.00	100.00	100.00	100.00	100.00

During the period under review the average annual proportion of foreign tonnage entering with cargo was 25.58 per cent.

(b) *Tonnage of Cargo.* In Transport and Communication Bulletin, No. 22 (p. 36) published by this Bureau, a statement is given of the tonnage of oversea cargo discharged and shipped during the year 1929-30 according to the nationalities of the vessels engaged in the carrying trade.

While the tonnage of British vessels entering with cargo represented 73.42 per cent. of the total, the amount of cargo discharged from such vessels was 65.06 per cent. The foreign country which had the largest amount of shipping tonnage engaged with Australia during the year 1929-30 was United States of America, its vessels contributing 5.81 per cent. of the total tonnage entered with cargo and 9.86 per cent. of the total cargo discharged and 4.82 per cent. of the cargo shipped.

(iii) *Principal Foreign Countries Engaged.* The following table shows the tonnage entered and cleared in connexion with the principal foreign countries engaged in the oversea carrying trade of Australia :—

OVERSEA SHIPPING, AUSTRALIA.—FOREIGN TONNAGE, 1929-30.

Countries.	Nationality.							
	United States.		Norwegian.		Japanese.		Dutch.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
EUROPEAN COUNTRIES—								
United Kingdom .. .. .	..	..	13,077	8,548	..	..	..	..
Germany .. .. .	..	..	19,637	3,583	..	..	38,764	4,132
Norway .. .. .	..	..	9,259	58,123	..	..	..	..
Other European Countries .. .. .	..	..	48,481	19,012	..	..	13,264	47,288
ASIATIC COUNTRIES AND ISLANDS IN THE PACIFIC—								
Netherlands East Indies	5,176	..	72,004	95,083	3,075	3,194	70,738	86,570
Japan .. .. .	..	..	..	7,337	144,164	181,909	..	3,311
Straits Settlements .. .. .	..	..	21,309	3,772	..	3,137	18,138	11,294
Other Asiatic Countries	4,875	10,051	332	4,926	2,818	23,129	..	..
New Zealand .. .. .	..	7,221	275	332	3,826	..	..	..
Other Pacific Islands .. .. .	..	3,471	15,209	20,133	3,194	..	..	..
AFRICAN COUNTRIES .. .. .	..	..	6,090	65	..	..	..	..
NORTH AMERICAN COUNTRIES—								
United States	257,776	251,883	91,721	74,745	50,833	..	..	..
Canada .. .. .	..	..	10,549	5,365	..	..	..	..
SOUTH AMERICAN COUNTRIES .. .. .	..	..	..	..	..	..	..	..
With Cargo	256,272	231,808	294,713	149,244	189,728	203,116	154,024	142,372
In Ballast	11,555	40,818	13,230	151,780	18,182	8,313	12	10,223
Total	267,827	272,626	307,943	301,024	207,910	211,429	154,036	152,595

(iv) *Nationality of Steam and Sailing Tonnage.* A further analysis is appended distinguishing between steam and sailing vessels of British and foreign nationality which entered Australia during the years 1925-26 to 1929-30.

OVERSEA SHIPPING, AUSTRALIA.—NATIONALITY OF STEAM AND SAILING VESSELS ENTERED, 1925-26 TO 1929-30.

Description and Nationality of Vessels.	1925-26.		1926-27.		1927-28.		1928-29.		1929-30.	
	Tonnage.	Percentage.	Tonnage.	Percentage.	Tonnage.	Percentage.	Tonnage.	Percentage.	Tonnage.	Percentage.
Steam—										
British ..	3,972,307	76	4,146,144	75	3,972,733	74	4,103,691	74	3,997,783	74
Foreign ..	1,272,915	24	1,368,698	25	1,400,752	26	1,418,034	26	1,415,409	26
Total Steam ..	5,245,222	100	5,512,840	100	5,373,485	100	5,521,725	100	5,413,192	100
Sailing—										
British ..	12,760	22	5,330	12	4,500	10	2,946	10	87	0.3
Foreign ..	45,823	78	40,700	88	41,060	90	26,912	90	31,167	99.7
Total Sailing ..	58,583	100	46,030	100	45,560	100	29,858	100	31,254	100
Steam and Sailing—										
British ..	3,985,067	75	4,151,474	75	3,977,233	73	4,106,637	74	3,997,870	73
Foreign ..	1,318,738	25	1,407,398	25	1,441,812	27	1,444,946	26	1,446,576	27
Total ..	5,303,805	100	5,558,870	100	5,419,045	100	5,551,583	100	5,444,446	100

As would naturally be expected, there was a considerable decline in the figures for sailing tonnage during the period under review.

4. *Tonnage in Ballast.*—(i) *Total and Percentage by Nationality.* The following table shows the tonnage according to nationality of oversea vessels which entered and cleared Australia in ballast during the years 1925-26 to 1929-30:—

OVERSEA SHIPPING, AUSTRALIA.—TONNAGE IN BALLAST, 1925-26 TO 1929-30.

Year.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.

TOTAL TONNAGE.

1925-26 ..	435,440	139,281	574,721	309,398	208,222	517,620
1926-27 ..	447,278	212,723	660,001	415,806	161,243	577,049
1927-28 ..	339,344	86,736	426,080	482,617	238,657	721,274
1928-29 ..	403,202	220,817	624,019	481,796	156,524	638,320
1929-30 ..	271,544	97,559	369,103	641,838	312,869	954,707

PERCENTAGE.

1925-26 ..	9.15	10.56	10.84	7.63	3.88	9.64
1926-27 ..	10.77	15.11	11.87	10.04	11.03	10.29
1927-28 ..	8.53	6.02	7.86	11.87	16.57	13.10
1928-29 ..	9.82	15.28	11.24	11.68	11.02	11.51
1929-30 ..	6.79	6.74	6.78	15.87	21.49	17.36

(ii) *Tonnage entered in Ballast—States.* The tonnage which entered each State in ballast during 1929-30 was as follows:—

OVERSEA TONNAGE IN BALLAST ENTERING STATES, 1929-30.

State.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
Tonnage ..	114,458	15,213	40,440	68,842	96,865	18,648	14,637	369,103
Percentage on total ..	31·01	4·12	10·96	18·65	26·24	5·05	3·97	100·00

In normal times the large exports of coal from New South Wales afford special inducements to vessels in search of freights. The tonnage in ballast into New South Wales is mainly for coal cargo, into Victoria for wheat, into South Australia for wheat and ores and into Western Australia for timber and wheat.

§ 3. Shipping of Ports.

The total shipping tonnage—oversea, interstate, and coastwise—which entered the more important ports of Australia during the year 1929-30, together with similar information in regard to some of the ports of New Zealand for the year 1929 and of Great Britain for the year 1929, will be found in the next table:—

SHIPPING OF PORTS, AUSTRALIA, NEW ZEALAND, AND THE UNITED KINGDOM.

Port.	Tonnage Entered.	Port.	Tonnage Entered.
AUSTRALIA—		ENGLAND AND WALES—	
Sydney	8,940,535	London	28,911,898
Melbourne	7,030,192	Liverpool (inc. Birkenhead)	17,180,434
Adelaide	4,697,886	Southampton	12,557,237
Fremantle	3,754,409	Tyne Ports	11,529,734
Brisbane	3,607,591	Cardiff	9,365,675
Newcastle	2,661,394	Plymouth	7,186,060
Townsville	1,063,713	Hull	6,061,745
Hobart	891,368	Manchester (inc. Runcorn)	4,230,144
Kembla	850,820	Swansea	4,225,315
Geelong	714,007	Bristol	3,524,512
Pirie	691,229	Middlesbrough	3,498,332
Cairns	658,664	Newport	3,465,597
Whyalla	540,424	Sutherland	3,198,644
Albany	487,090	Blyth	2,678,696
Launceston	389,275	Grimsby (inc. Immingham)	2,584,303
Burnie	374,007	Dover	2,227,292
Thursday Island	355,573	Beaumaris (inc. Holyhead)	2,135,114
Bowen	331,326	Falmouth	1,748,272
Mackay	304,680		
Bunbury	300,134	SCOTLAND—	
Rockhampton	285,145	Glasgow	6,320,966
Devonport	288,135	Leith	2,180,980
NEW ZEALAND—			
Wellington	3,604,345	NORTHERN IRELAND—	
Auckland	2,500,782	Belfast	5,889,392
Lytelton	2,028,195		
Otago	1,047,221		

Transport and Communication Bulletin No. 22 gives more detailed information regarding the shipping entered at Australian ports.

§ 4. Vessels Built and Registered.

1. **Vessels Built.**—The following table shows the number and tonnage of vessels built in Australia during each of the calendar years 1926 to 1930, 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, does not, however, 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 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 AUSTRALIA, 1926 TO 1930.

NUMBER.

Year.	Steamers built of—					Oil Motor Vessels.	Sailing.	Pontoons, Dredges, etc.	Total.
	Wood.	Iron.	Steel.	Com-posite.	Total.				
1926 ..	1	..	..	..	1	10	..	..	11
1927 ..	..	..	1	..	1	5	1	..	7
1928 ..	2	..	..	..	2	12	4	..	18
1929 ..	..	..	..	..	..	11	2	..	13
1930 ..	..	..	..	..	..	9	1	..	10

TONNAGE.

Year.	Steamers.		Oil Motor Vessels.		Sailing.		Pontoons, Dredges, etc.		Total.	
	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.
1926 ..	36	27	152	97	..	..	..	..	188	124
1927 ..	6	5	86	56	3	3	..	..	95	64
1928 ..	46	36	174	141	46	44	..	..	266	221
1929 ..	..	..	315	230	17	14	..	..	332	244
1930 ..	..	..	250	177	9	9	..	..	259	186

2. **Vessels Registered.**—The following table shows the number and net tonnage of steam, sailing, and other vessels on the registers of the States and of the Northern Territory on the 31st December, 1930.

VESSELS ON THE STATE REGISTERS, 31st DECEMBER, 1930.

States and Territory.	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 ..	49	1,264	408	80,401	260	3,456	231	11,033	51	14,156	999	110,310
Victoria ..	40	4,435	142	157,042	49	2,528	45	795	66	29,018	342	193,818
Queensland ..	19	2,920	38	4,350	54	870	95	1,983	32	4,536	238	14,059
South Australia ..	13	363	72	19,767	55	2,781	56	3,170	21	4,933	217	31,014
Western Australia ..	9	173	28	6,412	23	453	302	4,574	22	5,899	384	17,511
Tasmania ..	7	518	47	5,223	64	1,600	67	2,579	2	563	187	10,483
Northern Territory ..	..	..	..	..	2	26	17	163	..	..	19	189
Total ..	137	9,673	735	273,195	507	11,714	813	23,697	194	59,105	2,386	377,384

Particulars of the number of vessels on the registers classified according to tonnage will be found in the Transport and Communication Bulletin issued by this Bureau.

§ 5. Interstate Shipping.

1. System of Record.—*Interstate Shipping* comprises two elements, viz.:(a) Vessels engaged solely in interstate trade ; and (b) Vessels trading between Australia and oversea countries and in the course of their voyage proceeding from one State to another. (It should be mentioned that these vessels, except under special circumstances, do not now engage in interstate carrying.) A detailed explanation of the methods adopted in dealing with the returns under each heading will be found on page 272 of Official Year Book No. 17, but limitation of space precludes its repetition in the present volume.

2. Vessels and Tonnage Entered.—The following table gives the number and tonnage of vessels recorded as having entered each State from any other State during each of the years 1925-26 to 1929-30. The shipping on the Murray River, between the States of New South Wales, Victoria, and South Australia is not included.

INTERSTATE SHIPPING.—NUMBER AND TONNAGE OF VESSELS ENTERED, 1925-26 TO 1929-30.

States and Territory.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
NUMBER.					
New South Wales ..	1,759	2,022	1,856	1,723	1,588
Victoria ..	1,743	1,870	1,815	1,704	1,739
Queensland ..	452	487	463	455	490
South Australia ..	838	949	852	730	753
Western Australia ..	337	366	382	339	387
Tasmania ..	1,024	1,014	1,052	950	1,022
Northern Territory ..	20	24	29	33	26
Total ..	6,173	6,732	6,449	5,934	6,005
TONNAGE.					
New South Wales ..	4,244,524	4,626,263	4,204,347	4,103,542	4,079,399
Victoria ..	3,394,123	3,787,217	3,511,614	3,416,924	3,552,904
Queensland ..	1,011,106	1,056,045	1,074,291	1,106,905	1,164,183
South Australia ..	2,391,535	2,725,309	2,462,588	2,238,706	2,504,065
Western Australia ..	1,648,977	1,778,919	1,879,446	1,663,818	1,915,695
Tasmania ..	1,161,672	1,171,857	1,242,260	853,982	1,207,640
Northern Territory ..	51,760	62,663	61,746	59,048	64,075
Total ..	13,903,697	15,208,273	14,436,292	13,442,925	14,487,961

3. Oversea Vessels Moving Interstate.—To ascertain the aggregate movement of shipping between the States during the year 1929-30, including the total interstate movements of oversea vessels, the figures in the following table, which give the number

and tonnage of vessels entered from or cleared for oversea countries via other Australian States, must be added to those in the table preceding:—

SHIPPING ENTERED AND CLEARED FROM AND TO OVERSEA COUNTRIES VIA OTHER AUSTRALIAN STATES, 1929-30.

States and Territory.	Entered.		Cleared.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales ..	560	2,692,988	476	2,377,216	1,036	5,070,204
Victoria ..	549	2,654,108	475	2,312,170	1,024	4,966,278
Queensland ..	253	1,395,191	239	1,327,002	492	2,722,193
South Australia ..	385	2,007,143	324	1,709,381	709	3,716,524
Western Australia ..	68	257,364	10	40,951	78	298,315
Tasmania ..	30	119,546	85	502,607	115	622,153
Northern Territory ..	1	2,438	..	..	1	2,438
Total ..	1,846	9,128,778	1,609	8,269,327	3,455	17,398,105

Oversea vessels moving interstate are with few exceptions not engaged in the active interstate trade of Australia, but are merely proceeding to the several States in continuation of their oversea voyage.

4. Vessels engaged Solely in Interstate Trade.—Eliminating all interstate movements of oversea vessels, the number and tonnage of vessels engaged solely in the interstate trade for Australia as a whole during the years 1925-26 to 1929-30 were as follows:—

NUMBER AND TONNAGE OF VESSELS ENGAGED SOLELY IN INTERSTATE TRADE, 1925-26 TO 1929-30.

Year.	Entered.		Cleared.	
	No.	Tons.	No.	Tons.
1925-26	4,690	6,677,578	4,628	6,622,175
1926-27	5,129	7,303,603	5,146	7,422,571
1927-28	4,824	6,316,106	4,865	6,447,495
1928-29	4,373	5,512,897	4,383	5,611,354
1929-30	4,396	6,218,634	4,373	6,091,994

5. Total Interstate Movement of Shipping.—(i) *Australia*. The appended table shows the total inward interstate movement of shipping for each of the years 1925-26 to 1929-30:—

TOTAL INWARD INTERSTATE MOVEMENT OF SHIPPING, 1925-26 TO 1929-30.

Vessels.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	Tons.	Tons.	Tons.	Tons.	Tons.
Oversea vessels moving interstate ..	15,001,432	16,777,917	17,079,249	17,136,059	17,398,105
Vessels solely interstate ..	6,677,578	7,422,571	6,447,495	5,611,354	6,218,634
Total ..	21,679,010	24,200,488	23,526,744	22,747,413	23,616,739

(ii) *States.* The following table shows the number and tonnage of vessels which entered and cleared each State during 1929-30, including the coastal movements of oversea vessels:—

INTERSTATE SHIPPING OF EACH STATE, 1929-30.

States and Territory.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales	2,148	6,772,387	2,109	6,596,070
Victoria	2,288	6,207,012	2,362	6,461,469
Queensland	743	2,559,374	757	2,615,609
South Australia	1,138	4,511,208	1,151	4,499,916
Western Australia	455	2,173,059	376	1,943,074
Tasmania	1,052	1,327,186	1,052	1,312,438
Northern Territory	27	66,513	21	61,523
Total, Australia	7,851	23,616,739	7,828	23,490,099

6. *Interstate and Coastal Services.*—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 1926 to 1930:—

AUSTRALIAN INTERSTATE AND COASTAL STEAMSHIP SERVICES, 1926 TO 1930.

Particulars.	1926.	1927.	1928.	1929.	1930.
Number of companies making returns	44	40	38	29	22
Number of steamships.. .. .	216	212	201	181	173
Tonnage { Gross	375,893	398,894	371,142	360,459	349,163
{ Net	214,028	214,703	208,033	202,749	196,342
Horse-power (Nominal)	37,129	39,545	37,980	37,911	36,230
Number of passengers licensed for which	8,686	7,909	7,686	7,983	7,686
{ 1st class					
{ 2nd class and steerage	3,650	3,438	3,240	1,755	1,784
Complement of Crew { Masters and officers	691	698	638	588	563
{ Engineers	642	662	630	598	576
{ Crew	5,102	5,176	4,922	4,710	4,630

§ 6. Tonnage of Cargo.

The table hereunder shows the aggregate tonnage of oversea cargo discharged and shipped in Australian ports, and the tonnage of interstate cargo shipped in all ports for the years 1926-27 to 1929-30. Cargo which was stated in cubic feet has been converted to weight on the basis of 40 cubic feet to the ton.

AUSTRALIAN SHIPPING.—CARGO MOVEMENT, 1926-27 TO 1929-30.

Year.	Oversea Cargo.				Interstate Cargo.	
	Discharged.		Shipped.		Shipped.	
	Tons Weight.	Tons Meas.	Tons Weight.	Tons Meas.	Tons Weight.	Tons Meas.
1926-27	3,097,467	2,857,745	4,313,286	932,855	5,764,631	1,031,525
1927-28	3,346,604	2,542,623	3,739,525	946,781	5,090,116	1,134,972
1928-29	3,596,936	2,470,493	4,529,232	759,813	4,381,692	1,168,601
1929-30	4,348,396	2,298,101	3,954,893	643,373	3,460,428	1,111,355

More detailed information regarding the volume of trade at each of the principal ports is contained in Transport and Communication Bulletin No. 22 issued by this Bureau.

§ 7. World's Shipping Tonnage.

The table hereunder shows the number and gross tonnage of steam and motor, and of sailing vessels owned by the most important maritime countries, together with the proportion of the grand total owned by each country :—

WORLD'S SHIPPING TONNAGE, 1st JULY, 1930.

Nationality.	Steam and Motor.		Sailing.		Total.		Percentage on Total.	
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
Great Britain and Nthn. Ireland	7,856	20,321,920	382	116,524	8,238	20,438,444	25.73	30.68
Australia and New Zealand	603	677,981	11	6,918	614	684,899	1.92	1.03
Canada(a)	629	919,484	182	90,387	811	1,009,851	2.53	1.51
Other British	758	875,496	215	50,974	973	926,470	3.04	1.39
Total, British Empire	9,846	22,794,861	790	264,803	10,636	23,059,664	33.22	34.56
Belgium	238	546,002	5	7,035	243	553,037	0.76	0.83
Denmark	643	1,071,521	62	16,485	705	1,088,006	2.20	1.63
France	1,501	3,470,591	150	60,288	1,651	3,530,879	5.16	5.29
Germany	2,138	4,199,096	19	30,139	2,157	4,229,235	6.74	6.34
Greece	546	1,390,899	..	546	1,390,899	1,390,899	1.70	2.08
Holland	1,381	3,079,000	20	7,315	1,401	3,086,315	4.38	4.62
Italy	1,105	3,261,922	275	69,304	1,380	3,331,226	4.31	4.99
Japan	2,060	4,316,804	..	2,060	4,316,804	4,316,804	6.43	6.47
Norway	1,905	3,663,237	11	5,052	1,916	3,668,289	5.98	5.50
Spain	795	1,207,093	96	24,644	891	1,231,737	2.78	1.85
Sweden	1,306	1,594,313	111	29,625	1,417	1,623,938	4.43	2.43
United States of America(a) (b)	2,975	10,744,692	673	742,637	3,648	11,487,329	11.39	17.22
Other Foreign Countries	2,900	3,910,955	469	218,902	3,369	4,129,857	10.52	6.19
Total, Foreign Countries	19,493	42,456,125	1,891	1,211,426	21,384	43,667,551	66.78	65.44
Grand Total	29,339	65,250,986	2,681	1,476,229	32,020	66,727,215	100.00	100.00

(a) Sea-going.

(b) Including Philippine Islands.

The foregoing figures have been compiled from Lloyd's Register of Shipping, and vessels of 100 tons or upwards only have been included.

§ 8. Ferries.

1. **New South Wales.**—The ferry services in Port Jackson are under the control of three companies, which during the year 1930 had 64 vessels in commission, 61 of which were double-ended screw steamers, the remaining three being motor driven. It is claimed for the steamers that they are superior in size and equipment to boats employed on similar service in any other part of the world.

2. **Victoria.**—The Williamstown City Council owns one steamer which is engaged in the transport of passengers between Port Melbourne and Williamstown. There are several other steamers which are engaged during the summer season in the carriage of passengers and goods to the several seaside resorts. Particulars of these services, however, are not included in the table in sub-par. 6 following.

3. **Queensland.**—The Brisbane City Council and the Balmoral Shire Council control the ferry services in the Metropolitan area, but such ferries are really substitutes for bridges and have therefore not been included in the table hereunder.

4. Western Australia.—The ferries plying on the Swan River during 1930 were operated by a private company, and consisted of 9 petrol-driven vessels. At South Perth the Western Australian Government employed 3 vessels, 1 of which was a steamer.

5. Tasmania.—In and around Hobart there were in 1930, 4 ferry services, 2 being controlled by private companies which had 3 steamers in commission, 1 by the Public Works Department with 2 motor-propelled vessels, and 1 by the Railway Department with 1 steamer.

6. Particulars of Working.—The subjoined table shows for the year 1930, so far as returns are available, the most important items in connexion with the operation of the ferry services in the several States:—

FERRIES.—PARTICULARS OF WORKING, 1930.

Particulars.	New South Wales.	Victoria.	Western Australia.	Tasmania.	Total.
Boats in Service—					
Steam .. No.	61	1	1	4	67
Other .. No.	3	..	11	2	16
Total .. No.	64	1	12	6	83
Number of passengers which boats are licensed to carry .. No.	46,435	342	1,637	1,439	49,903
Revenue .. £	808,139	3,088	17,201	24,072	852,500
Working Expenses .. £	644,297	7,135	16,288	26,523	694,243
Passengers carried(b) No.	48,595,908	136,530	1,494,848	1,199,406	51,426,692
Mileage of Boats miles	(a)	12,740	94,025	(a)	(c)106,765
Accidents—					
Killed .. No.	1	..	..	..	1
Injured .. No.	108	..	..	1	109
Employees—					
Salaried Staff No.	83	..	3	7	93
Wages Staff No.	976	6	31	28	1,041

(a) Not Available.

(b) Approximate.

(c) Incomplete.

7. Other Services.—In addition to the foregoing there are throughout the several States a number of row-boat ferry services, and on many of the principal inland rivers punts are in operation.

§ 9. Miscellaneous.

1. Lighthouses.—Transport and Communication Bulletin No. 14, published by this Bureau, contains a list of the principal lighthouses on the coast of Australia, giving details of the location, number, colour, character, period, candle-power, and visibility of each light so far as particulars are available.

2. Distances by Sea.—A statement giving the distances by sea between the ports of the capital cities of Australia and the most important ports in other countries which trade with Australia was also included in Transport and Communication Bulletin No. 14.

3. Shipping Freight Rates.—The Quarterly Summary of Australian Statistics gives a list of the ruling freight rates for general merchandise both in respect of oversea and interstate shipments. The latest figures available, which give the rates current at 30th June, 1931, show that the rate for general merchandise from Australia to United Kingdom and Continent was 63s. per ton weight or measurement, as compared with 55s. per ton in 1915.

4. Depth of Water at Main Ports.—A table compiled from information supplied by the Director of Navigation showing the depth of water at the main ports of Australia at 1st January, 1931, has been included in the Transport and Communication Bulletin No. 22, published by this Bureau.

5. Shipping Casualties.—Courts of Marine Inquiry are constituted by a Magistrate assisted by skilled assessors, and when necessary are held at the principal port in each State and at Launceston (Tasmania). Such courts have power to deal with the

certificates of officers found to be at fault. Particulars of shipping casualties reported on or near the coast during the year 1929-30 are shown in the Transport and Communication Bulletin No. 22. This information has also been furnished by the Director of Navigation.

6. **Commonwealth Navigation and Shipping Legislation.**—(i) *General.*—An account in some detail, of the Commonwealth Navigation and Shipping Legislation was published in Official Year Book No. 17 (pp. 1053-5), but considerations of space preclude its repetition in the present volume.

(ii) *Amending Acts.* Under the provisions of the Navigation Act 1926 (March, 1926) permission may be granted by the Governor-General in Council in certain specified circumstances to unlicensed British ships to engage in passenger tourist traffic between any specified Commonwealth ports. Certain vessels were granted permission to engage in the carriage of passengers between the port of Hobart and the ports of Brisbane, Sydney, and Melbourne during the period 6th March, 1926, to 31st May, 1926, and between the 1st January, 1927, and 31st May, 1927. This permission may be renewed from time to time as occasion demands. The Navigation Act 1925 (July, 1925), conferred authority for the suspension, for any specified time, if in the opinion of the Governor-General in Council such is expedient in the public interest, of the operation of the provisions of that part of the principal Act relating to the engagement of ships in the coasting trade by exempting under certain circumstances any ship or class of ships from compliance with any specified provision or provisions of the Act.

7. **Ports and Harbours.**—A report in two volumes on *Transport in Australia*, with special reference to Ports and Harbours facilities, was submitted to the Commonwealth Government by Sir George Buchanan, and published as a Parliamentary Paper, but the subject-matter is too voluminous to be dealt with in this present volume.

B. RAILWAYS.

§ 1. General.

1. **Introduction.**—In the following pages statistics relating to State-owned lines are, in the main, dealt with separately from those under the control of the Commonwealth Government. The State railways are referred to throughout as "State" and the Commonwealth railways as "Federal" railways.

2. **Improvement of Railway Statistics.**—Earlier issues of the Year Book contain 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* (see Year Book No. 7, page 598).

Considerable improvement, both as regards the volume of information and the mode of presentation thereof in the statistical tables appearing in the reports of the several Railways Commissioners, has been made during recent years.

3. **Railway Communication in Australia.**—An account of the progress of railway construction in Australia since the opening of the first line in 1854 will be found in Year Book No. 6, p. 681. Further information regarding railway communication in Australia and proposals for unification of gauge in the various systems are given in Year Book No. 22, pp. 259 to 261, but considerations of space preclude its repetition in the present issue.

4. **Mileage Open for Traffic, all Lines.**—(i) *General.* In all the States 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 Australia, lines have been constructed and managed by private companies, but at the present time nearly the whole of the railway traffic

is in the hands of the State or Commonwealth Governments. A large proportion of the private lines has been laid down for the purpose of opening up forest lands, mining districts, or sugar areas, and these lines are not generally used for the conveyance of passengers or the public conveyance of goods.

The subjoined table shows the route mileage of Federal, State, and private lines open for general traffic (exclusive of sidings and cross-overs) in each State for each of the years 1925-26 to 1929-30. The railway mileage given for each State includes both Federal, State, and private railways in that State :—

RAILWAYS.—GOVERNMENT AND PRIVATE.—MILEAGE OPEN, 1926 TO 1930.

State or Territory.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales ..	5,883.85	5,892.07	6,008.99	6,082.25	6,089.93
Victoria ..	4,652.21	4,659.16	4,721.69	4,723.95	4,737.65
Queensland ..	6,542.39	6,603.59	6,619.14	6,720.91	6,726.03
South Australia ..	3,608.31	3,637.01	3,636.42	3,821.29	3,938.68
Western Australia ..	4,595.37	4,649.04	4,707.62	4,809.47	4,841.89
Tasmania ..	865.00	845.86	841.06	827.26	821.01
Federal Capital Territory ..	4.94	4.94	4.94	4.94	4.94
Northern Territory ..	198.68	198.68	198.68	264.84	316.50
Australia ..	26,350.75	26,490.35	26,738.54	27,254.91	27,476.63

In previous issues of the Year Book particulars were given for different periods from 1855 onwards. (See No. 15, p. 537.)

(ii) *Government and Private Lines Separately.* The next table shows 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 open for general use by the public and (b) the length of private lines available for general use by the public. The mileages specified in the case of Government and private lines are to the 30th June, 1930 :—

RAILWAYS.—GOVERNMENT AND PRIVATE.—MILEAGE CLASSIFIED, 1929-30.

State or Territory.	Government Lines—		Private Lines available for General Traffic.	Total Open for General Traffic.
	State.	Federal.		
	Miles.	Miles.	Miles.	Miles.
New South Wales ..	5,974.23	..	115.70	6,089.93
Victoria ..	4,712.71	..	24.94	4,737.65
Queensland ..	6,447.18	..	278.85	6,726.03
South Australia ..	2,535.61	1,369.27	33.80	3,938.68
Western Australia ..	4,110.90	453.99	277.00	4,841.89
Tasmania ..	679.45	..	141.56	821.01
Federal Capital Territory ..	..	4.94	..	4.94
Northern Territory ..	..	316.50	..	316.50
Australia ..	24,460.08	2,144.70	871.85	27,476.63

5. **Comparative Railway Facilities.**—The mileage of line open to the public for general traffic (including both Government and private lines) is shown in the subjoined statement in relation to population and area respectively at the 30th June, 1930 :—

RAILWAYS.—GOVERNMENT AND PRIVATE.—COMPARISON OF FACILITIES, 1930.

Particulars.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	Fed. Cap. Ter.	Nor. Ter.	Aust.
Mileage of Railway— Per 1,000 of population ..	2.45	2.66	7.14	6.78	11.57	3.81	0.56	66.32	4.27
Per 1,000 sq. miles of Territory ..	19.68	53.91	10.03	10.36	4.96	31.32	5.26	0.60	9.24

6. **Classification of Lines according to Gauge, 1929-30.**—The next table gives a classification, according to gauge, of the total mileage, exclusive of sidings and crossovers of (i) Federal railways, given in the State or Territory in which situated; (ii) State railways; and (iii) Private railways open to the public for general traffic. Particulars of Government railways are up to the 30th June, 1930, and of private railways open for general traffic to the 31st December, 1930, as nearly as possible.

RAILWAYS.—GOVERNMENT AND PRIVATE.—GAUGES, 1929-30.

State or Territory in which situated.	Route mileage having a gauge of—						Total.
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	3 ft. 0 in.	2 ft. 6 in.	2 ft. 0 in.	

FEDERAL RAILWAYS.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
South Australia	597.86	771.41	..	..	..	1,369.27
Western Australia	453.99	..	..	..	..	453.99
Federal Capital Territory	4.94	..	..	..	..	4.94
Northern Territory	316.50	..	..	..	316.50
Total	1,056.79	1,087.91	..	..	..	2,144.70

STATE RAILWAYS.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales .. ..	..	5,934.72	39.51	..	..	..	5,974.23
Victoria	4,590.04	..	..	..	121.77	..	4,712.71
Queensland .. ..	..	..	6,416.92	..	..	30.26	6,447.18
South Australia	1,457.59	..	1,078.02	..	..	..	2,535.61
Western Australia .. ..	..	..	4,110.90	..	..	..	4,110.90
Tasmania .. ..	..	..	654.62	..	..	24.83	679.45
Total	6,048.53	5,934.72	12,299.97	..	121.77	55.09	24,460.08

PRIVATE RAILWAYS OPEN FOR GENERAL TRAFFIC.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales .. ..	..	78.97	36.73	..	..	..	115.70
Victoria	13.94	..	..	11.00	..	..	24.94
Queensland .. ..	..	..	101.55	..	7.00	170.30	278.85
South Australia .. ..	..	..	33.80	..	..	..	33.80
Western Australia .. ..	..	..	277.00	..	..	..	277.00
Tasmania .. ..	..	..	125.07	..	..	16.49	141.56
Total	13.94	78.97	574.15	11.00	7.00	186.79	871.85

RAILWAYS.—GOVERNMENT AND PRIVATE.—GAUGES, 1929-30—continued.

State or Territory in which situated.	Route mileage having a gauge of—						Total.
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	3 ft. 0 in.	2 ft. 6 in.	2 ft. 0 in.	

ALL RAILWAYS OPEN FOR GENERAL TRAFFIC.

New South Wales .. ..	..	6,013.69	76.24	..	..	..	6,089.98
Victoria	4,604.88	..	..	11.00	121.77	..	4,737.65
Queensland .. ..	..	..	6,518.47	..	7.00	200.56	6,726.03
South Australia	1,457.59	597.86	1,883.23	..	..	..	3,938.68
Western Australia .. ..	..	453.99	4,387.90	..	..	..	4,841.89
Tasmania .. ..	..	..	779.69	..	..	41.32	821.01
Federal Capital Territory .. ..	..	4.94	..	..	..	..	4.94
Northern Territory .. ..	..	..	316.50	..	..	..	316.50
GRAND TOTAL	6,062.47	7,070.48	13,962.03	11.00	128.77	241.88	27,476.63

7. Track Mileage—Government Railways.—The following table gives the track mileages of all Government railways and sidings, exclusive of Tasmania, for the years ended 30th June, 1927 to 1930, classified according to gauge, together with the percentages on the total:—

RAILWAYS, FEDERAL AND STATE.—TRACK MILEAGE(a), 1927 TO 1930.

Gauge.	At 30th June—							
	1927.		1928.		1929.		1930.	
	Miles.	%	Miles.	%	Miles.	%	Miles.	%
5 ft. 3 in. ..	7,465.59	24.95	7,812.26	25.77	7,847.13	25.41	7,867.32	25.17
4 ft. 8½ in. ..	8,749.82	29.24	8,896.10	29.34	8,998.12	29.14	9,040.86	28.93
3 ft. 6 in. ..	13,543.00	45.26	13,445.80	44.35	13,865.95	44.91	14,176.91	45.37
2 ft. 6 in. ..	131.56	0.44	131.87	0.43	131.87	0.43	131.87	0.42
2 ft. 0 in. ..	33.00	0.11	33.00	0.11	33.00	0.11	33.00	0.11
Total	29,922.97	100.00	30,319.03	100.00	30,876.07	100.00	31,249.96	100.00

(a) Exclusive of Tasmania.

§ 2. 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 been constructed in the Federal Capital Territory, connecting Canberra with the New South Wales railway system at Queanbeyan. In 1917 an Act was passed by which all the Federal railways were vested in a Commonwealth Railways Commissioner.

2. **North Australia Railway.**—(i) *Darwin to Birdum.* On the 1st January, 1911, the line from Darwin to Pine Creek came under the jurisdiction of the then Department of External Affairs, and was worked under the Administrator of the Northern Territory. As mentioned above, the management of this railway is now vested in the Commonwealth Railways Commissioner.

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 was completed, and the first train ran through to Emungalan (Katherine River) on 13th May, 1917.

(ii) *Proposed Extension.* The recommendations of the Parliamentary Standing Committee on Public Works in connexion with the North-South line were indicated in a previous issue of this work. (See Year Book No. 18, p. 278.)

(iii) *Line Authorized for Construction.* The Northern Territory Railway Extension Act 1923 provides for the construction of a 3 ft. 6 in. gauge line from the present terminus at Emungalan to Daly Waters, a distance of approximately 160 miles. The estimated cost of this line is £1,545,000, including the cost of a bridge over the Katherine River which was completed in May, 1926, although the first train crossed on 21st January, 1926. The terminus of the line was moved to the new station at Katherine River on 14th December, 1926. Tenders were then called for the construction of the line from Katherine River to Daly Waters, but, as no satisfactory tender was received, it was decided to do the work by day labour. Under this system, construction proceeded rapidly until December, 1927, when, owing to a reduction in the amount of money to be made available for construction during the year 1927-28, a drastic curtailment of operations was made. The work then proceeded at a limited rate, and, on 1st July, 1928, a further section, to Mataranka (264 miles 67 chains from Darwin) was opened for public traffic. Owing to the need for the curtailment of loan expenditure, the Government then decided not to proceed with construction work beyond Birdum (316 miles 40 chains from Darwin), and on 4th September, 1929, this section was opened for traffic and further construction work ceased.

3. *Central Australia Railway.*—(i) *General.* This line was taken over by the South Australian Government until 31st December, 1913. From the 1st January, 1914, the line was worked under agreement by the South Australian Government for and on behalf of the Commonwealth, but from 1st January, 1926, the management devolved upon the Commonwealth Railways Commissioner.

(ii) *Extension Authorized.* The Railways (South Australia) Agreement Act 1926, assented to by the Commonwealth Parliament in February, 1926, ratified the agreement between the Commonwealth and South Australian Governments for the construction of a 3 ft. 6 in. gauge line between Port Augusta and Alice Springs. This involves the construction of an extension to Alice Springs of the existing 3 ft. 6 in. gauge line from Port Augusta to Oodnadatta. The estimated cost, exclusive of rolling stock, of the proposed extension, which comprises 292 miles, is £1,700,000. The first section 21½ miles from Oodnadatta was completed on the 29th August, 1927. The contract for the construction of the balance of 270¾ miles to Alice Springs was signed on the 11th August, 1927. The contract provided for the completion of the railway to Alice Springs by the 30th June, 1929, but it was not until 2nd August, 1929, that the completed line was taken over for public traffic.

4. *Federal Capital Territory Railway.*—*Queanbeyan-Canberra.*—This line was built by the Railway Construction Branch of the Public Works Department, New South Wales, and, when completed, was taken over by the Chief Commissioner of Railways for that State, who worked the line for and on behalf of the Commonwealth Government until 1st July 1928, on which date the management was taken over by the Commonwealth Railways Commissioner. The line was opened for departmental goods traffic on 25th May, 1914. It connects with the New South Wales railway system at Queanbeyan, is 4.94 miles in length, and has sidings of an aggregate length of 2.00 miles.

5. *Trans-Australian Railway (Kalgoorlie to Port Augusta).*—In the issue of the Year Book for 1918 (No. 11, pp. 662 to 666 and p. 1213), a short history of the construction of the Trans-Australian line is given, also a description of the country through which the line passes between Kalgoorlie and Port Augusta.

On the 22nd October, 1917, the first through train left Port Augusta with an official party on board for Kalgoorlie. It should be mentioned that owing to deviations from the original route, the length of this line was reduced from 1,063.39 miles to 1,051.85 miles, a saving of 11.54 miles.

6. Lines Open, Surveyed, etc.—The following table shows the lines open for traffic under the control of the Commonwealth Government at 30th June, 1930, together with the lines which have been or are being surveyed:—

RAILWAYS, FEDERAL, 30th JUNE, 1930.

Terminals.	Miles.
OPEN FOR TRAFFIC.	
Trans-Australian—Port Augusta (South Australia) to Kalgoorlie (Western Australia)	1,051.85
Central Australia Railway—Port Augusta (South Australia) to Alice Springs (Central Australia)	771.41
Queanbeyan to Canberra (Federal Capital Territory)	4.94
North Australia Railway—Darwin to Birdum	316.50
Total opened for traffic	2,144.70
SURVEYED OR BEING SURVEYED.	
Birdum to Daly Waters (Northern Territory)	43.50
Kingoonya to Bcoorthanna (South Australia)	176.44
Canberra to Jervis Bay (Federal Capital Territory)	140.22
Canberra (Federal Capital Territory) to Federal Capital Territory Border in the direction of Yass (New South Wales)	11.67
Daly Waters (Northern Territory) to Alice Springs (South Australia)	559.50
Port Augusta to Crystal Brook (South Australia)	69.25
Port Augusta—Red Hill—Adelaide	188.98
Total surveyed or being surveyed	1,189.56

In addition the following trial surveys were undertaken on behalf of the North Australia Commission, viz.:—

(1) From the proposed deep water port at Rocky Island (Gulf of Carpentaria) to Borroloola; (2) From Borroloola to near Anthony's Lagoon; (3) From Daly Waters to a point on the Queensland Border about 44 miles south of Camooweal; and (3) From a point on the Daly Waters—Queensland Border survey 45 miles south of Daly Waters, and near Newcastle Waters to the border of Western Australia.

7. Mileage open, worked, and Train miles run.—The next table shows the length of the Federal railways open for traffic, average miles worked, and the train miles run in the years 1926 to 1930:—

RAILWAYS, FEDERAL.—MILEAGE OPEN, WORKED, AND TRAIN MILES, 1926 TO 1930.

MILES OPEN FOR TRAFFIC.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
	Miles.	Miles.	Miles.	Miles.	Miles.
1926	1,051	478	5	199	1,733
1927	1,051	478	5	199	1,733
1928	1,051	478	5	199	1,733
1929	1,052	648	5	265	1,970
1930	1,052	771	5	317	2,145

RAILWAYS, FEDERAL.—MILEAGE OPEN, WORKED, AND TRAIN MILES
1926 TO 1930—*continued.*

Year ended 30th June—	Railway.				Total.
	Trans- Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
AVERAGE MILES WORKED.					
	Miles.	Miles.	Miles.	Miles.	Miles.
1926	1,051	478	5	199	1,733
1927	1,051	478	5	199	1,733
1928	1,051	478	5	199	1,733
1929	1,052	566	5	265	1,888
1930	1,052	760	5	307	2,124

TRAIN MILES RUN.(a)					
1926	471,322	192,773	7,123	60,641	731,859
1927	487,160	263,227	12,402	69,872	832,661
1928	485,848	359,160	15,632	105,042	965,682
1929	500,402	408,970	12,915	82,861	1,005,148
1930	453,151	239,303	9,865	43,594	745,913

(a) Traffic Train Mileage (exclusive of "Assistant" and "Light" mileages).

8. Cost of Construction and Equipment.—In the following table particulars are given of the cost of construction and equipment for traffic of the undermentioned railways for each of the years 1926 to 1930:—

RAILWAYS, FEDERAL.—CAPITAL COST, 1926 TO 1930.

Year ended 30th June—	Railway.				Total.
	Trans- Australian.	Central Australia.	Federal Capital Territory.(a)	North Australia.	
TOTAL COST OF CONSTRUCTION AND EQUIPMENT OF LINES OPEN.					
	£	£	£	£	£
1926	7,515,553	2,663,099	50,974	1,736,360	11,965,986
1927	7,614,277	2,854,801	82,945	1,750,772	12,302,795
1928	7,682,126	2,908,644	87,369	1,760,756	12,438,895
1929	7,736,355	3,882,006	83,888	2,431,964	14,134,213
1930	7,805,945	4,730,364	84,253	2,749,807	15,370,369

COST PER MILE OPEN.					
1926	7,148	5,572	10,318	8,739	6,905
1927	7,242	5,973	13,964	8,812	7,099
1928	7,306	6,086	17,686	8,863	7,178
1929	7,355	5,991	16,981	9,183	7,176
1930	7,421	6,132	17,064	8,688	7,167

(a) Exclusive of Rolling Stock the property of New South Wales Government Railways.

The sum of £1,528,821, of which £112,006 was for surveys, etc., has been provided from revenue for capital purposes to 30th June, 1930, and has been included in the total shown above.

9. *Gross Revenue.*—(i) *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 for each of the undermentioned railways for the financial years 1926 to 1930 inclusive :—

RAILWAYS, FEDERAL.—GROSS REVENUE, TOTAL, ETC., 1926 TO 1930.

Year ended 30th June—	Railway.				Total.	
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.		
TOTAL GROSS REVENUE.						
	£	£	£	£	£	
1926	276,430	82,649	11,665	41,347	412,091	
1927	303,212	125,039	14,739	55,718	498,708	
1928	333,608	188,143	9,044	69,054	599,849	
1929	332,199	184,046	6,824	46,156	569,225	
1930	265,562	99,626	6,473	32,475	404,136	

GROSS REVENUE PER AVERAGE MILE WORKED.

1926	263	173	2,362	208	238
1927	288	262	2,984	280	288
1928	317	394	1,831	348	246
1929	316	325	1,381	174	302
1930	252	131	1,311	106	19

GROSS REVENUE PER TRAIN-MILE RUN.

1926	d.	d.	d.	d.	d.
1926	140.67	101.68	383.98	160.57	134.41
1927	149.36	114.00	285.22	191.38	143.73
1928	164.80	125.72	138.85	157.77	149.08
1929	169.32	108.00	126.81	133.69	135.92
1930	140.65	99.92	157.48	178.79	130.03

(ii) *Classification and Percentages.* During the year 1929–30 receipts from coaching traffic and goods and live stock represented 63 per cent. and 16 per cent. of the total gross revenue of the Trans-Australian line, similar percentages for the remaining lines being :—Central Australia line 18 per cent. and 78 per cent., Federal Capital Territory line 51 per cent. and 48 per cent., and North Australia line 12 per cent. and 40 per cent. coaching and goods and live stock revenue respectively.

The miscellaneous receipts for the year 1929–30 include an amount of £27,231, revenue from dining cars and refreshment services on the Trans-Australian Railway. A sum of £33,683 was received from this source during the previous year.

10. *Working Expenses.*—(i) *Total.* The following table shows the total working expenses, and the percentages on the corresponding gross revenues of each railway for each year from 1926 to 1930.

Details of the annual expenditure on (a) maintenance of ways, works and buildings, (b) locomotives, carriages and wagons repairs and renewals, (c) traffic expenses, and (d) compensation, general and miscellaneous charges, are given in (iii) following.

RAILWAYS, FEDERAL.—WORKING EXPENSES, TOTAL, ETC., 1926 TO 1930.

Year ended 30th June—	Railway.				Total.
	Trans- Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
TOTAL WORKING EXPENSES.					
	£	£	£	£	£
1926	282,999	187,835	6,946	43,240	521,020
1927	271,886	131,613	10,036	57,960	471,495
1928	287,942	170,285	11,234	67,991	537,452
1929	300,270	196,329	10,331	56,862	563,792
1930	296,403	194,918	8,031	55,229	554,581

PERCENTAGE OF WORKING EXPENSES ON REVENUE.

	%	%	%	%	%
1926	102.38	227.27	59.55	104.58	126.43
1927	89.67	105.25	68.09	104.02	94.53
1928	86.30	90.50	124.21	98.46	89.59
1929	90.39	106.67	151.39	123.20	99.05
1930	111.61	195.65	124.07	170.07	137.23

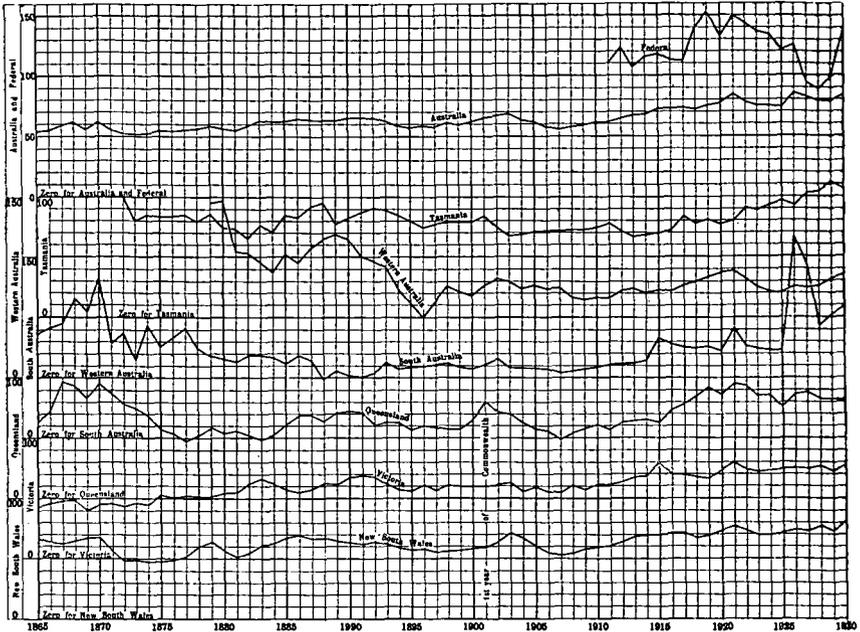
Compared with results for the previous year, the percentage of working expenses on revenue shows increases for each railway except the Federal Capital Territory line. There was a decrease of earnings on each of the railways, due mainly to (a) falling off in railway construction material to be hauled on the Central Australia and North Australia railways; (b) trade depression generally; (c) aerial and other competition on the Trans-Australian railway; and (d) serious washaways involving suspension of traffic on each of the Trans-Australian, Central Australia and North Australia railways.

(ii) *Averages.* The next table gives the working expenses per average mile worked, and per train-mile run for each railway for the years 1926 to 1930:—

RAILWAYS, FEDERAL.—WORKING EXPENSES, AVERAGES, 1926 TO 1930.

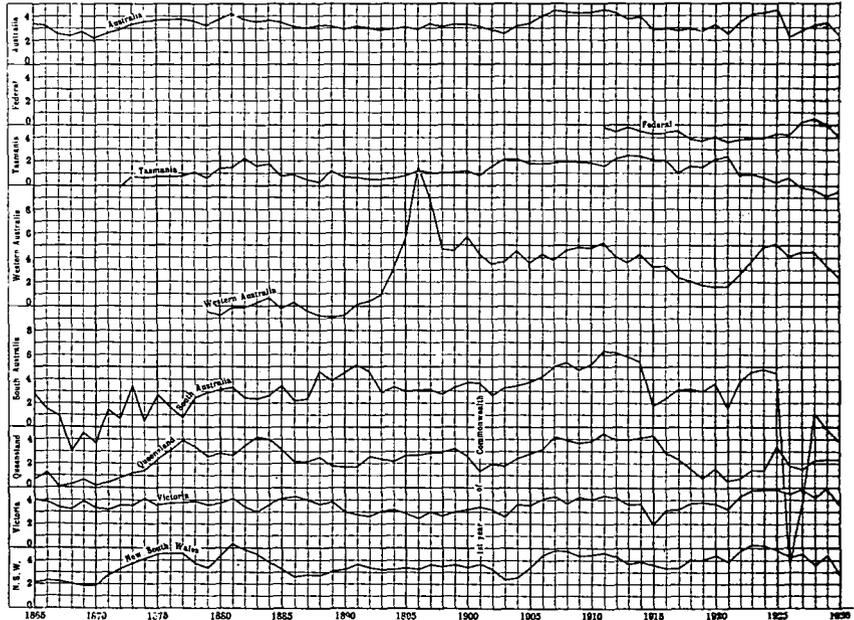
Year ended 30th June—	Railway.				Total.
	Trans- Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
WORKING EXPENSES PER AVERAGE MILE WORKED.					
	£	£	£	£	£
1926	269	393	1,406	218	301
1927	254	275	2,032	292	272
1928	274	356	2,274	342	310
1929	286	347	2,091	215	299
1930	282	256	1,627	180	261
WORKING EXPENSES PER TRAIN-MILE RUN.					
	d.	d.	d.	d.	d.
1926	144.10	233.85	234.04	171.13	170.86
1927	133.95	120.00	194.21	199.08	135.90
1928	142.24	113.79	172.47	155.34	133.57
1929	144.01	115.21	191.98	164.70	134.62
1930	156.98	195.49	195.38	304.05	178.44

PERCENTAGES OF WORKING EXPENSES ON GROSS REVENUE OF GOVERNMENT RAILWAYS, 1865 TO 1930.



EXPLANATION.—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 Australia, with, however, the exceptions that the zero lines for Australia and Federal are identical.

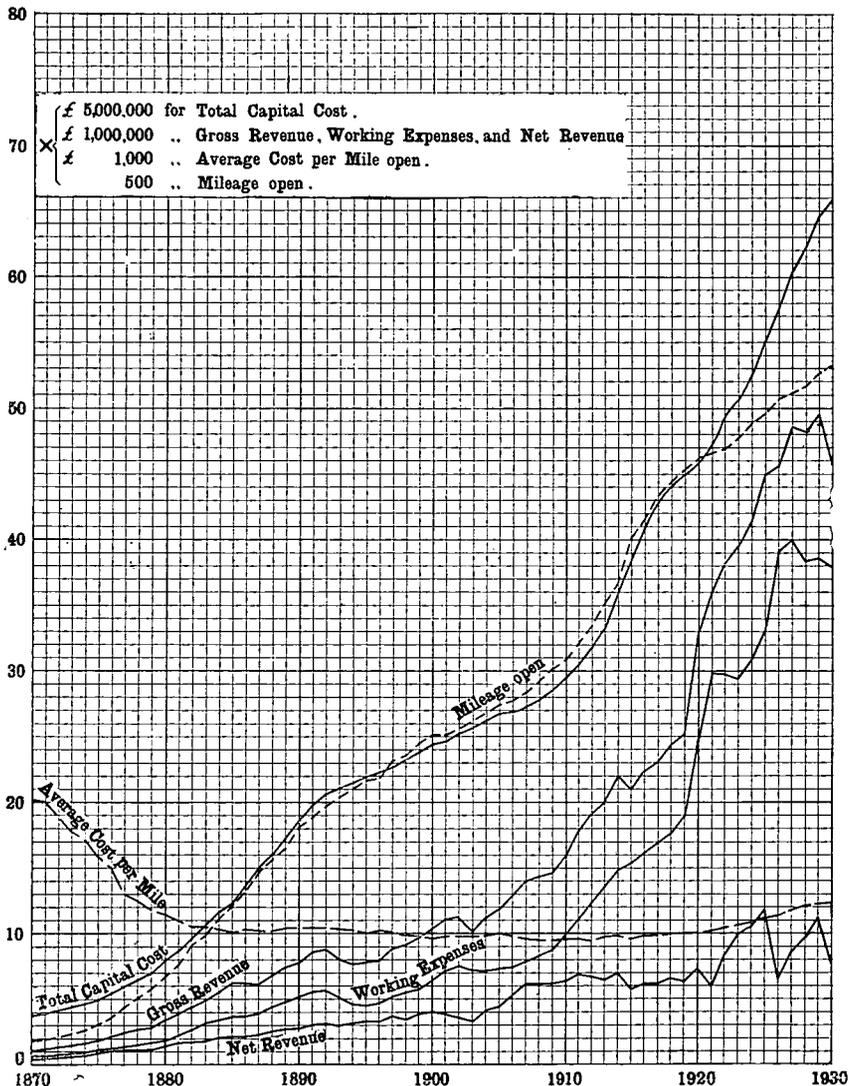
PERCENTAGES OF NET REVENUE ON CAPITAL COST OF GOVERNMENT RAILWAYS, 1865 TO 1930.



EXPLANATION.—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 Australia being different, but the zero line for Federal is the same as that for Australia.

Where the curve for any State falls below that State's zero line, loss is indicated, the working expenses having exceeded the gross revenue.

FINANCIAL POSITION OF THE GOVERNMENT RAILWAYS OF AUSTRALIA, 1870 TO 1930.



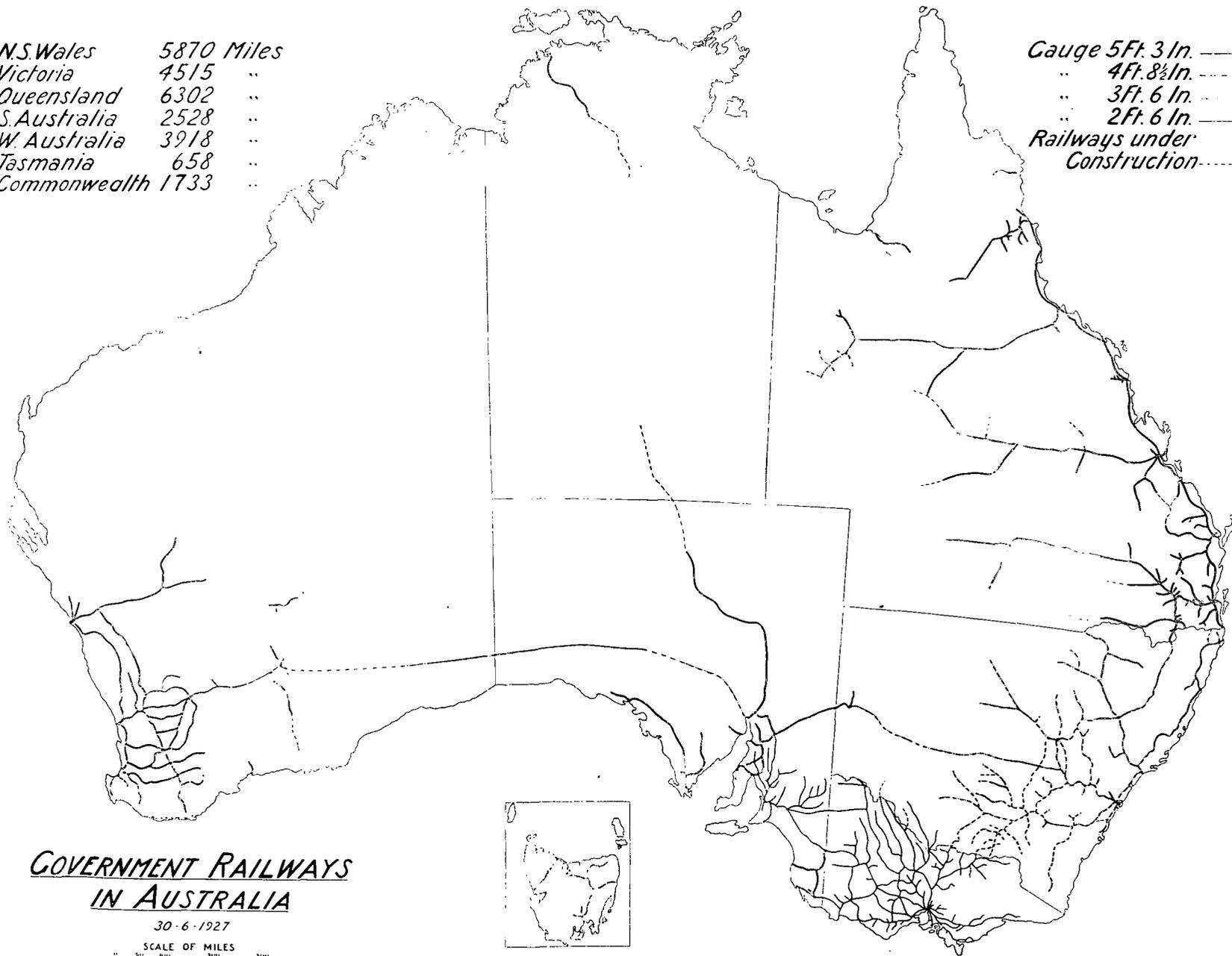
EXPLANATION.—The base of each small square represents throughout one year. The significance of the vertical height of each square varies according to the nature of the several curves.

In the curve for the total capital cost, the vertical side of each square represents £5,000,000.

In the curves for (i) gross revenue, (ii) working expenses, and (iii) net revenue, the vertical side of each small square represents £1,000,000. For the curve of average cost per mile open, the vertical side of each small square represents £1,000. The mileage open is shown by a dotted curve, the vertical side of each small square representing 500 miles.

<i>N.S.Wales</i>	<i>5870 Miles</i>
<i>Victoria</i>	<i>4515 ..</i>
<i>Queensland</i>	<i>6302 ..</i>
<i>S. Australia</i>	<i>2528 ..</i>
<i>W. Australia</i>	<i>3918 ..</i>
<i>Tasmania</i>	<i>658 ..</i>
<i>Commonwealth</i>	<i>1733 ..</i>

Gauge 5Ft. 3 In. ———
.. 4Ft. 8½ In. - - - -
.. 3Ft. 6 In.
.. 2Ft. 6 In. ———
Railways under
Construction - - - - -



(iii) *Classification and Percentages.* Of the total working expenses of the Federal Railways during the year 1929-30, maintenance expenses represented 38 per cent., locomotive, carriage and wagon charges 39 per cent. and traffic expenses 14 per cent. Details for each line were as follows:—Trans-Australian line 30 per cent., 45 per cent. and 13 per cent.; Central Australia line 50 per cent., 34 per cent. and 11 per cent.; Federal Capital Territory line 12 per cent., 42 per cent. and 40 per cent.; and North Australia line 45 per cent., 27 per cent. and 23 per cent. respectively.

11. *Passenger Journeys, and Tonnage of Goods and Live Stock.*—(i) *General.* In the next table particulars are given of the passenger journeys and tonnage of goods and live stock carried on the Federal railways during the years 1926 to 1930:—

RAILWAYS, FEDERAL.—TRAFFIC, 1926 TO 1930.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	

PASSENGER JOURNEYS.

	No.	No.	No.	No.	No.
1926	34,512	65,250	138,923	5,293	243,978
1927	34,779	55,284	125,605	5,716	221,384
1928	36,212	60,410	53,255	5,899	155,776
1929	36,030	57,993	47,470	5,135	146,628
1930	29,163	45,235	45,457	3,238	123,093

TONNAGE OF GOODS AND LIVE STOCK CARRIED.

	tons.	tons.	tons.	tons.	tons.
1926	37,848	46,870	45,933	15,275	145,926
1927	43,503	81,048	84,450	15,612	224,613
1928	45,087	96,799	41,848	22,628	206,362
1929	40,750	90,734	23,196	14,919	169,599
1930	20,906	44,047	20,966	7,024	92,943

(ii) *Passenger-Mileage Summary.* The appended table gives particulars of "Passenger-Mileage" on each of the Federal railways for the year 1929-30:—

RAILWAYS, FEDERAL.—PASSENGER-MILES SUMMARY, 1929-30.

Railway.	Passenger Train Mileage.	Number of Passenger Journeys.	Total "Passenger-Miles."	Amount Received from Passengers.	Average Number of Passengers carried per Train Mile.	Average Mileage per Passenger Journey.	Average Earnings per "Passenger-Mile."	Average Fare per Passenger Journey.	Density of Traffic per Average Mile Worked.
			,000 omitted.	£		Miles.	d.	£ s. d.	
Trans-Australian ..	337,597	29,163	27,325	121,022	81	937	1.06	4 3 0	25,978
Central Australia ..	36,480	45,235	2,439	13,212	67	54	1.30	0 5 11	3,209
Federal Capital Territory ..	8,357	45,457	226	1,997.	27	5	2.12	0 0 10½	45,863
North Australia ..	9,854	3,238	424	3,373	43	131	1.91	1 0 10	1,378

(iii) *Ton-Mileage Summary.* Particulars of ton-mileage are shown hereunder in respect of each of the Federal railways for the year 1929-30 :—

RAILWAYS, FEDERAL.—“TON-MILEAGE” SUMMARY, 1929-30.

Railway.	Goods Train Mileage.	Total Tons Carried.	Total "Ton-Miles."	Goods Earnings.	Average Freight-paying Load per Train.	Average Haul per ton.	Earnings "per Ton-Mile."	Density of Traffic per Average Mile Worked.
					Tons.				Miles.	d.
			,000 omitted.	£				
Trans-Australian ..	115,554	20,906	7,002	41,266	(a) 61	335	1.41	6,657
Central Australia ..	202,823	44,047	10,337	77,319	(a) 51	235	1.79	13,602
Federal Capital Territory ..	1,508	20,966	105	3,137	66	5	7.18	21,231
North Australia ..	33,740	7,024	805	12,931	(a) 24	115	3.86	2,619

(a) Approximate.

12. *Passenger Fares, Goods Rates, and Parcel Rates.*—In previous issues of the Year Book particulars were included of Passenger Fares, Goods Rates (Ordinary Goods and Agricultural Produce), and Parcels Rates, but it is not proposed to republish this information herein.

13. *Rolling Stock, 1930.*—The following table shows the numbers of locomotives and rolling stock in use on the Federal railways, classified according to gauge :—

RAILWAYS, FEDERAL.—LOCOMOTIVES AND ROLLING STOCK, 1930.

Railway.	Gauge.			Total.	Gauge.			Total.	Gauge.			Total.
	4 ft. 8½ in.	3 ft. 6 in.			4 ft. 8½ in.	3 ft. 6 in.			4 ft. 8½ in.	3 ft. 6 in.		
	LOCOMOTIVES.			COACHING STOCK.			STOCK OTHER THAN COACHING.					
Trans-Australian	68	..	68	51	..	51	728	..	728			
Central Australia	..	24	24	..	20	20	..	313	813			
North Australia	..	13	13	..	12	12	..	312	312			
Total ..	68	37	105	51	32	83	728	625	1,353			

The Federal Capital Territory Railway was worked by the New South Wales Government Railway Department, using its own rolling stock.

14. *Employees.*—(i) *General.* The following table shows the number of employees on the Federal railways at 30th June in each year from 1926 to 1930 inclusive, classified according to salaried and wages staffs :—

RAILWAYS, FEDERAL.—EMPLOYEES, 1926 TO 1930.

Railway.	30th June—									
	1926.		1927.		1928.		1929.		1930.	
	Salaried Staff.	Wages Staff.								
Trans-Australian	No.	No.								
Central Australia ..	} 218	870	132	811	126	756	128	776	117	733
North Australia ..		345	66	523	69	492	68	539	59	383
Federal Capital Territory (a) ..		184	29	648	24	320	22	178	15	93
Total ..	218	1,399	227	1,982	219	1,568	223	1,501	196	1,216

(a) Worked by New South Wales Government Railways until 1st July, 1928.

Of the 196 salaried staff employed, 4 were engaged in the Construction Branch on the Trans-Australian Line, the corresponding particulars for the wages staff being :— Trans-Australian Line 112 and Central Australia Line 13, a total of 125 persons.

(ii) *Average Employed throughout Year.* The average number of employees throughout the year 1929–30 was 208 salaried staff (9 of whom were on construction work) and 1,289 wages staff (Construction, 158).

15. Accidents.—(i) *Classification.* The table hereunder furnishes a classification of accidents on the Federal railways during the year 1929–30 :—

RAILWAYS, FEDERAL.—ACCIDENTS, 1929–30.

Classification.	Trans-Australian.		Central Australia.		Federal Capital Territory.		North Australia.		All Federal Railways.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Train Accidents—										
Passengers
Employees
Accidents on line (other than train accidents)—										
Passengers
Employees	1	..	..	..	..	..	1	..
Other Persons
Shunting Accidents—										
Passengers
Employees
Other Persons
Employees proceeding to or from duty within the Railway boundary
Persons killed or injured at crossings
Trespassers
Miscellaneous
Total	1	..	..	..	..	..	1	..

(ii) *Particulars for Quinquennium 1926–30.* The following table shows the number of accidents in each of the years 1926 to 1930 :—

RAILWAYS, FEDERAL.—ACCIDENTS, 1926 TO 1930.

Railway.	Number of Persons.									
	Killed.					Injured.				
	1926.	1927.	1928.	1929.	1930.	1926.	1927.	1928.	1929.	1930.
Trans-Australian .. ..	..	..	3	..	..	6	12	3	3	..
Central Australia	1	1	2	..	1	18	5	7	7	..
Federal Capital Territory .. ..	..	1	..	..	..	..	..	1	..	..
North Australia .. ..	..	..	2	..	..	..	5	9	4	..
Total	1	2	7	..	1	24	22	20	14	..

§ 3. State Railways.

1. **Administration and Control of State Railways.**—The policy of Government control of the railways has been adopted in each State, and earlier issues of the Year Book (see No. 6, p. 693) contain a description of the methods adopted by the various State Governments in the control and management of their railways.

Mileage Open, 1926 to 1930.—(i) *General.* The following table shows the length of State railways open for traffic on the 30th June in the years 1926 to 1930 :—

RAILWAYS, STATE.—MILEAGE OPEN FOR TRAFFIC, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1926	5,742	4,627	6,240	2,499	3,864	673	23,645
1927	5,750	4,634	6,302	2,528	3,918	658	23,790
1928	5,867	4,697	6,345	2,527	3,977	658	24,071
1929	5,940	4,699	6,447	2,542	4,079	653	24,360
1930	5,974	4,713	6,447	2,536	4,111	679	24,460

A graph indicating the mileage open in Australia at the end of each of the years 1870 to 1930 accompanies this chapter.

The appended statement shows the actual mileage opened for traffic in the year 1930, also the annual average increase in mileage opened since 1920 in each State :—

RAILWAYS, STATE.—MILEAGE OPENED ANNUALLY.

Mileage.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
Mileage opened during 1929-30	34.01	13.70	..	6.02(a)	32.42	26.00	100.11
Average annual mileage increase for 10 years to 30th June, 1930 ..	95.89	49.87	76.21	20.24	57.27	5.07	304.55

(a) Due to the closing of the South Terrace to Glenelg line and minor adjustments to other lines. No new lines were opened during the year.

(ii) *New South Wales.* During the year ended 30th June, 1930, the following new line was opened for traffic, viz. :—West Wyalong to Euglo 34.41 miles. Adjustments reduced the length of existing lines by 0.40 miles, the total increase for the year being therefore 34.01 miles.

(iii) *Victoria.* During the year ended 30th June, 1930, the following new lines were opened for traffic, viz. :—Albion to Broadmeadows (8.58 miles) and Eastmalvern to Glen Waverley (5.12 miles), the total increase for the year being 13.70 miles.

(iv) *Queensland.* No new lines were opened during the year 1929-30.

(v) *South Australia.* No new lines were opened during the year. The second line from South Terrace to Glenelg (5.96 miles of 5' 3" gauge) was closed and minor adjustments to existing lines further reduced the mileage open by 0.06 miles, the net decrease for the year 1929-30 being 6.02 miles.

(vi) *Western Australia.* The following new mileage was opened for traffic during the year :—Lake Brown to Bullfinch (50.39 miles) and Collie to Griffen (2.83 miles). The line from Lakeside to White Hope (20.80 miles) was closed and dismantled and the net increase for the year was therefore 32.42 miles.

(vii) *Tasmania*. No new extensions were opened during the year. The Marrawah Tramway (26 miles) was taken over from the Public Works Department by the Railway Department on 1st September, 1929.

3. Length and Gauge of Railway Systems in each State.—In all the States the Government railways are grouped, for the convenience of administration and management, into several divisions or systems. A summary showing concisely the gauge and length of the main and branch lines included in each division or system in the different States for the year ended 30th June, 1930, is given in the Transport and Communication Bulletin No. 22 issued by this Bureau.

4. Average Mileage Worked and Train-Miles Run.—The total mileage open for traffic at the end of each financial year has been given previously, 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 shows the average number of miles worked and the total number of train-miles run by the Government railways of each State during the years 1926 to 1930 inclusive:—

RAILWAYS, STATE.—MILEAGE WORKED AND MILES RUN, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
AVERAGE MILEAGE WORKED.							
1926 ..	5,722	4,526	6,145	2,401	3,337	673	23,304
1927 ..	5,747	4,627	6,259	2,523	3,906	653	23,720
1928 ..	5,826	4,661	6,340	2,523	3,971	653	23,934
1929 ..	5,903	4,698	6,387	2,645	3,993	654	24,180
1930 ..	5,959	4,708	6,447	2,538	4,110	660	24,422

TRAIN-MILES RUN. (a)

1926 ..	24,624,995	17,575,547	12,866,323	6,846,149	4,862,505	1,342,475	68,117,994
1927 ..	26,325,847	18,030,749	11,905,663	6,959,734	5,273,594	1,303,023	69,798,910
1928 ..	26,896,550	17,694,928	11,655,122	6,503,474	5,729,735	1,416,741	69,896,580
1929 ..	27,382,124	17,979,219	11,893,147	5,765,366	5,829,465	1,405,929	70,255,250
1930 ..	26,713,951	17,670,565	11,858,713	5,551,082	5,729,798	1,504,487	69,028,594

(a) Traffic Train Miles (exclusive of "Assistant" and "Light" mileages).

5. Lines under Construction, and Lines Authorized, 1930.—(i) *General*. The following statement gives particulars up to the 30th June, 1930, of the mileage of State railways (a) under construction, and (b) authorized for construction but not commenced:—

RAILWAYS, STATE.—MILEAGE UNDER CONSTRUCTION AND AUTHORIZED, 30th JUNE, 1930.

Particulars.	N.S.W.	Vic. (a)	Q'land.	S.A.	W.A.	Tas.	All States.
Mileage under construction ..	321.60	120.75	b 144.00	..	265.42	..	851.77
Mileage authorized but not commenced ..	366.24	39.50	1,130.00	26.25	319.85	..	1,881.84

(a) See sub-section (b) below.

(b) Exclusive of 186 miles on which work has been suspended.

(ii) *Lines under Construction.* In spite of the great extensions of State railways since the year 1875, there are still, in some of the States, immense areas of country which are as yet practically undeveloped, and in which little in the nature of permanent settlement has been accomplished. The general policy of the States is to extend the existing lines inland in the form of light railways as settlement increases, and while 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) *New South Wales.* The total mileage under construction was 321.60 miles, consisting of the following lines:—Booyong to Ballina (12.70 miles); Kyogle to Richmond Gap (26.66 miles); Moss Vale to Port Kembla (38.75 miles); Grafton to South Grafton (1.62 miles); Camurra to Boggabilla (73.98 miles); Tempe to East Hills (10.49 miles); Hillston to Roto (30.40 miles); Guyra to Dorrigo (89 miles); and Casino to Bonalbo (38 miles).

(b) *Victoria.* In this State 53.50 miles of 5 ft. 3 in. gauge lines are being constructed, viz.:—Wodonga to Tallangatta (deviation) (8.50 miles); Meringur to Morkella (9.50 miles); and Nowingi to Millewa South (35.50 miles). Under the provisions of the Border Railways Act 1922 (Vic. 3194) the following lines are under construction in New South Wales territory, viz.:—Euston to Letta (30.25 miles); and Yarrawonga to Oaklands (37 miles). On completion, these lines, which are of 5 ft. 3 in. gauge, will be taken over and operated by the Victorian Railways Commissioners.

(c) *Queensland.* In previous issues of the Year Book details were given of the scheme of railway construction under the provisions of the North Coast Railway Act 1910 (see Year Book No. 15, p. 551). On the 30th June, 1930, the following lines, of an aggregate length of 144 miles, were under construction:—Southern Division—4 ft. 8½ in. gauge—South Richmond to Richmond Gap (69 miles); 3 ft. 6 in. gauge—Inglewood to Texas (34 miles); Kalpowar to Monto (27 miles); and Meandarra towards Surat (14 miles). The following lines are partially constructed, but work thereon is temporarily suspended:—Goondoon to Kalliva Creek (18 miles); Yaraka to Powell's Creek (27 miles); Dajarra to Moonah Creek (41 miles); Rannes to Monto (63 miles); and Winton to 37-Mile (37 miles); a total of 186 miles.

(d) *South Australia.* At 30th June, 1930, no railway construction work was in progress.

(e) *Western Australia.* The following lines were in course of construction by the Public Works Department on the 30th June, 1930:—Kulja eastward (68.19 miles); Meekatharra to Wiluna (111.33 miles); Pemberton to Westcliffe (27.90 miles); and Lake Grace to Karlgarin (58 miles); a total of 265.42 miles.

(f) *Tasmania.* At 30th June, 1930, no railway construction work was in progress.

(iii) *Lines Authorized for Construction.* (a) *New South Wales.* At the 30th June, 1930, the following lines had been authorized for construction but not commenced:—Gilgandra to Collie (21.54 miles); Jerilderie towards Deniliquin (25.00 miles); Rand to Bull Plain (27.55 miles); Canowindra to Gregra (33.87 miles); St. Leonards to Eastwood (9.07 miles); Sandy Hollow via Gulgong to Maryvale (146.48 miles); Inverell to Ashford (32 miles); Bungendore to Captain's Flat (21.18 miles); Gwabegar to Burren Junction (36.25 miles); Eastern Suburbs to Bondi (7.75 miles); and Western Suburbs to Western Road (5.55 miles); a total distance of 366.24 miles.

(b) *Victoria.* The following lines were authorized, but construction had not been commenced up to the end of June, 1930:—5 ft. 3 in. gauge: La La Siding to Big Pat's Creek (2.50 miles); Casterton to Nangeela (9 miles); and Orbst to Brodribb (6 miles). Under the Border Railways Act 1922, the following line has been authorized for construction in New South Wales Territory:—Mildura to Gol Gol (22 miles); an aggregate distance of 39.50 miles.

(c) *Queensland.* In addition to the new lines upon which work has been commenced, Parliament has authorized the construction of the following parts of the Great Western Railway—Section A, from Quilpie to Eromanga (120 miles); Section B, from Powell's Creek (224 miles); Section C, from 37-Mile to Springvale (324 miles); and Section D,

from Moonah Creek (216 miles). The following lines were also authorized for construction:—Texas to Silverspur (9 miles); Mount Edwards to Maryvale (28 miles); Lanefield to Rosevale (17 miles); Gatton to Mount Sylvia (11 miles); Wandooan to Taroom (42 miles); Dirranbandi extension (52 miles); Yarraman to Nanango (16 miles); Brooloo to Kenilworth (10 miles); Dobbryn to Myally Creek (50 miles); and Pearamon towards Boongee (11 miles); a total of 1,130 miles.

(d) *South Australia.* Parliament has authorized the construction of a line on the 3 ft. 6 in. gauge from Keilpa to Mangalo Hall (26.25 miles).

(e) *Western Australia.* The following lines were authorized for construction up to the 30th June, 1930:—Yarramony eastwards (85 miles); Brookton to Dale River (28 miles); Boyup Brook to Cranbrook (95.23 miles); Manjimup to Mount Barker (107 miles); Leighton to Robb's Jetty (4.62 miles); a total distance of 319.85 miles.

(f) *Tasmania.* There were no new railways authorized on which work had not been commenced at 30th June, 1930.

6. **Cost of Construction and Equipment.**—(i) *General.* The total cost of construction and equipment of the State railways as distinct from those owned by the Commonwealth Government at the 30th June, 1930, amounted to £314,129,655, representing an average cost of £48.89 per head of population. If the cost of railways owned by the Commonwealth Government is included, the total capital cost (£329,500,024) is equivalent to an amount of £51.17 per head of the population of the Commonwealth, while the total mileage open (26,604.78 miles) per 1,000 of population is 4.13. Particulars of the capital expenditure incurred on lines open for traffic are given in the following table:—

RAILWAYS, STATE.—MILEAGE AND COST TO 30th JUNE, 1930.

State.	Length of Line Open (Route).	Total Cost of Construction and Equipment.	Average Cost per Mile Open.	Cost per Head of Population.	Mileage per 1,000 of Population at 30th June, 1930.
	Miles.	£	£	£	Miles.
New South Wales (a) ..	5,974.23	124,555,236	20,849	50.12	2.40
Victoria ..	4,712.71	74,193,518	15,743	41.61	2.64
Queensland ..	6,447.18	58,727,528	9,109	62.33	6.84
South Australia (a) ..	2,535.61	27,272,316	10,756	46.97	4.37
Western Australia (a) ..	4,110.90	22,846,871	5,558	54.57	9.82
Tasmania ..	679.45	6,534,186	9,617	30.32	3.15
All States ..	24,460.08	314,129,655	12,843	48.89	3.81

(a) Exclusive of Federal railways.

The lowest average cost (£5,558) per mile open is in Western Australia, and the highest (£20,849) in New South Wales, as compared with an average of £12,843 for all States. There were few costly engineering difficulties in Western Australia, and the fact that contractors were permitted to carry traffic during the term of their contracts considerably reduced expenditure, particularly in respect of all goldfield contracts.

In the table above the figures relating to cost of construction and equipment do not include the discounts and flotation charges on loans allocated to the railways. This will explain the differences between the amounts shown therein for Queensland, South Australia, and Western Australia, and those shown in the Railway Reports for these States.

(ii) *Capital Cost, All Lines.* (a) *Total.* The increase in the total capital cost of construction and equipment of Government railways for each year from 1926 to 1930 is shown in the following table :—

RAILWAYS, STATE.—CAPITAL COST OF LINES OPEN, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
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TOTAL COST OF LINES OPEN.

	£	£	£	£	£	£	£
1926 ..	103,674,668	68,888,145	51,555,649	25,529,866	20,327,456	6,450,185	276,425,969
1927 ..	111,226,149	70,298,673	54,496,012	28,120,046	20,855,804	6,486,109	291,482,593
1928 ..	116,221,374	72,282,201	56,231,445	26,021,454	21,403,256	6,483,281	298,693,011
1929 ..	122,566,422	73,061,522	58,251,561	26,835,717	22,427,112	6,494,003	309,636,337
1930 ..	124,555,236	74,193,518	58,727,528	27,272,316	22,846,871	6,534,186	314,129,655

COST PER MILE OPEN.

1926 ..	18,056	14,887	8,262	10,216	5,260	9,586	11,690
1927 ..	19,344	15,169	8,648	11,124	5,322	9,854	12,252
1928 ..	19,809	15,390	8,371	10,297	5,382	9,849	12,409
1929 ..	20,633	15,548	9,035	10,558	5,498	9,945	12,711
1930 ..	20,849	15,743	9,109	10,756	5,558	9,617	12,843

(b) *From Consolidated Revenue.* The following table shows the amounts provided from Consolidated Revenue for construction and equipment to 30th June, 1930 :—

RAILWAYS, STATE.—EXPENDITURE FROM CONSOLIDATED REVENUE FOR CONSTRUCTION AND EQUIPMENT TO 30th JUNE, 1930.

To 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
1930 ..	659,930	4,288,689	..	..	641,492	16,935	5,607,046

(iii) *Loan Expenditure.* The subjoined table shows the total loan expenditure on Government railways (including lines both open and unopen) in each State, except Tasmania, and on Government railways and tramways in the latter State for the years 1926 to 1930 :—

RAILWAYS, STATE.—LOAN EXPENDITURE, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	All States.
	£	£	£	£	£	£	£
1926 ..	6,060,259	1,489,285	2,826,188	2,764,511	642,854	17,255	13,800,352
1927 ..	6,229,347	1,821,005	2,470,083	2,460,555	642,225	29,824	13,653,039
1928 ..	8,172,114	1,651,884	1,646,982	555,798	806,895	37,196	12,870,869
1929 ..	6,356,971	1,249,409	1,212,131	706,144	835,051	Cr. 11,684	10,348,022
1930 ..	5,034,505	953,432	739,548	405,153	849,662	Cr. 69,940	7,912,360

(a) Including tramways.

The following statement shows the total loan expenditure on railways to the 30th June, 1930 :—

RAILWAYS, STATE.—TOTAL LOAN EXPENDITURE TO 30th JUNE, 1930.

State.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania (a)	All States.
	£	£	£	£	£	£	£
Expenditure	135,046,602	73,310,565	61,196,339	32,225,135	23,269,090	6,888,828	331,936,359

(a) Including tramways.

7. Gross Revenue.—(i) *General.* The total revenue from all sources, the revenue per average mile worked, and the revenue per train-mile run during each financial year from 1926 to 1930 inclusive were as follows :—

RAILWAYS, STATE.—GROSS REVENUE, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
TOTAL GROSS REVENUE.							
	£	£	£	£	£	£	£
1926	16,939,032	12,671,061	7,437,090	4,237,718	3,337,292	545,191	45,167,384
1927	18,906,543	13,652,434	7,325,677	4,062,133	3,607,989	539,352	48,094,128
1928	19,029,512	12,821,059	7,381,532	3,941,276	3,858,051	554,743	47,586,173
1929	20,415,616	13,162,973	7,568,047	3,595,646	3,799,764	503,855	49,044,501
1930	18,626,692	12,001,806	7,302,281	3,276,945	3,659,203	507,374	45,374,301

GROSS REVENUE PER AVERAGE MILE WORKED.

	£	£	£	£	£	£	£
1926	2,960	2,798	1,210	1,701	870	810	1,930
1927	3,290	2,951	1,170	1,610	924	819	2,028
1928	3,266	2,751	1,164	1,559	972	843	1,984
1929	3,458	2,802	1,185	1,412	951	771	2,028
1930	3,126	2,549	1,133	1,291	890	769	1,858

GROSS REVENUE PER TRAIN-MILE RUN.

	d.	d.	d.	d.	d.	d.	d.
1926	165.09	173.03	133.73	148.56	164.72	97.47	159.14
1927	172.36	181.72	147.67	140.08	164.19	99.34	165.37
1928	169.80	173.89	152.00	145.44	161.60	93.08	163.39
1929	178.04	175.71	152.73	149.60	156.43	86.01	167.54
1930	167.34	163.01	147.79	141.68	153.27	80.94	157.76

The amounts of revenue earned per average mile worked and per train-mile run in respect of (a) coaching and (b) goods and live stock traffic, separately, are given later.

(ii) *Coaching, Goods, and Miscellaneous Receipts. (a) Totals.* 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 shows the gross revenue for 1926 to 1930, classified according to the three chief sources of receipts. The total of the three items specified has already been given in the preceding paragraph.

RAILWAYS, STATE.—COACHING, GOODS, ETC., RECEIPTS, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
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COACHING TRAFFIC RECEIPTS.

	£	£	£	£	£	£	£
1926 ..	7,101,229	6,070,555	2,454,689	1,277,463	969,160	206,728	18,079,824
1927 ..	7,473,545	6,304,332	2,516,476	1,221,106	930,762	201,048	18,697,319
1928 ..	7,851,512	6,015,333	2,410,293	1,120,094	1,028,656	199,865	18,625,803
1929 ..	8,124,716	5,871,037	2,444,697	1,013,296	979,999	180,295	18,614,940
1930 ..	7,440,016	5,428,350	2,377,798	807,090	928,435	177,799	17,159,488

GOODS AND LIVE STOCK TRAFFIC RECEIPTS.

1926 ..	8,941,123	5,565,451	4,817,222	2,578,700	2,174,895	320,748	24,398,139
1927 ..	10,490,593	6,344,096	4,629,103	2,662,866	2,413,852	319,276	26,859,786
1928 ..	10,228,586	5,763,701	4,824,885	2,616,503	2,619,816	335,431	26,388,922
1929 ..	10,379,192	6,251,682	4,949,614	2,358,579	2,610,193	305,287	26,854,547
1930 ..	9,353,867	5,599,182	4,780,114	2,249,895	2,523,302	311,669	24,818,029

MISCELLANEOUS RECEIPTS.

1926 ..	896,680	1,035,055	165,179	381,555	193,237	17,715	2,689,421
1927 ..	942,405	1,003,956	180,098	178,161	213,375	19,028	2,537,023
1928 ..	949,414	1,041,975	146,354	204,679	209,579	19,447	2,571,448
1929 ..	1,911,708	1,040,254	174,336	221,771	209,572	18,273	3,575,914
1930 ..	1,832,809	974,274	144,369	219,960	207,466	17,906	3,396,784

(b) *Percentages.* The following table shows for the two years 1928-29 and 1929-30 the percentage which each class of receipts bears to the total gross revenue:—

RAILWAYS, STATE.—PERCENTAGES OF RECEIPTS, 1929 AND 1930.

State.	1929.			1930.		
	Coaching.	Goods and Live Stock.	Miscel- laneous.	Coaching.	Goods and Live Stock.	Miscel- laneous.
	%	%	%	%	%	%
New South Wales ..	39.80	50.84	9.36	39.94	50.22	9.84
Victoria ..	44.60	47.50	7.90	45.23	46.65	8.12
Queensland ..	32.30	65.40	2.30	32.56	65.46	1.98
South Australia ..	28.20	65.63	6.17	24.63	68.66	6.71
Western Australia ..	25.79	68.69	5.52	25.37	68.96	5.67
Tasmania ..	35.78	60.59	3.63	35.04	61.43	3.53
All States ..	37.95	54.76	7.29	37.82	54.70	7.48

(c) *Averages for Coaching Traffic Receipts.* The subjoined table shows the receipts from coaching traffic per average mile of line worked and per passenger-train-mile in each State for the year ended the 30th June, 1930 :—

RAILWAYS, STATE.—COACHING TRAFFIC RECEIPTS, AVERAGES, 1930.

State.	Number of Passenger-Train-Miles.	Coaching Traffic Receipts.		
		Gross.	Per Average Mile Worked.	Per Passenger-Train-Mile.
	No.	£	£	d.
New South Wales	16,952,153	7,440,016	1,249	105.33
Victoria	12,187,847	5,428,350	1,153	106.89
Queensland	4,312,920	2,377,798	369	132.32
South Australia	3,341,969	807,090	318	57.96
Western Australia	(a) 2,244,175	928,435	226	99.29
Tasmania	(a) 670,134	177,799	269	63.68
All States	39,709,198	17,159,488	703	103.71

(a) Includes "Assistant" and "Light" mileage.

(d) *Averages for Goods and Live Stock Traffic.* The gross receipts from goods and live stock traffic per average mile worked, per goods-train-mile, and per ton carried, for the year ended the 30th June, 1930, are given below :—

RAILWAYS, STATE.—GOODS AND LIVE-STOCK TRAFFIC RECEIPTS, AVERAGES, 1930.

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.	Tons.	£	£	d.	d.
New South Wales	9,761,798	12,150,964	9,353,867	1,570	229.97	184.75
Victoria	5,482,718	7,513,606	5,599,182	1,189	245.10	178.85
Queensland	7,545,793	4,528,201	4,780,114	741	152.04	253.35
South Australia	2,209,113	2,652,753	2,249,895	886	244.43	203.55
Western Australia	(a) 3,654,107	3,530,188	2,523,302	614	165.73	171.55
Tasmania	(a) 856,658	632,052	311,669	472	87.32	118.35
All States	29,510,187	31,007,764	24,818,029	1,016	201.84	192.09

(a) Includes "Assistant" and "Light" mileage.

8. *Working Expenses.*—(i) *General.* In order to make an adequate comparison of the working expenses, 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.

The following table shows the total annual expenditure and the percentage thereof on gross revenue in each State for the years 1926 to 1930 :—

RAILWAYS, STATE.—WORKING EXPENSES, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL WORKING EXPENSES.							
	£	£	£	£	£	£	£
1926	12,519,993	9,548,147	6,459,792	7,081,130	2,509,049	504,038	38,622,149
1927	13,795,853	10,193,581	6,485,322	5,797,751	2,685,693	551,192	39,519,392
1928	14,759,327	9,812,749	6,106,140	3,660,740	2,910,811	573,885	37,820,652
1929	14,973,050	9,532,793	6,202,801	3,622,567	3,055,448	563,152	37,955,314
1930	14,962,423	9,311,548	5,946,163	3,573,121	3,112,695	535,414	37,441,864

(a) See (ii) below.

PERCENTAGE OF WORKING EXPENSES ON GROSS REVENUE.

	%	%	%	%	%	%	%
1926	73.91	75.35	86.86	187.10	75.18	92.45	85.51
1927	72.97	74.06	88.67	142.73	74.44	102.20	82.17
1928	77.54	76.54	82.72	93.20	75.45	103.45	79.48
1929	73.37	72.42	81.95	100.80	80.41	111.83	77.39
1930	80.33	77.58	81.43	109.04	85.07	105.53	82.52

The variation in the percentage of working expenses on the gross revenue in each State for the years 1865 to 1930 is illustrated in the graph which accompanies this chapter.

(ii) *Special Expenditure.* The large increases in the working expenses in South Australia during the years 1925–26 and 1926–27 are due to amounts of £3,982,314 and £1,962,079 on account of accumulated and deferred charges being debited against the revenues for those years. This expenditure has been shown in this way in deference to the wishes of the South Australian railway authorities. Eliminating these amounts, the percentage of working expenses on gross revenue for South Australia during 1925–26 and 1926–27 would have been 73.12 per cent. and 94.43 per cent., and for all States 76.70 per cent. and 78.09 per cent., respectively.

(iii) *Averages.* The next table shows the working expenses per average mile worked and per train-mile run in each State for the years 1926 to 1930 :—

RAILWAYS, STATE.—WORKING EXPENSES, AVERAGES, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
WORKING EXPENSES PER AVERAGE MILE WORKED.							
	£	£	£	£	£	£	£
1926	2,158	2,108	1,051	2,843	654	749	1,651
1927	2,401	2,203	1,038	2,298	688	837	1,666
1928	2,533	2,105	963	1,448	733	872	1,577
1929	2,537	2,029	971	1,423	765	862	1,570
1930	2,511	1,978	922	1,408	758	811	1,533
WORKING EXPENSES PER TRAIN-MILE RUN.							
	d.	d.	d.	d.	d.	d.	d.
1926	122.02	130.38	120.50	248.24	123.84	90.11	136.08
1927	125.77	135.68	130.93	199.93	122.22	101.52	135.89
1928	131.67	133.09	125.74	135.09	121.92	97.22	129.86
1929	131.28	127.25	125.17	150.80	125.79	96.22	129.66
1930	134.42	126.47	120.34	154.48	130.39	85.41	130.18

(a) See sub-section (ii) above.

(iv) *Distribution.* The subjoined table shows the distribution of working expenses under four chief heads of expenditure for the years 1926 to 1930 :—

RAILWAYS, STATE.—DISTRIBUTION OF WORKING EXPENSES, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
MAINTENANCE.							
	£	£	£	£	£	£	£
1926	2,001,724	1,928,597	1,513,538	a2,407,266	596,046	134,835	8,532,056
1927	2,154,931	2,276,801	1,576,325	a1,027,057	636,466	134,291	7,805,871
1928	2,596,755	2,109,404	1,589,177	584,350	731,860	140,989	7,752,535
1929	2,538,981	1,926,157	1,608,978	658,941	748,123	158,302	7,639,482
1930	2,583,896	1,749,068	1,529,521	678,976	800,784	133,459	7,475,704
LOCOMOTIVE, CARRIAGE, AND WAGON CHARGES.							
1926	6,107,302	3,592,490	2,973,033	a3,611,130	1,157,230	218,326	17,659,511
1927	6,823,914	3,746,921	2,924,903	a3,653,050	1,244,941	222,477	18,616,206
1928	3,877,254	3,059,881	2,657,596	2,002,377	1,306,504	233,670	17,018,633
1929	7,003,464	3,579,620	2,719,211	1,899,717	1,381,160	235,641	16,818,813
1930	6,926,296	3,587,086	2,630,642	1,796,616	1,368,160	236,855	16,545,655
TRAFFIC EXPENSES.							
1926	3,391,092	2,701,124	1,859,375	a868,171	685,898	117,246	9,622,906
1927	3,733,225	2,822,524	1,844,066	a898,459	723,466	118,987	10,145,727
1928	3,877,254	2,673,518	1,709,518	823,189	773,806	124,845	9,952,130
1929	8,848,525	2,605,790	1,721,355	764,203	803,016	130,068	9,872,957
1930	3,703,106	2,536,635	1,629,238	735,022	819,671	132,233	9,555,905
OTHER CHARGES.							
1926	1,019,875	1,325,930	113,796	a194,563	69,875	33,631	2,757,676
1927	1,083,783	1,347,535	150,028	a219,185	75,829	75,437	2,951,738
1928	1,123,713	1,369,946	149,849	250,824	98,641	74,381	3,067,354
1929	1,587,080	1,421,231	132,257	299,706	123,147	39,641	3,624,062
1930	1,749,125	1,438,759	156,762	362,507	124,280	32,867	3,864,300

(a) See sub-section (ii), page 138.

In New South Wales and Victoria the expenditure in connexion with refreshment rooms is included in "Other Charges."

9. *Salaries and Wages.*—The following table shows the total amount paid in salaries and wages, also the amount per average mile worked and per train-mile run in each State during the years 1926 to 1930 :—

RAILWAYS, STATE.—SALARIES AND WAGES PAID AND AVERAGES, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL SALARIES AND WAGES PAID.							
	£	£	£	£	£	£	£
1926	11,192,851	7,273,485	5,011,678	3,456,996	2,073,207	346,832	29,355,049
1927	12,509,021	7,792,554	5,062,347	3,596,092	2,279,878	336,287	31,578,179
1928	12,693,706	7,725,188	4,751,885	2,915,912	2,442,997	345,803	30,875,491
1929	12,422,298	7,436,531	4,805,836	2,499,872	2,551,056	374,107	30,089,700
1930	11,656,142	7,097,012	4,649,032	2,437,783	2,587,456	364,636	28,792,061
SALARIES AND WAGES PER AVERAGE MILE WORKED.							
	£	£	£	£	£	£	£
1926	1,956	1,607	816	1,388	540	515	1,255
1927	2,177	1,684	809	1,425	584	511	1,331
1928	2,179	1,657	750	1,154	615	525	1,287
1929	2,104	1,583	752	982	639	572	1,244
1930	1,956	1,507	721	960	630	553	1,179
SALARIES AND WAGES PER TRAIN MILE RUN.							
	d.	d.	d.	d.	d.	d.	d.
1926	109.08	99.32	93.48	121.13	102.32	62.00	103.42
1927	114.03	103.72	102.04	124.00	103.75	61.93	108.57
1928	113.26	104.77	97.84	107.60	102.32	55.58	106.01
1929	108.88	99.27	96.98	104.06	105.03	63.86	102.79
1930	104.72	96.39	94.09	105.40	108.38	58.17	100.10

10. Net Revenue.—(i) *Net Revenue and Percentage on Capital Cost.* The following table shows the net sums available to meet interest charges, also the percentage of such sums upon the capital cost of construction and equipment of lines open for traffic in each State for the years 1926 to 1930 :—

RAILWAYS, STATE.—NET REVENUE AND PERCENTAGE THEREOF ON CAPITAL COST OF LINES OPEN, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
NET REVENUE.							
	£	£	£	£	£	£	£
1926	4,419,039	3,122,914	977,298	a-2,843,412	828,243	41,153	6,545,235
1927	5,110,690	3,458,853	830,355	a-1,735,618	922,296	-11,840	8,574,736
1928	4,273,185	3,008,310	1,275,392	280,536	947,240	-19,142	9,765,521
1929	5,437,566	3,630,175	1,365,846	- 28,921	744,318	-59,797	11,089,187
1930	3,664,269	2,690,258	1,356,118	-296,176	546,308	-28,040	7,932,737
PERCENTAGE OF NET REVENUE ON CAPITAL EXPENDITURE.							
	%	%	%	%	%	%	%
1926	4.26	4.54	1.90	a-11.14	4.07	0.63	2.37
1927	4.59	4.92	1.52	a- 6.17	4.42	-0.18	2.94
1928	3.68	4.16	2.27	1.08	4.43	-0.29	3.27
1929	4.44	4.97	2.34	- 0.11	3.32	-0.92	3.58
1930	2.94	3.63	2.31	- 1.09	2.39	-0.43	2.53

(a) See sub-section (ii), page 188.

These figures are also represented in the graphs which accompany this chapter.

The percentage of net revenue on capital expenditure for all States during the past five years reached its maximum during the year 1928-29, with a return of 3.58 per cent. The very low returns for 1925-26 and 1926-27 are due, in a large measure, to the unusual loading of the working expenses of those years in South Australia, which was alluded to in paragraph 8. But for this circumstance the percentages of net revenue on capital would have been 4.46 per cent. and 0.81 per cent. for South Australia and 3.81 per cent. and 3.61 per cent. respectively for the average of all States. Even these larger returns, however, would be insufficient to meet interest charges, for which particulars are included in the following sub-section.

(ii) *Net Revenue, Averages.* Tables showing the gross earnings and the working expenses per average mile worked and per train-mile run have been given previously. The net earnings, i.e., the excess of gross earnings over working expenses per average mile worked and per train-mile run are shown in the following table :—

RAILWAYS, STATE.—NET REVENUE, AVERAGES, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
NET REVENUE PER AVERAGE MILE WORKED.							
	£	£	£	£	£	£	£
1926	772	690	159	a- 1,142	216	61	279
1927	889	748	133	a- 688	236	- 18	361
1928	733	645	201	111	239	- 29	407
1929	921	773	214	- 11	186	- 91	458
1930	615	571	211	-117	132	- 42	325
NET REVENUE PER TRAIN-MILE RUN.							
	d.	d.	d.	d.	d.	d.	d.
1926	43.07	42.65	18.23	a- 99.68	40.88	7.36	23.06
1927	46.59	46.04	16.74	a- 59.85	41.97	- 2.18	29.48
1928	38.13	40.80	26.26	10.35	39.68	- 3.24	33.53
1929	46.76	48.46	27.56	- 1.20	30.64	-10.21	37.88
1930	32.92	36.54	27.45	-12.80	22.88	- 4.47	27.58

(a) See sub-section (ii), page 188.

11. Interest. The amount of interest payable on expenditure from loans on the construction and equipment of the railways, the amount of interest per average mile worked and per train-mile run in each State during the years ended 30th June 1926 to 1930 were as follows:—

RAILWAYS, STATE.—AMOUNT OF INTEREST ON RAILWAY LOAN EXPENDITURE, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
AMOUNT OF INTEREST PAYABLE.							
1926	£ 5,249,710	£ 3,077,905	£ 2,564,181	£ 1,195,108	£ 860,225	£ 283,799	£ 13,230,928
1927	5,562,308	3,271,374	2,720,717	1,332,515	887,740	285,255	14,059,909
1928	5,882,452	3,321,727	2,827,223	1,271,686	920,569	284,076	14,507,733
1929	6,150,000	3,473,575	2,902,710	1,366,807	923,017	283,554	15,099,663
1930	6,420,643	3,508,657	2,953,211	1,399,053	950,797	284,379	15,516,740

INTEREST PER AVERAGE MILE WORKED.							
	£	£	£	£	£	£	£
1926	917	680	417	480	224	422	566
1927	968	707	435	528	227	433	593
1928	1,010	713	446	503	252	432	605
1929	1,042	739	454	537	251	434	624
1930	1,078	745	458	551	251	431	635

INTEREST PER TRAIN-MILE RUN.							
	d.	d.	d.	d.	d.	d.	d.
1926	51.16	42.03	47.83	41.89	42.45	45.89	46.61
1927	50.70	43.54	54.84	45.95	40.39	52.53	48.34
1928	52.48	45.05	58.21	46.92	38.55	48.12	49.81
1929	53.80	46.37	58.58	56.90	38.00	48.40	51.58
1930	57.68	47.65	59.77	60.49	39.83	45.37	53.95

Interest charges in 1929-30, viz., £15,516,740, show an increase of £2,285,812 over the amount payable in 1925-26. The interest payable on the cost of construction and equipment, exclusive of expenditure from Consolidated Revenue (£5,607,046) for that purpose, was at the rate of 5.03 per cent. in 1929-30.

12. Profit or Loss.—The following table shows 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 for the last five years:—

RAILWAYS, STATE.—PROFIT OR LOSS, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
PROFIT OR LOSS AFTER PAYMENT OF WORKING EXPENSES, INTEREST, AND OTHER CHARGES.							
1926	£ 830,671 + 45,009	£ 1,536,383	£ 4,038,520	£ 31,982	£ 242,646	£ 6,885,693	
1927	451,618 + 187,479	1,890,362	3,068,133 + 34,556	297,095	5,485,173		
1928	1,609,267 - 315,960	1,551,831	991,150 + 26,671	303,218	4,744,755		
1929	712,434 + 156,600	1,536,864	1,395,723	178,699	343,351	4,010,476	
1930	2,756,374 - 818,399	1,597,093	1,695,229	404,489	312,419	7,584,003	

PERCENTAGE OF PROFIT OR LOSS ON CAPITAL COST OF CONSTRUCTION AND EQUIPMENT.							
	%	%	%	%	%	%	%
1926	-0.80	+0.06	-3.08	a-15.82	-0.16	-3.76	-2.42
1927	-0.41	+0.27	-3.47	a-10.91	+0.17	-4.58	-1.88
1928	-1.38	-0.44	-2.76	-3.81	+0.12	-4.68	-1.59
1929	-0.58	+0.21	-2.64	-5.20	-0.80	-5.29	-1.30
1930	-2.21	-1.10	-2.72	-6.22	-1.77	-4.78	-2.41

(a) See sub-section (ii), page 188.

If the abnormal charges to working expenses in South Australia be eliminated, the loss in that State for 1926-27 would be 3.93 per cent., and for all States, 1.21 per cent.

13. Traffic.—(i) *General.* Reference has already been made to the difference in the traffic conditions on many of the lines. These conditions differ not only in the several States, but also on different lines in the same States, and apply 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 interior traffic is light, as the density of population diminishes rapidly as the coastal regions are left behind, with a consequent diminution in the volume of traffic, while, in comparison with other more settled countries, there is but little back loading.

The following table gives particulars for the years 1926 to 1930 :—

RAILWAYS, STATE.—TRAFFIC, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
NUMBER OF PASSENGER JOURNEYS.							
1926 ..	130,725,681	168,054,308	28,384,302	25,343,319	16,457,719	2,455,824	371,421,053
1927 ..	141,615,806	169,237,648	26,812,993	23,366,760	15,737,570	2,328,970	379,099,747
1928 ..	148,046,881	164,574,870	24,800,934	19,539,347	16,032,536	2,322,410	375,316,978
1929 ..	151,116,086	161,002,267	24,738,327	17,829,946	14,904,917	2,212,817	371,804,360
1930 ..	147,892,548	157,119,071	24,440,946	17,829,098	14,175,175	2,243,265	363,700,103
PER 100 OF MEAN POPULATION.							
1926 ..	5.687	9.979	3.296	4.594	4.422	1.132	6.206
1927 ..	6.032	9.886	3.039	4.126	4.155	1.084	6.213
1928 ..	6.168	9.451	2.758	3.394	4.087	1.076	6.029
1929 ..	6.160	9.143	2.609	3.057	3.672	1.022	5.867
1930 ..	5.969	8.842	2.626	3.073	3.401	1.024	5.681
PER AVERAGE MILE OF LINE WORKED.							
1926 ..	22,845	37,111	4,619	10,213	4,239	3,650	15,876
1927 ..	24,642	36,579	4,284	9,262	4,029	3,538	15,982
1928 ..	25,412	35,307	3,912	7,730	4,037	3,528	15,049
1929 ..	25,598	34,272	3,873	7,007	3,732	3,384	15,377
1930 ..	24,821	33,370	3,791	7,024	3,449	3,399	14,892
TONNAGE OF GOODS AND LIVE STOCK CARRIED.							
1926 ..	15,032,811	8,728,496	5,106,386	3,562,245	3,237,496	694,194	36,361,628
1927 ..	17,224,894	9,234,923	4,315,513	3,671,686	3,438,587	730,273	38,615,876
1928 ..	15,433,083	8,117,961	4,670,447	3,401,901	3,697,648	715,387	36,036,427
1929 ..	14,516,643	8,187,088	4,558,099	2,748,423	3,670,147	660,523	34,340,923
1930 ..	12,150,964	7,513,606	4,528,201	2,652,753	3,530,188	632,052	31,007,764
PER 100 OF MEAN POPULATION.							
1926 ..	654	518	593	646	870	320	608
1927 ..	734	539	439	648	908	340	633
1928 ..	643	466	519	591	943	331	579
1929 ..	592	465	497	471	904	305	542
1930 ..	404	423	436	457	847	289	484
PER AVERAGE MILE OF LINE WORKED.							
1926 ..	2,627	1,928	831	1,439	844	1,032	1,554
1927 ..	2,997	1,996	689	1,455	880	1,109	1,628
1928 ..	2,649	1,741	737	1,346	931	1,087	1,503
1929 ..	2,459	1,743	714	1,080	919	1,010	1,420
1930 ..	2,039	1,596	702	1,045	859	958	1,270

(ii) *Metropolitan and Country Passenger Traffic and Revenue.* A further indication of the difference in passenger traffic conditions is obtained from a comparison of the volume of metropolitan and suburban, and country traffic in each State. This is shown below for the year 1929-30 :—

RAILWAYS, STATE.—METROPOLITAN AND SUBURBAN, AND COUNTRY
PASSENGER TRAFFIC AND RECEIPTS, 1929-30.

Particulars.	Passenger Journeys.			Revenue.		
	Metropolitan and Suburban.	Country.	Total.	Metropolitan and Suburban.	Country.	Total.
	No.	No.	No.	£	£	£
N.S.W. ..	a137,547,881	10,344,667	147,892,548	2,905,162	3,705,789	6,610,951
Victoria ..	b149,571,831	7,547,240	157,119,071	2,704,370	2,125,528	4,829,898
Queensland ..	18,977,219	5,463,727	24,440,946	337,700	1,501,112	1,838,812
S. Australia ..	c 16,426,330	1,402,768	17,829,098	236,740	407,257	643,997
W. Australia	12,243,212	1,931,963	14,175,175	198,124	522,013	720,137
Tasmania ..	(d)	(d)	2,243,265	(d)	(d)	147,487
Total ..	(e)	(e)	363,700,103	(e)	(e)	14,791,282

(a) Within 34 miles of Sydney and Newcastle, including the Richmond line. (b) Within 20 miles of Melbourne. (c) Within 25 miles of Adelaide. (d) Not available. (e) Incomplete.

Although the number of passenger journeys recorded in the metropolitan area in Victoria is considerably greater than in New South Wales, it must be borne in mind that in the latter State other transport facilities, viz., tramways, motor-omnibuses, and ferries, are more extensively used.

A more detailed analysis of the passenger traffic for the year ended 30th June, 1930, is contained in the Transport and Communication Bulletin No. 22 issued by this Bureau.

(iii) *Electrification of Suburban and Country Railways.* Reference to the electrification of the Melbourne and Sydney suburban railways will be found in Year Book No. 22, p. 285.

(iv) *Goods Traffic.* (a) *Classification.* 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 are available for all the States, and the following table shows the number of tons of various representative commodities carried, with the percentage of each class on the total for the financial year 1929-30 :—

RAILWAYS, STATE.—CLASSIFICATION OF COMMODITIES CARRIED, 1929-30.

State.	Coal, Coke, and Shale.	Other Minerals.	Grain and Flour.	Hay, Straw, and Chaff.	Wool.	Live Stock.	All other Commodities.	Total.
TONS CARRIED.								
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
New South Wales	4,761,633	1,977,913	1,211,030	297,564	170,884	783,599	2,948,341	12,150,964
Victoria ..	485,060	1,139,962	791,036	356,651	91,189	689,999	3,959,709	7,513,606
Queensland ..	931,882	347,375	1,620,474 ^a	(b)	76,508	403,533	1,148,429	4,528,201
South Australia	216,743	717,318	516,275	73,215	27,535	128,991	972,676	2,652,753
Western Australia	266,654	629,499	989,820	63,640	23,909	101,314	1,455,352	3,530,188
Tasmania ..	235,653	(c)	68,006	35,292	3,665	25,465	263,971	632,052
All States ..	6,897,625	4,812,067	5,196,641	826,362	393,690	2,132,901	10,748,478	31,007,764

PERCENTAGE OF TOTAL TONNAGE CARRIED.

	%	%	%	%	%	%	%	%
New South Wales	39.19	16.28	9.96	2.45	1.41	6.45	24.26	100.00
Victoria ..	6.46	15.17	10.53	4.75	1.21	9.18	52.70	100.00
Queensland ..	20.58	7.67	(a)35.79	(b)	1.69	8.91	25.36	100.00
South Australia	8.17	27.04	19.46	2.76	1.04	4.86	36.67	100.00
Western Australia	7.55	17.83	28.04	1.80	0.68	2.57	41.23	100.00
Tasmania ..	37.28	(c)	10.76	5.58	0.58	4.03	41.77	100.00
All States ..	22.24	15.52	16.76	2.67	1.27	6.88	34.66	100.00

(a) Agricultural produce.

(b) Included with "All other Commodities,"

(c) Included with

coal, coke, and shale.

(b) Revenue. The following table shows the revenue derived from goods and live stock traffic during 1929-30 according to a classification which has been adopted by all States :—

RAILWAYS, STATE.—GOODS, ETC., TRAFFIC—REVENUE, 1929-30.

Class.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total.
	£	£	£	£	£	£	£
General merchandise	5,110,608	3,856,115	3,023,404	1,165,837	1,474,305	218,944	14,849,213
Wheat ..	(a)	304,183	(a)	230,314	520,540	(a)	d 1,055,037
Wool ..	767,650	247,362	530,971	55,039	89,854	4,934	1,695,810
Live stock ..	1,464,448	780,008	703,952	193,554	144,184	21,043	3,247,189
Minerals—							
Coal, coke, and shale ..	1,495,867	160,600	316,651	127,097	146,056	(b) 41,774	2,288,045
Others ..	525,294	300,914	205,136	478,054	148,363	(c) 24,974	1,682,735
Total ..	9,353,867	5,599,182	4,780,114	2,249,895	2,523,302	311,669	24,818,029

(a) Included with General Merchandise.

(b) Native coal.

(c) Minerals other than native coal.

(d) Incomplete.

In Victoria, electric motor coaches are used for the transfer of parcels from the central stations to suburban stations, and to convey luggage and parcels between the two main terminal stations.

14. Passenger-Mileage and Ton-Mileage.—(i) *Passenger-Miles.* The subjoined table gives particulars of passenger-mileage in respect of the States of New South Wales, Victoria, South Australia, and Tasmania for the years 1925-26 to 1929-30.

RAILWAYS, STATE.—SUMMARY OF "PASSENGER-MILES," 1926 TO 1930.

Year ended 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 Earnings 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.

1926	14,038	130,726	1,675,091	6,311,690	119	12.81	0.90	11.59	292,732
1927	15,044	141,616	1,765,378	6,643,337	117	12.47	0.90	11.26	307,184
1928	16,036	148,047	1,809,307	6,998,147	113	12.22	0.93	11.34	310,569
1929	16,738	151,116	1,820,701	7,238,329	108	12.05	0.95	11.50	308,409
1930	16,952	147,893	1,731,073	6,610,951	102	11.70	0.92	10.73	290,519

VICTORIA.

1926	11,768	168,054	1,460,343	5,425,804	125	8.69	0.82	7.75	322,487
1927	11,846	169,238	1,476,307	5,641,032	125	8.72	0.92	8.00	319,064
1928	11,915	164,575	1,416,970	5,358,775	119	8.61	0.91	7.81	303,985
1929	12,104	161,002	1,420,570	5,222,224	117	8.82	0.88	7.78	302,392
1930	12,188	157,119	1,352,954	4,829,898	111	8.61	0.86	7.38	287,349

SOUTH AUSTRALIA.

1926	3,662	25,343	300,950	1,075,082	82	11.87	0.86	10.18	120,836
1927	4,002	23,367	280,082	1,005,624	70	11.99	0.86	10.33	111,022
1928	3,729	19,539	242,308	927,520	65	12.40	0.92	11.39	95,861
1929	3,563	17,830	219,857	815,323	62	12.33	0.89	10.98	86,403
1930	3,342	17,829	208,634	628,474	62	11.70	0.72	8.46	82,193

TASMANIA.

1926	596	2,456	39,342	173,488	66	16.02	1.06	15.67	58,466
1927	575	2,329	41,432	168,837	72	17.79	0.97	17.40	62,943
1928	615	2,322	37,971	167,234	62	16.35	1.05	17.28	57,685
1929	627	2,213	35,751	149,792	57	16.15	1.05	16.25	54,674
1930	670	2,243	35,257	147,487	53	16.71	1.00	15.77	53,428

(ii) *Ton-Miles.* Particulars regarding total "ton-miles" are given in the following table for each of the years 1925-26 to 1929-30.

RAILWAYS, STATE.—SUMMARY OF "TON-MILES," 1926 TO 1930.

Year ended the 30th June	Goods-Train-Mileage.	Total Tons Carried.	Total "Ton-miles."	Earnings.	Average Freight-paying Load Carried per "Train."	Average Haul per Ton.	Earnings per "Ton-mile."	Density of Traffic per Average Mile Worked.
	No. (,000 omitted.)	No. (,000 omitted.)	No. (,000 omitted.)	£	Tons.	Miles.	d.	Tons.
NEW SOUTH WALES.								
1926	10,587	14,809	1,509,555	8,941,123	165	101.93	1.39	263.802
1927	11,282	16,864	1,654,815	10,490,593	165	98.13	1.50	287,994
1928	10,861	15,223	1,550,375	10,228,586	158	101.84	1.56	266,408
1929	10,645	14,307	1,690,560	10,379,192	183	118.16	1.45	286,376
1930	9,762	11,861	1,498,723	9,353,867	177	126.35	1.48	251,778
VICTORIA.								
1926	5,808	8,728	776,251	5,565,451	166	88.93	1.72	171,434
1927	6,184	9,235	882,918	6,344,096	173	95.61	1.72	190,819
1928	5,780	8,118	737,856	5,763,701	164	90.89	1.87	158,304
1929	5,876	8,187	834,605	6,251,682	173	101.94	1.80	177,651
1930	5,483	7,514	737,623	5,599,182	166	98.17	1.82	156,674
QUEENSLAND. (b)								
1928	7,734	4,670	552,442	4,824,885	71	120.67	2.09	89,872
1929	7,751	4,558	553,816	4,949,614	71	124.03	2.14	88,572
1930	7,546	4,528	554,171	4,780,114	73	125.20	2.06	88,628
SOUTH AUSTRALIA.								
1926	3,184	3,563	387,317	2,579,365	134	108.70	1.60	155,518
1927	2,957	3,672	389,443	2,662,866	141	105.66	1.65	154,451
1928	2,774	3,402	395,919	2,616,503	147	116.38	1.57	156,731
1929	2,202	2,748	337,639	2,358,579	156	122.91	1.66	132,694
1930	2,209	2,663	350,325	2,249,895	164	131.29	1.55	138,044
WESTERN AUSTRALIA.								
1926	2,976	3,237	272,611	2,174,895	106	84.20	1.91	71,048
1927	a3,359	3,439	317,845	2,413,852	110	92.43	1.82	81,373
1928	a3,723	3,698	357,966	2,619,816	111	96.81	1.76	90,145
1929	a3,773	3,670	367,032	2,610,193	113	100.00	1.71	91,919
1930	a3,654	3,530	361,935	2,523,302	115	102.53	1.67	88,083
TASMANIA.								
1926	762	669	32,000	298,078	42	47.32	2.23	47,556
1927	742	707	31,564	296,354	43	44.63	2.25	47,955
1928	814	690	34,180	310,348	42	49.54	2.17	51,926
1929	787	636	31,140	281,577	40	48.99	2.17	47,623
1930	857	607	33,715	288,373	39	55.58	2.05	51,091

(a) Includes "Assistant" and "Light" mileage. (b) Particulars for years prior to 1927-28 are not available.

In New South Wales the tonnage carried is exclusive of coal on which shunting and haulage charges only have been collected, and terminal charges have also been disregarded, but in the cases of South Australia and Tasmania such charges are included. Particulars for the latter State do not include live stock.

15. **Passenger Fares and Goods Rates.**—Fares and rates are changed from time to time to suit the varying necessities of the railways, and when drought conditions prevail special concessions are made in the rates for the carriage of fodder and water and for the transfer of stock to other areas.

An earlier issue of this work (No. 18, pp. 305-6) gives detailed information as at 30th June, 1924, in regard to the following rates:—(a) Ordinary Passenger Mileage rates; (b) Highest and Lowest Class Freight rates; (c) Rates for agricultural produce. Owing to limitations of space, however, it is not proposed to republish such information.

16. **Rolling Stock, 1930.**—The following table shows the rolling stock in use at the 30th June, 1930, classified according to gauge:—

RAILWAYS, STATE.—ROLLING STOCK, 1930.

State.	Gauge.					Total.
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	2ft. 6in.	2ft. 0in.	
LOCOMOTIVES.						
New South Wales	..	1,423	..	..	..	1,423
Victoria ..	630	..	..	17	..	647
Queensland ..	..	..	777	..	10	787
South Australia	247	..	189	..	..	436
Western Australia	..	..	411	..	..	411
Tasmania ..	..	..	88	..	6	94
All States ..	877	1,423	1,465	17	16	3,798

COACHING STOCK.

	Ordinary.	With Motors.	Ordinary.	With Motors.	Ordinary.	With Motors.	Ordinary.	Ordinary.	Ordinary.	With Motors.
New South Wales	..	..	2,764	36	..	..	..	..	2,764	36
Victoria ..	2,192	448	..	..	..	..	55	..	2,247	448
Queensland ..	..	..	..	..	1,243	30	..	11	1,254	30
South Australia	445	38	..	..	198	5	..	..	643	43
Western Australia	..	..	..	..	490	2	..	..	490	2
Tasmania ..	..	..	..	..	205	11	..	6	211	11
All States ..	2,637	486	2,764	36	2,136	48	55	17	7,609	570

STOCK OTHER THAN COACHING.

New South Wales	..	24,049	..	..	..	24,049
Victoria ..	20,712	..	..	243	..	20,955
Queensland ..	..	..	19,138	..	168	19,306
South Australia	3,840	..	5,679	..	..	9,519
Western Australia	..	..	11,042	..	..	11,042
Tasmania ..	..	..	1,943	..	77	2,020
All States ..	24,552	24,049	37,802	243	245	86,891

Prior to the issue of Year Book No. 16 (1921-22) the particulars of rolling stock were classified under the headings of "Locomotives," "Passenger Vehicles," and "Vehicles other than Passenger." The present classification has now been adopted by all States.

17. **Employees.**—(i) *At 30th June.* The following table gives the number of railway employees in each year from 1926 to 1930 inclusive, classified according to (a) salaried staff, and (b) wages staff:—

RAILWAYS, STATE.—EMPLOYEES, (a) 1926 TO 1930.

State.	At 30th June—									
	1926.		1927.		1928.		1929.		1930.	
	Salaried Staff.	Wages Staff.								
New South Wales	5,794	38,263	6,004	39,488	6,052	38,053	5,995	37,535	5,754	34,243
Victoria ..	4,323	24,465	4,245	25,072	4,363	23,618	4,295	23,025	4,240	20,361
Queensland ..	3,617	18,419	3,565	16,105	3,478	16,146	3,403	15,467	3,219	14,542
South Australia ..	1,362	9,801	1,438	8,998	1,295	7,353	1,312	7,401	1,293	6,794
Western Australia ..	1,318	6,697	1,362	7,471	1,412	7,565	1,418	7,770	1,424	7,587
Tasmania ..	185	1,219	187	1,232	212	1,369	219	1,376	217	1,352
All States ..	16,599	98,864	16,801	98,366	16,312	94,104	16,642	92,574	16,156	84,879

(a) Exclusive of construction staff.

In the period under review the totals of salaried and wages staffs decreased from 115,463 in 1926 to 101,035 in 1930, a decrease of 12.5 per cent.

(ii) *Average staff employed, 1929-30.* The number of employees at one point of time does not afford the best index of employment in railway work. It is considered that the following statement of the average number employed throughout the year indicates more accurately the labour requirements of the railways.

AVERAGE STAFF EMPLOYED, 1929-30.

State.	Operating Staff.		Construction Staff.		All Employees—Staff.	
	Salaried.	Wages.	Salaried.	Wages.	Salaried.	Wages.
New South Wales ..	5,869	35,473	157	2,866	6,026	38,339
Victoria ..	4,335	21,242	..	..	4,335	21,242
Queensland ..	3,352	14,086	56	1,273	3,408	15,359
South Australia ..	1,303	7,150	3	244	1,306	7,394
Western Australia ..	1,424	8,236	..	..	1,424	8,236
Tasmania ..	217	1,352	..	..	217	1,352
All States ..	16,500	87,539	216	4,383	16,716	91,922

In the States of Victoria, Western Australia, and Tasmania, railway construction work is not under the control of the Railways Commissioners.

18. *Accidents.*—(i) *Classification.* The following classification of accidents which occurred through the movement of rolling-stock was adopted by each State in 1924-25.

Particulars for 1929-30 are as under:—

RAILWAYS, STATE.—ACCIDENTS, 1930.

Particulars.	N.S.W.		Vic.		Q'land.		S. Aust.		W. Aust.		Tas.		All States.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Train accidents—														
Passengers ..	..	7	..	28	..	1	..	31	..	..	1	2	1	69
Employees ..	2	13	..	..	..	..	2	1	23	..	20	3	3	58
Accidents on line (other than train accidents)—														
Passengers ..	11	155	10	113	2	17	2	48	..	21	..	..	25	354
Employees ..	162	2	9	3	21	..	56	1	141	..	25	15	15	414
Others ..	16	47	..	..	..	..	..	..	..	..	..	16	..	47
Shunting accidents—														
Passengers ..	..	..	..	..	..	1	..	..	1	..	..	..	..	2
Employees ..	5	160	5	16	3	70	..	29	1	92	..	3	14	370
Other persons ..	1	5	2	9	1	3	1	1	..	..	..	5	..	18
Employees proceeding to or from their duty within railway boundaries ..	1	3	1	..	..	..	..	1	..	..	..	..	2	4
Persons killed or injured at crossings ..	3	16	15	14	6	13	3	24	8	24	5	6	40	97
Trespassers ..	16	3	22	8	11	4	3	4	6	11	..	..	58	30
Miscellaneous ..	..	..	..	..	..	3	..	..	1	17	..	28	1	48
Total ..	64	571	57	197	26	133	9	196	18	330	6	84	180	1,511

(ii) *Particulars for Quinquennium.* 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 each of the years 1926 to 1930 inclusive :—

RAILWAYS, STATE.—ACCIDENTS, 1926 TO 1930.

State.	In year ended 30th June—									
	1926.		1927.		1928.		1929.		1930.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales	72	594	123	687	77	629	61	565	64	571
Victoria ..	78	498	53	292	60	238	46	281	57	197
Queensland ..	25	212	26	167	20	163	19	125	26	133
South Australia ..	22	329	22	263	23	255	20	156	9	196
Western Australia ..	12	341	17	365	16	351	15	354	18	330
Tasmania ..	4	39	..	44	1	18	2	71	6	84
All States ..	213	2,013	241	1,818	197	1,654	163	1,552	180	1,511

19. Consumption of Oil and Fuel.—The appended table shows the quantity and value of oil and fuel consumed by the various Government Railway Departments during the year 1929–30 :—

GOVERNMENT RAILWAYS.—CONSUMPTION AND VALUE OF OIL AND FUEL, 1929–30.

Government Railways.	Oil.						Coal.		
	Lubricating.			Fuel.			Tons.	Value.	Average Cost per Ton.
	Gallons.	Value.	Average Cost per Gallon.	Gallons.	Value.	Average Cost per Gallon.			
		£	s. d.		£	s. d.		£	£ s. d.
New South Wales	440,262	46,243	2 1.21	983,327	42,611	0 10.40	1,508,668	1,450,254	0 19 2.71
Victoria ..	171,000	19,600	2 3.15	1,078,750	45,086	0 10.03	666,120	911,650	1 7 4.46
Queensland ..	210,553	20,036	1 10.84	195,561	12,738	1 3.63	426,506	403,492	0 18 11.04
South Australia	a111,785	12,150	2 2.09	(b)	(b)	(b)	203,786	442,320	2 3 4.92
Western Australia	59,267	5,888	1 11.84	404,183	18,805	0 11.17	314,610	300,217	0 19 1.02
Tasmania ..	33,547	3,748	2 2.81	10,403	690	1 3.92	58,388	70,079	1 4 0.06
Total States	1,026,414	107,665	2 1.17	2,672,224	119,930	0 10.77	3,178,078	3,578,012	1 2 6.20
Federal ..	23,513	2,799	2 4.57	91,054	8,221	1 9.67	29,177	62,793	2 3 0.51
Grand Total, Australia ..	1,049,927	110,464	2 1.25	2,763,278	128,151	0 11.13	3,207,255	3,640,805	1 2 8.44

- (a) Lubricating oil used on loco. cars and wagons only.
 (b) Not available.
 (c) Exclusive of South Australia.
 (d) Railways and Tramways.

The range in the average cost per ton of coal from 18s. 11d. in Queensland to £2 3s. 5d. per ton for coal used on the South Australian Railways is attributable to the comparatively low haulage expenses incurred in the coal-producing States. The average cost of coal and oil during 1929–30 varied very little from that of 1928–29.

§ 4. Private Railways.

1. **Total Mileage Open, 1929-30.**—The bulk of the private railways in Australia have been laid down for the purpose of hauling timber, firewood, sugar-cane, coal, or other minerals, and they are not generally used for the conveyance of passengers or for public traffic. In many cases the lines are practically unballasted and easily removable.

The railways referred to in this section include only lines open to the public for general passenger and goods traffic. In previous issues of the Year Book particulars of lines used for special purposes only have also been shown, but, as complete figures for the year 1929-30 are not available, they have been omitted from this issue.

2. **Lines Open for General Traffic.**—The following statement gives a summary of the operations of private railways open for general traffic for the year 1930. More detailed information regarding these lines will be found in "Transport and Communication Bulletin No. 22" published by this Bureau.

RAILWAYS, PRIVATE.—SUMMARY, 1929-30.

State.	Companies from which returns were received.	Miles Open (Route).	Capital Cost.	Gross Revenue.	Working Expenses.	Train-Miles.	Passenger Journeys.	Tonnage of Goods, etc.	No. of Employees.	Rolling Stock.		
										Locos.	Coaches.	Other Vehicles.
	No.	Miles.	£	£	£	Miles.	No.	Tons.	No.	No.	No.	No.
New South Wales ..	8	115.70	2,447,682	264,978	178,167	408,478	675,801	901,007	479	46	9	737
Victoria ..	2	24.94	93,048	12,017	8,652	22,298	17,701	30,689	15	5	4	42
Queensland	16	278.85	422,542	38,654	34,768	74,847	20,377	334,078	71	19	18	396
South Australia ..	1	33.80	(a)	(a)	(a)	100,660	740	1,077,175	29	8	1	196
Western Australia	1	277.00	2,224,272	224,414	106,345	321,206	50,072	165,939	257	23	23	486
Tasmania	4	141.56	911,611	91,255	80,547	145,704	50,126	75,423	219	22	21	302
All States(b)	32	871.85	6,099,155	631,318	408,479	1,073,193	814,817	2,584,311	1,070	123	76	2,159

(a) Not available.

(b) Incomplete.

The particulars given in the table are incomplete in respect of the States of New South Wales, Queensland, South Australia, and Tasmania. In New South Wales and Queensland several of these lines, although owned by private companies, are operated by the Government Railway Departments, and Government rolling stock is used thereon.

C. TRAMWAYS.

1. **Systems in Operation.**—(i) *General.* Tramway systems are in operation in all the States, and in recent years considerable extension has been made in the use of electrical traction, the benefit of which is now enjoyed by a number of the larger towns.

In many parts of Australia private lines used for special purposes in connexion with the timber, mining, sugar, or other industries are often called tramways, but they are more properly railways, and the traffic on them has nothing in common with that of the street tramways for the conveyance of passengers, which are dealt with in the present paragraph.

(ii) *Total Mileage Open and Classification of Lines.* The following tables show the total mileage of tramway lines open for general passenger traffic for the year 1929-30, also in Australia as a whole for the years 1925-26 to 1929-30, classified (a) according to the nature of the authority by which the lines are controlled; (b) according to the motive power utilized, and (c) according to gauge:—

TRAMWAYS.—ROUTE MILEAGE OPEN, 1929-30.

Nature of Motive Power, and Gauge.	N.S. Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Total, Australia.
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GOVERNMENT.

	Miles.						
Electric	186.63	122.30	41.09	..	350.02
Steam	25.21	6.26	..	31.47
Cable	26.44	26.44
Horse .. ..	..	..	..	..	1.50	..	1.50
Total	211.84	148.74	..	..	48.85	..	409.43

MUNICIPAL.

Electric .. ..	..	..	56.58	82.83	8.61	30.53	178.55
Steam .. ..	..	..	6.65	..	..	..	6.65
Total .. ..	..	..	63.23	82.83	8.61	30.53	185.20

PRIVATE.

Electric .. ..	..	31.72	..	..	11.56	..	43.28
Steam	3.50	..	..	..	..	..	3.50
Total	3.50	31.72	..	..	11.56	..	46.78

ALL CONTROLLING AUTHORITIES.

Electric	186.63	154.02	56.58	82.83	61.26	30.53	571.85
Steam	28.71	..	6.65	..	6.26	..	41.62
Cable .. ..	..	26.44	..	..	..	..	26.44
Horse .. ..	..	..	..	..	1.50	..	1.50
Total	215.34	180.46	63.23	82.83	69.02	30.53	641.41

ACCORDING TO GAUGE.

Gauge—							
5 ft. 3 in. ..	..	5.18	..	..	..	..	5.18
4 ft. 8½ in. ..	215.34	175.28	56.58	82.83	..	..	530.03
3 ft. 6 in. ..	..	..	6.65	..	69.02	30.53	106.20
Total	215.34	180.46	63.23	82.83	69.02	30.53	641.41

TRAMWAYS.—ROUTE MILEAGE OPEN, AUSTRALIA, 1925-26 TO 1929-30.

Nature of Motive Power, Controlling Authority, and Gauge.		1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
ACCORDING TO MOTIVE POWER.						
		Miles.	Miles.	Miles.	Miles.	Miles.
Electric		519.06	538.42	555.33	557.99	571.85
Steam		75.46	70.55	39.18	40.19	41.62
Cable		38.58	33.68	30.06	30.60	26.44
Horse		1.50	2.51	2.51	1.50	1.50
Total		634.60	645.16	627.08	630.28	641.41
ACCORDING TO CONTROLLING AUTHORITY.						
Government		421.42	431.05	405.21	407.16	409.43
Municipal		167.42	168.70	173.60	177.01	185.20
Private		45.76	45.41	48.27	46.11	46.78
Total		634.60	645.16	627.08	630.28	641.41
ACCORDING TO GAUGE.						
Gauge—						
5 ft. 3 in.		5.18	5.18	5.18	5.18	5.18
4 ft. 8½ in.		517.92	526.61	516.80	520.46	530.03
3 ft. 6 in.		99.00	100.87	105.10	104.64	106.20
2 ft. 0 in.		12.50	12.50	..	..	..
Total		634.60	645.16	627.08	630.28	641.41

The mileage of electric tramways has steadily increased during the period dealt with above, due principally to the conversion of the Newcastle steam tramways and the Melbourne cable systems to electrical traction.

(iii) *Cost of Construction and Equipment.* The table hereunder shows, so far as information is available, the total cost of construction and equipment of all tramways to the 30th June, 1930, classified according to the nature of the motive power and the controlling authority.

TRAMWAYS.—COST OF CONSTRUCTION AND EQUIPMENT, 1929-30.

Nature of Motive Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
GOVERNMENT.							
	£	£	£	£	£	£	£
Electric	11,046,461	6,730,039	..	..	1,094,157	..	18,870,657
Steam	431,517	..	..	..	63,073	..	494,590
Cable .. ..	..	1,400,581	..	..	..	..	1,400,581
Horse .. ..	..	..	..	..	10,355	..	10,355
Total	11,477,978	8,130,620	..	..	1,167,585	..	20,776,183
MUNICIPAL.							
Electric .. ..	..	..	2,241,385	3,834,302	163,392	581,395	6,820,474
Steam .. ..	..	..	53,235	..	..	..	53,235
Total .. ..	..	..	2,294,620	3,834,302	163,392	581,395	6,873,709

TRAMWAYS.—COST OF CONSTRUCTION AND EQUIPMENT, 1929-30—*continued*

Nature of Motive Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
PRIVATE.							
Electric	£	£	£	£	£	£	£
Steam ..	(a)	493,290	..	..	452,821	..	946,111
Total ..	(a)	493,290	..	..	452,821	..	946,111

ALL CONTROLLING AUTHORITIES.

Electric	11,046,461	7,223,329	2,241,385	3,834,302	1,710,370	581,395	26,637,242
Steam ..	(b)431,517	..	53,235	..	63,073	..	547,825
Cable ..	..	1,400,581	..	..	..	..	1,400,581
Horse ..	..	..	..	..	10,355	..	10,355
Total ..	11,477,978 (b)	8,623,910	2,294,620	3,834,302	1,783,798	581,395	28,596,003

(a) Not available. (b) Incomplete.

2. New South Wales.—(i) *Government Tramways.*—(a) *General.* The tramways, with some comparatively unimportant exceptions, are the property of the Government, and are under the control of the Metropolitan Transport Trust. In Sydney and suburbs the Government tramways are divided into seven distinct systems, five of which are operated by electricity and two by steam. The conversion of the Newcastle system from steam to electric traction has been undertaken, and at 30th June, 1930, 23.74 miles (route) were completed and opened for traffic.

(b) *Particulars of Working.* The subjoined statement gives particulars of the working of the electric and steam tramways under Government control in 1929-30 :—

GOVERNMENT TRAMWAYS.—NEW SOUTH WALES.—RETURNS FOR 1929-30.

Line.	Mileage Open for Traffic.		Total Cost of Construction and Equipment. (a)	Gross Revenue.	Working Expenses.	Net Earnings.	In-terest.	Profit or Loss.	Per-centage of Working Expenses on Gross Revenue.	Per-centage of Net Earnings on Capital Cost.
	Route.	Track.								
	Miles.	Miles.	£	£	£	£	£	£	%	%
Electric	186.63	333.31	11,046,461	3,856,892	3,545,645	311,247	622,538	-311,291	91.93	2.82
Steam	23.78	25.21	431,517	46,578	79,928	-33,350	24,354	-57,704	171.60	-7.73
Total	210.41	358.52	11,477,978	3,903,470	3,625,573	277,897	646,892	-368,995	92.88	2.42

(a) Exclusive of Stores Advance Account (£287,000).

(c) *Capital Cost.* The capital cost shown in the preceding table was made up as follows:—

GOVERNMENT TRAMWAYS.—NEW SOUTH WALES.—CAPITAL COST, 1930.

Permanent Way.	Rolling Stock.	Power-houses, Sub-stations, and Plant.	Machinery.	Workshops.	Furniture.	Total.
£ 5,793,218	£ 2,523,974	£ 2,625,385	£ 271,705	£ 261,304	£ 2,392	£ 11,477,978

The average cost per mile open was £27,533 for permanent way, and £27,018 for all other ways, making a total of £54,551 per route mile.

(d) *Summary, Government Tramways.* The following table gives a summary of the operations of all Government tramways for the years 1926 to 1930:—

GOVERNMENT TRAMWAYS.—NEW SOUTH WALES.—SUMMARY, 1926 TO 1930.

Year ended 30th June—	Mileage Open for Traffic. (Route.)	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	In-terest.	Per-centage of Working Expenses on Gross Revenue.	Per-centage of Net Earnings on Capital Cost.	Passen-gers carried.	Persons em-ployed.
	Miles.	£	£	£	£	£	%	%	No. ,000	No.
1926 ..	228.55	11,147,523a	3,619,496	3,319,996	299,500	563,137	91.73	2.69	339,412	11,459
1927 ..	228.50	11,299,050a	3,806,098	3,487,834	318,264	573,453	91.64	2.82	347,231	11,697
1928 ..	209.58	11,322,078a	4,556,561	3,937,356	619,205	576,702	86.41	5.47	346,014	11,031
1929 ..	210.43	11,456,189a	4,457,890	3,833,939	623,951	615,997	86.00	5.45	333,476	11,082
1930 ..	210.41	11,477,078a	3,903,470	3,625,573	277,897	646,892	92.88	2.42	307,790	10,139

(a) £47,455 of this sum has been paid from the Consolidated Revenue, and no interest is payable thereon.

The cost of construction and equipment is exclusive of the amount of the Stores Advance Account (£287,000).

(e) *Sydney Tramways.* Official Year Book No. 15, p. 589, gave a short account of the progress of the Sydney Tramway System. Owing to limitations of space this information cannot be repeated, but the subjoined table shows certain important particulars for the years 1926 to 1930 inclusive.

ELECTRIC TRAMWAYS.—SYDNEY.—SUMMARY, 1926 TO 1930.

Particulars.	Year ended 30th June—				
	1926.	1927.	1928.	1929.	1930.
Mileage open for traffic—					
Route miles	161.83	162.11	162.05	162.66	162.89
Track miles	288.85	289.19	289.50	291.66	291.65
Total cost of construction and equipment £	9,473,497	9,889,857b	9,976,761b	10,060,822b	10,094,890b
Current used for traction purposes kilowatt hours	109,131,602a	123,197,596a	127,168,518a	125,995,725a	122,431,584a
Tram-miles run No.	31,087,894	31,036,469	31,511,169	31,258,936	30,201,973
Passengers carried No.	313,216,842	320,903,523	322,025,235	312,032,469	289,893,088
Gross revenue £	3,316,312	3,462,806	4,135,337	4,061,459	3,551,944
Working expenses £	2,873,855	3,066,254	3,485,920	3,471,394	3,271,935
Net revenue £	437,457	396,552	669,417	590,065	280,009
Percentage of working expenses on gross revenue %	86.81	88.55	83.81	85.47	92.12
Cars in use	1,567a	1,594a	1,578a	1,703a	1,608a
Persons employed	11,130a	11,512a	10,911a	10,968a	10,024a

(a) Includes portion of Newcastle line in process of electrification. (b) Includes Stores Advance account.

(ii) *Private Tramways.* 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 3½ miles, where it connects with the Parramatta River steamers which convey passengers and goods to and from Sydney. This line, which has a gauge of 4 ft. 8½ in., was opened for traffic in 1883. In 1930 the number of tram-miles run was 20,440, and the number of passengers conveyed 84,230.

3. *Victoria.*—(i) *General.* In Melbourne there are several tramway systems carried on under the control of various authorities, the most important being the cable and electric systems worked by the Melbourne and Metropolitan Tramways Board, to which reference will be made further on. There were also, at 30th June, 1930, two lines of electric tramways, viz. :—(a) St. Kilda to Brighton, and (b) Sandringham to Beaumaris, both of which belong to and are operated by the Railways Commissioners. In addition there are systems of electric tramways at Ballarat, Bendigo, and Geelong, constructed and run by private companies.

Numerous tramways have been constructed for special purposes in various parts of the State under the provisions of the Tramway Act 1890. These, however, are of the nature of the private railways referred to previously.

(ii) *Melbourne and Metropolitan Tramways Board.* (a) *General.* A short account of the formation of the Melbourne Tramway and Omnibus Company, and of the Tramways Board, will be found in earlier issues of this work.

(b) *Cable Tramways.* (1) *Services.* The complete system consists of 26.44 miles of double track of 4-ft. 8½ in. gauge connecting the city of Melbourne with the nearer suburbs.

(2) *Particulars of Working.* A summary for the years 1926 to 1930 is given hereunder :—

CABLE TRAMWAYS.—MELBOURNE.—SUMMARY, 1926 TO 1930.

Year ended 30th June—	Mileage Open (Route).	Tram Miles run during Year.	Number of Passengers Carried.	Gross Revenue.	Working Expenses.	Percentage of Working Expenses on Revenue.	Number of Employees at end Year.
	Miles.	Miles.	No.	£	£	%	No.
1926 ..	38.58	12,393,911	127,882,115	1,048,414	847,102	80.79	2,520
1927 ..	33.68	9,817,468	99,978,416	1,012,946	702,749	69.38	2,014
1928 ..	30.08	8,410,528	83,004,759	843,800	608,061	72.06	1,872
1929 ..	30.60	8,151,392	77,930,235	793,122	596,872	75.26	1,771
1930 ..	26.44	6,545,033	58,692,072	604,527	493,279	81.60	1,367

The reduction of the operating results in recent years is due partly to the progress made in the scheme of conversion to electrical traction.

(c) *Electric Tramways.* (1) *Services Operated.* The system controlled by the Melbourne and Metropolitan Tramways Board at 30th June, 1930, consisted of the six services taken over from the various controlling authorities at the date of the formation of the Board, viz. (a) The Prahran and Malvern Tramways; (b) The Hawthorn Tramways; (c) The Melbourne, Brunswick and Coburg Tramways; (d) The Fitzroy, Northcote, and Preston Tramways; (e) The Footscray Tramways; and (f) the North Melbourne-Essendon Tramway, which, together with various extensions and conversions from cable to electric traction on the St. Kilda, Brighton Road, Prahran and Toorak, Richmond and Victoria-street lines, make an aggregate route mileage of 112.51 miles, all of 4 ft. 8½ in. gauge.

(2) *Particulars of Working.* A summary of operations for the last five years is given hereunder :—

MELBOURNE TRAMWAYS BOARD.—ELECTRIC SERVICES.—OPERATIONS, 1926 TO 1930.

Year ended 30th June—	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment	Current used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Interest.	Net Profit.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	£	£
1926 ..	91.98	4,040,492	27,041,867	10,657,723	99,017,938	1,007,210	816,178	147,997	43,035
1927 ..	102.14	4,647,497	34,393,346	13,387,869	118,858,967	1,429,015	963,558	240,922	224,535
1928 ..	108.74	5,221,586	45,086,942	15,215,696	132,805,672	1,602,068	1,037,060	654,175	-109,178
1929 ..	108.75	5,568,006	44,347,542	15,640,465	133,321,902	1,629,470	1,086,948	693,676	-151,154
1930 ..	112.51	6,392,321	47,582,057	16,343,563	139,286,573	1,705,443	1,122,039	725,185	-141,781

(-) Indicates loss.

(iii) *Other Government Tramways.* The Victorian Railway Department owns and operates two lines of electric street railways, viz., St. Kilda to Brighton (5.18 miles of 5-ft. 3-in. gauge) and Sandringham to Beaumaris (4.61 miles of 4-ft. 8½-in. gauge), a total route mileage of 9.79 miles.

Particulars of the operations of these tramways for the years 1925-26 to 1929-30 are contained in the tables hereunder.

ELECTRIC TRAMWAY.—ST. KILDA-BRIGHTON.—1926 TO 1930.

Year ended 30th June—	Total Cost of Construction and Equipment.	Current used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Interest.	Net Profit or Loss.
	£	Kilowatt-hours.	No.	No.	£	£	£	£
1926 ..	193,607	1,580,283	564,085	5,910,741	56,533	48,534	9,277	- 1,278
1927 ..	195,403	1,640,932	568,184	5,856,796	55,594	48,079	9,347	- 1,832
1928 ..	202,182	1,677,380	566,243	5,561,619	55,202	46,661	9,525	- 984
1929 ..	201,908	1,734,426	561,593	5,380,698	56,513	49,723	9,644	- 2,859
1930 ..	202,748	1,718,119	563,092	5,197,617	53,963	46,174	9,289	- 1,480

(-) Indicates loss.

ELECTRIC TRAMWAY.—SANDRINGHAM-BEAUMARIS (a).—1926 TO 1930.

Year ended 30th June—	Total Cost of Construction.	Current used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Interest.	Net Profit or Loss.
	£	Kilowatt-hours.	No.	No.	£	£	£	£
1926 ..	99,677	330,390	127,368	1,371,553	12,061	13,233	5,514	- 6,686
1927 ..	134,024	464,356	182,331	1,809,880	15,209	15,198	6,556	- 6,545
1928 ..	134,033	473,968	189,785	1,716,524	15,076	14,834	6,817	- 6,575
1929 ..	134,079	475,582	188,366	1,606,685	16,987	13,102	6,800	- 2,915
1930 ..	134,970	468,891	188,618	1,543,830	14,636	11,972	6,844	- 4,180

(-) Indicates loss.

(a) The extension from Black Rock to Beaumaris, 2.20 miles in length, was opened for traffic on 1st September, 1926.

(iv) *Private Tramways.* Two systems of tramways are owned and operated by private companies, viz., Ballarat and Bendigo (21.25 miles) and Geelong (10.47 miles); giving a total route mileage of 31.72 miles. Electrical traction is used on each of these lines which are constructed to the 4-ft. 8½-in. gauge.

(v) *Summary for all Electric Tramways.* The following table gives particulars of the working of all electric tramways in Victoria for each year from 1926 to 1930 inclusive:—

ELECTRIC TRAMWAYS.—VICTORIA.—SUMMARY, 1926 TO 1930.

Year ended 30th June—	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1926	127.17	4,716,775	31,020,604	12,709,671	114,692,993	1,159,557	960,485	492	3,607
1927	139.53	5,389,654	38,582,105	15,504,164	135,153,262	1,583,838	1,108,664	530	4,087
1928	149.26	6,016,926	49,649,967	17,461,458	149,372,032	1,762,079	1,209,175	596	4,018
1929	149.59	6,382,594	49,186,768	17,968,152	150,377,655	1,793,541	1,249,582	622	3,942
1930	154.02	7,223,329	52,531,368	18,728,831	155,738,911	1,865,955	1,282,447	642	3,795

4. *Queensland.*—(i) *General.* The electric tramways in the city and suburbs of Brisbane were controlled by a private company, with head office in London, until the 31st December, 1922, on which date they were purchased by the Queensland Government which, under the provisions of the Brisbane Tramway Trust Act 1922, appointed a Trust to control and operate the system until 1st December, 1925, on which date the control passed to the Brisbane City Council. Under the provisions of the Brisbane City Council Act, 1925, the Council took over the liabilities of the Tramway Trust to the extent of £2,000,000 which had been incurred in London, and assumed complete control of the system. The total length of the Brisbane tramways was 56.58 route miles at 31st December, 1930. A steam tramway having a length of 6.65 route miles is in operation at Rockhampton.

(ii) *Brisbane Electric Tramways.* These tramways are run on the overhead trolley system, the voltage of the line current being 550. Cost of construction and equipment to the end of the year 1930 was £2,241,385, the gauge of line being 4-ft. 8½-in. The following table gives a summary for the calendar years 1926 to 1930:—

ELECTRIC TRAMWAYS.—BRISBANE.—SUMMARY, 1926 TO 1930.

Year ended 31st Dec.—	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1926	52.25	2,053,318	15,683,288	6,301,126	81,802,945	767,708	588,262	248	1,821
1927	53.53	2,050,155	17,409,241	6,535,833	78,057,620	814,312	613,285	260	1,859
1928	55.41	2,195,340	19,992,514	6,570,228	77,703,264	810,954	594,126	275	1,811
1929	55.73	2,214,637	19,723,299	6,616,426	76,117,048	794,470	584,390	275	1,552
1930	56.58	2,241,385	19,304,457	6,575,754	73,616,854	766,271	552,661	293	1,479

(a) Includes motor omnibuses.

(iii) *Rockhampton Municipal Tramway.* This tramway was opened for traffic in 1909, the motive power being steam. The length of line is 6.65 route miles, and the gauge 3 ft. 6 in. The capital cost to 31st December, 1930, was £53,235. During the year 1930, 1,510,748 passengers were carried, the revenue being £14,573 and working expenses £15,580. The number of the staff at the end of the year was 41.

(iv) *Sugar-Mill Tramways.* In various parts of Queensland there are tramways used in connexion with the sugar-milling industry, chiefly for the purpose of hauling cane. 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.—(i) *Electric Tramways.* The tramways in Adelaide and suburbs are controlled by a Municipal Tramways Trust created in 1907. Prior to this year, the system was run with horse-traction by several private companies. Electric traction was inaugurated in 1909, and at the 31st July, 1930, the Tramways Trust operated a total route mileage of 82.83 miles of 4-ft. 8½-in. gauge. A summary for the years 1926 to 1930 is given in the subjoined table :—

ELECTRIC TRAMWAYS.—ADELAIDE.—SUMMARY, 1926 TO 1930.

Year ended 31st July—	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1926	73.05	2,997,976	19,303,228	7,393,122	66,207,356	661,058	472,412	255	1,556
1927	73.05	3,073,359	19,956,323	7,386,620	67,569,749	674,884	483,939	259	1,690
1928	74.17	3,176,738	20,327,743	7,440,540	68,546,189	695,649	490,194	260	1,781
1929	75.79	3,527,710	20,814,717	7,416,441	66,577,704	677,513	501,362	282	1,982
1930	82.83	3,834,302	21,712,905	7,638,896	59,852,641	756,560	521,839	312	1,736

(ii) *Horse Tramways.* There are also 19.86 miles of Government horse-tramways in country districts, worked in connexion with the railway system, of which 17.36 miles are used for passenger service, and 2.50 miles for special purposes.

6. Western Australia.—(i) *Government Tramways.* (a) *General.* Apart from the electric tramways, there are several Government tramways, with a total length of 7.76 miles of 3 ft. 6 in. gauge. The lines are under the control of the Department of Works and Labour, and the total mileage of 7.76 miles is made up of several short lengths worked by steam or horses in connexion with the jetties at certain ports, and providing communication between the jetties and the goods sheds or warehouses.

(b) *Steam and Horse Tramways.* The capital cost of the Government steam or horse tramways up to the 30th June, 1930, was £73,428, the gross revenue for 1929-30 being £3,630, and the working expenses £2,421. These amounts are in some instances inclusive of revenue from jetty charges and of working expenses in connexion with such services.

(c) *Perth Electric Tramways.* These tramways were opened for traffic by a private company on the 24th September, 1899, and the system was subsequently extended to many of the suburbs. Control was taken over by the Government on the 1st July, 1913, and the tramways are now worked in conjunction with the Government railways. The gauge of line is 3 ft. 6 in. The following table shows particulars of working for the years ended 30th June, 1926 to 1930 :—

ELECTRIC TRAMWAYS.—PERTH.—1925-26 TO 1929-30.

Year ended 30th June—	Mileage open for Traffic.	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1926	34.34	949,929	8,246,630	3,010,253	29,599,785	286,707	240,953	113	536
1927	36.63	983,140	8,371,890	2,995,769	30,541,079	294,068	241,280	113	725
1928	39.28	1,060,247	9,002,660	3,188,087	32,657,626	318,957	259,677	123	724
1929	39.83	1,069,352	9,538,040	3,345,929	35,031,734	342,788	281,257	123	654
1930	41.09	1,094,157	10,293,780	3,604,827	35,565,867	349,270	294,471	125	698

(ii) *Private Tramways.* Electric Tramways with a route mileage at 31st August, 1930, of 8.61 miles, and controlled by the municipal authorities, are in operation in Fremantle. In Kalgoorlie and Boulder a private company controls the electric tramways, of which at the end of 1930 the length of line was 11.56 miles (route). All the foregoing lines are of 3-ft. 6-in. gauge.

(iii) *Summary, all Electric Tramways.* The subjoined table gives a summary for all electric tramway systems in the State for the years 1926 to 1930 :—

ELECTRIC TRAMWAYS.—WESTERN AUSTRALIA.—SUMMARY, 1926 TO 1930.

Year.	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1926	57.61	1,559,483	10,311,910	3,940,741	87,841,434	368,290	311,772	173	709
1927	59.60	1,599,105	10,237,513	3,939,061	88,924,077	376,578	310,967	173	891
1928	61.93	1,669,242	10,989,904	4,141,242	41,040,909	403,845	330,705	183	897
1929	60.00	1,680,151	11,765,248	4,303,871	43,198,615	423,368	353,224	183	816
1930	61.26	1,710,370	12,477,132	4,563,535	43,350,192	426,646	363,643	187	877

7. *Tasmania.*—(i) *Electric Tramways.* In Hobart there is a system of electric tramways consisting of 18.80 route miles of 3-ft. 6-in. gauge controlled by the Hobart Municipal Council. The Launceston City Council operates tramways in Launceston having a length of 11.73 miles of 3-ft. 6-in. gauge.

The following table gives a summary of the working of the two systems for the years 1926 to 1930 :—

ELECTRIC TRAMWAYS.—TASMANIA.—SUMMARY, 1926 TO 1930.

Year.	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1926	26.86	542,309	3,310,493	1,776,052	16,972,174	178,191	142,141	89	365
1927	26.86	561,857	3,332,102	1,791,276	17,009,211	181,445	140,386	89	367
1928	28.76	558,323	3,623,468	1,865,339	17,206,196	182,769	132,813	90	377
1929	30.23	567,811	4,030,802	1,818,460	17,334,091	171,664	138,808	90	387
1930	30.53	581,395	4,267,113	1,865,437	17,355,933	172,187	141,801	90	392

(ii) *Other Tramways.* There are several lines of privately-owned steam tramways. These are dealt with in § 4, Private Railways, as they do not come within the category of street tramways for the conveyance of passengers.

8. *Electric Tramways, Australia.*—(i) *Summary for 1930.* The subjoined table gives details regarding all electric tramways in Australia. The returns for tramways in Ballarat and Bendigo, in Brisbane, in Kalgoorlie, and in Hobart are for the calendar year 1930; for other tramways they refer generally to the financial year 1929-30.

ELECTRIC TRAMWAYS.—AUSTRALIA.—SUMMARY, 1929-30.

State.	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current used for Traction purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Percentage of Working Expenses on Gross Revenue.	Cars, Motors and Trailers.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	%	No.	No.
N.S.W. . .	186.63	11,046,461	122,431,584	32,424,794	303,863,829	3,856,892	3,545,645	91.93	1,608	10,024
Victoria. . .	154.02	7,223,329	52,531,368	18,728,831	155,738,911	1,865,955	1,282,447	68.73	642	3,795
Q'land . . .	56.58	2,241,385	19,304,457	6,575,754	73,616,854	766,271	552,661	72.12	293	1,479
S. Aust. . .	82.83	3,834,302	21,712,905	7,638,896	59,852,641	756,560	521,839	68.98	312	1,736
W. Aust. . .	61.26	1,710,370	12,477,132	4,563,535	43,350,192	426,646	363,648	85.23	187	877
Tasmania . .	30.53	581,395	4,267,113	1,865,437	17,355,933	172,187	141,801	82.35	90	392
All States	571.85	26,637,242	232,724,550	71,817,247	653,778,410	7,844,511	6,408,041	81.69	3,132	18,303

(ii) *Summary for Years 1926 to 1930.* The following table gives particulars of the operations of electric tramways in Australia for the years 1926 to 1930 :—

ELECTRIC TRAMWAYS.—AUSTRALIA.—1926 TO 1930.

Particulars.	1926.	1927.	1928.	1929.	1930.
Mileage open for Traffic (Route) Miles	519.06	538.42	555.33	557.99	571.85
Total Cost of Construction and Equipment	£ 22,444,569	23,453,826	24,511,459	25,402,823	26,637,242
Current used for Traction Purposes	Kil. hrs. 188,761,134	212,714,880	231,752,114	231,514,559	232,724,559
Tram-miles run	No. 65,302,995	68,726,257	71,449,202	71,762,830	71,817,247
Passengers carried	647,851,333	677,716,965	695,233,793	682,424,725	653,778,410
Gross Revenue	£ 6,633,563	7,364,964	8,350,389	8,262,601	7,844,511
Working Expenses	£ 5,510,118	5,941,835	6,603,562	6,579,206	6,408,041
Percentage of Working Expenses on Gross Revenue	% 83.06	80.68	79.08	79.63	81.69
Cars, Motors and Trailers	No. 2,824	2,905	2,982	3,155	3,102
Persons Employed	19,208	20,206	19,595	19,647	18,303

D. AIRCRAFT.

1. *Historical.*—A short review of the progress of civil aviation in Australia up to the date of foundation of the Department of Civil Aviation was given in Official Year Book No. 10, pp. 334–5, but limitations of space preclude its repetition in the present volume.

2. *Foundation of Civil Aviation Department.*—(i) *Creation.* A brief account of the foundation and the objects of this Department will be found in Official Year Book No. 19, p. 299.

(ii) *Accidents Investigation Committee.* Under powers conferred by the *Air Navigation Act 1920*, a committee consisting of engineering and aircraft experts was appointed early in 1927 to inquire into and report upon accidents which occur to service and civil aircraft, and on 13th October, 1927, the Air Navigation (Investigation of Accidents) Regulations were promulgated.

3. *Activities of Civil Aviation Department.*—(i) *Aerodromes and Landing Grounds.* Amongst the various activities have been the acquisition and preparation of civil aviation landing grounds, which have now been established over the following approved routes :— (a) Perth to Derby (1,467 miles); (b) Derby to Wyndham (600 miles); (c) Perth to Adelaide (1,453 miles); (d) Adelaide to Sydney (790 miles); (e) Sydney to Brisbane (550 miles); (f) Brisbane to Charleville (444 miles); (g) Charleville to Camooweal (825 miles); (h) Camooweal to Daly Waters (475 miles); (i) Daly Waters to Birdum Creek (50 miles); (j) Clonourry to Normanton (215 miles); (k) Melbourne to Hay (233 miles); (l) Mildura to Broken Hill (189 miles); (m) Melbourne to Charleville via Cootamundra (900 miles); and (n) Melbourne to Hobart via Wilson's Promontory and Launceston (380 miles).

Preliminary surveys of various additional routes also have been made, but no expenditure has yet been incurred in the preparation of landing grounds in connexion therewith.

Up to 31st May, 1931, 175 landing grounds had been acquired or leased by the Government and prepared for civil aviation purposes. There were also 63 public aerodrome licences in force.

(ii) *Aerial Services.* (a) *General.* In addition to providing a regular and speedy transport service over fixed routes, it was considered that the granting of contracts for subsidized aerial services would give an impetus to the development of civil aviation in Australia, while the trained flying and ground personnel would provide a technical reserve for air defence in case of war.

At 30th April, 1931, three subsidized contractors were operating under contracts which, with the exception of the Adelaide-Perth service, provided that such space as is required on each trip must be reserved for mails, the letters for transmission being surcharged 3d. per $\frac{1}{2}$ ounce. The total route mileage of these services is 5,479 miles.

The various regular air services over prepared routes have completed 5,697,426 passenger-miles, and carried 31,394 paying passengers over various stages. Over 95,036 lbs. of letters have also been carried.

All pilots and mechanics employed on these services must join the Air Force Reserve when the Reserve is constituted.

(b) *Aerial Mail Services at 31st May, 1931.* The following aerial mail services were in operation at 31st May, 1931.

(1) *Subsidized Services.* West Australian Airways Ltd.—Perth to Derby (W.A.), 1,467 miles; Derby to Wyndham (W.A.), 600 miles, and Perth (W.A.) to Adelaide (S.A.), 1,453 miles. Queensland and Northern Territory Aerial Services Ltd.—Brisbane to Camooweal (Q.), 1,269 miles and Cloncurry to Normanton (Q.), 215 miles. Larkin Aircraft Supply Co. Ltd.—Camooweal (Q.) to Daly Waters (N.A.), 475 miles. All these services are operated once weekly in each direction over the routes mentioned. The Derby to Wyndham service is not operated in the "wet" season, which is usually December to March.

(2) *Unsubsidized Services.* During the past twelve months several companies have inaugurated regular commercial air services in various parts of the Commonwealth without the assistance of Government subsidies. Briefly, such services are as follows:—Brisbane to Toowoomba (Q.), 75 miles; Brisbane (Q.) to Lismore (N.S.W.), 100 miles; Townsville to Brisbane (Q.), 730 miles; Brisbane (Q.) to Sydney (N.S.W.), 500 miles; Sydney (N.S.W.), to Melbourne (V.), 475 miles; and Melbourne (V.) to Launceston to Hobart (T.), 380 miles. The services from Townsville to Brisbane, and Brisbane to Hobart, are operated by Queensland and Northern Territory Aerial Services Ltd., and Australian National Airways Ltd., respectively. Surcharged air mail is carried under arrangements with the Postmaster-General's Department.

(c) *Aerial Ambulance Service.* Following an agreement made between the Queensland and Northern Territory Aerial Services Ltd. and the Australian Inland Mission, an aerial ambulance service to provide medical service where required in Western and Northern Queensland and operating from a base at Cloncurry was inaugurated on the 17th May, 1928. The aircraft company agreed to provide the aircraft and pilot and the mission authorities the doctor. The scheme has proved most successful and many instances are recorded of lives being saved by the services thus made available.

(d) *Reliability.* During 1930 over 598,582 miles were flown by the three subsidized companies operating regular air services without a fatal accident. The total mileage flown by all civil aircraft during the same period was upwards of 3,900,000 miles, and fourteen fatal accidents occurred, an average of one fatal accident for every 279,000 miles flown.

4. *Aircraft Construction.*—With the increase in the number of aircraft used in Australia attention is being given to the question of local production. Aircraft have been manufactured in Australia for a number of years, and locally built aircraft are in use on certain subsidized routes, but development has not yet reached a completely organized stage.

During 1930, however, a notable advance beyond the experimental stage was made by "The General Aircraft Co. Ltd." of Sydney, who proceeded to the production stage with a land plane of local design. The "Genairco" is a three-seater biplane of orthodox type, with accommodation for two passengers and a pilot, and is of standard all wood construction with fabric-covered lifting and control surfaces, and folding wings. There are now nine (9) aircraft of this type on the Commonwealth Register, the machines being used for instructional purposes and for general taxi and private hire work.

Reference was made in Official Year Book No. 22 (1929) to the aircraft construction activities of the Larkin Aircraft Supply Co. Ltd. This company has since successfully completed its contract for the manufacture of 32 "Moth" Aircraft for the Commonwealth Government, and has also produced two larger passenger aircraft of local design. One of these (the "Lascoter") is a single-engined, four passenger aircraft, and the other (the "Lasconder") is a three-engined six passenger machine.

The Aircraft Branch of the Cockatoo Island Dockyard, Sydney, is now investigating the practicability of undertaking the production of locally designed aircraft.

5. *Training of Air Pilots.*—(i) *The Associated Aero Clubs.* The Associated Australian Aero Clubs provide facilities in the capital cities of all States for flying instruction and practice. Training operations have not yet been commenced in Tasmania, but a start will be made in Launceston at an early date. At the end of April, 1931, 662 pupils had passed through the various flying training organizations and had qualified for private "A" pilots' licences.

The Commonwealth Government renders the various clubs assistance by providing D.H. 60 "Moth" aeroplanes and spare engines, hangar accommodation, the free use of aerodromes, suitable club houses which are leased to the clubs, and bonuses for practice flying carried out and for each pupil trained to a standard that will enable him to obtain a private ("A") pilot's licence. In lieu of the bonus for practice flying the Sydney and Melbourne Clubs are paid a subsidy in respect of each member who qualifies for the renewal of his pilot's licence. The Sydney body (the Aero Club of New South Wales) is a most successful organization. To 30th April, 1931, 215 pupils, including nine lady members, had graduated for "A" licences, while many graduates had completed advanced courses of training, gained their Commercial ("B") licences and now own aircraft.

Aviation pageants are held from time to time by the various sections of the Australian Aero Club and are increasing in popularity.

(ii) *Other Organizations.* Until the establishment of the Australian Aero Club (W.A. Section), flying training in Perth was undertaken by West Australian Airways Ltd., which provided the necessary aircraft, hangars, and instructional personnel, while the Government assisted by paying a bonus of £40 in respect of each pupil qualifying for his pilot's licence. Flying operations along similar lines are now carried out at Goulburn (N.S.W.) and Geelong (Victoria). Flying training is also carried out more or less intermittently by companies, clubs, or private owners at various provincial centres, and there are several well established commercial flying training organizations in Sydney, Brisbane, and Perth.

6. *Notable Flights.*—Since the end of the European war many notable long distance flights have been carried out by Australian pilots. Short accounts of those prior to the year under review are contained in previous issues of the Year Book, but owing to limitations of space the details cannot be repeated in this issue. During the past twelve months there were six additional England-Australia flights. Of these, five were solo flights, the pilots being F. R. Matthews (33 days), C. W. Hill (67 days, meeting with an accident at Timor on the fourteenth day), C. E. Kingsford-Smith (10 days 7 hours), and C. W. A. Scott (9 days 3 hours). The other flight was made by Messrs. G. P. Fairbairn and K. Shenstone. The Kingsford-Smith and Scott flights were specially meritorious as each in turn constituted a time record for the journey.

On the 7th January, 1931, Mr. G. L. Menzies, in an Avro Avian machine, the "Southern Cross Junior", which was used by Air Commodore Kingsford-Smith on his record England-Australia flight, flew from Sydney to the Wanganui River, near Hokitika, New Zealand—a distance of approximately 1,200 miles. This constituted the first solo flight between Australia and New Zealand.

7. **Statistical Summary.**—The collection and compilation of aircraft statistics were undertaken by the Commonwealth Bureau of Census and Statistics on the 1st July, 1922. The subjoined table gives a summary of operations for the years ended 30th June, 1926 to 1930:—

CIVIL AIRCRAFT.—AUSTRALIA.—SUMMARY, 1925-26 TO 1929-30.

Particulars.	Year ended 30th June—				
	1926.	1927.	1928.	1929.	1930.
Registered Aircraft Owners					
(a) No.	23	29	37	72	118
Registered Aircraft (a) No.	54	84	90	168	220
Licensed Pilots—(a)					
Private No.	41	48	127	200	344
Commercial .. No.		47	78	123	181
Licensed Ground Engineers (a) No.	116	148	163	198	257
Aerodromes—(a)					
Government .. No.	44	45	46	56	58
Public No.	11	11	13	19	39
Government Emergency Grounds .. No.	90	91	94	108	117
Flights carried out .. No.	5,838	17,284	56,216	92,000	128,916
	h. m.	h. m.	h. m.	h. m.	h. m.
Hours flown	6,426 35	10,447 24	15,783 30	27,268 20	42,963 7
Approx. Mileage .. Miles	487,603	772,643	1,153,572	1,992,070	3,234,307
Passengers carried—					
Paying No.	4,174	13,984	36,397	56,363	91,415
Non-paying .. No.	2,830	3,222	5,629	10,037	12,801
Total No.	7,004	17,206	42,026	66,400	104,216
Goods, weight carried lbs.	62,873	125,924	116,373	160,424	196,795
Mails, letters carried (b) No.	272,707	290,746	301,677	316,338	383,942
Accidents—					
Persons killed .. No.	..	4	2	7	18
Persons injured .. No.	1	3	5	10	20

(a) At 30th June. (b) By subsidized companies.

In previous issues of the Year Book, particulars of flying carried out in the various States have been shown, but, owing to the extension of interstate flying both by the subsidized companies and private pilots, it has been found impracticable to obtain complete details for the several States separately for the year ended 30th June, 1930. The figures shown in the above table are therefore for the Commonwealth as a whole.

8. **New Guinea Activities.**—The discovery of gold in New Guinea resulted in considerable aviation activity in the vicinity of the goldfields, which, by ground route, are situated about 70 miles inland from Salamaua, on the north-east coast of the mainland of New Guinea. The value of aircraft as a means of transporting food and stores to the field and of bringing the gold to the seaboard is shown by the fact that, whereas aircraft cover the distance in approximately one hour, the nature of the intervening country is such that a journey by other means occupies more than a week. Several air transport companies are operating successfully without any direct assistance in the form of Government subsidies. The principal company (Guinea Airways Ltd.) is now operating three specially constructed freight machines to carry 2,500 tons of hydro-electric power plant and dredging machinery to the fields during the year 1931. This work, if successfully accomplished, will constitute one of the most notable feats of transport in the history of aviation. The subjoined table gives a summary of operations for the years ended 30th June, 1928 to 1930.

**CIVIL AIRCRAFT.—TERRITORY OF NEW GUINEA.—SUMMARY 1927-28
TO 1929-30.**

Particulars.	Year ended 30th June—		
	1928.	1929.	1930.
Registered Aircraft Owners (a) .. No.	5	7	7
Registered Aircraft (a) .. No.	12	15	13
Licensed Pilots—(a)			
Private No.	..	..	1
Commercial No.	9	10	11
Licensed Ground Engineers (a) .. No.	8	10	11
Aerodromes—(a)			
Government No.	2	2	2
Emergency Landing Grounds .. No.	4	4	4
Flights carried out No.	821	1,532	2,882
	h. m.	h. m.	h. m.
Hours flown	1,533 53	2,626 12	3,618 50
Approximate mileage Miles	107,208	187,705	272,976
Passengers carried—			
Paying No.	814	1,293	2,490
Non-paying No.	94	65	649
Total No.	908	1,358	3,139
Goods, weight carried lbs.	518,831	1,385,510	3,062,430
Mails, weight carried lbs.	6,171	13,876	23,257
Accidents—			
Persons killed No.	..	..	..
Persons injured No.	..	..	..

(a) At 30th June.

E. MOTOR VEHICLES.

1. **The Motor Car and Motor Industry.**—(i) *Evolution of the Motor Car.* In the issue of the Year Book for 1927 (No. 20, p. 319) a short history of the evolution of the motor car is given, but consideration of space precludes its repetition in the current issue.

(ii) *Motor Industry.* The demand for mechanical transport occasioned by the European war was in no small measure responsible for the extensive development of the internal combustion engine, and the keen competition among motor car manufacturers for the overseas markets has improved the quality and efficiency of their products.

Although, as yet, motor cars are not entirely manufactured in Australia, the money invested in assembling and body building plants has assumed considerable proportions during recent years, and some idea of the value of Australia as a market for the motor trade is instanced by the fact that during the year 1929-30 the value of 6,556 motor bodies imported was £697,862, and of the 61,981 chassis, £5,807,024. The value of 46,409 bodies built in Australia to equip the chassis for which bodies were not imported was approximately £3,118,987. The value of the tyre equipment, both locally produced and imported, for which figures are not, however, available, must also be taken into consideration, particularly as the prevailing practice is for distributors to retail cars on a five-tyre basis. Fuels imported during the year for use in motor vehicles were—Crude petroleum 122 million gallons, valued at £1,118,332, and petroleum, etc., 240 million gallons, valued at £7,429,485. Spares, batteries, accessories, etc., also are additional factors contributing to the potentialities of Australia as a market.

At the 30th June, 1930, the number of motor cars per 1,000 of population was nearly 102, which, however, is not so high as that recorded in New Zealand, viz., 146, so that it would appear that the saturation point has yet to be reached.

2. **Registration.**—The arrangements for the registration of motor vehicles and the licensing of drivers and riders thereof are not uniform throughout Australia. Methods of registration, licence fees payable, etc., in each State were referred to in Official Year Book No. 16, pp. 337-340, and later issues, but limits of space preclude the repetition of this information in the present volume.

3. **Public Vehicles.**—In all the capital cities of the States and in many of the most important provincial centres taxi-cabs and other vehicles ply for hire under licence granted either by the Commissioner of Police or the Local Government authority concerned. As most of these vehicles are independently controlled by individuals or small companies, it has not been possible to obtain complete data in respect of their operations.

4. **Motor Omnibuses.**—Motor omnibus traffic, both in urban and provincial centres, has assumed considerable proportions during recent years, and prior to the constitution of Boards empowered to allocate routes over which omnibuses may operate, had a very marked effect on Railway and Tramway services. By regulating the licensing of motor omnibuses the economic waste arising from duplication of routes and services parallel with or contiguous to existing railway and tramway systems is avoided. The general principle governing the allocation of routes is that omnibus services should act as feeders to existing transport utilities. Revenue from licence fees is devoted principally to the maintenance or construction of roadways to enable them to withstand the wear and tear caused by the heavy traffic. Complete statistics regarding motor omnibus operations are, however, not at present available, but some indication of the effect unrestricted motor omnibus services would have on the railways and tramways may be obtained from the operations of some services conducted by railway and tramway systems as adjuncts to their main services during the year 1929-30. Such services are conducted in Victoria by the Victorian Railways Commissioners and by the Melbourne and Metropolitan Tramways Board, and in South Australia by the South Australian Railways Commissioners and by the Municipal Tramway Trust, Adelaide, the number of passengers carried by these services during the year 1929-30 being 611,064, 3,742,702, 32,511 and 4,881,171 respectively.

The services operated by the Melbourne and Metropolitan Tramways Board were necessary to provide transport facilities during the conversion of certain cable tram lines to electrical traction, but it is not the intention of the Board to institute omnibus services in a general way. In other instances the omnibus service has been provided to meet the competition of private enterprise and to endeavour to protect the existing transport utilities provided by public bodies.

5. **Motor Vehicles Registered, etc.**—(i) *Year 1929-30.* Particulars of the registration of motor vehicles, etc., for the year 1929-30 are contained in the subjoined table :—

MOTOR VEHICLES.—SUMMARY, 1929-30.

States and Territories.	Motor Vehicles Registered.					Drivers' and Riders' Licences Issued.	Revenue derived from—		
	Motor Cars.	Motor Cycles.	Commercial Vehicles.	Total.	Per 1,000 of population.		Vehicle Registrations and Motor Tax.	Drivers' and Riders' Licences.	Total.
	No.	No.	No.	No.	No.		£	£	£
New South Wales	169,495	29,410	47,289	246,194	99.06	346,415	1,613,803	179,441	1,793,244
Victoria ..	125,315	25,405	29,167	179,887	100.88	230,853	1,128,037	57,711	1,185,748
Queensland ..	680,403	8,778	(a) 2,334	91,515	97.12	63,879	484,651	26,058	510,709
South Australia	47,100	8,616	11,232	66,948	115.30	94,381	579,097	43,170	622,267
Western Australia	30,707	7,707	11,781	50,195	119.90	62,917	298,387	13,913	314,300
Tasmania	12,533	4,814	2,198	19,545	90.68	22,510	82,190	6,574	88,764
Central Australia	77	..	22	99	..	108	60	27	87
North Australia	187	44	219	450	115.05	542	64	127	191
Federal Capital Territory	1,113	123	245	1,481	167.51	1,847	3,021	967	9,588
Australia ..	466,930	84,897	104,487	656,314	101.93	823,452	4,194,910	329,988	4,524,898

(a) Solid tyred vehicles.

(b) Pneumatic tyred vehicles.

(c) Gross Revenue.

(ii) *Quinquennium 1926-1930.* The following table shows the number of vehicles registered, licences issued, and revenue received therefrom during each of the years 1925-26 to 1929-30 :—

MOTOR VEHICLES.—REGISTRATIONS, ETC., AUSTRALIA, 1925-26 TO 1929-30.

Year.	Motor Vehicles Registered.				Per 1,000 of Population.	Drivers' and Riders' Licences Issued.	Revenue derived from—		
	Motor Cars.	Motor Cycles.	Commercial Vehicles.	Total.			Vehicle Registration and Motor Tax.	Drivers' and Riders' Licences.	Total.
							£	£	£
1925-26	282,199	70,209	(a)37,892	390,300	64.6	496,311	2,098,112	137,639	2,235,751
1926-27	364,384	80,242	(a)50,914	495,540	80.3	608,585	2,630,506	208,857	2,845,363
1927-28	419,131	84,017	(a)82,006	565,154	89.9	881,237	3,364,861	249,964	3,614,825
1928-29	474,359	88,049	(a)71,851	634,259	99.5	767,328	3,877,734	289,300	4,167,034
1929-30	466,930	84,897	104,487	656,314	101.9	823,452	4,194,910	329,988	4,524,898

(a) Incomplete, partly included with Motor Cars.

During the period dealt with, the number of motor vehicles showed an average annual increase of 14 % ; the greatest increase (27 %) being recorded during 1926-27 and the least (3 %) during 1929-30. The number of vehicles per 1,000 of population increased from 64.6 to 101.9.

6. *Comparative Motor Vehicle Statistics, 1931.*—The result of the 1931 World Motor Census, conducted by the "American Automobile" magazine, from which the following particulars have been extracted, shows that there were over 35,800,000 motor cars, trucks, and buses registered in various countries of the world at 1st January, 1931.

COMPARATIVE MOTOR VEHICLE STATISTICS, 1st JANUARY, 1931.

Country.	Motor Cars, Trucks, and Buses.	Motor Cycles.
Australia	593,510	95,000
Argentina	387,864	3,086
Belgium	158,000	51,314
Brazil	159,986	1,568
Canada	1,215,071	9,369
Cuba	46,204	495
Denmark	110,324	23,349
France.. .. .	1,500,387	500,000
Germany	658,686	731,237
Great Britain	1,558,032	702,878
India	171,000	27,500
Irish Free State	47,198	7,039
Italy	269,500	87,500
Japanese Empire	98,500	25,000
Mexico	80,800	675
Netherlands	120,700	32,300
Netherlands East Indies	88,178	13,900
New Zealand	189,777	37,411
Union of South Africa	159,689	37,759
Spain	189,650	37,500
Sweden	151,150	59,000
Switzerland	79,100	46,500
United States of America	26,690,949	110,915

The foregoing figures are in some cases approximately stated, being based on estimates furnished by Trade Commissioners or representative motor trade organizations in the several countries. The figures for Australia are estimated at 31st December, 1930, and differ from those stated in para. 5, which are actual registrations at 30th June, 1930.

In respect of motor cars, Australia now ranks sixth in importance numerically among the countries of the world, having been displaced by Germany from fifth position during 1928.

F. POSTS, TELEGRAPHS AND TELEPHONES.

§ 1. Posts.

1. **The Commonwealth Postal Department.**—In previous issues of the Year Book some account was given of the procedure in connexion with the transfer to the Federal Government of the postal, telegraphic, and telephonic facilities of the separate States. (See Year Book No. 15, p. 601.)

Under the provisions of the Commonwealth Post and Telegraph Act, 1901, the Commonwealth Postal Department was placed under the control of a Postmaster-General, being a responsible Minister with Cabinet rank, and a Secretary having chief control of the Department under the Postmaster-General, whilst a principal officer in each State was provided for under the style of Deputy Postmaster-General.

2. **Postal Matter Dealt With.**—In previous issues of this work, details of the postal matter dealt with by the Postmaster-General's Department were shown, but, owing to the non-completion of an investigation which is being made into the system of recording such particulars, details of letters and postcards, newspapers and packets for the years subsequent to 1926-27 are not available. Transport and Communication Bulletin No. 22 issued by this Bureau gives particulars of parcels and registered articles dealt with.

3. **Postal Facilities.**—(i) *Relation to Area and Population.* The subjoined statement shows the number of post offices, the area in square miles and the number of inhabitants to each post office (including non-official offices) in each State and in Australia at the end of the year 1929-30. In order to judge clearly the relative postal facilities provided in each State, the area of country to each office, as well as the number of inhabitants per office, should be taken into account. The returns given for South Australia in this and all succeeding tables include those for the Northern Territory, while the returns for the Federal Capital Territory are included in those for New South Wales.

POSTAL FACILITIES.—RELATION TO AREA AND POPULATION, at 30th JUNE, 1930.

State.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus- tralia.
Number of post offices(a)	2,676	2,732	1,253	805	623	518	8,607
Number of square miles of territory to each office in State	116	32	535	1,123	1,566	51	346
Number of inhabitants to each office	932	653	752	727	672	416	748
Number of inhabitants per 100 square miles	804	2,029	141	65	43	822	216

(a) Includes " Official," " Semi-Official," and " Non-Official " Offices.

The foregoing table does not include " telephone " offices at which telegraph and telephone business only is transacted.

(ii) *Number of Offices.* The following table shows the number of post offices in each year from 1925-26 to 1929-30 inclusive :—

POST OFFICES AT 30th JUNE, 1926 TO 1930.

State.	At 30th June—									
	1926.		1927.		1928.		1929.		1930.	
	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)
New South Wales	458	2,221	456	2,226	455	2,228	448	2,250	445	2,231
Victoria ..	285	2,429	284	2,445	286	2,462	283	2,455	282	2,450
Queensland ..	216	1,068	216	1,069	215	1,064	211	1,070	207	1,046
South Australia ..	148	660	150	657	146	657	148	660	147	658
Western Australia	139	593	132	583	130	559	128	547	126	497
Tasmania ..	48	475	48	473	47	471	44	473	43	475
Australia ..	1,294	7,446	1,286	7,453	1,279	7,441	1,262	7,455	1,250	7,357

(a) Includes offices previously designated as " Allowance " and " Receiving " Offices.

(iii) *Employees and Mail Contractors.*—The number of employees and mail contractors in the Central Office and in each of the States is given in the appended table :—

POSTAL EMPLOYEES AND MAIL CONTRACTORS, 1926 TO 1930.

State.	At 30th June—									
	1926.		1927.		1928.		1929.		1930.	
	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.
Central Office ..	130	..	149	..	170	..	195	..	205	..
New South Wales	14,244	1,924	14,214	1,933	13,856	1,947	15,267	1,952	14,383	1,952
Victoria ..	11,226	1,156	11,607	1,145	10,950	1,142	11,067	1,180	10,709	1,175
Queensland ..	6,181	850	5,958	860	5,504	870	5,437	786	5,179	814
South Australia ..	4,275	424	4,388	402	4,144	413	4,117	421	3,954	414
Western Australia	2,986	379	3,061	357	2,883	358	2,926	365	2,902	398
Tasmania ..	1,615	247	1,555	247	1,509	236	1,533	276	1,517	270
Australia ..	40,657	4,980	40,927	4,944	39,016	4,066	40,545	4,960	38,849	5,023

4. Registered Letters, Packets, etc.—Particulars regarding registered articles for the year 1929-30 are given in the table hereunder :—

REGISTERED ARTICLES POSTED AND RECEIVED, 1929-30.

State.	Posted in each State for Delivery within Australia.		Posted in each State for Delivery Overseas.		Total Posted.		Received in each State from Overseas.	
	Number (<small>000 omitted</small>).	Per 1,000 of Population.	Number (<small>000 omitted</small>).	Per 1,000 of Population.	Number (<small>000 omitted</small>).	Per 1,000 of Population.	Number (<small>000 omitted</small>).	Per 1,000 of Population.
New South Wales ..	2,792	1,123	191	77	2,983	1,200	252	102
Victoria ..	2,032	1,143	111	63	2,143	1,206	171	96
Queensland ..	1,028	1,104	48	52	1,076	1,156	49	53
South Australia ..	582	996	29	49	611	1,045	32	55
Western Australia..	541	1,299	55	132	596	1,431	48	114
Tasmania ..	292	1,331	5	24	297	1,355	10	45
Australia ..	7,267	1,133	439	68	7,706	1,201	562	88

5. Value-Payable Parcel and Letter Post.—(i) *General.* The Postal Department undertakes to deliver registered articles sent by parcel post within Australia, or between Papua or Nauru and Australia, 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, also to meet the requirements of traders and others who do not wish their goods to be delivered except on payment.

(ii) *Summary of Business.* The next statement gives particulars regarding the value-payable post in each State for the years 1926 to 1930 :—

VALUE-PAYABLE PARCELS POST.—SUMMARY, 1926 TO 1930.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
NUMBER OF PARCELS POSTED.							
	No.	No.	No.	No.	No.	No.	No.
1926	236,900	11,508	204,819	5,033	69,970	316	528,546
1927	252,300	11,801	216,418	8,132	71,473	446	560,570
1928	296,391	20,005	236,040	11,789	79,761	505	644,491
1929	313,654	24,426	248,210	14,564	79,699	430	680,983
1930	299,930	26,145	232,968	16,653	82,148	420	658,264
VALUE COLLECTED.							
	£	£	£	£	£	£	£
1926	307,283	22,035	328,954	6,327	109,671	811	865,081
1927	402,186	21,617	334,619	10,939	112,276	1,075	882,712
1928	462,794	35,699	350,712	17,095	114,035	1,040	981,375
1929	462,964	41,878	364,156	19,964	103,683	859	993,504
1930	436,025	42,457	334,491	24,755	101,716	716	940,160

VALUE-PAYABLE PARCELS POST.—SUMMARY, 1926 TO 1930—*continued.*

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
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REVENUE, INCLUDING POSTAGE, COMMISSION ON VALUE, REGISTRATION AND MONEY ORDER COMMISSION.

	£	£	£	£	£	£	£
1926	32,232	1,564	26,539	634	8,872	44	69,885
1927	32,450	1,569	28,108	864	8,720	58	71,769
1928	36,318	2,547	30,700	1,264	8,939	62	79,830
1929	38,968	3,116	33,048	1,660	8,914	53	85,768
1930	38,518	3,465	30,449	2,044	9,354	52	83,882

The number and value of parcels forwarded in New South Wales and Queensland are greatly in excess of the transactions of any of the other States, although the system has also found favour for several years in Western Australia. These three States have the largest areas, and consequently more people at long distances from business centres who avail themselves of the value-payable system. Although South Australia, too, has a large area the population of that State is, comparatively, not widely spread. The amount of business transacted in Victoria, South Australia, and Tasmania is comparatively light, but generally increased business has been done in recent years.

6. *Sea-borne Mail Services.*—(i) *General.* In earlier issues of this work particulars of sea-borne mail services were included, but owing to the restrictions of space this information cannot be given in the present issue.

(ii) *Amount of Mail Subsidies Paid.* The following table shows the amounts of subsidies paid by the Commonwealth Postal Department for ocean and coastal mail services during the year ended 30th June, 1930 :—

MAIL SUBSIDIES.—OCEAN AND COASTAL SERVICES, 1929-30.

Service.	Orient S.N. Co.	Queens- land Ports.	South Australian Ports.	Western Australian Ports.	Tas- manian Ports.
Annual subsidy	£ 130,000	£ 2,200	£ 5,500	£ 4,813	£ 33,000

During the year 1929-30 the amount paid for conveyance of mails at poundage rates by non-contract vessels was £39,273 ; by road services, £703,543 ; and by railways services, £554,850. The total expenditure during the financial year 1929-30 on the carriage of mails, as disclosed by the Profit and Loss Account, amounted to £1,436,316.

7. Transactions of the Dead Letter Offices.—The table hereunder shows the number of letters, postcards and letter-cards, and packets and circulars, including Inland, Interstate, and International, dealt with by the Dead Letter Offices in 1929-30, and the methods adopted in the disposal thereof:—

DEAD LETTER OFFICES.—SUMMARY, 1929-30.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
LETTERS, POSTCARDS, AND LETTER-CARDS.							
Returned direct to writers or delivered	1,093,834	364,068	227,756	139,807	147,214	83,916	2,056,595
Destroyed in accordance with Act...	93,832	42,442	36,544	10,802	10,765	4,044	198,429
Returned to other States or Countries as unclaimed	46,942	28,720	19,402	8,158	16,395	1,266	120,943
Total	1,234,608	435,230	283,762	158,767	174,374	89,226	2,375,967
PACKETS AND CIRCULARS.							
Returned direct to writers or delivered	878,746	168,544	195,005	30,423	100,809	28,872	1,402,399
Destroyed in accordance with Act...	166,117	74,712	76,346	65,842	2,212	474	385,703
Returned to other States or Countries as unclaimed	1,886	40,035	9,563	4,824	976	5,352	62,636
Total	1,046,749	283,291	280,914	101,089	103,997	34,698	1,850,738
Grand Total (letters, packets, etc.)	2,281,357	718,521	564,676	259,856	278,371	123,924	4,226,705

During the year 1929-30 money and valuables to the amount of £124,831 were found in undeliverable postal articles, while 45,566 postal articles were posted without address, including 419 which contained money and valuables to the extent of £3,531.

8. Money Orders and Postal Notes.—(i) *General.* The issue of money orders and postal notes is regulated by sections 74 to 79 of the Post and Telegraph Act, 1901. A money order may be issued for payment of sums up to £20 within Australia, and not exceeding £40 (in some cases £20, and in Mauritius £10) in places abroad. A postal note which is payable only within Australia and in Papua, cannot be issued for a larger sum than twenty shillings.

(ii) *Summary for States, 1929-30.* Particulars regarding the business transacted in each State for the year 1929-30 are given hereunder:—

MONEY ORDERS AND POSTAL NOTES.—SUMMARY, 1929-30.

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 ..	8,155,584	7,949,112	56,357	2,553,784	56,972
Victoria	3,390,148	3,496,617	28,330	1,765,486	39,951
Queensland	2,828,476	2,502,332	20,348	641,435	14,131
South Australia ..	1,033,518	991,882	8,866	388,174	8,936
Western Australia ..	1,487,182	1,304,557	11,936	337,674	7,205
Tasmania	551,872	476,930	3,984	156,850	3,553
Australia	17,446,780	16,811,430	129,821	5,843,403	130,748

The figures in the foregoing table show a substantial increase over the corresponding particulars for the previous year.

(iii) *Summary, Australia, 1926 to 1930.* The next table shows the total number and value of money orders and postal notes issued and paid in Australia from 1925-26 to 1929-30 :—

**MONEY ORDERS AND POSTAL NOTES.—SUMMARY, AUSTRALIA,
1925-26 TO 1929-30.**

Year ended 30th June—	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).
1926 ..	3,081	15,845	2,911	15,366	14,237	4,946	14,044	4,862
1927 ..	3,225	16,500	3,043	15,925	14,502	5,300	14,360	5,270
1928 ..	3,349	17,011	3,188	16,411	15,402	5,579	15,357	5,568
1929 ..	3,416	17,094	3,233	16,503	15,626	5,741	15,591	5,737
1930 ..	3,415	17,447	3,224	16,811	15,879	5,843	15,924	5,968

(iv) *Classification of Money Orders Issued and Paid. (a) Orders Issued.* The next table shows the number and value of money orders issued in each State during the year 1929-30, classified according to the country where payable :—

MONEY ORDERS ISSUED.—COUNTRY WHERE PAYABLE, 1929-30.

State in which issued.	Where Payable.				Total.
	In Australia.	In New Zealand.	In Great Britain and Ireland.	In Other Countries.	

NUMBER.

New South Wales ..	1,436,078	14,363	97,861	26,541	1,574,843
Victoria ..	586,719	6,822	60,095	20,701	674,337
Queensland ..	495,401	2,173	27,906	13,131	538,611
South Australia ..	191,323	1,169	17,358	8,514	218,364
Western Australia ..	249,750	1,335	27,151	7,014	285,250
Tasmania ..	115,160	1,361	5,629	1,670	123,820
Australia ..	3,074,431	27,223	236,005	77,571	3,415,225

VALUE.

New South Wales ..	£ 7,663,054	£ 59,276	£ 305,115	£ 128,139	£ 8,155,584
Victoria ..	3,074,023	23,241	195,954	96,930	3,390,148
Queensland ..	2,675,309	7,261	87,125	58,781	2,828,476
South Australia ..	932,216	4,068	53,645	43,589	1,033,518
Western Australia ..	1,350,886	4,238	92,650	39,408	1,487,182
Tasmania ..	529,029	5,330	14,058	3,455	551,872
Australia ..	16,224,517	103,414	748,547	370,302	17,446,780

(b) *Orders Paid.* The number and value of money orders paid in each State during the year 1929-30, classified according to the country where issued, are given hereunder:—

MONEY ORDERS PAID.—COUNTRY OF ISSUE, 1929-30.

State in which Paid.	Where Issued.				Total.
	In Australia.	In New Zealand.	In Great Britain and Ireland.	In Other Countries.	
NUMBER.					
New South Wales ..	1,425,502	41,067	22,362	15,532	1,504,463
Victoria ..	647,771	19,147	13,771	5,655	686,344
Queensland..	466,261	4,209	6,220	4,239	480,929
South Australia ..	195,950	1,412	3,806	1,254	202,422
Western Australia ..	234,458	1,573	6,494	1,645	244,170
Tasmania ..	99,410	2,772	1,484	2,080	105,746
Australia ..	3,069,352	70,180	54,137	30,405	3,224,074
VALUE.					
	£	£	£	£	£
New South Wales ..	7,640,941	149,928	98,339	59,904	7,949,112
Victoria ..	3,360,629	57,209	58,007	20,772	3,496,617
Queensland..	2,543,267	11,188	25,110	12,767	2,592,332
South Australia ..	965,116	5,543	15,886	5,337	991,882
Western Australia ..	1,261,164	5,782	30,775	6,836	1,304,557
Tasmania ..	462,275	6,379	3,942	4,334	476,930
Australia ..	16,233,392	236,029	232,059	109,950	16,811,430

In the tables above, money orders payable or issued in foreign countries which have been sent from or to Australia through the General Post Office at London are included in those payable or issued in Great Britain and Ireland.

(v) *Classification of Postal Notes Paid.* The subjoined table shows the number and value of postal notes paid during the year 1929-30, classified according to the State in which they were issued.

Particulars regarding the total number and value of postal notes issued and paid in each of the last five years have been given previously.

POSTAL NOTES PAID.—STATE OF ISSUE, 1929-30.

Particulars.	Postal Notes Paid in—						
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
NUMBER.							
Issued in same State	4,558,896	3,142,456	1,434,289	708,261	757,237	342,500	10,943,639
Issued in other States	525,562	422,514	1,514,585	99,650	30,952	2,387,120	4,980,383
Total ..	5,084,458	3,564,970	2,948,874	807,911	788,189	2,729,620	15,924,022
VALUE.							
	£	£	£	£	£	£	£
Issued in same State	1,828,678	1,186,140	528,371	247,149	287,807	117,023	4,195,368
Issued in other States	192,140	164,853	439,084	32,586	12,667	931,743	1,773,073
Total ..	2,021,018	1,350,993	967,455	279,735	300,474	1,048,766	5,968,441

The number and value of postal notes paid in Australia during the year showed an increase of 2 per cent. and 4 per cent. respectively over the corresponding figures for the year 1928-29.

9. **Gross Revenue, Postmaster-General's Department**—(i) *Analysis, States, 1929-30.* The following table shows the gross revenue classified according to branches in each State for the year 1929-30. The figures are supplied by the Treasury, and represent the actual collections for the year.

GROSS REVENUE, POSTMASTER-GENERAL'S DEPT., ANALYSIS, 1929-30.

Particulars.	N.S.W.	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
Postage	2,103,048	1,445,412	740,468	401,956	335,532	152,066	5,179,082
Money order com- mission	113,421	66,401	34,900	17,802	19,358	7,637	250,609
Poundage on postal notes							
Private boxes and bags	25,075	13,447	13,907	8,602	5,523	2,631	69,185
Miscellaneous ..	151,338	317,308	60,553	25,771	59,231	9,465	623,606
Total Postal ..	2,392,882	1,842,658	849,828	454,131	410,644	172,309	6,131,542
Telegraphs (ordinary)	492,011	311,882	234,443	170,162	134,766	46,748	1,390,012
Telegraphs (radio) ..	64,550	84,501	6,169	6,953	4,198	476	166,847
Total Telegraphs	556,561	396,383	240,612	177,115	138,964	47,224	1,556,859
Telephones	2,305,453	1,633,790	818,170	607,130	350,385	147,758	5,862,686
Grand Total ..	5,254,896	3,872,831	1,908,610	1,238,376	908,993	367,381	13,551,087

(a) Includes "Central Office" collections.

Increased telephone revenue (£403,127) largely contributed to the total increase of £737,691 over the revenue for 1928-29.

(ii) *Branches, 1926 to 1930.* The gross revenue collected in respect of each branch of the Department during each of the past five years is shown in the table hereunder:—

GROSS REVENUE, POSTMASTER-GENERAL'S DEPT., 1926 TO 1930,

Year ended 30th June—	Postal Branch.	Telegraph Branch.	Telephone Branch.	Total.
	£	£	£	£
1926	5,215,684	(e)1,511,658	4,044,414	10,771,756
1927	5,505,985	(a)1,523,971	4,576,863	11,606,819
1928	5,802,882	(b)1,467,209	5,034,051	12,304,142
1929	5,884,404	(c)1,469,433	5,459,559	12,813,396
1930	6,131,542	(d)1,556,859	5,862,686	13,551,087

Includes radio receipts (a) £35,815, (b) £45,030, (c) £22,177, (d) £166,847, and (e) £21,178.

As compared with the corresponding figures for the previous year, an increase of 5.8 per cent. is shown, the increases in the several branches being as follows:—Postal 4.2 per cent., Telegraph 5.9 per cent., and Telephone 7.4 per cent.

10. **Expenditure, Postmaster-General's Department.**—(i) *Distribution.* The following table shows, as far as possible, the distribution of expenditure on various items in each State during the year ended 30th June, 1930. The table must not be regarded as a statement of the working expenses of the Department, since items relating to new works, interest, etc., are included therein.

After providing for depreciation, pensions and retiring allowances and interest on capital, the year 1929-30 closed with a profit of £197,883, which represents an increase of £141,359 on the result for the year 1928-29, when a profit of £56,524 was shown.

(ii) *Branches, 1926 to 1930.* The following statement gives particulars of the operating results of each branch for the period 1926 to 1930 :—

PROFIT OR LOSS, POSTMASTER-GENERAL'S DEPARTMENT, 1926-30.

Year Ended 30th June—	Branch.							
	Postal.		Telegraph.		Telephone.		All Branches.	
	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.
	£	£	£	£	£	£	£	£
1926 ..	319,979	..	..	308,632	..	296,684	..	285,337
1927 ..	445,929	..	..	278,720	..	339,270	..	172,061
1928 ..	403,850	..	..	312,075	..	322,438	..	230,663
1929 ..	531,870	..	..	228,134	..	247,212	56,524	..
1930 ..	557,105	..	..	232,188	..	127,034	197,883	..

12. *Capital Account.*—The appended statement shows particulars of the fixed assets of the Postmaster-General's Department at 30th June, 1930.

DETAILS OF FIXED ASSETS, 30th JUNE, 1930.

Particulars.	Net Value, 1st July, 1929.	Capital Expenditure, 1929-30.	Gross Value, 30th June, 1930.	Less Depreciation, &c. 1929-30.	Net Value, 30th June, 1930.
	(b)			(a)	
	£	£	£	£	£
Telephone Lines and equipment	29,184,290	2,539,013	31,723,303	863,767	30,559,536
Telegraph Lines and Trunk Line equipment	9,652,202	490,198	10,142,400	148,599	9,993,801
Telegraph equipment	497,933	104,494	602,427	33,467	568,960
Postal equipment	293,519	85,791	379,310	1,355	377,955
Sites, Buildings, Furniture, and Office equipment	9,016,358	244,271	9,260,629	14,918	9,245,711
Miscellaneous	621,339	45,885	667,224	43,747	623,477
Total	49,265,641	3,509,652	52,775,293	1,105,853	51,669,440

(a) Includes Dismantled Assets, Depreciation written off, and Assets transferred.

(b) The variations between the figures shown in this column and those shown on page 230 of Year-Book No. 23 are due to a re-arrangement of the Asset Accounts from 1st July, 1929.

During the past quinquennium the value of the fixed assets has increased by 53 per cent., the net value at 30th June, 1925, being £33,718,472.

§ 2. Telegraphs.

1. *General.*—A review of the development of the Telegraph Services in Australia was given in a previous issue of this work (see Year Book No. 15), but limitations of space preclude the repetition of this information in the present issue. During the past three years substantial improvements in both the speed and grade of telegraph service throughout the Commonwealth have been effected, the entire system being subjected to intensive re-organization.

(i) *External Circulation or Routing of Traffic.* The external circulation system of the Commonwealth telegraph service has been considerably modified, resulting in the establishment of direct communication between cities and towns of importance which were formerly served through an intermediate repeating centre. The re-organization has eliminated the transit time which was involved in these intermediate transmissions, and in addition to the improvement thus effected in the grade of service, important economies in the labour formerly required in the manual re-transmission have been made. When full effect is given in the near future to the plans already approved, only 9 out of a total of 25 repeating centres will remain.

(ii) *Carrier Wave System.* The financial advantages as well as the stability in performance of carrier wave transmission on well constructed and adequately maintained aerial routes are reflected in the extension of the carrier wave system in Australia. This system permits a number of messages to be transmitted simultaneously over the one line. The system is now in operation between Perth and Adelaide, Adelaide and Melbourne, and Melbourne and Sydney, enabling direct communication to be established between Sydney and Perth, a distance of 2,708 miles. There are now 39,064 miles of uni-directional telegraph carrier channels in operation, and it is anticipated that the system will be available between Sydney and Brisbane before the end of 1931, providing an additional 5,000 miles of uni-directional carrier channels.

(iii) *Machine Telegraphy.* In order to speed up transmission, machine printing telegraph systems have been introduced in place of the manual systems between capital cities and between important country centres. Murray multiplex machine apparatus is in operation between Sydney and Melbourne, Sydney and Brisbane, Sydney and Adelaide, Sydney and Perth, Melbourne and Adelaide, Melbourne and Perth, Adelaide and Perth, Brisbane and Rockhampton, and Brisbane and Townsville, providing telegraph outlets which permit the carriage of very heavy loads with a minimum transit time. The operation of the apparatus has been steadily improved, and now is worked so that each channel has an output of up to 50 words per minute. Between Sydney and Bathurst, Sydney and West Maitland, Melbourne and Bendigo, Melbourne and Mildura, Brisbane and Toowoomba, Brisbane and Charleville, Perth and Fremantle, and Perth and Kalgoorlie, start-stop telegraph printing systems are in operation.

(iv) *Phonogram Service.* So as to provide greater convenience and use to the public, the phonogram service has been extended, and telephone subscribers may now telephone telegrams for onward transmission, or have messages telephoned to them, without trouble. The fee for the service is small, and the innovation means, in effect, that the telegraph system is brought into the home of every telephone subscriber.

(v) *Radiograms within the Commonwealth.* On 1st May, 1929, the rates for radiograms between Flinders Island, King Island, Maria Island, Wave Hill, Brunette Downs and other places within the Commonwealth were reduced to 1½d. per word with a minimum charge of two shillings.

(vi) *Picturegram Service.* From the time the picturegram service was opened between Sydney and Melbourne on the 9th September, 1929, until the 30th June, 1930, 412 picturegrams were lodged, the revenue therefrom being £1,029. Any kind of picture or document may be accepted for transmission, the charges varying from 30s. to 67s. 6d. according to the size of the picture or document and the grade of transmission desired.

2. *Telegraph Offices, Length of Lines and Wire.*—(i) *Summary for Australia.* The following table shows the number of telegraph offices and the length of telegraph lines and of telegraph wire available for use in Australia in each year from 1926 to 1930 :—

TELEGRAPHS.—AUSTRALIA, SUMMARY, 30th JUNE, 1926 TO 1930.

Particulars.	1926.	1927.	1928.	1929.	1930.
Number of offices	8,904	9,111	9,136	9,252	9,317
Length of wire (miles)—					
Telegraph purposes only	65,471	70,563	73,303	72,642	71,629
Telegraph and telephone purposes ..	149,989	153,470	87,376	87,303	88,785
Length of line (miles)—					
Conductors in Morse cable	3,123	3,280	3,441	3,500	3,735
Conductors in submarine cable	3,598	4,251	4,505	4,676	4,524
Pole routes (miles)	85,547	93,237	97,110	96,467	98,450

(ii) *Particulars for each State.* The following table gives corresponding particulars for each State for the year 1929-30 :—

TELEGRAPHS.—STATES, SUMMARY, 30th JUNE, 1930.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of offices ..	3,093	2,442	1,464	794	974	550	9,317
Length of wire (miles)—							
Telegraph purposes only	20,964	8,449	18,960	9,551	12,983	722	71,629
Telegraph and telephone purposes ..	34,424	14,040	23,659	12,135	2,914	1,613	88,785
Length of line (miles)—							
Conductors in Morse cable	1,682	1,428	460	..	142	23	3,735
Conductors in submarine cable (statute miles) ..	3,288	281	307	225	..	423	4,524
Pole routes (miles) ..	32,672	19,360	15,891	15,244	11,804	3,479	98,450

A total length of 160,414 miles of wire is available for telegraph purposes, of which 88,785 miles are also used for telephone purposes, and the figures show increases of 469 (0.3 per cent.) and of 1,482 miles (1.73 per cent.) respectively over the corresponding mileages for the previous year. The decrease in the mileage of wire available for telegraph purposes only is due to the extension of the practice of exploiting the physical wires by superimposing telegraph facilities over telephone wires.

3. Number of Telegrams Dispatched.—(i) *Total for Australia.* The number of telegrams dispatched to destinations within Australia in each of the last five years is given hereunder :—

TELEGRAMS DISPATCHED.—AUSTRALIA, 1926 TO 1930.

Telegrams.	Year ended 30th June—				
	1926.	1927.	1928.	1929.	1930.
Number (a) ..	17,637,716	17,274,289	16,608,226	16,345,152	15,724,246

(a) Including interstate cablegrams.

(ii) *Totals for each State.* The appended table shows the total number of telegrams dispatched in each State in 1929-30 according to the class of message transmitted :—

TELEGRAMS DISPATCHED.—STATES, 1929-30.

Class of Message Transmitted within the Commonwealth.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
Paid and Collect—							
Ordinary ..	4,369,424	3,011,662	2,247,935	993,315	1,491,501	302,728	12,416,565
Urgent ..	518,431	203,865	127,640	54,389	75,107	12,610	992,042
Press ..	283,495	180,764	110,378	52,472	40,522	50,416	718,047
Lettergram ..	90,415	74,757	81,883	40,897	72,076	30,868	390,896
Radiogram ..	20,410	6,235	5,855	5,296	3,554	8,065	49,415
Total ..	5,282,175	3,477,283	2,573,691	1,146,369	1,682,760	404,687	14,566,965
Unpaid—							
Service ..	114,178	70,051	50,206	49,141	55,676	20,180	359,432
Shipping ..	76,921	118,054	20,743	5,754	15,589	5,071	242,132
Meteorological ..	179,796	76,507	74,873	81,530	117,556	25,455	555,717
Total ..	370,895	264,612	145,822	136,425	188,821	50,706	1,157,281
Grand Total ..	5,653,070	3,741,895	2,719,513	1,282,794	1,871,581	455,393	15,724,246

The figures in the foregoing table show a decrease in the total volume of telegraph business of 620,906 messages as compared with the previous year.

4. **Letter-telegrams.**—Letter-telegrams are accepted at any hour at telegraph offices, which are open for business after 7 p.m., subject to the condition that delivery is effected by posting at the letter-telegram office of destination.

5. **Revenue and Expenditure.**—Particulars of the revenue and expenditure of the telegraph systems for the years 1925-26 to 1929-30 are given in earlier pages.

6. **Telegraph Density.**—Analysis of the latest world statistics available discloses a high telegraph density in Australia; the ratio of telegrams to population being the highest for any country in the world except New Zealand. The following table gives the figures for the more important countries:—

COMPARATIVE TELEGRAPH DENSITY STATISTICS.

Country.	Percentage of Telegraph to Total Wire Communication.	Telegraph Communication per Head of Population.
Australia	4.1	2.8
Austria	0.7	0.5
Belgium	3.0	0.7
Canada	0.6	1.5
Czecho-slovakia	2.0	0.3
Denmark	0.4	0.6
France	4.6	0.9
Germany	1.4	0.5
Great Britain	3.8	1.2
Hungary	2.3	0.4
Japan	2.0	1.0
Latvia	0.7	0.2
Netherlands	1.2	0.7
New Zealand	2.2	4.7
Norway	1.9	1.7
Poland	0.7	0.2
Spain	7.7	0.9
Sweden	0.5	0.7
Switzerland	1.5	0.7
Union of South Africa	2.8	0.7
United States of America	0.8	1.9

§ 3. Submarine Cables.

1. **First Cable Communication with the Old World.**—In earlier issues of the Year Book will be found a detailed account of the connexion of Australia with the old world by means of submarine cables. (See No. 6, p. 770.)

2. **General Cable Services.**—Descriptions of the various cable services between Australia and other countries are given in Year Book No. 22, p.p. 335 and 336, but considerations of space preclude the repetition of this information in the present issue.

3. **Merging of Cable and Wireless Interests.**—Following upon the recommendations of the Imperial Wireless and Cable Conference in London in 1928 to examine the situation which had arisen as the result of the competition of the Beam Wireless with the Cable services, the Imperial and International Communications Limited was

formed and took over the operations of the Pacific Cable Board and the control of the Eastern Extension Cable Company and the Marconi Wireless Company. As yet the merger is not fully effective in Australia although the offices of the Eastern Extension Company and the Pacific Cable Board in Sydney and Melbourne were combined during December, 1929.

4. *Cable Business.*—(i) *Australia.* The subjoined table shows the number of cablegrams received and dispatched in Australia from 1927-28 to 1929-30 :—

CABLEGRAMS.—AUSTRALIA, 1927-28 TO 1929-30.

Cablegrams.	Cablegrams Received.			Cablegrams Dispatched.			Total Cablegrams Received and Dispatched.		
	1927-28.	1928-29.	1929-30.	1927-28.	1928-29.	1929-30.	1927-28.	1928-29.	1929-30.
Number ..	710,501	727,250	718,339	759,823	808,812	781,982	1,470,324	1,536,068	1,500,321

(ii) *States.* The number of cablegrams received and dispatched in each State during the year 1929-30 is given hereunder :—

CABLEGRAMS.—STATES, 1929-30.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.(a)	Australia.
Number received ..	382,323	229,231	29,622	33,396	34,987	8,780	718,339
Number dispatched	399,653	250,769	38,021	39,624	43,339	10,576	781,982
Total ..	781,976	480,000	67,643	73,020	78,326	19,356	1,500,321

(a) Exclusive of interstate cablegrams, which are included with interstate telegrams.

5. *Cable and Radio (Beam) Rates.*—(i) *Ordinary Messages.* From 1st February, 1927, the cable rates (per word) between Australia and Great Britain were reduced as follows :—Ordinary, 2s. 6d. to 2s.; deferred ordinary, 1s. 3d. to 1s.; and Government, 1s. 4d. to 1s. 0½d., and substantial reductions were also made on the Canadian service (via Pacific) as from the same date. The following are the rates at present operating on traffic to the principal countries :—

CABLEGRAM AND RADIOGRAM RATES, JUNE, 1930.

To—	Rate per Word and Route.		
	Via Pacific.	Via Eastern.	Via Beam.
European Countries ..	2s. 6d. to 2s. 7d.	2s. 6d. to 2s. 7d.	1s. 11½d. to 2s. 5½d.
Asiatic Countries ..	5s. 3d. to 6s. 3d.	2s. 5d. to 4s. 7d.	.. ..
Africa ..	.. ..	1s. 8d. to 5s. 4d.	2s. 2½d. to 2s. 11d.
North America ...	1s. 7d. to 3s. 5d.	2s. 4d. to 4s. 4d.	1s. 5½d. to 3s. 7d.
Central America ..	3s. 10d. to 4s. 4d.	5s. to 6s. 1d.	3s. 5½d. to 4s. 10d.
West Indies ..	3s. to 5s. 3d.	4s. to 5s. 8d.	.. ..
South America ..	4s. 1d. to 6d. 8d.	4s. 1d. to 7s. 5d.	3s. 9d. to 6s.

(ii) *Deferred Telegrams (via Cable or Beam).* Under this system a reduction of 50 per cent. in the ordinary cable or radio (Beam) charges is made under certain conditions. Any such messages which have not reached their destination within 24 hours may be transmitted in turn with full-rate messages. This service, together with "Daily Letter" and "Week-end" cable services, has affected the ordinary cable business to a considerable

extent. "Deferred Press" telegrams, subject to a delay of 18 hours, may be exchanged between Australia and (a) Great Britain at the rate of 4½d. per word by cable and 3d. per word via Beam wireless; (b) Canada, at 2½d. per word by cable and 2½d. per word via Beam wireless; and (c) United States of America, at 3d. to 4d. per word by cable and 3½d. to 4d. per word via Beam wireless.

(iii) *Daily Letter Telegrams.* The "Daily Letter" telegram service was inaugurated in September, 1923, between Australia and Great Britain and Canada, and has since been extended to most countries in the British Empire and in Europe and to the United States of America. "Daily Letter" messages are accepted subject to a minimum transit delay of 48 hours (including allowance for variations of times). The rates on messages (20 word minimum) to Great Britain are 9d. per word via "Pacific" or "Eastern," and 6d. per word via "Beam," while for United States of America the rate varies from 7d. to 9d. per word via cable and 6½d. to 8½d. via "Beam".

(iv) *Week-end Letter Telegrams.* Week-end letter telegrams may be exchanged with certain specified countries at the rates indicated hereunder. Messages—which may be lodged at any post office—are forwarded to reach the transmitting station by post or telegraph by midnight on Saturdays and are deliverable to the addresses on Tuesday mornings or if practicable on Mondays. The rates per word for messages (20 word minimum) to the following countries are:—Great Britain, by cable 7½d., by wireless 5d.; Holland, Czecho-Slovakia, Italy, Algeria and Tunis, 9d.; Canada, 5½d. and 5½d.; Newfoundland, 7½d. and 7d.; Fanning Island, 6d.; France, Austria, Norway and Switzerland, 8d.; and Sweden, Denmark, Germany, Belgium, and Luxemburg, 7½d. A week-end letter telegram service between the Commonwealth and Papua and New Guinea was opened in December, 1929, the rate being 4½d. per word with a minimum charge of 7s. 6d. for 20 words.

(v) *Press Telegrams.* The rate per word on press messages exchanged with Great Britain is 6d. via cable and 4d. via Radio (Beam) service.

(vi) *Night Letter Telegrams.* A night letter service for traffic between Australia and New Zealand was introduced on 1st May, 1924. The rate is fixed at 3s. per message of 20 words, and 2d. per word in excess of 20. On 1st December, 1924, the service was extended to take in traffic to and from Fiji at the rate of 5s. 10d. per message of 20 words, and excess words at the rate of 3½d. per word. Night letter telegrams are accepted at any time and are delivered by first post on the morning following receipt.

§ 4. Telephones.

1. Telephone Services.—(i) *Mileage, etc., Australia.* The following table shows the mileage of lines, etc., for telephone purposes, giving trunk lines separately, on 30th June, 1928 to 1930:—

TELEPHONE LINES.—AUSTRALIA, 30th JUNE, 1928 TO 1930.

Particulars.	1928.	1929.	1930.
Ordinary Lines—			
Conduits duct miles	5,268	5,507	5,844
.. .. route miles	2,908	3,083	3,310
Conductors in aerial cables .. loop mileage	7,254	6,055	5,461
Conductors in underground cables ..	632,890	691,170	775,488
Conductors in cables for junction circuits ..	93,936	98,065	87,275
Open conductors single wire mileage	383,352	408,559	424,007
Trunk Lines—			
Telephone trunk lines only .. miles	211,133	224,150	232,909
Telegraph and telephone purposes ..	87,376	87,303	88,785

(ii) *Comparison with Other Countries.* Australia is steadily improving its position in the list of countries showing the most rapid advance in the use of the telephone, and it now occupies sixth place, with 80.8 telephones per 1,000 of population. This position may be considered highly satisfactory in view of the area and distribution of population in Australia and the average length of wire required to provide a subscriber's service. The average length of wire per telephone in Australia is 4.9 miles, as compared with 3.5 miles in the United States of America, 3.5 miles in New Zealand, and 2.9 miles in Canada.

(iii) *Government Policy.* A vigorous policy has been pursued by the Government in providing telephone facilities, with the result that the system has developed rapidly during recent years. Many of the concessions have been of such a character as to render the services unremunerative, but it is considered that they are justified from the standpoint of national development. The adoption of this policy has been the means of making telephone services available to a very large number of people, and particularly to those living in isolated localities. In providing facilities to meet present and future growth, full advantage is being taken of the best modern practices as adopted in other parts of the world.

(iv) *Trunk Line System.* The trunk line system of the Commonwealth aims to make the telephone service in Australia a nation-wide service and to improve long distance communication so that each subscriber may communicate with every other subscriber to the system. Notwithstanding the great distances separating the capital cities of the various States, commercial speech is now provided between practically all of the cities and towns in the Eastern States and South Australia. On the 18th December, 1930, a channel was established between Perth and Adelaide by a circuit distance of 1,676 miles, thus enabling commercial conversations to be made between Western Australia and South Australia, Victoria and New South Wales. When the service is extended to Queensland, commercial speech will be practicable between Geraldton (W.A.), and Cloncurry (Q.), a circuit distance of 5,028 miles, and this will constitute a record in land line telephony.

The practicability of linking Tasmania telephonically with the mainland has been investigated by the Parliamentary Standing Committee on Public Works which has recommended that when funds can be made available a submarine telephone cable be laid from Lorne (V.) via King Island to Stanley (T.). When this service is provided, telephonic communication will be available between all the States. Substantial progress has been made with the introduction of the carrier system of telephony whereby several additional channels of communication may be obtained over one pair of wires, thus obviating the costly expenditure involved in erecting additional wire along important routes where the business justifies extra channels. At the 30th April, 1931, there were forty-one carrier telephone systems in operation in Australia, giving a total of seventy-five channels with an aggregate channel mileage of approximately 21,300 miles.

(v) *Oversea Telephone Service.* On 30th April, 1930, an overseas telephone service between Australia and the United Kingdom was inaugurated. Since then the service has been extended to many other European countries and North and South America, whilst direct services from Australia to New Zealand and Java have also been established. The Australian subscriber now has access to approximately 32,000,000 telephones or 91 per cent. of the world total.

(vi) *Automatic Exchanges.* At 30th June, 1930, there were 67 automatic or semi-automatic exchanges in operation providing facilities for 154,631 subscribers' lines, 151,467 of which were in the metropolitan areas. Trials are being made with a specially constructed automatic unit for use at country exchanges, and the results at present are promising. The purpose of this equipment is to provide an economic day and night service at country exchanges, and it is hoped that the introduction of small automatic units will enable the benefits of continuous service to be more widely extended.

(vii) *Summary for States.* Particulars relating to the telephone service in each State for the years ended 30th June, 1928 to 1930, will be found in the following table:—

TELEPHONE SERVICES.—SUMMARY, 1928 TO 1930.

Particulars.	Year (30th June).	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
No. of Exchanges ..	1928	1,811	1,573	844	522	610	338	5,608
	1929	1,800	1,620	891	537	626	347	5,911
	1930	1,951	1,650	924	551	652	360	6,004
No. of Telephone Offices (Including Exchanges)	1928	2,857	2,287	1,408	769	956	521	8,788
	1929	2,892	2,340	1,415	776	958	526	8,907
	1930	3,008	2,358	1,417	786	970	520	9,059
No. of lines connected ..	1928	137,002	108,678	45,549	40,407	20,039	10,801	883,076
	1929	146,492	114,603	48,065	42,186	21,562	11,450	334,358
	1930	150,606	118,074	49,737	42,808	22,558	11,969	395,312
No. of Instruments con- nected	1928	181,484	147,758	50,990	51,546	25,506	13,290	476,700
	1929	193,718	155,841	50,447	53,814	27,036	14,043	505,554
	1930	199,007	160,381	52,607	54,550	29,032	14,542	520,169
(a) No. of subscribers' instruments	1928	177,150	144,746	54,907	50,349	24,606	12,568	464,326
	1929	189,154	152,657	58,332	52,512	26,460	13,288	492,403
	1930	194,253	157,325	60,451	53,189	27,329	13,747	500,794
(b) No. of public tele- phones	1928	2,051	2,208	1,471	786	948	531	8,545
	1929	2,779	2,256	1,482	770	935	521	8,748
	1930	2,879	2,295	1,522	785	957	523	8,966
(c) No. of other local instruments	1928	1,683	834	618	401	42	191	8,829
	1929	1,785	928	633	532	291	239	4,408
	1930	1,875	761	634	576	296	267	4,409
Instruments per 100 of population	1928	7.46	8.39	6.25	8.86	6.41	6.31	7.58
	1929	7.84	8.82	6.52	9.22	6.73	6.61	7.98
	1930	7.98	8.99	6.64	9.32	6.95	6.75	8.08
Earnings		£	£	£	£	£	£	£
	1928	1,965,173	1,447,504	724,615	575,837	300,823	134,198	5,148,150
	1929	2,138,369	1,567,241	779,105	600,329	330,567	143,381	5,564,992
1930	2,361,924	1,685,377	839,531	632,367	363,327	150,507	6,038,033	
Working expenses ..	1928	1,503,342	1,187,404	597,332	532,428	257,270	160,739	4,238,515
	1929	1,668,407	1,218,232	567,787	561,992	252,047	159,353	4,427,818
	1930	1,660,932	1,230,603	678,080	563,847	271,644	187,676	4,568,432
Percentage of working ex- penses on earnings	1928	76.50	82.43	82.43	92.46	85.52	119.40	82.32
	1929	78.02	77.73	72.83	92.69	76.25	111.14	79.56
	1930	70.32	73.02	80.84	89.16	74.77	124.70	76.14

The number of instruments per 100 of population has increased from 7.58 in 1927-28 to 8.08 in 1929-30. The actual number of instruments has increased from 476,700 to 520,169, an increase of 9 per cent. Of the 520,169 instruments connected at 30th June, 1930, 226,789, or 43.6 per cent., were served by exchanges situated beyond the limits of the telephone networks of the six State capital cities. The metropolitan networks are limited to a radius of 15 miles from the General Post Office in Sydney and Melbourne, and 10 miles in the other State capital cities.

(viii) *Systems in Use.* The following table shows the percentage of automatic, common battery, and magneto telephone lines at 30th June, 1928 to 1930:—

PERCENTAGE OF AUTOMATIC, COMMON BATTERY, AND MAGNETO LINES,
1928 TO 1930.

System.	30th June.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Automatic	1928	40.9	30.3	18.3	28.4	33.1	..	31.8
	1929	42.5	34.9	19.1	33.1	33.6	..	34.5
	1930	42.5	39.2	34.3	38.9	41.3	28.7	39.5
Common Battery ..	1928	3.1	21.1	14.7	19.4	6.7	46.7	13.3
	1929	3.1	19.2	14.3	15.7	6.5	45.7	12.2
	1930	3.0	18.6	..	18.7	6.3	16.6	9.1
Magneto	1928	50.0	48.6	67.0	52.2	60.2	53.3	54.0
	1929	54.4	45.9	66.6	51.2	59.9	54.3	55.3
	1930	51.5	42.2	65.7	47.4	52.4	54.7	51.4

(ix) *Subscribers' Lines and Calling Rates.* The next table gives the number of subscribers' lines and the daily calling rate at central, suburban, and country telephone exchanges in the several States for the year 1929-30 :—

TELEPHONES.—SUBSCRIBERS' LINES AND DAILY CALLING RATE, 1929-30.

State.	Central Exchanges.		Suburban Exchanges.		Country Exchanges..		Total.	
	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.
New South Wales	15,645	11.37	70,806	4.01	62,448	2.17	148,899	4.01
Victoria ..	8,140	10.79	60,286	3.84	48,375	1.81	116,801	3.48
Queensland ..	6,480	9.41	12,361	3.12	29,870	2.48	48,711	3.56
South Australia	6,100	3.62	17,284	3.31	19,329	1.71	42,713	3.34
Western Australia	7,491	6.90	4,007	4.20	10,465	1.64	21,963	3.90
Tasmania ..	2,829	4.34	1,047	2.19	7,772	2.13	11,648	2.67
Australia ..	46,685	9.49	165,791	3.80	178,259	2.04	390,735	3.68

A comparison of the daily calling rates for each class of exchange shows that New South Wales registered the greatest number per line at central exchanges, Western Australia at suburban exchanges, and Queensland at country exchanges. For Australia as a whole, the average number of calls per line at central exchanges was nearly three times the number registered at suburban exchanges, while the average for suburban exchanges was slightly less than double the number shown for country exchanges.

(x) *Trunk Line Calls and Revenue.* In the following table the number of telephone trunk line calls recorded, the amount of revenue received, and the average revenue per call are shown for each of the States for the years 1927-28 to 1929-30 :—

TELEPHONES.—TRUNK LINE CALLS AND REVENUE FOR THE YEARS 1927-28 TO 1929-30.

Particulars.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
Total Calls for Year—	No.	No.	No.	No.	No.	No.	No.
1927-28 ..	11,174,761	8,142,637	5,530,691	3,815,309	1,874,344	1,464,328	32,002,070
1928-29 ..	11,985,196	9,222,655	5,960,612	3,984,987	2,062,621	1,545,600	34,741,871
1929-30 ..	12,250,856	9,380,862	6,190,891	3,966,504	2,075,417	1,524,185	35,388,715
Total Revenue for Year—	£	£	£	£	£	£	£
1927-28 ..	422,195	287,783	266,950	149,390	89,370	43,502	1,259,190
1928-29 ..	472,858	338,837	298,190	162,494	100,678	46,405	1,419,462
1929-30 ..	549,585	382,055	331,305	174,119	110,955	49,048	1,597,067
Average Revenue per Call—	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.
1927-28 ..	9.06	8.48	11.58	9.39	11.44	7.12	9.44
1928-29 ..	9.47	8.82	12.01	9.84	11.71	7.20	9.80
1929-30 ..	10.76	9.77	12.84	10.54	12.83	7.72	10.38

The number of trunk line calls recorded during 1929-30 increased by nearly 650,000 over the figures for the previous year, and the average revenue per call increased by 1.03d.

The rapid growth in connexion with subscribers' services is bringing about increased trunk line traffic, and extensive works are in progress to meet the growing demand and to improve the trunk line system generally.

2. *Revenue from Telephones.*—Particulars regarding the revenue from telephone services are included in the tables at the end of § 1.

§ 5. Radio Telegraphy and Telephony.

1. **Radio Telegraphy and Telephony.**—(i) *General.* A statement in regard to the initial steps taken to establish radio telegraphy in Australia was given in Official Year Book No. 18, p. 343, but consideration of space precludes its repetition in the present issue.

Under the Wireless Telegraphy Act and Regulations, no wireless station can be installed or operated without a licence from the Postmaster-General. Licences are issued for the following:—(a) *Coast Stations*, which are operated at various points around the coast and in Papua and New Guinea by Amalgamated Wireless (Australasia) Ltd., under agreement with the Commonwealth; (b) *Ship Stations*. Regulations under the Navigation Act require that all ships registered in Australia of 1,600 tons or more registered tonnage or carrying more than twelve passengers, shall be fitted with an efficient radio telegraph installation; (c) *Land Stations* to be operated where no telegraph or telephone facilities exist; (d) *Broadcasting Stations*, other than those of the National Broadcasting Service; (e) *Broadcast Listeners' Receiving Sets*; (f) *Portable Stations*, for transportable sets on motor cars, &c.; (g) *Aircraft Stations*; (h) *Experimental Stations*; and (i) *Special Stations*, for services other than those named above.

The following tables show the number of each class of licence issued in each State, etc., during the years 1929-30 and 1930-31:—

WIRELESS LICENCES, 1929-30.

Station Licence.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.	Papua.	Grand Total.
Coast	2	1	6	1	5	3	1	19	2	21
Ship	10	55	12	20	6	1	..	104	..	104
Land	6	3	3	..	3	..	1	16	..	16
Broadcasting (a) ..	9	5	3	3	1	2	..	23	..	23
Broadcast listeners' ..	111,080	130,887	23,247	25,651	5,715	6,032	20	311,632	16	311,648
Experimental	173	185	72	58	40	16	..	544	..	544
Portable	5	1	6	..	1	..	..	13	..	13
Aircraft .. ..	..	..	..	..	..	..	..	..	..	..
Special	18	11	..	..	2	..	..	31	..	31
Total Licences Issued	111,303	140,148	23,349	25,733	5,773	6,054	22	312,382	18	312,400

(a) In addition there are nine stations operated by the National Broadcasting Service.

WIRELESS LICENCES, 1930-31.

Station Licence.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.	Papua.	Grand Total.
Coast	2	1	6	1	5	3	1	19	2	21
Ship	9	50	13	19	5	1	..	97	..	97
Land (b)	7	6	3	1	3	..	3	23	..	23
Broadcasting (a) ..	16	10	6	3	2	2	..	39	..	39
Broadcast listeners' ..	122,470	137,005	24,062	30,217	9,075	8,232	21	331,082	46	331,128
Experimental	278	260	106	94	69	31	1	839	2	841
Portable	7	1	11	..	1	..	..	20	..	20
Aircraft .. ..	..	..	..	..	..	..	..	..	..	..
Special	3	10	..	..	4	..	..	17	..	17
Total Licences Issued	122,792	187,343	24,207	30,335	9,164	8,269	26	332,136	50	332,186

(a) In addition there are nine stations operated by the National Broadcasting Service.
 (b) In addition to the licensed stations two are operated by the Postmaster-General's Department, viz. —Wave Hill (N.T.) and Camooweal (Q.).

(ii) *Broadcasting.*—The National Broadcasting Service which is controlled by the Postmaster-General's Department, the programmes being provided under contract by the Australian Broadcasting Company, now operates two stations in Sydney and Melbourne, and one each in the other capital cities. The licence fees paid by listeners provide the revenue of the National Service, the fee for each licence being 24s. per annum.

A relay station commenced broadcasting at Newcastle (N.S.W.) on the 19th December, 1930. This is the first of a series of stations to be erected and operated in country districts by the National Broadcasting Service to ensure satisfactory broadcast reception in all the thickly populated parts of the Commonwealth.

The services of other broadcasting stations are conducted by private enterprise under licence from the Postmaster-General. Licences are granted on conditions which ensure satisfactory alternative programmes for listeners. The fee for a broadcasting station licence is £25 and the maximum period of a licence is three years. The licensees of these stations do not share in the listeners' licence fees, but rely for their income on revenue received from the broadcasting of advertisements and other publicity.

Simultaneous broadcasting in the various States has been a regular feature for some years. By means of telephone trunk lines and amplifying apparatus, items of national interest and programmes of special merit are distributed to the various stations of the National Broadcasting Service. In some cases they are relayed overseas by means of short wave stations or the Anglo-Australian radiotelephone service. Frequently, the licensed stations also are linked by telephone trunk lines for simultaneous broadcasts.

(iii) *Beam Wireless.* The Beam wireless stations provided for under the agreement between the Commonwealth Government and Amalgamated Wireless (Australasia) Ltd. were completed early in 1927, and a direct beam wireless service to England was established on 8th April, 1927. A similar service to Canada, United States, and Mexico was opened on 16th June, 1928. Satisfactory communication is maintained daily over a period of hours, and the new services are being well patronized by the public. A comparison of the rates charged for "Beam" and Cable messages is given in § 3, Submarine Cables. Particulars of international traffic via "Beam" are given in para. (vi) (a) hereunder.

(iv) *International Wireless Telephone Service.* A wireless telephone service between England and Australia was opened on 30th April, 1930, Mr. Ramsay Macdonald and Mr. J. H. Scullin, the Prime Ministers of the respective countries, holding the inaugural conversation. The service is now available to most of the ordinary telephone subscribers of Europe and Australia. The fee for a conversation between Australia and England is £6 for a minimum of three minutes and £2 for each additional minute. The fee is slightly more for conversations to continental countries. Additional services have since been opened to the United States of America, New Zealand, Java and South America, the fees per minute for conversations being £3, £1, £2 and £3, respectively. The rates to the United States of America and South America increase slightly for calls made to the western portions of these countries. During the year ended 30th June, 1931, 1,078 conversations took place, 712 originating in Australia and 366 in other countries. Of this number 718 conversations were between Great Britain and Australia and 214 between New Zealand and Australia.

(v) *Radio Stations (Pacific Ocean).* Radio-telegraphic stations have been erected at Suva, Ocean Island, Tulagi, and Vila under the control of the High Commissioner of the Pacific, while the New Zealand Government has erected high-power stations at Awani (Auckland), Awarua (Bluff), and Apia (Samoa), and low-power stations at Auckland, Chatham Islands, Raratonga (Cook Islands) and Wellington.

(vi) *Radiotelegraphic Traffic.* (a) *International.* The following statement shows particulars of international traffic "via Beam" to and from United Kingdom and other places during the year ended 30th June, 1930 :—

RADIO TRAFFIC.—INTERNATIONAL, YEAR ENDED 30th JUNE, 1930.

Class of Traffic.	Number of Words Transmitted.			Number of Words Received.		
	United Kingdom.	Other Places.	Total.	United Kingdom.	Other Places.	Total.
Ordinary	901,347	436,509	1,337,856	592,918	138,535	731,453
Deferred	595,403	312,914	908,317	449,326	103,713	553,039
Government	67,843	7,640	75,483	69,056	416	69,472
Press (including Deferred press)	224,787	26,756	251,543	971,719	30,576	1,002,295
Daily letter and week-end telegrams(a)	4,125,849	915,873	5,041,722	2,382,078	240,699	2,622,777
Total	5,915,229	1,699,692	7,614,921	4,465,097	513,939	4,979,036

(a) Includes Christmas and New Year Greeting telegrams.

(b) *Coast Stations.* Particulars of the traffic handled by the several coast stations during the year 1929-30 are as follows :—

RADIO TRAFFIC.—COAST STATIONS, 1929-30.

State or Territory.	Particulars.				
	Total Paying Words.	Messages.			
		Paying.	Service.	Weather.	Total.
	No.	No.	No.	No.	No.
New South Wales	1,100,273	70,616	544	4,061	75,221
Victoria	94,906	7,760	14	1,292	9,066
Queensland	443,627	27,444	1,111	5,356	33,911
South Australia	74,969	6,027	283	940	7,250
Western Australia	282,746	16,235	325	3,421	19,981
Tasmania	183,140	11,221	696	626	12,543
Northern Territory	59,822	2,696	463	1,951	5,110
Australia	2,239,483	141,999	3,436	17,647	163,032
Papua	292,284	15,401	801	1,151	17,353
Grand Total	2,531,767	157,400	4,237	18,798	180,435

(c) *Island Stations.* Particulars of the island radio traffic dealt with during the year 1929-30 are given hereunder :—

RADIO TRAFFIC.—ISLAND STATIONS, 1929-30.

Particulars.	To Australia.	From Australia.	Inter- Island.	Ship.	Service.	Total.
Messages	14,864	12,452	25,922	1,624	..	54,862
Words	305,041	275,494	388,601	21,915	..	991,051

(vii) *Proficiency Certificates.* Proficiency certificates for commercial wireless operators are issued by the Minister to individuals who pass the specified tests. Limited certificates in radiotelegraphy and radiotelephony, amateur operators' certificates and watchers' certificates are, in addition, issued to successful candidates at the prescribed examinations.

Every station, in respect of which a licence is issued, must be operated by a person holding a certificate of proficiency.

Certificates issued under the International Radiotelegraph Convention of London (1912) ceased to be valid on 31st December, 1929, after which date it became necessary for certificate holders to exchange their certificates for equivalent certificates issued under the provisions of the Washington Convention (1927). To 30th June, 1931, 208 first class and 339 second class certificates had been issued under the new conditions.

At 30th June, 1931, 5 limited certificates in radiotelegraphy, 38 limited certificates in radiotelephony, and 755 amateur proficiency certificates, in addition to 116 watchers' certificates, had been issued.

CHAPTER VIII. FINANCE.

A. COMMONWEALTH FINANCE.

§ 1. General.

1. **Financial Provisions of the Constitution.**—The main provisions of the Constitution relating to the initiation and development of the financial system of the Commonwealth are 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.

Section 69 provides for the transfer to the Commonwealth from the States of certain specified departments, while section 51, in outlining the powers of the Federal Parliament, implies the transfer or creation of various other departments. Section 87 deals with the financial relations between the Commonwealth and the States. These matters have been treated in some detail in previous issues of the Official Year Book up to and including No. 12, and further reference to them will not be made here.

The Commonwealth Treasurer issues annually a document entitled "The Treasurer's Statement of Receipts and Expenditure during the year ended 30th June," with which is incorporated the report of the Commonwealth Auditor-General for the year. This series of annual statements is the principal authority for the majority of the tables given herein.

2. **Accounts of Commonwealth Government.**—The Commonwealth Government like the State Governments, bases its accounts mainly upon three funds, the Consolidated Revenue Fund, the Trust Fund, and the Loan Fund. The last mentioned fund came into existence in the financial year 1911-12, but on the outbreak of war it became so important that it was treated in two parts—a General Loan Fund mainly for purposes of Public Works, and a War Loan Fund for purely military purposes. From the year 1923-24 inclusive, the loan expenditure on War Service Homes was debited against works loan expenditure. Previously such expenditure had been a charge on War Loans. Since the year mentioned the transactions of the War Loan Fund consisted mainly of credits arising from repayments of expenditure during previous years.

The following table shows particulars of Commonwealth Consolidated Revenue for the years 1925-26 to 1929-30:—

COMMONWEALTH REVENUE, CONSOLIDATED REVENUE FUND, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
PART I.—DEPARTMENTS AND SERVICES OTHER THAN BUSINESS UNDERTAKINGS—					
Taxation	54,373,005	58,994,809	56,637,858	56,303,489	58,187,775
Other	4,623,578	4,373,404	4,194,603	5,116,281	4,860,200
Total Part I. ..	58,996,583	63,368,213	60,832,461	61,419,770	63,047,975
PART II.—BUSINESS UNDERTAKINGS—					
Postmaster-General's Department (a)	10,815,248	11,648,638	12,349,422	12,848,400	13,590,607
Railways	349,768	477,734	603,162	591,016	418,037
Total Part II. ..	11,165,016	12,126,372	12,952,584	13,439,416	14,008,644
PART III.—TERRITORIES	41,973	47,175	23,182	35,613	86,770
PART IV.—PAYMENTS TO OR FOR STATES—					
Balance of Interest on States Debts (payable by States)	2,082,233	2,626,474	2,861,995	4,089,643	25,427,714
Gross Revenue	72,285,805	78,168,234	76,670,222	78,984,442	102,571,103
Deficit	2,823,632	..	5,450,237	2,358,975	1,471,004
Accumulated Deficit .. .. .	..	..	2,628,743	4,987,718	6,458,722

(a) Includes certain pension contributions and repayments and differs on that account from the figures given on page 244.

Particulars of Commonwealth expenditure from Consolidated Revenue Fund and from Loan Fund respectively for the past five years are given in the subjoined table. Details of the expenditure from Loan Fund are given in § 4.3 hereafter.

COMMONWEALTH EXPENDITURE, CONSOLIDATED REVENUE FUND AND LOAN FUND, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
(a) CONSOLIDATED REVENUE FUND.					
	£	£	£	£	£
PART I.—DEPARTMENTS AND SERVICES OTHER THAN BUSINESS UNDERTAKINGS—					
War and Repatriation	29,171,850	29,309,083	29,006,212	30,097,751	30,099,806
Other	23,215,233	20,836,865	25,243,459	21,801,326	22,205,028
Total Part I.	52,387,083	50,145,948	54,249,671	51,899,077	52,304,834
PART II.—BUSINESS UNDERTAKINGS—					
Postmaster-General's Department(a)	10,651,925	11,285,899	12,393,850	12,690,072	13,025,353
Railways	893,424	902,806	996,768	1,087,560	1,109,405
Total, Part II.	11,550,349	12,188,705	13,390,618	13,777,632	14,134,763
PART III.—TERRITORIES	385,521	411,220	532,386	540,427	685,452
PART IV.—PAYMENTS TO OTHER STATES—					
Balance of Interest on State Debts (recoverable from States)	2,084,757	2,623,852	2,861,995	4,059,643	25,427,714
Other	3,701,727	10,202,912	11,085,789	11,036,638	11,489,344
Total, Part IV.	10,786,484	12,886,764	13,947,784	15,126,281	36,917,058
Gross Expenditure	75,109,437	75,632,637	82,120,459	81,343,417	104,042,107
Surplus		2,535,597			
Accumulated Surplus	285,897	2,821,494			
(b) LOAN FUND.					
	£	£	£	£	£
Loan Expenditure—					
War and Repatriation	Cr. 7,613	23,938	Cr. 23,741	Cr. 12,972	Cr. 2,669
Works	9,281,201	9,404,632	8,662,089	8,244,119	5,294,202
Total Loan Expenditure	9,273,588	9,428,570	8,638,348	8,231,147	5,291,533

(a) Includes New Works and differs in some cases on that account from the figures given on page 250.

The receipts and expenditure on account of the "Balance of Interest on States' Debts" payable by the States to the Commonwealth under the "Financial Agreement Act" have been included in the foregoing tables. In subsequent detailed statements herein to avoid duplication such payments have been eliminated.

§ 2. Consolidated Revenue Fund.

Division I.—Nature of Fund.

The provisions made for the formation of a Commonwealth Consolidated Revenue Fund, and the means to be adopted for operating on the fund, are contained in sections 81, 82, and 83 of the Constitution.

Division II.—Revenue.

1. General.—The following table furnishes details of the revenue from each source and the amount per head of population under each of the three main headings during the years 1925-26 to 1929-30 :—

COMMONWEALTH CONSOLIDATED REVENUE—SOURCES, 1925-26 TO 1929-30.

Source.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Taxation (a)	54,373,005	53,994,800	56,637,853	56,303,439	53,187,775
Per head of population	£9 1 6	£9 13 1	£9 1 8	£8 17 3	£9 1 5
Business Undertakings (a)	11,121,524	12,084,553	12,907,304	13,404,412	13,000,124
Per head of population	£1 17 1	£1 19 7	£2 1 5	£2 2 4	£2 3 7
Other Revenue—					
Interest, Discount, etc. (c)	2,512,113	2,448,220	2,490,078	3,516,051	3,456,614
Coinage	332,014	373,071	203,252	92,898	41,070
Defence	130,662	152,494	132,877	117,614	103,351
Quarantine	30,553	40,451	31,547	26,284	28,360
Territories (b)	41,973	34,385	23,182	35,613	86,770
Patents, etc.	42,017	41,594	44,258	44,917	58,300
Marine	211,998	216,781	212,490	210,162	201,210
Pension Contributions	56,781	51,575	55,439	44,291	48,924
Net Profit on Australian Note Issue	1,048,062	852,357	846,274	694,642	703,669
Miscellaneous	302,870	251,470	222,768	404,426	258,222
Total	4,700,043	4,462,393	4,263,065	5,186,898	4,986,490
Per head of population	£0 15 9	£0 14 7	£0 13 8	£0 16 5	£0 15 6
Grand Total (c)	70,203,572	75,541,700	73,808,227	74,894,799	77,143,389
Per head of population	£11 14 4	£12 7 3	£11 10 9	£11 16 5	£12 0 6

(a) For details, see succeeding pages.

(b) Exclusive of Railways and other items which appear elsewhere under their appropriate headings.

(c) Excludes balance of interest on States' Debts payable by States, see page 239.

2. Taxation.—(i) *Customs Revenue*. Particulars for the five years 1925-26 to 1929-30 are furnished in the following table :—

COMMONWEALTH CUSTOMS REVENUE, 1925-26 TO 1929-30.

Classes.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Stimulants	2,945,346	2,908,982	2,820,547	2,658,071	2,598,593
Narcotics	2,075,940	2,201,550	2,374,659	2,412,859	3,069,426
Sugar	20,433	20,112	16,797	11,654	11,029
Agricultural products	1,287,944	1,547,711	1,403,054	1,262,065	1,291,643
Apparel and textiles	5,179,366	6,233,206	5,802,848	5,362,694	5,154,257
Metals and machinery	4,895,918	5,654,629	5,284,993	4,949,249	4,758,415
Oils, paints, etc.	950,991	2,173,367	2,594,879	3,092,522	4,137,016
Earthenware, etc.	688,321	735,699	704,207	710,052	713,599
Drugs and chemicals	525,649	561,530	520,424	545,958	539,275
Wood, wicker and cane	1,349,687	1,384,469	1,594,825	1,583,145	1,802,580
Jewellery, etc.	866,799	951,691	845,099	870,130	1,028,151
Leather, etc.	1,770,373	1,577,765	1,124,091	743,948	526,056
Paper and stationery	682,745	751,254	760,448	762,357	878,800
Vehicles	3,064,427	3,340,556	2,534,738	3,193,211	2,315,739
Musical instruments	466,054	526,482	364,326	267,824	138,329
Miscellaneous articles	1,007,789	1,192,059	1,040,080	998,785	1,116,340
Other receipts	61,602	77,538	62,364	78,231	77,792
Total Customs	27,839,889	31,832,600	29,848,379	29,502,765	30,157,040

(ii) *Excise Revenue.* Particulars concerning the amount of excise collected under each head during each of the years ending 30th June, 1926 to 1930, are given hereunder :—

COMMONWEALTH EXCISE REVENUE, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Beer	5,847,974	6,103,004	6,155,661	6,190,725	6,105,443
Spirits	2,026,415	2,061,573	1,881,030	1,756,957	1,853,951
Tobacco	3,457,052	3,535,984	3,544,602	3,597,061	3,573,198
Petrol .. ..	.. ..	.. ..	.. ..	.. ..	70,065
Starch	15,539	9,647	4,737	134	.. ..
Licences	12,009	11,670	12,311	10,939	11,574
Playing Cards .. ..	.. ..	.. ..	.. ..	.. ..	120
Total Excise	11,358,989	11,719,878	11,598,351	11,555,816	11,617,351

(iii) *Land Tax.* The following table shows the collections during the past five years.

COMMONWEALTH LAND TAX COLLECTIONS, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
New South Wales	1,079,414	1,070,670	1,223,308	1,289,158	1,128,747
Victoria (a)	1,074,265	1,094,050	1,292,966	1,225,185	1,278,487
Queensland	46,138	79,445	82,756	84,723	76,876
South Australia (b)	198,630	258,521	314,523	256,885	230,471
Western Australia	78,778	71,379	77,380	96,356	87,939
Tasmania	44,685	41,835	37,273	36,678	37,558
Total	2,521,910	2,615,900	3,027,206	2,988,885	2,840,078

(a) Including Central Office.

(b) Including Northern Territory.

(iv) *Estate Duty.* Collections from this source for the five years 1926 to 1930, are given hereunder :—

COMMONWEALTH ESTATE DUTY COLLECTIONS, 1925-26 TO 1929-30.

Year.	N.S.W.	Vic. (a)	Q'land.	S. Aust.(b)	W. Aust.	Tas.	Total.
	£	£	£	£	£	£	£
1925-26	547,712	515,570	95,827	180,991	41,993	29,243	1,411,336
1926-27	479,011	544,600	128,096	159,405	26,051	25,188	1,362,351
1927-28	666,588	634,999	126,316	181,160	99,056	43,999	1,752,118
1928-29	627,103	1,068,138	151,448	125,776	65,572	42,112	2,080,149
1929-30	936,464	819,345	109,678	181,087	47,509	28,495	2,122,478

(a) Including Central Office.

(b) Including Northern Territory.

(v) *Income Tax.* The first Commonwealth income tax was levied during the financial year 1915-16. The legislation on the subject comprises the Income Tax Assessment Act No. 34 of 1915, and subsequent amending Acts. Full details as to the original Acts are to be found in Commonwealth Official Year Book No. 9. The result of the last five years' collections was as follows :—

COMMONWEALTH INCOME TAX COLLECTIONS, 1925-26 TO 1929-30.

State in which Collected.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
New South Wales (a) ..	3,640,219	4,365,567	3,606,463	3,704,763	4,087,137
Victoria (b) ..	4,703,200	4,564,995	4,691,068	4,225,958	4,800,463
Queensland ..	980,852	914,269	745,184	769,631	927,949
South Australia ..	844,076	803,730	669,904	667,077	653,033
Western Australia ..	501,982	367,565	336,657	343,849	508,996
Tasmania ..	185,024	103,130	114,165	127,997	140,230
Northern Territory ..	2,693	2,022	1,734	2,221	2,221
Total ..	10,858,046	11,126,278	10,165,175	9,841,496	11,120,029

(a) Includes Federal Capital Territory.

(b) Including Central Office.

Agreements between the Commonwealth and all the States except Western Australia made in 1923 provide that the Commonwealth tax and the State tax shall be collected by an officer acting for the Commonwealth and State, the Commonwealth appointing the State Commissioner as Deputy Commissioner for the State under the Income Tax Assessment Act of the Commonwealth. Provisions are included relating to the transfer of officers, the accounting of receipts, and the division of expenses. A joint form of income tax return is to be used in cases where the income is derived in one State only. The respective agreements are to remain in operation for a period of five years, and thereafter until the expiration of not less than six calendar months, upon notice in writing by either party to the agreement.

In Western Australia an arrangement was made previously by which the Commonwealth undertakes the collection of the State income tax.

(vi) *Entertainments Tax.* The rate of entertainments tax, according to Amending Act No. 23 of 1925 is twopence halfpenny for a payment of two shillings and sixpence, and one halfpenny for every subsequent sixpence or part thereof. The collections for the last five years are given hereunder.

COMMONWEALTH ENTERTAINMENTS TAX COLLECTIONS, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
New South Wales (a) ..	183,856	160,393	159,944	158,273	135,122
Victoria ..	161,010	123,797	119,115	121,522	103,977
Queensland ..	48,745	36,048	30,922	34,083	35,352
South Australia ..	35,327	25,233	22,621	16,123	12,008
Western Australia ..	23,934	17,291	22,068	25,280	25,725
Tasmania ..	7,382	3,370	4,167	3,364	3,905
Northern Territory ..	72	27	28	52	32
Total ..	460,326	366,159	358,865	358,697	316,121

(a) Includes Federal Capital Territory.

(vii) *War-Time Profits Tax.* Particulars relating to the levying of this tax, which came into force on the 22nd September, 1917, are given in Official Year Book No. 22, page 352. The result of the collections during the past five years are as shown hereunder. Amendments of earlier assessments entailed the payment of refunds in each of the last five years.

COMMONWEALTH WAR-TIME PROFITS TAX COLLECTIONS, 1925-26 TO 1929-30.

State in which Collected.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
New South Wales	9,642	56,698	Dr. 47,499	Dr. 27,013	3,706
Victoria (a)	Dr. 18,547	Dr. 18,788	Dr. 32,503	10,626	10,321
Queensland	Dr. 35,553	Dr. 31,624	Dr. 6,784	8,814	3,636
South Australia	Dr. 32,337	Dr. 11,615	Dr. 17,835	Dr. 16,416	Dr. 2,069
Western Australia	51	Dr. 16,253	Dr. 4,022	..	183
Tasmania	Dr. 747	Dr. 6,770	Dr. 3,593	Dr. 320	Dr. 1,099
Total	Dr. 77,491	Dr. 28,357	Dr. 112,236	Dr. 24,309	14,678

(a) Including Central Office.

3. *Business Undertakings.*—(i) *Postal Revenue.* Particulars concerning this branch of revenue for each of the financial years from 1925-26 to 1929-30 are contained in the following table :—

COMMONWEALTH POSTAL REVENUE, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Private boxes and bags	55,813	59,184	61,346	79,101	69,185
Commission—					
Money orders and postal notes	201,445	229,453	240,392	244,976	259,609
Telegraphs	1,490,480	1,488,156	1,422,179	1,447,256	1,390,012
Telephones	4,044,414	4,576,863	5,034,051	5,459,559	5,862,686
Postage	4,580,354	4,847,317	5,006,019	5,177,177	5,179,082
Radio receipts	21,178	35,815	45,030	22,177	166,847
Miscellaneous	378,072	370,031	495,125	383,150	623,666
Total	10,771,756	11,606,819	12,304,142	12,813,396	13,551,087

The installation of additional telephones was responsible for the large annual increases under the item "Telephones" during recent years.

(ii) *Railway Revenue.* The Commonwealth Government is responsible for four lines—the Trans-Australian, the Central Australian, the North Australian and the Federal Capital Territory lines. The appended table shows the amounts paid into the credit of the Consolidated Revenue Fund on account of each of these railways for the past five years.

COMMONWEALTH RAILWAY REVENUE, 1925-26 TO 1929-30.

Railway.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Trans-Australian	276,278	299,295	333,000	344,948	274,816
Central Australian	27,035	105,988	191,115	185,811	104,724
North Australian	38,879	62,202	68,844	50,259	31,291
Federal Capital Territory	7,576	10,249	10,203	9,998	7,206
Total	349,768	477,734	603,162	591,016	418,037

Further particulars are given in Chapter VII., part B, Railways.

4. **Other Sources of Revenue.**—(i) *Interest, Discount, etc.* The most important investments of the Commonwealth Government from which interest is derived are—Loans to States, General Trust Funds, Loans placed in London, Fixed Deposits with the Commonwealth and other Banks, and certain advances and overdrafts. In 1929-30 the total included interest on Loans to States for Soldier Land Settlement and for advances for miscellaneous purposes, payable by States; Interest on General Trust Fund Investments; and Interest, Nauru Island Agreement. As previously mentioned, the "Balance of Interest on States' Debts" payable by States under the Financial Agreement Act has not been included in the detailed statement.

(ii) *Other.* During 1929-30 the following contributions to Consolidated Revenue were made in respect of Coinage, £41,070; Defence, £103,351; Patents and Trade Marks, etc., £58,300; Marine, £201,210; net profit on Australian Note Issue, £703,669; and Miscellaneous, £422,276.

Division III.—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. :—

- (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. 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 distributed amongst the States *per capita*. Under the arrangement, which superseded the "book-keeping" system, a specific subsidy of 25s. per head of population was made annually by the Commonwealth to the States, and there was no further debiting of expenditure to the several States. The States Grants Act (No. 4 of 1927) provided for the abolition of the *per capita* payments as from 30th June, 1927. From 1st July, 1928, the provisions of the temporary agreement between the Commonwealth and the several States under the *Financial Agreement Act 1928* were operative. Particulars of this agreement were given in some detail in Official Year Book No. 22, pages 363 and 380.

* For an exposition of the "book-keeping system" see Commonwealth Year Book No. 6, page 780.

2. Details of Expenditure from Consolidated Revenue.—(i) *General*. The following table gives details of the expenditure from Consolidated Revenue exclusive of the "Balance of Interest on States' Debts" (recoverable from the States) during the last five years. Particulars for each individual Department are stated hereinafter.

**COMMONWEALTH EXPENDITURE—CONSOLIDATED REVENUE,
1925-26 TO 1929-30.**

Heads of Expenditure.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Cost of Departments	30,091,321	32,215,254	34,720,920	34,897,077	30,779,707
Miscellaneous—					
New Works	317,037	224,807	229,026	274,730	245,536
War Services	29,171,850	29,309,083	29,006,212	30,097,751	30,099,806
Payments to or for the States	7,951,727	8,262,912	9,085,789	9,036,038	9,489,345
Special Defence Provision	3,742,745	996,729	4,215,911	947,578	..
Federal Aid Roads	750,000	2,000,000	2,000,000	2,000,000	2,000,000
Special Debt Redemptions	1,000,000	..	..	..	..
Total (a)	73,024,680	73,008,785	79,258,464	77,253,774	78,614,304
Per head of population	£12 3 9	£11 19 0	£12 14 3	£12 3 10	£12 5 1

(a) Excludes Balances paid into Trust Funds and Balance of Interest on States' Debts recoverable from States.

The items included under the above general heads are referred to in some detail in the succeeding sub-sections.

(ii) *Cost of Departments*.—(a) *Governor-General*. Section 30 of the Constitution enacts 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 connexion with the Governor-General and establishment for the five years 1925-26 to 1929-30 is as follows:—

**EXPENDITURE.—GOVERNOR-GENERAL AND ESTABLISHMENT,
1925-26 TO 1929-30.**

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Salary	10,000	10,000	10,000	10,000	10,000
Governor-General's Establishment	12,761	13,950	10,152	21,576	15,329
Contingencies (a)	6,314	6,469	6,361	7,118	5,395
Interest	853	853	853	853	853
Total	29,928	31,272	27,366	39,547	31,577

(a) Represents official services outside the Governor-General's personal interests, and carried out mainly at the instance of the Government.

(b) *Parliament*. Under this head have been grouped all the items of expenditure connected with the parliamentary government of the Commonwealth for the last five years.

EXPENDITURE.—COMMONWEALTH PARLIAMENT, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Salaries of Ministers	15,300	15,300	15,300	15,300	15,300
Allowances to Senators	34,769	35,635	35,251	35,541	35,746
Allowances to Members of House of Representatives	66,055	74,190	74,278	73,720	74,107
Officers, staff, contingencies, etc.	64,089	71,837	81,941	73,940	78,039
Repairs, maintenance, etc. ..	2,281	1,832	4,459	6,179	5,561
Printing	28,182	24,623	37,888	24,938	35,003
Travelling expenses of Members and others	20,144	20,897	23,074	26,725	26,699
Insurance	342	45			
Electoral Office	83,285	87,007	88,226	86,410	90,051
Election expenses	106,704	107,051	875	113,831	106,932
Administration of Electoral Act	41,568	43,702	31,260	41,019	39,465
Miscellaneous	6,700	55,515	22,378	55,160	48,504
Total	469,419	537,634	419,930	557,763	555,407

In section 66 of the Constitution, provision is made for payment out of the Consolidated Revenue Fund of the Commonwealth, for the salaries of Ministers of State, of an annual sum which, until Parliament otherwise provides, shall not exceed £12,000. This was modified in 1915-16, when the Minister of the Navy was given separate Cabinet rank. 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 Parliament in 1907 an Act was passed raising the annual allowance from £400 to £600, such increase to date from 1st July, 1907. In 1920, the salaries of members of both Houses were further increased to £1,000 per annum. By the Income Tax Salaries Act of 1930, the salaries of Ministers or presiding officers in either House of Parliament were subjected to a tax of 15 per cent., Chairman of Committees or Leader of the Opposition in either House, 12½ per cent., and other Members of either House, 10 per cent.

(c) *Prime Minister's Department.* This Department was created during the financial year 1911-12. In addition to the services indicated below this Department administers the external Territories of New Guinea, Papua, Nauru, and Norfolk Island. For convenience, particulars of expenditure on account of these Territories are shown hereinafter under that heading. The expenditure for the last five years is shown in the following table:—

EXPENDITURE.—PRIME MINISTER'S DEPARTMENT (a), 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30
	£	£	£	£	£
Salaries, contingencies, and mis- cellaneous	139,318	238,033	164,755	153,373	160,409
Audit Office	33,459	36,512	34,877	36,817	36,871
Rent, repairs, etc.	7,554	7,201	30,202	19,539	14,458
Public Service Board's Office ..	50,485	52,628	55,946	54,864	52,851
High Commissioner's Office ..	63,744	63,220	80,820	66,133	60,684
Commissioner for Australia in United States of America	15,270	15,966	16,808	13,134	15,516
Interest and Sinking Fund	673,426	705,468	784,120	907,499	976,126
Mail service, Pacific Islands ..	50,418	53,092	52,051	49,750	51,989
Secretariat, League of Nations ..	24,893	24,975	23,994	25,758	28,078
Scientific and Industrial Research	382,564	11,803	269,629	19,451	8,664
Oil Agreement Act		21,184			
Pensions and Superannuation ..	5,265	5,038	6,072	5,434	6,178
Total	1,446,396	1,235,120	1,619,274	1,351,752	1,411,824

(a) Excluding Territories, see page 252.

(d) *Attorney-General's Department.* The extra expenditure connected with this Department of late years has been caused in a large measure by the extension of the Commonwealth Court of Conciliation and Arbitration, the creation of the Bankruptcy Administration, and increases in the items "Patents, Trade Marks, etc." and "Rent, Repairs, etc." Details for the five years 1925-26 to 1929-30 are furnished hereunder :—

EXPENDITURE.—ATTORNEY-GENERAL'S DEPARTMENT, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Attorney-General's Office	21,596	26,801	17,337	24,390	19,691
Crown Solicitor's Office	22,690	24,465	28,626	29,392	27,983
Salaries of Justices of High Court	21,500	21,500	21,500	21,328	17,926
High Court expenses	14,000	14,994	13,511	15,218	15,441
Court of Conciliation and Arbitration	13,808	24,012	27,625	27,491	27,195
Public Service Arbitrator's Office	3,953	4,220	4,368	4,465	5,471
Rent, repairs, etc.	12,571	12,039	20,004	24,111	22,613
Patents, Trade Marks, etc.	48,691	48,119	52,671	51,477	56,301
Investigation Branch	9,970	10,189	10,769	10,951	11,896
Bankruptcy .. ..	..	..	3,102	20,941	24,909
Miscellaneous	16,648	12,171	32,184	16,981	16,065
Total	185,427	198,510	231,697	246,745	245,491

(e) *Treasurer's Department.* The sub-departments under the control of the Commonwealth Treasurer are the Treasury, the Pensions Department, the Taxation Office, the Supply and Tender Board, and Superannuation Fund Management Board. Details of the expenditure of this Department for the last five years are given below.

EXPENDITURE.—TREASURER'S DEPARTMENT, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Treasury	51,808	52,585	53,418	54,548	52,869
Taxation Office	426,425	416,889	452,738	428,765	440,102
Pensions Office	97,761	114,446	117,071	83,891	86,940
Maternity Allowance Office	15,384	16,067	15,297	16,464	15,028
Coinage	54,905	45,968	43,008	19,540	11,534
Rent, repairs, etc.	15,302	10,209	16,371	15,672	13,801
Miscellaneous	45,583	42,398	79,180	97,663	318,666
Departmental Expenditure	707,168	698,562	777,083	716,543	938,940
Invalid and Old-age Pen- sions (a)	8,146,636	9,034,938	9,681,837	9,991,299	10,633,979
Maternity Allowance	680,855	660,280	678,920	661,520	642,990
Maintenance of persons in charitable institutions	105,751	109,651	108,509	132,940	157,346
Total	9,640,410	10,503,431	11,246,349	11,602,302	12,373,255

(a) Including the following amounts spent from Trust Funds :—In 1925-26, £1,834,530; 1926-27, £285,807; and in 1927-28, £1,421,493.

(f) *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 connexion therewith. Particulars for the five years 1925-26 to 1929-30 are given in the following table:—

EXPENDITURE.—TRADE AND CUSTOMS DEPARTMENT, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Chief Office	62,540	60,423	69,029	70,814	73,855
Customs (ordinary)	513,190	534,201	563,055	569,163	565,038
Marine—					
Navigation	44,726	44,872	280,225	270,950	263,901
Lighthouses	199,057	230,439			
Audit (proportion)	11,030	12,487	10,045	9,421	2,323
Pensions and retiring allowances	34,091	35,145	36,618	39,468	42,465
Rent, repairs, etc.	21,950	19,102	24,251	21,833	16,599
Bounties	498,582	781,347	890,574	532,564	517,582
Interest on transferred properties	46,986	46,924	66,985	66,985	66,985
Interest on Commonwealth securities	21,224	22,507	23,033	24,519	26,093
Miscellaneous	19,959	24,304	38,330	28,394	35,085
Total	1,473,335	1,811,751	2,002,145	1,634,116	1,609,926

(g) *Defence.* The expenditure in connexion with defence for the last five years was as follows:—

EXPENDITURE—DEPARTMENT OF DEFENCE, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Defence—Chief Office	25,515	27,109	24,182	25,821	23,483
Military	1,307,815	1,299,454	1,284,836	1,270,443	1,455,241
Audit (Proportion)	6,162	7,052	6,272	6,636	9,647
Pensions and Retiring Allowances	11,698	13,568	16,551	20,353	23,899
Rent, Repairs, etc.	51,416	43,007	28,412	34,577	47,526
Miscellaneous	184,944	203,119	245,126	254,301	263,089
Total	1,587,550	1,593,309	1,605,429	1,612,241	1,822,885
Navy—Chief Office	78,398	82,366	83,623	88,257	80,537
Naval	1,943,911	2,003,639	1,930,861	1,808,247	1,946,418
Audit (Proportion)	2,463	2,381	2,465	2,462	6,729
Pensions and Retiring Allowances	2,186	1,653	2,544	2,451	2,807
Rent, Repairs, etc.	46,106	40,865	40,591	43,720	37,166
Miscellaneous	63,040	81,813	92,133	94,306	100,876
Total	2,136,113	2,212,717	2,152,217	2,034,443	2,174,533
Air Services—					
Civil Branch—Pay, etc.	15,874	17,078	15,285	17,285	20,881
Development of Civil Aviation	48,245	57,965	49,985	50,990	75,332
R.A.A.F.—					
Pay, etc.	120,679	188,939	199,900	227,325	237,305
General Contingencies	48,084	80,000	74,273	70,346	82,913
General Stores and Maintenance	22,000	38,000	37,673	32,087	80,962
Rent, Repairs, etc.	10,736	11,105	14,176	13,754	10,036
Miscellaneous	15,546	41,718	36,821	37,036	41,703
Total	281,164	434,805	428,173	457,823	555,132
Grand Total	4,004,827	4,240,831	4,185,810	4,104,507	4,552,550

(h) *Postmaster-General's Department.* Details of the expenditure of this Department for the last five years are given in the table hereunder:—

EXPENDITURE.—POSTAL DEPARTMENT, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Chief Office.. ..	51,660	66,504	77,469	80,440	87,395
Postal Department (ordinary)	8,705,960	9,115,787	9,811,847	9,831,131	9,847,327
Audit (proportion)	10,009	10,359	11,149	11,593	12,150
Pensions and retiring allowances	102,518	110,429	102,173	110,603	110,032
Superannuation	59,136	75,563	93,431	112,546	136,095
Rents, repairs, etc.	146,859	137,096	151,169	127,855	129,145
Interest on transferred properties (a)	315,398	203,978	290,262	290,262	290,262
Interest on Commonwealth Securities	855,566	1,084,431	1,194,453	1,403,069	1,619,995
Sinking Fund on Commonwealth Securities	355,891	416,161	475,009	518,066	560,125
Miscellaneous	48,988	65,591	186,074	195,164	232,834
Total	10,651,925	11,285,899	12,392,976	12,680,725	13,025,360

(a) Includes £110,734 arrears of interest on value of Overland Telegraph Line, Adelaide to Darwin.

(i) *Home Affairs.* In addition to the undermentioned services, this Department, created in the financial year 1916-17, controls the Territories of North and Central Australia, and the Federal Capital Territory. Expenditure in respect of these Territories is included in sub-section (ii) (m) following. The Electoral Office, which is administered by this Department, is for the purposes of this Chapter shown under sub-section (ii) (b) *ante*.

EXPENDITURE.—HOME AFFAIRS DEPARTMENT (a) 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Chief Office	37,158	48,328	51,228	50,998	49,411
Census and Statistics	26,240	27,620	29,170	30,697	31,217
Meteorological Office	34,561	36,616	36,103	35,935	36,199
Interest—					
On Commonwealth Securities..	2,992	2,055	2,063	2,052	2,030
On Transferred Properties ..	891	470	672	672	672
Sinking Fund	574	455	455	455	455
Rent, repairs, etc.	12,065	12,293	16,579	24,436	19,844
Miscellaneous	180,468	203,631	92,648	30,469	41,944
Total	294,949	331,468	228,918	175,714	181,772

(a) Excluding Territories, see page 252.

(j) *Works Department.* The extension of Commonwealth works and railways led, in 1916-17, to the separation of these branches from the former Home Affairs Department and the constitution of a separate Works and Railways Department. To this Department was entrusted the administration of the railways originally under

the control of the old External Affairs Department, and the Lands and Survey branch, which was transferred to it from the Department of Home and Territories in 1925-26. During 1928-29 the administration of the Commonwealth Railways was transferred to the Markets and Transport Department. The expenditure for the last five years was as follows:—

EXPENDITURE.—WORKS DEPARTMENT, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Chief Office	56,924	32,752	24,809	26,363	24,686
Lands and Survey					
Interest—					
On Commonwealth Securities ..	58,108	68,112	76,718	91,716	105,999
On Transferred Properties ..	1,654	2,067	4,171	4,171	4,171
Sinking Fund	5,522	6,735	8,158	8,990	10,521
Miscellaneous	10,669	13,274	9,034	8,899	9,487
Total	132,877	122,940	122,890	140,139	154,864

(k) *Health Department.* This department came into existence in the financial year 1921-22. Details of expenditure for the last five years are as follow:—

EXPENDITURE.—HEALTH DEPARTMENT, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Central Administration ..	13,543	18,488	23,769	22,791	19,216
Salaries, Contingencies, etc. ..	83,396	85,146	91,746	93,202	92,743
Interest on C'wealth Securities ..	3,128	3,359	3,460	4,070	4,425
Interest on Transferred Properties	7,668	8,366	9,324	9,324	9,324
Rent and repairs	17,746	22,553	23,914	21,126	17,537
Miscellaneous	58,688	71,232	222,124	140,599	131,988
Total	184,169	209,134	374,337	291,112	275,233

During 1927-28, a sum of £100,000 expended on the purchase of radium was included in the item "Miscellaneous."

(l) *Markets and Transport Department.* The Department of Markets, which was formed in the financial year 1924-25, took over various functions previously performed by other departments. In 1928-29 the Commonwealth Railways administration

was placed under this department, the name being altered to "Markets and Transport." Expenditure on railway services is shown under a separate heading for the purposes of this Chapter. (See sub-section (ii) (*n*) *post*.) Details of expenditure are as follow:—

**EXPENDITURE.—MARKETS AND TRANSPORT DEPARTMENT, 1925-26
TO 1929-30.**

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Markets—					
Salaries and contingencies ..	44,833	58,758	66,398	67,042	74,090
Administration of Commerce Act	33,685	27,403	33,161	33,781	38,855
Dried Fruits Export Control ..	29,229	30,791	27,623	42,753	46,152
Dairy Produce Export Control	26,728	20,664	21,294	22,374	22,898
Assistance to Primary Production .. .. .	..	..	..	50,000	50,000
Miscellaneous	45,398	48,615	30,164	42,062	60,668
Total	179,873	186,231	178,640	258,012	292,663
Transport (a)—					
Salaries and Contingencies ..	47,747	45,835	48,794	40,436	25,049
Interest and Sinking Fund ..	96,999	161,876	222,067	280,128	338,186
Miscellaneous	19,893	41,621	26,882	35,034	25,643
Total	164,639	249,332	297,743	355,598	388,878
Grand Total	344,512	435,563	476,383	613,610	681,541

(a) Excluding Railways, see page 253.

(*m*) *Territories.* The following table shows the expenditure on account of Territorial services for the past five years. The Internal Territories are administered by the Department of Home Affairs, while the Prime Minister's Department controls the External Territories. The expenditure has been grouped in one table for convenience of reference.

EXPENDITURE, TERRITORIES, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Internal—					
North and Central Australia (<i>a</i>)	147,120	150,646	132,758	145,380	138,925
Federal Capital Territory (<i>a</i>) ..	93,772	141,176	286,879	251,348	365,813
External—					
Papua	96,745	72,470	58,947	57,411	49,853
New Guinea	10,214	11,785	13,490	13,346	12,911
Norfolk Island	3,945	4,339	4,000	4,000	4,000
Total	351,796	380,416	496,074	471,485	571,502

(a) Exclusive of Railways, see page 253.

(n) *Railways.* During 1928-29 the Commonwealth Railways were transferred from the Department of Works and Railways to the Department of Markets and Transport. The expenditure on railways for the past five years is shown below as distinct from the expenditure of the other services controlled by the latter Department.

COMMONWEALTH RAILWAYS EXPENDITURE, 1925-26 TO 1929-30.

Details.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Trans-Australian	285,876	271,398	286,175	301,621	294,090
North Australian	138,645	57,580	67,967	54,697	56,155
Central Australian	70,703	130,122	165,306	198,213	198,108
Federal Capital Territory	4,999	6,818	9,588	10,504	8,458
Interest	328,516	366,073	407,646	462,728	490,491
Sinking Fund	35,262	40,502	47,411	50,519	52,479
Miscellaneous	17,349	18,842	12,675	9,278	9,624
Total	881,350	891,335	996,768	1,087,560	1,109,405

(iii) *Miscellaneous.* (a) *New Works.* Particulars of the expenditure on new works, etc., during the last five years are given in the following table:—

EXPENDITURE ON NEW WORKS, 1925-26 TO 1929-30.

Department.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Parliament .. ..	..	..	..	..	689
Prime Minister	5,844	42	237	195	..
Treasury .. ..	..	..	..	72	..
Attorney-General	3,251	..	..	600	..
Trade and Customs	714	837	12,081	15,772	9,685
Defence	247,398	177,992	170,219	128,728	96,833
Postmaster-General .. ..	..	..	874	9,347	..
Home Affairs .. ..	..	253	890	30,113	..
Works	603	330	..	..	..
Health	8,018	3,078	9,013	20,961	24,380
Markets and Transport	410	..	..	..	..
Territories	33,725	30,804	36,312	68,942	113,949
Railways	17,074	11,471	..	..	..
Total	317,037	224,807	229,626	274,730	245,536

(b) *War Services.* Full details concerning the expenditure from Consolidated Revenue upon War and Repatriation will be found in a later sub-section.

Division IV.—Subsidy Paid to States.

Particulars of the amounts paid to each State under the *Surplus Revenue Act* 1910, and various State Grants Acts, are contained in earlier issues. The appended table shows for the past two years the payments to or for the States. Details of the provisions of the *Financial Agreement Act* 1928, relating to payments to the States were given in Official Year Book No. 22, page 363.

PAYMENTS TO OR FOR THE STATES, 1928-29 AND 1929-30.

Particulars.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total.
	£	£	£	£	£	£	£
1928-29.							
Contributions towards							
Interest on State Debts..	2,917,411	2,127,159	1,096,235	703,816	473,432	266,859	7,584,912
Sinking Fund on State							
Debts (a)	340,889	203,842	144,207	121,812	91,471	29,705	931,726
Special Grants .. ..	..	..	..	..	300,000	220,000	520,000
Total	3,258,300	2,380,801	1,240,442	825,628	864,903	516,564	9,036,638
1929-30.							
Contributions towards							
Interest on State Debts..	2,917,411	2,127,159	1,096,235	703,816	473,432	266,859	7,584,912
Sinking Fund on State							
Debts (a)	375,418	213,970	151,778	127,369	97,862	28,035	994,432
Special Grants .. ..	..	..	..	360,000	300,000	250,000	910,000
Total	3,292,829	2,341,129	1,248,013	1,191,185	871,294	544,894	9,489,344

(a) Paid to National Debt Sinking Fund.

In addition to the foregoing, the Commonwealth contributed £2,000,000 during each year in respect of Federal Aid Roads.

Division V.—Surplus Revenue.

Until the end of 1906-7, the balance of the Consolidated Revenue Fund was paid to the States. From 1907-8, until the abolition of the book-keeping provisions of the Constitution, the States received only three-fourths of the net Customs and Excise Revenue, and the balance of the Consolidated Revenue Fund was transferred to the Invalid and Old-age Pensions Trust Account and the Naval Defence Trust Account to provide for expenditure in subsequent years. A statement of surpluses and deficiencies for the past five years is appended hereto.

COMMONWEALTH SURPLUS REVENUE, 1925-26 TO 1929-30.

Year.	Surplus.	Deficiency.	Accumulated Surplus at end of Year.	Accumulated Deficit at end of Year.
	£	£	£	£
1925-26 .. ..	..	2,823,632	285,897	..
1926-27	2,535,597	..	2,821,494	..
1927-28 .. ..	..	5,450,237	..	2,628,743
1928-29 .. ..	..	2,358,975	..	4,987,718
1929-30 .. ..	..	1,471,005	..	6,458,723

The following payments amounting to £2,820,000 were made out of the surplus of £2,821,494 available at 30th June, 1927, and brought to account as expenditure during 1927-28:—Naval Construction and Defence Reserve, £2,250,000; Science and Industry Investigations, £250,000; Civil Aviation, £200,000; Purchase of Radium, £100,000; and Geophysical Survey of Australia, £20,000. The result of the ordinary transactions of the year 1927-28, omitting these special appropriations, was therefore a deficit of £2,630,237.

§ 3. Trust Funds.

The Trust Fund balances on 30th June, 1930, amounted to £12,796,907 as compared with £11,957,383 for the corresponding date in the year 1929. Details concerning the most important trust accounts are contained in Finance Bulletin No. 21 issued by this Bureau.

§ 4. Commonwealth Loan Funds and Public Debt.

1. General.—Although it was not until 1915 that the Federal Government came into the loan market as a borrower, there had previously existed a Commonwealth Public Debt which included several items, such as the balance of the debt taken over from South Australia and the amount owing to the States for transferred properties. In view of

the large expansion of the Public Debt, and its present importance in Commonwealth public finance, the different items are treated seriatim in the following sub-sections:—

2. Loans taken over from South Australia.—The first portions of the debt were contracted at the beginning of 1911, when the Commonwealth assumed responsibility for the payment of interest on transferred properties (further dealt with in sub-section 4) and for the administration and the liabilities of the Northern Territory and the Port Augusta—Oodnadatta Railway. At 30th June, 1911, the debt on account of the former was £3,657,836, and on account of the latter, £2,274,486—a total of £5,932,322. As the securities fall in they are redeemed by the Commonwealth Government, the money required being taken from the Loan Fund. The item is thus constantly diminishing, and on 30th June, 1930, stood at £2,033,170, of which £1,112,124 was on account of the Northern Territory, and £921,046 on account of the railway.

3. Loan Fund for Public Works Redemptions, etc.—Up to the year 1911 the Commonwealth Government had met its public works expenditure out of revenue. In that year, however, in view of the heavy prospective cost of the Trans-Australian Railway and the Federal Capital Territory, it was decided to institute a Loan Fund similar to those of the States. The initiation of this fund was greatly assisted by the fact that the Treasury at that time held a large quantity of gold, principally on behalf of the Australian Notes Account. Up to 30th June, 1914, the money required for loan expenditure was obtained mainly from this source at 3½ per cent., and inscribed stock of an equivalent value was created. Since the outbreak of war, the money required for the Loan Fund has been mainly obtained by the issue of Treasury Bills and other securities issued in London and New York as well as in Australia. The details of the expenditure for the last five years and the total expenditure to 30th June, 1930, are given in the following table:—

COMMONWEALTH LOAN EXPENDITURE FOR WORKS, 1926 TO 1930, AND TOTAL.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Total to 30th June, 1930.
	£	£	£	£	£	£
Immigration (a)	262,589	248,104	261,353	132,815	57,705	1,680,835
Shipbuilding Yards and Docks	.. ..	.. ..	.. ..	.. ..	.. ..	733,711
Ship Construction .. ..	.. ..	.. ..	Cr.163,210	Cr. 88,784	Cr.165,000	8,559,060
Subscriptions to Capital of Commonwealth Oil Refinery .. ..	.. ..	.. ..	.. ..	.. ..	.. ..	343,751
Federal Capital Territory Works, Services, and Acquisition of Land	1,270,344	1,671,753	998,507	1,193,500	253,988	7,731,251
North Australia Commission .. ..	.. ..	8,400	22,900	40,500	23,000	95,100
Drill Halls, Stores, Barracks, etc.	19,767	18,158	20,984	33,014	20,204	426,626
Rifles and Ammunition Reserve	.. ..	.. ..	9,831	.. ..	.. ..	315,300
Other Military Services	2,957	12,973	.. ..	231	1,000	101,950
Naval Bases, Depots, etc.	Cr. 14,810	127,016	62,303	36,907	93,230	1,460,327
Fleet Construction .. ..	.. ..	.. ..	.. ..	.. ..	.. ..	355,397
Other Naval Services	24,000	24,000	.. ..	.. ..	.. ..	71,300
Air Services—						
R.A.A.F.	126,815	140,364	103,227	40,530	32,740	464,243
Civil Aviation	6,793	5,516	3,916	.. ..	.. ..	40,177
Buildings and Works, Munitions Production	116,694	93,098	101,308	92,513	83,127	1,147,385
Other Munitions Supply Services	23	2	.. ..	.. ..	.. ..	1,150
Lighthouses and Lighthouse Services	67,359	24,927	23,475	17,673	18,520	554,400
River Murray Waters Act	205,000	209,500	250,000	250,000	200,000	1,033,625
Telegraph and Telephone Construction	5,065,798	3,627,619	3,357,432	2,775,991	2,537,489	28,776,771
Post Office Buildings and Land	472,885	317,706	296,031	227,397	224,186	3,260,192
Wireless	79,560	50,462	50,564	482	10,037	354,881
Serum and Health Laboratories	16,500	4,785	4,753	10,092	3,743	75,220
Wire and Wire-netting .. ..	.. ..	250,000	80,000	230,838	50,000	610,838
Railways—						
Trans-Australian	69,565	88,199	54,820	48,415	64,622	6,631,911
North Australian	195,123	398,764	425,875	79,092	20,097	1,596,649
Central Australian	91,490	399,885	731,368	747,894	170,911	2,447,668
Federal Capital Territory .. ..	.. ..	20,500	4,424	3,291	365	28,580
Grafton—South Brisbane	840,000	1,000,000	1,202,000	675,000	586,000	4,393,000
Other Expenditure .. ..	.. ..	.. ..	.. ..	.. ..	.. ..	200,000
War Service Homes	331,838	673,351	752,583	1,073,451	999,964	7,159,618
Acquisition of Properties not elsewhere included	14,199	833	655	987	769	123,891
London Offices .. ..	.. ..	.. ..	.. ..	.. ..	.. ..	850,190
Miscellaneous	16,757	Cr. 11,268	.. ..	20,000	7,500	417,871
Total	9,281,201	9,404,632	8,662,089	8,244,119	5,294,202	83,032,877

(a) Exclusive of Loans to States for Immigration Purposes.

4. **Properties Transferred from States.**—At the time of federation, when the Commonwealth took over the control of a great many departments previously administered by the States, a large amount of property was handed over to the Commonwealth Government. A valuation was made, with results set out in detail in Official Year Book No. 14, page 694, and the Commonwealth paid interest at the rate of 3½ per cent. to the States on account of all the transferred properties.

The terms of the financial agreement between the Commonwealth Government and the Governments of the several States provided, *inter alia*, that, as a temporary measure, the Commonwealth Government would for a period of two years from 1st July, 1927, to 30th June, 1929, pay to each State interest at the rate of 5 per cent. per annum on the agreed value of transferred properties as follows:—New South Wales, £4,788,005; Victoria, £2,302,862; Queensland, £1,560,639; South Australia, £1,035,631; Western Australia, £736,432; and Tasmania, £500,754; a total of £10,924,323.

From 1st July, 1929, the Commonwealth Government assumed all liability for so much of the Public Debt of the States maturing in London bearing interest at the rate of 5 per cent. per annum as is equivalent to the agreed value on the transferred properties shown above. The Commonwealth Government will receive the freehold or equivalent title to the transferred properties consisting of land or interests in land, and all liability of the Commonwealth to the State in respect of transferred properties is extinguished from that date.

5. **War Loan from the Imperial Government.**—On the outbreak of the European war in 1914, the Commonwealth Government obtained a loan from the Imperial Government for the purpose of financing the prospective large military expenditure. At first, the arrangement was that the Imperial Government should advance the sum of £18,000,000. Subsequently further loans totalling £31,500,000 were negotiated. In addition to this capital indebtedness of £49,500,000, a further sum of £12,696,500 was due to the British Government for the maintenance of Australian troops.

Early in 1921 an arrangement was concluded with the Imperial Government, by means of which almost the entire debt (upwards of £92,000,000) was consolidated. The Commonwealth Government undertook to extinguish the debt in about 35 years by annual payments representing 6 per cent. on the original debt, providing for interest at £4 18s. 4d. per cent., and a sinking fund of £1 1s. 8d. per cent. The amount outstanding on 30th June, 1930, was £81,294,582.

6. **Flotation of War Loans in Australia.**—In addition to the advances from the Imperial Government, the Commonwealth Government raised large amounts of money in Australia. Full details of the seven War Loans are given in Official Year Book No. 14.

7. **Flotation of Loans, 1929–30.**—During the year 1929–30, the loans raised by the Commonwealth (including "Over the Counter" sales and conversions at State Treasuries) totalled £89,680,852, of which £40,073,927 was for Commonwealth purposes and £49,605,925 for the States. Details respecting these loans are given hereunder.

COMMONWEALTH LOANS FLOATED, 1929-30.

For whom Raised.	Amount Raised.			Rate of Interest.	Date of Maturity.	Price.
	London.	Australia.	Total.			
Commonwealth .. £175,244	5,000,000	..	5,000,000	£6 2s. 8d.	3.9.30	(d)
States .. £4,824,756						
Commonwealth .. £1,720,980	..	10,002,980	10,002,980	5½	15.11.34	98
States .. £8,282,000						
Conversion and Redemption—	..	448,218,950	448,218,950	6	15.3.37	100
Commonwealth £38,177,703						
States .. £10,041,247	..	24,157,922	24,157,922	(c)	(c)	98-100-
States (b) .. ..	..	2,300,000	2,300,000	5½	(c)	(d)
States .. ..	..	..	..	..	..	..
Total	5,000,000	84,679,852	89,679,852	..	..	..

(a) Conversions £40,494,100 and Cash Subscriptions £7,724,850.

(b) "Over the Counter" Sales and Conversions at State Treasuries.

(c) Various.

(d) Short dated Treasury Bills.

8. Commonwealth Public Debt.—(i) *Total Debt.* Separate consideration has already been given to the items composing the Public Debt. The table appended shows the debt of the Commonwealth (including that of the States) at 30th June, 1930.

COMMONWEALTH PUBLIC DEBT AT 30th JUNE, 1930.

Particulars.	Payable in London.	Payable in New York.	Payable in Australia.	Total.
War Debt (a)—	£	£	£	£
Stock, Bonds, etc.	11,020,160	..	225,423,858	236,444,018
Indebtedness to United Kingdom ..	81,294,582	..	..	81,294,582
Total	92,314,742	..	225,423,858	317,738,600
Deduct advances to States for Soldier Land Settlement etc. . . . .	..	..	35,348,068	35,348,068
Total War Debt	92,314,742	..	190,075,790	282,390,532
Works and other Purposes—				
Stock, Bonds, etc.	57,193,621	17,155,718	14,073,196	88,422,535
Balance of Loans taken over from South Australia—				
Northern Territory	329,100	..	783,024	1,112,124
Port Augusta Railway	908,686	..	12,360	921,046
Properties transferred from New South Wales ..	..	..	111,125	111,125
Total Works and other Purposes	58,431,407	17,155,718	14,979,705	90,566,830
Total Commonwealth Purposes	150,746,149	17,155,718	205,055,495	372,957,362
On Account of States—				
Advances for Soldier Land Settlement, etc. . . . .	..	..	35,348,068	35,348,068
Stock, Bonds, etc.	49,355,524	16,143,574	105,059,353	170,558,451
Balance of Debts of States taken over by Commonwealth etc.	325,684,161	14,543,409	181,505,747	521,733,317
Total on Account of States	375,039,685	30,686,983	321,913,168	727,639,836
Grand Total	525,785,834	47,842,701	526,968,663	1,100,597,198

PER HEAD OF POPULATION.(b)

	£ s. d.	£ s. d.	£ s. d.	£ s. d.
War	14 6 9	..	29 10 5	43 17 2
Works and other Purposes	9 1 6	2 13 3	2 6 6	14 1 3
Total Commonwealth Purposes	23 8 3	2 13 3	31 16 11	57 18 5
On Account of States	58 7 4	4 15 6	50 2 0	113 4 11
Grand Total	81 13 2	7 8 7	81 16 10	170 18 7

(a) Less sinking fund contributions and accumulations. (b) Based on population at 30th June, 1930. Debt on account of States has been calculated on the aggregate population of the six States at that date.

(ii) *Place of Flotation.* The loans taken over from South Australia, which constituted the first portion of the Federal Public Debt, included both London and Australian securities. The presence in the Treasury of a large holding of gold, and the moderate rate of interest ruling on gilt-edged securities, made the conditions in 1911 and for some little time afterwards very favourable for the flotation of local loans. London securities were redeemed as they fell due, and replaced by the 3½ per cent. stock of the Loan Fund. Consequently, up to 1914 the amount of the securities repayable in London fell steadily, and the amount repayable in Australia rose rapidly. In 1915 the military loan from the Imperial Government caused a sharp rise in the amount of the securities repayable in London, which was maintained in the two following years. This was, however, more than offset by the flotation of the local war loans. In 1925–26 a loan of £15,411,437 was raised in New York. The appended table gives particulars of Commonwealth loans outstanding in each of the last five years which had been floated overseas and in Australia respectively. The value of transferred properties has been included under debt floated in Australia.

**PUBLIC DEBT (COMMONWEALTH PURPOSES).—PLACE OF FLOTATION,
1926 TO 1930.**

Place of Flotation, etc.	At 30th June—				
	1926.	1927.	1928.	1929.	1930.
	£	£	£	£	£
War Debt—					
London	96,865,883	95,572,848	96,822,659	93,810,641	92,314,742
Total Overseas	96,865,883	95,572,848	96,822,659	93,810,641	92,314,742
Australia	207,650,474	201,332,522	196,597,448	194,007,104	190,075,700
Total War Debt	304,546,357	296,905,370	293,420,107	287,817,745	282,390,532
Works and other purposes—					
London	39,203,296	36,596,850	39,393,188	48,819,932	58,431,407
New York	10,402,754	10,383,252	17,291,277	17,155,718	17,155,718
Total Overseas	49,606,050	46,980,102	56,684,465	65,975,650	75,587,125
Australia	20,786,307	22,726,033	22,679,517	23,828,177	14,979,705
Total Debt for Works, etc.	70,392,357	69,706,135	79,363,982	89,803,827	90,566,830
Total Debt—					
London	136,069,179	132,169,698	136,215,847	142,630,573	150,746,149
New York	10,402,754	10,383,252	17,291,277	17,155,718	17,155,718
Total Overseas	146,471,933	142,552,950	153,507,124	159,786,291	167,901,867
Australia	228,466,781	224,058,555	219,276,965	217,835,281	205,055,495
Grand Total	374,938,714	366,611,505	372,784,089	377,621,572	372,957,362

(iii) *Amount of Debts at Various Rates of Interest.*—When the first debt was taken over from South Australia, it consisted mainly of securities bearing interest varying from 3 per cent. to 4 per cent., the average rate of interest for the first year being £3 12s. 4d. For the first three years the increase in the debt was due almost entirely to the expansion of the 3½ per cent. stock of the Loan Fund, consequently the average rate of interest fell steadily, until on 30th June, 1914, it stood at £3 11s. 10d. Then came the loans for military and repatriation purposes, and the fall in the average rate was ultimately converted into a rise which was steadily maintained until at 30th June, 1930, the average rate stood at £5 3s. 8d.

The accompanying table gives particulars of rates on interest of the debt for Commonwealth purposes for the financial years ended 30th June, 1929 and 1930.

**PUBLIC DEBT (COMMONWEALTH PURPOSES).—RATES OF INTEREST,
1929 AND 1930.**

Rates of Interest.	At 30th June—				Total.
	1929.	1930—Debt floated in—			
		London.	New York.	Australia.	
%	£	£	£	£	£
3	33,262	27	..	33,235	33,262
3½	4,416,799	531,808	..	3,884,990	4,416,798
3¾	803,023	49,173	..	753,000	802,173
4	4,453,778	656,778	..	3,797,000	4,453,778
4½	4,335,436	..	4,335,436	..	4,335,436
4¾	6,000,000	6,000,000	..	..	6,000,000
£4/18/4 ..	82,790,481	81,294,582	..	..	81,294,582
5	71,470,563	47,038,537	12,820,282	9,852,159	69,710,978
5½	91,573,959	..	..	92,252,340	92,252,340
5¾	67,086,580	..	..	67,056,390	67,056,390
6	80,030,658	15,000,000	..	62,645,889	77,645,889
£6/2/8 ..	..	175,244	..	..	175,244
Overdue ..	225,101	..	..	128,560	128,560
Deduct loans to States for Soldier Land Settlement, etc.—	- 35,598,068	..	..	- 35,348,068	- 35,348,068
Total ..	377,621,572	150,746,149	17,155,718	205,055,495	372,957,362
Total Interest Payable ..	19,571,677	7,591,389	836,109	10,900,115	19,327,613
Average rate of interest ..	£5/3/9	£5/0/9	£4/17/6	£5/6/4	£5/3/8

(iv) *Amount of Interest Payable.* A table is appended showing the amounts payable as interest on the total Commonwealth Public Debt (excluding amounts raised on behalf of the several States and Debts of the States taken over) at 30th June in the years 1926 to 1930 inclusive.

**DEBT FOR COMMONWEALTH PURPOSES.—INTEREST PAYABLE OVERSEAS
AND IN AUSTRALIA, AT 30th JUNE, 1926 TO 1930.**

Interest on and where payable.	Year ended 30th June—				
	1926.	1927.	1928.	1929.	1930.
	£	£	£	£	£
War Debt—					
London	4,855,775	4,791,410	4,854,202	4,721,540	4,647,992
Total Overseas	4,855,775	4,791,410	4,854,202	4,721,540	4,647,992
Australia	10,788,764	10,542,922	10,567,542	10,454,458	10,235,359
Total War Debt	15,644,539	15,334,332	15,421,750	15,175,998	14,883,351
Works and other Purposes—					
London	1,974,241	1,835,199	1,984,735	2,460,837	2,943,397
New York	520,138	519,162	842,858	836,109	836,100
Total Overseas	2,494,379	2,354,361	2,827,593	3,296,946	3,779,506
Australia	776,449	1,042,470	1,038,433	1,098,733	664,756
Total Debt for Works, etc.	3,270,828	3,396,831	3,866,026	4,395,679	4,444,262
Total Debt—					
London	6,830,016	6,626,609	6,838,937	7,182,377	7,591,339
New York	520,138	519,162	842,858	836,109	836,100
Total Overseas	7,350,154	7,145,771	7,681,795	8,018,486	8,427,498
Australia	11,565,213	11,585,392	11,605,981	11,553,191	10,900,115
Grand Total	18,915,367	18,731,163	19,287,776	19,571,677	19,327,613

(v) *Dates of Maturity.* The dates of maturity of the several portions of the Commonwealth debt are shown hereunder according to years ending 30th June. On that account the figures given are not directly comparable with those published in previous years. The Commonwealth Government has refrained from issuing interminable stock, and, in respect of only a small proportion of the debt, no definite date of maturity had been assigned on 30th June, 1930. While the actual dates of maturity extend from 1930–31 to 1975–76, or a period of 45 years, the average period till maturity of the gross debt is only 12.22 years.

**DEBT FOR COMMONWEALTH PURPOSES.—DUE DATES OF AMOUNTS OUT-
STANDING ON 30th JUNE, 1930. (a)**

Due dates (year ended 30th June).	Due in—			Total.
	London.	New York.	Australia.	
	£	£	£	£
1930-31	175,244	..	24,593,130	24,768,374
1931-32 .. .. .	..	..	27,052,850	27,052,850
1932-33 .. .. .	..	..	40,251,930	40,251,930
1933-34	79,387	..	3,829,656	3,909,043
1934-35	43,051	..	1,805,080	1,848,131
1935-36	140,000	..	19,191,741	19,331,741
1936-37	805,873	..	50,952,573	51,758,446
1937-38	1,246	..	10,082,530	10,083,776
1938-39	168,202	..	432,060	600,262
1939-40 .. .. .	..	..	1,247,488	1,247,488
1940-41	15,000,000	..	..	15,000,000
1941-42 .. .. .	..	..	28,458,200	28,458,200
1942-43 .. .. .	..	..	18,616,530	18,616,530
1944-45	17,354,817	..	..	17,354,817
1948-49 .. .. .	..	..	9,440,470	9,440,470
1955-56 .. .. .	..	14,565,622	..	14,565,622
1957-58 .. .. .	..	2,590,096	..	2,590,096
1960-61	6,000,000	..	..	6,000,000
1971-72 .. .. .	..	..	3,764,716	3,764,716
1975-76	29,683,720	..	..	29,683,720
Overdue .. .. .	..	..	128,560	128,560
Indefinite	27	..	444,924	444,951
Annual Repayments	81,294,582	..	..	81,294,582
Transferred Properties .. .. .	..	..	111,125	111,125
Deduct loans to States for Soldier Land Settlement, etc.	..	..	-35,348,068	-35,348,068
Total	150,746,149	17,155,718	205,055,495	372,957,362
Average period to maturity —years	28.09	25.80	6.65	12.22

(a) Loans which the Government has the option of redemption during a specified period have been in each case classified according to the latest date of maturity.

9. Sinking Funds.—Particulars relating to the creation of sinking funds are included in previous issues.

The old sinking funds were merged in the National Debt Sinking Fund on 11th August, 1923. Particulars of receipts and expenditure of the Commonwealth Account from the year 1925-26 are as follows:—

**COMMONWEALTH PUBLIC DEBT.—NATIONAL DEBT SINKING FUND,
1925-26 TO 1929-30.**

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Cr. Brought forward	4,152,992	3,192,538	1,324,897	955,726	746,737
From Consolidated Revenue	2,796,722	2,017,391	2,276,092	2,469,272	2,668,133
Repayments of Sundry Loans	33,157	18,171	9,931	260,025	261,855
Purchase Money and Repayments under War Service Homes Act	744,548	831,502	787,897	799,508	702,244
Half net Profit Commonwealth Bank	226,176	236,280	326,583	349,204	362,825
Reparation Moneys	302,922	1,340,573	651,779	876,404	877,832
Interest on Investments	83,950	89,754	54,246	30,312	28,573
Contributions by States .. .. .	..	1,218	8,927	21,013	24,945
Total	8,340,467	7,727,487	5,434,332	5,761,467	5,673,144
Dr. Redemptions	5,147,929	6,402,590	4,478,606	5,014,730	5,099,868
Carried Forward	3,192,538	1,324,897	955,726	746,737	573,276
Total	8,340,467	7,727,487	5,434,332	5,761,467	5,673,144

The Imperial Government loan comes in a different category from the others, since it is being liquidated by the funding arrangement described on a previous page.

Information regarding the transactions of the States' Account of the National Debt Sinking Fund is published in Finance Bulletin No. 21 issued by this Bureau.

§ 5. Cost of War and Repatriation.

In view of the importance of the subject, a further reference is here made to the cost of the war. The general policy of the Commonwealth Government has been to pay from Consolidated Revenue all recurring charges for interest, sinking fund, pensions, and other charges consequent upon the war, and part of the expense of repatriation. On the other hand, the whole direct cost of the war and the larger proportion of the cost of repatriation have been paid from loans. The total cost from both sources to the 30th June, 1930, is set out in the following table:—

COST OF WAR SERVICES TO 30th JUNE, 1930.

Year.	From Consolidated Revenue (a).		From War Loan Fund.	Total.
	War and Repatriation Services, including War Pensions.	Interest and Sinking Fund.		
	£	£	£	£
1914-15	896,190	115,145	14,100,000	15,111,335
1915-16	1,718,887	2,059,491	37,423,568	41,201,946
1916-17	2,439,271	5,988,058	53,114,237	61,541,566
1917-18	4,049,955	7,813,296	55,028,180	66,891,431
1918-19	9,966,927	11,288,174	59,547,080	80,802,181
1919-20	8,976,793	15,774,938	43,294,764	68,046,495
1920-21	10,242,345	23,043,888	24,148,501	57,434,734
1921-22	10,261,471	21,075,693	7,576,977	38,914,141
1922-23	9,298,560	20,801,912	1,762,694	31,863,166
1923-24	8,161,230	20,608,876	691,247 <i>b</i>	29,461,353
1924-25	8,232,656	20,250,105	Cr. 32,051 <i>b</i>	28,450,710
1925-26	8,473,717	20,698,133	Cr. 7,613 <i>b</i>	29,164,237
1926-27	8,814,001	20,495,082	23,938 <i>b</i>	29,333,021
1927-28	8,788,037	20,218,175	Cr. 23,741 <i>b</i>	28,982,471
1928-29	9,026,749	21,071,002	Cr. 12,972 <i>b</i>	30,084,779
1929-30	9,520,750	20,579,056	Cr. 2,669 <i>b</i>	30,097,137
Discounts and Flotation Expenses on Loans .. ..	..	..	5,895,284	5,895,284
Indebtedness to the Government of the United Kingdom for payments made, services rendered and goods supplied during the war .. ..	..	..	43,398,098	43,398,098
War Gratuities paid in cash	462,205	..	27,036,029	27,488,324
Total to 30th June, 1930	119,319,834	251,881,024	372,961,551	744,162,409
	£371,200,858			

(a) Including expenditure from Trust Fund War Pensions Account.

(b) Exclusive of Expenditure on War Service Homes.

§ 6. Old-age and Invalid Pensions.

1. *General.*—In previous issues of this work an account was given of the introduction of the old-age pension system in Australia, together with a detailed description of the Commonwealth Invalid and Old-age Pensions Act of 1908, which became operative on 1st July, 1909. (See Year Books, Nos. 3 to 8.) An amendment of this Act, assented to on 30th September, 1916, made a very important alteration. Section 24 originally enacted that the pension “shall not exceed the rate of twenty-six pounds per annum in any event, nor shall it be at such a rate as will make the pensioner’s income, together with pension, exceed fifty-two pounds per annum.” It was amended (a) by omitting the words “twenty-six pounds,” and inserting in their stead the words “thirty-two pounds ten shillings”, and (b) by omitting the words “fifty-two pounds” and inserting in their stead the words “fifty-eight pounds ten shillings.” Section 26 originally enacted that if an applicant for an old-age pension was in receipt of board or lodging, the actual or estimated value or cost thereof should be counted as income, to an extent not exceeding five shillings per week. This was amended by omitting the words “five shillings” and inserting in their stead the words “seven shillings and sixpence.”

In regard to invalid pensions, the applicant must satisfy the Department that her or his disability was contracted in Australia and is both total and permanent.

In 1919 the Act was again amended, and the rate of pension raised to £39 per annum and the maximum amount allowable to £65 per annum. The estimated value of board and lodging was raised to 10s. per week, while a further amending Act in 1923 raised the rate of pension to £45 10s. per annum and the maximum allowable to £78 per annum.

In 1925 an amending Act increased the rate of pension to £52 per annum and the maximum amount allowable to £84 10s. per annum from 1st October, 1925.

In 1920 special provision was made for a permanently blind person, by which the amount of pension may be at such a rate (not exceeding £52) per annum, as will make his income, together with the pension, equal to an amount not exceeding £221 per annum or such other amount as is declared to be a basic wage.

2. *Old-age Pensions.*—(i) *Number in force.* At 30th June, 1929, there were 145,393 old-age pensions in force. During 1929–30, 22,575 pension claims were granted and 12,772 pensions were cancelled, a net increase of 9,803 pensions for the year—bringing the total pensions in existence at 30th June, 1930, to 155,196.

(ii) *Sexes of Pensioners.* Of the 155,196 persons in receipt of pensions at 30th June, 1930, 65,457 (or 42 per cent.) were males, and 89,739 (or 58 per cent.) were females. Details for the several States are as follows :—

OLD-AGE PENSIONS.—SEXES OF PENSIONERS, 1930.

State.	Males.	Females.	Total.	(a) Masculinity
New South Wales	25,651	32,787	58,438	—12.21
Victoria	18,060	27,435	45,495	—20.61
Queensland	9,139	11,259	20,398	—10.39
South Australia	5,377	8,897	14,274	—24.66
Western Australia	3,994	4,919	8,913	—10.38
Tasmania	3,236	4,442	7,678	—15.71
Total	65,457	89,739	155,196	—15.65

(a) Excess of males over females in each 100 of total pensioners.

(iii) *Ages and Conjugal Condition of Pensioners.* The recorded ages of the 22,575 persons, 11,215 males and 11,360 females, to whom pensions were granted during the year 1929–30 varied considerably, ranging from 3,675 at age 60 to 1 at age 96. The conjugal condition of these pensioners was as follows :—Males—single, 2,551; married, 6,589; and widowed, 2,075. Females—single, 1,392; married, 6,027; and widowed, 3,941.

3. *Invalid Pensions.*—(i) *Number in force, 1930.* During the year 1929–30, the number of invalid pensioners increased from 59,148 to 63,304, an increase of 4,156 pensions. Altogether 9,192 claims were allowed and 5,036 pensions were cancelled.

(ii) *Sexes of Pensioners.* Of the 63,304 persons in receipt of invalid pensions on 30th June, 1930, 28,093, or 44 per cent., were males, and 35,211, or 56 per cent., were females. Details for the several States are as follows :—

INVALID PENSIONS.—SEXES OF PENSIONERS, 1930.

State.	Males.	Females.	Total.	(a) Masculinity.
New South Wales	11,361	14,379	25,740	— 11. 72
Victoria	8,237	10,404	18,641	— 11. 62
Queensland	4,386	4,780	9,166	— 4. 30
South Australia	1,515	2,502	4,017	— 24. 57
Western Australia	1,540	1,744	3,284	— 6. 21
Tasmania	1,054	1,402	2,456	— 14. 17
Total	28,093	35,211	63,304	— 11. 24

(a) Excess of males over females in each 100 of total pensioners.

(iii) *Ages and Conjugal Condition of Pensioners, 1930.* The recorded ages of the 9,192 persons (4,661 males and 4,531 females) to whom invalid pensions were granted during the period under review varied from 16 to 85.

The conjugal condition of persons to whom invalid pensions were granted during the year was as follows :—Males—single, 2,082; married, 2,307; and widowed, 272. Females—single, 1,964; married, 1,541; and widowed, 1,026.

4. 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 1929–30, the total cost to the Commonwealth of administering the Old-age and Invalid Pensions Department was £89,201, or about 0.83 per cent. of the amount actually paid in pensions.

The actual sum disbursed in old-age and invalid pensions in the financial year 1929–30, apart from the cost of administration and inclusive of the amount paid to asylums for the maintenance of pensioners, was £10,791,325.

5. Summary.—The following table gives details concerning the working of the Act for the last five years :—

OLD-AGE AND INVALID PENSIONS.—SUMMARY, AUSTRALIA, 1926 TO 1930.

Year ended 30th June—	Number of Pensioners.				Amount Paid in Pensions.	Total Payment to Pensioners and to Asylums for Maintenance of Pensioners.	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.					
	No.	Est. No. per 1,000 of persons eligible on age qualification. (a)							
			No.	No.	£	£	£	£ s. d.	s. d.
1926	126,918	359	48,803	175,721	8,146,636	8,252,387	99,620	1 4 2	38 7
1927	133,234	369	52,399	185,633	9,034,938	9,144,589	116,008	1 5 4	38 6
1928	139,367	379	55,517	194,884	9,681,837	9,790,346	118,641	1 4 3	38 5
1929	145,393	390	59,148	204,541	9,991,299	10,124,239	86,605	0 17 1	38 5
1930	155,196	412	63,304	218,500	10,633,979	10,791,325	89,201	0 16 6	38 5

(a) Estimated number of old-age pensioners per 1,000 of the aggregate of males aged 65 and over and females aged 60 and over.

§ 7. Maternity Allowance.

During the session of 1912 the Federal Parliament passed an Act (assented to on 10th October, 1912) providing for the payment of maternity allowances. The scope and main provisions of the Act are given in Year Book No. 14, p. 1047. The most important conditions are that the sum of five pounds is payable in the case of each confinement

resulting in the birth of a viable child whether such child was born alive or dead. The mother must be a native of the Commonwealth, or intend to settle permanently therein. No payment is made in the case of an aboriginal or an Asiatic.

The following table gives a summary in connexion with the working of the Maternity Allowance Act for the years 1926 to 1930 :—

MATERNITY ALLOWANCE.—SUMMARY, 1926 TO 1930.

Year.	Claims Paid.	Claims Rejected.	Amount Paid.	Cost of Administration.	Cost per £100 of allowance paid.
			£	£	£ s. d.
1925-26 ..	136,171	517	680,855	15,702	2 6 1
1926-27 ..	132,056	1,122	660,280	16,131	2 9 0
1927-28 ..	135,784	1,261	678,920	15,489	2 5 8
1928-29 ..	132,304	901	661,520	16,626	2 10 3
1929-30 ..	128,598	821	642,990	15,157	2 7 2
Aggregate—					
1912-13 to					
1929-30 ..	2,349,326	11,538	11,746,628	250,004	2 2 7

§ 8. War Pensions.

1. General.—An Act for the provision of war pensions was passed in 1914 and amended in 1915 and 1916. Its scope can be determined by the following extract from section 3. "Upon the death or incapacity of any member of the forces whose death or incapacity results, or has resulted, from his employment in connexion with warlike operations in which His Majesty is, or has since the commencement of the present state of war been engaged, the Commonwealth shall, subject to this Act, be liable to pay to the member or his dependants or both, as the case may be, pensions in accordance with this Act."

2. Number of Pensioners and Expenditure on War Pensions.—The following table shows the number of pensioners at 30th June, 1930, and the places where payments were made during 1929-30 :—

WAR PENSIONS.—NUMBER OF PENSIONERS, 1930.

Where Paid.	Incapacitated Members of the Forces.	Dependants of—		Total.	Expenditure.
		Deceased Members.	Incapacitated Members.		
New South Wales ..	25,283	9,073	54,715	89,071	2,736,473
Victoria ..	24,536	10,626	58,722	93,884	2,315,583
Queensland ..	8,072	3,076	17,557	28,705	860,607
South Australia ..	4,200	2,995	9,596	16,791	499,375
Western Australia ..	7,623	3,094	17,690	28,407	793,079
Tasmania ..	2,945	1,366	8,010	12,321	347,272
Total, Australia ..	72,659	30,230	166,290	269,179	7,552,389
London ..	1,622	3,800	3,740	9,162	} 367,087
South Africa ..	53	33	72	158	
New Zealand ..	221	201	302	724	
Other Overseas ..	23	6	33	62	
Total ..	74,578	34,270	170,437	279,285	7,919,476
Payments made in Australia in respect of other countries less amounts received from other countries ..					Cr. 22,185
Total, War Pensions Trust Fund Account ..					7,897,291

3. *Cost of Administration.*—The cost of administration in 1929-30 after allowing for the amount recoverable from the Government of the United Kingdom on account of administrative cost of British pensions was £172,047, or 1.8 per cent. on the total amount paid in pensions.

§ 9. Commonwealth Public Service Superannuation Fund.

This Fund, which was inaugurated on the 20th November, 1922, is maintained by contributions of officers of Parliament, of employees of the Commonwealth Public Service and the Defence Department, and by payments from the Consolidated Revenue—the latter being made when the officers retire on pension. Full particulars as to the benefits, etc., will be found in Official Year Book No. 18, page 383.

The number of contributors to the fund at 30th June, 1930, was 31,446, viz., 28,137 males and 3,309 females, and the average pension contributed for was £119 9s. per annum.

During 1929-30, the receipts of the fund amounted to £1,075,176 (including Treasury advance, £496,875), of which officers' contributions represented £429,672. The expenditure from the fund for the year was £1,076,669 (including repayment of Treasurer's advance, £433,275), of which £552,043 was invested, bringing the total funds invested to £2,964,784 (at cost). The average rate of interest earned on investments at 30th June, 1930, was 5.508 per cent.

Pensions in force on the 30th June, 1930, numbered 3,231 with an annual liability of £263,048, of which £214,819 represents the share payable from the Consolidated Revenue.

B. STATE FINANCE

§ 1. General.

1. *Functions of State Governments.*—In comparing the financial returns of the States allowance must be made for the various functions discharged by the respective Governments, and for local conditions in each case. Direct comparisons of expenditure are difficult, owing to the fact that functions which in one State are assumed by the Central Government are in another relegated to local governing bodies, and that costly developmental work may, under certain conditions, be not only economically justifiable but may be essential to progress, while parsimonious expenditure may be an economic blunder. A large expenditure may, therefore, be an indication either of gross extravagance and bad economy on the one hand, or of healthy 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 dealt with locally. Care, therefore, is needed in instituting comparisons, and the particulars contained in this chapter should be read in connexion with those contained in the chapter dealing with Local Government. In many respects moreover, 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 other countries 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 Funds," the "Trust Funds," and the "Loan Funds." All revenue (except certain taxation items paid into special funds) 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. From 1st July, 1923, the accounts of the Railway and Tramway services, Sydney Harbour Trust, and certain water supply services were separated from the Consolidated Revenue Fund of New South Wales. To preserve the comparability of the State finance statistics, information in respect of the above services has been included in the tabular statements in this section. The Trust Funds comprise all moneys held in trust by the Government, and include such items as savings' banks funds, sinking funds, insurance companies' deposits, etc. The Loan Funds are debited with all loan moneys raised by the State, and credited with the expenditure therefrom on public works or other purposes.

3. *Inter-relation of Commonwealth and State Finance.*—In regard to the inter-relation of Commonwealth and State Finances, a statement in some detail, covering the period from the inception of Federation to the passing of the *Financial Agreement Act 1928*, was published in Official Year Book No. 22, pages 379–80.

§ 2. Consolidated Revenue Funds.

Division I.—Revenue.

1. *General.*—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; and (e) Miscellaneous sources, comprising fines, fees, interest, etc.

In regard to item (b) attention is directed to the statement (see B. § 1 (2) *ante*) appertaining to the New South Wales accounts. In connexion with the Railway Accounts for that State the Consolidated Revenue Fund contributes to the Railways Commissioners a sum not exceeding £800,000 in respect of losses on country developmental railways. To avoid duplication in determining the aggregate receipts and expenditure for each of the past two years, this amount has not been included in the railways receipts or Consolidated Revenue Expenditure. During 1929–30, a refund of £327,129 was made to the Railways Commissioners from the Consolidated Revenue Surplus of 1928–29 in respect of Sinking Fund Contribution paid by the Railways Commissioners in 1928–29. This amount has not been included in revenue for the year 1929–30.

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 Taxation, followed in order by the Commonwealth Subsidy and Land Revenue.

2. *Revenue Received.*—The following table furnishes particulars of the total amounts and the amounts per head, of consolidated revenue received by the several States during the five years 1925–26 to 1929–30:—

STATE CONSOLIDATED REVENUE, 1925–26 TO 1929–30.

Year.	N.S.W. (a)	Victoria. (a)	Q'land. (c)	S. Aust.	W. Aust. (b)	Tasmania.	All States.
TOTAL COLLECTIONS.							
	£	£	£	£	£	£	£
1925–26	41,569,166	25,269,756	15,599,718	10,474,094	8,808,166	2,726,482	104,447,382
1926–27	47,060,753	27,128,700	16,147,787	10,784,897	9,750,833	3,040,220	113,913,190
1927–28	47,997,372	27,357,917	16,718,070	11,346,903	9,807,949	2,962,687	116,190,898
1928–29	50,447,100	28,166,034	16,736,188	10,840,914	9,947,951	2,766,434	118,894,621
1929–30	46,904,889	27,323,842	15,997,870	10,551,016	9,750,515	2,956,272	113,484,404
PER HEAD OF POPULATION.							
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1925–26	18 1 9	15 0 1	18 2 3	18 19 9	23 13 4	12 11 3	17 9 1
1926–27	20 0 11	15 16 11	18 6 1	19 0 10	25 14 11	14 3 2	18 13 6
1927–28	19 19 11	15 14 3	18 11 10	19 14 2	25 0 0	13 14 6	18 13 4
1928–29	20 12 7	15 19 9	18 5 2	18 14 3	24 10 2	12 15 6	18 16 0
1929–30	18 18 8	15 7 6	17 3 9	18 3 8	23 7 11	13 9 11	17 14 7

(a) Includes certain moneys not paid into Consolidated Revenue Fund.

(b) Excludes motor taxation now paid into a special fund.

(c) Excludes motor taxation.

During the period from 30th June, 1926, to 30th June, 1930, the aggregate revenue of the States increased by £9,037,022, or about 9 per cent. Increases were in evidence in all the States, the largest being that of £5,335,723 in New South Wales.

There has been a marked increase in the collections per head in all the States. Western Australia throughout the period has occupied the premier position, and in 1929-30 the revenue per head in that State exceeded the average for Australia by about 32 per cent. In Tasmania, however, the revenue per head averaged about 76 per cent. only on the average for Australia.

3. Sources of Revenue.—(i) *General.* Classifying the revenue of the several States in the manner indicated in 1 *ante*, particulars for the year 1929-30 are as follows:—

STATE CONSOLIDATED REVENUE.—SOURCES, 1929-30.

Particulars.	N.S.W. (a)	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL REVENUE.							
Taxation (c) ..	£ 13,263,792	£ 7,377,421	£ 4,297,418	£ 2,857,618	£ 1,452,793	£ 1,119,722	£ 30,368,764
Business Under- takings ..	27,028,608	14,356,920	7,703,830	5,363,384	5,465,963	861,573	60,780,287
Land ..	1,989,626	382,738	1,352,325	242,309	474,862	67,304	4,509,164
Commonwealth payments ..	2,917,411	2,127,159	1,096,235	61,063,816	6 773,432	6 516,859	8,494,912
Miscellaneous ..	1,705,452	3,079,604	1,548,053	1,023,889	1,583,465	390,814	9,351,277
Total ..	46,904,889	27,323,842	15,997,870	10,551,016	9,750,515	2,956,272	113,484,404

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Taxation (c) ..	5 7 1	4 3 0	4 12 4	4 18 6	3 9 9	5 2 3	4 14 11
Business Under- takings ..	10 18 2	8 1 7	8 5 6	0 4 10	13 2 4	3 18 8	9 0 11
Land ..	0 16 1	0 4 4	1 9 1	0 8 4	1 2 9	0 6 2	0 14 1
Commonwealth payments ..	1 3 7	1 3 11	1 3 7	6 1 16 8	6 1 17 1	2 7 2	1 6 6
Miscellaneous ..	0 13 9	1 14 8	1 13 3	1 15 4	3 16 0	1 15 8	1 9 2
Total ..	18 18 8	15 7 6	17 3 9	18 3 8	23 7 11	13 9 11	17 14 7

(a) Includes certain moneys not paid into Consolidated Revenue Fund. (b) Including special grant. (c) In some States certain taxation collections are not paid into Consolidated Revenue Fund. For total collections see next page. (d) Excludes £300,000 paid to Railways Commissioners from Consolidated Revenue in respect of losses on country developmental railways and £327,129 refund of Railway Sinking Fund contribution in 1928-29.

In connexion with the item Business Undertakings, it should be borne in mind that services performed by the Government in one State may, in another, be carried out by a Board or Trust. For instance, in New South Wales and Western Australia the tramway systems are controlled by the Government, while in the other States ownership is largely vested in Trusts or private companies. Harbour and river services and water supply and sewerage are also controlled in some cases by the State and in others by Trusts.

The magnitude of the revenue per head from Business Undertakings 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, while the revenue earning power of the railways is also high. In New South Wales and Western Australia the revenue from tramways is also included.

(ii) *Revenue from Taxation.*—(a) *General.* Owing to varying practices obtaining in the several States in regard to the method of treating motor taxation in the respective Treasurers' Statements of Accounts, particulars of State taxation collections have not always been directly comparable. The following table shows for the year 1929-30 particulars of all state taxation collections irrespective of whether such moneys have been paid into the Consolidated Revenue Funds or not. For this reason, the particulars hereunder are inconsistent with those stated in the tables relating to the Consolidated Revenue Funds, but represent a comprehensive statement of all taxation collections in each State. In this and the succeeding statements of taxation, the collections have been grouped according to the nature of the tax rather than the method of collection. For example, stamp duties on betting tickets and bookmakers' licences have been included under "Racing Taxation" instead of under "Stamp duties" and "Licences," respectively.

STATE REVENUE FROM TAXATION, 1929-30.

Taxation.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States
	£	£	£	£	£	£	£
Probate and succession duties	1,860,052	1,133,422	491,892	395,082	75,707	65,991	4,022,146
Other stamp duties	1,362,147	985,088	555,391	379,546	255,725	64,929	3,002,826
Land Tax	2,588	531,426	556,532	440,265	219,066	99,453	1,849,330
Income Tax	7,084,405	2,931,050	2,405,810	1,507,375	751,116	322,098	15,051,914
Family Endowment	1,886,715						1,886,715
Liquor Licences	496,951	362,122	96,831	34,576	76,304	21,648	1,088,432
Other Licences	40,757	35,552	30,331	35,735	7,433	13,619	169,427
Racing Taxation	546,636	145,748	90,822	52,499	70,212	14,968	920,883
Lotteries			43,750			413,119	450,869
Motor Taxation	1,809,485	1,147,957	523,881	620,571	314,300	59,791	4,505,985
Other Taxation	54,711	55,056		22,110	76,470	14,108	222,455
Total	15,150,507	7,377,421	4,795,240	3,487,769	1,846,333	1,119,722	33,776,982

(a) Includes Dividend Tax.

Prior to Federation, duties of Customs and Excise constituted the principal source of revenue from taxation. At present, the most productive State tax is the income tax, imposed in all the States, and representing for 1929-30, 44 per cent. of the total taxation revenue. For 1929-30, motor tax occupied second place. In addition to these, a State land tax and licence fees of various kinds are collected in all the States, while a dividend tax is levied in Western Australia and a family endowment tax is imposed in New South Wales.

The total amounts and the amounts per head raised from all sources of taxation by the several State Governments, including amounts not paid into the Consolidated Revenue Fund, during the five years 1925-26 to 1929-30 are given in the following table:—

STATE REVENUE FROM TAXATION, 1925-26 TO 1929-30.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
TOTAL.							
	£	£	£	£	£	£	£
1925-26	9,848,072	5,821,034	4,294,156	2,714,185	1,589,898	1,239,967	25,507,312
1926-27	12,698,642	6,411,936	4,759,829	2,885,266	1,485,536	1,229,823	29,471,032
1927-28	13,217,001	7,177,999	5,362,964	3,736,263	1,587,920	1,134,528	32,216,675
1928-29	13,604,187	7,154,131	5,128,170	3,767,993	1,721,833	1,111,533	32,487,847
1929-30	15,150,507	7,377,421	4,795,240	3,487,769	1,846,333	1,119,722	33,776,982

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1925-26	4 5 8	3 9 2	4 19 9	4 18 5	4 5 5	5 14 3	4 5 3
1926-27	5 8 2	3 14 11	5 7 11	5 1 11	3 18 5	5 14 7	4 16 8
1927-28	5 10 1	4 2 5	5 19 3	6 9 9	4 0 11	5 5 2	5 3 6
1928-29	5 11 3	4 1 3	5 11 11	6 10 1	4 4 10	5 2 8	5 2 9
1929-30	6 2 3	4 3 1	5 3 0	6 0 2	4 8 7	5 2 4	5 5 6

During the period between 30th June, 1926, and 30th June, 1930, State revenue from taxation increased by about 32 per cent., the increase varying considerably in the different States and in the different sources of taxation.

Taking the States as a whole, taxation increased by £1 0s. 3d. per head during the same period, the most marked increase, £1 16s. 7d., occurring in the case of New South Wales, due to the introduction of the "family endowment tax" in 1927-28. Increases were recorded in all States except Tasmania, where the decrease represented 11s. 11d. per head of population.

(b) *Probate and Succession Duties.* Probate duties have been levied for many years in all the States, but the provisions of the Acts governing the payment of duty differ widely both in regard to the ordinary rates and those which apply to special beneficiaries. A table showing the values of the estates in which probates and letters of administration were granted is given later. (See Section E. Private Finance § 8 hereinafter.)

The duties collected for the financial years 1925-26 to 1929-30 are as follows:—

STATE PROBATE AND SUCCESSION DUTIES.—COLLECTIONS, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
New South Wales	1,171,364	1,223,979	1,596,804	1,816,927	1,860,052
Victoria	940,609	1,111,876	1,117,164	1,079,840	1,133,422
Queensland	356,758	402,173	556,456	524,135	491,892
South Australia	269,332	242,187	327,940	329,924	395,082
Western Australia	84,635	66,366	81,452	82,469	75,707
Tasmania	74,370	151,200	99,640	74,812	65,991
Total	2,897,068	3,197,781	3,779,456	3,908,107	4,022,146

(c) *Other Stamp Duties.* The revenue derived from stamp duties (exclusive of probate and succession duties) for the years 1925-26 to 1929-30 is shown in the accompanying table:—

STATE STAMP DUTIES (a).—COLLECTIONS, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
New South Wales	1,443,739	1,626,318	1,552,117	1,586,776	1,362,147
Victoria	1,019,250	1,061,219	1,005,957	1,017,908	985,088
Queensland	443,702	558,063	558,970	575,809	555,391
South Australia	384,000	420,932	445,517	469,861	379,546
Western Australia	224,311	246,089	263,871	291,400	255,725
Tasmania	62,858	62,700	62,267	62,623	64,929
Total	3,577,860	3,975,321	3,888,699	4,004,377	3,602,826

(a) Excludes stamp duties on betting tickets.

(d) *Land Tax.* All the States impose a land tax, although Queensland, the last State to fall into line, collected its first levy in 1915-16. In the other States the impost is of long standing. In New South Wales the State land tax is levied on the unincorporated portion of the western division of the State only.

The following table shows the amount collected by means of such taxes during the financial years 1925-26 to 1929-30 :—

STATE LAND TAX.—COLLECTIONS, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
New South Wales ..	2,667	2,870	2,744	2,870	2,588
Victoria	457,441	517,229	560,013	560,765	531,426
Queensland	468,020	481,937	531,940	569,551	556,532
South Australia ..	244,132	367,318	458,222	452,994	440,265
Western Australia ..	145,830	147,415	162,906	196,301	219,066
Tasmania	126,251	114,322	67,494	99,384	99,453
Total	1,444,341	1,631,091	1,813,319	1,881,865	1,849,330

(e) *Income Tax.* A tax on the incomes of persons, whether derived from personal exertion or from property, is also imposed in all the States. As might be expected, the rates, exemptions, etc., are widely divergent, but the general principles of the several Acts are similar. The Dividend Duties Act of Western Australia supplied to a certain extent the place of an income tax in that State in former years, but, with the increasing demands upon the Treasury, the levying of a direct income tax was found necessary.

The following table shows the total amount collected in the several States during the years 1925-26 to 1929-30. In the case of Western Australia the amount of dividend duty collected is included.

STATE INCOME AND DIVIDEND TAXES.—COLLECTIONS, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
New South Wales ..	5,392,946	7,739,627	6,382,467	7,343,049	7,084,465
Victoria	2,238,429	2,382,991	3,035,014	2,881,917	2,981,050
Queensland	2,617,253	2,821,217	3,082,552	2,768,514	2,405,810
South Australia ..	1,422,993	1,359,437	1,803,829	1,735,922	1,507,375
Western Australia ..	832,239	619,140	648,537	644,836	751,116
Tasmania	721,231	599,550	574,902	584,565	322,098
Total	13,225,091	15,521,962	15,527,301	15,948,803	15,051,914

(f) *Motor Taxation.* Motor taxation comprises tax and registration fees on motor vehicles; licences of motor dealers, motor drivers and motor cycle riders, and public vehicles except when controlled by local government authorities. The following table shows the collections for the past five years :—

MOTOR TAXATION.—COLLECTIONS, 1925-26 to 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
New South Wales ..	997,195	1,247,915	1,478,986	1,710,453	1,809,485
Victoria	641,765	804,903	922,437	1,065,734	1,147,957
Queensland	203,789	275,362	403,956	477,310	523,881
South Australia ..	a 272,974	a 368,211	a 539,521	a 623,586	a 620,571
Western Australia ..	152,201	221,107	216,567	265,059	314,300
Tasmania	49,681	68,729	68,916	80,296	89,791
Total	2,317,605	2,976,227	3,629,383	4,222,438	4,505,985

(a) Includes motor spirit tax.

In all the States except Tasmania, the proceeds of Motor Tax and Motor Registration Fees, which latter are included herein, are paid into a special roads fund and the amounts do not appear in the Consolidated Revenue Fund. In New South Wales a proportion of the collections is however retained and paid to Consolidated Revenue as an offset against administrative charges.

(iii) *Business Undertakings.* A very large proportion of State revenues is made up of receipts from public works and services under the control of the 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 States. For the year 1929-30 the revenue from these sources was £60,780,287, or 54 per cent. of the revenue from all sources. Details of revenue are as follows :—

STATE REVENUE FROM BUSINESS UNDERTAKINGS, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Railways and tramways.	a 21,730,163	a 11,729,153	a 7,356,059	a 3,299,808	3,961,994	a 508,931	48,606,108
Harbour services	c 1,017,934	70,994	85,528	582,343	363,224	..	2,120,023
Water supply and sewerage	d 3,065,321	b 620,632	..	884,351	615,476	..	5,185,780
Other ..	1,215,190	1,936,141	262,252	596,882	505,269	352,642	4,863,376
Total ..	27,028,608	14,356,920	7,703,839	5,363,384	5,465,063	861,573	60,780,287

(a) Railways only. (b) Water supply only. (c) Not paid into Consolidated Revenue. See B. 1 § 2.
(d) Portion only paid to Consolidated Revenue Fund.

As mentioned in the footnote to the table on page 268 the particulars shown above for New South Wales railways and tramways do not include a sum of £800,000, recouped to Railways Commissioners from Consolidated Revenue in respect of losses on operating country developmental railways and £327,129 which was repaid from the Consolidated Revenue Surplus of 1928-29, in respect of Sinking Fund contribution during that year.

(iv) *Lands.* The revenue from the sale and rental of Crown lands has, with few exceptions, been treated from the earliest times as forming part of the Consolidated Revenue Funds, and has been applied to meet ordinary expenses. Where the rentals received are for lands held for pastoral or residential purposes such application of the revenue would appear justifiable. On the other hand, where the rentals are for mineral and timber lands, and in all cases of sales of lands, the proceeding is essentially a disposal of capital to defray current expenses, and is, therefore, open to criticism. The following table gives the revenue from sales and rentals of Crown lands for the year 1929-30 :—

STATE LAND REVENUE, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Sales ..	110,824	82,522	..	17,972	165,885	17,236	394,439
Rental ..	1,789,696	185,083	1,154,505	224,337	150,156	31,564	3,535,341
Forestry ..	89,106	115,133	197,820	..	158,821	18,504	579,384
Total ..	1,989,626	382,738	1,352,325	242,309	474,862	67,304	4,509,164

(v) *Commonwealth Payments.* The payments to the States (inclusive of special grants but excluding the contributions in respect of sinking fund on States' Debts and Federal Aid Roads grants) represent in each instance a considerable proportion of the States' revenue, and for the year 1929-30 aggregated £8,494,412, or 7.48 per cent. of the total revenue of the States.

(vi) *Miscellaneous.* In addition to the foregoing, there are in each State several miscellaneous sources of revenue, including such items as interest, fines, fees, etc., which for the year 1929-30 aggregated £9,331,277. Of this amount, interest was responsible for £5,016,556.

Division II.—Expenditure.

1. *General.*—The principal heads of State expenditure from Consolidated Revenue Funds are:—

(a) Interest and sinking funds in connexion with public debt; (b) Working expenses of railways and tramways; (c) Justice; (d) Police; (e) Penal establishments; (f) Education; (g) Medical and charitable expenditure; and (h) All other expenditure.

Of these, that of working expenses of railways and tramways was the most important, and for the year 1929-30 represented about 34 per cent. of the aggregate expenditure from the Consolidated Revenue Fund. Next in importance for that year was the item of interest and sinking fund in connexion with the public debt, then education, medical and charitable expenditure, and police, in the order named.

2. *Total Expenditure.*—The total expenditure from Consolidated Revenue Funds in the several States, and the expenditure per head of population during each of the years 1925-26 to 1929-30 are given in the table hereunder:—

STATE EXPENDITURE.—CONSOLIDATED REVENUE FUNDS, 1925-26 TO 1929-30.

Year.	N.S.W. (a)	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL.							
	£	£	£	£	£	£	£
1925-26	42,820,400	25,559,583	16,154,404	10,460,943	8,907,308	2,698,262	106,600,900
1926-27	45,481,416	27,744,903	16,490,954	11,834,947	9,722,588	2,855,077	114,129,885
1927-28	48,857,763	27,521,270	16,707,564	11,621,834	9,834,415	2,867,605	117,410,451
1928-29	50,470,660	28,104,947	16,902,145	11,771,772	10,223,919	2,855,977	120,329,420
1929-30	52,167,117	28,496,712	16,721,055	12,176,840	10,268,519	2,981,992	122,812,235

STATE EXPENDITURE.—CONSOLIDATED REVENUE FUNDS 1925-26 TO 1929-30.—*continued.*

Year.	N.S.W. (a)	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
PER HEAD OF POPULATION.							
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1925-26	18 12 7	15 3 7	18 15 2	18 19 5	23 18 8	12 8 8	17 16 3
1926-27	19 7 5	16 4 2	18 13 10	20 17 11	25 13 5	13 5 11	18 14 1
1927-28	20 7 1	15 16 1	18 11 7	20 3 8	25 1 5	13 5 8	18 17 3
1928-29	20 12 10	15 19 2	18 8 9	20 6 5	25 3 10	13 3 9	19 0 6
1929-30	21 1 1	16 0 9	17 19 3	20 19 8	24 12 9	13 12 3	19 3 8

(a) Expenditure from Public Revenue; includes certain moneys paid from Special Funds.

Details of the expenditure for the year 1929-30 are given in the next table.

3. Details of Expenditure for 1929-30.—The following table shows the total expenditure and expenditure per head under each of the principal items:—

STATE EXPENDITURE.—DETAILS, 1929-30.

Particulars.	N.S.W. (c)	Victoria. (c)	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL.							
	£	£	£	£	£	£	£
Public debt (interest, sinking fund, etc.)	13,734,811	8,173,970	5,528,504	4,877,270	3,453,548	1,202,562	36,970,674
Railways and tramways (working expenses)	19,169,611	9,216,112	6,946,163	6,484,457	3,411,642	655,867	41,779,852
Water Supply and Sewerage	1,250,248	266,602	228,172	225,275	317,877	..	2,088,174
Justice	649,103	305,382	192,160	72,942	93,757	37,098	1,350,382
Police	1,863,021	921,383	596,057	327,572	250,200	96,214	4,054,447
Penal establishments	392,710	122,134	39,334	52,164	31,569	12,361	650,272
Education	4,881,758	2,969,156	1,788,641	1,030,934	723,672	335,319	11,729,480
Medical and charitable	3,972,895	1,434,772	1,116,593	692,386	494,970	210,536	7,922,152
All other expenditure	1,625,960	5,087,192	1,485,431	1,413,840	1,491,284	536,095	16,266,802
Total	52,167,117	28,496,712	16,721,055	12,176,840	10,268,510	2,981,992	122,812,235

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Public debt (interest, sinking fund, etc.)	5 10 10	4 12 0	5 13 9	8 8 1	8 5 8	5 9 9	5 15 6
Railways and tramways (working expenses)	17 14 9	5 3 9	6 7 9	6 0 1	8 3 9	6 10 5	6 10 6
Water Supply and Sewerage	0 10 1	0 3 0	0 0 7	0 7 9	0 15 3	..	0 6 6
Justice	0 5 3	0 3 5	0 4 2	0 2 6	0 4 6	0 3 5	0 4 3
Police	0 15 0	0 10 4	0 12 10	0 11 3	0 12 0	0 8 9	0 12 8
Penal establishments	0 3 2	0 1 5	0 0 10	0 1 10	0 1 6	0 1 2	0 2 0
Education	1 19 5	1 13 5	1 18 5	1 15 6	1 14 9	1 10 7	1 16 8
Medical and charitable	1 12 1	0 16 2	1 4 0	1 3 11	1 3 9	0 19 3	1 4 9
All other expenditure	1 2 10	2 17 3	1 11 11	2 8 9	3 11 7	2 8 11	2 10 10
Total	21 1 1	16 0 9	17 19 3	20 10 8	24 12 9	13 12 3	19 3 8

(a) Including 9.79 miles of electric tramways operated by the Victorian Railways. (b) Railways only. (c) Includes expenditure of certain moneys not paid into Consolidated Revenue. (d) Includes £531,624 adjustment of accounts at 30th June, 1928, but excludes £300,000 paid from Consolidated Revenue Fund on account of losses on country developmental Railways, and £327,129 refund of Sinking Fund contribution in 1928-29. (e) Water Supply only. (f) Includes £266,040 of 1928-29 surplus paid to Family Endowment Fund. (g) Portion only from Consolidated Revenue Fund.

§ 3. State Trust Funds.

1. Nature.—In addition to the moneys received as revenue and paid to the credit of their respective Consolidated Revenue Funds, considerable sums are held by the State Governments in trust for various purposes. 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 Governments. In all the States except New South Wales, life assurance companies operating are required to deposit a substantial sum in cash or approved securities with the Government, and these deposits help to swell the trust funds. Various other deposit accounts, superannuation funds, suspense accounts, etc., also find a place. 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 liquidated in this manner is open to question.

2. Extent.—The amount of trust funds held on the 30th June, 1930, was as follows :—

STATE TRUST FUNDS, 30th JUNE, 1930.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Amount of trust funds	24,544,829	6,026,603	602,932	1,502,992	16,483,820	801,495	49,962,671

§ 4. State Loan Funds.

Division I.—Loan Expenditure.

1. General.—So far back as the year 1842, revenue collections were supplemented with borrowed moneys, the earliest loan being by New South Wales for the purpose of assisting immigration, at rates of interest varying from 2½d. to 5¼d. per £100 per diem, or approximately from 4½ per cent. to 8 per cent. per annum. Australian public borrowing, however, is mainly due to the fact that the State Governments, in addition to ordinary administrative duties, undertake functions which in other countries are usually entrusted to local authorities or left to private enterprise. Foremost amongst these are the construction and control of the railway systems, but loan moneys have largely been used for improvements to harbours and rivers, and the construction of water supply and sewerage works. The State loan expenditure and public debt thus differ very materially from those of most European countries, and from those of the Commonwealth, where such expenditure was very largely incurred for purposes of defence, or in the prosecution of war. As shown above, the State debts consist chiefly of moneys raised and expended with the object of assisting the development of the resources of the country, and are to a very large extent, represented by tangible assets.

2. Loan Expenditure, 1929-30.—For the year ended 30th June, 1930, State net expenditure from loan funds (exclusive of revenue deficits charged to loan and Treasury Bills retired) was £24,542,464. Details for the year for each State are given in the following table :—

STATE NET LOAN EXPENDITURE, 1929-30.

Heads of Expenditure.	N.S.W. (a)	Victoria. (a)	Q'land. (c)	S. Aust.	W. Aust. (b)	Tasmania.	All States.
	£	£	£	£	£	£	£
Railways	5,034,505	953,432	739,548	405,153.	849,662	} Cr. 69,940	7,090,685
Tramways	48,305	..	..	..	..
Water Supply	467,294	} 539,648	} 115,586	} 359,013	} 338,900	..	3,417,082
Sewerage	546,071						
Water Conservation, etc.	713,585						
Harbours, Rivers and Lighthouses	396,358	46,197	15,369	188,351	263,255	} 253,825	3,786,144
Roads and Bridges	1,015,873	600,916	122,094	Cr. 31,419	315,325		
Public Buildings (other than State schools)	515,554	76,837	} 166,762	} 137,632	} 54,140	63,488	1,681,231
State Schools	331,020	258,580						77,223
Immigration	Cr. 2,071	..	..	..	7,182	..	4,511
Development of mines and mineral resources .. ..	..	..	3,423	..	92,219	..	95,642
Agricultural Bank .. ..	..	..	Cr. 56,515	Cr. 500,000	849,849	Cr. 2,781	290,578
Advances to settlers	264,133	165,609	} 39,326	} 671,105	} 794,851	20,065	3,408,499
Land purchased for settlement	606,100	846,691						Cr. 8,381
Soldier Settlement .. ..	..	590,756	Cr. 54,018	108,723	46,313	61,440	843,214
Loans to local bodies .. ..	..	..	260,935	463,285	5,084	Cr. 279,713	449,591
Rabbit-proof fencing	Cr. 2,490	20,538	Cr. 16,879	3,880	..	..	5,049
Electricity supply	112,429	1,774,954	..	..	44,050	78,175	2,009,608
Other public works and purposes	232,561	110,621	60,235	141,737	32,222	13,279	590,655
Total	10,878,627	6,034,779	1,295,866	2,493,287	3,693,052	146,853	24,542,464
Revenue deficit .. ..	..	..	..	Cr. 4,848	..	..	Cr. 4,848
Grand Total	10,878,627	6,034,779	1,295,866	2,488,439	3,693,052	146,853	24,537,616

(a) Expenditure charged to Loan Fund. (b) Excludes expenditure from Loan Suspense Account.
(c) In addition, £967,502 was charged to loan to cover debit balances on certain industrial undertakings, expenditure on which was made from Trust Funds in previous years. (d) Includes loans to Local Bodies for Water Supply and Sewerage, Cr. £23,081.

3. Loan Expenditure, 1925-26 to 1929-30.—The following table gives the loan expenditure during each of the years 1925-26 to 1929-30 :—

STATE NET LOAN EXPENDITURE, 1925-26 TO 1929-30,

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL.							
	£	£	£	£	£	£	£
1925-26	11,180,482	8,001,375	3,905,863	6,430,014	4,078,686	540,152	34,136,572
1926-27	10,422,270	8,962,353	3,598,957	6,074,387	4,113,054	329,698	33,500,719
1927-28	14,407,619	8,478,238	3,198,506	3,882,268	4,680,260	377,777	35,024,668
1928-29	14,249,082	7,128,273	2,141,653	3,536,422	4,372,269	348,818	31,776,517
1929-30	10,878,627	6,034,779	1,295,866	2,493,287	3,693,052	146,853	24,542,464
PER HEAD OF POPULATION.							
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1925-26	4 17 3	4 15 0	4 10 9	11 13 2	10 19 2	2 9 9	5 14 1
1926-27	4 8 9	5 4 9	4 1 7	10 14 6	10 17 2	1 10 8	5 9 10
1927-28	6 0 0	4 17 4	3 11 2	6 14 10	11 18 7	1 15 0	5 12 6
1928-29	5 16 7	4 1 0	2 6 9	6 2 1	10 15 5	1 12 3	5 0 6
1929-30	4 7 10	3 7 11	1 7 10	4 5 11	8 17 3	0 13 5	3 16 8

The loan expenditure per head of population varies in the different States and in different years, reaching its highest point for the five years under review in Western Australia in 1927-28 with £11 18s. 7d. per head, and its lowest in Tasmania in 1929-30 with 13s. 5d. per head.

4. Total Loan Expenditure to 30th June, 1930.—The total loan expenditure of the States from the initiation of borrowing to the 30th June, 1930, amounted to £765,956,288. The purposes for which this sum was expended are shown in the following table:—

TOTAL STATE LOAN EXPENDITURE TO 30th JUNE, 1930.

Heads of Expenditure.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
Railways	135,046,602	73,310,565	61,196,339	32,225,135	} 24,350,201	} 6,838,628	} 348,879,220
Tramways	12,292,109	..	..	63,560,641			
Telegraphs and telephones	1,762,095	..	524,387	991,772	} 332,293	} 142,410	} 3,752,957
Water supply	22,984,062	..	..	12,792,668			
Sewerage	13,368,596	} 25,818,260	} 7,211,348	} 2,420,574	} 9,314,106	} ..	} 115,245,267
Water conservation ..	13,696,048						
Harbours, rivers and lighthouses	22,278,654	1,327,361	2,417,908	7,601,184	} 5,663,109	} 6,685,092	} 78,003,879
Roads and bridges ..	13,339,763	11,267,254	2,245,304	3,202,453			
Defence	1,457,536	149,323	..	291,615	} 501,999	} 123,224	} 2,026,693
Public buildings (excluding State schools) ..	11,916,899	1,008,677	3,278,228	1,291,058			
State schools .. ..	..	4,998,621	..	1,741,616	} 1,785,695	} ..	} 27,586,131
Immigration	762,825	20,000	2,763,071	..			
Development of mines and mineral resources ..	..	520,421	..	..	} 2,461,981	} ..	} 2,982,402
Agricultural Bank ..	..	..	2,457,279	1,595,001			
Advances to settlers ..	2,595,822	2,122,415	59,112	1,914,853	} 4,584,294	} 247,621	} 8,884,195
Land purchased for settlement	7,391,707	10,872,472	1,166,200	1,694,631			
Soldier Settlement ..	..	26,512,761	1,822,792	8,754,683	} 7,914,934	} 2,302,468	} 47,307,638
Loans to local bodies ..	..	1,129,414	5,934,183	354,719			
Rabbit-proof fencing ..	384,091	616,195	351,419	257,332	} 325,703	} ..	} 1,937,740
Electricity supply ..	1,135,008	16,292,992	..	..	
Other public works and purposes	69,122,049	60,515,692	20,855,042	69,774,724	3,418,992	1,725,871	51,412,280
Total	269,533,926	182,482,423	112,282,612	98,113,204	77,673,840	25,870,274	765,956,288

(a) Includes industrial undertakings, grain elevators, returned soldiers' aid, etc. (b) Loans to Local Bodies for Tramways. (c) Includes £4,185,338 Treasury Bills retired, and Funded Deficits and Deficits on Loans, £4,881,522. (d) Includes Revenue Deficits, £3,875,682. (e) Includes Revenue Deficits, £1,036,990. (f) Includes Treasury Bills retired and Revenue Deficits, £496,272, and Deficits on Loans.

The figures in the table show the amounts actually spent, and differ from those given later in the statements relating to the public debt, which represent the amount of loans still unpaid. The statement above includes all expenditure, whether the loans have been repaid or are still in existence. In the public debt statement, however, loans repaid are not included, and in the case of loans still outstanding, each is shown according to the amount repayable at maturity, and not according to the amount originally available for expenditure.

Division II.—State Public Debts.

1. General.—The first government loan raised in Australia was obtained by New South Wales in 1842. This and nine other loans prior to 1855 were all procured locally. In the last-mentioned year, Australia approached the London market, 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 other States the first public loans were raised in the following years:—Queensland 1861, South Australia 1856, Western Australia 1845, and Tasmania 1867.

2. State Debts, 1926 to 1930.—The table hereunder shows the State public debts and the amounts owing per head of population at the 30th June in each year from 1926 to 1930 inclusive. The totals include sums advanced by the Commonwealth to the States for settling returned soldiers on the land, and for this reason they differ in some cases from those given in previous issues. On the transfer of the Queensland State Savings Bank business to the Commonwealth Bank in 1920, Queensland Government securities were handed to the latter for the Savings Bank current account credit balance and for

amounts owing on account of Advances to Settlers and Workers' Dwellings. This transaction added a total of £5,936,916 to the Public Debt without involving any additional borrowing. Repayments reduced this amount at 30th June, 1930, to £3,262,560.

As provided in the *Financial Agreement Act 1928* (particulars of which were given in Official Year Book No. 22, pages 363 and 380), the Commonwealth Government on 1st July, 1929, assumed, as between Commonwealth and States, the liabilities of the States to bondholders in respect of the debts of the States existing at 1st July, 1929, and taken over by the Commonwealth.

STATE PUBLIC DEBTS, 30th JUNE, 1926 TO 1930.

Date.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL.							
	£	£	£	£	£	£	£
30th June, 1926	223,433,708	138,738,141	102,309,501	79,259,916	70,799,260	24,475,463	639,061,929
" 1927	240,725,933	146,353,163	105,711,107	83,112,110	71,455,083	24,512,321	678,869,719
" 1928	238,474,898	157,283,470	112,138,970	93,223,165	77,071,749	24,826,660	722,019,812
" 1929	269,975,883	155,983,652	113,375,611	94,256,162	70,132,660	22,697,092	726,406,490
" 1930	270,630,848	155,719,888	112,623,979	93,986,118	71,090,141	22,688,862	727,639,836
PER HEAD OF POPULATION.							
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
30th June, 1926	98 9 3	81 17 6	116 6 10	141 18 1	188 14 5	116 17 11	105 18 4
" 1927	101 10 11	84 15 5	118 3 9	154 6 9	185 11 6	117 14 11	109 19 2
" 1928	106 13 6	89 18 1	122 13 11	159 12 5	192 16 6	117 19 2	115 2 4
" 1929	109 12 9	88 6 1	122 5 5	162 13 6	170 6 9	106 16 1	114 4 0
" 1930	108 17 11	87 6 7	119 10 6	161 17 5	171 19 3	105 5 4	113 4 11

The greatest increase in indebtedness was experienced in New South Wales, which added £47,142,140 during the period under review. The public debt of the whole of the States increased during the same period by £88,577,907, or at the rate of over £22,000,000 per annum.

3. Place of Flotation of Loans.—As pointed out previously, the yearly loans, 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 market, the practice of raising 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. Moreover, certain loans have been placed in New York on account of all States. The following table gives particulars of loans outstanding on the 30th June, 1930, which had been floated abroad and in Australia respectively:—

STATE PUBLIC DEBTS.—PLACE OF FLOTATION OF LOANS, 30th JUNE, 1930.

State.	Floated Abroad.			Floated in Australia.	Grand Total.
	London.	New York.	Total.		
	£	£	£	£	£
New South Wales	155,112,103	13,945,628	169,057,731	101,573,117	270,630,848
Victoria	58,846,378	4,658,461	63,504,839	92,215,049	155,719,888
Queensland	63,317,619	7,956,766	71,274,385	41,349,594	112,623,979
South Australia	40,914,766	1,789,767	42,704,533	51,281,585	93,986,118
Western Australia	43,706,544	2,100,052	45,806,596	26,183,545	71,990,141
Tasmania	13,142,275	236,309	13,378,584	9,310,278	22,688,862
Total	375,039,685	30,686,983	405,726,668	321,913,168	727,639,836

Particulars of the aggregate debts of the States maturing overseas and in Australia for the past five years will be found on page 283.

4. Rates of Interest.—As mentioned previously, the highest rate of interest paid for the earliest State loans was fivepence farthing per £100 per diem, or, approximately, 8 per cent. per annum. At present the rates vary from $7\frac{1}{2}$ per cent. to 3 per cent., over twenty separate rates being involved. The average rate payable on the aggregate indebtedness is more than $4\frac{1}{2}$ per cent. For the separate States the average varies considerably, being lowest in the case of Tasmania and Queensland and highest in that of South Australia, the difference between these two average rates being about $\frac{1}{2}$ per cent. The table hereunder gives particulars of the rates of interest payable at the 30th June, 1930 :—

STATE PUBLIC DEBTS.—RATES OF INTEREST PAYABLE, 30th JUNE, 1930.

Rate of Interest.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
%	£	£	£	£	£	£	£
7 $\frac{1}{2}$..	2,311,068	565,814	769,222	513,564	1,380,000	268,649	5,808,317
7 ..	..	..	2,465,838	..	..	..	2,465,838
£6/15/2 ..	1,250,000	613,248	10,742	..	477,802	..	2,351,792
£6/14/- ..	..	..	67,026	..	..	19,280	586,306
6 $\frac{1}{2}$..	6,500,000	..	2,900,820	3,000,000	250,000	2,357,399	15,008,219
£6/7/- ..	4,285,099	5,480,743	1,580,780	1,730,158	1,939,883	900,000	15,916,663
£6/2/8 ..	1,928,055	1,432,212	..	734,756	729,734	..	4,824,757
£6/1/3 ..	..	..	336,000	..	..	..	386,000
6 ..	19,957,165	8,031,486	6,226,349	14,017,925	6,351,397	602,548	55,186,870
5 $\frac{1}{2}$..	18,075,999	2,015,450	..	..	1,109,993	..	21,201,442
5 $\frac{1}{4}$..	34,908,468	13,013,512	2,421,790	6,506,924	4,763,968	1,494,243	63,108,905
5 ..	..	100,000	..	..	..	..	109,000
£5/6/11 ..	1,874,412	3,553,124	501,241	522,283	1,045,559	600,000	8,095,619
£5/5/3 ..	85,405	1,581,146	309,730	67,000	87,958	341,635	2,472,874
5 $\frac{1}{2}$..	54,952,056	29,356,200	9,956,630	23,254,049	4,528,341	3,559,345	125,606,621
5 $\frac{1}{4}$ ..	..	431,750	..	..	..	..	431,750
5 ..	56,244,952	58,162,071	42,840,544	25,020,762	23,537,623	3,096,612	208,902,569
4 $\frac{3}{4}$ ..	..	50,000	..	..	..	..	50,000
4 $\frac{1}{2}$ ..	..	6,080,730	..	500,000	..	..	6,580,730
4 $\frac{1}{4}$..	15,109,322	906,734	7,702,612	103,050	5,231,695	328,837	29,382,250
4 ..	..	500,000	..	..	..	140,759	640,759
4 ..	20,734,489	4,005,667	12,500,216	6,337,857	8,506,601	4,054,278	56,139,108
3 $\frac{1}{2}$..	1,911,650	220,000	2,019,900	1,732,252	888,008	..	6,772,410
3 $\frac{1}{4}$..	13,833,856	10,171,063	14,475,156	4,933,727	7,827,410	4,475,286	55,716,498
3 ..	16,601,415	9,448,939	5,489,383	5,001,771	2,832,504	450,000	39,524,011
Overdue ..	67,437	..	..	10,040	1,060	..	78,537
Total ..	270,630,848	155,719,888	112,623,979	93,986,118	71,990,141	22,688,862	727,639,886
Interest payable—							
London (a)	7,479,612	2,753,532	2,868,670	1,944,125	1,971,840	576,732	17,594,511
New York	677,666	228,729	462,087	89,438	105,003	11,816	1,574,789
Australia ..	5,429,516	4,761,809	2,023,480	2,725,422	1,423,205	505,775	16,869,207
Total ..	13,586,794	7,744,070	5,354,237	4,759,035	3,500,048	1,094,323	33,038,507
Average rate	5 0 5	4 10 6	4 15 1	5 1 3	4 17 3	4 16 6	4 19 1

(a) Includes contributions payable by Commonwealth and British Governments towards interest on Migration Loans.

The average rate of interest payable has risen from £4 17s. 10d. per cent. in 1925-26 to £4 19s. 1d. in 1929-30.

5. Dates of Maturity.—Securities like the British Consols are interminable, but Australian debts have in most cases a fixed date for repayment, there being a few exceptions which are included in the following table under the headings "interminable," "terminable at Government option," and "date not fixed." Those "terminable at

Government option" include amounts which are payable by the respective Governments after giving a specified notice, and those "date not fixed" consist of certain amounts owing to the Commonwealth Government. In most cases, at date of maturity renewal is effected in respect of the greater portion of the loan, as provision for redemption has been made in exceptional cases only. In order to avoid application to the market at an unfavourable time, several States adopted the practice of specifying a period 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. The Government can, therefore, take advantage of opportunities that may offer during the period for favourable renewals. Particulars concerning the due dates of the State loans outstanding on the 30th June, 1930, are given in the following table, the various maturities being grouped according to years ending 30th June, and on that account are not directly comparable with information published in previous years.

Where the Government has the option of redemption during a specified period the loan is classified according to the latest date of maturity.

While the latest dates of maturity of the various loans extend over the period 1930-31 to 1975-76, the average for the States as a whole is almost 16½ years.

**STATE PUBLIC DEBTS.—LATEST DATE OF MATURITY OF AMOUNT
• OUTSTANDING ON 30th JUNE, 1930.**

Year of Maturity (ending 30th June).	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania	Total.
	£	£	£	£	£	£	£
Overdue ..	07,437			10,040	1,060		78,537
1930-31 ..	14,148,897	11,857,305	4,612,258	3,199,765	5,134,338	1,865,801	40,818,364
1931-32 ..	5,663,345	3,928,080	622,220	3,581,650	1,297,709	291,335	15,384,339
1932-33 ..	20,611,260	7,805,146	1,198,000	5,130,746	1,462,732	837,053	37,044,937
1933-34 ..	16,175,946	19,141,435	3,004,340	6,216,794	2,583,455	379,789	47,501,759
1934-35 ..	23,419,064	15,874,520	489,770	9,552,388	7,476,943	624,065	57,438,750
1935-36 ..	16,787,447	6,700,534	3,450,820	4,146,739	2,029,822	692,880	33,808,242
1936-37 ..	4,560,342	4,857,117	2,027,464	9,113,482	1,641,809	226,010	22,426,224
1937-38 ..	304,798	523,000	473,000	1,312,959	1,939,250	32,619	4,585,626
1938-39 ..	839,720	648,375	2,300,697	2,965,182	463,533	88,853	7,306,360
1939-40 ..	5,707,250	3,132,872	1,581,320	2,344,273	830,069	6,348,630	19,950,414
1940-41 ..	16,490,900	4,534,780	4,635,932	5,990,000	3,793,253	2,203,222	37,648,087
1941-42 ..	14,070,435	1,815,270	3,895,093	2,049,021	292,630	60,841	22,183,340
1942-43 ..	8,965,954	15,514,540	1,178,200	10,063,127	652,297	1,291,697	37,065,815
1943-44 ..	918,537			64,650	756,100	15,281	1,754,568
1944-45 ..	6,400	807,475	7,435,750	798,812	5,654,390	200,000	14,902,827
1945-46 ..	11,000,800	1,065,268			10,500		12,076,568
1946-47 ..			7,591,486		1,453,600	250,000	9,295,086
1947-48 ..	8,100		590,091		250,000		848,191
1948-49 ..	3,300	5,467,314	1,211,191				6,681,805
1949-50 ..	6,200	6,231,957	1,674,066			42,000	7,954,223
1950-51 ..	12,074,300		7,834,001			2,800,000	22,708,301
1951-52 ..			679,536				679,536
1952-53 ..	8,000	239,500	2,622,326				2,869,826
1953-54 ..	3,300	478,874	628,178			143,000	1,253,352
1954-55 ..	2,700		775,378		3,345,804		4,123,882
1955-56 ..	25,637,922	2,751,094	1,884,825	762,560	1,531,655		32,568,856
1956-57 ..	5,007,603				568,396		5,575,999
1957-58 ..	22,900,603		1,551,238	1,027,207		236,300	27,622,724
1959-60 ..		2,970,700			888,608		3,859,308
1960-61 ..		6,000,000	20,228,800	2,989,617			29,218,417
1961-62 ..					4,964,083		4,964,083
1962-63 ..	10,500,000						10,500,000
1963-64 ..					1,566,000		1,566,000
1964-65 ..	14,130,000				2,666,165		16,796,165
1969-70 ..			2,000,000				2,000,000
1975-76 ..	2,909,644	14,510,817	10,755,200	14,097,898	13,298,688	1,248,025	63,820,272
Interminable ..	532,889			98,382			631,271
Terminable at Government option ..	7,361,771			5,001,771			12,363,542
Half-yearly option ..			3,992,166			681,888	4,674,054
Date not fixed ..	9,805,984	16,956,548	2,700,583	3,469,055	5,431,202	2,129,564	40,492,936
Total ..	270,630,848	155,719,888	112,623,979	93,986,118	71,990,141	22,688,862	727,639,836
Average period to maturity, years	14.57	13.41	23.12	14.39	20.16	12.39	16.15

6. Sinking Funds.—The practice of providing sinking funds has been consistently adopted in the case of Western Australia only. This State has established, in connexion 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. The funds are placed with trustees in London, by whom they are invested in securities, and applied from time to time to the redemption of loans falling due. In the other 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. The following table gives the sinking funds and net indebtedness of each State at the 30th June, 1930 :—

STATE SINKING FUNDS AND NET INDEBTEDNESS, 30th JUNE, 1930.

State.	Gross Indebtedness.	Sinking Fund.	Net Indebtedness.	Net Indebtedness per Head.
	£	£	£	£ s. d.
New South Wales	270,630,848	145,739	270,485,109	108 16 9
Victoria	155,719,888	5,091	155,714,797	87 6 7
Queensland	112,623,979	815,004	111,808,975	118 13 2
South Australia	93,986,118	8,324	33,977,794	161 17 2
Western Australia	71,990,141	1,019,975	70,970,166	169 10 6
Tasmania	22,688,862	8,013	22,680,849	105 4 7
Total	727,639,836	2,002,146	725,637,690	112 18 8

C.—COMMONWEALTH AND STATE FINANCE.

1. Revenue and Expenditure.—The appended tabular statements show the aggregate revenue and expenditure of the Commonwealth and States for each of the five years ended 30th June, 1930, allowance having been made in cases of duplication.

COMMONWEALTH AND STATES.—REVENUE 1925–26 TO 1929–30.

Year ended 30th June—	Revenue collected by Commonwealth Government(a).	Revenue collected by State Governments(b).	Total.
	£	£	£
1926	68,403,380	96,823,283	165,226,663
1927	73,777,993	105,298,063	179,076,056
1928	71,855,280	107,779,249	179,634,529
1929	72,865,813	110,939,913	183,805,726
1930	75,238,342	104,989,492	180,227,834

(a) Excluding Interest on Loans to States for Soldier Land Settlement, Miscellaneous Loans, and Balance of Interest on States' Debts.

(b) Excluding Payments by Commonwealth Government under "Surplus Revenue", "Special Grants", "Financial Agreement", and "Federal Aid Roads" Acts.

COMMONWEALTH AND STATES.—EXPENDITURE, 1925-26 TO 1929-30.

Year ended 30th June—	Expenditure by Commonwealth Government(a).	Expenditure by State Governments.	Total.
	£	£	£
1926	63,272,762	106,600,900	169,873,662
1927	62,982,107	114,129,885	177,111,992
1928	69,040,002	117,410,451	186,450,453
1929	67,119,876	120,329,420	187,449,296
1930	68,214,435	122,812,235	191,026,670

(a) Excluding Payments to States and Interest on States' Debts, etc.

2. **Taxation.**—In the table hereunder showing the combined Commonwealth and State taxation for each of the years 1925-26 to 1929-30, as well as the amount per head of population, certain taxation collections by the State Governments which are not paid into the Consolidated Revenue Fund have been included :—

TOTAL COMMONWEALTH AND STATE TAXATION, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Commonwealth—					
Customs and Excise	39,198,878	43,552,478	41,446,730	41,058,571	41,774,391
Other	15,174,127	15,442,331	15,191,128	15,244,918	16,413,384
Total	54,373,005	58,994,809	56,637,858	56,303,489	58,187,775
State	25,507,312	29,471,032	32,216,675	32,487,847	33,776,982
Grand Total	79,880,317	88,465,841	88,854,533	88,791,336	91,964,757
Taxation per head—					
Commonwealth—					
Customs and Excise	£6/10/10	£7/2/6	£6/12/11	£6/9/7	£6/10/4
Other	£2/10/8	£2/10/7	£2/8/9	£2/8/1	£2/11/1
Total	£9/1/6	£9/13/1	£9/1/8	£8/17/8	£9/1/5
State	£4/5/3	£4/16/8	£5/3/6	£5/2/9	£5/5/6
Grand Total	£13/6/7	£14/9/7	£14/5/0	£14/0/3	£14/6/9

3. **Public Debt.**—The table hereunder shows the public debt of the Commonwealth and of the States at the 30th June in each of the years 1926 to 1930. In this table all moneys borrowed by the Commonwealth on behalf of the States have been included with State debts only, and similarly, the debts taken over by the Commonwealth from South Australia on account of the Northern Territory and of the Port Augusta-Oodnadatta Railway have now been included with the Commonwealth Debt.

COMMONWEALTH AND STATE PUBLIC DEBTS, 1925-26 TO 1929-30.

Particulars.	Redeem- able.	At 30th June—				
		1926.	1927.	1928.	1929.	1930.
		£	£	£	£	£
Commonwealth— War Debt ..	Overseas	96,865,883	95,572,843	96,822,659	93,810,641	92,314,742
	Australia	207,680,474	201,332,522	199,597,448	194,007,104	190,075,790
	Total	304,546,357	296,905,376	296,420,107	287,817,745	282,390,532
Works and Other Purposes ..	Overseas	49,600,050	46,980,102	50,684,465	65,975,650	75,587,125
	Australia	27,786,307	22,726,033	22,679,517	23,828,177	14,979,705
	Total	77,386,357	69,706,135	73,363,982	89,803,827	90,566,830
States ..	Overseas	146,471,933	142,552,950	153,507,124	159,786,291	167,901,867
	Australia	228,468,781	224,058,556	219,276,965	217,835,281	205,055,495
	Grand Total	374,938,714	366,611,506	372,784,089	377,621,572	372,957,362
States ..	Overseas	357,752,782	373,306,219	416,066,672	412,496,612	405,726,668
	Australia	281,309,147	303,599,500	305,358,140	313,909,378	321,913,163
	Total	639,061,929	676,869,719	722,018,812	726,406,490	727,639,836
Grand Total Public Debt Commonwealth and States	Overseas	504,224,715	515,913,169	570,167,796	672,282,903	673,628,535
	Australia	509,775,928	527,568,055	524,035,105	531,745,159	526,963,663
	Grand Total	1,014,000,643	1,043,481,224	1,094,802,901	1,104,028,062	1,100,592,198

4. Interest Payable.—The table hereunder shows the interest payable on the public debt of the Commonwealth and of the States at the 30th June in each of the years 1926 to 1930.

COMMONWEALTH AND STATE PUBLIC DEBT, INTEREST PAYABLE AT
30TH JUNE, 1926 TO 1930.

Particulars.	Where Payable.	At 30th June—				
		1926.	1927.	1928.	1929.	1930.
		£	£	£	£	£
Commonwealth— War Debt ..	Overseas	4,855,775	4,791,410	4,854,202	4,721,540	4,647,992
	Australia	10,788,764	10,542,922	10,567,548	10,454,458	10,235,359
	Total	15,644,539	15,334,332	15,421,750	15,175,998	14,883,351
Works and Other Purposes ..	Overseas	2,494,379	2,354,361	2,827,593	3,296,946	3,779,506
	Australia	776,449	1,042,470	1,038,433	1,098,733	664,756
	Total	3,270,828	3,396,831	3,866,026	4,395,679	4,444,262
States ..	Overseas	7,350,154	7,145,771	7,681,705	8,018,486	8,427,493
	Australia	11,565,213	11,585,392	11,605,981	11,553,191	10,900,115
	Grand Total	18,915,367	18,731,163	19,287,776	19,571,677	19,327,613
States ..	Overseas	16,877,654	17,510,151	19,611,441	19,512,507	19,169,300
	Australia	14,708,525	15,853,382	15,954,987	16,415,301	16,869,207
	Total	31,586,179	33,363,533	35,566,428	35,927,803	36,038,507
Grand Total Public Debt Commonwealth and States	Overseas	24,027,808	24,655,922	27,293,236	27,530,993	27,596,798
	Australia	26,273,738	27,438,774	27,560,963	27,968,492	27,769,322
	Grand Total	50,301,546	52,094,696	54,854,204	55,499,485	55,366,120

5. Overseas Debts—Dates of Maturity.—The particulars given in the appended table show separately as at 30th June, 1930, the amounts of Commonwealth and States securities maturing overseas according to year of maturity, together with the amount of interest payable yearly thereon. It should be noted that the year of maturity is given for fiscal years ended 30th June and for that reason the information is not directly comparable with statements published in previous years. Debts with optional dates of maturity, representing about 75 per cent. of the total overseas obligations, have been grouped according to the latest year of maturity.

OVERSEAS DEBTS—DATES OF MATURITY, 30th JUNE, 1930.

Year of Maturity.	Debt Maturing Overseas.			Annual Interest Payable at 30th June, 1930, in respect of Overseas Debt maturing in years stated.		
	Debt for Commonwealth Purposes.	States' Debts.	Total Debt.	Commonwealth Purposes.	States.	Total.
	£	£	£	£	£	£
1930-31.. ..	175,244	8,607,682	8,782,926	10,748	428,327	439,075
1931-32.. ..	..	..	..	..	747,092	747,092
1932-33.. ..	..	12,992,904	12,992,904	..	593,353	593,353
1933-34.. ..	79,337	13,634,199	13,713,536	3,077	593,353	593,430
1934-35.. ..	43,051	15,560,038	15,603,139	1,722	715,508	717,230
1935-36.. ..	140,000	14,172,201	14,312,201	5,600	444,037	449,637
1936-37.. ..	805,873	2,603,833	3,409,706	30,374	88,147	118,521
1937-38.. ..	1,246	..	1,246	47	..	47
1938-39.. ..	168,202	2,359,276	2,526,478	5,908	82,530	88,447
1939-40.. ..	..	5,606,500	5,606,500	..	193,977	193,977
1940-41.. ..	15,000,000	33,720,250	48,720,250	900,000	2,058,496	2,958,496
1941-42.. ..	..	2,465,838	2,465,838	..	172,608	172,608
1942-43.. ..	..	24,659,650	24,659,650	..	1,232,982	1,232,982
1943-44.. ..	..	..	..	..	..	..
1944-45.. ..	17,354,817	12,788,047	30,142,864	867,741	580,402	1,448,143
1945-46.. ..	..	12,049,568	12,049,568	..	547,480	547,480
1946-47.. ..	..	7,772,678	7,772,678	..	302,044	302,044
1947-48.. ..	..	..	..	..	..	..
1948-49.. ..	..	5,202,146	5,202,146	..	156,064	156,064
1949-50.. ..	..	6,119,695	6,119,695	..	214,189	214,189
1950-51.. ..	..	20,867,423	20,867,423	..	774,360	774,360
1951-52 to 1953-54	..	..	..	..	..	..
1954-55.. ..	..	3,345,804	3,345,804	..	117,103	117,103
1955-56.. ..	14,565,622	32,568,056	47,133,678	706,605	1,598,977	2,305,582
1956-57.. ..	..	5,575,999	5,575,999	..	278,800	278,800
1957-58.. ..	2,500,096	27,622,724	30,212,820	129,504	1,425,850	1,555,354
1958-59.. ..	..	..	..	..	..	..
1959-60.. ..	..	3,850,724	3,850,724	..	151,807	151,807
1960-61.. ..	6,000,000	29,213,835	35,213,835	285,000	1,390,834	1,675,834
1961-62.. ..	..	4,964,033	4,964,033	..	198,563	198,563
1962-63.. ..	..	10,392,396	10,392,396	..	415,696	415,696
1963-64 to 1964-65	..	..	..	..	..	..
1965-66.. ..	..	16,796,165	16,796,165	..	826,477	826,477
1966-67 to 1968-69	..	..	..	..	..	..
1969-70.. ..	..	2,000,000	2,000,000	..	70,000	70,000
1970-71 to 1974-75	..	..	..	..	..	..
1975-76.. ..	29,683,720	65,770,208	95,453,928	1,434,186	3,288,510	4,722,696
Annual Repayments	81,294,582	..	81,294,582	3,996,985	..	3,996,985
Indefinite	27	..	27	1	..	1
Overdue	..	10,550	10,550	..	..	..
Permanent	..	1,200	1,200	..	60	60
Option of Treasurer	..	2,433,941	2,433,941	..	73,018	73,018
Total	167,901,867	405,726,668	573,628,535	8,427,498	19,169,300	27,596,798

D. THE AUSTRALIAN LOAN COUNCIL.

The Australian Loan Council, consisting of the Treasurers of the Commonwealth and of the States, was created during 1923-24 as the result of representations made by the Commonwealth Government, and has for its object the prevention of undue competition and clashing in the raising of loans.

Until July, 1925, the Council consisted of the Treasurers of the Commonwealth and of each of the States; in August of that year the Treasurer of New South Wales withdrew from the Council, but rejoined at the end of 1927.

At its first meeting, held on 1st February, 1924, the Loan Council recognized the necessity for co-operation in the raising of loans. The terms to be offered by the several governments for loans in Australia up to 30th June, 1924, were agreed to, and arrangements were made to prevent unnecessary clashing during the period required by the Commonwealth for the flotation of its War Gratuity Redemption and Conversion Loan.

Up to June, 1925, the Commonwealth and States issued their own loans in London and elsewhere outside Australia, but the amounts were limited to sums agreed upon at the Loan Council by the several Treasurers. About the middle of 1925, however, the Loan Council decided that there should be no competition for loans in the American market, and that borrowing in America, and borrowing simultaneously in America and London, on behalf of the Commonwealth and of the States, should be conducted solely by the Commonwealth. The successful flotation in July, 1925, of a loan of £20,000,000 in London and New York was regarded as proof of the soundness of the Council's new policy.

During the year 1929-30 the loan raisings amounted to £89,679,852, details concerning which are given on page 256 *ante*.

E. PRIVATE FINANCE.

§ 1. Coinage.—Australian Mints.

1. *General.*—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 Melbourne branch 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 provided an annual endowment in return for which the mint receipts were paid into the respective State Treasuries, and it might be said until recently that, apart from expenditure on buildings, new machinery, etc., the accounts paid into the Treasuries fairly balanced the mint subsidies. Early in 1923, however, it was announced that owing to losses incurred in the operations of recent years, the New South Wales Government had decided to close the Sydney branch at the end of 1923. This decision was, however, not carried out at that time, but the mint was closed at the end of 1926.

2. *Gold Receipts and Issues.* (i) *Receipts.* The receipts of gold during 1930 and the aggregate at each mint to the end of 1930 were as follows:—

AUSTRALIAN MINTS.—RECEIPTS OF GOLD, 1930, AND TOTAL.

Mint.	Deposits during 1930.	Total to end of 1930.		
		Quantity.		Value.
		Gross.	Fine.	
	Ozs. Gross.	Ozs.	Ozs.	£
Sydney .. ..	..	(a) 42,082,928	(a) 36,907,045	(a) 156,771,141
Melbourne .. ..	..	41,617,823	38,329,056	162,811,374
Perth .. ..	..	33,243,727	27,226,575	115,651,067
Total	733,875	116,944,478	102,462,676	435,233,582

(a) To end of 1926.

In cases of deposits containing over a certain minimum of silver, the excess is paid for at the rate fixed from time to time by the Deputy-Master of the branch mint concerned.

(ii) *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 a considerable quantity of gold cast into 10-oz. bars. During recent years the export was subject to regulation by the Commonwealth Government. The issues during 1930, and the total to the end of that year, are shown in the table below :—

AUSTRALIAN MINTS.—ISSUES OF GOLD.

Mint.	Coin.			Bullion.	Total
	Sovereigns.	Half-sovereigns.	Total.		
1930—	£	£	£	£	£
Melbourne ..	77,547	..	77,547	461,325	538,872
Perth ..	1,915,352	..	1,915,352	2,462	1,917,814
Total, 1930	1,992,899	..	1,992,899	463,787	2,456,686
Aggregate—					
Sydney ..	144,435,550	4,781,000	149,216,550	7,574,408	156,790,958
Melbourne ..	147,225,352	946,780	148,172,132	14,639,301	162,811,433
Perth ..	105,210,629	367,338	105,577,967	10,065,191	115,643,158
Total to end of 1930 ..	396,871,531	6,095,118	402,966,649	32,278,900	435,245,549

(iii) *Withdrawals of Worn Coin.* The mints receive light and worn coin for recoinage. The total withdrawals of worn gold coin were as follows :—Sydney (to 1926), £1,110,867; Melbourne, £882,205 (since and including 1890); and Perth, £1,401.

3. *Silver and Bronze Coinage.* (i) *Prices of Silver.* The value of silver has greatly decreased since its demonetization and restricted coinage in almost the whole of Europe. A noticeable increase, however, took place for some years after 1915, the price of silver following the general trend of world prices. Its average price in the London market in recent years is shown in the table in Chapter XXI. Mineral Industry.

(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 cost, at the average 1930 London market price of 1s. 5.66d. per ounce, approximately 17s. 8d. The difference nearly represents, therefore, the gross profit or seigniorage made on the coinage of every £3 6s. Negotiations for the coinage of silver and bronze coin in Australia took place for a number of years between the Imperial authorities and the Governments of New South Wales and Victoria, but no decision was arrived at. As section 51 of the Commonwealth Constitution makes legislation concerning "currency, coinage, and legal tender" a Federal matter, the question remained in abeyance until 1907, when the matter was discussed at the Colonial Conference, London, with the result that in the latter part of 1908 the Commonwealth Treasurer announced his intention of initiating the coinage. Since 1916 silver and bronze coins have been minted in Australia on behalf of the Commonwealth Treasury.

(iii) *Silver and Bronze Issues.* The total issues of silver and bronze coinage on account of the Commonwealth since 1910 as obtained from returns furnished by the Treasury, are set out in the following table :—

AUSTRALIAN MINTS.—SILVER AND BRONZE ISSUES BY TREASURY, 1910 TO 1930.

Year.	Silver.					Bronze.		
	2/-.	1/-.	6d.	3d.	Total.	1d.	½d.	Total.
	£	£	£	£	£	£	£	£
1910-1925 ..	2,470,600	1,504,600	574,800	582,350	5,132,350	262,413	85,650	348,063
1925-26 ..	379,000	96,300	98,000	59,575	630,875	12,830	5,760	18,590
1926-27 ..	381,000	99,400	87,900	74,575	642,875	11,810	8,865	20,675
1927-28 ..	123,400	60,600	64,400	66,800	305,200	18,460	3,620	22,080
1928-29 ..	71,000	12,400	20,000	24,500	128,000	13,080	5,510	18,590
1929-30 ..	30,000	10,000	11,200	10,000	61,200	3,020	2,310	5,330
Total ..	3,455,000	1,773,300	854,300	817,900	6,900,500	321,563	111,715	433,278

(iv) *Withdrawals of Worn Silver Coin.* The value of worn silver coins received during 1930 was as follows :—Melbourne, £35,634 ; Perth, £1,500. The total withdrawals of worn silver coin were :—Melbourne, £1,747,295 ; Perth, £129,738 ; Sydney (to 1926), £1,248,672.

4. *Standard Weight and Fineness of Coinage.*—In addition to coins minted at Melbourne and Perth mints, Imperial silver coins legally current in England and which were minted prior to 31st March, 1920, when the fineness was reduced from .925 to .500 are also legal tender in Australia. Sovereigns coined at the Royal Mint, London, or at any of its branches throughout the Empire are legal tender in Australia. The provisions as to legal tender are, gold coins, legal tender to any amount, silver for an amount not exceeding forty shillings, and bronze up to one shilling. 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.

§ 2. Cheque-Paying Banks.

1. *Banking Legislation—(i) Commonwealth 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." Legislation under this authority comprises the following Acts : No. 27 of 1900, dealing with Bills of Exchange, Cheques, and Promissory Notes ; No. 11 of 1910, dealing with Australian Notes ; and No. 14 of 1910, a Bank Notes Tax Act. The Notes Act and the Bank Notes Tax Act were supplemented in the following year by the passing of Act No. 18 of 1911, "An Act to provide for a Commonwealth Bank," which passed both Houses and was assented to on 22nd December, 1911. Some account of the foundation of the Bank appeared in No. 6 to No. 10 issues of the Official Year Book.

As the initial expenses of the Bank were heavy, the early operations resulted in a small loss, but with the increasing prosperity of the institution the early deficit was gradually reduced, until on 30th June, 1915, it was entirely extinguished. The following table shows the aggregate net profits from the initiation of the Bank to the end of each of the last five financial years :—

COMMONWEALTH BANK.—AGGREGATE PROFITS, 1926 TO 1930.

Date.	Aggregate Net Profit to Date.			
	General Bank.	Savings Bank.	Rural Credits Department.	Total.
	£	£	£	£
30th June, 1926 ..	4,309,787	1,140,740	6,024	5,456,551
" 1927 ..	4,585,181	1,446,333	26,000	6,057,514
" 1928 ..	4,909,327	1,795,822	61,266	6,766,415
" 1929 ..	5,367,950	2,037,057	109,928	7,514,935
" 1930 ..	5,868,398	2,288,389	179,337	8,336,124

In accordance with the provisions of section 30 of the Bank Act and section 9 (2) of the National Debt Sinking Fund Act, half of the net profits of the Bank have been placed to the credit of the Bank's Reserve Fund and half to the credit of the National Debt Sinking Fund. Up to 30th June, 1930, the latter fund has benefited to the extent of £1,876,400.

The Commonwealth Bank Act, 1924 was assented to on 20th August, 1924, and was brought into operation on 10th October, 1924. This Act was passed to broaden the scope of the Commonwealth Bank and to enable it to perform the functions for which it had been established. Five main amendments to the Bank Act 1911-20 are included, in accordance with which the following changes have been made:—(1.) A Board of Directors has been appointed to control not only the general business, but also that of the note issue. The Board consists of the Governor of the Bank, the Secretary to the Treasury, and six others who are or have been actively engaged in agriculture, commerce, finance or industry. In addition to the above Board there is a Board of Advice in London. (2.) The bank has been strengthened by the capitalization of £4,000,000 of the accumulated profits, and the Treasurer is authorized to raise by loans sums aggregating £6,000,000 and to lend the proceeds to the Commonwealth Bank as additional capital. The Ministry does not propose to interfere with the authority already included in the Commonwealth Bank Act to issue debentures up to £10,000,000. (3.) The Board is to fix and publish its discount rate. (4.) The associated banks settle their exchanges through the Commonwealth Bank. (5.) The associated banks supply to the Treasurer each quarter a statement of average weekly liabilities and assets in accordance with the schedule prescribed.

A further amending act—The Commonwealth Bank Act, 1927—provided for the separation of the Savings Bank Department from the General Bank and its establishment as a separate institution, and the transfer to the "Commonwealth Savings Bank of Australia" of all assets and liabilities of the Savings Bank Department. The date on which this amending act became operative was fixed by proclamation as 9th June, 1928.

The amount of capital and reserves at the date of separation was allocated as follows: Commonwealth Bank of Australia, Capital, £4,000,000: Reserve Fund, £303,857. Commonwealth Savings Bank of Australia, Reserve Fund, £1,075,298.

Since the 1st July, 1927, the Bank has published a weekly statement of the accounts of the note issue and general banking departments of the Bank.

(ii) *State Legislation.* The Acts under which the various banks are incorporated differ somewhat. While most of the older banks were incorporated by special Act or Charter, 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.

(iii) *Australian Note Issue.* In December, 1920, the Australian Note Issue was handed over to the control of the Commonwealth Bank, the notes, however, still remaining Treasury Notes. The Note Issue Department of the Bank is administered by the above-mentioned Board of Directors. The notes in circulation on 30th June, 1930, amounted to £44,914,326, of which approximately 49.8 per cent. was held by the banks and 50.2 per cent. by the public. Against this there was a reserve of gold coin and bullion

amounting to £19,931,102, or 44.38 per cent. At 30th June, 1930, the assets of the Australian Note Issue Department included investments amounting to £4,940,724, the annual amount of interest in respect of which was £206,680.

Details of the investments of the Australian Notes Account are given in Finance Bulletin No. 21.

Several important amalgamations of banking interests have taken place during recent years, particulars of which were given in the last issue of this work.

2. **Banks in Operation and Capital Resources.**—The paid-up capital of the 21 cheque-paying banks, together with their reserve funds, the rate per cent., and the amount of their last dividends are shown in the table hereunder. The information relates to the balance-sheet last preceding the 30th June, 1930. In regard to the reserve funds it must be noted 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 :—

CHEQUE-PAYING BANKS.—CAPITAL RESOURCES, 30TH JUNE, 1930.

Bank.	Paid-up Capital.	Rate per cent. per annum of last Dividend and Bonus.	Amount of last Half-yearly Dividend and Bonus.	Amount of Reserved Profits. (c)	Amount carried forward to next Balance Period.
	£	%	£	£	£
Commonwealth Bank of Australia	4,000,000	..	..	868,808	..
Joint Stock Banks—					
Bank of Australasia ..	4,500,000	14	b 630,000	4,475,000	161,943
Union Bank of Australia Ltd. ..	4,000,000	12½	250,000	4,850,000	86,336
English, Scottish and Australian Bank Ltd. ..	3,000,000	12½	b 375,000	3,080,000	347,741
Bank of New South Wales ..	7,500,000	10	a 187,500	6,150,000	163,470
Commercial Banking Coy. of Sydney Ltd. ..	4,739,013	10	236,951	4,200,000	71,503
Australian Bank of Commerce Ltd. ..	2,208,000	8	88,320	1,086,880	28,670
Primary Producers' Bank of Australia Ltd. ..	438,803	..	..	20,000	8,434
Rural (New South Wales Government)	5,694,200 ^d	..	..	..	..
National Bank of Australasia Ltd.	5,000,000	10	250,000	3,200,000	162,907
Commercial Bank of Australia Ltd. ..	3,838,759	4 Pref., 15 Ord.	163,128	1,963,750	94,190
Hallarat Banking Coy. Ltd. ..	153,000	8	6,120	85,000	5,770
Queensland National Bank Ltd.	1,750,000	8	a 35,000	840,000	6,059
Queensland Deposit Bank Ltd.	66,488	10	2,845	52,000	6,854
Federal Deposit Bank Ltd. ..	326,568	10	15,026	85,000	1,425
Brisbane Permanent Building and Banking Co. ..	400,000	10	20,000	120,000	2,435
Bank of Adelaide ..	1,250,000	8	50,000	1,000,000	49,482
State Bank of South Australia ..	1,732,076	..	..	..	..
Total Australian Banks ..	50,596,907	..	2,314,890	32,076,433	1,197,242
Bank of New Zealand ..	6,858,114	10% "A" Pref., 13 2/11% "B" Pref., 14 1/2% Ord.	b 817,969	3,550,000	623,156
Comptoir National d'Escompte de Paris ..	3,225,806	16	b 516,128	3,437,798	5,828
Yokohama Specie Bank Ltd. ..	10,000,000	10	c 500,000	e 11,150,000	623,184
Grand Total	70,680,827	..	4,148,987	50,214,236	2,449,410

(a) For three months. (b) For twelve months. (c) Exclusive of amounts carried forward to next balance period. (d) Stock and debentures issued. (e) Approximate.

3. **Liabilities and Assets.**—(i) *Liabilities, each State, Quarter ended 30th June, 1930.* 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 statement prepared by the bank for that purpose, and they have since the year 1908 furnished quarterly statements to the Commonwealth Statistician. As all other financial returns in this work generally refer to a period closing on the 30th June, the banking figures are given throughout for the June quarter of each year. The liabilities are those to the general public, and are exclusive of the bank's liabilities to their shareholders, which are shown in the preceding table. It has been deemed desirable

to keep the figures for the Commonwealth Bank separate from those of the Joint Stock Banks, and the figures set out in the tables which follow are, therefore, exclusive in every case of the Commonwealth Bank. For purposes of convenience the term "Joint Stock Banks" has been retained, although the figures in the following tables include returns from the Rural Bank branch of the Savings Bank of New South Wales and the State Bank of South Australia.

JOINT STOCK BANKS—LIABILITIES, JUNE QUARTER, 1930.

States and Territories.	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	68,870	1,363,358	1,736,537	42,907,191	78,492,878	121,400,069	124,563,834
Victoria ..	86,237	329,918	651,664	24,316,853	64,142,831	88,959,734	80,227,553
Queensland ..	(a)	604,622	100,390	12,290,990	24,759,337	37,049,727	37,754,739
South Australia ..	21,746	89,084	320,545	4,869,420	15,603,837	20,473,807	20,904,682
Western Australia ..	25,109	170,872	47,090	4,558,242	5,818,062	10,371,304	10,614,465
Tasmania ..	2,285	68,397	58,178	2,129,037	4,537,513	6,666,550	6,795,410
Northern Territory		18	24,540	91,700	84,049	175,749	200,307
Federal Capital Territory ..	(a)						
		2,871		31,033	67,466	98,499	161,370
Total ..	199,337	2,829,140	2,938,944	91,688,866	193,506,073	285,194,939	291,162,360

(a) In Queensland, Treasury Notes were used instead of bank notes.

(ii) *Liabilities, all States, June Quarters, 1926 to 1930.* In the next table, which shows the average liabilities of the Joint Stock Banks for the quarters ended 30th June, 1926 to 1930, for Australia as a whole, the growth in liabilities is almost entirely due to an increase in the deposits bearing interest.

JOINT STOCK BANKS.—LIABILITIES, JUNE QUARTER, 1926 TO 1930.

June Quarter.	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.	
1926 ..	201,551	2,792,080	3,549,630	111,420,109	153,372,042	264,792,151	271,335,412
1927 ..	200,943	2,732,069	3,474,171	110,093,351	169,117,702	279,211,653	276,618,836
1928 ..	200,326	3,500,066	2,851,923	111,678,372	177,857,269	289,535,632	296,087,882
1929 ..	199,846	3,653,919	2,629,601	110,215,432	192,059,284	302,274,716	308,758,887
1930 ..	199,337	2,829,140	2,938,944	91,688,866	193,506,073	285,194,939	291,162,360

(iii) *Assets, each State, Quarter ended 30th June, 1930.* The average assets of the banks are shown in the following table:—

JOINT STOCK BANKS.—ASSETS, JUNE QUARTER, 1930.

States and Territories.	Coined Gold and Silver and other Metals.	Gold and Silver in Bullion or Bars.	Australian Notes and Cash with Commonwealth Bank.	Government and Municipal Securities.	Landed and House Property.	Balances Due from other Banks.	Notes and Bills of other Banks.	Discounts, Over-drafts, and all other Assets.	Total Assets.
	£	£	£	£	£	£	£	£	£
N.S.W.	1,910,535	4,873	13,592,921	8,223,290	3,286,047	4,782,790	621,913	121,884,348	154,306,717
Victoria	1,255,334	22,491	10,671,958	9,929,096	2,202,698	783,444	777,611	79,886,946	105,529,578
Q'land	515,959	460	3,703,126	1,720,740	1,227,468	790,402	260,437	34,964,140	43,092,732
S. Aust.	409,856	473	2,739,219	483,593	482,569	310,502	100,030	22,605,750	27,131,992
W. Aust.	372,399	130,415	1,704,124	110,140	563,885	66,897	86,224	20,012,301	23,046,295
Tasmania	126,894		1,029,131		151,490	30,073	23,262	4,796,806	6,157,656
Nor. Ter.	1,481	18	5,776		500			31,344	39,119
Fed. Cap. Ter.	1,652		15,794		25,108	499	786	101,504	145,843
Total	4,594,110	158,730	33,462,049	20,466,859	7,939,765	6,674,517	1,870,263	234,283,139	359,449,432

(iv) *Assets, all States, June Quarter, 1926 to 1930.* The average assets of the banks for the June quarters of each of the years 1926 to 1930 are given below.

JOINT STOCK BANKS.—ASSETS, JUNE QUARTER, 1926 TO 1930.

June Quarter.	Gold and Silver and Other Metals, Coin, Bullion or Bars.	Australian Notes.	Government and Municipal Securities.	Landed and Other Property.	Balance-Due from Other Banks.	Notes and Bills of Other Banks.	Discounts, Overdrafts, and all Other Assets.	Total Assets.
	£	£	£	£	£	£	£	£
1926	20,070,333	22,635,460a	17,232,471	6,532,006	3,879,783	2,321,218	213,252,020	292,523,291
1927	20,322,453	22,555,655a	15,119,232	6,699,599	3,712,835	2,161,994	236,136,717	312,708,485
1928	25,796,158	27,284,852a	23,918,520	6,975,330	5,554,746	2,129,041	240,677,748	332,336,396
1929	25,455,684	23,108,635a	24,391,764	7,358,170	5,119,403	2,135,997	267,831,631	355,400,684
1930	4,752,840	33,462,040a	20,466,859	7,939,765	6,674,517	1,870,263	284,283,139	359,449,432

(a) Including cash with Commonwealth Bank.

4. *Percentage of Coin, Bullion, and Australian Notes on Liabilities at Call.—*
 (i) *General.* 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, is 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. Since 1912, however, the former item has steadily decreased, and is now almost negligible as compared with the latter.

JOINT STOCK BANKS.—PERCENTAGE ON LIABILITIES OF COIN, BULLION, AND AUSTRALIAN NOTES, 1926 TO 1930.

Year.	Liabilities at Call.	Coin, Bullion, and Australian Notes.	Percentage on Liabilities at Call.
	£	£	%
1926	111,621,660	49,305,793	44.17
1927	110,294,894	48,878,108	44.32
1928	111,378,698	53,081,010	47.44
1929	110,415,278	48,564,319	43.98
1930	91,888,203	38,214,889	41.59

The figures in the last column show that the banks generally consider it advisable to hold over 40 per cent. of the amount of liabilities at call in coin, bullion, and notes.

(ii) *Percentage in each State.* The proportion of coin, bullion, and Australian notes to liabilities at call varies considerably amongst the States, and sometimes in the same State from year to year. A table is appended showing the percentage for each State for the quarter ended 30th June in each of the years 1926 to 1930:—

JOINT STOCK BANKS.—PERCENTAGE OF COIN, BULLION, AND AUSTRALIAN NOTES ON LIABILITIES AT CALL, 1926 TO 1930.

June Quarter.	N.S.W. (a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
	%	%	%	%	%	%	%	%
1926 ..	44.74	45.53	30.52	49.71	59.24	46.69	6.95	44.17
1927 ..	42.19	46.33	33.97	53.00	61.60	47.84	9.87	44.32
1928 ..	42.82	55.40	33.81	58.84	64.11	49.81	9.12	47.44
1929 ..	43.01	46.17	31.11	64.12	48.76	49.86	8.80	43.98
1930 ..	36.10	47.99	34.33	64.39	48.20	54.24	7.93	41.59

(a) Includes Federal Capital Territory.

☞ (iii) *Queensland Treasury Notes.*—In Queensland, Treasury notes took the place of bank notes in 1893. These Treasury notes are disregarded in the quarterly statement of the banks; according to Treasury returns the amount outstanding on 30th June, 1930, was £22,450. Under the Australian Notes Act, previously referred to, the issue of notes by a State is now prohibited.

5. *Deposits and Advances.*—(i) *Deposits.* The amount and average per head of population of deposits held by the banks during each of the last five years are given hereunder.

JOINT STOCK BANKS.—DEPOSITS, 1926 TO 1930.

Year.	N.S.W. (a)	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	All States.
TOTAL.								
	£	£	£	£	£	£	£	
1926	104,372,440	90,067,719	33,668,028	21,362,996	0,505,222	5,540,665	215,075	264,702,151
1927	106,533,424	91,923,910	32,990,221	22,025,309	10,067,814	5,833,872	211,103	270,211,653
1928	120,617,512	91,910,458	36,193,107	22,095,419	11,293,652	6,599,601	219,833	289,535,632
1929	120,221,754	98,457,790	37,735,443	21,291,423	11,539,399	6,844,893	194,044	302,274,716
1930	121,408,508	88,959,734	37,049,727	20,473,307	10,371,304	6,666,550	175,749	285,194,939

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1926	45 0 3	53 4 2	38 10 10	38 6 11	22 17 7	26 5 9	57 11 1	43 18 2
1927	45 0 11	53 6 7	37 1 5	39 13 9	20 5 5	27 17 4	50 11 1	43 10 3
1928	49 14 2	52 11 1	39 17 8	39 6 5	28 7 10	31 4 9	51 16 9	46 3 0
1929	51 2 10	55 14 5	40 17 6	36 14 9	28 2 4	32 2 8	47 7 3	47 9 10
1930	48 14 7	49 17 8	39 9 7	35 5 5	24 16 2	30 18 0	37 11 4	44 6 6

(a) Includes Federal Capital Territory.

(ii) *Advances.* In the quarterly statements furnished by the banks, the column headed "all other debts due to the banks" is made up of such miscellaneous items as bills discounted, promissory notes discounted, overdrafts on personal security, overdrafts secured by deposits of deed or by mortgage, etc. The form prescribed for quarterly returns furnished to the Commonwealth Statistician in 1908 and 1909 provided for a division of the amounts under this heading into a number of sub-headings, but all the banks were not in a position to make the necessary division, and as it is impossible to separate these items the totals in the column must, therefore, be treated as advances. The following table shows the totals for each State during the years 1926 to 1930:—

JOINT STOCK BANKS.—ADVANCES, 1926 TO 1930.

Year.	N.S.W. (a)	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	All States.
	£	£	£	£	£	£	£	£
1926	85,124,897	67,568,544	28,272,761	15,017,374	12,712,905	4,546,061	9,478	213,252,020
1927	91,218,825	75,668,559	31,929,601	18,447,113	14,047,168	4,819,660	10,781	236,136,717
1928	100,453,971	72,017,807	31,080,984	18,145,454	14,340,517	4,622,252	16,763	240,677,748
1929	113,899,867	76,723,122	33,093,449	21,633,865	17,693,739	4,753,570	26,019	267,831,631
1930	121,985,852	79,886,946	34,964,140	22,605,750	20,012,301	4,796,806	31,344	284,283,139

(a) Includes Federal Capital Territory.

(iii) *Proportion of Advances to Deposits.* The percentage of advances on total deposits shows to what extent the needs of one State are supplied by the resources of another State, and, where the percentage for Australia as a whole exceeds 100 (as it did in the early years of the century), the banks must have supplied the deficiency from their own resources, or from deposits obtained outside Australia.

JOINT STOCK BANKS.—PERCENTAGE OF ADVANCES ON DEPOSITS,
1926 TO 1930.

Year.	N.S.W. (a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
	%	%	%	%	%	%	%	%
1926 ..	81.56	75.02	83.98	70.30	132.91	82.05	4.41	80.54
1927 ..	85.60	82.32	96.77	81.53	139.53	82.62	5.08	87.39
1928 ..	83.28	78.35	85.88	79.95	126.98	70.04	7.62	83.13
1929 ..	90.24	77.92	87.70	101.62	153.50	69.46	13.41	88.61
1930 ..	100.40	89.80	94.37	110.42	192.96	71.95	17.83	99.68

(a) Includes Federal Capital Territory.

6. Commonwealth Bank of Australia.—(i) *Liabilities, June Quarter, 1930.*—It has been considered desirable that particulars of the liabilities and assets of the Commonwealth Bank should be shown separately from other trading banks. In effecting comparisons with previous years, it should be noted that the Savings Bank Department functions as a separate entity, and such figures have been excluded for 1929–30.

COMMONWEALTH BANK OF AUSTRALIA.—LIABILITIES, JUNE QUARTER, 1930.

States and Territories.	Bills in Circulation.	Balances Due to Other Banks.	Deposits.			Total Liabilities.
			Not Bearing Interest.	Bearing Interest.	Total Deposits.	
	£	£	£	£	£	£
New South Wales ..	115,788	5,978,496	5,380,381	3,952,845	9,333,226	15,427,510
Victoria ..	56,901	6,720,916	1,489,426	2,647,464	4,136,890	10,914,707
Queensland ..	45,674	1,897,394	2,668,015	4,566,080	7,234,095	9,177,163
South Australia ..	34,947	1,008,663	1,597,205	363,893	1,961,098	3,004,708
Western Australia ..	15,609	799,013	810,207	1,025,226	1,835,433	2,650,055
Tasmania ..	9,661	532,553	252,751	486,073	738,823	1,281,043
Federal Capital Territory ..	280	811	81,209	48,607	129,816	130,907
Total ..	278,860	16,937,846	12,279,194	13,090,193	25,369,387	42,586,093

(ii) *Liabilities, all States, June Quarter, 1926 to 1930.*—The average liabilities in the years specified are given in the table below.

COMMONWEALTH BANK OF AUSTRALIA.—LIABILITIES, JUNE QUARTER,
1926 TO 1930.

Quarter ended 30th June—	Bills in Circulation.	Balances Due to Other Banks.	Deposits.				Total Liabilities.
			Not Bearing Interest.	Bearing Interest.	Savings Bank Deposits.	Total Deposits.	
	£	£	£	£	£	£	£
1926 ..	355,240	6,045,894	23,350,534	7,103,349	43,068,182	73,522,065	79,923,199
1927 ..	258,605	7,306,854	20,435,503	8,216,302	44,212,050	72,863,855	80,429,314
1928 ..	327,570	12,053,761	14,901,816	9,411,560	45,705,114	70,018,490	82,399,821
1929 (a) ..	258,661	9,225,120	17,479,342	10,413,202	(a)	27,892,544	37,376,325
1930 (a) ..	278,860	16,937,846	12,279,194	13,090,193	(a)	25,369,387	42,586,093

(a) The Commonwealth Savings Bank was created a separate department on 9th June, 1923.

(iii) *Assets, June Quarter, 1930.* The assets for the June Quarter, 1930, are as follows:—

COMMONWEALTH BANK OF AUSTRALIA.—ASSETS, JUNE QUARTER, 1930.

States and Territories.	Coin.	Bullion.	Austra- lian Notes.	Govern- ment and Municipal Securities.	Landed and House Property.	Balances Due from Other Banks.	Notes and Bills of Other Banks.	Discounts, Overdrafts, and all other Assets (not including Contingent Assets).	Total Assets.
	£	£	£	£	£	£	£	£	£
N.S.W. ..	339,391	..	2,174,181	13,949,102	186,371	107,040	1,491	6,966,912	23,724,468
Victoria ..	480,281	4	1,246,635	2,000,000	136,586	13,388	327	4,566,723	8,443,944
Queensland	168,087	16	927,740	4,739,539	150,979	39,713	470	1,691,652	7,718,196
S. Australia	126,517	..	624,745	519,846	33,627	3,658	448	822,277	2,131,118
W. Australia	168,666	1,740	556,732	1,574,077	25,734	3,979	83	847,687	3,178,698
Tasmania ..	92,148	..	192,613	500,000	5,756	2,202	198	158,434	951,351
Nor. Ter. ..	..	..	..	..	..	..	..	..	..
Fed. Cap. Ter.	1,622	..	21,081	..	1,000	365	8	58,157	82,233
Total ..	1,876,712	1,760	5,743,707	23,282,564	540,053	170,345	3,025	15,111,842	46,230,008

(iv) *Assets, all States, June Quarter, 1926 to 1930.*—Particulars of the assets for the last five years are given in the following table:—

COMMONWEALTH BANK OF AUSTRALIA.—ASSETS, JUNE QUARTER, 1926 TO 1930.

Quarter ended 30th June—	Coin.	Bullion.	Austra- lian Notes.	Govern- ment and Municipal Securities.	Landed and House Property.	Balances Due from Other Banks.	Notes and Bills of Other Banks.	Discounts, Overdrafts, and all other Assets (not including Contingent Assets).	Total Assets.
	£	£	£	£	£	£	£	£	£
1926 ..	6,016,703	945	12,219,139	42,278,108	848,416	2,889,718	954,635	13,113,051	78,320,715
1927 ..	1,141,600	11,209	7,092,716	52,904,863	705,070	1,580,422	2,157,966	17,043,767	82,637,613
1928 ..	755,551	51,302	4,507,681	57,057,707	644,182	142,832	2,154,022	16,697,661	82,010,968
1929(a) ..	1,044,917	1,663	4,216,102	13,695,886	519,511	80,311	3,042	14,721,274	34,252,706
1930(a) ..	1,376,712	1,760	5,743,707	23,282,564	540,053	170,345	3,025	15,111,842	46,230,008

(a) Excludes Commonwealth Savings Bank.

7. *Clearing Houses.*—The following particulars of Clearing House returns have been furnished by the Associated Banks, Melbourne. Figures showing the weekly average clearings in each capital city are supplied by the Commonwealth Bank and published in the Quarterly Summary of Australian Statistics issued by this Bureau.

CHEQUE-PAYING BANKS.—CLEARING HOUSE RETURNS, 1926 TO 1930.

Year.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
	£	£	£	£	£	£
1926	954,523,000	790,111,000	195,719,000	178,998,000	103,523,000	25,691,000
1927	1,034,894,000	825,676,000	192,274,000	186,752,000	111,454,000	26,805,000
1928	1,033,511,000	762,851,000	196,566,000	164,166,000	112,503,000	28,226,000
1929	1,043,324,000	814,668,000	196,289,000	156,685,000	114,589,000	27,364,000
1930	893,159,000	725,916,000	167,963,000	125,684,000	89,032,000	23,093,000

8. *Rates of Exchange, Australia on London.*—The following statement, which has been prepared from data courteously supplied by Mr. A. C. Davidson, General Manager, Bank of New South Wales, Sydney, shows particulars of the various rates of exchange,

Australia on London, in operation since 16th October, 1913. The details given show the value in Australia of £100 in London according to the rates quoted by the Associated Banks for buying and selling £100 in London on telegraphic transfer. Prior to 30th October, 1920, when "T.T." buying rates were not quoted, the rate was determined approximately by applying the difference between the buying and selling rates for "On Demand" drafts to the quoted "T.T." selling rate.

EXCHANGE RATES—AUSTRALIA ON LONDON, TELEGRAPHIC TRANSFER, 1913 TO 1931.

Date on which rate began to operate.	Exchange.				Commission for £100 (Sterling).	
	London.	Australia (Mean of Buying and Selling Rates).				
		£ sterling	£	s.		d.
16th October, 1913	100	100 plus	0	6	3	s. d.
19th August, 1914	"	" "	0	10	0	8 9
29th September, 1914	"	" "	0	15	0	15 0
24th October, 1914	"	" "	1	0	0	15 0
12th May, 1915	"	" "	0	17	6	15 0
30th September, 1915	"	" "	1	0	0	12 6
23rd February, 1916	"	" "	1	5	0	12 6
15th November, 1916	"	" "	0	18	9	13 9
29th May, 1917	"	" "	0	12	6	15 0
3rd October, 1917	"	" "	0	7	6	15 0
12th January, 1920	"	" "	0	2	6	15 0
8th October, 1920	"	" "	0	15	0	15 0
14th October, 1920	"	" "	0	13	9	16 3
30th October, 1920	"	" "	1	5	0	15 0
10th December, 1920	"	" "	1	15	0	15 0
23rd December, 1921	"	" "	1	10	0	15 0
17th February, 1922	"	" "	1	2	6	12 6
6th April, 1922	"	" "	0	15	0	15 0
15th May, 1922	"	" "	0	10	0	15 0
14th July, 1922	"	" "	0	2	6	15 0
8th September, 1922	"	100 less	0	3	9	13 9
10th October, 1922	"	" "	0	7	6	12 6
7th November, 1922	"	" "	0	10	0	15 0
14th January, 1924	"	" "	1	0	0	10 0
22nd February, 1924	"	" "	1	5	0	10 0
10th March, 1924	"	" "	1	10	0	10 0
8th May, 1924	"	" "	2	0	0	10 0
5th September, 1924	"	" "	2	5	0	10 0
29th September, 1924	"	" "	2	10	0	10 0
15th October, 1924	"	" "	3	0	0	10 0
6th May, 1925	"	" "	0	12	6	2 6
10th June, 1925	"	" "	0	2	6	2 6
9th June, 1926	"	" "	0	1	3	3 9
20th April, 1927	"	100 plus	0	6	3	3 9
27th June, 1927	"	" "	0	8	9	3 9
8th July, 1927	"	" "	0	11	3	3 9
19th March, 1928	"	" "	0	15	0	5 0
22nd July, 1929	"	" "	1	0	0	5 0
3rd September, 1929	"	" "	1	5	0	5 0
10th October, 1929	"	" "	1	10	0	5 0
18th December, 1929	"	" "	1	17	6	5 0
28th January, 1930	"	" "	2	6	3	6 3
17th February, 1930	"	" "	2	16	3	6 3
10th March, 1930	"	" "	3	16	3	6 3
24th March, 1930	"	" "	6	6	3	3 9
9th October, 1930	"	" "	8	15	0	5 0
6th January, 1931	"	" "	15	6	3	3 9
13th January, 1931	"	" "	18	3	9	3 9
17th January, 1931	"	" "	25	5	0	5 0
29th January, 1931	"	" "	30	5	0	5 0

The "Commission" which represents the bank's "turn" on each £100 sterling exchanged has been computed by taking half the difference between the buying and selling rates.

§ 3. Savings Banks.

1. *General.*—In the following tables dealing with Savings Banks the figures for all the States except Tasmania refer to financial years ended 30th June. In the case of Tasmania, figures for the two trustee savings banks are made up to the last day of August, prior to the year 1929, since when the particulars relate to 30th June. The figures in each State are inclusive of the Savings Bank Department of the Commonwealth Bank.

2. *Accounts Open and Deposits.*—(i) *Accounts Open.* The number of accounts open (not of individual depositors) and the number per 1,000 of the population, at 30th June in each of the last five years are shown in the following table:—

SAVINGS BANKS.—ACCOUNTS OPEN, 1926 TO 1930.

30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	All States.
NUMBER.									
1926 ..	1,440,688	1,396,438	420,908	489,148	292,358	138,993	978	5,744	4,185,250
1927 ..	1,599,912	1,455,581	438,282	512,332	309,540	142,028	1,197	6,580	4,465,458
1928 ..	1,689,280	1,515,097	458,960	530,382	330,284	150,091	1,349	7,876	4,688,419
1929 ..	1,799,708	1,575,089	480,160	553,647	350,046	168,939	1,308	8,531	4,937,428
1930 ..	1,868,231	1,610,940	501,074	568,626	367,665	178,054	1,323	9,132	5,105,045

PER 1,000 OF POPULATION.

1926 ..	602	824	479	876	779	665	259	893	692
1927 ..	674	843	490	897	804	744	281	874	724
1928 ..	697	866	502	917	825	743	337	984	746
1929 ..	731	891	518	955	850	795	314	1,023	775
1930 ..	752	903	532	979	878	826	277	1,033	793

In connexion with the number of accounts open per 1,000 of the population, it must be borne in mind that savings bank accounts are not restricted to adults, since many accounts are opened in the names of children. The proportion, notwithstanding, is a very large one, amounting in the case of Australia to 80 per cent. and rising in Victoria to 90 per cent. and in South Australia to 98 per cent. and in the Federal Capital Territory to 103 per cent. of the population. As it is possible in some States for the same person to have accounts in both Commonwealth and State Savings Banks, the figures given are somewhat in excess of the number of individual depositors. Allowance must also be made for the fact that the funds of various societies, small trust funds, etc., are sometimes deposited in Savings Banks.

(ii) *Deposits.* The table below shows the amount at credit of depositors, the average per account open, and the average amount deposited per head of population at the end of each of the last five years:—

SAVINGS BANKS.—DEPOSITS, 1926 TO 1930.

30th June.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	All States.
TOTAL.									
1926	£ 73,629,455	£ 63,253,525	£ 22,836,909	£ 21,778,970	£ 8,989,824	£ 4,772,780	£ 36,577	£ 178,195	£ 195,456,285
1927	78,145,643	65,852,619	22,452,749	23,600,897	9,694,396	5,079,274	48,025	206,090	204,579,698
1928	81,627,667	68,826,768	23,324,829	24,941,688	10,645,373	5,522,766	64,617	234,754	215,188,482
1929	85,727,513	72,799,991	24,075,564	25,228,402	11,609,190	5,811,458	47,291	279,355	225,485,704
1930	82,465,430	69,367,233	23,901,136	24,012,176	11,728,617	5,699,321	48,913	287,671	217,510,517

AVERAGE PER SAVINGS BANK ACCOUNT.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1926	51 2 2	45 5 11	54 5 1	44 10 6	30 13 8	34 6 9	37 8 0	31 0 5	46 14 0	
1927	48 16 10	44 17 11	51 4 7	40 1 4	31 6 4	35 15 3	40 2 5	31 6 5	45 16 3	
1928	48 0 5	45 7 11	50 18 5	47 0 6	32 4 7	35 7 8	47 18 0	29 10 2	45 18 0	
1929	47 12 8	46 3 3	50 2 10	45 11 4	33 3 4	34 8 0	36 3 1	32 14 11	45 13 4	
1930	44 2 10	43 1 2	47 14 0	42 4 9	31 18 0	32 0 2	36 19 5	31 10 0	42 12 2	

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1926	31 15 7	37 6 7	25 19 5	38 19 11	23 18 2	22 15 11	0 13 10	27 13 5	32 6 9	
1927	32 19 3	37 17 1	25 2 1	41 6 10	25 3 7	24 8 0	11 5 6	27 5 3	33 9 5	
1928	33 13 9	39 6 10	25 11 8	43 3 5	26 12 8	26 4 10	15 4 4	29 6 1	34 4 10	
1929	34 16 3	41 2 8	25 19 5	43 10 10	23 3 11	27 6 11	11 6 10	33 10 3	35 7 7	
1930	33 3 8	38 18 0	25 7 4	41 7 2	28 0 4	26 8 10	10 5 0	32 10 9	33 15 7	

(iii) *Extension of Use of Facilities.* The prime object of the foundation of Savings Banks in Australia was the encouragement of thrift, nevertheless the facilities offered by these institutions, while preserving the original object, have led to developments in another direction. Although depositors may not operate on their accounts by means of cheques, they have practically all the other advantages of a current account in addition to receiving interest on their minimum monthly balances, while no charge is made by the banks for keeping the accounts.

Considerable use has for long been made of the Savings Bank account as an alternative to a fixed deposit with a cheque-paying bank. Deposits in Savings Banks may be withdrawn at any time with a minimum loss of interest, the rate of which is fixed, generally at one-half per cent. less than that offered by trading banks for six months deposits.

The classification of accounts and depositors' balances at 30th June, 1930, as disclosed by four State institutions shows the following proportions. School and Penny Savings Bank accounts and special purpose accounts have been excluded.

Balances.	Percentage on Total.	
	Accounts.	Deposits.
	%	%
Under £100	87	20
Over £100 but under £500	11	48
Over £500 but under £750	1	16
Over £750 but under £1,000	1	9
Over £1,000 .. .. .	..	7
Total	100	100

The classification of accounts published by Savings Banks does not permit of an analysis in greater detail, but a reliable estimate indicates that 95 per cent. of the accounts had balances under £300 while the deposits in such accounts represented 48 per cent. of the total. In these circumstances, inferences from the amount of deposits per head must be made with great caution.

The principal State Savings Banks have fixed an interest-bearing limit of £1,000 (the Commonwealth Savings Bank limit is £1,300 except in Queensland, £2,000) which, however, does not apply to the accounts of friendly and other societies, interest being allowed on unlimited deposits.

State Savings Banks have been of very material assistance to the State Governments inasmuch as they provided a very convenient source for raising loans. At 30th June, 1930, the investments of Savings Banks included nearly £84,000,000 in Government securities out of total assets of over £178,000,000.

3. Rates of Interest.—The rates of interest allowed, and the limits of interest-bearing deposits, are as follows:—New South Wales Government Savings Bank, 4 per cent. up to £1,000; Victoria, 4 per cent. up to £1,000, also 4½ per cent. on deposit stock up to £1,000; South Australia, 4 per cent. on accounts closed during the year, and 4½ per cent. up to £500, thence 4½ per cent. to £1,000 on accounts remaining open; Western Australia, 4 per cent. on current accounts to £500, thence 3½ per cent. to £1,000 and 3 per cent. on excess of £1,000; Hobart Trustees' Savings Bank, 4½ per cent. up to £300 and 5 per cent. on twelve months deposits; Launceston Trustees' Savings Bank, 4½ per cent. up to £300; and Commonwealth Savings Bank, in all States except Queensland where no State Savings Bank is in existence, 4 per cent. on the first £500, 3½ per cent. on the next £500, and 3 per cent. upon another £300. In Queensland, the rate is 4 per cent. for the first £500 and 3½ per cent. on the excess up to £2,000.

4. Annual Business.—The business transacted by the savings banks is very large as compared with the total amount of deposits (See 2 iii *ante*). The following table shows the business transacted during the year 1929–1930:—

SAVINGS BANKS.—TRANSACTIONS, 1929–30.

States and Territories.	Total Deposits at end of Year 1928–29.	Amounts Deposited during Year 1929–30.	Interest Added during Year 1929–30.	Total.	Amounts Withdrawn during Year 1929–30.	Total Deposits at end of Year 1929–30.
	£	£	£	£	£	£
New South Wales ..	85,727,513	76,362,544	3,114,905	165,204,962	82,739,532	82,465,430
Victoria ..	72,706,991	59,052,398	2,673,273	134,432,667	65,065,414	69,367,253
Queensland ..	24,075,504	24,602,899	896,869	49,575,272	25,674,136	23,901,136
South Australia ..	25,228,402	16,157,215	1,082,853	42,468,470	18,456,294	24,012,176
Western Australia ..	11,609,190	12,814,635	437,652	24,861,477	13,132,860	11,728,617
Tasmania ..	5,811,458	4,313,512	232,992	10,357,962	4,658,641	5,699,321
Northern Territory ..	47,291	44,968	1,779	94,038	45,125	48,913
Federal Cap. Territory	279,355	341,331	10,342	631,028	343,357	287,671
Total ..	225,485,704	193,689,502	8,450,670	427,625,876	210,115,359	217,510,517

5. **Commonwealth Savings Bank.**—The figures in the preceding tables include those relating to the Savings Bank Department of the Commonwealth Bank, which commenced operations in Victoria on the 15th July, 1912, in Queensland on the 16th September, 1912, in the Northern Territory on the 21st October, 1912, and in the States of New South Wales, South Australia, and Western Australia on the 13th January, 1913. Extensive use is made of the country post-offices as local agencies.

The Commonwealth Bank absorbed the Tasmanian State Savings Bank in January, 1913, on terms set out in Official Year Book No. 6. The transfer of the Queensland Savings Bank was effected in 1920.

The following table gives the number of accounts, and the amount at credit on 30th June, 1930, at the various branches of the Commonwealth Savings Bank :—

COMMONWEALTH SAVINGS BANK, 30th JUNE, 1930.

Locality.	Number of Accounts.	Amount at Credit.
		£
New South Wales	385,302	11,899,198
Victoria	198,010	6,424,278
Queensland	501,074	23,901,136
South Australia	65,300	2,145,811
Western Australia	101,401	3,240,252
Tasmania	69,471	1,682,727
Northern Territory	1,323	48,913
Federal Capital Territory	7,820	220,559
Total, Australia	1,329,701	49,562,874
Papua and New Guinea	2,922	114,914
London	4,017	371,936
Grand Total	1,336,640	50,049,724

As mentioned in §2 (page 288), the Commonwealth Savings Bank Department was from 9th June, 1928, separated from the General Bank.

§ 4. Companies.

1. **General.**—Statistics available in regard to registered companies 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 for eight Victorian, two New South Wales, one Queensland, four South Australian, two Western Australian and four Tasmanian companies. The paid-up capital of these twenty-one companies amounted to £1,328,452; reserve funds and undivided profits to £983,032; other liabilities, £578,020; total liabilities, including capital, £2,889,504. Among the assets are included—Deposits with Governments, £225,030; other investments in public securities, fixed deposits, etc., £611,394; loans on mortgage, £490,824; property owned, £957,799; other assets, £604,457. Of the twenty-one companies, ten show the total amount of the estates, etc., under administration, the total for 1930 being approximately £122,381,533. In respect of the twenty-one companies, net profits for the year totalled £199,740, of which £151,370 was paid in dividends.

3. Registered Building and Investment Societies.—(i) *General*. Returns have been received relating to 219 societies, but the information is not exhaustive, as particulars regarding unimportant organizations are not included.

REGISTERED BUILDING AND INVESTMENT SOCIETIES.—SUMMARY, 1929.

Particulars.	N.S.W. (d) 1928-29.	Vic. 1929.	Q'land. 1928-29.	S. Aust. 1929.	W. Aust. 1928-29.	Tas. 1929.	Total.
Societies making returns—							
Permanent ..	7	14	10	8	5	4	219
Terminating ..	137	11					
Number of shareholders ..	(c) 2,218	9,688	7,384	19,161	16,262	4,641	59,354
Number of shares ..	(c) 28,772	(a)	1,829,792	72,313	38,038	43,892	62,012,807
Number of borrowers ..	(c) 4,453	11,953	5,134	3,349	2,634	1,590	29,118
Income for year from interest ..	£ 197,036	397,651	87,004	45,255	54,268	47,416	828,630
Working expenses for year ..	£ 158,008	177,522	12,559	14,335	42,532	17,325	422,281
Amount of deposits during year ..	£ 475,412	1,786,409	241,839	225,432	277,917	37,589	3,044,598
Repayment of loans during year ..	£ 769,276	1,257,625	240,776	164,676	200,416	126,964	2,759,733
Loans granted during year ..	£ 808,312	1,069,738	351,276	173,978	268,100	150,898	2,822,302

(a) Not available.

(b) Exclusive of Victoria.

(c) Permanent societies only.

(d) Excludes eight Terminating Societies and three Investment Societies for which complete details are not available.

(ii) *Liabilities and Assets*. The balance-sheets of the companies in respect of which particulars of liabilities and assets are stated hereunder cover periods ended during the year 1929. The figures quoted for the States of New South Wales, South Australia and Tasmania refer to the calendar year 1929, while those for the remaining States are for the fiscal year 1928-29.

REGISTERED BUILDING AND INVESTMENT SOCIETIES.—LIABILITIES, 1929.

State.	Paid-up Capital or Subscriptions.	Reserve Funds.	Deposits.	Bank Overdrafts and other Liabilities.	Total Liabilities.
	£	£	£	£	£
New South Wales ..	2,968,379	645,413	616,457	118,534	4,348,783
Victoria ..	2,022,558	734,485	1,846,620	351,492	4,955,155
Queensland ..	1,223,632	41,221	6,554	92,955	1,364,362
South Australia ..	771,890	92,587	53,546	32,544	950,567
Western Australia ..	734,928	..	114,310	38,292	887,530
Tasmania ..	297,985	93,803	254,952	15,291	662,031
Total ..	8,019,372	1,607,509	2,892,439	649,108	13,168,428

REGISTERED BUILDING AND INVESTMENT SOCIETIES.—ASSETS, 1929.

State.	Advances on Mortgage.	Landed and House Property, Furni- ture, etc.	Cash in hand and on Deposit and other Assets.	Total Assets.
	£	£	£	£
New South Wales ..	3,702,485	143,713	502,585	4,348,783
Victoria ..	4,703,978	126,293	124,884	4,955,155
Queensland ..	1,283,187	45,868	35,307	1,364,362
South Australia ..	881,907	28,510	40,150	950,567
Western Australia ..	839,648	20,918	26,964	887,530
Tasmania ..	585,646	10,390	65,995	662,031
Total ..	1,996,851	375,692	795,885	13,168,428

4. Co-operative Societies.—(i) *General*. The returns relating to Co-operative Societies have been divided into two classes—(i) those engaged in the manufacture and marketing of primary products and trade requirements, and (ii) those engaged in retailing general household requirements. The former may be described briefly as Producers'

Co-operative and the latter as Consumers' Co-operative Societies. The following table shows the number of societies, the membership, and the financial results for the year 1929. The particulars given for New South Wales relate to societies registered under the Co-operation Acts 1923-1929, while in respect of Western Australia, particulars of four Producers' Societies which are also Consumers' Societies are included under the former heading only.

CO-OPERATIVE SOCIETIES.—NUMBER, MEMBERSHIP AND TRADING RESULTS, 1929.

Heading.	N.S.W. 1929.	Vic. 1928-29.	Qld. 1928-29.	S.A. 1929.	W.A. 1928-29.	Tas. 1928-29.	All States.
Producers' Co-operative Societies—							
Number of societies ..	89	60	50	32	6	12	249
Membership ..	24,073	40,436	34,186	6,723	9,448	5,249	121,015
Gross turnover (Sales) £	7,848,368	4,757,255	7,731,517	660,248	1,524,697	345,305	22,867,390
Total income ..	8,028,827	5,100,884	7,800,897	778,590	1,739,932	371,772	23,815,002
Total purchases ..	£ 6,649,929	3,985,544	4,504,323	506,600	1,340,230	(c)	616,986,626
Total expenditure (a) £	7,952,009	5,093,456	6,939,027	747,618	1,676,561	361,876	22,770,547
Rebates and bonuses £		11,656	23,195	30,540	10,912		76,312
Dividends on share capital £	8,098	28,135	17,698	13,717	15,837	2,429	85,914
Rate per cent. ..	1.80	2.99	3.52	7.24	6.47	3.03	3.57
Consumers' Co-operative Societies—							
Number of Societies ..	46	43	8	9	57	3	166
Membership ..	59,350	15,578	23,584	38,453	8,041	480	145,486
Gross turnover (Sales) £	3,863,524	1,373,492	49,465	1,383,468	929,035	88,149	7,687,133
Total income ..	3,932,492	1,400,036	86,051	1,389,177	935,795	88,650	7,882,201
Total purchases ..	£ 2,825,047	1,111,876	21,416	1,049,975	806,389	(c)	65,814,703
Total expenditure (a) £	3,574,588	1,331,275	58,773	1,310,177	956,530	73,337	7,304,680
Rebates and bonuses £	325,797	38,858	710	44,408	19,831	1,331	430,935
Dividends on share capital £	37,126	9,059	7,739	30,577	10,872	414	95,787
Rate per cent. ..	3.59	4.61	2.89	5.19	5.79	2.01	4.66

(a) Includes payments to suppliers.

(b) Excludes Tasmania. (c) Not Available.

(ii) *Liabilities and Assets.* The next table gives the liabilities and assets.

CO-OPERATIVE SOCIETIES.—LIABILITIES AND ASSETS, 1929.

Heading.	N.S.W. 1929.	Vic. 1928-29.	Q'land. 1928-29.	S.A. 1929.	W.A. 1928-29.	Tas. 1928-29.	All States.
Producers' Co-operative Societies—	£	£	£	£	£	£	£
Liabilities—							
Paid-up capital ..	449,783	942,152	503,126	189,500	244,585	80,055	2,409,201
Loan capital ..	(a)	224,281	99,247	188,233	161,945	30,905	3,407,574
Overdraft ..	1,189,643	998,873	148,629	138,530	251,927	25,371	
Reserves and undivided profits ..	429,131	432,016	340,633	138,812	161,888	24,277	1,526,757
Other liabilities ..		402,750	558,719	255,773	234,351	58,677	1,510,270
Total liabilities ..	2,018,557	3,000,072	1,650,354	910,838	1,054,696	219,285	8,853,802
Assets—							
Land, buildings, and plant ..	1,045,387	1,257,323	872,560	356,912	221,240	115,545	3,863,976
Stocks ..	377,570	709,693	317,269	289,978	215,506	85,203	1,943,219
Other assets ..	595,600	1,033,056	460,525	263,048	617,941	68,537	3,039,607
Total assets ..	2,018,557	3,000,072	1,650,354	910,838	1,054,696	219,285	8,853,802
Consumers' Co-operative Societies—							
Liabilities—							
Paid-up capital ..	1,034,600	196,552	26,736	588,731	187,834	20,555	2,055,008
Loan capital ..	(a)	71,710	13,523	170,362	9,649	2,585	957,980
Overdraft ..	468,477	111,366	1,821	43,222	62,877	2,388	
Reserves and undivided profits ..	448,802	181,111	12,844	159,397	145,552	9,784	957,490
Other liabilities ..		126,771	20,931	63,441	144,614	15,204	370,961
Total liabilities ..	1,951,879	687,510	75,855	1,025,153	550,526	50,516	4,341,439
Assets—							
Land, buildings, and plant ..	895,193	263,096	32,199	336,585	123,410	16,916	1,667,399
Stocks ..	502,817	186,599	16,168	333,496	173,997	17,537	1,230,614
Other assets ..	553,869	237,815	27,488	355,072	253,119	16,063	1,443,424
Total assets ..	1,951,879	687,510	75,855	1,025,153	550,526	50,516	4,341,439

(a) Includes sundry creditors.

§ 5. Life Assurance.

[NOTE.—A Conspectus of Australian Life Assurance Legislation was published in Official Year Book No. 18, 1925, in Chap. XXVII. "Miscellaneous."]

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 assurance has been passed by the Commonwealth Parliament, and life assurance 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.

Returns for the year 1929 have been collected from life assurance societies, with results which are in the main satisfactory. The figures below refer to Australian business only.

2. *Companies Transacting Business*.—(i) *General*. The number of companies transacting life assurance business in Australia during 1929 was 34, three of which were overseas companies.

Of the thirty-one Australian companies seven are purely mutual, and twenty-three are proprietary companies with a paid-up capital aggregating £1,929,408, part of which is, however, used in fire, marine, and accident insurance business. One office is a State government institution.

(ii) *Ordinary and Industrial Business*. Of the societies enumerated in the preceding paragraph, fifteen transacted both ordinary and industrial business and one society industrial business only. Ordinary and industrial business have, where possible, been kept separate, while figures relating to companies whose head offices are in New Zealand or in Europe or America have been restricted to the Australian business.

3. *Australian Business, 1929*.—(i) *Ordinary*. The subjoined table shows the ordinary life business in force for each of the last five years. While the total sum assured has increased by over 54 million pounds (23 per cent.), the average per policy has increased from £282 to £319. The amount assured in 1929 represents an average of approximately £45 per head of population.

ORDINARY LIFE ASSURANCE.—AUSTRALIAN BUSINESS, 1925 TO 1929.

Year.	Policies in Force.	Amount.	Average per Policy.	Annual Premium Income.
	No.	£	£	£
1925	834,936	235,687,567	282	7,835,501
1926	848,427	248,549,883	293	8,248,511
1927	866,710	262,276,366	303	8,532,723
1928	889,521	276,391,009	311	9,154,560
1929	908,807	290,313,414	319	9,513,249

(ii) *Industrial.* Information in regard to the industrial business of the sixteen societies transacting it is given in the following table.

The amount assured has increased by over 21 million pounds (42 per cent.) in the period under review. The average amount per policy in 1929 was £43, compared with an average of £38 in 1925.

INDUSTRIAL LIFE INSURANCE.—AUSTRALIAN BUSINESS, 1925 TO 1929.

Year.	Policies in Force.	Amount.	Average per Policy.	Annual Premium Income.
	No.	£	£	£
1925	1,310,642	49,907,583	38	2,871,799
1926	1,395,744	54,990,807	39	3,167,523
1927	1,481,044	60,732,865	41	3,524,919
1928	1,564,081	65,966,754	42	3,884,416
1929	1,640,989	71,053,864	43	4,170,989

4. *Income and Outgo.*—(i) *Ordinary Business.* The following table shows the aggregate Australian income for the last four years of all the societies doing business in Australia. In the latter year premiums—new and renewal—amounted to nearly 58 per cent., and interest, dividends, and rent to over 39 per cent. of the Australian income.

ORDINARY LIFE ASSURANCE.—AUSTRALIAN INCOME, 1926 TO 1929.

Heading.	Amount.			
	1926.	1927.	1928.	1929.
	£	£	£	£
Premiums—New	1,047,965	1,027,378	1,133,529	1,067,895
Renewal	7,200,546	7,505,345	8,021,031	8,445,354
Consideration for annuities	81,083	62,766	83,941	92,841
Interest, dividends, and rents	5,217,666	5,611,813	6,070,259	6,469,996
Other receipts	307,658	244,769	686,337	341,546
Total income	13,854,818	14,452,071	15,995,097	16,417,632

In 1929 outgo amounted to £9,870,972, of which claims accounted for almost 55 per cent., surrenders nearly 12 per cent., expenses of management 9 per cent., and commission 8 per cent.

ORDINARY LIFE ASSURANCE.—AUSTRALIAN OUTGO, 1926 TO 1929.

Heading.	Amount.			
	1926.	1927.	1928.	1929.
	£	£	£	£
Claims	4,596,541	4,936,336	4,990,017	5,389,720
Surrenders	1,055,957	975,115	1,049,259	1,164,504
Annuities	102,280	103,990	101,752	116,015
Commission	720,780	691,972	752,344	769,252
Expenses of management	846,847	883,879	963,876	928,696
Licence fees and taxes	149,501	175,902	186,952	425,202
Shareholders' dividends	87,806	74,080	78,263	102,367
Cash bonuses paid to shareholders	380,461	444,322	483,633	579,490
All other expenses	241,598	190,755	350,866	395,726
Total outgo	8,181,771	8,476,351	8,956,362	9,870,972

The excess of income over outgo during the past four years was as follows:—1926, £5,673,047; 1927, £5,975,720; 1928, £7,038,735; and 1929, £6,546,660.

(ii) *Industrial Business.* The aggregate Australian income for the years 1926 to 1929 of societies transacting industrial business was as follows:—

INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN INCOME, 1926 TO 1929.

Heading.	Amount.			
	1926.	1927.	1928.	1929.
	£	£	£	£
Premiums—New and renewal ..	3,167,523	3,521,919	3,884,416	4,170,989
Consideration for annuities ..	13	13	13	14
Interest, dividends, and rents ..	801,891	914,468	981,444	1,105,141
Other receipts ..	27,755	21,812	17,328	18,732
Total income ..	3,997,182	4,461,212	4,883,201	5,294,876

Outgo during 1929 totalled £3,386,343. Claims amounted to almost 42 per cent., commission 29 per cent., and expenses of management 15 per cent.

INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN OUTGO, 1926 TO 1929.

Heading.	Amount.			
	1926.	1927.	1928.	1929.
	£	£	£	£
Claims	926,399	1,170,393	1,278,853	1,408,735
Surrenders	109,398	125,638	150,508	194,202
Annuities	295	295	254	195
Commission	779,472	847,891	944,909	988,565
Expenses of management	402,211	456,872	464,057	508,883
Licence fees and taxes	24,817	31,478	33,549	87,186
Shareholders' dividends	64,676	67,762	70,034	68,980
Cash bonuses paid to shareholders .. .. .	..	4,049	..	..
All other expenses	70,709	56,125	87,040	129,597
Total outgo	2,377,977	2,760,503	3,029,204	3,386,343

The excess of income over outgo for each of the past four years was:—1926, £1,619,205; 1927, £1,700,709; 1928, £1,853,997; and 1929, £1,908,533.

5. *Liabilities and Assets, 1929.*—(i) *General.* The liabilities of the Australian societies consist mainly of their assurance funds; as already mentioned, however, some of the societies are proprietary, and in these cases there is a further liability on account of the shareholders' capital. The assets consist chiefly of loans on mortgage and policies, government, municipal, and similar securities, shares, freehold property, etc. Loans on personal security are granted by very few of the Australian societies.

(ii) *Ordinary and Industrial Business.*—For various reasons several societies do not attempt the division of liabilities and assets between the industrial and ordinary branches, and a few societies cannot state the amount of liabilities in Australia. In the following table, therefore, the figures relate to both branches.

ORDINARY AND INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN LIABILITIES, 1926 TO 1929.

Heading.	Amount.			
	1926.	1927.	1928.	1929.
	£	£	£	£
Shareholders' capital, paid up ..	1,891,916	1,978,098	1,965,386	1,729,408
Assurance and annuity funds ..	72,307,626	78,419,126	85,295,617	91,938,296
Other funds	6,609,019	7,499,078	8,330,742	9,532,291
Claims admitted but not paid ..	772,088	846,112	891,849	920,549
All other liabilities	2,188,288	2,192,928	2,619,086	2,521,056
Total Australian liabilities (a) ..	83,768,937	90,845,342	99,102,680	106,641,600

(a) Excluding Mutual Life and Citizens, National Mutual, Western Australian, Liverpool and London and Globe, and Mutual Life of United States.

Assets for the years specified are set out in detail in the table hereunder :—

**ORDINARY AND INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN ASSETS,
1926 TO 1929.**

Heading.	Amount.			
	1926.	1927.	1928.	1929.
	£	£	£	£
Government and municipal securities ..	60,354,135	62,202,524	65,206,148	70,678,790
Mortgages ..	24,146,487	20,144,316	32,378,820	34,632,357
Loans on companies' policies ..	10,543,370	11,576,592	12,644,271	13,864,243
Landed and house property ..	4,081,973	4,467,563	4,944,345	5,327,568
Life interests and reversions ..	149,555	204,552	143,710	151,724
Other investments ..	2,618,627	2,670,305	3,089,755	3,195,550
Outstanding premiums ..	879,137	963,851	1,001,740	1,052,187
Outstanding interest, dividends, and rents ..	974,735	1,142,496	1,303,410	1,425,585
Cash ..	2,131,936	2,570,576	2,724,952	2,015,003
Establishment and organization accounts ..	1,221,472	1,288,052	1,320,700	1,259,921
All other assets ..	1,923,921	2,043,220	2,286,136	1,096,050
Total Australian assets ..	109,025,348	118,274,047	127,043,087	134,598,978

(iii) *Total Assets.* It has been thought advisable to restrict the figures relating to life assurance to business in Australia. 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. 21."

The total assets of all life companies operating in Australia amounted to £405,728,093 in 1929, of which government and municipal securities (£122,119,763), and mortgages (£95,224,868), represented more than 50 per cent.

6. *New Policies issued in Australia, 1929.*—(i) *Ordinary Business.* During 1929 85,258 new policies were issued for £33,826,595. The average amount per policy was almost £397, which compares with an average of £319 per policy for all policies which were in existence at the end of 1929.

(ii) *Industrial Business.* New policies to the number of 325,949 were issued during the year for a total of £16,708,467. The average per policy was over £51, or £2 more than the average for all industrial policies which were current at the end of 1929.

7. *Policies Discontinued in Australia, 1927, 1928 and 1929.*—(i) *Ordinary Business.* The volume of business which from various causes becomes void in each year is always large. The number and amount of policies discontinued in the last three years, and the reasons for discontinuance are given in the following table :—

**ORDINARY LIFE ASSURANCE.—POLICIES DISCONTINUED IN AUSTRALIA,
1927 TO 1929.**

Mode.	1927.		1928.		1929.	
	No. of Policies.	Amount.	No. of Policies.	Amount.	No. of Policies.	Amount.
		£		£		£
Death or maturity ..	15,965	3,703,588	16,027	3,695,861	17,280	3,933,620
Surrender ..	15,120	3,697,414	16,294	4,477,050	15,823	4,409,649
Forfeiture ..	33,770	10,957,429	34,527	11,776,201	32,538	11,461,656
Total ..	64,855	18,358,431	66,848	19,949,112	65,641	19,804,925

(ii) *Industrial Business.* The number of policies discontinued in this branch each year is also very large. Of the total amount of discontinuance during 1929 only 12 per cent. was due to death or maturity, while 83 per cent. was due to forfeiture.

INDUSTRIAL LIFE ASSURANCE.—POLICIES DISCONTINUED IN AUSTRALIA,
1927 TO 1929.

Mode.	1927.		1928.		1929.	
	No. of Policies.	Amount.	No. of Policies.	Amount.	No. of Policies.	Amount.
		£		£		£
Death or maturity ..	52,021	1,182,281	53,624	1,282,137	56,374	1,388,032
Surrender ..	7,632	355,071	9,158	448,426	11,111	553,886
Forfeiture ..	150,580	7,612,505	169,921	8,978,480	183,605	9,680,842
Total ..	210,233	9,149,857	232,703	10,709,043	251,090	11,622,760

8. *Conspectus of Australian Life Assurance Legislation.*—A conspectus of Australian Life Assurance Legislation appeared in Official Year Book No. 18, pp. 1041 to 1059, but considerations of space preclude its insertion in the present issue.

§ 6. Fire, Marine, and General Insurance.

1. *Australasian Companies* * (i) *General.* Returns in some detail are available showing the revenue and expenditure, assets and liabilities, and investments of 42 insurance companies having their head offices either in Australia, New Zealand, or Fiji. The business transacted by these companies represents between 60 and 70 per cent. of the total Australian business, some particulars of which are given in the succeeding pages.

(ii) *Revenue and Expenditure.* The most important items of revenue and expenditure are given below. The trade surplus in 1929–30 was £680,157, or 8.19 per cent. of premium income.

FIRE, MARINE, AND GENERAL INSURANCE COMPANIES.—SUMMARY OF
REVENUE AND EXPENDITURE, 1926 TO 1930.

Heading.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
	£	£	£	£	£
Premiums, less re-insurances ..	7,249,917	8,432,000	8,412,080	8,321,762	8,304,632
Losses	3,993,076	4,881,671	5,016,717	4,993,394	4,829,345
Expenses, commission, and taxes	2,614,007	2,727,885	2,833,854	2,812,676	2,795,130
Trade surplus	642,834	815,444	561,509	515,692	680,157
Interest, rent, etc.	682,957	756,897	783,969	779,314	829,410
Total surplus	1,325,791	1,572,341	1,345,478	1,295,006	1,509,667
Dividends and Bonuses paid ..	620,812	607,961	641,085	659,704	653,595
Ratio to premium income of—					
(a) Losses .. per cent.	55.08	57.98	59.64	60.00	58.15
(b) Expenses, etc. .. per cent.	36.05	32.35	33.69	33.80	33.66
(c) Trade surplus .. per cent.	8.87	9.67	6.68	6.20	8.19

* The statistical information in this paragraph has been extracted from the Australasian Insurance and Banking Record.

(iii) *Liabilities and Assets.* The liabilities and assets for the same period are set out in the following tables. Comparison of the results for 1929-30 with those for 1925-26 shows that paid-up capital increased by 7 per cent. and reserves by 37 per cent. While loans on mortgage decreased by 30 per cent., Government securities increased by 27 per cent., and landed and other property by 23 per cent.

FIRE, MARINE, AND GENERAL INSURANCE COMPANIES, 1926 TO 1930.

Heading.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
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PAID-UP CAPITAL, RESERVES, AND LIABILITIES.

	£	£	£	£	£
Paid-up capital	6,131,149	6,292,050	6,400,284	6,423,425	6,541,033
Reserves and re-insurance funds(a)	7,401,536	8,637,831	9,487,950	10,048,875	10,136,075
Undivided profits	664,181	706,528	612,827	766,041	784,695
Losses unsettled	913,982	987,670	988,700	935,219	974,016
Sundry creditors, etc. ..	2,436,815	2,309,610	2,379,748	2,417,780	2,419,285
Dividends, etc., to pay ..	334,029	384,006	387,887	405,109	376,091
Life assurance funds (b) ..	2,208,553	1,436,372	1,706,108	2,008,769	2,331,665
Total liabilities ..	20,140,245	20,754,067	21,963,504	23,005,218	23,562,860

INVESTMENTS AND OTHER ASSETS.

	£	£	£	£	£
Loans on mortgage	1,175,228	727,850	759,382	768,378	829,079
Government securities, etc. ..	10,989,880	12,004,751	12,668,290	13,331,925	13,932,258
Landed and other property ..	2,908,637	2,841,654	3,307,205	3,550,460	3,584,044
Fixed deposits, etc.	1,467,234	1,929,271	1,828,566	1,850,771	2,194,546
Loans on life policies (b) ..	60,533	62,451	84,871	104,175	136,899
Investments	165,153	139,055	234,321	239,496	149,841
Cash and bills receivable ..	899,232	763,272	757,970	769,923	670,078
Sundry debtors and other assets ..	2,474,348	2,285,763	2,322,899	2,390,090	2,066,116
Total assets ..	20,140,245	20,754,067	21,963,504	23,005,218	23,562,860

(a) Including amount required as reserves against unexpired risks.

(b) Some of the companies transact Life Business.

(iv) *Marine Insurance.* Separate returns regarding this branch of insurance are not available. Act No. 11 of 1909, "An Act relating to Marine Insurance," passed by the Commonwealth Parliament, and assented to on the 11th November, 1909, altered the conditions under which marine policies had up till then been issued.

2. *Aggregate Australian Business.* (i) *States.* While the foregoing statements relate to those companies only whose head offices are located in Australasia or Fiji, the following particulars which are somewhat restricted in the range of information available are in respect of all Companies operating in Australia.

The appended table shows for each State the aggregate premium income, less reinsurances and returns, and claims paid, less reinsurances, together with the proportions of losses on premiums for all classes of insurance other than life for the years 1928-29 and 1929-30.

FIRE, MARINE, AND GENERAL INSURANCE—PREMIUMS AND LOSSES, STATES, 1928-29 AND 1929-30.

State.	Premiums, less re-insurances and returns.		Losses less re-insurances.		Proportion of Losses on Premiums.	
	1928-29.	1929-30.	1928-29.	1929-30.	1928-29.	1929-30.
	£	£	£	£	%	%
New South Wales ..	6,229,699	6,038,874	3,804,141	3,330,404	61.06	55.15
Victoria ..	3,571,986	3,569,734	1,507,074	1,975,075	42.19	55.33
Queensland (a) ..	1,445,265	1,477,965	809,755	662,624	56.03	44.83
South Australia ..	1,087,013	977,459	405,415	355,946	37.30	36.42
Western Australia ..	1,186,795	1,226,101	602,036	581,607	50.73	47.44
Tasmania ..	305,676	313,429	117,931	112,988	38.58	36.05
All States ..	13,826,434	13,603,562	7,246,352	7,018,644	52.41	51.59

(a) Exclusive of Workers' Compensation.

(ii) *Classes of Insurance.* The statement hereunder shows premiums and losses in respect of the principal classes of risks with the proportions of losses on premiums for the years 1928-29 and 1929-30.

FIRE, MARINE, AND GENERAL INSURANCE.—PREMIUMS AND LOSSES, PRINCIPAL CLASSES OF RISK 1928-29 AND 1929-30.

Class of Risk.	Premiums, less re-insurances and returns.		Losses less re-insurances.		Proportion of Losses on Premiums.	
	1928-29.	1929-30.	1928-29.	1929-30.	1928-29.	1929-30.
	£	£	£	£	%	%
Fire ..	6,355,883	6,335,419	3,288,632	3,313,899	51.74	52.31
Motor Vehicle ..	2,641,582	2,623,129	1,409,408	1,382,930	53.35	52.72
Workers' Compensation(a) ..	2,474,426	2,404,253	1,643,676	1,506,248	66.43	62.65
Marine ..	1,044,143	928,640	441,508	349,539	42.28	37.64
Personal Accident ..	427,198	411,054	193,171	189,644	45.22	46.14
All other ..	883,202	901,067	269,957	276,384	30.67	30.67
Total ..	13,826,434	13,603,562	7,246,352	7,018,644	52.41	51.59

(a) Exclusive of Queensland.

During each of the above years, the volume of business measured by the amounts of premium income shows that fire insurances represented slightly under 50 per cent. of the total, while the proportion of motor vehicle and workers' compensation insurances was slightly under 20 per cent.

With a receding volume of business in 1929-30, it is safe to make the general inference that slightly more than half the premiums received are paid out in satisfaction of claims, and slightly less than half are required for expenses and profits.

§ 7. Friendly Societies.

1. **General.**—Friendly societies are an important factor in the social life of the community, as probably one-third of the total population of Australia comes either directly or indirectly under their influence. Their total membership exceeds 600,000, but as certain benefits, such as medical attendance and free medicines, 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 about four 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 proposed rules are conformable to the law, and that the scale of contribution 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 reports are published in most of the States dealing with the returns thus received.

2. **Number of Societies, Lodges, and Members.**—The number of different societies and lodges, the total number of benefit members at the end of the year, and their average number during the year are shown in the following table:—

FRIENDLY SOCIETIES.—SOCIETIES, LODGES, AND MEMBERS, 1929.

State.	Number of Registered Friendly Societies.	Number of Lodges.	Benefit Members at end of year.	Average No. of Benefit Members during the year.
New South Wales	33	2,453	247,730	244,965
Victoria	58	1,484	164,307	163,079
Queensland	18	(a) 592	67,361	(b) 67,217
South Australia	17	724	77,785	78,034
Western Australia	14	350	24,491	24,000
Tasmania	20	194	27,160	(b) 26,659
Total .. .. .	..	5,797	608,834	603,354

(a) Excluding Juvenile Branches.

(b) Estimated.

With regard to the number of registered Friendly Societies no total is given for Australia, since many of the societies operate in all the States.

3. **Sickness and Death Returns.**—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 shows 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 RETURNS, 1929.

State.	Number of Members who received Sick Pay.	Total Number of Weeks Sick Pay Granted.	Average-Number of Weeks per Member Sick.	Benefit Members.	
				Deaths.	Proportion of deaths per 1,000 (Average).
New South Wales	56,294	(a)	(a)	(a)	(a)
Victoria	35,681	341,842	9.58	1,594	9.77
Queensland	11,503	107,199	9.32	589	8.78
South Australia	15,410	167,955	10.90	897	11.49
Western Australia	5,000	37,604	7.52	147	6.12
Tasmania	5,206	50,194	9.64	221	8.48
Total	129,094	(b) 704,794	(b) 9.68	(b) 3,448	(b) 9.62

(a) Not available.

(b) Exclusive of New South Wales.

4. Revenue and Expenditure.—(i) *Revenue.* 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.—REVENUE, 1929.

State.	Entrance Fees, Members' Contributions, and Levies.	Interest, Dividends, and Rents.	All other Income.	Total Revenue.
	£	£	£	£
New South Wales	832,188	219,788	66,174	1,118,150
Victoria (b)	560,681	263,078	227,345	1,051,104
Queensland	234,527	88,831	(a)	323,358
South Australia	249,491	126,260	39,264	415,015
Western Australia	80,495	25,458	29,365	135,318
Tasmania	88,571	20,645	14,748	123,964
Total	2,045,953	744,060	376,896	3,168,909

(a) Included in interest, dividends, and rents.

(b) Includes certain inter-fund transfers.

(ii) *Expenditure.* The returns relating to expenditure are more complete than those for revenue. The figures show that the excess of revenue for the year was £524,703 for Australia. The revenue exceeded the expenditure by about 17s. 6d. per average benefit member.

FRIENDLY SOCIETIES.—EXPENDITURE, 1929.

State.	Year ended—	Sick Pay.	Medical Attendance and Medicine.	Sums Paid at Death of Members and Members' Wives.	Adminis-tration.	All other Expendi-ture.	Total Expendi-ture.
		£	£	£	£	£	£
New South Wales	30. 6. 29	319,787	343,381	77,928	161,300	42,638	945,034
Victoria (b)	"	215,972	228,293	37,728	113,222	280,252	875,467
Queensland	"	77,007	98,781	30,389	55,306	(a)	261,483
South Australia	31. 12. 29	101,163	101,377	38,969	54,812	40,188	336,509
Western Australia	30. 6. 29	27,370	31,101	5,130	20,766	32,431	116,798
Tasmania	31. 12. 29	33,192	29,238	17,738	19,083	7,664	106,915
Total	—	774,491	832,171	207,882	424,489	403,173	2,642,206

(a) Included in administration.

(b) Includes certain inter-fund transfers.

It appears from the above figures that sick pay averaged about 25s. 8d. per week per average benefit member, 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 27s. 7d. per average benefit member.

5. Funds.—The two foregoing tables show that the surplus of revenue over expenditure in all States amounted to £524,703 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 at the end of the year 1929 the total funds of friendly societies amounted to £13,505,865, (£22 3s. per benefit member), of which over £13,000,000 was invested, principally on mortgage, loans on members' homes, and in Government and Municipal securities.

§ 8. Probates.

1. Probates and Letters of Administration.—The value of the estates left by deceased persons gives some idea of the distribution of property among the general population. There were in 1929 approximately 48,700 deaths of adult persons, while the number of probates and letters of administration granted during the same period was 19,909. It would therefore appear that about two-fifths of the 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 :—

PROBATES AND LETTERS OF ADMINISTRATION, 1929.

State.	Year ended—	Number of Estates.			Net Values of Estates.		
		Probates.	Letters of Administration.	Total.	Probates.	Letters of Administration.	Total.
			(a)		£	£	£
New South Wales ..	30.6.29	7,494		7,494	24,548,457	(a)	24,548,457
Victoria ..	31.12.29	5,245	1,880	7,125	19,926,784	(a)	19,926,784
Queensland ..	30.6.29	949	197	1,146	63,912,443	6382,416	b 4,294,859
South Australia ..	31.12.29	1,730	414	2,144	5,485,443	244,574	5,730,017
Western Australia ..	"	c 930	c 350	c 1,280	1,980,834	213,546	2,194,380
Tasmania ..	"	594	102	696	1,359,595	84,777	1,444,372
North Australia ..	30.6.29	3	21	24	b 1,289	b 1,679	b 2,963
Total ..	—	16,945	2,964	19,909	57,214,845	926,992	58,141,837

(a) Included with Probates. (b) Gross value. (c) Applications lodged.

2. Intestate Estates.—The number of intestate estates placed under the control of the Curator during the year, and the amount of unclaimed money paid into Consolidated Revenue in each State during the year 1929, are given hereunder :—

INTESTATE ESTATES, 1929.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North Aust.	Total.
Intestate estates placed under control of Curator during 1929—								
Number	(a)	(b)	1,282	g 244	290	e 112	20	c 1,948
Value £	(a)	(b)	732,663	g 87,142	d 34,077	e 26,121	d 1,173	c 881,176
Unclaimed money paid into Consolidated Revenue by Curator during 1929 £	f 185,453	376	10,407	5,195	1,974	8,953	1,077	c 213,436

(a) Included with Probates. (b) Not available. (c) Incomplete. (d) Gross Value.
 (e) Estates wound up by Public Trustee. (f) Held by Public Trustee. (g) Included with Letters of Administration.

CHAPTER IX.

EDUCATION.

§ 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. 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 other Commonwealth States.* A more or less detailed account of the origin and development of the educational systems of the other States also appears in No. I. and No. II. issues of the Year Book.

(iii) *Medical Inspection of State School Children.* See Chapter XII., Public Hygiene.

2. Recent Development in State Educational Systems.—Preceding issues of the Official Year Book contained an outline of recent developments of the educational systems of the various States (see No. 22, pp. 426-29), but it has been decided to omit this information from the present volume.

As pointed out in previous issues, 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, activity in this respect being greatly helped by interstate conferences of directors of education and of inspectors and teachers. The eighth biennial conference of Directors of Education was held at Adelaide in May, 1930, and was attended by representatives of all the Australian States, and of New Zealand.

§ 2. State Schools.

1. General.—The State Schools, or, as they are sometimes termed, the “public” schools, of Australia 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. Separate information regarding Technical Education is given in § 6, but the junior technical schools are included hereunder.

2. Returns for Year 1929.—(i) *General.* 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 1929:—

STATE SCHOOLS.—RETURNS, 1929.

State or Territory.	Schools.(a)	Teachers.(b)	Scholars Enrolled.	Average Attendance.	Percentage of Attendance on Enrolment.
New South Wales (c) ..	3,328	11,865	352,071	302,922	86·0
Victoria	2,760	9,379	257,386	207,192	80·5
Queensland	1,731	4,279	141,991	112,489	79·2
South Australia	1,072	3,405	87,810	76,281	86·9
Western Australia	862	2,062	57,832	50,475	87·3
Tasmania	504	1,389	31,890	28,036	87·9
Northern Territory	6	12	319	231	72·4
Australia	10,263	32,391	929,299	777,626	83·7

(a) Schools open during year. (b) Exclusive of sewing mistresses. (c) Including Federal Capital Territory.

Unfortunately the schemes of enrolment and of the computation of average attendance are not identical throughout the States, so that the comparisons are imperfect. Based on the average quarterly enrolment, the percentage of attendance in Queensland in 1929 amounted to 82·6.

(ii) *Schools in the Federal Capital Area.*—(a) *General.* During the year 1929 fifteen State Schools were in operation in the Federal Capital Territory (Yass-Canberra). The pupils enrolled numbered 1,371 and the average attendance 980. Cost of upkeep amounted to £14,000. 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. Ample provision has been made for both primary and secondary education, and this will be increased to meet requirements. (b) *The University College.*—The question of the establishment of a University at Canberra has been under consideration, and in the meantime a University College has been established. By virtue of a regulation of the University of Melbourne, the College is empowered to provide approved lectures in all subjects of the Arts, Science, Commerce, and Law courses of that University. In 1930 there were 32 students attending lectures.

3. *Growth of Enrolment and Attendance.*—The enrolment and average attendance at the State Schools in Australia are given below for the years 1891, 1901, 1911, and for each year of the period 1925 to 1929:—

STATE SCHOOLS.—ENROLMENT AND ATTENDANCE.—AUSTRALIA, 1891 TO 1929.

Year.	Total Population. (a)	Enrolment.	Average Attendance.	Year.	Total Population. (a)	Enrolment.	Average Attendance.
1891 ..	3,421	561,153	350,773	1926 ..	6,111	883,925	730,571
1901 ..	3,825	638,478	450,246	1927 ..	6,235	901,326	748,712
1911 ..	4,573	638,850	463,799	1928 ..	6,337	920,060	764,496
1925 ..	5,992	872,473	720,975	1929 ..	6,414	929,299	777,626

(a) At 31st December, in thousands.

During the last five years the average attendance increased by about 8 per cent., the figures ranging from about 11 per cent. and 10 per cent. in New South Wales and South Australia respectively to about 2 per cent. in Tasmania.

4. *Distribution of Educational Facilities.*—(i) *In Sparsely-settled Districts.* The methods adopted in the various States to carry the benefits of education into the remotest and most sparsely-settled areas are set out in some detail in previous issues of the Official Year Book (see No. 22, pp. 430-31), but this information cannot be repeated in the present volume.

(ii) *Centralization of Schools.* The question of centralization of schools adopted so successfully in America and Canada has received some attention in Australia, and particularly in New South Wales. It is recognized 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, and in 1929 a sum of £51,194 was expended in boarding allowance and conveyance to central schools. Cost of conveyance to State Schools in Victoria during 1929 was returned as £12,118. In South Australia the sum of £11,000 was disbursed in connexion with travelling expenses of school children in 1929, while £12,653 was spent in Western Australia, and about £4,500 in Tasmania. (It may be pointed out, however, that the parents are often reluctant to part with the small schools which form, as it were, "heart centres" in their little community, while the kindly help of the teachers is a great asset in the social and intellectual life of the districts served by the schools.)

(iii) *Education of Retarded and Defective Children.*—This subject was alluded to at some length in preceding issues of the Official Year Book (see No. 22, pp. 431-2), but the information cannot be repeated in this issue.

(iv) *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 the 49 Evening Continuation Schools had an effective enrolment in 1929 of 5,427, and

an average attendance of 4,179. The schools for boys are classed as commercial, commercial preparatory, junior technical, and junior technical preparatory, and for girls as domestic and domestic preparatory. Attendances at the schools for boys numbered 3,496, and at those for girls 683. The comparatively high proportion of attendance to enrolment shows that the institutions are attractive. In Victoria, although the Education Act of 1910 gives authority for the establishment of evening continuation classes at which the attendance of boys up to the age of seventeen years and living within a radius of 2 miles may be made compulsory for six hours a week, considerations of expense have prevented the free exercise of this power. In 1928 there were eleven evening continuation classes with an attendance of 73, but none were recorded in 1929. 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. In Western Australia evening continuation classes were held at 23 centres in 1929, with an average enrolment of 2,728 pupils.

(v) *Higher State Schools.*—In all the States higher schools have been established which provide advanced courses of instruction for pupils who have completed the primary grades. Reference to the development of these schools will be found in preceding Official Year Books (see No. 22, pp. 433-4), but considerations of space preclude the repetition of this information herein.

(vi) *Agricultural Training in State Schools.*—Extended reference to the methods adopted in the teaching of agriculture in State Schools will be found in preceding Official Year Books (see No. 22, pp. 434-7), but considerations of space preclude the repetition of this matter herein.

5. Teachers.—The distribution of the teaching staff in the State Schools during the year 1929, including teachers of needlework, was as follows :—

STATE SCHOOLS.—TEACHING STAFF, 1929.

State.	Principal Teachers.		Assistants.		Pupil or Junior Teachers.		Sewing Mistresses.	Total.		
	Males.	Fem.	Males.	Fem.	Males.	Fem.		Males.	Fem.	Total.
New South Wales	2,463	648	2,733	6,021	..	..	222	5,196	6,891	12,087
Victoria ..	1,618	973	1,295	3,202	644	1,347	349	3,857	5,871	9,728
Queensland ..	1,079	615	762	1,553	127	143	..	1,068	2,311	4,279
South Australia ..	661	450	755	1,376	49	114	213	1,465	2,153	3,618
Western Australia	451	372	253	780	20	186	136	724	1,474	2,198
Tasmania ..	230	360	88	445	49	217	3	367	1,025	1,392
Northern Territory	3	3	2	3	..	1	..	5	7	12
Total ..	6,805	3,421	5,888	13,380	889	2,008	923	13,582	19,732	33,314

The figures for principal teachers include mistresses of departments, while students in training colleges have been grouped with assistants. Some of the teachers in sole charge of small schools have had very little training, but future permanent appointments will be confined as far as possible to those who have gone through a regular course of instruction.

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. Although expert pedagogical opinion throughout the world is against the pupil-teacher system, motives of practical expediency compel its retention, or some modification thereof, in most countries.

In New South Wales and in some of the other States attention has recently been drawn to the difficulty of securing an adequate supply of teachers, particularly male teachers for small schools in out-back districts. Difficulty is also experienced in some of the States in securing suitable living accommodation for teachers of these small schools.

6. 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 (see No. 22, pp. 437-9), but considerations of space will not permit of its retention herein.

7. Expenditure.—(i) *Maintenance—All Schools.* The net expenditure on maintenance in all grades of schools, excepting technical schools, and the cost per head of average attendance for the five years ended 1929 are shown below. The figures do not include expenditure on buildings, which is given separately in a subsequent table.

STATE SCHOOLS.—EXPENDITURE ON MAINTENANCE, 1925 TO 1929.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Total.
TOTAL.								
	£	£	£	£	£	£	£	£
1925	3,520,903	1,963,214	1,364,844	597,960	548,426	246,429	4,326	8,246,102
1926	3,626,447	2,132,519	1,406,853	710,499	556,748	251,307	4,443	8,688,816
1927	3,697,618	2,340,531	1,438,969	743,274	605,704	257,653	4,406	9,088,205
1928	3,937,082	2,464,714	1,471,322	778,715	624,271	266,231	5,153	9,547,538
1929	4,206,334	2,536,674	1,547,076	813,485	633,306	269,202	5,744	10,011,821

PER HEAD OF AVERAGE ATTENDANCE.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1925	12 18 3	10 1 3	12 9 0	8 12 4	11 3 5	8 19 0	20 10 0	11 8 9	
1926	13 3 3	10 16 6	12 12 10	9 17 10	11 4 6	9 0 3	18 19 9	11 17 10	
1927	12 17 8	11 14 6	12 14 6	10 3 2	12 1 5	9 4 11	18 10 2	12 2 0	
1928	13 7 4	12 1 11	12 13 7	10 6 6	12 5 1	9 17 3	21 4 1	12 9 9	
1929	13 17 9	12 4 10	13 6 3	10 13 3	12 10 11	9 12 0	24 17 4	12 17 6	

The combined growth in cost of maintenance during the last five years has been brought about by the higher salaries and allowances paid to teachers, and the increased expenditure in connexion with the supply of materials and equipment. Practically the whole of the increase in Western Australia for the year 1927 was due to the reclassification and new salary scales for teachers.

(ii) *Maintenance—Secondary Schools.* The figures given in the preceding table refer to expenditure on maintenance of all State primary and secondary schools, exclusive of technical colleges. It has been thought desirable by the State Education Departments to give separate information in regard to the cost of secondary education. Any satisfactory estimate of this nature is, however, rendered difficult by the circumstance that there is no exactly comparable definition of the term "secondary" as applied in the various States, while difficulties arise in connexion with the correct apportionment amongst the various branches of expenses of administration, inspection, and the training of teachers. A further complication is caused by the fact that both elementary and higher education are in some instances given in the same school and by the same teacher. The figures quoted in regard to cost hereunder have been extracted from the Reports of the State Education Departments, and are subject to the qualifications above enumerated.

STATE SECONDARY SCHOOLS.—EXPENDITURE ON MAINTENANCE, 1929.

State.	Cost.	Cost Per Head of Population.
	£	s. d.
New South Wales	543,871	4 5
Victoria	341,266	3 10
Queensland	150,019	3 3
South Australia	102,566	3 6
Western Australia	125,920	6 1
Tasmania	21,537	2 0

The figures in all cases are exclusive of cost of buildings. For Queensland, the figure quoted does not include the cost of the Agricultural High School and College, which amounted in 1929 to £29,382.

(iii) *Buildings.* Expenditure on school buildings in each of the years quoted was as follows:—

STATE SCHOOLS.—EXPENDITURE ON BUILDINGS, 1925 TO 1929.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Total.
	£	£	£	£	£	£	£	£
1925	621,109	459,303	126,392	138,132	63,373	43,248	823	1,452,380
1926	638,337	508,121	138,784	231,207	57,337	34,716	132	1,608,684
1927	668,413	578,091	98,905	156,520	53,506	21,751	..	1,577,786
1928	1,004,241	398,939	143,995	102,477	68,957	44,150	..	1,762,759
1929	772,296	360,262	127,504	111,137	76,025	32,801	(a)	1,480,025

(a) Not available.

The large increases in expenditure shown in most instances during the last four years were due to the efforts made to overtake arrears in necessary buildings and repairs.

(iv) *Total.* The net total cost during the year 1929 was as follows:—

STATE SCHOOLS.—NET TOTAL COST, 1929.

Item.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Total.
	£	£	£	£	£	£	£	£
Net cost of education, including buildings	4,978,630	2,896,936	1,674,580	924,622	709,331	302,003	5,744	11,491,846

The figures in this and the preceding tables refer to all grades of State schools (with the exception of technical schools), and include evening schools. Including buildings, the net cost per scholar in average attendance for the whole of the State schools in Australia amounted in 1929 to £14 15s. 7d., as compared with £4 9s. 3d. in 1901.

8. *School Savings Banks.*—In New South Wales the control of these institutions was taken over in 1924 by the Government Savings Bank, which allows interest on the children's deposits. At the 30th June, 1930, there were 1,799 school banks, with 138,678 depositors having at credit £197,035. In Victoria banks were in operation at 2,410 schools at the 30th June, 1930. On the same date the number of depositors amounted to 165,107 and balances at credit to £289,040. School Savings Banks began operations in Queensland in July, 1928, and at the end of July, 1930, there were 548 banks, with 28,110 depositors, and balances amounting to £28,913. In South Australia, there were 64,364 depositors in 1929 with £93,998 to their credit; and in Western Australia, there were 729 school banks, with 54,927 depositors and £91,860 to their credit.

§ 3. Private Schools.*

1. *Returns for 1929.*—The following table shows the number of private schools, together with the teachers engaged therein, and the enrolment and average attendance in 1929:—

PRIVATE SCHOOLS, 1929.

State.	Schools.	Teachers.	Enrolment.	Average Attendance.
New South Wales	726	4,647	108,190	76,178
Victoria	501	2,249	65,418	55,600
Queensland	205	1,266	32,635	27,808
South Australia	182	910	17,379	13,864
Western Australia	125	535	11,854	10,745
Tasmania	66	343	6,474	4,727
Northern Territory	1	5	127	96
Total	1,806	9,955	242,077	189,018

(a) Estimated.

The totals for New South Wales include returns from the Sydney Grammar School, which receives a yearly State subsidy of £1,500, and which, in 1929, had an enrolment of 623, and an average attendance of 589.

* Private schools include all schools not wholly under State control. The term "private," though popularly applied, is, of course, a misnomer.

The figures for Queensland include the returns from Grammar Schools, of which there are ten—six for boys and four for girls, with an enrolment of 1,507 boys and 952 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. The Government endowment received in 1929 amounted to £20,754. In addition, a sum of £19,396 was received for Government scholarships and bursars' fees. The Grammar Schools are inspected annually by officers of the Department of Public Instruction. In Central Australia there is a privately conducted school for natives at Hermannsburg with an enrolment in 1929 of 92 scholars. Returns regarding this institution have not been included in the preceding table.

2. **Growth of Private Schools.**—The enrolment and average attendance at private schools during 1891, 1901, 1911, and in each year of the period 1925 to 1929 are as follows:—

PRIVATE SCHOOLS.—ENROLMENT AND ATTENDANCE, 1891 TO 1929.

Year.	Enrolment.	Average Attendance.	Year.	Enrolment.	Average Attendance.
1891	124,485	99,588	1926	233,566	178,985
1901	148,659	120,742	1927	235,074	181,396
1911	160,794	132,588	1928	237,713	184,464
1925	228,564	175,283	1929	242,077	189,018

The increase in average attendance during the last five years amounted to about 8 per cent.

3. **Registration of Private Schools.**—Conditions in regard to the registration of private schools were alluded to in previous Year Books (*vide* No. 18, p. 451), but considerations of space preclude the repetition of this information in the present issue.

§ 4. Free Kindergartens.

The following information regarding Free Kindergartens has been compiled from particulars supplied by the principals of the chief institutions or the organizing secretary in each State, except in the case of Western Australia, the details for which were furnished by the Education Department.

FREE KINDERGARTENS, 1929-30.

State.	No. of Schools.	Average Attendance.	Permanent Instructors.	Student Teachers.	Voluntary Assistants.
New South Wales (Sydney)	16	950	32	50	80
Victoria (Melbourne) ..	28	1,600	69	33	360
(Ballarat) ..	1	39	2	..	11
Queensland (Brisbane) ..	6	(a)320	8	18	25
South Australia (Adelaide)	9	383	11	28	23
Western Australia (Perth)	7	294	12	14	4
Tasmania (Hobart) ..	4	125	7	4	2
(Launceston) ..	2	91	4	..	6
Total	73	3,802	145	147	511

(a) Estimate.

In New South Wales there were 105 students at the Kindergarten Training College. At the Melbourne College, 33 students were in training. The Brisbane Training College had 18 students in training, the Training College at Adelaide 37, and at Perth 14. Four students were in training at Hobart.

The information given above refers to institutions under private kindergarten unions or associations, and is exclusive of the kindergarten branches in the Government schools of the various States.

§ 5. Universities.

1. **Origin and Development.**—A brief account of the origin and development of the Universities in the various States is given in preceding issues of the Official Year Book (see No. 22, pp. 442-3), but this information cannot be repeated herein.

2. **Teachers and Students.**—The following table shows the number of professors and lecturers, and the students in attendance at each of the State Universities during the year 1929:—

UNIVERSITIES.—TEACHERS AND STUDENTS, 1929.

University.	Professors.	Lecturers and Demonstrators.	Students attending Lectures.		
			Matriculated.	Non-matriculated.	Total.
Sydney	48	163	..	..	2,520
Melbourne	29	148	..	..	(a) 2,616
Queensland (Brisbane)	14	38	544	122	666
Adelaide	19	112	1,016	797	(b) 1,813
Western Australia (Perth)	14	37	545	97	642
Tasmania (Hobart)	10	18	182	58	240

(a) Exclusive of 238 music students.

(b) Exclusive of 466 music students.

Students at the Conservatorium of Music have been excluded in the case of Melbourne and Adelaide. The Conservatorium in Sydney, while attached to the Education Department, is not under the control of the University.

3. **University Revenue.**—The income of the Universities from all sources during the year 1929 was as shown in the table below. The figures in the column "private foundations" refer to income from investments and from new foundations, the cash value of benefactions received during the year being shown separately in the appended note.

UNIVERSITIES.—REVENUE, 1929.

University.	Government Grants.		Fees.	Private Foundations. (a)	Other.	Total.
	Ordinary.	Special.				
	£	£	£	£	£	£
Sydney	32,000	49,170	46,575	88,276	16,256	232,277
Melbourne	66,716	..	87,548	28,165	15,629	198,058
Queensland (Brisbane)	25,857	..	13,115	19,488	2,865	61,325
Adelaide	24,000	31,676	27,922	18,572	6,755	108,925
Western Australia (Perth)	30,500	5,058	3,468	33,035	6,861	78,922
Tasmania (Hobart)	14,826	..	2,973	2,693	340	20,832
Total	193,899	85,904	181,601	190,229	48,706	700,339

(a) Not including value of new foundations received during the year as follows:—New South Wales, £29,374; Victoria, £42,149; Queensland, £372; South Australia, £17,103.

In preceding issues of the Official Year Book information was given in some detail in regard to the extent to which the Universities have benefited from private munificence. Space will permit of reference to the most important benefactions only herein. Thus the Challis bequest to the Sydney University amounted to £277,000 (now valued at £316,000): Mr. G. H. Bosch contributed £221,000: Sir P. N. Russell £100,000: Mr. W. O. Watt £78,000: Mr. Thos. Fisher £30,000. Mr. Sidney Myer's gifts to the

Melbourne University amounted to £55,000, while Sir Samuel Gillott, Mr. Edward Wilson (Argus Trust), and Sir Samuel Wilson contributed £41,000, £34,000, and £30,000 respectively. Mr. R. B. Ritchie's gifts for the endowment of a Chair of Economics amount to £30,000, and a similar sum was received from the Supreme Court Library Fund for the endowment of a Chair of Public Law. The Hon. Francis Ormond contributed £20,000 to the University as well as benefactions to Ormond College amounting to considerably over £100,000. Queensland University received about £200,000 from the McCaughey estate, and up to the end of April, 1931, had benefited to the extent of £26,800 from the Walter and Eliza Hall Trust. The chief benefactors to Adelaide University were Sir Thomas Elder, £99,000; Sir Langdon Bonython, £60,000; Mr. T. E. Barr Smith, £30,000; and Mrs. Jane Marks, £30,000. Several very valuable properties in addition to shares in a public company were also bequeathed to this University by Mr. Peter Waite. Under the will of Sir Winthrop Hackett the University of Western Australia received £425,000, while the late Robert Gladden bequeathed an estate valued at £60,000.

4. University Expenditure.—For the year 1929 the expenditure by the Universities under various headings was as follows:—

UNIVERSITIES.—EXPENDITURE, 1929.

University.	Salaries and Administration.	Scholarships, Bursaries, etc.	General Maintenance.	Buildings and Grounds.	Other.	Total.
	£	£	£	£	£	£
Sydney	153,690	5,917	34,813	11,344	1,032	206,796
Melbourne	118,967	6,544	7,822	4,316	(d) 68,832	206,481
Queensland (Brisbane) ..	34,774	2,115	3,028	370	(a) 17,817	58,104
Adelaide	63,418	1,121	4,019	12,255	(b) 37,158	117,971
Western Australia (Perth)	29,012	9,973	5,575	86,409	(c) 16,459	147,428
Tasmania (Hobart) .. .	13,772	1,293	2,426	714	(e) 1,505	19,710
Total	413,633	26,963	57,683	115,408	142,803	756,490

(a) Includes laboratory and research, £10,103. (b) Includes laboratory and research, £20,267.
 (c) Laboratory and research, £8,592. (d) Includes laboratory and research, £18,907. (e) Includes laboratory and research, £1,308.

5. University Extension.—Some account of the initiation and progress of university extension is given in preceding Official Year Books (see No. 22, p. 446), but considerations of space preclude the insertion of this matter in the present issue.

6. Workers' Educational Association.—In 1913 Workers' Educational Associations were formed in all the States of Australia, and later in New Zealand. The movement has for its object the bringing of the University into closer relationship with the masses of the people, and thereby providing for the higher education of the workers in civic and cultural subjects. There are now direct grants from all State Governments except Western Australia, and an additional University grant in New Zealand. The particulars of grants for classes in 1930 as follow:—New South Wales, £5,200, 53 classes and 3 study circles; Victoria, £4,250, 33 tutorial classes and extension work; Tasmania, £1,841, 16 classes; South Australia, £2,025, 7 tutorial classes and 30 lecture classes and study circles; Queensland, £1,250, 11 classes and 539 correspondence students. In addition, the New South Wales Association receives a Government grant for general organizing purposes of £500, paid on the basis of £1 for £1 on subscriptions and donations up to this amount. The Queensland and South Australian Associations received grants of £750 and £300 respectively. The Carnegie Corporation has in recent years shown its interest in the work by allotting substantial grants to the Associations and to the Universities. The principal subjects chosen in all States are Industrial History, Economics, Political Science, and Sociology, but there is an increasing number of classes in other subjects such as History, Psychology, Philosophy, Literature, Music, Physiology, and Biology. Each University co-operates with the W.E.A. in the formation

of a joint committee for tutorial classes, which supervises the work with the assistance of a University officer with the title of Director of Tutorial Classes. In addition to the longer University tutorial classes many preparatory classes, study circles, and summer schools are organized by the Association, numerous courses of public lectures are delivered, educational conferences promoted, and an extensive book service is spreading educational literature throughout Australia.

§ 6. Technical Education.

1. **General.**—Although provision has been made in all of the States in respect to many necessary forms of technical education, the total provision made would imply that this branch of education has not been regarded as of outstanding importance. As will be seen later on, the expenditure on technical education for the whole of Australia is comparatively small. In preceding issues of the Official Year Book an outline was given of the origin and development of technical education in each State (see No. 22, pp 447-51), but considerations of space preclude its repetition in the present volume.

2. **Returns for Year 1929.**—Returns for the year 1929 in regard to enrolments and attendances, etc., in each State are given in the table hereunder.

TECHNICAL EDUCATION.—ENROLMENTS, ETC., 1929.

State.	Number of Classes.	Teachers.	Enrolments.	Average Attendance.	Fees Received.
					£
New South Wales ..	755	628	32,280	(a) 15,253	26,111
Victoria ..	306	633	25,473	18,472	40,030
Queensland ..	(b)	489	14,920	11,900	16,404
South Australia ..	593	221	13,786	10,420	9,671
Western Australia ..	454	126	7,653	6,649	2,914
Tasmania ..	(b)	105	1,568	1,171	1,609
Total ..	2,108	2,202	95,680	63,865	96,739

(a) Individual Students.

(b) Not available.

Figures for earlier years will be found in preceding volumes. With regard to the figure quoted for number of classes in Victoria, it is stated that each grade of a subject is counted as a class.

3. **Expenditure on Technical Education.**—The expenditure on technical education in each State for the year 1929 is shown below:—

TECHNICAL EDUCATION.—EXPENDITURE, 1929.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
1929 { (a)	210,912	360,262	108,719	73,897	23,979	24,603	802,37
(b)	14,009	39,474	15,325	358	3,915	371	73,452

(a) Maintenance.

(b) Buildings.

The expenditure on maintenance for technical education in 1929 amounted to 2s. 6d. per head of the population of Australia, as compared with 31s. 5d. per head expended on maintenance for primary and secondary education.

§ 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 following table:—

BUSINESS COLLEGES, SHORTHAND SCHOOLS, ETC., 1929.

State.	Schools.	Teachers.	Students Enrolled.		Average Attendance.		Fees Received.
			Males.	Females.	Males.	Females.	
New South Wales..	20	186	1,996	6,584	742	3,287	£ 68,807
Victoria ..	15	131	3,270	2,512	3,040	2,163	(b)
Queensland (a) ..	..	..	..	..	..	..	..
South Australia ..	7	46	836	1,074	652	869	15,618
Western Australia..	12	58	2,167	1,609	(b)	(b)	31,504
Tasmania ..	3	15	113	329	99	268	6,188

(a) Included in private schools. (b) Not available.

The figures for New South Wales are exclusive of students instructed at home through the medium of 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.” Particulars for each State and Territory were included in previous issues of the Official Year Book (see No. 19, p. 439). Detailed tables dealing with various aspects of education were published in connexion with the Census of 1921. Here it must suffice to mention that during the period 1871 to 1921 the proportion per 10,000 of the population of Australia able to read and write advanced from a little over 6,000 to nearly 8,500, while that of those able to read only fell from about 1,100 to under 30.

2. *Education as shown by Marriage Registers.*—Another common method of testing the spread of education is to compare the number of mark signatures in the marriage registers with the total number of persons married during each year of a series. The percentage signing with a mark to the total persons married in the Census year 1921 was only 0.17, as compared with 24.60 in 1861.

§ 9. Miscellaneous.

1. *Scientific Societies.*—(i) *Royal Societies.* In previous issues of the Official Year Book an outline was given of the origin and progress of the Royal Society in each State (see No. 22, pp. 454–5), but considerations of space preclude the retention of this matter in the present volume. The accompanying table, however, contains the latest available statistical information regarding these institutions, which in every case have their headquarters in the capital cities of the States.

ROYAL SOCIETIES—PARTICULARS, 1930.(a)

Heading.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
Year of origin ..	1821	1854	1884	1853	1897	1843
Number of members ..	307	196	190	167	217	267
Vols. of transactions issued ..	64	76	42	54	20	66
Number of books in library ..	30,000	17,000	8,300	6,250	2,900	16,700
Societies on exchange list ..	385	314	250	212	127	245
Income ..	£ 1,935	707	223	691	286	360
Expenditure ..	£ (b) 1,992	669	197	703	224	348

(a) The Royal Society of Australia, with headquarters at Canberra, has recently been granted a charter.
 (b) Exclusive of expenditure on Science House, Sydney, £17,958.

In connexion with the year of origin it may be pointed out that the title Royal Society was in most cases assumed at a later date than that shown in the tables, as the Societies originated under different names.

(ii) *The Australasian Association for the Advancement of Science.* This Association was founded in 1887, with head-quarters at the Royal Society's House in Sydney. Its meetings are usually held biennially within the various States and in the Dominion of New Zealand. The next meeting will be held in Sydney in 1932. The library of the Association contains 4,000 volumes.

(iii) *Other Scientific Societies.* The Linnean Society of New South Wales, with headquarters in Sydney, was founded in 1874. The soundness of its present position is due to the benefactions of Sir William Macleay, who during his lifetime and by his will endowed the Society to the amount of £67,000, which has been increased by judicious investment to over £80,000. The Society maintains a research bacteriologist and offers annually 4 research fellowships in various branches of natural history. Two fellowships were awarded in 1930. The library comprises some 14,000 volumes, valued at about £7,000. Fifty-four volumes of proceedings have been issued, and the Society exchanges with some 223 kindred institutions. The ordinary membership at the end of 1930 was 171.

The British Astronomical Society 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.

2. **Public Libraries.**—(i) *States.* 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 following statement gives the number of volumes in the Public Library of each capital city:—

METROPOLITAN PUBLIC LIBRARIES, 1929.

City.	Number of Volumes in—			Total.
	Reference Branch.	Ordinary Lending Branch.	Country Lending Branch.	
Sydney	(a) 368,923	(b)	69,501	438,424
Melbourne	363,159	57,362	.. .. .	420,521
Brisbane	55,529	.. .. .	.. .. .	55,529
Adelaide	147,932	70,405	.. .. .	218,337
Perth	133,719	.. .. .	20,640	154,359
Hobart	29,136	7,073	.. .. .	36,209

(a) Including 124,344 volumes in the Mitchell Library.

(b) The maintenance and control of the ordinary lending branch of the Public Library at Sydney were transferred in 1908 to the Municipal Council. At the end of December, 1929, the books numbered 47,562.

In connexion with the Country Lending Branch of the Sydney Public Library, it may be noted that books are forwarded on loan to State schools, to approved associations, and to Schools of Art. During the year 1929-30, over 90,000 volumes were thus circulated, while about 35,000 books were lent to 21,583 individual students.

A special research staff attached to the Public Library gives valuable assistance in making readily available to inquirers the store of information contained in books, etc., which, owing to limitations of space, are not in open access.

The Mitchell Library in Sydney consisted of over 60,000 volumes and pamphlets, and 300 paintings, principally relating to Australasia, valued at £100,000, and bequeathed in 1907 by Mr. D. S. Mitchell, together with an endowment of £70,000. The testators 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 over 124,000 volumes in the library in addition to valuable manuscripts, collections of Australian postage and fiscal stamps, and various pictures, coins, etc.

Amongst other important libraries in New South Wales may be mentioned the "Fisher" Library at Sydney University, with 188,000 volumes; the library at the Australian Museum, 26,000; the Teachers' College library, 36,000; Sydney Technical College library, 15,000; and the library at the Botanic Gardens, 10,000. The libraries attached to State schools contain about 524,000 volumes.

The reading room at the Melbourne Public Library ranks among the finest in the world. It was opened in 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. During the year 1929, 5,630 volumes were lent to Mechanics' Institutes and Free Libraries, and 20,794 books were sent by post to borrowers in the country.

The library at Brisbane (South) contained about 14,500 volumes at the end of June, 1929.

For some years past efforts have been made in South Australia to collect original documents likely to be of service in compiling a history of the State. So far back as 1914, Professor Henderson, of Adelaide University, under commission from the South Australian Government, visited and reported on the system of keeping archives in England, France, Belgium, Holland, and Ceylon, and obtained valuable information also from the United States and Canada. A department of historical documents has been created under the care of an archivist, and valuable work has been done in connexion with examination, classification, and permanent preservation of the available papers. A suitable building for housing the documents and the staff was provided in 1921. At the 30th June, 1930, the collection numbered 288,918 documents, 11,876 views, and 1,097 maps.

During 1922 the Tasmanian Public Library adopted the plan of lending books to individual country borrowers and to families or committees of residents in country districts. The Public Library at Launceston contains 36,500 volumes.

Statistics in regard to libraries generally are not available for all States, while the information supplied is not in all cases complete. Returns for Victoria in 1929 showed a total of 419 libraries in receipt of State or municipal aid, containing 1,417,000 books; Queensland returned 257 libraries, with 546,000 books; South Australia, 295 libraries and 836,000 books; Tasmania, 23 libraries and 130,000 books; while there were 3 libraries, with 6,000 books, in the Northern Territory.

(ii) *Commonwealth*—(a) *Parliamentary and National Library*. When the Commonwealth Parliamentary Library was created in 1902, it was recognized that at such time as the Federal Capital was established it would be necessary to have available there, for the use of members and the public servants, a library whose scope was wider than that usually associated with a purely Parliamentary one. To this end, therefore, this library was developed on lines similar to those of a State Public Library, and particular attention was given to the acquisition of works relating to or published in Australia. In pursuance of this policy it acquired in 1909 a valuable collection of *Australiana*, comprising about 10,000 volumes, which had been formed by Mr. E. A. Petherick. In 1912, also, a provision was included in the Commonwealth Copyright Act requiring the publisher of any book, pamphlet, etc., printed in the Commonwealth to supply a free

copy to this library. In the same year it undertook the publication of the Historical Records of Australia, and 34 volumes were issued before publication was temporarily suspended in 1926. The rapid development of the Australian and National Sections of the library led the Library Committee in 1923 to decide that the title "Commonwealth National Library" should be given to these, and that at Canberra the library should be divided into two sections—a Parliamentary and a National Section—the former to be housed in Parliament House, the latter in a separate building, to which the public would be given free access. As the accommodation for the National Section is not at present available, the whole library is maintained at the Parliament building, but to meet the requirements of University students and the general public the privileges of the Library have been extended to them in respect to borrowing as well as reference.

The total number of volumes at the beginning of 1931 was 96,100 books and 7,000 pamphlets, the chief features being a unique collection of Captain Cook's manuscripts and early works relating to Australia, also an extensive series of official publications of Great Britain and all the Dominions.

(b) *Patents Office Library.* The free library attached to the Commonwealth Patents Office in Melbourne contains over 46,000 volumes, and includes literature dealing with patents in the principal countries of the world.

3. *Public Museums and Art Galleries.*—Previous issues of the Official Year Book contained a brief description of the public museums and art galleries in each State (see No. 22, pp 457-9), but considerations of space preclude the incorporation of this matter in the present volume.

4. *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 the year 1929-30 was as follows:—

EXPENDITURE ON EDUCATION, SCIENCE, AND ART, 1929-30.

State or Territory.	1929-30.	State or Territory.	1929-30.
New South Wales	{ Total £ 4,719,051 Per head 38/0	Western Australia	{ Total £ 751,976 Per head 36/1
Victoria	{ Total £ 2,986,022 Per head 33/7	Tasmania	{ Total £ 336,160 Per head 30/8
Queensland	{ Total £ 1,798,704 Per head 38/8	Northern Territory	{ Total £ 5,832 Per head 26/1
South Australia	{ Total £ 1,069,516 Per head 36/10	Australia	{ Total £ 11,667,261 Per head 36/5

During the quinquennium ending in 1929-30, the total expenditure has risen by nearly £1,857,000, while the expenditure per head of population showed a rise of 3s. 8d. This comparatively heavy increase has been largely due to the expanding provision for State-aided education, to greater cost of building, equipment, and maintenance, and to increments in teachers' salaries and allowances.

CHAPTER X.
PUBLIC JUSTICE.
§ 1. Police.

1. *General.*—In early 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.

2. *Strength of Police Force.*—(i) *General.* The strength of the police force in each State during the five years ended 1929 is given in the table hereunder. It may be mentioned that the police forces (with the exception of the small body of Commonwealth police maintained at the Federal Capital) are entirely under State control, but, by arrangement, the Commonwealth Government utilizes their services in various directions, such as the collection of particulars for Commonwealth electoral rolls, etc.

POLICE FORCES.—STRENGTH, 1925 TO 1929.

State.	Area of State in Sq. Miles.	1925.	1926.	1927.	1928.	1929.
New South Wales ..	309,432	2,937	2,970	3,109	3,444	3,709
Victoria	87,884	1,875	1,963	1,977	2,112	2,141
Queensland	670,500	1,182	1,167	1,191	1,125	1,229
South Australia ..	380,070	632	642	716	801	784
Western Australia	975,920	532	537	541	549	581
Tasmania	26,215	240	245	246	239	237
Northern Territory	523,620	38	38	39	39	42
Fed. Cap. Territory	940	..	..	(a)13	13	13
Total	2,974,581	7,436	7,562	7,832	8,322	8,736

(a) Organization created in September, 1927.

The figures for New South Wales for 1929 are exclusive of 22 "black trackers," i.e., natives employed in detection of offenders chiefly in outlying districts, and 4 matrons. For Queensland the figures exclude 63 native trackers and 1 female searcher; for South Australia 5 "black trackers" and 1 female searcher, and for the Northern Territory 34 "black trackers." There are also 43 "black trackers" and 5 female searchers in Western Australia, not included in the table. According to the returns, women police are employed in all the States except Queensland, the respective numbers being—New South Wales 8, Victoria 7, South Australia 13, Western Australia 5, and Tasmania 1. Their work is mainly preventive, and the importance and usefulness of their duties have been referred to in very high terms by the Commissioners of Police.

(ii) *Proportion to Population.*—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.

POLICE FORCES.—COMPARISON WITH POPULATION, 1925 TO 1929.

State.	Number of Persons per Sq. Mile, 1921 Census.	Inhabitants to each Police Officer.				
		1925.	1926.	1927.	1928.	1929.
New South Wales	6.80	776	783	763	710	660
Victoria	17.42	891	864	874	834	830
Queensland	1.13	720	750	749	814	757
South Australia	1.30	861	871	798	723	740
Western Australia	0.34	691	698	712	739	717
Tasmania	8.15	889	862	854	906	924
Northern Territory .. ..	..	97	99	109	102	106
Fed. Cap. Territory .. ..	..	..	..	441	622	637
Total	1.83	798	800	788	765	734

The above figures show, therefore, that the rate of protection maintained for Australia as a whole has remained fairly constant.

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 New South Wales, according to the Report of the Inspector-General, the time of one-fifth of the force was taken up during 1921 in extraneous duties unconnected with the protection of life and property, while the cash value of the services rendered to other Government departments was stated as over £200,000 per annum. The Queensland Commissioner refers to the circumstance that in 1929 no less than 71 subsidiary offices were held by the police. In South Australia, the Commissioner alludes to the large number of subsidiary duties performed by police officers, and mentions that for the year ended June, 1929, nearly 197,000 inquiries were made on behalf of other departments.

While these special tasks doubtless involve some degree of sacrifice of ordinary routine duties, the fact that the general intelligence of the police is adequate for their performance, besides being most creditable, results in a large saving of the public money.

4. **Cost of Police Forces.**—The expenditure from Consolidated Revenue on the police forces, and the cost per head of population in each State during the five years 1925 to 1929, are given in the following table :—

POLICE FORCES.—COST, 1925 TO 1929.

State.	1925.	1926.	1927.	1928.	1929.
TOTAL.					
	£	£	£	£	£
New South Wales	1,331,978	1,370,659	1,512,523	1,650,285	1,734,145
Victoria	768,939	840,653	857,306	880,729	888,244
Queensland	554,879	563,391	571,706	595,490	596,057
South Australia	250,915	263,857	275,844	315,465	330,625
Western Australia	216,798	224,690	227,106	268,830	256,761
Tasmania	84,340	88,725	91,704	94,059	96,200
Northern Territory	19,004	19,656	16,159	22,738	22,591
Total	3,226,853	3,371,631	3,552,348	3,827,596	3,924,623

PER HEAD OF POPULATION.

	s. d.	s. d.	s. d.	s. d.	s. d.
New South Wales	11 7	11 9	12 9	13 6	14 0
Victoria	9 2	9 11	9 11	10 0	10 0
Queensland	12 11	12 11	12 10	13 0	12 10
South Australia	9 1	9 5	9 8	10 11	11 5
Western Australia	11 8	12 0	11 10	13 3	12 4
Tasmania	7 9	8 5	8 9	8 8	8 9
Northern Territory	104 0	100 10	74 1	114 2	101 1
Total	10 9	11 2	11 6	12 1	12 3

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 show a very high average. The duties of the police, moreover, chiefly pertain to matters connected with the control of aborigines.

The total for New South Wales in 1929 includes £175,525 payment to the Police Superannuation Fund. Similar payments in Victoria and Queensland amount to £138,000 and £44,500 respectively.

The general advance in cost during the period under review is due to increases in salaries, and in prices of supplies and equipment.

5. *Interstate Police Conferences.*—In February, 1921, a Conference of the chief officers of the police forces of the various States was held in Melbourne. In addition to the discussion of matters of common interest, arrangements were made for the interchange of detectives. The results were so satisfactory that it was decided to hold similar Conferences annually. Amongst other matters discussed at the Hobart Conference in 1927, particular attention was given to the subject of traffic regulation in view of the large and increasing number of motor vehicles. The Conference was held at Melbourne in 1928, and at Perth in 1929.

§ 2. Lower (Magistrates') Courts.

1. *General.*—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 States' population, also influence the results. Due weight should also be given to the prevalence of undetected crime, but information on this point is not available for all States. 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 Conciliation and Arbitration and the Federal Court of Bankruptcy. Full particulars regarding the judicial power of the Commonwealth will be found in Chapter III. of the Commonwealth Constitution.

2. *Powers of the Magistrates.*—Preceding issues of the Official Year Book contained a brief statement of the powers of the magistrates in the various States (see No. 22, page 462), but it is not proposed to repeat this information in the present volume.

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 1925 to 1929 :—

MAGISTRATES' COURTS.—PERSONS CHARGED, 1925 TO 1929.

State.	1925.	1926.	1927.	1928.	1929.
New South Wales ..	102,377	116,675	124,030	137,079	132,439
Victoria ..	73,346	75,556	67,276	60,562	58,097
Queensland ..	28,684	29,196	30,479	27,300	27,719
South Australia ..	20,651	23,637	25,455	21,766	20,106
Western Australia ..	11,358	12,335	13,325	15,499	16,972
Tasmania ..	7,035	7,848	7,309	7,413	7,468
Northern Territory ..	180	142	317	456	500
Total ..	243,631	265,389	268,191	270,075	263,301

Investigation of the returns shows that considerable variations in the figures for single States are occasioned by breaches of new Acts, or the more stringent enforcement of the provisions of existing Acts. Any deductions drawn from the total returns as to the increase or otherwise of criminality must, therefore, be largely influenced by a careful analysis of the detailed list of offences. Thus, the considerable increase in the total offences in New South Wales for the year 1926 was due chiefly to the large number of charges under the Traffic Act, the total recorded in 1926 being 20,594 as compared with 11,895 in 1925. The increase in this State for the year 1928 as compared with the previous year was chiefly due to a rise in the offences against good order and in the miscellaneous class, amounting in the case of the former to over 4,000, and in the latter to 7,760, the bulk of the increase in the latter consisting of charges under the Traffic Act.

4. *Convictions and Committals.*—The figures given in the tabulation above include, of course, a number of people who were wrongly charged, and statistically are not of general importance. The actual number of convictions in connexion with the persons who appeared before the lower courts in each year of the period 1925 to 1929 is, therefore, given hereunder. A separate line is added showing the committals to higher courts.

MAGISTRATES' COURTS.—CONVICTIONS AND COMMITTALS, 1925 TO 1929.

State.		1925.	1926.	1927.	1928.	1929.
New South Wales	Convictions	85,970	100,644	107,657	119,936	113,398
	Committals	1,806	1,832	1,895	2,003	2,403
Victoria	Convictions	58,879	60,728	53,612	47,865	45,318
	Committals	744	761	774	731	950
Queensland	Convictions	26,148	26,815	28,763	25,563	25,324
	Committals	326	328	337	313	309
South Australia	Convictions	18,556	21,417	22,876	18,665	17,320
	Committals	181	299	301	420	403
Western Australia	Convictions	10,047	11,105	12,114	14,197	15,565
	Committals	91	87	84	76	93
Tasmania	Convictions	6,415	7,200	6,766	6,835	6,898
	Committals	95	99	72	98	105
Northern Territory	Convictions	121	129	287	424	460
	Committals	..	2	6	2	14
Total	Convictions	206,136	228,038	232,075	233,485	224,283
	Committals	3,243	3,408	3,469	3,643	4,277

5. **Convictions for Serious Crime.**—While the figures given in the preceding table refer to the entire body of convictions, the fact must not be overlooked that they include a large proportion of offences of a technical nature, many of them unwittingly committed, against various Acts of Parliament. 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 from some other offences, also help to swell the list. The following table has therefore been prepared for the purpose of showing 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:—

MAGISTRATES' COURTS.—CONVICTIONS FOR SERIOUS CRIME, 1925 TO 1929.

State.	1925.	1926.	1927.	1928.	1929.
TOTAL.					
New South Wales	7,543	9,340	10,132	10,237	11,674
Victoria	3,044	3,249	3,588	3,415	3,860
Queensland	2,274	2,608	2,712	3,135	3,420
South Australia	864	872	1,017	1,091	1,235
Western Australia	1,108	1,177	1,163	1,344	1,508
Tasmania	550	607	551	616	743
Northern Territory	5	22	7	51	99
Total	15,388	17,875	19,170	19,880	22,530
PER 10,000 OF THE POPULATION.					
New South Wales	33.1	41.8	42.6	42.2	47.2
Victoria	18.2	19.1	20.8	19.5	21.8
Queensland	26.7	29.8	30.5	34.5	37.0
South Australia	15.9	15.6	17.8	18.9	21.3
Western Australia	30.1	31.4	30.2	33.7	36.7
Tasmania	25.8	28.7	26.2	29.1	34.8
Northern Territory	13.6	58.4	16.5	121.2	237.0
Total	25.9	29.6	31.1	31.6	35.4

6. **Decrease in Serious Crime, 1881 to 1929.**—(i) *Rate of Convictions.* The figures quoted in the preceding table show that during the last five years the rate of serious crime has increased, but if the comparison be carried back to 1881 the position is seen to be 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, 1921, and 1929. Only the more serious offences particularized in the preceding sub-section have been taken into consideration.

MAGISTRATES' COURTS.—SERIOUS CRIME.—RATE OF CONVICTIONS, 1881 TO 1929.

Year.							Convictions per 10,000 Persons.
1881 .. .. .	..	..	..	..	..	..	69.3
1891 .. .. .	..	..	..	..	..	..	44.8
1901 .. .. .	..	..	..	..	..	..	29.1
1921 .. .. .	..	..	..	..	..	..	29.2
1929 .. .. .	..	..	..	..	..	..	35.4

The figures already quoted refer to total convictions, and in respect of individuals necessarily involve a considerable amount of duplication, especially as regards the less important offences, such as petty larcenies, etc.

(ii) *Causes of Decrease.* The statistics given above show that there has been a considerable decrease in crime throughout Australia over the period dealt with. 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. A review of the various factors responsible for this decline is given in preceding issues of the Official Year Book. (See No. 22, p. 465.)

7. **Drunkennes.**—(i) *Cases and Convictions.* The number of cases of drunkenness and the convictions recorded in connexion therewith during the period 1925 to 1929 will be found in the following table :—

DRUNKENNESS.—CASES AND CONVICTIONS, 1925 TO 1929.

State.	1925.		1926.		1927.		1928.		1929.	
	Cases.	Convictions.	Cases.	Convictions.	Cases.	Convictions.	Cases.	Convictions.	Cases.	Convictions.
New South Wales	30,689	36,160	31,922	31,361	33,011	32,649	35,590	35,155	33,819	33,136
Victoria	9,430	5,767	10,150	6,461	10,793	7,050	9,635	6,241	9,385	5,866
Queensland ..	13,020	12,475	12,713	12,650	12,829	12,657	10,536	10,599	9,882	9,747
South Australia ..	5,830	5,795	6,050	6,029	5,925	5,913	4,996	4,946	4,312	4,291
Western Australia	3,149	3,131	3,318	3,299	3,904	3,881	4,039	4,011	4,068	4,040
Tasmania	364	361	333	330	313	303	281	274	329	321
Northern Territory	44	44	68	68	108	108	232	232	157	153
Total	62,506	57,733	64,554	60,198	66,883	62,561	65,609	61,458	61,952	57,554

Under the heading drunkenness, are included cases of ordinary drunkenness, drunkenness and disorderliness, and habitual drunkenness. In the figures quoted for Western Australia, convictions for disorderliness attributable to drink have been included in the second category.

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 open to doubt.

(ii) *Convictions per 10,000 of Population.* The convictions for drunkenness per 10,000 of the population during each of the years from 1925 to 1929 are given hereunder :—

DRUNKENNESS.—CONVICTIONS PER 10,000 INHABITANTS, 1925 TO 1929.

State.	1925.	1926.	1927.	1928.	1929.
New South Wales	132.3	134.8	137.2	144.5	134.1
Victoria	34.5	38.1	40.8	35.6	33.2
Queensland	146.5	144.5	141.9	116.6	105.4
South Australia	106.5	107.9	103.5	85.7	74.0
Western Australia	85.0	88.0	100.8	100.4	98.2
Tasmania	16.9	15.6	14.4	12.9	15.0
Northern Territory	119.5	180.6	255.1	551.5	366.2
Total	97.3	99.5	101.4	97.8	90.3

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 all the States. (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, while allowance must be made for the attitude of the magistracy, the police, and the public generally in regard to the offence. Due account also must be taken of the effect of legislation dealing with the limitation of hours during which liquor may be sold in hotels.

(iii) *Consumption of Intoxicants.* 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 habits 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 shows the consumption of spirits, wine, and beer per head of the population in Australia during each year of the quinquennium 1926-30 :—

INTOXICANTS, CONSUMPTION.—AUSTRALIA, 1926 TO 1930.

Year.	Consumption per Head of Population.		
	Spirits.	Wine.	Beer.
	Imp. Galls.	Imp. Galls.	Imp. Galls.
1925-26	0.44	0.50	11.34
1926-27	0.41	0.50	11.56
1927-28	0.40	0.50	11.44
1928-29	0.38	0.50	11.31
1929-30	0.36	0.50	10.22

The figures in regard to wine are approximate, and are probably to some extent understated, as it is impossible to ascertain the exact quantity of the production which goes into consumption in the form of wine.

(iv) *Treatment of Drunkenness.* (a) *General.* 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 state in the company of professional malefactors, certainly lowers his self-respect, and doubtless tends to swell the ranks of criminals. 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. The Comptroller-General of Prisons in Queensland stated in his Report for the year 1907 that "the drunken habit in many cases is merely one of the many symptoms which jointly indicate the existence of a graver condition than simple habitual drunkenness."

(b) Remedial. Legislation has been passed in each State, providing for the commitment of inebriates to special Government institutions. The laws in the various States are as follows:—New South Wales, Inebriates Act 1912; Victoria, Inebriates Acts 1915 and 1923; Queensland, Inebriate Institutions Act 1896; South Australia, Inebriates Acts 1908, 1913, and 1920; Western Australia, Inebriates Acts 1912 and 1919; Tasmania, Inebriates Act 1885, Inebriate Hospitals Act 1892. Curative work was first undertaken by the Government of New South Wales in 1907. In most cases the institutes are connected with the gaols, and, naturally, custodial measures are still a strong feature in their management; nevertheless, the results of remedial measures have been encouraging.

8. First Offenders.—In all the States 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, 1908, and 1915 (Crimes Act, sec. 340); Queensland, 1887; South Australia, 1887, 1913, 1924, and 1925; Western Australia, 1892; Tasmania, 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 recognizances 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.

9. Children's Courts.—Special courts for the trial of juvenile offenders have been established in New South Wales, Victoria, Queensland, Western Australia, Tasmania, and New Zealand, 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.

10. Committals to Superior Courts.—(i) General. In a previous sub-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 connexion allowance must be made for the want of uniformity in jurisdiction. The table below gives the number of committals in each year from 1925 to 1929, with the rate of such committals per 10,000 of the population:—

COMMITTALS TO SUPERIOR COURTS, 1925 TO 1929.

State.		1925.	1926.	1927.	1928.	1929.
New South Wales	No.	1,806	1,832	1,895	2,003	2,403
	Rate	7.9	7.9	8.0	8.2	9.7
Victoria	No.	744	761	774	731	950
	Rate	4.5	4.5	4.5	4.2	5.4
Queensland	No.	326	328	337	313	309
	Rate	3.8	3.7	3.8	3.4	3.3
South Australia	No.	181	299	301	420	403
	Rate	3.3	5.4	5.3	7.3	7.0
Western Australia	No.	91	87	84	76	93
	Rate	2.5	2.3	2.2	2.0	2.3
Tasmania	No.	95	99	72	98	105
	Rate	4.4	4.7	3.4	4.6	4.9
Northern Territory	No.	..	2	6	2	14
	Rate	..	5.3	14.2	4.8	33.5
Total	No.	3,243	3,408	3,469	3,643	4,277
	Rate	5.5	5.6	5.6	5.7	6.7

(ii) *Decrease in Rate since 1861.* The figures in the preceding table show that the rate of committals for serious crime has increased slightly during the last five years, but if the comparison be carried further back, it will be found that there has been a very considerable improvement. This will be evident from an examination of the following figures, which show the rate of committals per 10,000 persons in Australia at various periods since 1861 :—

RATE OF COMMITTALS, AUSTRALIA, 1861 TO 1929.

Year	1861.	1871.	1881.	1891.	1901.	1911.	1921.	1929.
Committals per 10,000 inhabitants	22	14	12	11	8	6	7	7

The decline in proportion to population since 1861 has therefore been about 68 per cent.

§ 3. Superior Courts.

1. **Convictions at Superior Courts.**—The number of convictions at superior courts with the rate per 10,000 of the population is given below for each of the years 1925 to 1929 :—

SUPERIOR COURTS.—CONVICTIONS, 1925 TO 1929.

State.		1925.	1926.	1927.	1928.	1929.
New South Wales	No.	(a)1,060	(b)744	(b)877	(b)846	(b)1,034
	Rate	(c)3.1	3.2	3.7	3.5	4.2
Victoria	No.	510	461	474	521	630
	Rate	3.1	2.7	2.7	3.0	3.6
Queensland	No.	234	269	250	244	193
	Rate	2.7	3.1	2.9	2.7	2.0
South Australia	No.	123	174	196	264	258
	Rate	2.3	3.1	3.4	4.6	4.5
Western Australia	No.	67	64	61	51	74
	Rate	1.8	1.7	1.6	1.3	1.8
Tasmania	No.	66	69	37	70	73
	Rate	3.1	3.3	1.8	3.3	3.4
Northern Territory	No.	2	..	..	4	21
	Rate	5.4	..	..	9.5	50.3
Total ..	No.	2,062	1,781	1,904	2,000	2,283
	Rate	2.7	2.9	3.1	3.2	3.6

(a) Eighteen months ended 30th June, 1926.

(b) Year ended 30th June following.

(c) Equivalent annual rate.

The rate in 1901 was 4.6 per 10,000, and the decrease to the end of 1929 was, therefore, about 22 per cent. During the last five years, however, the rate of convictions in Australia increased by about 33 per cent., Queensland being the only State to show a decrease. Owing to the particular conditions prevailing there, the figures for the Northern Territory are 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 1925 to 1929. Owing to lack of

uniformity in the presentation of the returns the information is confined to the chief offences against the person only.

SUPERIOR COURTS.—CONVICTIONS, SERIOUS CRIME, AUSTRALIA, 1925 TO 1929.

Offences.	1925.	1926.	1927.	1928.	1929.
Murder, and attempts at ..	31	24	30	25	33
Manslaughter	10	13	15	17	15
Rape, and attempts at	8	15	14	11	15
Other offences against females ..	120	125	130	159	124
" " " the person	253	235	224	222	244
Total	422	412	413	434	431

The total convictions for similar offences in 1901 amounted to 432. Stated according to the proportion per 10,000 of mean population, the rate in 1929 amounted to 0.68, as compared with a rate of 1.14 in 1901, the decrease for the period amounting, therefore, to about 40 per cent.

3. **Habitual Offenders.**—Some account of the methods adopted in each State in connexion with habitual offenders is given in preceding Year Books (see No. 22, pp. 469-70), but this information cannot be repeated in this issue.

4. **Capital Punishment.**—The table below gives the number of executions in each State during the period 1925 to 1929 :—

EXECUTIONS, 1925 TO 1929.

State.	1925.	1926.	1927.	1928.	1929.
New South Wales	2	..	..
Victoria
South Australia	2	..	1
Western Australia	3	1	1	..
Tasmania
Total	3	5	1	1

Under the Criminal Code Amendment Act of 1922, capital punishment was abolished in Queensland.

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 annual average number of executions in Australia was 9, from 1881 to 1900 the average was 6, for the period 1901 to 1910 the figure was 4, from 1911 to 1920 it was 2, while the average for the last nine years was about 1.8.

§ 4. Prisons.

1. Prison Accommodation and Prisoners, 1929.—The table below shows the number of prisons in each State, the accommodation therein, and the number of prisoners in confinement at the end of 1929 :—

PRISON ACCOMMODATION AND PRISONERS, 1929.

State.	Number of Prisons.	Accommodation in—		Prisoners at End of Year.
		Separate Cells.	Wards.	
New South Wales	24	(a)2,248	..	1,842
Victoria	15	1,274	458	1,145
Queensland	7	551	86	368
South Australia	14	707	246	368
Western Australia	16	601	542	315
Tasmania	1	129	3	89
Northern Territory	3	..	62	30
Total	80	5,510	1,397	4,157

(a) Total accommodation.

The figures refer to prisoners under sentence and are exclusive of aborigines.

2. Prisoners in Gaol, 1925 to 1929.—The number of prisoners in gaol at the 31st December in each of the years 1925 to 1929 is given below. As stated above, the figures refer to prisoners under sentence, and are exclusive of aborigines. A separate line is added in each instance showing the proportion per 10,000 of the population.

PRISONERS IN GAOL, 1925 TO 1929.

State.		1925.	1926.	1927.	1928.	1929.
New South Wales	Number ..	1,404	1,429	1,682	1,699	1,842
	Proportion ..	6.2	6.1	7.0	7.0	7.5
Victoria	Number ..	894	915	883	934	1,145
	Proportion ..	5.3	5.4	5.1	5.3	6.5
Queensland	Number ..	295	366	353	365	368
	Proportion ..	3.5	4.2	4.0	4.0	4.0
South Australia	Number ..	280	326	312	403	368
	Proportion ..	5.1	5.8	5.5	7.0	6.4
Western Australia	Number ..	219	208	221	236	315
	Proportion ..	5.9	5.5	5.7	5.9	7.7
Tasmania	Number ..	94	81	85	73	89
	Proportion ..	4.4	3.8	4.0	3.4	4.2
Northern Territory	Number ..	5	2	6	18	30
	Proportion ..	13.6	5.3	14.2	42.8	71.8
Total	Number ..	3,191	3,327	3,542	3,728	4,157
	Proportion ..	5.4	5.5	5.7	5.9	6.5

The proportion to population of prisoners in gaol under sentence has risen by about 20 per cent. in Australia during the last five years, but, if the comparison be carried farther back, the position is seen to be more favourable, the proportion in 1891 being as high as 16 per 10,000.

3. Improvement of Penological Methods.—In previous issues of the Official Year Book a more or less detailed account was given of the improvements effected in each State during recent years in regard to methods of prison management (see Official Year Book 22, pp. 471-4), but this information cannot be repeated in the present volume.

§ 5. Civil Courts.

1. Lower Courts.—The transactions of the lower courts on the civil side during the year 1929 are given in the table hereunder. Particulars for earlier years will be found in preceding issues of the Official Year Book.

LOWER COURTS.—CIVIL CASES, 1929.

State.	1929.	State.	1929.
New South Wales	Cases No. 92,016 Amount £ 395,233	Western Australia	Cases No. 27,596 Amount £ 166,970
Victoria ..	Cases No. 111,832 Amount £ 776,238	Tasmania ..	Cases No. 11,075 Amount £ 76,382
Queensland ..	Cases No. 22,853 Amount £ 267,160	Total ..	Cases No. 305,133 Amount £ 1,949,699
South Australia ..	Cases No. 39,761 Amount £ 267,716		

The figures just given represent the returns from Petty Sessions Courts in New South Wales and Victoria, the Petty Debts Courts in Queensland, the Local Courts of South Australia and Western Australia, and the Courts 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 the year 1929. Particulars for previous years will be found in preceding issues.

The New South Wales returns refer to the total amounts of judgments in the District Courts, and are exclusive of judgments signed in the Supreme Court, for which the amount is not available.

SUPERIOR COURTS.—CIVIL CASES, 1929.

State.	1929.	State.	1929.
New South Wales	Cases No. 2,561 Amount £ 395,233	Western Australia	Cases No. 501 Amount £ 85,762
Victoria ..	Cases No. 1,022 Amount £ 467,840	Tasmania ..	Cases No. 526 Amount £ 27,265
Queensland ..	Cases No. 200 Amount £ 20,031	Total ..	Cases No. 5,059 Amount £ 1,060,052
South Australia ..	Cases No. 249 Amount £ 63,921		

3. Divorces and Judicial Separations.—The number of divorces and judicial separations in each State during the period 1925 to 1929 is shown below. The figures refer in the case of divorces to decrees made absolute in each year and include decrees for nullity of marriage.

DIVORCES AND JUDICIAL SEPARATIONS, 1925 TO 1929.

State.	1925.		1926.		1927.		1928.		1929.	
	Divorces.	Judicial Separations.								
New South Wales ..	1,071	11	834	12	1,068	20	921	6	1,078	17
Victoria ..	445	1	466	2	513	2	481	..	546	2
Queensland ..	85	2	99	1	64	..	117	2	89	..
South Australia ..	86	..	71	1	97	..	113	..	107	..
Western Australia ..	121	..	127	..	103	..	141	1	167	1
Tasmania ..	37	..	34	..	51	..	55	..	48	1
Northern Territory	1	..
Total ..	1,844	14	1,631	16	1,896	22	1,828	9	2,036	21

The average annual number of divorces and judicial separations in Australia at decennial periods from 1871 to 1920 and during the nine years 1921-29 was as follows:—

DIVORCES AND JUDICIAL SEPARATIONS.—AUSTRALIA, 1871 TO 1929.

Averages ..	1871-1880.	1881-90.	1891-1903.	1901-10.	1911-20.	1921-29
	29	70	353	401	707	1,686.

The bulk of the divorces and judicial separations refer to New South Wales and Victoria, the Acts of 1899 and 1889 in the respective States having made a 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 connexion between the figures.

4. **Probates.**—Information in regard to probates and letters of administration will be found under § 8, Chapter VIII., Finance.

5. **Bankruptcies.**—Particulars relating to bankruptcy in each State up to the end of the year 1927 were incorporated under this heading in preceding issues of the Official Year Book. Under the terms of the Bankruptcy Act 1924-1928 jurisdiction in insolvency was taken over by the Commonwealth from 1st August, 1928. The Act constitutes each State a single bankruptcy district, excepting in the case of New South Wales, which includes the Federal Capital Territory, and Queensland, which has been divided into three districts corresponding to the three Supreme Court districts in that State. The Territories of North Australia and Central Australia were also constituted a separate bankruptcy district. Operations under the Act for the year ended 31st July, 1930, are given in the table hereunder.

COMMONWEALTH BANKRUPTCY ACT RETURNS—1929-30.

Heading.	N.S.W.	Vic.	Qld.	S. Aust.	W. Aust.	Tas.	Australia.	
Sequestration Orders and Orders for administration of Deceased Debtors' Estates	Number ..	558	418	191	117	80	61	1,426
	Liabilities £	922,966	410,870	262,787	213,570	79,306	49,425	1,938,924
	Assets £	569,112	219,555	168,859	135,494	31,749	20,975	1,145,74
Compositions, etc. after Bankruptcy	Number ..	..	..	..	2	..	..	2
	Liabilities £	..	..	..	10,775	..	..	10,775
	Assets £	..	..	..	17,142	..	..	17,142
Compositions, etc. without Bankruptcy	Number ..	33	11	8	386	288	..	726
	Liabilities £	187,004	6,500	14,155	439,869	570,119	..	1,217,647
	Assets £	186,402	4,619	8,870	374,803	850,246	..	1,424,940
Deeds of arrangement ..	Number ..	466	276	118	5	117	33	1,015
	Liabilities £	1,048,118	827,073	279,329	21,893	496,769	105,581	2,778,763
	Assets £	1,050,509	751,861	264,767	24,108	834,712	60,987	2,992,944
Total, 1929-30	Number ..	1,057	705	317	510	485	94	3,168
	Liabilities £	2,158,088	1,244,443	556,271	686,107	1,140,194	155,006	5,946,109
	Assets £	1,806,023	976,035	442,496	551,547	1,716,707	87,962	5,580,770
Total, 1928-29	Number ..	697	474	264	306	352	52	2,145
	Liabilities £	1,134,659	1,597,499	324,418	342,347	624,899	34,374	4,058,696
	Assets £	832,280	1,229,299	225,162	264,686	1,009,927	20,590	3,581,944

Aggregates for each State for the year 1928-29 have been inserted in the table for purposes of comparison, and the general increase recorded in 1929-30 offers a clear index of the effect of the depression at the present time throughout Australia.

No transactions were recorded for the year in the Territories of North Australia and Central Australia. The Commonwealth Attorney-General's Report for the year ended 31st July, 1929, states that comparative tables have not been prepared in relation to State bankruptcy or insolvency for previous years, as the methods of collection and presentation do not afford a reliable common basis. It is also pointed out that the procedure in certain States has been largely influenced by the procedure in force prior to the passing of the Commonwealth Act, and that, therefore, no particular significance attaches to the large number of compositions &c. in South Australia and Western Australia. The Bankruptcy Act 1930 created a Federal Court of Bankruptcy and gave power to appoint two Judges thereto. No appointments were made in 1929-30 under

this Act, but later a Judge was appointed to deal with bankruptcy work, in addition to the State Judges, in New South Wales and Victoria, the Courts in these States having been unable to cope with the business. Practically all the bankruptcy work in those States is now being performed by the Federal Judge who sits in Sydney and Melbourne alternately.

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. The powers of the Court are defined in Chapter III. of the Constitution Act and in the Judiciary Acts of 1903–27. At present the Court consists of a Chief Justice and five other judges. Sittings of the Court are held in the capitals of the various States as occasion may require. The High Court also functions as a Court of Appeal for Australia. The following statement shows the transactions of the High Court for the year 1929. Figures for previous years are given in preceding issues.

COMMONWEALTH HIGH COURT.—TRANSACTIONS, 1929.

Original Jurisdiction.	Items.	Appellate Jurisdiction.	Items.
Number of writs issued ..	56	Number of appeals set down for hearing	68
Number of causes entered for trial ..	7	Number allowed	25
Verdicts for plaintiffs ..	1	Number dismissed	35
Verdicts for defendants ..	4	Otherwise disposed of	8
Otherwise disposed of ..	16		
Amount of judgments ..	£7,992		

The fees collected in 1929 amounted to £707.

During the year 1929 the Court dealt also with other matters as follows :—

Appeals from Assessments under the Taxation Assessment Acts, 98; Special cases stated for the opinion of the Full Court, 13; Applications for Prohibition, etc., 7.

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 1904–26, will be found in Chapter XIII.

§ 6. Cost of Administration of Justice.

1. Expenditure by the States.—The table below shows the expenditure from Consolidated Revenue during the year 1929–30 in connexion with the administration of justice in each of the States. Expenditures on police and on prisons are given on separate lines. 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.

STATE EXPENDITURE ON JUSTICE, 1929–30.

State.	Expenditure.	Per Head of Population.	State.	Expenditure.	Per Head of Population.
	£	s. d.		£	s. d.
N.S.W. ..	{ Police 1,734,145	14 0	W.A. ..	{ Police 256,761	12 4
	{ Gaols 265,860	2 2		{ Gaols 32,208	1 7
	{ Other 466,676	3 9		{ Other 94,959	4 7
Vic. ..	{ Police 888,244	10 0	Tas. ..	{ Police 96,200	8 9
	{ Gaols 122,134	1 4		{ Gaols 12,361	1 2
	{ Other 299,250	3 4		{ Other 30,710	2 10
Q'land ..	{ Police 596,057	12 10	N.T.(a) ..	{ Police 22,591	101 1
	{ Gaols 39,334	0 11		{ Gaols 6,534	29 6
	{ Other 198,338	4 3		{ Other 4,671	20 10
S.A. ..	{ Police 330,625	11 5	Total ..	{ Police 3,924,623	12 3
	{ Gaols 52,125	1 10		{ Gaols 530,606	1 8
	{ Other 71,380	2 6		{ Other 1,165,984	3 8

(a) See 2, Federal Expenditure, following.

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 connexion with the administration of justice in the various States has risen from 10s. per inhabitant in 1901 to 17s. 7d. in 1929. Police expenditure increased by 6s. 6d. per head, the average for gaols by 6d. per head, while the expenditure on courts and the remaining machinery of justice increased by 7d. per head during the period. Increased salaries and allowances, and the heavier cost of materials and equipment were largely responsible for the rise in the rate per head during the last few years.

2. Federal Expenditure.—With the exception of that for the Northern Territory, the expenditure shown in the foregoing table is that incurred by the State Governments only, and does not include expenditure in connexion with the Commonwealth Attorney-General's Department, which is given hereunder for the period 1925-26 to 1929-30 :—

**COMMONWEALTH ATTORNEY-GENERAL'S DEPARTMENT—EXPENDITURE
1925-26 to 1929-30.**

Year.			Amount.	Year.			Amount.
			£				£
1925-26	..	..	185,427	1928-29	..	..	246,745
1926-27	..	..	198,510	1929-30	..	..	245,491
1927-28	..	..	231,697				

The totals for each year include expenditure in connexion with Patents and Copyright which increased from £48,691 in 1925-26 to £56,301 in 1929-30. As pointed out previously, the Commonwealth took over jurisdiction in bankruptcy in August, 1928, and the expenditure thereon in 1929-30 amounted to £24,909. Expenditure in connexion with the Federal Capital Territory police amounted in 1929-30 to £7,298.

CHAPTER XI.

PUBLIC BENEVOLENCE.

§ 1. Introductory.

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 hospitals for the insane in the various States, the Government hospitals in Western Australia, and the Government asylums for the infirm in New South Wales. The second class comprises public institutions of two kinds, viz. :—(i) those partially subsidized 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 principal 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. Owing to differences in the method and date of collection and tabulation it is impossible to bring statistics of charitable institutions to a common year. In general, there is considerable want of harmony in the statistical information available for the different States.

No poor-rate is levied in Australia. Reference to old-age pensions, invalid pensions, and maternity allowances, which are provided by the Commonwealth, will be found in Division A §6 and 7 of Chapter VIII. "Finance."

From time to time relief funds have been organized for famine-stricken countries in various parts of the world, or for places where plagues, flood, fire, or earthquake have shown the need of urgent relief. Special funds were also raised for persons disabled or bereaved through war. Complete statistical information in regard to these forms of charity is not, however, available. It may be mentioned that the daily Press frequently accepts the duty of collectorship in charity appeals. In regard to subscriptions to the various patriotic funds which were instituted in consequence of the war, the total for Australia was estimated to exceed £12,500,000 sterling.

§ 2. The Larger Charities of Australia.

1. *General Hospitals.*—(i) *General.* All 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 infectious diseases, consumptives, women, children, incurables, etc.

The particulars given herein refer to general hospitals at the latest available date, and include all institutions affording general hospital relief.

(ii) *Principal Hospitals in each State.* In earlier issues of the Official Year Book (See No. 22, pp. 481-2) particulars respecting staff, accommodation, etc., of each of the principal hospitals were given, but owing to considerations of space, are not included in this issue.

(iii) *Number, Staff, and Accommodation, 1929.* Details regarding the number of hospitals, staffs, and accommodation for the year 1929, or nearest available year, are given in the appended table :—

GENERAL HOSPITALS.—NUMBER, STAFFS, AND ACCOMMODATION, 1929 (a).

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Number of Hospitals—							
Government	4	..	1	11	25	3	44
Other	162	55	111	38	57	13	436
Total	166	55	112	49	82	16	480
Medical Staff—							
Males	1,478	676	(b) 334 (b) 14	170	48	36	2,765
Females				5	3	1	
Total	1,478	676	(b) 348	175	51	37	2,765
Nursing Staff and Attendants—							
Males	113	2,302	(b) 457 (b) 2,504	104	170	4	11,461
Females	3,532			1,012	1,004	259	
Total	3,645	2,302	(b) 2,961	1,116	1,174	263	11,461
Accommodation—							
Number of dormitories, wards, etc.	1,310	471	(c) 716	447	377	156	3,477
Capacity, in cubic feet.	10,273,953	5,503,881	(c) 4,794,631	2,446,668	2,273,854	1,015,509	26,313,496
Number of beds, etc.	8,988	4,440	(c) 4,080	1,949	2,276	887	22,629
Cubic feet to each bed.	1,145	1,238	(c) 1,175	1,255	999	1,145	1,163

) The figures relate to the years ended as follows :—New South Wales, South Australia and Tasmania—31st December, 1929; Victoria—30th June, 1929; Queensland and Western Australia—30th June, 1930. The figures for Western Australia are an estimate for twelve months on the basis of eighteen months figures supplied. (b) Includes maternity hospitals and maternity wards in general hospitals. (c) Excludes maternity wards in general hospitals.

(iv) *Patients Treated.* The table hereunder furnishes particulars respecting patients treated. In addition to the facilities provided in the ordinary wards, a considerable amount of accommodation for certain classes of cases is furnished in out-door or verandah sleeping places, and this can be augmented; full particulars in connexion with these are not available. So far as the returns show, there were 1,453 out-door beds in New South Wales, 470 in Queensland, 178 in South Australia, 84 in Western Australia, and 53 in Tasmania. These figures are not included in the totals given in the table above.

GENERAL HOSPITALS.—PATIENTS TREATED, 1929(a).

Particulars.	N.S.W.	Vic.	Q'land. (b)	S. Aust.	W. Aust.	Tas.	Total.
Indoor Relief — Total Cases Treated—							
Males	76,753	27,159	37,797	12,618	16,094	7,153	177,574
Females	75,402	22,014	26,883	13,169	13,283	7,205	157,956
Total	152,155	49,173	64,680	25,787	29,377	14,358	335,530
Inmates at beginning of year—							
Males	3,512	1,629	1,833	661	802	284	8,721
Females	3,195	1,251	1,210	564	559	276	7,055
Total	6,707	2,880	3,043	1,225	1,361	560	15,776

GENERAL HOSPITALS.—PATIENTS TREATED, 1929—*continued.*

Particulars.	N.S.W.	Vic.	Q'land. (b)	S. Aust.	W. Aust.	Tas.	Total.
Admissions and Re-admissions during year—							
Males	73,241	25,530	35,964	11,957	15,922	6,869	168,853
Females	72,207	20,763	25,673	12,605	12,724	6,929	150,801
Total	145,448	46,293	61,637	24,562	28,016	13,798	319,754
Discharges—							
Recovered :							
Males	55,795	22,707	32,988	5,378	7,174	6,142	130,184
Females	58,108	19,142	23,952	6,958	7,108	6,291	121,559
Total	113,903	(c) 41,849	(e) 56,940	12,336	14,282	(c) 12,433	251,743
Relieved :							
Males	10,442	..	..	4,656	6,747	..	21,845
Females	8,625	..	..	4,311	4,784	..	17,920
Total	19,267	(d)	(d)	8,967	11,531	(d)	39,765
Unrelieved or incurable :							
Males	2,208	61	763	787	386	277	4,482
Females	2,145	40	530	688	303	314	4,020
Total	4,353	(e) 101	(i) 1,293	1,475	689	591	8,502
Not stated or indefinite :							
Males .. ..	..	379	320	240	..	11	950
Females .. ..	..	338	214	136	..	7	695
Total .. ..	..	(f) 717	(g) 534	376	..	18	1,645
Deaths—							
Males	4,727	2,417	1,932	923	952	402	11,353
Females	3,046	1,309	1,013	524	485	274	6,651
Total	7,773	3,726	2,945	1,447	1,437	676	18,004
Inmates at end of year—							
Males	3,581	1,595	1,794	634	830	321	8,755
Females	3,278	1,185	1,174	552	608	319	7,116
Total	6,859	2,780	2,968	1,186	1,438	640	15,871
Average Daily Number Resident—							
Males	(h)	(h)	(h)	686	(h)	314	(h)
Females	(h)	(h)	(h)	622	(h)	307	(h)
Total	7,501	2,900	3,207	1,302	1,390	621	16,927

(a) See footnotes (a) to previous table. (b) Excludes maternity wards in general hospitals. (c) Including relieved. (d) Included in recovered. (e) Incurable only. (f) Includes unrelieved. (g) Removed to other institutions. (h) Not available. (i) Or at own request.

(v) *Revenue and Expenditure.* The revenue and expenditure for the year 1929 were as follows:—

GENERAL HOSPITALS.—REVENUE AND EXPENDITURE, 1929 (a).

Particulars.	N.S.W.	Vic.	Q'land. (b)	S. Aust.	W. Aust.	Tas.	Total.
	£	£	£	£	£	£	£
Revenue—							
Fees of patients, etc.	287,813	109,910	139,426	71,821	96,519	39,413	744,902
Government grants	903,078	179,097	379,287	300,305	122,531	57,101	1,941,399
Other	700,969	409,347	240,156	85,341	50,327	11,276	1,497,416
Total ..	1,891,860	698,354	758,869	457,467	269,377	107,790	4,183,717
Expenditure—							
Salaries and Main- tenance ..	1,288,578	488,435	659,975	272,475	244,027	78,017	3,031,507
Buildings ..	409,623	101,296	91,779	175,620	18,683	3,196	1,033,147
Other	151,456	33,386		17,888	7,124	23,096	
Total ..	1,849,657	623,117	751,754	465,983	269,834	104,309	4,064,654

(a) See note (a) to first table on page 340.

(b) Includes also Maternity Hospitals.

(vi) *Summary for Five Years, 1925 to 1929.* Returns for the last five years of the number of hospitals in Australia, admissions, patients treated, deaths, and expenditure, are given in the following table. Figures for general hospitals only are tabulated, since the working of "special" institutions is not properly comparable with those which treat every class of case. It should be noted that the statistics for the States cannot be brought to a common year and consequently the following particulars relate to a combination of calendar and financial years.

GENERAL HOSPITALS.—SUMMARY, AUSTRALIA, 1925 TO 1929.

Particulars.	1925.	1926.	1927.	1928.	1929.
Number of institutions ..	450	458	470	472	480
Number of beds	20,718	20,784	21,657	21,638	22,629
Admissions during year ..	251,379	274,577	287,662	311,103	319,754
Total indoor cases treated ..	264,389	288,036	302,296	326,049	335,530
Deaths	15,125	15,912	16,287	17,265	18,004
Expenditure £	3,090,546	3,404,322	3,656,890	3,862,048	4,064,654

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 places the total at about 800,000.

2. *Benevolent and Destitute Asylums.*—(i) *General.* There has been a great increase in recent years in the amount of aid provided for 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 seventy and eighty 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. In Australia numerous establishments have been founded for the housing and protection of persons 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 Australia have resulted in differences 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 chief function of the institution is aid to the destitute, it has been included amongst benevolent asylums. In Victoria, although several of the hospitals were also benevolent asylums, a separation was effected and asylum patients were transferred to appropriate institutions. In South Australia, the Destitute Asylum includes lying-in and children's departments.

(ii) *Principal Institutions.* Particulars respecting the accommodation and the numbers of inmates of the principal institutions were published in earlier issues of the Official Year Book (See No. 22, p. 485), but owing to considerations of space cannot be repeated herein.

(iii) *Revenue and Expenditure.* Details regarding revenue and expenditure for the year 1929 are given in the following table :—

BENEVOLENT ASYLUMS.—REVENUE AND EXPENDITURE, 1929.(a)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
	£	£	£	£	£	£	£
Revenue—							
Government aid ..	165,593	29,422	57,145	11,151	8,402	11,096	282,809
Municipal aid ..	11	709	..	..	..	..	720
Public subs., legacies, etc.	3,365	28,352	169	4,006	..	..	35,892
Fees ..	38,508	30,473	..	16,359	20,073	5,053	110,466
Other ..	5,193	19,659	4,477	920	..	2,219	32,468
Total ..	212,670	108,615	61,791	32,436	28,475	18,368	462,355
Expenditure—							
Buildings ..	5,330	7,383	719	3,739	..	334	17,505
Maintenance ..	195,870	71,901	60,438	16,366	28,475	12,851	385,901
Other ..	12,662	14,956	849	13,230	..	5,183	46,880
Total ..	213,862	94,240	62,006	33,335	28,475	18,368	450,286

(a) See note (a) to first table on page 340.

3. *Orphanages, Industrial Schools, etc.—(i) General.* The organization 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 strictly to orphans. The expenditure on orphanages in 1929 was approximately £246,000.

(ii) *Principal Institutions.* Particulars concerning the principal institutions in each State were published in earlier Year Books (See No. 22, p. 486), but considerations of space prevent their repetition herein.

(iii) *Transactions of State Departments.* The following table summarizes the transactions in 1929 of State Departments for the relief of neglected children :—

STATE RELIEF OF NEGLECTED CHILDREN.—SUMMARY, 1929 (a).

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
<i>Number of children in institutions, boarded out, or on probation—</i>							
Males	3,088	4,044	1,350	670	459	327	9,938
Females	2,605	3,396	954	479	339	240	8,013
Total	5,693	7,440	2,304	1,149	793	567	17,951
<i>Number of children boarded out with their own mothers and female relatives—not included in above figures—</i>							
Males	10,083	10,244	3,021	127	28	..	26,509
Females			2,884	78	44	..	
Total	10,083	10,244	5,905	205	72	..	26,509
Total children under State control ..	15,776	17,684	8,209	1,354	870	567	44,480
<i>Gross cost to State of children's relief ..</i>							
£	£	£	£	£	£	£	£
553,575	444,815	207,837	55,550	26,785	15,923	1,304,485	
<i>Receipts from parents' contributions, etc. ..</i>							
22,055	15,717	12,107	2,155	4,849	1,091	57,974	
Net cost	531,520	429,098	195,730	53,395	21,936	14,832	1,246,511

(a) The figures relate to the years ended as follows:—New South Wales, Victoria and Queensland—31st December, 1929; other States—30th June, 1930.

4. *Lepers.*—Isolation hospitals for the treatment of lepers have been established in New South Wales (Little Bay); Queensland (Peel Island, near Brisbane); Western Australia (near Cossack); and the Northern Territory (near Darwin). At the end of 1930 there were 20 cases in residence at Little Bay, 54 at Peel Island, 15 in Western Australia and 34 in North Australia. During the year 1930 a total of 12 cases of leprosy was reported in Australia, of which 4 were recorded in New South Wales, and 8 in Queensland. In 1929 there were 4 deaths from this disease, and in 1930 the number of deaths recorded was 16, 4 in New South Wales, 11 in Queensland and 1 in Western Australia.

5. *Hospitals for the Insane.*—(i) *General.* The method of compiling insanity statistics has been fairly uniform throughout the States, but differences in diagnosis of the early stages of the disease introduce an element of uncertainty which considerably affects the value of comparisons.

(ii) *Hospitals, Staff, etc., 1929.* Particulars regarding the number of institutions, medical and nursing staff, and accommodation are given in the appended table for the year 1929:—

HOSPITALS FOR THE INSANE.—NUMBER, STAFFS, ACCOMMODATION, 1929(a).

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Number of Institutions—							
Government	11	8	3	2	5	1	30
Private	3	(c) 4	..	..	1	..	8
Total	14	12	3	2	6	1	38
Medical Staff—							
Males	29	28	6	6	5	2	76
Females	4	..	1	..	..	..	5
Total	33	28	7	6	5	2	81
Nursing Staff and Attendants—							
Males	853	684	274	101	132	64	2,108
Females	803	661	207	93	101	71	1,936
Total	1,656	1,345	481	194	233	135	4,044
Accommodation—							
Number of dormitories ..	(b)	1,358	584	517	66	419	(b)
Capacity, in cubic feet ..	(b)	4,050,052	1,993,452	1,000,072	783,474	896,680	(b)
Number of beds	8,895	5,932	2,606	1,486	(d)1,284	748	20,951
Cubic feet to each bed ..	(b)	683	765	673	1,154	1,199	(b)

(a) The figures relate to years ended as follows:—New South Wales and Queensland—30th June, 1930; other States—31st December, 1929. (b) Not available. (c) Cases at the end of the year numbered 89; other particulars not available. (d) Includes 605 beds on verandahs or out of doors.

(iii) *Patients, 1929.* Information regarding patients treated, deaths, etc., for the year 1929 is given in the table hereunder:—

HOSPITALS FOR THE INSANE.—PATIENTS, DEATHS, ETC., 1929(a).

Particulars.	N.S.W.	Vic. (b)	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Admissions and re-admissions during year—							
Males	914	459	290	145	112	61	1,981
Females	680	400	196	115	51	39	1,490
Total	1,594	868	486	260	163	100	3,471
Discharges—Recovered—							
Males	290	75	128	39	23	24	579
Females	244	109	99	26	13	14	505
Total	534	184	227	65	36	38	1,084
Relieved and unrelieved—							
Males	127	120	8	24	25	8	312
Females	82	93	9	28	12	5	229
Total	209	213	17	52	37	13	541

(a) See footnote (a) to previous table.

(b) Exclusive of four private licensed houses.

HOSPITALS FOR THE INSANE.—PATIENTS, DEATHS, ETC., 1929(a)—continued.

Particulars.	N.S.W.	Vic. (b)	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Absconders not retaken—							
Males	14	11	..	1	..	..	26
Females .. .. .	..	2	..	..	..	..	2
Total	14	13	..	1	..	..	28
Deaths—							
Males	317	235	160	65	49	19	845
Females	247	193	72	53	18	23	606
Total	564	428	232	118	67	42	1,451
Number of patients on books at end of year—							
Males	5,177	3,168	1,871	761	831	314	12,122
Females	4,200	3,363	1,171	613	421	308	10,076
Total	9,377	6,531	3,042	1,374	1,252	622	22,198
Average daily number resident—							
Males	4,843	2,731	1,889	754	823	311	11,351
Females	3,855	2,948	1,142	604	390	305	9,244
Total	8,698	5,679	3,031	1,358	1,213	616	20,595
Number of patients on books at end of year per 1,000 of population—							
Males	4.11	3.59	3.79	2.54	3.68	2.89	3.70
Females	3.45	3.76	2.67	2.18	2.21	2.79	3.21
Persons	3.78	3.68	3.27	2.37	3.00	2.84	3.46
Average number of patients resident in hospitals for insane per 1,000 of mean population—							
Males	3.86	3.11	3.86	2.52	3.69	2.93	3.48
Females	3.19	3.31	2.63	2.16	2.07	2.83	2.97
Persons	3.53	3.21	3.28	2.34	2.95	2.88	3.23

(a) See footnote (a) to previous table.

(b) Exclusive of four private licensed houses.

In some States persons well advanced towards recovery are allowed to leave the institutions and reside with their relatives or friends, but they are under supervision and their names are kept on the books. The figures for admissions, etc., include absconders captured and re-admitted. Generally, very few escapees succeed in avoiding capture.

(iv) *Revenue and Expenditure, 1929.* 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 85 per cent.

HOSPITALS (GOVERNMENT) FOR THE INSANE.—FINANCES, 1929(a).

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Revenue (Exclusive of Government Grants)—							
Fees of Patients	£ 114,451	£ 51,026	£ 24,787	£ 17,951	£ 15,336	£ 8,698	£ 232,249
Other	3,170	6,698	646	1,593	6,623	746	19,476
Total	117,621	57,724	25,433	19,544	21,959	9,444	251,725
Expenditure—							
Salaries	438,257	290,715	138,525	49,299	66,248	35,122	1,018,166
Maintenance	246,674	165,623	80,694	51,400	41,078	21,487	608,956
Buildings .. .. .	..	35,039	5,398	10,654	2,154	..	53,245
Other	29,349	6,880	..	2,276	2,183	2,547	43,235
Total	714,280	498,257	224,617	113,629	111,663	59,156	1,721,002
Expenditure per Inmate	£76/3/6	£76/5/10	£73/16/9	£82/14/0	£89/3/9	£95/2/1	£77/11/2

(a) The figures relate to years ended as follows :—New South Wales, Victoria, Queensland and Western Australia—30th June, 1930; other States—31st December, 1929.

(v) *Summary for Australia, 1925 to 1929.* The table hereunder gives a summary for hospitals for the insane in Australia for each of the five years 1925 to 1929. The figures for the States cannot be brought to a common year; consequently the following particulars relate to a combination of calendar and financial years. Licensed houses are included in the number of institutions for Victoria, and in all particulars save expenditure for New South Wales. The figures are exclusive of reception houses and observation wards in gaols. In the case of New South Wales the expenditure figures include cost of Broken Hill patients treated in South Australian hospitals:—

HOSPITALS FOR THE INSANE.—SUMMARY, AUSTRALIA, 1925 TO 1929.

Particulars.	1925.	1926.	1927.	1928.	1929.
Number of institutions	36	34	34	36	38
Number of beds	18,797	18,885	19,474	19,467	20,951
Admissions	3,441	3,452	3,466	3,537	3,471
Discharged as recovered, relieved, etc.	1,613	1,592	1,576	1,669	1,625
Deaths	1,416	1,459	1,433	1,429	1,451
Expenditure—Total	£ 1,649,626	1,629,242	1,666,061	1,706,259	1,721,602
„ —Per Inmate	£80/4/4	£77/14/7	£77/17/8	£78/3/2	£77/11/2

(vi) *Number of Insane, 1925 to 1929.* The proportion of insane, as well as the total number returned as under treatment, has changed very little during recent years. The next table gives the number of insane under official care in Australia, and the proportion per 1,000 of population for the last five years.

INSANE PERSONS IN INSTITUTIONS, 1925 TO 1929.

State.	1925.	1926.	1927.	1928.	1929.
NUMBER.					
New South Wales	8,397	8,570	8,898	9,104	9,377
Victoria	6,192	6,329	6,360	6,501	6,531
Queensland	2,983	3,000	3,017	3,032	3,042
South Australia	1,302	1,282	1,306	1,350	1,374
Western Australia	1,088	1,164	1,188	1,229	1,252
Tasmania	603	615	623	615	622
Australia	20,565	20,960	21,392	21,831	22,198

PER 1,000 OF POPULATION.

New South Wales	3.65	3.64	3.71	3.72	3.78
Victoria	3.67	3.70	3.65	3.60	3.68
Queensland	3.46	3.40	3.36	3.31	3.27
South Australia	2.36	2.26	2.27	2.33	2.37
Western Australia	2.92	3.07	3.03	3.03	3.00
Tasmania	2.78	2.86	2.89	2.84	2.84
Australia	3.43	3.43	3.43	3.45	3.46

The difference between States in the number of insane persons in institutions per 1,000 of population may be due to a large extent to differences of classification of the insane.

A more rational attitude towards the treatment of mental cases has resulted in a greater willingness in recent years to submit afflicted persons to treatment at an earlier stage. Hence an increase in the number of recorded cases does not necessarily imply an actual increase in insanity, and the small increment in the numbers in the first of the immediately preceding tables is probably, if not solely, due to this circumstance.

(vii) *Causes of Insanity.* The general information available respecting the causes of the insanity of persons admitted to institutions is too unsatisfactory to be given in detail. The figures for previous attacks and ascertained hereditary influence and ascertained congenital defect, though not entirely satisfactory, may, however, be mentioned. Of the total admissions and re-admissions during the year 1929, 15 per cent had been subject to previous attacks of insanity, while "ascertained hereditary influence and ascertained congenital defect" were responsible for 26 per cent. The figure for previous attacks is exclusive of South Australia, for which no particulars are available.

(viii) *Length of Residence in Hospital.* Information concerning the length of residence of persons who died or were discharged is given in earlier Year Books (See No. 22 p. 491), but owing to considerations of space, cannot be included in this issue.

6. *Care of the Feeble-minded.*—An account of the treatment of the feeble-minded, supplied by the Public Health Department of Tasmania, appeared in Official Year Book No. 19, pp. 477 and 478. Considerations of space, however, preclude its repetition in the present volume.

7. *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, 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 expenditure from Consolidated Revenue in 1929-30 was, New South Wales, £37,746; Victoria, £8,734; Queensland, £61,301; South Australia, £24,025; Western Australia, £26,796; Northern Territory, £9,675; total for Australia, £168,277. In New South Wales the number of aboriginals living on reserves in 1929 was 2,369. At the 30th June, 1929, there were 47 full-bloods and 281 three-quarter and half-castes under the care of the Aborigines Protection Board at stations in Victoria. In Queensland in 1928-29 there were 4,267 aborigines permanently resident at the various stations. At the 30th June, 1930, there were 823 inmates, of whom 117 were full-bloods, at mission stations in South Australia, and in Western Australia the aborigines and half-castes supported at similar institutions in the year 1929-30 numbered 945 (including 179 supported by the State), while an average of 1,415 natives were rationed each month by the Aborigines Department. At the mission stations in the Northern Territory approximately 1,250 full-bloods and 100 half-castes were in residence, but casual assistance and medical attention are given to large numbers of natives every year.

8. *Royal Life Saving Society.*—In each of the State capitals, "centres" of the Royal Life Saving Society have been established and in some States sub-centres have been established in the larger provincial districts. Saving of life from drowning and other forms of asphyxiation is the object of the Society, and its immediate aims are (a) educative and (b) remedial. The encouragement of swimming and life-saving in schools, colleges, clubs, etc., will bring about a more widespread knowledge of these necessary matters, and there is increasing provision of life-belts, reels, lines, and other first-aid appliances on ocean beaches, wharves, and other suitable places. Upwards of 12,000 certificates of proficiency in various grades are issued annually after examination throughout Australia, the numbers for the individual States for 1930 being New South Wales, 4,633; Victoria, 2,645; Queensland, 1,823; South Australia, 679; Western Australia, 2,253; and Tasmania, 120.

9. *Royal Humane Society.*—The Royal Humane Society of Australasia has for its objects (a) to grant awards for skill, promptness, and perseverance in life-saving; (b) to provide assistance in cases of danger and apparent death; (c) to restore the apparently drowned; (d) to collect and circulate the latest information regarding approved methods and apparatus for life-saving. Awards of medals and certificates are made numbering about 100 annually. Upwards of 300 lifebuoys have been provided at various places on the coasts, rivers, lakes, and reservoirs in the various States. Swimming is encouraged amongst school children, and awards are made for proficiency.

10. *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 range 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 the infirm. The institutions not so particularized 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.

11. *Total Expenditure on Charities.* Previous issues of the Official Year Book embodied statistics of expenditure on charities. The returns available, however, included a portion only of direct expenditure by Governments, and, in general, there is a want of harmony in the information available for the different States. Pending the result of further inquiry it has been decided to omit this table from the present chapter.

CHAPTER XII.

PUBLIC HYGIENE.

§ 1. Public Health Legislation and Administration.

References to the various public health authorities, Commonwealth and State, their functions, and the legislation administered, may be found in earlier issues of the Official Year Book (see No. 22, pp. 493 to 495), but considerations of space preclude the repetition of this information herein.

§ 2. Inspection and Sale of Food and Drugs.

Legislation is in force in each State concerning the inspection and sale of food and drugs, the general objects being to secure the wholesomeness, cleanliness, and freedom from contamination or adulteration of any food, drug or article; and the cleanliness of receptacles, places, and vehicles used for their manufacture, storage or carriage. For further particulars in this connexion, and with respect also to the sale and custody of poisons, reference should be made to Official Year Book, No. 22, pp. 495-497.

§ 3. Supervision of Dairies, Milk Supply, etc.

1. **General.**—In earlier issues (see No. 22, pp. 497 to 499), allusion is made to the legislation in force in the various States to ensure the purity of the milk supply and of dairy produce generally, but limits of space preclude the repetition of this information in the present issue.

2. **Number of Dairy Premises Registered.**—The following table shows, so far as the particulars are available, the number of dairy premises registered and the number of cattle thereon. Compulsory registration is not in force throughout the whole area of the various States.

DAIRY PREMISES REGISTERED, AND CATTLE THEREON, 1930.

Particulars.	N.S.W.	Victoria.	Q'land. (a)	S. Aust.	W. Aust.	Tasmania.
Premises registered ..	19,651	24,608	23,500	1,120	(b)	(b)
Cattle thereon ..	696,050	333,980	682,000	6,950	(b)	(b)

(a) Approximate number of dairies operating.

(b) Not available.

§ 4. Prevention and Control of Infectious and Contagious Diseases.

1. **General.**—The provisions of the various Acts in regard to the compulsory notification of infectious diseases and the precautions to be taken against the spread thereof may be conveniently dealt with under the headings—Quarantine; Notifiable Diseases, including Venereal Diseases; and Vaccination.

2. **Quarantine.**—The Quarantine Act is administered by the Commonwealth Department of Health, and uniformity of procedure has been established 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 inter-state 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 inter-state quarantine of animals and plants is left in the hands of the States. The Commonwealth possesses stations in each State for the purposes of human and of animal quarantine.

Further information concerning the chief provisions of the Act and its administration is given in some detail in earlier issues (see No. 22, p. 500).

3. Notifiable Diseases.—A. General.—(i) *Methods of Prevention and Control.* Provision exists in the Health Acts of all the States for the observance of precautions against the spread and for the compulsory notification of infectious disease. When any such disease occurs, the Health Department and the local authorities must at once be notified. In some States notification need be made only to the latter. 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.

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.

(ii) *Details by States.* In earlier Year Books (see No. 22, p. 501) information concerning the notification, etc., of diseases under State headings has been given, but considerations of space preclude its inclusion in this issue.

(iii) *Diseases Notifiable in each State.* In the following statement diseases notifiable in each State and the Federal Capital Territory are indicated by a cross :—

DISEASES NOTIFIABLE UNDER THE HEALTH, ETC., ACTS IN EACH STATE AND THE FEDERAL CAPITAL TERRITORY.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Fed. Cap. Ter.
Acute lobar pneumonia	(c)	..	..	..
Anthrax	+	+	+	+	+	+
Ankylostomiasis	+	+	+	+	+
Bilharziasis	+	+	+	+	+	+
Brill's Disease	+	+	+	+	+	+	..
Bubonic plague	+	+	+	+	+	+	+
Cerebro-spinal fever	+	+	+	+
Cerebro-spinal meningitis	+	+	+	+	+	+	+
Chicken-pox
Cholera	+	+	+	+	+	+	+
Continued fever	+
Diphtheria	+	+	+	+	+	+	+
Dysentery	+	+(a)	+	+	+(f)	+(g)
Encephalitis lethargica	+	+	+	+	+	+	+
Enteric fever	+	+	+	+	+	+	+
Erysipelas	+	+
Favus	+
Flariasis	+	+	+	+
Gastro-enteritis, infective
Hæmaturia	+
Hydatids	+	+(g)
Infantile paralysis	+	+	+	+	+
Influenza	+(c)	..	..	..
Leprosy	+	+	+	+	+	+	+
Malarial fever	+	+	+	+	+	+
Measles	+	+
Membranous croup	+	..	+
Ophthalmia, contagious (including trachoma)	+(e)	..	..	+
Pneumonic influenza
Polioencephalitis	+	+
Polomyelitis anterior acuta	+	+	+	..	+	+	+
Puerperal fever	+	+	+	+	+	+	+
Pulmonary tuberculosis (phthisis)	+	+	+	+	+	+	+
Relapsing fever	+	+	+	+	+

**DISEASES NOTIFIABLE UNDER THE HEALTH, ETC., ACTS IN EACH STATE
AND THE FEDERAL CAPITAL TERRITORY—continued.**

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Fed. Cap. Ter.
Scabies	+
Scarlet fever	+	+	+	+	+	+	+
Scarlatina	+	+	+	+	+	+	..
Septicæmia	+	+
Small-pox	+	+	+	+	+	+	+
Tetanus	+
Trichinosis	+	..	+	+
Tuberculosis	+	..	+	..	+	+
Tuberculosis in Animals	+	+
Typhoid	+	+	+	+	+	+	+
Typhus fever	+	+	+	+	+	+(e)	+(c)
Venereal Diseases :—							
Chancroid (soft chancre)	+	+	+	+(d)	+	+	..
Gleet	+	+(d)	+	..	..
Gonorrhœa	+	+	+	+(d)	+	..	..
Gonorrhœal ophthalmia	+	+	..	+(d)	+	..	..
Infective granuloma of the pudenda	+	+	+	+(d)	+	..	..
Ophthalmia neonatorum	+	+	..	+	+	..
Syphilis	+	+	+(b)	+(d)	+	+	..
Venereal warts	+	+	+	+(d)	+	+	..
Whooping cough	+	+	+	+
Yellow fever	+	+	+	+	+	+	+

(a) Notifiable in certain areas only. (b) Primary and secondary stages only. (c) Influenza vera is notifiable, and any febrile toxic-septicæmic condition similar to influenza, including pneumonic influenza. (d) Act not yet in operation. (e) Includes para-typhoid fever. (f) Bacillary and amoebic. (g) Echinococcus granulosis-cystic stage.

(iv) *Cases of Infectious Diseases in each State.* The following table compiled by the Commonwealth Department of Health shows for the year ended December 1930, the numbers of cases of infectious diseases notified in each State and the Federal Capital Territory :—

INFECTIOUS DISEASES—CASES NOTIFIED, AUSTRALIA, 1930.

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.
Ankylostomiasis	*	Nil	10	Nil	Nil	*	Nil
Anthrax	*	Nil	*	Nil	Nil	Nil	Nil
Beri-beri	*	*	*	*	Nil	*	Nil
Bilharziasis	*	2	Nil	Nil	Nil	Nil	Nil
Cerebro-spinal fever	43	18	3	8	2	1	Nil
Dengue fever	*	*	*	*	Nil	*	Nil
Diphtheria	4,051	3,414	1,686	245	1,045	573	11
Dysentery	*	53	4	53	25	*	Nil
Encephalitis lethargica	14	11	3	6	Nil	1	2
Erysipelas	*	*	119	226	1	*	Nil
Favus	*	*	*	1	*	*	*
Filariasis	*	*	2	Nil	*	*	Nil
Hydatid	*	20	*	*	*	*	Nil
Influenza	*	*	*	23	*	*	*
Leprosy	4	Nil	8	Nil	Nil	Nil	Nil
Malaria	*	Nil	9	Nil	8	1	Nil
Measles	*	*	*	2,466	*	*	10
Poliomyelitis	30	93	4	15	4	113	1
Puerperal fever	269	45	40	75	21	26	1
Scarlet fever	4,400	2,071	617	104	296	485	46
Tetanus	*	11	*	*	Nil	*	*
Tuberculosis	1,917	1,290	343	425	589	203	1
Typhoid fever	380	146	130	79	117	27	Nil
Typhus, endemic	*	*	*	7	51	*	Nil
Varicella	*	*	*	739	*	*	*
Whooping cough	*	*	*	4,466	*	*	1

* Not notifiable.

B. Venereal Diseases.—(i) *General.* The prevention and control of venereal diseases are undertaken by the States. Each State has a Venereal Diseases Act, or provisions in the Health Act govern the working of the measures taken to combat these diseases. In every State notification has been made compulsory. A list of notifiable forms of venereal complaints is given in the table on the preceding page. Steps have been taken to ensure free treatment by medical practitioners or in subsidized hospitals. Registered pharmaceutical chemists are allowed to dispense prescriptions only when signed by medical practitioners. Clinics have been established, and, in some cases, beds in public hospitals have been set aside for patients suffering from these diseases.

Penalties may be imposed on a patient who fails to continue under treatment. Clauses are inserted in the Acts which aim at preventing the marriage of any patient or the employment of an infected person in the manufacture and distribution of foodstuffs.

For several years the Commonwealth Government granted a subsidy to each of the States to assist in providing hospital treatment and administrative control of venereal diseases, but this subsidy has been discontinued.

In 1927 a Division of Tuberculosis and Venereal Disease was established in the Commonwealth Department of Health, with a medical officer as Director.

(ii) *Details by States.* A statement of the provisions in each State, together with certain statistical data, appeared in earlier Year Books (see No. 22, pp. 503 and 504), but cannot be included in this issue.

4. Vaccination.—(i) *Demand for Vaccine.* In New South Wales there is no statutory provision for compulsory vaccination, though in all the other States such provision has been made. Jennerian vaccine for vaccination against small-pox is prepared at the Commonwealth serum laboratories in Melbourne. A moderate demand exists for the vaccine in Victoria, but in the other States the normal requirements are small. During the years 1912, 1913, and 1914 the output of the vaccine 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, and was followed by large numbers of vaccinations in each State.

(ii) *Details by States.* In earlier issues of the Year Book (see No. 22, pp. 504 and 505) information concerning the provisions in each State was given, but owing to considerations of space cannot be included herein.

5. Commonwealth Serum Laboratories.—The establishment for the preparation of Jennerian vaccine situated at Royal Park, near Melbourne, formerly known as the "Calf Lymph Depot," was in 1918 greatly enlarged by the Commonwealth. The remodelled institution is designated the "Commonwealth Serum Laboratories," and forms a division of the Commonwealth Department of Health. The list of bacteriological preparations produced by the laboratories has been extended to cover a wide range, thus forming a valuable national provision for the protection of public health.

6. Health Laboratories.—The Commonwealth Department of Health has established health laboratories at Rabaul in New Guinea, at Lismore in New South Wales, at Bendigo in Victoria, at Townsville, Toowoomba, Rockhampton and Cairns in Queensland, at Port Pirie in South Australia, and at Kalgoorlie in Western Australia, and arrangements are being made for the organization of similar laboratories in other parts of Australia.

The laboratory at Rabaul which until 1930 was carried on in conjunction with the hookworm campaign, and was working in close co-operation with the health organization of the New Guinea Administration, was transferred to the Administration at the beginning of 1930.

The Bendigo Laboratory was opened in 1922. Besides carrying on the ordinary diagnostic and educational work of a health laboratory, it possesses an X-ray equipment, and undertakes the examination, diagnosis, and treatment of persons suffering from miner's disease and tuberculosis.

The laboratory at Townsville is now carried on as a separate establishment. The laboratory at Toowoomba was opened on 18th December, 1923.

All of these laboratories are undertaking successfully the diagnostic, educative, and research work for which they were created.

By arrangements between the Commonwealth and Western Australian Governments a special medical survey of persons engaged in the mining industry in Western Australia was carried out in 1925-26 by the Commonwealth Health Laboratory at Kalgoorlie, when 4,067 mine employees were examined. A further arrangement provided for the re-examination annually of mine employees in the Kalgoorlie district for a period of three years.

7. Industrial Hygiene.—The Industrial Hygiene Division of the Commonwealth Department of Health was established in December, 1921. Its objects are the collection of reliable data, the investigation of industrial conditions affecting health, and the issue of advice to employers and employees for the improvement of conditions of work and for the safeguarding of health. Publications have been issued dealing with the scope of industrial hygiene, and with health hazards in industry. Expert advice is available to employers and employees, and it is anticipated that the work of the division will be of great value in guiding the development of industry along hygienic lines, and in improving generally the condition of workers. With a view to the adoption of a concerted scheme of action and a uniform basis for standards and records throughout Australia, conferences of delegates from the State Health and Labour Departments and the Commonwealth Department of Health were held in 1922, 1924, and in 1927.

A special article entitled "Industrial Hygiene in Australia" will be found in Official Year Book No. 18, pp. 522 to 555.

8. Veterinary Hygiene and Plant Quarantine.—In 1927 Directors were appointed to control divisions of the Commonwealth Department of Health, which have been created to deal with veterinary hygiene and plant quarantine.

§ 5. Tropical Diseases.

1. General.—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 shown that the difficulties in the way of tropical colonization, 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 and the production of new synthetic drugs for treatment which science has accomplished, furnish a new outlook on the question of white settlement in countries formerly regarded as unsuitable for colonization by European races. In Australia, the most important aspect of this matter is at present in relation to such diseases as hookworm, filariasis, dengue fever, and to a lesser extent, malaria, which, although practically unknown in southern Australia, occur in many of the tropical and sub-tropical parts.

Systematic attention is being directed to these diseases and to other aspects of tropical hygiene by the Division of Tropical Hygiene of the Commonwealth Department of Health.

2. Transmission of Disease by Mosquitoes.—Information under this heading has appeared in earlier issues (see No. 22, pp. 506 and 507), but cannot be repeated in this volume.

3. Control of Introduced Malaria and Bilharziasis.—Reference to this subject may be found in earlier Year Books (see No. 22, p. 507).

4. Hookworm.—In 1911, attention was drawn to the necessity for an investigation into hookworm infection in Queensland, and the view was expressed that notified cases did not accurately indicate the prevalence of the disease. Researches made subsequently tended to support this view.

An investigation made in Papua in 1917 by an officer of the International Board of Health of the Rockefeller Foundation disclosed the fact that half of all natives examined were infected with hookworm disease. In co-operation with the Government of Queensland and the Australian Institute of Tropical Medicine, the survey was extended to Queensland, and a considerable number of cases of hookworm infection was found in certain northern coastal areas. In October, 1919, the Australian Hookworm Campaign was begun. This campaign was supported jointly by the Commonwealth, the International Health Board of the Rockefeller Foundation, the State of Queensland, and the other States in which work in this direction was undertaken. By the end of 1922, the survey of Australia and its dependencies had been completed. The total number of examinations up to 30th September, 1924, including those in Dr. Waite's survey in Papua and the earlier work in Queensland, was as follows:—

People examined for hookworm disease	..	..	394,578
Found to be infected with hookworms	..	..	62,951 (15.7%)

Endemic hookworm infection was found in intermittent areas along the eastern coast of Australia from Cape York to Macksville in New South Wales. The higher summer rainfall in these areas appears to be chiefly responsible for the localization of the infection. It is also found in the vicinity of Broome and Beagle Bay in Western Australia, in the northern part of the Northern Territory, and along the eastern coast of the Gulf of Carpentaria. In the Territory of Papua, 59.2 per cent. of the natives were found to be infected, and in the Territory of New Guinea, 74.2 per cent. There is no endemic hookworm infection in Victoria, South Australia, Tasmania, the interior of Queensland, New South Wales, except the north-eastern part, and Western Australia except the far north.

Metalliferous mines were examined in Victoria, South Australia, New South Wales, Tasmania, and Western Australia, and were found entirely free from hookworm infection. The examination of metalliferous mines in Queensland showed either no infection or a light infection which may have originated chiefly outside the mines. Coal mines in Victoria, Tasmania, and Western Australia were free from infection. Examinations were made in the coal mines of the Newcastle district, and among 1,226 miners examined in about 25 mines only five infected miners were found. In the Ipswich group of coal mines in Queensland, 31.5 per cent. of the miners were infected, and in the Howard-Torbanlea group (Queensland) 75.8 per cent. were infected. Recommendations were made with regard to the correction of the insanitary conditions responsible for these high infection rates.

Wherever operations are carried on by the hookworm campaign, emphasis is placed on the prevention of hookworm disease, in contrast to temporary relief through the cure of existing cases, and much work has been done to improve methods of night-soil disposal, and to teach the people the danger from soil pollution.

In October, 1924, the International Health Board withdrew from the work which was then continued under the direction of the Division of Tropical Hygiene of the Commonwealth Department of Health. From 1st October, 1924, to 30th September, 1929, under the new administration the field units engaged in the investigation examined 157,998 persons, of whom 13,968, or 8.8 per cent., were found to be infected with hookworm.

In October, 1929, the scheme for hookworm control was revised and modified. In both Queensland and New South Wales there are now committees for control which include the State officers responsible for public health and the health of school children respectively; continuity and co-ordination of programme are provided for by entrusting the chairmanship of each of the committees to the Director of the Division of Tropical Hygiene.

In the latter part of 1922, the scope of the campaign was widened to include a malaria and filaria survey in co-operation with the Division of Tropical Hygiene, Commonwealth Department of Health. This work is being carried out as opportunity arises.

Both of the species of hookworm which infest man are found in Australia. They differ in ways important to the practical sanitarian, and the need has been recognized for a new and more practicable method of determining their respective distribution. Such a method has been evolved at the Australian Institute of Tropical Medicine, and is being introduced as part of the routine of hookworm control within Australia.

Several epidemiological and microbiological problems relating to hookworm and other intestinal parasites in tropical and sub-tropical Australia have been investigated by the Australian Institute of Tropical Medicine and the Commonwealth Health Laboratories in Queensland in co-operation with the work of the field units, and useful information has been obtained and applied in regard to the control of hookworm among white people in the coastal tropical and sub-tropical regions of Australia.

5. **Australian Institute of Tropical Medicine.**—The Australian Institute of Tropical Medicine was founded at Townsville in January, 1910. From 7th March, 1921, to 3rd March, 1930, when it was merged in the School of Public Health and Tropical Medicine, Sydney University, the Institute was administered by the Commonwealth Department of Health, and a full account of its activities from its foundation up to 1922 will be found in Official Year Book No. 15, pp. 1010-1012.

6. **School of Public Health and Tropical Medicine, Sydney University.**—The Commonwealth Government, under an agreement with the Sydney University, established a School of Public Health and Tropical Medicine at the Sydney University as from 4th March, 1930, for the purpose of training medical graduates and students in the subjects of public health and tropical medicine. The organization of the Australian Institute of Tropical Medicine at Townsville was merged in the new School, and the staff, equipment, and material have been transferred to Sydney.

Since 1922 a number of investigations has been carried out, including the physiology of white population in the tropics, causes of obscure tropical fevers, sociological survey of certain tropical areas of Queensland, the destruction of mosquito larvæ and the control of mosquitoes in the larger centres of population, tropical diseases among the aborigines on Palm Island, leprosy among aborigines in the Northern Territory, prevalence of filariasis in Cairns, Yarrabah Mission Station, Port Douglas, Mossman, and Innisfail, and reputed foci of malaria in tropical Queensland. Courses of instruction in tropical medicine and hygiene commence in May of each year, and continue for four months, and ten publications dealing with various aspects of tropical medicine, etc., have been issued.

7. **Royal Commission on National Health, etc.**—Information concerning the following subjects may be found in previous Year Books (see No. 22, pp. 509 and 510):—(a) Royal Commission on National Health appointed by the Commonwealth Government in 1924; (b) Travelling Study Tours under the League of Nations; (c) International Sanitary Convention; (d) Far Eastern Epidemiological Bureau, Singapore; and (e) International Pacific Health Conference. Considerations of space preclude the repetition of this matter in this issue.

§ 6. Medical Inspection of School Children.

1. **General.**—Medical inspection of school children is carried out more or less thoroughly in all the States. Medical staffs have been organized, and in some States travelling clinics have been established to deal with dental, ocular, and other defects.

2. **New South Wales.**—A complete system of medical inspection of school children came into operation in this State in 1913. The scheme, as now applied, includes, in country districts, the medical examination of every child at least twice during the compulsory period of school attendance (7-14 years). In the metropolitan area, the scheme provides for the full medical examination of all "entrants" and "leavers" (1st class in Infants' Departments and children 13 years of age respectively), and the review of all cases found defective between those ages. Parents are notified of the defects found in children, and urged to have them treated. In the metropolitan area, these notices are reinforced by "follow up" work of school nurses, who also arrange hospital and clinic treatment in many cases.

When fully staffed, the staff employed consists of 19 medical officers, 19 dental officers (including 8 part-time), 8 school nurses, 15 dental assistants, and 13 clerical officers. Of the medical staff, three are oculists carrying out refractions and general ocular treatment in schools in country districts; while the dental activities include 11 Travelling Dental Clinics for country work, and a School Dental Clinic (staffed by the equivalent of 3 full-time dental officers and assistants), and a Clinic attached to the Out-Patient Department of the Children's Hospital in the metropolitan area.

Special attention is paid to the supervision of the health of High School pupils, both girls and boys, and these schools in the metropolitan, Newcastle, and Wollongong districts are visited by school medical officers once a year for this purpose.

The same health supervision is maintained by a woman medical officer attached to the Teachers' College. Every student, on entering the college, is medically examined, and any defects found must be remedied before final acceptance. A course of 30 lectures on hygiene is delivered, which every student attends.

The medical and psychological examination of delinquent boys brought before the Children's Court is carried out by a male medical officer, and approximately 1,600 boys are examined and reviewed yearly. The examination of certain girl delinquents is undertaken by a woman medical officer, who also carries out the examination and health supervision of children in residence at the Glenfield Special School for backward children.

One other medical officer is engaged for the greater part of each year in an investigation into hookworm infestation in school children in the North Coast District, working in conjunction with the Federal Health Authority.

From time to time, mass investigations are made into the prevalence and distribution of certain abnormal conditions affecting school children, such as goitre, acute rheumatism, trachoma, feeble-mindedness, crippling, etc.

During 1929, 76,517 children were fully examined, 34,108 (44.58 %) were notified for treatment of physical defects, including 15,256 (19.94 %) for defects other than dental. Of those notified for medical and dental defects 17,218 (50.48 %) were treated. In addition 28,053 children were "reviewed", of whom 11,104 (39.58 %) were notified for medical and dental defects, and 5,187 (46.71 %) of those notified were treated.

3. Victoria.—The system adopted provides for the medical examination of each child once every three years during its school life. With the doubling of the medical staff in 1925 the Department concentrated on country work, and medical inspection has been undertaken since that date in country and rural districts, reaching the most remote corners of the State. Medical inspection is now undertaken in all High schools, in practically all country State schools, and in about half of the metropolitan State schools, but in only a few of the registered and institutional schools.

Each school is visited once in every three years, and each child examined. In schools with an attendance of 70 or more, the older boys are examined by a medical man and the older girls by a medical woman. At this inspection every child is first weighed and measured, vision and hearing tested, then undressed to the waist and medically examined as for life assurance, but with a fuller investigation of many hygienic factors, which, at that age, greatly influence the health and growth of the child. Opportunity is also taken to teach the child healthy habits, how to correct faults, and also to get its co-operation for the remedying of defects found.

School nurses employed by the Department are devoted to "follow-up" work *i.e.*, visiting the homes and getting treatment for children found defective by the school medical officers. Owing to the smallness of the staff their work is confined to the metropolitan area. The result of their work is that the treatment received is much greater than that which is obtained without them.

In addition to the medical examination, each child in those schools visited by the school dentist receives dental treatment on entrance to school (if under 8 years of age), and each year thereafter, until it is 12 years of age, when it is left dentally fit.

The present staff is arranged so that 3 dentists and 4 dental attendants are always on duty at the Melbourne Dental Centre, where children from the infant classes in the inner metropolitan schools are brought by the teacher for dental treatment.

A dentist with a dental attendant and equipment travels along the railway line far enough to give one year's work, using practically every town large enough to provide a day's work as a base. The school committees of the outlying schools are notified of the visit, and the parents are invited to bring to the base all children eligible for treatment, *i.e.*, all children under 8 years of age, and all other children treated by the school dentists on previous visits. This method gives all schools in the district the opportunity of dental treatment.

The time of another dentist is fully occupied treating the children in the three largest country centres, Bendigo, Ballarat, and Geelong. In each of these cities a centre with a dentist, dental attendant, and equipment is established for about three months of the year, where children from the infant classes of the neighbouring schools are brought by the teacher or parents.

Three dentists with dental attendants are in charge of three fully-equipped dental vans, each of which has an itinerary which it completes each year. The advantage in the use of a dental motor van is that it is furnished as a dental surgery. It can be driven into the school yard and, immediately on its arrival, work can be commenced without any delay incidental to unpacking equipment, etc., and to the preparation of a room.

In no case is the same dental officer on the same trip for the whole year; work is distributed so that there is a change over at every school vacation—Christmas, May, and September. Those who have been in the country take a period of duty in the city and *vice versa*, while those who have been in the van on one trip will probably travel by train the next time, likewise there is constant change between dentist and dental attendants. By doing this it is felt that monotony is relieved, and that the standard of work is maintained at a higher level by the stimulus of change.

The staff of the medical branch consists of 8 full-time medical officers, 8 dentists, 9 dental assistants, and 2 school nurses.

During the year ended 30th June, 1930, 43,499 children and 1,402 teachers were medically examined, and 36,612 children received dental treatment. In addition, 9,385 homes were visited by the school nurses.

4. Queensland.—In matters affecting the general administration of the medical branch of the Department of Public Instruction, the Department acts on the advice of its Chief Medical Officer, who, while acting independently in all matters affecting individual schools, is in close touch with the Department of Public Health, and observes the policy of that Department in all matters connected with schools which may have direct bearing upon the health of the State.

Medical inspection of schools and school children is at present carried out by a staff of five medical officers (one part-time). These officers examine all children for cardiac and pulmonary conditions, and in addition, make a thorough examination of all children referred to them by the school nurses; 17,003 were thus medically examined in 1930, and of these 2,727 were notified as suffering from some condition requiring correction.

School nurses now numbering 12 have been appointed from time to time. To each nurse is assigned a group of schools, and she is instructed to make a list at each school of those children whom she considers should be seen by the medical inspector at his next visit. She supervises the sanitation, cleanliness and ventilation of the school and notifies the head teacher of all infectious or verminous children or those suffering from impetigo, scabies, etc., who are then excluded. During the year 1930, school nurses examined 32,667 children. In the metropolitan area, the nurses examine the teeth and report all eligible carious cases to the Dental Hospital for treatment. The work of the school nurse is proving more and more valuable in keeping the standard of sanitation high and in controlling the general health of the children.

The Department has in its employ a staff of 15 dentists. These officers are each assigned a district, and such district is not changed for three years unless for reasons which the Chief Medical Officer, on the recommendation of the Chief Dental Inspector, considers advisable. During the year 1930, 35,230 children were examined; 39,741 extractions were performed; and there were 32,790 fillings and 17,518 other treatments. Children and parents alike are beginning to realise the very great value of early dental treatment. The former appreciate the fact that, in the early stages of decay, they are not called upon to suffer pain during dental manipulations, and the latter see in the increased health and vigour of their children the practical value of such treatment.

The Medical Branch, under the direction of the Chief Medical Officer, consists of three sections known respectively as the Medical, Dental and Nursing Sections. These combined constitute the School Medical Service of the State.

In addition to the ordinary activities of the Branch, there has recently been added the Wilson Ophthalmic School Hostel for the treatment and education of severe cases of trachoma. Such cases, on the recommendation of the Departmental Ophthalmologist, are admitted from time to time. Beneficial results have already been obtained. The Institution is situated at Eildon Hill, Windsor, and is fully equipped to treat all types of eye case.

Following the policy of the Government to give the same medical and dental facilities to the children of the back country as are obtainable by city dwellers, a Rail Dental Clinic has been constructed. This consists of a carriage 21 feet long, divided into—

- (a) Lavatory and shower accommodation.
- (b) Sleeping and living room, fitted with all conveniences, including ice chest and two-burner Gloria cooking-stove. Ample drawer space is provided in dressing table, and under the sleeping berth.
- (c) Dental surgery fitted with all the latest appliances for dental treatment, including Gloria sterilizer and pressure filtered water. The dental engine is electrically driven and foot controlled. Perfect illumination is obtained by a dental spot light which is part of the chair equipment.
- (d) A compartment for waiting patients which also contains the engine and generator and batteries for lighting the car throughout.

A motor car is carried on a railway waggon at the rear, and can be used at each stopping place to visit the surrounding villages served by the rail centre. This unit operates in the distant and roadless parts of the State where there is difficulty in taking the present Road Motor Clinic.

5. South Australia.—Medical inspection embraces the examination of all children attending primary, central, high and technical high schools. Each child is examined once in three years. Reports are furnished to parents of defects likely to interfere with educational progress. The staff consists of 1 principal medical officer, 3 medical inspectors, 1 psychologist, 1 dentist, 2 trained nurses, 1 dental assistant and a disinfecting officer. The dentists attend country schools and treat children. The dentist from the City Clinic was transferred in October, 1928, to the Dental Hospital, where school children are now treated. The medical inspectors meet the parents after the examination of the children, report any defects, and recommend treatment. It has been found that a personal talk is of greater value than a written notice. The psychologist examines mentally retarded children and supervises their work in the opportunity classes which have been established for their benefit.

During the year 1930, 21,592 children were examined by the medical inspectors; of these 580 required notices for defective vision, 150 for defective hearing, and 745 for adenoids and tonsils. One thousand six hundred and thirty-nine children received dental treatment in the country districts.

6. Western Australia.—Under the Public Health Act 1911-1922, the medical officers of health appointed by the local authorities became medical officers of schools and school children. In the Health Department there are two full-time and one half-time medical officers for schools, whose duty is to conduct medical examinations, and three school nurses are employed. During 1930, 13,592 (6,099 country and 7,493 metropolitan) children were examined. These figures do not include recalls or specials.

7. Tasmania.—To Tasmania belongs the credit of being the first State in Australia to provide for the medical inspection of State school children. As far back as 1906, 1,200 children from the Hobart State schools were examined. At the present time the various municipal health officers are employed as medical inspectors visiting country schools, and, in the case of epidemics, these officers pay special visits when required, while two part-time medical officers conduct examinations of school children in Hobart and Launceston. There are also four nurses, whose chief duty is to visit the homes to advise the parents as to the treatment of defects disclosed by the medical examination. Country schools are visited by medical officers about once a year. There are four full-time dental officers—two working at dental clinics in Hobart and Launceston, and two visiting the smaller country schools.

8. Federal Capital Territory.—By arrangement education facilities are provided by the Education Department of New South Wales. The Commonwealth Department of Health, however, took over from the State in 1930 the medical inspection of school children and carried out examinations of entrants and leavers during 1930. No statistical information is available for that year, but, as a complete examination of school children is to be made in 1931, figures should be available for the next issue.

§ 7. Supervision and Care of Infant Life.

1. General.—The number of infantile deaths and the rate of infantile mortality for the last five years are given in the following table, which shows that during the period 1926 to 1930 no less than 34,190 children died in Australia (excluding Territories) before reaching their first birthday. With few exceptions, the rate of mortality in the metropolitan area is consistently greater than that for the remainder of the State. Further information regarding infantile mortality will be found in Chapter XXV.—Vital Statistics:—

INFANTILE DEATHS AND DEATH RATES, 1926 TO 1930.

State.	Metropolitan.					Remainder of State.				
	1926.	1927.	1928.	1929.	1930.	1926.	1927.	1928.	1929.	1930.
NUMBER OF INFANTILE DEATHS.										
New South Wales	1,336	1,161	1,047	1,267	1,099	1,724	1,797	1,954	1,706	1,499
Victoria..	1,205	1,118	1,016	855	853	764	848	903	732	691
Queensland ..	318	365	298	289	289	227	633	715	603	562
South Australia ..	328	370	292	221	256	181	244	250	215	227
Western Australia	232	210	233	269	218	177	179	186	239	212
Tasmania ..	77	79	81	59	66	156	177	219	196	176
Australia (b) ..	3,496	3,303	2,967	2,900	2,719	3,635	3,960	4,115	3,650	3,335
RATE OF INFANTILE MORTALITY.(a)										
New South Wales	60.72	56.39	49.50	56.68	50.03	55.41	54.04	58.00	56.27	49.70
Victoria..	82.91	62.46	56.82	50.69	50.80	47.14	49.38	54.35	43.74	42.30
Queensland ..	50.41	57.28	48.26	49.58	39.23	50.76	53.12	44.31	44.40	40.30
South Australia ..	53.03	64.00	49.09	43.81	54.72	34.16	42.72	45.79	38.25	42.78
Western Australia	53.85	57.30	60.74	63.99	51.40	44.33	37.16	38.21	49.31	42.75
Tasmania ..	53.73	55.71	80.92	56.73	60.61	43.88	51.83	59.35	52.17	47.61
Australia (b) ..	58.86	59.27	52.90	53.49	49.84	50.05	50.88	52.84	49.37	45.81

(a) Number of deaths under one year per 1,000 births registered.

(b) Exclusive of Territories.

During recent years greater attention has been paid to the fact that the health of the community depends largely on pre-natal as well as after care in the case of mothers and children. Government and private organizations are, therefore, taking steps to provide instruction and treatment for mothers before and after confinement, while the health and well-being of mother and child are looked after by the institution of baby health-centres, baby clinics, crèches, visitation by qualified midwifery nurses, supervision of milk supply, etc.

2. Government Activities.—In all the States Acts have been passed with the object of supervising and ameliorating the conditions of infant life and reducing the rate of mortality. Government Departments control the boarding-out to suitable persons of the wards of the State, and wherever possible the child is boarded-out to its mother or near female relative. Stringent conditions regulate the adoption, nursing and maintenance of children placed in foster-homes by private persons, while special attention is devoted to the welfare of ex-nuptial children. (See also in this connexion Chapter XI.—Public Benevolence.) Under the provisions of the Maternity Allowance Act 1912, a sum of five pounds is payable to the mother in respect of each confinement at which a living or viable child is born. Further particulars regarding Maternity Allowance are given in Chapter VIII.—Finance.

3. Nursing Activities.—(i) *General.* In several of the States, the Government maintains institutions which provide treatment for mothers and children, while, in addition, subsidies are granted to various associations engaged in welfare work.

(ii) *Details by States.* In earlier issues of the Year Book (see No. 22, pp. 515 and 518) information, with certain statistical data, concerning the activities of institutions in each State has been included, but cannot be published in this issue.

(iii) *Summary.* The following table gives particulars of the activities of the Baby Health Centres and the Bush Nursing Associations :—

BABY HEALTH CENTRES AND BUSH NURSING ASSOCIATIONS, 1930.

Heading.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Total.
Baby Health Centres:—								
Metropolitan No.	39	74	5	39	10	4	1	172
Urban-Provincial, and Rural No.	45	55	10	6	8	5	..	129
Total No.	84	129	15	45	18	9	1	301
Attendances at Centres .. No.	413,445	244,800	116,304	70,706	47,531	24,692	2,415	919,893
Visits paid by Nurses .. No.	100,103	55,749	14,224	38,471	10,111	12,358	971	281,987
Bush Nursing Association, Number of Centres ..	38	69	11	(a) 30	(b) 5	16	..	169

(a) District Trained Nursing Society.

(b) Pre-natal auxiliary hostels.

CHAPTER XIII.—LABOUR, WAGES, AND PRICES.

A.—PRICES.

§ 1. Wholesale Prices.

1. General.—The results of an investigation into wholesale prices in Melbourne from 1871 to the end of September, 1912, were given in some detail in Report No. 1 of the Labour and Industrial Branch, while summarized results for later years are included in subsequent Reports.

2. Index-Numbers.—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 shown in the following table, and in each case were computed with the prices in the year 1911 as base. They show, for each of the years specified, the expenditure necessary—if distributed in purchasing the relative quantities (indicated by the mass-units) of the several commodities concerned—to purchase what would have cost £1,000 in 1911.

INDEX-NUMBERS.—WHOLESALE PRICES, MELBOURNE, 1861 TO 1930.

(Base 1911 = 1,000.)

Year.	I. Metals and Coal.	II. Jute, Leather, Wool, etc.	III. Agri- cultural Produce, etc.	IV. Dairy Produce.	V. Gro- ceries.	VI. Meat.	VII. Building Mate- rials.	VIII. Chem- icals.	All Com- modities together.
1861	1,438	1,881	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	945
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	884	1,209	1,059	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	910
1906	882	978	916	972	923	1,110	896	864	948
1907	1,037	1,017	973	1,020	948	1,294	968	961	1,021
1908	1,038	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	1,060	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	1,172
1913	1,046	1,070	1,097	1,054	1,024	1,252	1,128	995	1,086
1914	1,099	1,032	1,207	1,137	1,021	1,507	1,081	1,233	1,149
1915	1,284	1,017	2,162	1,530	1,133	2,435	1,275	1,528	1,604
1916	1,695	1,423	2,208	1,485	1,322	2,515	1,491	1,760	1,504
1917	2,129	2,008	1,157	1,423	1,343	2,403	1,884	2,171	1,662
1918	2,416	2,360	1,444	1,454	1,422	2,385	2,686	3,225	1,934
1919	2,125	2,363	1,985	1,651	1,516	2,348	2,851	2,898	2,055
1920	2,298	2,624	2,439	2,209	1,918	3,279	3,226	2,825	2,480
1921	2,173	1,362	1,767	2,000	1,976	2,158	2,733	2,303	1,903
1922	1,942	1,681	1,628	1,648	1,869	1,787	2,005	1,065	1,758
1923	1,826	2,148	1,778	1,837	1,746	2,570	2,025	1,933	1,944
1924	1,835	2,418	1,647	1,655	1,721	2,223	1,815	1,806	1,885
1925	1,852	1,967	1,797	1,636	1,723	2,212	1,711	1,790	1,844
1926	1,938	1,582	2,001	1,784	1,731	1,931	1,665	1,816	1,832
1927	1,962	1,650	1,826	1,823	1,724	2,111	1,624	1,866	1,817
1928	1,912	1,781	1,726	1,751	1,707	2,015	1,744	1,923	1,792
1929	1,912	1,556	1,792	1,853	1,690	2,246	1,754	1,942	1,803
1930	1,866	1,127	1,484	1,627	1,666	2,025	1,875	1,982	1,596

NOTE.—The figures given in this table are comparable in the vertical columns, but are not directly comparable horizontally. The index-numbers are reversible.

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 similar to those adopted in regard to retail prices. The commodities included, the units of measurement

* In the computation of the index-numbers for years prior to 1911, the aggregate expenditure on 80 commodities in 1911 is taken as base (= 1,000), while for later years the aggregate expenditure on 92 commodities is taken.

for which the prices are taken, and the mass-units indicating the relative extent to which each commodity is used or consumed, are shown in a tabular statement in Labour Report No. 20 for 1929 (page 11).

3. Fluctuations, July, 1914, to July, 1930.—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 months of July, 1923, to July, 1930, taking July, 1914, the last month before the outbreak of war, as base (= 1,000) for each group:—

INDEX-NUMBERS.—WHOLESALE PRICES, MELBOURNE, JULY, 1914, TO JULY, 1930.

Particulars.	I. Metals and Coal.	II. Jute, Leather, Wool, etc.	III. Agricultural Produce, etc.	IV. Dairy Produce.	V. Gro- ceries.	VI. Meat.	VII. Building Mate- rials.	VIII. Chemicals.	All Groups.
July, 1914 ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
" 1923 ..	1,858	1,876	1,691	1,668	1,698	2,229	1,780	1,923	1,799
" 1924 ..	1,666	2,119	1,525	1,431	1,677	1,281	1,666	1,743	1,626
" 1925 ..	1,663	1,744	1,643	1,404	1,667	1,492	1,605	1,716	1,618
" 1926 ..	1,741	1,456	1,860	1,514	1,686	1,248	1,557	1,798	1,615
" 1927 ..	1,789	1,503	1,674	1,606	1,677	1,390	1,518	1,826	1,607
" 1928 ..	1,738	1,650	1,618	1,477	1,654	1,217	1,593	1,862	1,578
" 1929 ..	1,741	1,381	1,755	1,559	1,634	1,346	1,598	1,894	1,590
" 1930 ..	1,869	1,031	1,468	1,415	1,625	1,307	1,722	1,920	1,441

§ 2. Retail Prices and House Rents.

1. Introduction.—(i) *General*: In Labour 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. A detailed examination of the theory upon which the calculation of the index-numbers is based was given, but being necessarily too technical for inclusion in the general chapter, was relegated to Appendixes. The results of further investigations are included in the annual Labour Reports and Quarterly Summaries of Australian Statistics issued by this Bureau.

(ii) *Computation of Index-Numbers*. Numerical examples of the technique and methods adopted for the computation of index-numbers were given in Report No. 2 (pp. 44 and 45), and in Report No. 9 Appendixes I. to IV., pp. 174 to 229.

2. Scope of Investigation.—As noted in Report No. 1, distinction must be drawn between (a) Variations in the *purchasing-power* of money, and (b) Variations in the *standard of living*, and in Report No. 2 attention was directed to the factors which must be taken into consideration in dealing with these matters in order to arrive at a satisfactory aggregate expenditure. The various Reports deal with the list of the commodities selected and the reasons for their adoption, while § 3 of this Chapter deals with the extension of the inquiry to cover all ordinary household expenditure.

3. Variations in Index-Numbers for Retail Prices and House Rents, Capital Cities, 1907 to 1930.—(i) *General*. In Labour Reports and Bulletins, and in recent issues of the Quarterly Summaries of Statistics, index-numbers were given for each of the four groups of commodities and for all groups combined for each capital city since 1901, the expenditure in 1911 being taken in each case as base (= 1,000). In this sub-section summarized results only are given, firstly, for food and groceries; secondly, for house rent; and thirdly, for the groups combined—the weighted average expenditure for all capital cities during the five-yearly period 1923–1927 being taken in each case as base (= 1,000). The index-numbers in each table are fully comparable with one another, since they show not only the variations from year to year in each capital, but also the relative cost as between the cities.

Attention is directed to the base period to which the index numbers in the following tables have been computed. In tabulations of retail prices of food and groceries and cost of housing prior to and including December, 1929, the base (1,000) to which the index numbers were computed was the weighted average aggregate cost in the year 1911 for

the six capital cities. The desirability of computing retail price indexes on a post-war period was considered by a Conference of Statisticians and it was resolved that the period of five years—1923–1927—should be adopted as base for retail price indexes as from January, 1930.

(ii) *Food and Groceries.* The index-numbers thus computed for the three groups comprising groceries and food are shown in the following table for 1907, 1911, 1914, 1921, and for the last five years :—

RETAIL PRICE INDEX-NUMBERS, FOOD AND GROCERIES.—CAPITAL CITIES, 1907 TO 1930.

City.	1907.	1911.	1914.	1921.	1926.	1927.	1928.	1929.	1930.
Sydney	523	553	646	1,062	1,044	1,032	1,021	1,000	984
Melbourne	517	523	610	1,063	992	969	942	1,004	913
Brisbane	530	569	603	1,014	1,000	940	935	951	844
Adelaide	532	570	679	1,066	1,045	1,030	993	1,055	937
Perth	670	753	728	1,116	1,043	1,004	1,053	1,084	961
Hobart	665	692	678	1,133	1,045	1,000	966	1,025	952
Weighted Average (a) ..	533	550	640	1,064	1,023	1,000	985	1,044	941

(a) For all capital cities.

The figures quoted are directly comparable in every respect; thus, the same quantity of food and groceries, which cost £1,000 in the capital cities considered as a whole in the base period, 1923–1927, would have cost £646 in Sydney in 1914, £753 in Perth in 1911, or £913 in Melbourne in 1930.

In 1930 decreases were experienced in all the capital cities. Comparing the results for 1930 with those for 1911, the extent by which prices increased varied from 78 per cent. in Sydney to 28 per cent. in Perth. Prices, however, were abnormally high in Perth in 1911. The average retail prices in the six capitals considered as a whole in 1930, compared with prices in 1911, were 68 per cent. higher, and compared with 1914 prices, 47 per cent. higher.

(iii) *Housing.* In issues of the Official Year Book prior to No. 19, the computations of index-numbers of housing accommodation were based upon the rentals of all houses from under 4 rooms to 7 rooms and over. In the following tables that basis has been altered, to accord with a resolution adopted by the Conference of Statisticians of Australia and New Zealand to the following effect: "that for purposes of computing price levels in respect of rent, it is desirable that houses of four and five rooms only be taken into account." The retail price index numbers (food, groceries and rent—all houses) used by the Commonwealth Court of Conciliation and Arbitration in the determination and adjustment of rates of wage are available and are computed to the original base, viz., year, 1911 = 1,000. These figures are published in the Quarterly Summaries of Australian Statistics and in the Annual Labour Reports. Tabulations covering the five years, 1926–1930, are given in the Appendix to this issue of the Year Book.

The following table gives index-numbers computed for the weighted average house rent of 4 and 5 roomed houses in each of the capital cities from 1907 to 1930, taking the average rent for the six capitals in the five-yearly period—1923–1927—as the base (= 1,000). The average rent has been obtained for each city separately by multiplying the weighted average rent for each class of house (*i.e.*, wooden houses of 4 rooms and of 5 rooms and brick houses of 4 rooms and of 5 rooms) by a number ("weight") representing the relative number of houses of that class in the particular city. The sum of the products thus obtained divided by the sum of the weights, gives the weighted average for 4 and 5 roomed houses combined. The number of houses in each class for each city was obtained from the results of the 1921 Census, and the index-numbers are based on the weighted average rents for 4 and 5 roomed houses combined, and do not refer to any particular class of house. The weighted average rents for each class are given in

appendixes to Labour Reports, and an examination of these figures shows that for some classes of houses the increase has been greater, and in some less, than the general increase indicated in the following table.

INDEX-NUMBERS.—HOUSING, CAPITAL CITIES, 1907 TO 1930.

City.	1907.	1911.	1914.	1921.	1926.	1927.	1928.	1929.	1930.
Sydney	593	701	760	989	1,117	1,109	1,143	1,162	1,197
Melbourne	455	569	628	820	1,037	1,046	1,087	1,094	1,011
Brisbane	283	373	466	630	815	832	839	841	775
Adelaide	510	706	655	809	927	942	1,022	986	916
Perth	453	524	589	739	898	922	941	955	979
Hobart	405	452	518	881	996	966	939	932	914
Weighted Average (a) ..	497	612	662	862	1,025	1,030	1,066	1,073	1,047

(a) For all capital cities.
NOTE.—The above figures are directly comparable in every respect.

(iv) *Food, Groceries, and Housing (4 and 5 roomed Houses) combined.* The weighted averages for all groups are of importance, as indicating the general results of this investigation so far as the purchasing-power of money is concerned. The following table shows the index-numbers for groceries, food, and house rent (4 and 5 roomed houses) for each capital city, the weighted average cost for the six capitals in the five-yearly period 1923-1927 being taken as base (= 1,000):—

RETAIL PRICE INDEX-NUMBERS(a)—FOOD, GROCERIES, AND HOUSING.—
CAPITAL CITIES, 1907 TO 1930.

City.	1907.	1911.	1914.	1921.	1926.	1927.	1928.	1929.	1930.
Sydney	548	606	687	1,036	1,070	1,060	1,064	1,115	1,059
Melbourne	495	539	616	977	1,008	996	993	1,036	948
Brisbane	442	500	554	877	934	902	901	912	819
Adelaide	524	618	671	975	1,003	999	1,003	1,030	929
Perth	594	672	679	982	992	975	1,013	1,038	968
Hobart	508	542	621	1,044	1,027	988	956	992	939
Weighted Average (b) ..	520	578	648	992	1024	1011	1014	1054	978

(a) As the price index-number increases, the purchasing-power of money diminishes.
(b) For all capital cities.

NOTE.—The above figures are directly comparable in every respect.

The combination of housing with prices of food and groceries has had the effect of considerably modifying the index of prices, or, in other words, the purchasing-power of money, as compared with the similar index based on food and groceries only. In 1921 prices of food and groceries and housing increased considerably, the combined results for the six capital cities for 1921 being an increase of 53.2 per cent. over 1914, and 71.7 per cent. over 1911. The increase in the index-number between 1914 and 1921 varied between the capital cities from 45 per cent. in Perth to 68 per cent. in Hobart, while between 1911 and 1921 it varied between 46 per cent. in Perth and 93 per cent. in Hobart. In 1923 there was an increase in the combined cost of food, groceries, and housing in all the cities. The index-number for 1924 showed a decline of 1.3 per cent. on that for 1923, that for 1925 showed an increase of 2.6 per cent. from 1924, food and groceries having increased 3 per cent., and housing increased 2 per cent., while that for 1926 disclosed a rise of 2.3 per cent. over 1925, both food and groceries and housing again showing increases. The index-numbers for 1927 disclosed a decrease on 1926 prices of 1.3 per cent., the drop in prices of food and groceries of 2.2 per cent. more than outweighing the slight increase in rents. The combined index-number for 1928 showed an increase of 0.3 per cent. on 1927. Food and groceries declined 1.5 per cent., but housing increased by 3.5 per cent. During 1929 prices of food increased nearly 6 per cent. over those ruling in 1928; rents, however, only increased 0.6 per cent. The combined index-number for 1929 was 3.9 per cent. higher than that for the year 1928. The retail price of food and groceries and the cost of housing declined during 1930, as compared with 1929. Food prices showed a fall of 9.9 per cent., cost of housing, 2.4 per cent., while the combined index number fell 7.2 per cent.

4. Retail Price Index-Numbers in Terms of Currency.—The tables in sub-section 3 give the relative cost in the six capital cities of food, groceries, and housing from 1907 to 1930 in the form of index-numbers. The figures have been converted into a monetary basis in the next table, and show the sums which would have to be paid in each city 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 housing as would in the aggregate cost £1, according to the weighted average prices and rents in the six capitals in the five-yearly base period—1923-1927.

RETAIL PRICES.—AMOUNTS NECESSARY ON THE AVERAGE IN EACH YEAR FROM 1907 TO 1931 TO PURCHASE IN EACH CAPITAL CITY WHAT WOULD COST ON THE AVERAGE £1 IN THE FIVE-YEARLY BASE PERIOD—1923-1927 IN THE AUSTRALIAN CAPITALS REGARDED AS A WHOLE.

Year.	Sydney.	Melb'ne.	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average of 6 Capital Cities.
FOOD AND GROCERIES (46 COMMODITIES).							
	<i>s. d.</i>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1907	10 6	10 4	10 7	10 8	13 5	11 4	10 8
1911	11 1	10 6	11 5	11 5	15 1	11 10	11 2
1914	12 11	12 2	12 1	13 7	14 7	13 7	12 10
1921	21 3	21 3	20 3	21 4	22 4	22 8	21 3
1926	20 11	19 10	20 0	20 11	20 10	20 11	20 5
1927	20 8	19 5	18 10	20 7	20 1	20 0	20 0
1928	20 5	18 10	18 8	19 10	21 1	19 4	19 8
1929	21 10	20 1	19 0	21 1	21 8	20 6	20 11
1930	19 8	18 3	16 11	18 9	19 3	19 1	18 10
1930 { 1st Quarter ..	20 5	18 10	18 0	19 11	20 4	19 8	19 7
2nd " ..	20 3	18 9	17 2	19 8	20 3	19 8	19 5
3rd " ..	19 6	18 4	16 8	18 3	19 0	19 1	18 8
4th " ..	18 6	17 1	15 8	17 1	17 4	17 9	17 6
1931 { 1st Quarter ..	18 0	16 8	16 0	16 8	17 7	17 3	17 2
2nd " ..	17 9	15 10	15 9	16 2	17 4	16 6	16 9

HOUSING ACCOMMODATION (WEIGHTED AVERAGE—4 AND 5 ROOMED HOUSES).							
1907	11 10	9 1	5 8	10 2	9 2	8 1	9 11
1911	14 0	11 5	7 6	14 1	10 6	9 0	12 3
1914	15 2	12 7	9 4	13 1	11 9	10 4	13 8
1921	19 9	16 5	12 7	16 2	14 9	17 7	17 3
1926	22 4	20 9	16 4	18 6	18 0	19 11	20 6
1927	22 2	20 11	16 8	18 10	18 5	19 4	20 7
1928	22 10	21 9	16 9	20 5	18 10	18 9	21 4
1929	23 3	21 11	16 10	19 9	19 1	18 8	21 6
1930	23 11	20 3	15 6	18 4	19 7	18 3	20 11
1930 { 1st Quarter ..	24 11	21 0	16 7	19 5	20 0	18 6	21 10
2nd " ..	24 3	20 10	15 8	18 11	19 10	18 3	21 4
3rd " ..	23 6	20 1	15 1	18 2	19 10	18 3	20 8
4th " ..	23 1	19 0	14 7	16 10	18 7	18 3	19 11
1931 { 1st Quarter ..	22 2	18 1	13 10	16 2	18 6	18 4	19 1
2nd " ..	21 2	17 6	13 9	15 2	18 0	18 6	18 4

FOOD, GROCERIES, AND HOUSING (4 AND 5 ROOMS ONLY) COMBINED.							
1907	11 0	9 11	8 10	10 6	11 11	10 2	10 5
1911	12 1	10 9	10 0	12 4	13 5	10 10	11 7
1914	13 9	12 4	11 1	13 5	13 7	12 5	13 0
1921	20 9	19 6	17 6	19 6	19 8	20 11	19 10
1926	21 5	20 2	18 8	20 1	19 10	20 6	20 6
1927	21 5	19 11	18 0	20 0	19 6	19 9	20 8
1928	21 3	19 10	18 0	20 1	20 3	19 1	20 3
1929	22 4	20 9	18 3	20 7	20 9	19 10	21 1
1930	21 2	18 11	16 5	18 7	19 4	18 9	19 7
1930 { 1st Quarter ..	22 0	19 7	17 6	19 9	20 3	19 3	20 5
2nd " ..	21 8	19 6	16 8	19 5	20 1	19 2	20 1
3rd " ..	21 0	19 0	16 1	18 3	19 4	18 9	19 5
4th " ..	20 2	17 9	15 4	17 0	17 9	17 11	18 5
1931 { 1st Quarter ..	19 6	17 2	15 2	16 6	17 11	17 8	17 10
2nd " ..	19 0	16 5	15 1	15 10	17 7	17 2	17 4

5. Variations in Index-Numbers, Retail Prices and Housing, Thirty Australian Towns, 1928 to 1930.—The index-numbers given in the preceding sub-sections show changes in the cost of food, groceries, and housing separately for each capital city during the year

1907 to 1930. The figures given in the next table show the relative cost of food and groceries, and of housing for the years 1928 to 1930 in the thirty towns for which particulars are now collected. The weighted aggregate expenditure for the six capitals for the five-yearly period—1923-1927—has been taken as base and made equal to 1,000, hence the columns are comparable both horizontally and vertically. The index-numbers in the last column are the same as in previous tables where the period and town are comparable.

INDEX-NUMBERS, THIRTY TOWNS, SHOWING RELATIVE EXPENDITURE ON FOOD AND GROCERIES AND ON HOUSING (4 AND 5 ROOMS) SEPARATELY, AND ON THESE ITEMS COMBINED. BASIS OF TABLE — WEIGHTED AVERAGE EXPENDITURE ON FOOD, GROCERIES, AND HOUSING (4 AND 5 ROOMS) IN THE SIX CAPITAL CITIES IN THE FIVE-YEARLY BASE PERIOD—1923-1927 = 1,000.

Town.	1928.			1929.			1930.		
	Food and Groceries.	Housing, 4 and 5-roomed Houses.	Food, Groceries, and Housing.	Food and Groceries.	Housing, 4 and 5-roomed Houses.	Food, Groceries, and Housing.	Food and Groceries.	Housing, 4 and 5-roomed Houses.	Food, Groceries, and Housing.
NEW SOUTH WALES—									
Sydney	659	405	1,064	703	412	1,115	635	424	1,059
Newcastle	656	387	1,043	684	384	1,068	623	370	998
Broken Hill	778	249	1,027	830	248	1,078	763	258	1,021
Goulburn	668	419	1,087	706	440	1,146	631	419	1,050
Bathurst	638	314	952	675	312	987	622	347	969
Weighted Average ..	662	399	1,061	705	405	1,110	637	415	1,052
VICTORIA—									
Melbourne	608	385	993	648	388	1,036	589	359	948
Ballarat	823	239	862	664	250	914	614	247	861
Bendigo	623	281	904	672	290	962	618	266	884
Geelong	615	347	962	651	334	985	586	314	900
Warrnambool	599	295	894	639	301	940	602	307	909
Weighted Average ..	609	374	983	649	377	1,026	591	349	940
QUEENSLAND—									
Brisbane	603	298	901	614	298	912	544	275	819
Toowoomba	575	258	833	600	255	855	546	258	804
Rockhampton	626	232	858	652	225	877	589	243	832
Charters Towers ..	702	240	942	711	264	975	624	255	879
Warwick	600	241	841	627	240	867	566	237	803
Weighted Average ..	606	286	892	620	286	906	552	269	821
SOUTH AUSTRALIA—									
Adelaide	641	362	1,003	681	349	1,030	604	325	929
Kadina, &c.	684	170	854	734	157	891	669	141	810
Port Pirie	677	248	925	717	246	963	658	253	911
Mount Gambier	643	195	838	667	199	806	596	208	804
Peterborough	716	274	990	752	290	1,042	674	287	961
Weighted Average ..	644	348	992	685	335	1,020	609	313	922
WESTERN AUSTRALIA—									
Perth, &c.	679	334	1,013	699	339	1,038	620	348	968
Kalgoorlie, &c.	757	192	949	817	193	1,010	734	207	941
Northam	712	326	1,038	746	326	1,072	672	320	992
Bunbury	729	238	967	757	239	996	690	278	968
Geraldton	707	340	1,047	741	349	1,090	681	377	1,058
Weighted Average ..	690	317	1,007	715	321	1,036	636	331	967
TASMANIA—									
Hobart	623	333	956	662	330	992	614	325	939
Launceston	612	300	912	642	295	937	605	288	891
Burnie	650	276	928	695	277	972	648	268	904
Devonport	628	252	880	670	260	930	605	275	880
Queenstown	697	163	860	735	185	920	689	201	890
Weighted Average ..	624	311	935	660	310	970	615	304	919
Weighted Average for 30 Towns	638	366	1,004	676	368	1,044	610	360	970
Weighted Average for 6 Capital Cities	636	378	1,014	673	381	1,054	607	371	978

§ 3. Variations in the Cost of Food, Groceries, Rent, Clothing, and Miscellaneous Expenditure.

1. *General.*—The index-numbers in § 2 show the variations in the cost of food, groceries and house rent. The expenditure on these items covers approximately 60 per cent. of the total expenditure of the ordinary household. The balance is expended on clothing, boots, fuel, light, and such miscellaneous items as renewals of furniture, furnishings, drapery, crockery, lodge dues, trade union dues, recreation, newspapers, etc. The Royal Commission on the Basic Wage in 1920 recommended in its report that a method should be adopted of ascertaining from time to time the rise and fall in the purchasing-power of money in its relation to the total household expenditure. The Government adopted the recommendation, and the duty of carrying out the necessary investigations was entrusted to the Bureau of Census and Statistics, which adopted the methods hereunder described.

2. *Methods Adopted.*—After careful investigation it was decided to adopt for food, groceries, and house rent, the commodities, method, and weighting used by this Bureau. The commodities and quantities adopted for food and groceries conform very closely to those given in the Indicator Lists of the Commission. With regard to rent, the Commission adopted a certain type of five-roomed house as its standard for determining the amount allowed for housing. The investigations made by this Bureau are not confined to a particular type of house, but the average rentals paid for houses of four and five rooms are taken. The results can be used with safety to show the variations in the type of house described by the Commission.

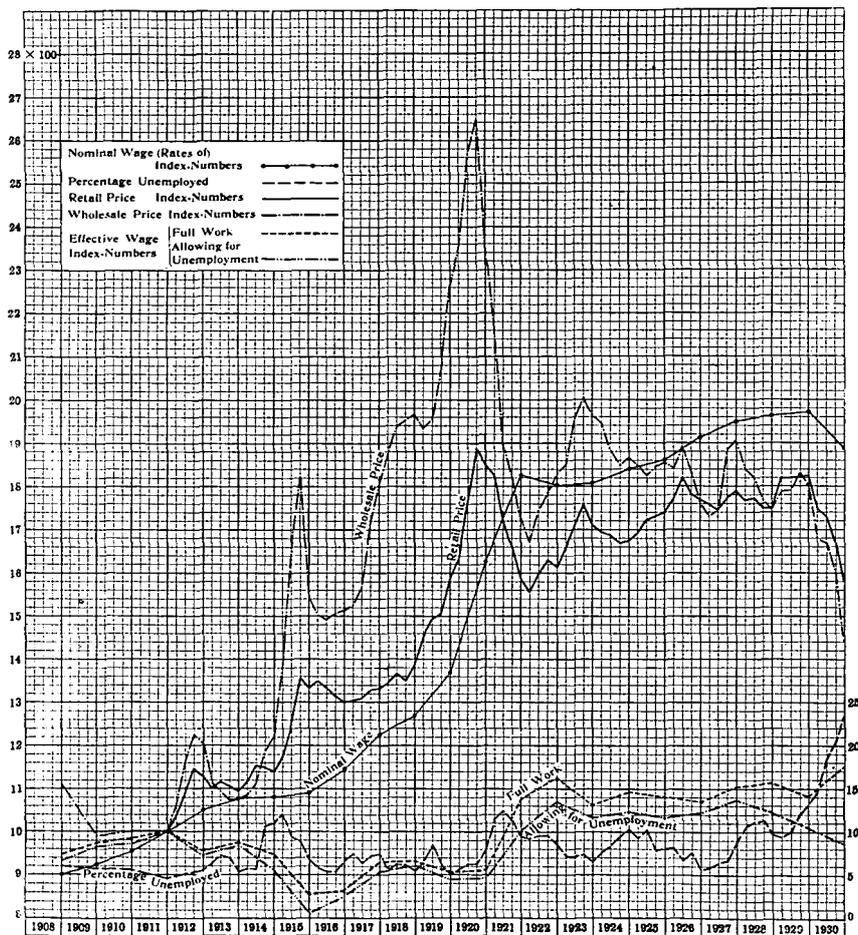
The investigations of this Bureau advisedly had been confined to food, groceries, and house rent, and it was necessary, therefore, to make investigations into the cost of clothing and miscellaneous expenditure. With regard to clothing, the Basic Wage Commission collected a large amount of information as to prices and life of articles, and this has been utilized in computing the index-numbers given in the following tables.

With regard to Miscellaneous Expenditure, which covers a very wide field, inquiries were made as to variations in cost of fuel and light, household utensils, drapery, crockery, etc., also with regard to other items included in the Indicator Lists for Miscellaneous Expenditure, and the aggregate expenditure on these items has been computed in the same manner as that for clothing.

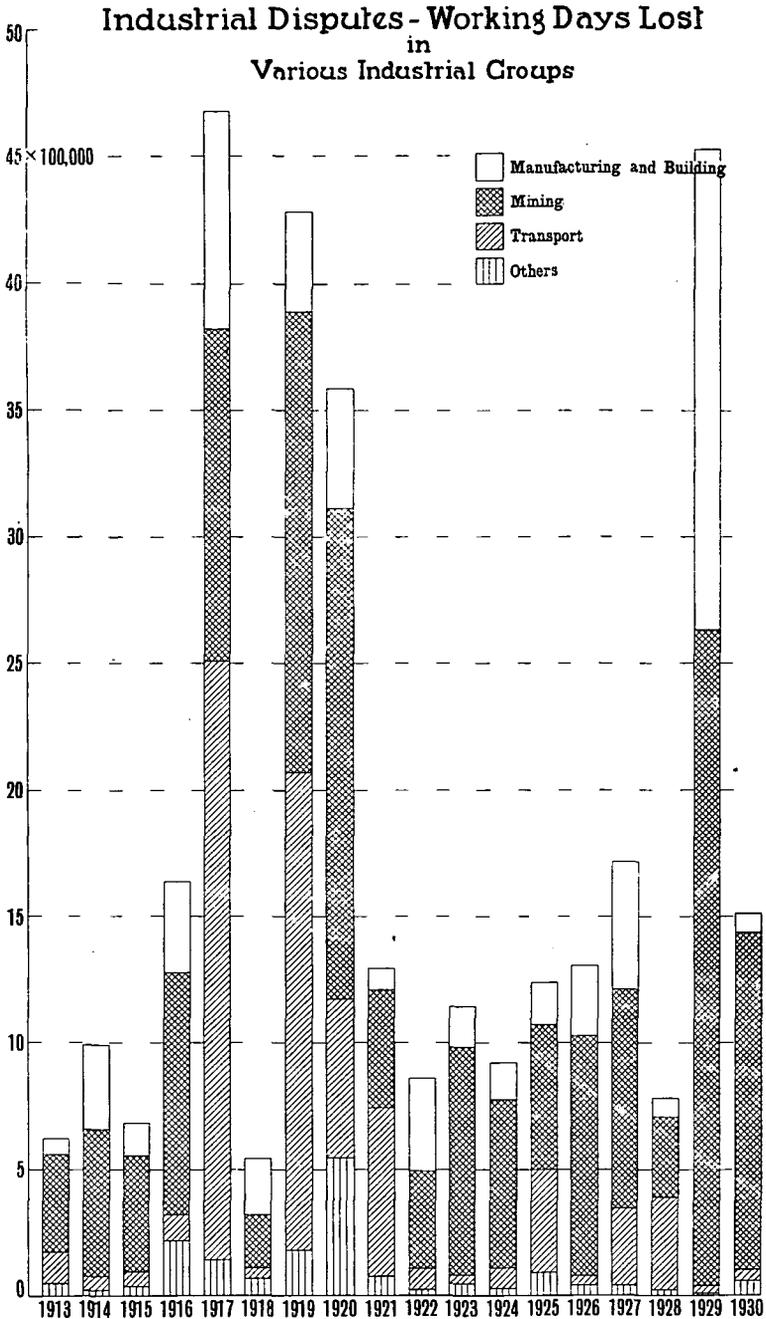
3. *Period Selected as Base.*—For the new series of index-numbers November, 1914, was adopted as base owing to the difficulty of securing information with regard to prices of clothing and miscellaneous items for earlier years. Prior to and including the 4th Quarter, 1929, the index numbers were computed to this base, but in accordance with the decision of the Conference of Statisticians to adopt a post-war period as base, the index numbers since 1st Quarter, 1930, have been computed to the five-yearly period—1923–1927— as base (= 1,000), and the figures for past years have been re-computed to the same base.

4. *Variations in Cost in the Capital Cities.*—The index-numbers in the following table show the variations not only in each city from period to period, but also as between the various cities at any given period. The increase in cost in the six capital cities from November, 1914, was greatest in November, 1920, when it amounted to 69.7 per cent. The increase for the year 1929, compared with November, 1914, was 50.3 per cent.

RETAIL AND WHOLESALE PRICES, NOMINAL AND EFFECTIVE WAGE INDEX NUMBERS, AND PERCENTAGE OF UNEMPLOYED.—AUSTRALIA, 1908 TO 1930.



NOTE.—The figures on the right represent the scale for the percentage unemployed according to trade-union returns. The figures on the left represent the scale for the several index-numbers, the year 1911 being taken in each case as base (= 1000). Since the end of the year 1911, the Retail Price Index-numbers (weighted average cost of food, groceries, and house rent for the six capital cities), and the Wholesale Price Index-number (Melbourne) are shown in each quarter, while unemployment percentages are shown quarterly since the end of the year 1912 only. The other index-numbers since 1913 refer to the average for the whole year, but for purposes of convenience are plotted on the graph as at the end, not the middle, of the year. Retail Price and Wholesale Price Index-numbers show the average level during the whole of each quarter, and they also for convenience are plotted at the end, and not the middle, of each quarter.



EXPLANATION.—The scale refers to working days lost in hundred thousands. Thus, taking the year 1917, and comparing the shaded and blank sections with the scale, it will be observed that about 870,000 working days were lost in Manufacturing and Building, over 1,300,000 in Mining, over 2,300,000 in Transport, and about 150,000 in other industries.

Prices declined during 1930, but compared with prices at November, 1914, showed an increase of 41.9 per cent. Further, in 1930 the cost of the commodities and services included was greatest in Sydney (1,026) and least in Brisbane (859).

INDEX-NUMBERS, TOTAL HOUSEHOLD EXPENDITURE, CAPITAL CITIES.—
1914 TO 1931.

(NOTE.—Weighted average cost in the five-yearly period—1923-1927—for all items in the six capital cities taken as base = 1,000.)

Cities.	November.			Year.					1st Quarter 1931.
	1914.	1921.	1922.	1926.	1927.	1928.	1929.	1930.	
Sydney	712	1,046	1,021	1,033	1,029	1,042	1,073	1,026	954
Melbourne	671	1,003	963	998	990	992	1,017	956	878
Brisbane	811	923	877	950	922	917	923	859	814
Adelaide	699	989	954	1,026	1,018	1,027	1,037	952	875
Perth	707	1,008	931	992	984	1,012	1,026	977	920
Hobart	687	1,070	997	1,035	998	980	1,000	956	907
Weighted Average	687	1,013	975	1,011	1,002	1,009	1,033	975	905

§ 4. Retail Price Index-Numbers, 200 Towns.

1. General.—To supplement the information collected each month for the 30 towns specified in § 2.5 *ante*, a special investigation was initiated in November, 1913, into retail price index-numbers in 70 additional towns. This investigation was reported in November, 1914, and again in November, 1915, when the number of additional towns was increased to 120. In November, 1923, the number of additional towns was further increased to 170, and it is intended to institute inquiries in November in each year, thus making information available annually for 200 towns. The results of the first investigation were published in Labour Bulletin No. 5 (Section IV., pages 26 to 33), where a description was given of the methods adopted in making the investigation and in computing the index-numbers. The results of the succeeding yearly investigations have appeared in the Labour Bulletins and Reports of this Bureau.

2. Detailed Results, 1928 to 1930.—The results of the investigations made in November, 1928 to 1930, are set out in the following table. The aggregate expenditure on food and groceries separately is shown in the form of index-numbers for each year in column A. In columns B and C the corresponding aggregate expenditure on food, groceries, and rent of 4 rooms, and food, groceries, and rent of 5 rooms are shown for each year for each individual town. The index-number 1,535 represents the weighted average expenditure in 200 towns on food, groceries, and rent of 5-roomed houses, and 1,400 represents the weighted average expenditure on food, groceries, and rent of 4-roomed houses in November, 1930. Similarly, in column A, the index-number 932 represents the relative weighted average expenditure on food and groceries only in November, 1930. The figures given in the table are comparable throughout. Thus, taking the weighted average expenditure for all 200 towns on food, groceries, and rent of 5-roomed houses as equal to 1,535, the expenditure on the same items in Melbourne is 1,518, while if 4-roomed houses were substituted for 5-roomed the expenditure in Melbourne would be represented by 1,380.

In the table on the following pages the basis taken is the weighted average expenditure on food, groceries, and housing accommodation in the six capital cities in 1911, made equal to 1,000.

INDEX-NUMBERS.—COST OF FOOD, GROCERIES, AND HOUSING IN 200 TOWNS IN 1928, 1929, AND 1930, COMPARED WITH THE WEIGHTED AVERAGE COST OF FOOD, GROCERIES, AND RENT FOR ALL HOUSES IN THE SIX CAPITAL CITIES IN 1911 AS BASE (= 1,000).

State and Town.	1928. November.			1929. November.			1930. November.		
	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.
	A	B	C	A	B	C	A	B	C
NEW SOUTH WALES—									
Sydney	1,072	1,630	1,776	1,186	1,751	1,897	980	1,537	1,682
Newcastle	1,058	1,542	1,767	1,159	1,649	1,852	956	1,453	1,602
Broken Hill	1,239	1,606	1,724	1,406	1,772	1,892	1,169	1,551	1,671
Goulburn	1,082	1,648	1,778	1,200	1,801	1,939	944	1,491	1,582
Bathurst	1,019	1,401	1,505	1,140	1,519	1,616	930	1,339	1,446
Albury	1,063	1,754	1,914	1,161	1,822	1,962	930	1,536	1,653
Armidale	1,031	1,513	1,590	1,127	1,603	1,701	937	1,375	1,463
Ballina	1,113	1,607	1,733	1,191	1,684	1,809	1,000	1,395	1,527
Bega	1,097	1,419	1,530	1,181	1,506	1,622	957	1,313	1,431
Berry	1,090	1,445	1,550	1,175	1,504	1,635	973	1,302	1,394
Blackheath	1,230	1,675	1,800	1,272	1,733	1,812	1,036	1,463	1,582
Bourke	1,257	1,550	1,613	1,374	1,611	1,684	1,089	1,418	1,484
Bowral	1,090	1,723	1,814	1,219	1,794	1,950	991	1,478	1,636
Casino	1,086	1,532	1,771	1,164	1,690	1,836	916	1,443	1,574
Cessnock	1,075	1,568	1,634	1,164	1,503	1,576	935	1,307	1,420
Cobar	1,231	1,363	1,428	1,312	1,510	1,549	1,119	1,333	1,386
Cooma	1,133	1,463	1,672	1,256	1,509	1,816	1,053	1,382	1,571
Coomanville	1,121	1,485	1,611	1,250	1,614	1,753	1,033	1,388	1,523
Cootanundra	1,049	1,548	1,782	1,166	1,712	1,866	942	1,446	1,615
Corrimal	1,096	1,539	1,671	1,150	1,613	1,751	974	1,459	1,510
Cowra	1,081	1,610	1,687	1,189	1,680	1,817	899	1,347	1,504
Cronulla	1,128	1,644	1,817	1,275	1,827	1,998	1,060	1,601	1,740
Deniliquin	1,098	1,480	1,625	1,208	1,583	1,734	1,053	1,516	1,667
Dubbo	1,139	1,760	1,834	1,196	1,854	1,941	913	1,604	1,673
Forbes	1,055	1,601	1,800	1,196	1,781	1,990	918	1,512	1,632
Gilgandra	1,184	1,477	1,546	1,268	1,643	1,692	979	1,321	1,436
Glen Innes	1,007	1,414	1,575	1,112	1,546	1,697	881	1,302	1,427
Grafton	993	1,467	1,640	1,060	1,546	1,705	876	1,404	1,574
Greenfell	1,005	1,473	1,674	1,173	1,563	1,766	961	1,395	1,553
Griffith	1,161	2,083	2,313	1,293	2,214	2,444	1,083	2,021	2,251
Gulgong	1,121	1,417	1,490	1,207	1,512	1,622	982	1,344	1,434
Gunnedah	1,046	1,445	1,593	1,131	1,567	1,684	897	1,349	1,401
Hay	1,164	1,545	1,765	1,273	1,677	1,871	1,026	1,420	1,618
Inverell	1,108	1,569	1,645	1,155	1,682	1,737	930	1,445	1,522
Junee	1,095	1,770	1,806	1,205	1,869	1,896	963	1,587	1,687
Katoomba	1,160	1,752	1,904	1,250	1,848	1,980	1,048	1,691	1,778
Kempsey	1,068	1,539	1,639	1,037	1,517	1,607	837	1,226	1,403
Kiama	1,152	1,514	1,614	1,211	1,612	1,724	1,027	1,373	1,601
Kurri Kurri	1,108	1,497	1,588	1,163	1,510	1,603	978	1,372	1,442
Leeton	1,190	1,908	1,980	1,284	2,003	2,060	1,011	1,724	1,788
Lismore	1,085	1,604	1,706	1,111	1,676	1,837	959	1,485	1,691
Lithgow	1,094	1,531	1,610	1,196	1,643	1,716	981	1,412	1,506
Maitland	1,026	1,450	1,667	1,142	1,504	1,609	919	1,331	1,441
Moree	1,149	1,617	1,872	1,243	1,712	1,973	1,004	1,596	1,793
Moss Vale	1,086	1,652	1,751	1,191	1,787	1,868	950	1,439	1,584

INDEX-NUMBERS.—COST OF FOOD, GROCERIES, AND HOUSING IN 200 TOWNS, ETC.—*continued.*

State and Town.	1925. November.			1929. November.			1930. November.		
	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.
	A	B	C	A	B	C	A	B	C
NEW SOUTH WALES—<i>continued.</i>									
Mudgee	1,108	1,626	1,720	1,190	1,701	1,802	893	1,424	1,490
Narrabri	1,089	1,519	1,666	1,205	1,658	1,799	1,009	1,486	1,607
Narrandera	1,122	1,077	1,908	1,205	1,730	1,961	1,053	1,580	1,744
Norwa	1,135	1,586	1,661	1,198	1,659	1,761	1,019	1,446	1,571
Orange	1,067	1,643	1,771	1,147	1,700	1,873	960	1,503	1,656
Parkes	1,077	1,630	1,758	1,213	1,761	1,912	916	1,436	1,549
Penrith	1,098	1,545	1,624	1,145	1,592	1,698	926	1,334	1,456
Port Kembla	1,137	1,699	1,821	1,216	1,777	1,920	1,023	1,549	1,689
Portland	1,112	1,550	1,658	1,234	1,641	1,703	1,024	1,418	1,484
Queanbeyan	1,141	1,600	1,700	1,235	1,690	1,781	986	1,432	1,526
Quirindi	1,075	1,420	1,599	1,169	1,493	1,686	1,046	1,352	1,598
Richmond	1,034	1,478	1,626	1,140	1,535	1,732	944	1,372	1,519
Scone	1,050	1,488	1,636	1,077	1,537	1,675	941	1,415	1,533
Singleton	1,096	1,508	1,611	1,148	1,543	1,684	976	1,419	1,508
Tamworth	1,006	1,430	1,614	1,109	1,537	1,725	889	1,336	1,474
Taree	1,103	1,621	1,772	1,149	1,682	1,833	960	1,509	1,625
Temora	1,120	1,664	1,827	1,222	1,782	1,913	1,005	1,565	1,663
Tenterfield	1,132	1,548	1,581	1,199	1,642	1,673	954	1,468	1,494
Tumut	1,046	1,526	1,671	1,136	1,639	1,778	938	1,465	1,629
Ulmara	1,045	1,407	1,538	1,126	1,508	1,653	973	1,427	1,565
Wagga Wagga	1,056	1,756	1,794	1,182	1,911	1,923	937	1,627	1,792
Walcha	1,048	1,463	1,618	1,198	1,666	1,758	962	1,302	1,458
Wellington	1,058	1,415	1,577	1,237	1,598	1,704	945	1,274	1,379
Weston	1,077	1,538	1,582	1,157	1,618	1,684	957	1,333	1,425
Windsor	1,077	1,558	1,703	1,142	1,622	1,767	941	1,501	1,583
Wollongong	1,117	1,665	1,698	1,173	1,724	1,785	985	1,508	1,640
Wyalong	1,135	1,530	1,595	1,236	1,631	1,697	997	1,359	1,425
Yass	1,127	1,593	1,749	1,247	1,765	1,896	1,032	1,503	1,602
Young	1,056	1,632	1,701	1,204	1,769	1,862	1,008	1,556	1,666
Weighted Average for State (74 Towns)	1,078	1,613	1,757	1,187	1,727	1,871	978	1,513	1,652
VICTORIA—									
Melbourne	968	1,518	1,684	1,084	1,647	1,795	895	1,380	1,518
Ballarat	1,002	1,297	1,491	1,127	1,440	1,624	923	1,213	1,407
Bendigo	1,002	1,375	1,507	1,130	1,503	1,651	908	1,241	1,383
Geelong	984	1,495	1,610	1,099	1,572	1,691	903	1,305	1,448
Warrnambool	961	1,377	1,538	1,103	1,537	1,698	928	1,363	1,526
Ararat	1,088	1,494	1,614	1,161	1,551	1,695	969	1,360	1,535
Bacchus Marsh	1,033	1,494	1,573	1,153	1,613	1,686	980	1,421	1,569
Bairnsdale	1,049	1,427	1,600	1,167	1,628	1,732	984	1,350	1,544
Beechworth	1,047	1,333	1,382	1,178	1,481	1,517	990	1,287	1,352
Benalla	1,057	1,433	1,504	1,151	1,546	1,592	935	1,305	1,385
Camperdown	1,056	1,411	1,575	1,135	1,549	1,705	1,017	1,435	1,593
Casterton	1,032	1,438	1,541	1,113	1,508	1,639	936	1,265	1,462
Castlemaine	1,002	1,252	1,425	1,108	1,397	1,527	941	1,170	1,342
Colac	1,009	1,568	1,696	1,102	1,683	1,771	912	1,481	1,576
Creswick	1,006	1,131	1,190	1,115	1,234	1,293	930	1,128	1,141
Daylesford	1,034	1,363	1,429	1,076	1,372	1,438	938	1,216	1,279
Dunolly	1,023	1,194	1,234	1,118	1,272	1,361	920	1,081	1,150
Echuca	1,017	1,433	1,503	1,113	1,548	1,715	934	1,294	1,460
Euroa	1,083	1,427	1,590	1,156	1,604	1,666	1,023	1,354	1,508
Hamilton	1,033	1,455	1,646	1,162	1,633	1,774	1,038	1,511	1,596
Healesville	1,039	1,377	1,503	1,173	1,504	1,594	942	1,245	1,327
Horsham	1,117	1,644	1,832	1,218	1,731	1,885	948	1,395	1,611
Kerang	1,001	1,582	1,714	1,155	1,748	1,879	969	1,495	1,627
Koroit	1,008	1,298	1,368	1,102	1,382	1,448	937	1,213	1,279
Korumburra	1,038	1,476	1,580	1,153	1,614	1,679	899	1,376	1,508
Kyneton	1,019	1,387	1,468	1,122	1,458	1,583	947	1,341	1,447
Lllydale	1,025	1,404	1,563	1,179	1,567	1,732	970	1,383	1,484

INDEX-NUMBERS.—COST OF FOOD, GROCERIES, AND HOUSING IN 200 TOWNS, ETC.—*continued.*

State and Town.	1928.			1929.			1930.		
	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.
	A	B	C	A	B	C	A	B	C
VICTORIA—<i>continued.</i>									
Maffra	981	1,559	1,639	1,106	1,671	1,763	959	1,520	1,670
Maldon	1,040	1,185	1,238	1,124	1,270	1,325	961	1,093	1,145
Maryborough	1,055	1,850	1,472	1,160	1,524	1,623	921	1,264	1,359
Mildura	1,106	1,698	1,873	1,217	1,843	2,000	1,000	1,584	1,804
Morwell	1,045	1,554	1,685	1,115	1,628	1,723	964	1,455	1,567
Nhill	1,089	1,582	1,697	1,248	1,748	1,906	971	1,366	1,557
Orbost	1,088	1,494	1,733	1,182	1,560	1,757	939	1,371	1,575
Portland	1,047	1,376	1,474	1,162	1,475	1,656	967	1,305	1,434
Port Fairy	1,035	1,347	1,424	1,109	1,409	1,507	948	1,211	1,333
St. Arnaud	1,107	1,462	1,699	1,206	1,535	1,812	1,033	1,357	1,538
Salé	984	1,342	1,545	1,110	1,450	1,661	960	1,266	1,507
Seymour	1,105	1,433	1,532	1,186	1,581	1,673	969	1,371	1,479
Shepparton	1,022	1,582	1,756	1,172	1,785	1,874	960	1,502	1,659
Stawell	1,132	1,459	1,602	1,232	1,550	1,721	993	1,305	1,414
Swan Hill	1,074	1,732	1,837	1,139	1,819	1,929	937	1,521	1,792
Terang	1,023	1,417	1,536	1,137	1,480	1,633	934	1,340	1,537
Traralgon	1,011	1,450	1,597	1,082	1,489	1,643	931	1,322	1,483
Wangaratta	1,087	1,511	1,630	1,195	1,636	1,832	967	1,461	1,592
Warracknabeal	1,067	1,587	1,743	1,210	1,676	1,838	947	1,332	1,495
Warragul	994	1,496	1,672	1,075	1,573	1,746	922	1,428	1,633
Wonthaggi	1,028	1,404	1,568	1,088	1,468	1,614	922	1,323	1,442
Weighted Average for State (48 Towns)	981	1,497	1,658	1,096	1,623	1,770	905	1,366	1,507
QUEENSLAND—									
Brisbane	997	1,892	1,528	1,010	1,400	1,542	818	1,164	1,281
Toowoomba	943	1,252	1,410	1,010	1,310	1,475	835	1,112	1,297
Rockhampton	1,046	1,931	1,440	1,074	1,355	1,474	880	1,195	1,310
Charters Towers	1,163	1,510	1,598	1,122	1,521	1,561	945	1,311	1,360
Warwick	998	1,344	1,400	1,042	1,392	1,452	856	1,185	1,262
Ayr	1,183	1,643	1,775	1,197	1,688	1,771	996	1,404	1,522
Barcaldine	1,253	1,582	1,678	1,265	1,669	1,728	1,062	1,447	1,569
Bowen	1,130	1,531	1,697	1,197	1,592	1,731	1,002	1,355	1,490
Bundaberg	1,030	1,329	1,441	1,011	1,384	1,478	877	1,203	1,298
Cairns	1,115	1,656	1,773	1,192	1,766	1,904	947	1,483	1,698
Charleville	1,139	1,578	1,812	1,181	1,604	1,839	1,005	1,487	1,742
Chillagoe	1,236	1,490	1,552	1,270	1,542	1,595	1,168	1,379	1,431
Cloncurry	1,253	1,648	1,779	1,310	1,705	1,836	1,141	1,540	1,658
Cooktown	1,193	1,286	1,351	1,240	1,446	1,499	1,169	1,367	1,452
Cunnamulla	1,180	1,647	1,706	1,251	1,711	1,803	1,054	1,501	1,580
Dalby	1,009	1,362	1,454	1,099	1,415	1,570	872	1,227	1,464
Gayndah	1,142	1,438	1,537	1,161	1,477	1,556	960	1,262	1,361
Gladstone	1,052	1,341	1,440	1,105	1,414	1,499	948	1,245	1,369
Goondiwindi	1,094	1,501	1,574	1,187	1,608	1,648	990	1,385	1,425
Gympie	1,074	1,412	1,528	1,100	1,464	1,525	886	1,234	1,362
Hughenden	1,239	1,719	1,844	1,287	1,748	1,868	1,082	1,516	1,595
Innisfail	1,255	1,848	2,054	1,323	1,940	2,118	1,017	1,544	1,708
Ipwich	1,089	1,394	1,524	1,027	1,357	1,457	855	1,159	1,246
Longreach	1,228	1,561	1,762	1,166	1,375	1,776	1,066	1,371	1,607
Mackay	1,103	1,637	1,730	1,147	1,707	1,851	956	1,412	1,547
Maryborough	1,050	1,319	1,461	1,106	1,413	1,619	876	1,238	1,428
Mount Morgan	1,111	1,243	1,295	1,189	1,321	1,387	970	1,102	1,168
Nambour	1,098	1,470	1,572	1,120	1,485	1,610	923	1,289	1,406
Roma	1,091	1,459	1,610	1,145	1,531	1,705	941	1,321	1,461
Stanthorpe	1,036	1,395	1,517	1,135	1,531	1,595	935	1,369	1,461
Townsville	1,191	1,677	1,763	1,158	1,631	1,730	917	1,372	1,456
Winton	1,265	1,725	1,822	1,286	1,746	1,834	1,064	1,380	1,498
Weighted Average for State (32 Towns)	1,040	1,415	1,542	1,057	1,439	1,564	863	1,211	1,330

INDEX-NUMBERS.—COST OF FOOD, GROCERIES, AND HOUSING IN 200 TOWNS, ETC.—continued.

State and Town.	1928.			1929.			1930.		
	November.			November.			November.		
	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries, and Rent of 4-Roomed Houses.	Food, Groceries, and Rent of 5-Roomed Houses.
SOUTH AUSTRALIA—	A	B	C	A	B	C	A	B	C
Adelaide	997	1,509	1,673	1,124	1,619	1,740	894	1,323	1,443
Kadina, etc. .. .	1,098	1,326	1,422	1,235	1,432	1,475	998	1,186	1,226
Port Pirie .. .	1,073	1,452	1,564	1,198	1,569	1,675	936	1,361	1,490
Mount Gambier ..	1,023	1,279	1,381	1,102	1,360	1,465	902	1,160	1,281
Peterborough .. .	1,161	1,572	1,656	1,258	1,664	1,780	977	1,389	1,491
Freeling .. .	1,033	1,392	1,507	1,112	1,441	1,556	892	1,207	1,310
Gawler .. .	1,040	1,364	1,471	1,134	1,428	1,520	882	1,177	1,264
Kapunda .. .	1,007	1,204	1,277	1,172	1,418	1,435	937	1,147	1,182
Koorunga .. .	1,060	1,389	1,455	1,164	1,493	1,559	959	1,275	1,354
Millcent .. .	965	1,340	1,402	1,053	1,377	1,559	875	1,279	1,358
Murray Bridge ..	1,036	1,456	1,560	1,128	1,506	1,613	890	1,250	1,340
Port Augusta .. .	1,243	1,630	1,710	1,323	1,710	1,790	1,088	1,508	1,583
Quorn .. .	1,060	1,391	1,445	1,287	1,561	1,654	1,005	1,294	1,378
Victor Harbour ..	1,034	1,561	1,758	1,153	1,734	1,898	923	1,479	1,626
Renmark .. .	1,207	1,657	1,800	1,287	1,780	1,923	1,116	1,577	1,752
Weighted Average for State (15 Towns) .. .	1,011	1,492	1,645	1,136	1,601	1,717	907	1,317	1,431
WESTERN AUSTRALIA—									
Perth and Fremantle ..	1,126	1,593	1,718	1,095	1,567	1,721	902	1,363	1,502
Kalgoorlie and Boulder ..	1,271	1,682	1,652	1,279	1,580	1,657	1,080	1,398	1,493
Northam .. .	1,196	1,642	1,795	1,186	1,619	1,803	987	1,434	1,571
Bunbury .. .	1,201	1,541	1,665	1,229	1,566	1,677	995	1,416	1,502
Geraldton .. .	1,162	1,659	1,839	1,198	1,678	1,881	969	1,541	1,700
Albany .. .	1,282	1,611	1,693	1,105	1,513	1,616	933	1,337	1,409
Beverley .. .	1,199	1,489	1,548	1,187	1,483	1,549	937	1,307	1,382
Bridgetown .. .	1,272	1,622	1,667	1,266	1,649	1,693	1,072	1,427	1,516
Broome .. .	1,390	1,926	2,015	1,456	1,932	2,114	1,325	1,801	1,983
Carnarvon .. .	1,321	1,795	1,903	1,347	1,808	1,956	1,158	1,683	1,774
Oolite .. .	1,244	1,704	1,764	1,234	1,712	1,817	999	1,462	1,568
Greenbushes .. .	1,266	1,477	1,529	1,234	1,477	1,550	1,046	1,250	1,342
Katanning .. .	1,154	1,602	1,614	1,173	1,565	1,745	929	1,323	1,494
Leonora and Gwalia ..	1,369	1,566	1,632	1,412	1,609	1,675	1,247	1,444	1,510
Meekeatharra .. .	1,367	1,630	1,715	1,378	1,642	1,784	1,229	1,466	1,624
Narrogin .. .	1,185	1,759	1,843	1,173	1,711	1,826	943	1,491	1,601
Wagin .. .	1,182	1,544	1,636	1,124	1,535	1,606	1,007	1,434	1,464
York .. .	1,124	1,460	1,562	1,130	1,466	1,568	940	1,275	1,377
Weighted Average for State (18 Towns) .. .	1,155	1,596	1,713	1,132	1,576	1,719	937	1,378	1,508
TASMANIA—									
Hobart .. .	1,016	1,487	1,658	1,096	1,573	1,712	932	1,390	1,557
Launceston .. .	982	1,386	1,573	1,087	1,492	1,602	911	1,303	1,474
Burnie .. .	1,047	1,496	1,596	1,163	1,586	1,731	994	1,355	1,489
Devonport .. .	1,016	1,430	1,460	1,116	1,565	1,603	935	1,379	1,402
Queenstown .. .	1,130	1,394	1,407	1,215	1,527	1,557	1,068	1,387	1,444
Beaconsfield .. .	939	1,094	1,120	1,052	1,144	1,183	919	997	1,050
Campbelltown .. .	975	1,163	1,212	1,079	1,266	1,315	971	1,183	1,238
Deloraine .. .	953	1,295	1,348	1,019	1,393	1,440	881	1,213	1,276
Franklin .. .	1,024	1,235	1,288	1,118	1,328	1,381	950	1,187	1,239
New Norfolk .. .	995	1,317	1,403	1,067	1,382	1,461	923	1,292	1,318
Scottsdale .. .	980	1,265	1,379	1,054	1,374	1,466	913	1,209	1,266
Ulverstone .. .	1,000	1,315	1,421	1,080	1,409	1,511	883	1,217	1,348
Zeehan .. .	1,189	1,387	1,430	1,293	1,490	1,523	1,103	1,301	1,334
Weighted Average for State (13 Towns) .. .	1,013	1,434	1,583	1,102	1,529	1,666	935	1,349	1,492
Weighted Average for Australia (200 Towns) .. .	1,040	1,536	1,633	1,133	1,634	1,773	932	1,400	1,535

By deducting the index-number in column A from those in column B or C, the relative aggregate expenditure on housing accommodation can be ascertained. Thus for November, 1930, the index-number for food and groceries in Melbourne (column A) is 895. Subtracting this from 1,380 (column B) gives a difference of 485, which is the relative cost of house rent for houses of 4 rooms, and from 1,518 (column C) gives a difference of 623, which is the relative cost of house rent for houses of 5 rooms. Similarly the relative cost of housing accommodation can be ascertained for each of the towns included.

A table showing the retail price index-numbers (food and groceries) for each of the thirty towns for various months since July, 1914, appeared in previous issues, but consideration of space precludes its repetition in the present issue. This table is, however, given in the Quarterly Summary of Australian Statistics issued by the Bureau.

B.—WAGES.

§ 1. Operations under Wages Board and Industrial Arbitration Acts.

1. **General.**—Particulars of the operations of Wages Boards and Industrial and Arbitration Courts under the Commonwealth and State Acts for the regulation of wages, hours, and conditions of labour were first compiled for the year 1913, and reviews to the end of each annual period appear in Labour Reports and Quarterly Summaries to the 31st December, 1930.

2. **Awards, Determinations. Industrial Agreements.**—The following table gives a summary for each of the years 1926 to 1930:—

AWARDS AND DETERMINATIONS MADE AND INDUSTRIAL AGREEMENTS FILED 1926 TO 1930.

State.	1926.		1927.		1928.		1929.		1930.	
	Awards or Determinations made.	Agreements Filed.								
New South Wales	151	51	163	33	93	36	55	27	31	16
Victoria	106	..	74	..	73	..	46	..	83	..
Queensland	90	27	56	18	34	27	21	16	14	44
South Australia	14	7	15	4	14	4	13	9	17	1
Western Australia	10	37	6	57	19	23	15	29	5	83
Tasmania	7	2	4	..	10	3	4	2	10	1
Commonwealth Court	50	30	34	25	40	30	29	26	17	10
Commonwealth Public Service Arbitrator	10	..	1	..	6	..	4	..	5	..
Total	433	154	353	137	289	128	187	109	185	110

3. Boards Authorized, Awards, etc., in Force.—(i) *Totals for Australia.* The following table gives particulars at the dates specified for all States of Boards authorized, and including operations under the Commonwealth and State Arbitration Acts, of the number of awards, determinations, and industrial agreements in force:—

BOARDS AUTHORIZED, AWARDS, ETC.—AUSTRALIA, 1913 TO 1930.

Dates.	Boards Authorized.	Boards which had made Awards or Determinations.	Awards or Determinations In Force.(a)	Industrial Agreements In Force.
31st December, 1913	505	387(b)	575(c)	401
31st December, 1915	573	498	663	546
31st December, 1920	475	440	1,041	972
31st December, 1925	575	524	1,181	607
31st December, 1930	644	582	1,285	601

(a) Including awards made by Arbitration Courts and the Commonwealth Public Service Arbitrator. (b) Owing to the fact that a number of awards under the New South Wales Industrial Disputes Act (1908) were still in force, the Boards constituted for such industries under the Industrial Arbitration Act (1912) had not made any awards. (c) Excluding awards or determinations which expired in New South Wales (under the Act of 1908) on 31st December, 1913.

Considerable expansion of the principle of the fixation of a legal minimum rate^of wage and of working conditions took place during the period under review. At the end of 1930, the number of awards or determinations and industrial agreements* in force had increased by 710 and 200 respectively over the number in force at the 31st December, 1913.

(ii) *Summary for States.* The following table gives particulars for each State and the Commonwealth of the number of Boards authorized, etc., for the years specified:—

BOARDS AUTHORIZED, AWARDS, ETC.—SUMMARY, 1913, AND 1930.

Particulars.	At 31st Dec.	Commonwealth		N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
		Court.	Pub. Ser. Arb.							
<i>Industrial and Wages—</i> Boards authorized	{ 1913 .. .. .	..	..	216	135	75	56	..	23	505
	{ 1930 .. .. .	..	..	(a) 308	188	2	76	16	54	644
Boards which have made Determinations	{ 1913 .. .. .	..	..	123	123	74	47	..	19	386
	{ 1930 .. .. .	..	..	277	175	2	66	11	51	582
<i>Awards and Determinations—</i> In force	{ 1913	17	..	265	127	73	54	18	21	575
	{ 1930	134	42	465	179	265	72	78	50	1,285
<i>Industrial Agreements—</i> In force	{ 1913	228	..	75	..	5	11	82	..	401
	{ 1930	143	..	117	..	122	29	187	3	601
<i>Commonwealth Court Awards—</i>										
Number in force in each State	{ 1913 .. .. .	..	..	13	17	15	16	9	13	..
	{ 1930 .. .. .	..	..	82	97	26	68	30	57	..
<i>Commonwealth Agreements—</i>										
Number in force in each State	{ 1913 .. .. .	..	..	132	129	68	62	57	61	..
	{ 1930 .. .. .	..	..	42	59	14	23	11	33	..
<i>Commonwealth Public Service Arbitrator—</i>										
Number of Determinations in force in each State ..	1930 .. .. .	..	..	38	34	30	31	30	29	..

(a) Under Industrial Arbitration Act, (1926), Conciliation Committees have been appointed, and at the end of 1930, 267 Committees were in force.

§ 2. Rates of Wage and Hours of Labour.

1. *General.*—The collection of information respecting the current rates of wage payable in different callings and in occupations in various industries was first undertaken by the Bureau in the early part of the year 1913. The particulars are obtained primarily from

* The registration of industrial agreements is not provided for under the Victorian Act, but such agreements may be registered and filed under the provisions of the Commonwealth Conciliation and Arbitration Act, and are operative within the State.

awards, determinations and agreements, under Commonwealth and State Industrial Acts, and therefore are the minimum rates prescribed. They refer generally to the capital city in each State, but in industries which obviously are not carried on in the capital cities, e.g., mining, agriculture, etc., the rates in the more important centres are taken. In cases where no award, determination, or agreement is in force, particulars are taken of the ruling union or predominant rate. During recent years the number of predominant rates of wage included in the tabulations has been reduced considerably, since most of the industries and occupations are now covered by awards, determinations, or industrial agreements.

The index-numbers for male adult workers are computed with the weighted average wage in 1911 as base (= 1,000) in order that comparisons might more readily be made between these index-numbers and the retail price index-numbers (food, groceries and rent—all houses) which are also computed to the year 1911 as base. In the case of females, however, it has not been possible to secure information for years prior to 1914, and the index-numbers are therefore computed with the weighted average rate of wage payable to adult female workers in Australia at 30th April, 1914, as base (= 1,000).

An extensive tabular presentation of the minimum rates of wage for adult male and female workers in the main occupations in the capital city of each State is given each year in the Annual Labour Reports.

2. Weekly Rates of Wage, 1926 to 1930.—(i) *General*. The arithmetical average of the rates of wage given in the Appendix referred to furnishes the basis for the computation of relative weighted wages in the different States and industrial groups.

(ii) *Adult Males—States*. The following table gives the weighted average nominal weekly rates of wage payable to adult male workers at the dates specified.

WAGES.—ADULT MALES—WEIGHTED AVERAGE NOMINAL WEEKLY RATE PAYABLE FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS, 1926 TO 1930.

NOTE.—Index-numbers based on the average wage for Australia in 1911 (51s. 3d.) as base (= 1,000). The index-numbers in this table are comparable throughout.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Australia. (a)
No. of Occupations included	874	909	627	567	489	482	3,948

RATES OF WAGE.

	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
31st December, 1926	100 5	99 6	100 1	95 8	98 9	94 10	99 4
31st December, 1927	101 10	100 3	100 1	96 7	98 10	93 10	100 2
31st December, 1928	102 7	99 8	101 2	96 2	99 6	93 3	100 5
31st December, 1929	102 11	101 1	101 2	97 2	100 7	94 8	101 2
31st March, 1930	103 2	101 1	100 2	97 1	100 6	95 0	101 1
30th June, 1930	102 3	99 11	100 0	95 10	100 3	94 1	100 3
30th September, 1930	102 0	99 2	96 5	95 2	100 6	93 9	99 5
31st December, 1930	99 1	96 11	92 5	92 8	99 7	92 1	96 9

INDEX-NUMBERS.

31st December, 1926	1,959	1,941	1,952	1,867	1,927	1,851	1,938
31st December, 1927	1,988	1,957	1,953	1,885	1,928	1,832	1,955
31st December, 1928	2,001	1,944	1,974	1,877	1,941	1,820	1,959
31st December, 1929	2,007	1,972	1,975	1,896	1,933	1,848	1,974
31st March, 1930	2,013	1,973	1,954	1,894	1,961	1,853	1,973
30th June, 1930	1,995	1,949	1,952	1,870	1,956	1,836	1,956
30th September, 1930	1,990	1,935	1,881	1,858	1,961	1,829	1,939
31st December, 1930	1,933	1,891	1,803	1,807	1,943	1,797	1,887

(a) Weighted average.

The results show that at the 31st December, 1930, the weighted average nominal weekly rate of wage was highest in Western Australia, followed in the order named by New South Wales, Victoria, South Australia, Queensland, and Tasmania. Little movement in wages occurred in the first quarter of 1930 as compared with the previous quarter. The average rates of wage decreased in all States during the second quarter, and the decline in the average wage continued during the succeeding quarters. The weighted average nominal rate for Australia at the end of the year was 96s. 9d. as compared with 101s. 2d. at 31st December, 1929, a reduction of 4s. 5d. per week. The greatest fall in the average rate during the year occurred in Queensland where the wage declined 8s. 9d. per week. The highest weighted average rate for Australia was recorded during the third quarter of 1929 when the average wage was 101s. 5d. per week.

(iii) *Adult Males—Industrial Groups.* The following table shows the average weekly rates of wage and index numbers in each industrial group, and for all groups at the periods specified.

WAGES.—ADULT MALES—WEIGHTED AVERAGE NOMINAL WEEKLY RATES FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN EACH INDUSTRIAL GROUP, 1926 TO 1930.

NOTE.—Index-numbers for each industrial group and all industrial groups, based on the average wage for all groups in 1911 (51s. 3d.), as base (= 1,000). The index-numbers in this table are comparable throughout.

Industrial Group.	Weighted Average Nominal Weekly Rate of Wage, and Index-Number at—							
	31st Dec., 1926.	31st Dec., 1927.	31st Dec., 1928.	31st Dec., 1929.	31st March, 1930.	30th June, 1930.	30th Sept., 1930.	31st Dec., 1930.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
I. Wood, Furniture, etc.	Wage . . .	104.5	104.6	103.11	104.10	104.11	102.7	102.8
	Index-No.	2,037	2,039	2,026	2,046	2,047	2,022	2,003
II. Engineering, etc.	Wage . . .	102.0	102.10	102.1	103.6	103.5	101.8	100.11
	Index-No.	1,991	2,006	1,993	2,019	2,018	1,984	1,968
III. Food, Drink, etc.	Wage . . .	98.9	99.8	99.9	100.10	100.11	100.0	98.8
	Index-No.	1,926	1,944	1,947	1,967	1,969	1,951	1,925
IV. Clothing, Boots, etc.	Wage . . .	96.6	98.3	99.4	99.6	100.2	100.2	99.5
	Index-No.	1,883	1,917	1,939	1,942	1,954	1,954	1,940
V. Books, Printing, etc.	Wage . . .	111.5	113.7	117.10	119.1	119.0	116.9	116.5
	Index-No.	2,173	2,216	2,299	2,323	2,322	2,322	2,278
VI. Other Manufacturing	Wage . . .	100.6	101.4	100.8	102.2	102.3	100.8	99.8
	Index-No.	1,961	1,977	1,964	1,994	1,996	1,964	1,945
VII. Building	Wage . . .	110.9	112.10	112.4	113.0	113.9	112.7	111.0
	Index-No.	2,160	2,202	2,191	2,205	2,219	2,196	2,180
VIII. Mining, etc.	Wage . . .	109.6	109.9	109.10	110.7	110.8	109.1	108.10
	Index-No.	2,137	2,142	2,143	2,157	2,159	2,128	2,124
IX. Railways, etc.	Wage . . .	102.6	103.1	102.2	105.2	104.11	103.4	102.2
	Index-No.	2,001	2,012	1,994	2,052	2,047	2,016	1,993
X. Other Land Transport	Wage . . .	95.6	97.4	96.3	96.9	96.9	95.4	94.6
	Index-No.	1,863	1,900	1,878	1,888	1,888	1,861	1,843
XI. Shipping, etc. (a)	Wage . . .	103.7	103.7	103.3	107.0	107.0	104.0	102.11
	Index-No.	2,020	2,021	2,014	2,087	2,087	2,029	2,009
XII. Agricultural, etc. (b)	Wage . . .	93.5	94.3	95.9	95.6	95.0	95.0	94.8
	Index-No.	1,823	1,839	1,869	1,863	1,854	1,854	1,847
XIII. Domestic, etc. (b)	Wage . . .	90.10	93.3	93.3	92.6	92.6	92.6	91.11
	Index-No.	1,772	1,820	1,820	1,804	1,805	1,805	1,793
XIV. Miscellaneous	Wage . . .	95.6	96.0	96.1	96.8	96.8	96.0	94.10
	Index-No.	1,863	1,872	1,874	1,886	1,886	1,873	1,850
All Industrial Groups (c)	Wage . . .	99.4	100.2	100.5	101.2	101.1	100.3	99.5
	Index-No.	1,938	1,955	1,959	1,974	1,973	1,956	1,939

(a) Including the value of victualling and accommodation where supplied. (b) Including the value of board and lodging where supplied. (c) Weighted average.

The foregoing table shows that the highest average weekly wage at 31st December, 1930, was recorded in Group V. (Books, Printing, etc.), 116s. 5d. per week, followed by Group VII. (Building), 109s. 8d. per week, Group VIII. (Mining) 107s. 10d. per week, and Group I. (Wood, Furniture, etc.), 100s. 3d. per week. The lowest average rate was recorded in Group XII. (Agricultural, etc.), 87s. 5d. per week. During the year rates of wage declined in all groups, the greatest decreases occurring in the following groups:—Agricultural, etc., 8s. 1d. per week; Shipping, etc., 7s. 6d. per week; Railways, etc., 5s. 0d. per week, and Wood, Furniture, etc., 4s. 7d. per week. The decrease during the

year in the weighted average rate for all groups was 4s. 5d. per week. Compared with the average rates at 31st December, 1926, wages at the end of the year 1930 were lower in eleven industrial groups and higher in three groups. The weighted average rate for all groups showed a decrease of 2s. 7d. per week.

(iv) *Adult Females—States.* The following table shows the weighted average weekly rate of wage payable to adult female workers for a full week's work in each State and Australia at the dates specified.

WAGES.—ADULT FEMALES—WEIGHTED AVERAGE NOMINAL WEEKLY RATE PAYABLE FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS, 1926 TO 1930.

NOTE.—Index-numbers based on the average wage for Australia at the 30th April, 1914, (27s. 2d.) as base (= 1,000). The index-numbers in this table are comparable throughout.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus- tralia.(a)
No. of Occupations Included ..	85	87	37	47	24	28	308

RATES OF WAGE.

	<i>s. d.</i>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
31st December, 1926 ..	50 8	51 11	52 10	50 0	58 6	51 8	51 8
31st December, 1927 ..	53 0	52 7	53 5	49 11	58 8	52 7	52 10
31st December, 1928 ..	53 7	53 9	54 10	50 11	58 10	53 4	53 10
31st December, 1929 ..	53 11	54 1	54 10	51 4	58 10	53 9	54 1
31st March, 1930 ..	54 0	54 3	55 0	51 6	58 10	54 0	54 2
30th June, 1930 ..	54 0	54 3	55 0	51 6	58 10	53 11	54 2
30th September, 1930 ..	53 8	53 9	53 9	51 3	60 2	53 9	53 9
31st December, 1930 ..	53 8	53 6	52 11	51 2	60 1	53 8	53 7

INDEX-NUMBERS.

31st December, 1926 ..	1,865	1,911	1,944	1,839	2,152	1,902	1,902
31st December, 1927 ..	1,950	1,934	1,966	1,838	2,160	1,935	1,945
31st December, 1928 ..	1,973	1,979	2,017	1,875	2,164	1,964	1,980
31st December, 1929 ..	1,983	1,990	2,020	1,888	2,165	1,978	1,990
31st March, 1930 ..	1,987	1,996	2,027	1,895	2,165	1,986	1,995
30th June, 1930 ..	1,986	1,996	2,027	1,895	2,165	1,985	1,994
30th September, 1930 ..	1,976	1,977	1,977	1,886	2,214	1,978	1,979
31st December, 1930 ..	1,974	1,968	1,947	1,884	2,211	1,976	1,971

(a) Weighted average.

During 1927 rates of wage for female employees increased in all States, with the exception of South Australia, and the average rate for Australia rose from 51s. 8d. to 52s. 10s. per week.

There was a further increase in the nominal rates of wage in all States during 1928, with the result that the average wage for females for Australia increased from 52s. 10d. at 31st December, 1927, to 53s. 10d. by the end of 1928. Wages for female employees remained stationary during the first and second quarters of 1929. Increases were recorded in four States during the third quarter, raising the average nominal wage for Australia to 54s. 2d. per week, the highest average rate recorded. There was very little movement in the average rates of wage for female employees during 1930, the average nominal rate at the end of the year being 53s. 7d. as compared with 54s. 1d. per week at the end of the year 1929.

(v) *Adult Females—Industrial Groups.* The following table gives particulars of the weighted average weekly rate of wage payable to adult female workers in the industrial groups in which they are mainly employed, and in all groups combined.

WAGES.—ADULT FEMALES—WEIGHTED AVERAGE NOMINAL WEEKLY RATE PAYABLE FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN EACH INDUSTRIAL GROUP, 1926 TO 1930.

NOTE.—Index-numbers for each Industrial Group and all Industrial Groups, based on the average wage for all groups at 30th April, 1914 (27s. 2d.), as base (= 1,000). The index-numbers in this table are comparable throughout.

Date.	Industrial Group.						All Groups (b).
	III. Food, Drink, etc.	IV. Clothing, Boots, etc.	I., II., V., and VI., All Other Manufacturing.	XIII. Domestic, Hotels, etc.(a).	XIV. Miscellaneous.		
RATES OF WAGE.							
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
31st December, 1926 ..	47 8	51 7	52 10	52 0	52 0	51 8	51 8
31st December, 1927 ..	48 9	52 7	53 2	54 5	52 8	52 10	52 10
31st December, 1928 ..	49 3	54 2	53 1	55 1	52 10	53 10	53 10
31st December, 1929 ..	49 4	54 4	53 11	54 9	53 10	54 1	54 1
31st March, 1930 ..	49 4	54 7	53 11	54 9	53 9	54 2	54 2
30th June, 1930 ..	49 3	54 7	53 10	54 9	53 9	54 2	54 2
30th September, 1930 ..	48 11	54 2	52 11	54 7	53 3	53 9	53 9
31st December, 1930 ..	48 4	54 2	52 7	54 2	52 10	53 7	53 7
INDEX-NUMBERS.							
31st December, 1926 ..	1,754	1,900	1,943	1,912	1,914	1,902	1,902
31st December, 1927 ..	1,793	1,936	1,958	2,001	1,937	1,945	1,945
31st December, 1928 ..	1,813	1,993	1,954	2,029	1,946	1,980	1,980
31st December, 1929 ..	1,815	1,999	1,984	2,015	1,982	1,990	1,990
31st March, 1930 ..	1,817	2,010	1,984	2,015	1,979	1,995	1,995
30th June, 1930 ..	1,814	2,010	1,982	2,015	1,979	1,994	1,994
30th September, 1930 ..	1,799	1,995	1,948	2,007	1,961	1,979	1,979
31st December, 1930 ..	1,777	1,994	1,934	1,994	1,945	1,971	1,971

(a) Including the value of board and lodging, where supplied.

(b) Weighted average.

During the year 1930 rates of wage for female employees in all industrial groups showed a decline as compared with those for the previous year. The decrease in the rates in the All Other Manufacturing Group was 2.5 per cent., and in the Food and Drink Group, 2.1 per cent. The smallest decrease was in Group IV. (Clothing, Boots, etc.). The weighted average for all groups decreased by 1 per cent.

3. Relative Hours of Labour and Hourly Rates of Wage, 1926 to 1930.—(i) General. The rates of wage referred to in preceding paragraphs relate to the minimum payable for a full week's work. The number of hours constituting a full week's work differs, however, in many instances between various trades and occupations in each State, and between the same trades and occupations in the several States. In order to secure what may be for some purposes a more adequate standard of comparison, it is desirable to reduce the comparison to a common basis, viz., the rate of wage per hour. Particulars are given in the following table classified according to States, for male and female occupations separately, at the end of the years 1926 to 1930. These particulars relate to (a) the weighted average nominal weekly wage, (b) the weighted average number of working hours constituting a full week's work, and (c) the weighted average hourly wage. The weighted average weekly wage relates to all industrial groups combined, and includes the value of board and lodging where supplied in land occupations, and the value of victualling in marine occupations, whereas the number of working hours and the hourly wage relate to all industrial groups other than Groups XI. (Shipping), and XII. (Agricultural, Pastoral, etc.). Many of the occupations included in these two groups are of a casual or seasonal nature, and the hours of labour in the agricultural and dairying industry are not generally regulated either by awards or determinations of industrial tribunals or otherwise, hence the necessary data for the computation of the average number of working hours are not available.

The general effect of reducing the rates of wage to a common basis (*i.e.*, per hour) is to eliminate on comparison any apparent difference between the several States which may be due to unequal working time.

(ii) *Adult Males and Females.* Particulars of the weekly and hourly wages and hours of labour for adult males and females for the last five years are given in the table hereunder :—

WEEKLY AND HOURLY WAGES AND HOURS OF LABOUR.—ADULT WORKERS, 1926 TO 1930.

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus.
MALE WORKERS.								
31st Dec., 1926	Weekly Wage (a)	100 5	99 6	100 1	95 8	98 9	94 10	99 4
	Working Hours (b)	44.55	46.94	43.95	46.95	45.80	47.27	45.67
	Hourly Wage (b)	2/3½	2/2	2/4	2/0½	2/2½	2/0½	2/2½
31st Dec., 1927	Weekly Wage (a)	101 10	100 3	100 1	96 7	98 10	93 10	100 2
	Working Hours (b)	44.44	46.82	43.96	46.78	45.75	47.16	45.46
	Hourly Wage (b)	2/3½	2/2½	2/4	2/1½	2/2½	2/0½	2/2½
31st Dec., 1928	Weekly Wage (a)	102 7	99 8	101 2	96 2	99 6	93 3	100 5
	Working Hours (b)	44.17	46.70	43.96	46.67	45.30	46.85	45.27
	Hourly Wage (b)	2/4	2/2	2/4	2/1	2/2½	2/0	2/3
31st Dec., 1929	Weekly Wage (a)	102 11	101 7	101 2	97 2	100 7	94 8	101 2
	Working Hours (b)	44.14	46.83	43.96	46.83	45.58	47.09	45.34
	Hourly Wage (b)	2/4	2/2½	2/4	2/1½	2/2½	2/0½	2/3
31st Dec., 1930	Weekly Wage (a)	99 1	96 11	92 5	92 8	99 7	92 1	96 9
	Working Hours (b)	45.64	46.86	44.43	46.83	45.55	47.09	45.98
	Hourly Wage (b)	2/2½	2/1½	2/1½	2/0	2/2½	1/11½	2/1½
FEMALE WORKERS.								
31st Dec., 1926	Weekly Wage	50 8	51 11	52 10	50 0	58 6	51 8	51 8
	Working Hours	44.02	45.60	44.01	46.10	45.57	47.86	44.94
	Hourly Wage	1/1½	1/1½	1/2½	1/1	1/3½	1/1	1/1½
31st Dec., 1927	Weekly Wage	53 0	52 7	53 5	49 11	58 8	52 7	52 10
	Working Hours	44.02	45.58	44.01	46.10	45.57	47.86	44.94
	Hourly Wage	1/2½	1/1½	1/2½	1/1	1/3½	1/1½	1/2
31st Dec., 1928	Weekly Wage	53 7	53 9	54 10	50 11	58 10	53 4	53 10
	Working Hours	43.93	45.40	44.01	46.03	45.57	46.07	44.79
	Hourly Wage	1/2½	1/2½	1/3	1/1½	1/3½	1/2	1/2½
31st Dec. 1929	Weekly Wage	53 11	54 1	54 10	51 4	58 10	53 9	54 1
	Working Hours	43.93	45.40	44.01	46.03	45.57	46.07	44.79
	Hourly Wage	1/2½	1/2½	1/3	1/1½	1/3½	1/2	1/2½
31st Dec., 1930	Weekly Wage	53 8	53 6	52 11	51 2	60 1	53 8	53 7
	Working Hours	45.85	45.44	44.01	46.03	45.57	46.07	45.48
	Hourly Wage	1/2	1/2	1/2½	1/1½	1/3½	1/2	1/2½

(a) Weighted average weekly rate in all industrial groups combined. (b) Weighted average working hours per week, and computed hourly rates of wage for all industrial groups excepting Groups XI. (Shipping, etc.), and XII. (Agricultural, Pastoral, etc.). Working hours have not been generally regulated by industrial tribunals for occupations classified in industrial groups XI, and XII.

(iii) *Index-numbers.* The tendency in a majority of the States during the years 1924 to 1928 has been towards a slight reduction in hours of labour, particularly in Queensland and New South Wales, where a 44-hour week became operative on 1st July, 1925, and on 4th January, 1926, respectively. Further decreases were recorded in the hours of work per week for male employees during 1927 in all States excepting Queensland, where hours remained stationary. The decline in the other States was due mainly to the reduction of the standard hours of labour in Group II. (Engineering, etc.) from 48 to 44 hours per week, as awarded by the Commonwealth Court of Conciliation and Arbitration. The decline in the weekly hours in New South Wales, Victoria, South Australia, and Tasmania in 1928 was due mainly to the reduction of the standard hours of labour in Group V. (Books, Printing, etc.). During 1929 the hours of work per week for timber workers in certain States were increased by the Commonwealth Court, with the result that the weighted average hours for Australia were slightly increased. The repeal of the Acts in New South Wales and Queensland providing for a 44 hour week tended

to increase the average number of hours of labour per week in those States during the year 1930. The effect of these changes on the hourly rate of wage as compared with the general increase in the weekly wage is readily seen from the comparative index-numbers given in the following table :—

WEEKLY AND HOURLY WAGE INDEX-NUMBERS.—ADULT WORKERS, 1926 TO 1930.

NOTE.—Weighted average for Australia at 30th April, 1914, as base (= 1,000).

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Australia.
MALE WORKERS.								
31st Dec., 1926	Weekly Wage ..	1,821	1,805	1,815	1,735	1,791	1,721	1,802
	Hourly Wage (a) ..	1,914	1,864	1,997	1,776	1,878	1,746	1,900
31st Dec., 1927	Weekly Wage ..	1,848	1,819	1,816	1,753	1,792	1,703	1,817
	Hourly Wage (a) ..	1,980	1,880	1,998	1,800	1,882	1,731	1,920
31st Dec., 1928	Weekly Wage ..	1,860	1,808	1,835	1,745	1,805	1,692	1,821
	Hourly Wage (a) ..	2,004	1,867	2,001	1,788	1,916	1,728	1,928
31st Dec., 1929	Weekly Wage ..	1,866	1,834	1,836	1,763	1,825	1,718	1,835
	Hourly Wage (a) ..	2,011	1,895	2,001	1,808	1,923	1,751	1,940
31st Dec., 1930	Weekly Wage ..	1,797	1,758	1,677	1,681	1,807	1,671	1,755
	Hourly Wage (a) ..	1,912	1,813	1,846	1,724	1,922	1,708	1,851
FEMALE WORKERS.								
31st Dec., 1926	Weekly Wage ..	1,865	1,911	1,944	1,839	2,152	1,902	1,902
	Hourly Wage ..	2,080	2,059	2,169	1,939	2,319	1,952	2,078
31st Dec., 1927	Weekly Wage ..	1,950	1,934	1,966	1,838	2,160	1,935	1,945
	Hourly Wage ..	2,175	2,084	2,193	1,938	2,327	1,985	2,125
31st Dec., 1928	Weekly Wage ..	1,973	1,979	2,017	1,875	2,164	1,964	1,980
	Hourly Wage ..	2,205	2,140	2,250	2,003	2,333	2,092	2,172
31st Dec., 1929	Weekly Wage ..	1,983	1,990	2,020	1,888	2,165	1,978	1,990
	Hourly Wage ..	2,218	2,154	2,252	2,015	2,333	2,108	2,182
31st Dec., 1930	Weekly Wage ..	1,974	1,968	1,947	1,884	2,211	1,976	1,971
	Hourly Wage ..	2,113	2,127	2,172	2,011	2,383	2,105	2,128

(a) See footnote to following table.

4. Weighted Average Nominal Weekly Hours of Labour, Adult Males.—The following table shows the weighted average nominal hours of labour (exclusive of overtime) in a full working week for male workers in each State and Australia at the 31st December, 1926 to 1930.

HOURS OF LABOUR.—WEEKLY INDEX-NUMBERS, ADULT MALES, 1926 TO 1930.

NOTE.—Index-numbers based on the average hours of labour for Australia at the 30th April, 1914 (48.93) as base (= 1,000). The index-numbers in this table are comparable throughout. Overtime is excluded.

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Australia.
31st Dec., 1926	Weighted average weekly hours of labour (a) ..	44.55	46.94	43.95	46.95	45.80	47.27	45.57
	Index-numbers ..	910	959	898	960	936	966	931
31st Dec., 1927	Weighted average weekly hours of labour (a) ..	44.44	46.82	43.96	46.78	45.75	47.16	45.46
	Index-numbers ..	908	957	898	956	935	964	929
31st Dec., 1928	Weighted average weekly hours of labour (a) ..	44.17	46.70	43.96	46.67	45.30	46.85	45.27
	Index-numbers ..	903	954	898	954	926	957	925
31st Dec., 1929	Weighted average weekly hours of labour (a) ..	44.14	46.83	43.96	46.83	45.58	47.09	45.34
	Index-numbers ..	902	957	898	957	932	962	927
31st Dec., 1930	Weighted average weekly hours of labour (a) ..	45.64	46.86	44.43	46.83	45.55	47.09	45.98
	Index-numbers ..	933	958	908	957	931	962	940

(a) Weighted average working hours per week for all industrial groups excepting Groups XI. (Shipping), and XII. (Agricultural, Pastoral, etc.), in which working hours have not been generally regulated by industrial tribunals.

During the four years, 1926 to 1929, the average number of hours of labour per week showed little variation, the figure at the end of the year 1926 being 45·57 as compared with 45·34 at 31st December, 1929. In 1930, however, increases were recorded in New South Wales and Queensland, but in the other States the hours remained practically constant. The effect of the increased hours in New South Wales and Queensland was to cause the weighted average hours of labour per week for all States to increase from 45·34 to 45·98 equal to 1·4 per cent.

5. *Nominal and Effective Wages, 1901 to 1930.*—(i) *Nominal Weekly Wage Index numbers—States.* The following table shows the progress in nominal weekly rates of wage for all industries in each State, the weighted average rate for Australia in 1911 being taken as the base (= 1,000). These results are based generally upon rates of wage prevailing in the capital city of each State, but in certain industries, such as mining, rates necessarily are taken for places other than the capital cities. For the year 1914 and subsequent years the index-numbers in the following table are based on the average wage for the four quarters of each year.

NOMINAL WAGE INDEX-NUMBERS, ADULT MALES, 1901 TO 1930.

(WEIGHTED AVERAGE WAGE FOR AUSTRALIA IN 1911 = 1,000.)

States.	Number of Occupations Included.		1901.	1911.	1914.	1921.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	1901 to 1912.	1913 to 1930.												
New South Wales ..	158	874	858	1,003	1,093	1,862	1,807	1,832	1,846	1,909	1,974	2,003	2,012	1,988
Victoria ..	150	909	796	985	1,062	1,803	1,812	1,868	1,873	1,926	1,951	1,956	1,964	1,937
Queensland ..	87	627	901	997	1,035	1,879	1,833	1,856	1,905	1,955	1,958	1,971	1,976	1,898
South Australia ..	134	567	819	1,013	1,061	1,697	1,730	1,779	1,819	1,871	1,869	1,884	1,891	1,857
Western Australia ..	69	489	1,052	1,152	1,223	1,832	1,833	1,834	1,878	1,910	1,925	1,938	1,960	1,955
Tasmania ..	54	482	719	799	1,027	1,745	1,756	1,805	1,815	1,844	1,835	1,825	1,840	1,829
Australia (a) ..	652	3,948	848	1,000	1,081	1,827	1,805	1,840	1,861	1,914	1,946	1,963	1,972	1,939

(a) Weighted average.

NOTE.—The figures in the above table are comparable both horizontally and vertically.

During the period 1911 to the end of the year 1929 the average weekly rate of wage increased in New South Wales and Victoria, 100 per cent., in Queensland, 98 per cent., in South Australia, 87 per cent., in Western Australia, 70 per cent., and in Tasmania 130 per cent., while the weighted average weekly rate for Australia increased 97 per cent. Comparing the yearly average rates for 1929 and 1930 nominal wages declined in all States during 1930, Queensland showing the greatest fall with 4·0 per cent., followed by South Australia, 1·8 per cent., and Victoria, 1·4 per cent. The weighted average weekly rate for Australia declined 1·7 per cent. Compared with 1911 the average yearly nominal wage for Australia was 94 per cent. higher in 1930.

(ii) *Effective Weekly Wage Index-numbers—States.* In comparing wages, two elements are of obvious importance, viz., (i) hours worked per day or week, and (ii) the cost of commodities and housing. Thus 60s. per week of 60 hours represents the same hourly rate as 48s. per week for 48 hours. Similarly, if the cost of commodities and housing increases 25 per cent., e.g., if the prices index-number rises from 1,000 to 1,250, then 60s. per week (the index-number being 1,250) is effectively equal only to 48s. (when the index-number was 1,000). Or, again, if the prices index-number falls from 1,000 to 750, then 60s. per week, when the index-number is 750, would have the same purchasing power as 80s. when the index-number was 1,000. Ignoring for the present the number of hours worked, and assuming that the real value of the average wages is to be measured by their

purchasing power, the actual average wages paid may be reduced to their effective value by applying the prices index-numbers to the nominal wages index-numbers. The following table shows the effective wage index-numbers so ascertained in each State for each of the years indicated from 1901 to 1930.

In computing these effective wage index-numbers for the respective years, the nominal wage index-numbers given in the preceding table have been divided by the retail price index-numbers, food, groceries and rent (all houses) for the capital cities. The resulting index-numbers show for each State and for Australia for the years specified the variations in effective wages. The nominal wage index-numbers for the early years are based on rates of wage current at the end of December, the only data available. For the years 1914 onward, however, the nominal wage index-numbers used are based on the average wage for the four quarters in each year, while those in the preceding sub-sections relate to the December quarter. However, so far as the years 1901 and 1911 are concerned, as the movement in wages during any one year prior to 1914 was very slight, the December figures may stand for the yearly average without appreciable error.

EFFECTIVE WEEKLY WAGE INDEX-NUMBERS.—ADULT MALES, 1901 TO 1930.(a)

States.	1901.	1911.	1914.	1921.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
New South Wales	961	973	906	1,079	1,040	1,069	1,048	1,035	1,079	1,089	1,050	1,107
Victoria	915	1,037	961	1,038	1,036	1,097	1,073	1,069	1,095	1,120	1,084	1,158
Queensland	1,172	1,090	1,038	1,244	1,214	1,232	1,241	1,183	1,222	1,236	1,220	1,317
South Australia	948	957	929	1,027	1,036	1,051	1,053	1,076	1,073	1,089	1,067	1,166
Western Australia	1,024	1,023	1,070	1,139	1,192	1,161	1,162	1,165	1,199	1,156	1,143	1,229
Tasmania	827	838	942	977	1,000	1,017	1,044	1,037	1,072	1,099	1,064	1,111
Australia (b)	964	1,000	948	1,076	1,062	1,095	1,081	1,072	1,102	1,115	1,082	1,152

(a) As to the effect in abnormal periods, see Labour Report No. 6, pp. 20-2, Section IV., par. 3.

(b) Weighted average.

In the table above the effective wage index-numbers are computed to the one base, that of Australia for 1911. Subject to the qualification already referred to, which, as has been pointed out, does not materially affect the figures, the index-numbers are comparable in all respects, and comparisons may be made as to the increase or decrease in the effective wage index-number for any State over a period of years. Thus, comparing 1930 with 1901, and also with 1911, there has been an increase in the effective wage in all States.

(iii) *Effective Wages and Standard of Comfort.* In the preceding table particulars are given as to variations in effective wages in each State, due allowance having been made for variations in retail prices of commodities, though not for unemployment.

For years prior to 1913 the data available as to unemployment (*vide* Employment—sub-section 2, p. 400) are so meagre that comparative results allowing for variations both in prices of commodities and in unemployment cannot be accurately computed for the several States. In the next table, for these earlier years the percentage of unemployment in Australia and the nominal wage index-numbers relate to the end of the year. For 1914 and subsequent years the wages index-numbers, percentages of unemployment, and retail prices index-numbers are the average for the year. Column I. shows the nominal wage index-numbers, and Column II. the relative percentages unemployed. Applying these percentages to the numbers shown in Column I., and deducting the results from each corresponding index-number 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 shown in Column IV. In Column V. the retail prices index-numbers are shown, 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 figure in Column V. The resulting index-numbers show for Australia 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. gives the relation between the nominal rates of wage and the purchasing efficiency of these rates. The figures in Column VII. show variations in effective wages after allowing not only for variations in purchasing power of money, but for the relative extent of unemployment also.

WAGE INDEX-NUMBERS, NOMINAL AND EFFECTIVE, 1901 TO 1930.(a)

Year.	I.	II.	Rate of Wage Index-Numbers, Allowing for Lost Time.		V.	Effective Wage Index-Numbers.	
	Nominal Wage Index-Numbers.	Percentage Unemployed.	III. Actual.	IV. Re-computed. (1911 = 1,000).	Retail Price Index-Numbers. (Food, groceries, rent—all houses.)	VI. Full Work.	VII. Allowing for Unemployment.
1901 ..	848	6.6	793	832	880	904	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 ..	1,081	8.3	991	1,040	1,140	943	912
1915 ..	1,092	9.3	990	1,039	1,278	854	813
1916 ..	1,144	5.8	1,078	1,131	1,324	864	854
1917 ..	1,226	7.1	1,139	1,195	1,318	930	907
1918 ..	1,270	5.8	1,196	1,255	1,362	932	921
1919 ..	1,370	6.6	1,280	1,343	1,510	907	889
1920 ..	1,627	6.5	1,521	1,596	1,785	911	894
1921 ..	1,826	11.2	1,621	1,701	1,697	1,076	1,002
1922 ..	1,801	9.3	1,634	1,715	1,600	1,126	1,072
1923 ..	1,805	7.1	1,677	1,760	1,700	1,062	1,035
1924 ..	1,840	8.9	1,676	1,759	1,681	1,095	1,046
1925 ..	1,861	8.8	1,697	1,781	1,722	1,081	1,034
1926 ..	1,914	7.1	1,778	1,866	1,786	1,072	1,045
1927 ..	1,946	7.0	1,810	1,899	1,766	1,102	1,075
1928 ..	1,963	10.8	1,751	1,837	1,760	1,115	1,044
1929 ..	1,972	11.1	1,753	1,839	1,822	1,082	1,009
1930 ..	1,939	19.3	1,565	1,642	1,683	1,152	976

(a) As to the effect in abnormal periods, see Section IV., par. 3, of Labour Report No. 6.

NOTE.—For years prior to 1914, the nominal wage index-numbers and the percentage unemployed relate to the end of the year only, but from 1914 onward these figures, in addition to those for retail prices, are averages for the whole year.

Compared with 1911 the effective wage in 1901 was 3.6 per cent. less for full work, and 5.5 per cent. less after allowance for unemployment. In connexion with the index-numbers in Column VII., unemployment was less in 1911—the base year—than in any other year. During the period 1912 to 1920, while wages increased steadily, prices increased at a greater rate, with the result that the purchasing power of wages was less in each of these years than in 1911, the lowest point reached being in 1915, when the full time index-number was 14.6 per cent. less, or, allowing for unemployment, 18.7 per cent. less than.

* 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. 4), 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."

or the base year. The first occasion on which the effective wage was higher than in 1911 was in 1921, when wages increased considerably while prices declined, the increase in effective wages being 7.6 per cent., but only 0.2 per cent. allowing for unemployment. Unemployment increased considerably during 1921. Effective wages for full work were highest in the year 1922. Allowing for unemployment the effective wage index-number for 1927 was 1,075, the highest recorded during the period under review.

There was a rise in the effective wage index-number for full work during the year 1928. Unemployment, however, increased, and the effective wage index-number, after allowing for unemployment, declined to 1044. The increase in prices during 1929 was greater than the increase in the nominal wages, with the result that the effective wage index-number declined from 1115 to 1082, and as unemployment increased also during the year the index-number allowing for unemployment declined sharply from 1044 to 1009, the lowest point recorded since 1921. Comparison with 1911 shows that the effective wage for full time work was 8.2 per cent., and allowing for unemployment, 0.9 per cent. higher during 1929.

Retail prices fell rapidly during the year 1930, particularly during the last six months. Nominal wages declined but not to the same extent as prices, with the result that the effective wage index number for full work increased from 1,082 to 1,152, the highest point recorded in the investigation. As unemployment increased considerably, the index number allowing for unemployment declined to 976, the lowest point recorded since the year 1921. Comparison with 1911 shows that the effective wage for full-time work was 15.2 per cent. higher, but allowing for unemployment was 2.4 per cent. lower during 1930.

§ 3. The Basic Wage and Child Endowment in Australia.

1. The Basic Wage.—(i) *General.* The "basic wage" in Australia is understood to mean the lowest wage which can be paid to an unskilled labourer on the basis of "the normal needs of an average employee regarded as a human being living in a civilized community."* This wage is fixed by various industrial tribunals in Australia operating under Federal and State Arbitration Acts, and is varied from time to time according to changes in cost of living, constitution of the family unit, etc. In addition to the "basic" wage, these tribunals also determine what is known as the "secondary" wage—"the extra payment to be made for trained skill or other exceptional qualities necessary for an employee exercising the functions required."†

(ii) *History in Australia.* The doctrine of a basic wage was propounded as far back as 1890 by Sir Samuel Griffith, Premier of Queensland, and the same principle was enunciated in the New South Wales Arbitration Court in somewhat similar terms by Mr. Justice Heydon in 1905. In spite, however, of these pronouncements and the fact that wage-fixing tribunals had been in operation as early as 1896 (in the State of Victoria) it was not until the year 1907 that the first basic wage, as such, was declared by a Court in Australia. This declaration was made by Mr. Justice Higgins, President of the Commonwealth Court of Conciliation and Arbitration, and is popularly known as the "Harvester Judgment" on account of its having been determined in connexion with H. V. McKay's Sunshine Harvester Works. The rate of wage declared in this case was 7s. per diem or £2 2s. per week for Melbourne, the amount considered reasonable for "a family of about five." The constituent parts of this amount were £1 5s. 5d. for food, 7s. for rent, and 9s. 7d. for all other expenditure.

The above rate has been varied from time to time in accordance with the retail price index-numbers (food, groceries and rent (all houses)) prepared by the Commonwealth Bureau of Census and Statistics for the city or town in which the persons affected are employed and the rate so obtained has been taken by the Commonwealth Court of

* Mr. Justice Higgins—*A New Province for Law and Order.*

† *Ibid.*

Conciliation and Arbitration as the minimum rate of wage for an unskilled male worker. The weekly wage rates (at 1st May, 1931) for the various capital cities as so varied are as follows :—

						£	s.	d.
Sydney	..	..	..	..	..	4	2	6
Melbourne	..	..	..	..	..	3	16	0
Brisbane	..	..	..	..	..	3	7	6
Adelaide	..	..	..	..	..	3	11	6
Perth	..	..	..	..	..	3	14	0
Hobart	..	..	..	..	..	3	16	6
Six Capitals (Weighted Average)	..	..	..	..	..	3	17	0

The above amounts include the sum of 3s. per week known as the "Powers' three shillings", which was added in 1921 for the purpose of securing to the worker during a period of rising prices the full equivalent of the "Harvester" standard. The weekly rates given in the above table are the "Harvester" equivalents plus the "Powers' 3s." per week, but in accordance with the judgment of the Full Arbitration Court, such rates are subject to the ten per cent. reduction referred to in the following paragraphs.

The adequacy or otherwise of the amount allotted under the "Harvester" judgment has been the subject of much discussion, the author of the judgment himself urging on several subsequent occasions the need for its review. Frequent references as to the desirability of an investigation have been made by Judges of the Court, but it was not decided to hold an inquiry into the method of determining the basic wage until the latter portion of the year 1930.

On 15th August, 1930, application was made by the Victorian and New South Wales Railways Commissioners for variation of current awards in the railway industry. The application sought variations in the basic wage as follows:—the abolition of the "Powers' 3s.", the adoption of the Statistician's "all items" purchasing power of money figures in lieu of the figures now in use (food, groceries and rent—all houses) for determining the basic wage and adjustments thereof. On 5th November, by direction of the Court, all organizations bound by awards of the Court were notified that the matters in issue affected the basic wage, and were advised that they could intervene in the hearing. Employers and employees selected representatives and the Full Arbitration Court held a Basic Wage Inquiry. The hearing commenced in November, 1930, and concluded on 19th January, 1931. Judgment was delivered on 22nd January. The Court refused to make any variations in the basic wage or in the present method of calculation thereof without further inquiry, but was forced to the conclusion, after considering the evidence relating to the decline in the national income, the reduction in spending power due to the cessation of loans, and the general depressed state of industry, that for a period of twelve months and thereafter until further order a general reduction of wages was necessary. With a few exceptions orders were made for variations of the awards covered by the applications before the Court by the reduction of all wage rates therein prescribed by ten per cent. for a period of twelve months and thereafter until further order, such variations to operate from 1st February, 1931. Additional applications for variation of awards have been largely successful, and rates of wage in practically all awards of the Court are subject to the ten per cent. reduction.

(iii) *State Basic Wage Rates in Operation.* The basic wage rates fixed by State arbitration tribunals differ from those obtaining in the Federal sphere not only as regards amount, but also in respect of constitution of family unit whose needs it purports to supply.

The awards of various State tribunals in operation at the present moment are shown in the following statement. The Industrial Commission in New South Wales and the Industrial Court in Western Australia revised the living or basic rates of wage to be paid in the respective States during 1929. Particulars of these judgments are given in Labour Report, No. 20. The pronouncements of the Industrial Commission in New South Wales are published in the *New South Wales Industrial Gazette*, Vol. XXXVI., No. 6, and deal exhaustively with matters relating to basic wages. The living wage determined in 1929 by the Industrial Commission in New South Wales was not altered during the year 1930. The declaration and reasons for the judgment of the Industrial Court in Western Australia

are published in the *Western Australian Industrial Gazette*, Vol. IX., No. 2, for quarter ended 30th June, 1929. A revision of the basic wage in this State was made in June, 1930, when the rate for adult male employees in the metropolitan area was determined at £4 6s., and for adult female employees at £2 6s. 5d. per week. These rates were reduced in March, 1931, to £3 18s. and £2 2s. 2d., respectively. The industrial tribunals in Queensland and South Australia made no alteration during 1929 in the basic rates of wage previously declared. The Industrial Court in Queensland reviewed the basic rates of wage for that State during 1930, and reduced the rate for adult males from £4 5s. to £4 per week as from 1st August, 1930. A further revision during the year reduced the rate for adult males to £3 17s. per week as from 1st December, 1930. During May, 1931, the Industrial Court fixed the basic rates as from 1st July, 1931, at £3 14s. for adult males and £1 19s. for adult females. In 1925 the Board of Industry in South Australia determined the living wage for adult male employees in the metropolitan area at £4 5s. 6d. and for adult female employees at £1 19s. 6d. per week. These rates were in operation for more than 5 years. On 11th October, 1930, after a public inquiry for the purpose of assessing a living wage the Board of Industry determined the wage to be paid to adult male employees in the metropolitan area at 12s. 6d. per day or £3 15s. per week, and on the 22nd December, 1930, the Board declared the living wage for adult female employees in the metropolitan area at £1 15s. per week. A State basic rate of wage is not declared in Victoria or Tasmania. In these States the Wages Board system is in operation and each Board determines the minimum rate of wage to be paid in the industry or calling under review.

BASIC WEEKLY WAGE RATES FIXED BY STATE INDUSTRIAL TRIBUNALS.

State.	Basic Wage.		Date of Operation.	Family Unit (for Male Rate).
	Males.	Females.		
	£ s. d.	£ s. d.		
New South Wales ..	(a) 4 2 6	2 4 6	20.12.29	Man, wife and child
Victoria ..	(b) -	(b)		(b)
Queensland ..	3 14 0	1 19 0	1.7.31	Man, wife and three children
South Australia ..	(d) 3 15 0	(e) 1 15 0	..	"
Western Australia ..	3 18 0	2 2 2	3.3.31	(c)
Tasmania ..	(b)	(b)	(b)	(b)

(a) Plus child allowances.
 (b) None declared, but follow Federal rates to large extent.
 (c) Although the family unit is not specifically defined in the legislation of this State, the tribunal appointed to determine the basic wage has adopted the unit of man, wife, and two children.
 (d) Judgment dated 11th October, 1930.
 (e) Judgment dated 22nd December, 1930.

(iv) *Royal Commission on the Basic Wage, 1920.*—The Federal basic wage referred to in (ii) *ante* was made operative in other parts of Australia on the basis of the relative retail price index-numbers applicable to the locality, but only one comprehensive attempt has been made by the Federal authorities to ascertain specifically what the actual requirements were in the various States according to reasonable standards of comfort, including all matters comprised in the ordinary expenditure of a household in respect of a family consisting of a man, wife and three children under fourteen years of age.

The attempt referred to was made by a Royal Commission, and its report, issued in 1920, recommended the following amounts for the various capital cities, viz. :—

	£ s. d.
Sydney ..	5 17 1
Melbourne ..	5 16 6
Brisbane ..	5 6 2
Adelaide ..	5 16 1
Perth ..	5 13 11
Hobart ..	5 16 11
Six Capitals (Weighted Average) ..	5 15 8

The recommendations of this Commission were not given effect to owing to the marked advance of the amounts suggested over ruling rates* and the grave doubts expressed as to the ability of industry to pay such rates.

2. Child Endowment.—(i) *General.* The principle of supplementing wages by a payment in respect of dependent children under fourteen years of age has become very prominent in Australia in recent years, and is actually in operation in certain instances. The system has been in force in various forms in England and on the Continent as far back as 1795, the first instance occurring in England in that year.†

(ii) *The New South Wales Scheme.* The earliest attempt made in Australia to institute the system was in New South Wales in 1919, when a Bill was introduced into the State Parliament to provide a flat basic wage for a man and wife, and an allowance of 5s. per week for each child, the latter rate to be reduced on a sliding scale and to cease automatically when the income reached an amount of £3 per week above the basic wage. The Bill was rejected, and the matter dropped until the Session of 1926–27, when measures providing for the payment of child allowances became law.‡ These measures provided for (a) the declaration of a basic wage for a man and wife,|| and (b) the payment of an allowance of 5s. per week in respect of each dependent child, subject to the provision that child allowances would be paid only to the extent by which the total earnings of the worker and his family fall short of the sum represented by the *basic wage* plus child allowance at the rate of 5s. per week for each child under the age of fourteen years. Thus a worker with three dependent children receiving £5 by way of wages would not be entitled to the allowance, but would receive it in respect of a fourth child. These payments in New South Wales commenced to operate from 1st September, 1927. An amending Act, assented to on the 23rd December, 1929, provides that child endowment shall be 5s. per week for each child under the age of fourteen years except one in the family. The basic or living wage for adult male workers was determined by the Industrial Commission on the 20th December, 1929, at £4 2s. 6d. per week for a family unit consisting of a man, wife and one child. The fund from which child endowment payments are made is created by a levy on the wages bill of employers. The rate of tax to be collected by the Government from employers during the year 1930, was fixed at 1 per cent.

(iii) *Commonwealth Public Service.* The first payment of child endowment allowances in Australia was in connexion with the Commonwealth Public Service. From 1st November, 1920, child endowment at the rate of 5s. per week for each dependent child under fourteen years of age was paid to officers, with a limitation of salary plus allowance. Details regarding the introduction and method of calculating the payments under this scheme have been published in previous issues of the Official Year-Book and will be found also in the Labour Reports issued by this Bureau.

(iv) *National Scheme.* The Federal Government, in June, 1927, called a conference at Melbourne of the Premiers of the several States to consider the question from a national standpoint. The Prime Minister submitted various estimates of cost of endowing dependent children under fourteen years of age in Australia at 5s. per week. After discussion, it was decided to refer the matter to a Royal Commission, to be appointed by the Commonwealth Government.

The Commission was not unanimous in its findings, and the opinions and recommendations of the members were embodied in two separate reports, which dealt exhaustively with the constitutional aspects, existing systems, industrial legislation, the basic wage, standard of living, regulation of wages, working conditions and cognate matters.

* The "Harvester" equivalent for Melbourne at the time (September quarter, 1920) was £4 13s. per week, but only £3 18s. to £4 2s. was being paid on the basis of an annual index-number.

† A complete survey of the systems in force in various countries is contained in Elinor Rathbone's *Disinherited Family: A Plea for the Endowment of the Family*.

‡ *Family Endowment Act 1927*; *Finance (Family Endowment Tax) Act 1927*; *Industrial Arbitration (Living Wage Declaration) Act 1927* and subsequent amendments.

|| This was subsequently declared at £4 5s. per week for adult males and £2 6s. per week for adult females. A separate rate for rural employees was declared later at £4 4s. per week.

At the conference of Commonwealth and State Ministers held at Canberra during May, 1929, the Prime Minister stated that the Commission had submitted its report. The minority report recommended a scheme of child endowment financed entirely from the proceeds of taxation. For reasons stated to the Conference the Government was not prepared to adopt this scheme. The Commonwealth Government agreed with the majority of the Commission that child endowment could not be separated from the control of the basic wage—a power which the Commonwealth did not possess and which the States were not prepared to relinquish to the Commonwealth. The Government therefore did not propose to establish any system of child endowment. It was generally agreed that any scheme which would increase the charges upon industry would be unwise at the present time. The result of the discussion was that it was agreed that the matter of child endowment was one to be dealt with as the State Governments should think proper.

The findings and recommendations in the *majority* and *minority* reports are given in Labour Report, No. 19.

§ 4. Changes in Rates of Wage.

The collection of detailed information relating to changes in rates of wage was discontinued at the end of the year 1929 owing to the difficulty of securing reliable data. Officials of employer's organizations and trade unions reported that they were unable to supply definite particulars as to the number of workpeople affected by Commonwealth and State awards and determinations. In order to secure comprehensive and reliable data it would have been necessary to extend considerably the field of collection, and after serious consideration and in view of the fact that the demand for the figures had been limited, it was decided that the additional expense and work involved were too heavy to justify the continuance of the tabulation.

C.—EMPLOYMENT.

§ 1. Industrial Disputes.

1. *General.*—Information with regard to the collection of particulars and methods of tabulation of industrial disputes involving stoppage of work has appeared in previous issues of the Year Book, and is also given in the annual Reports of the Labour and Industrial Branch of this Bureau.

In *annual* tabulations, particulars are included of all disputes which either *commenced* or were *current* during the year under review. As regards "number of disputes," and "number of establishments involved," therefore, duplication will take place in respect of those disputes which started in and were unsettled at the end of a preceding year; the number involved will, however, be indicated in a footnote, to permit of due allowance being made in any calculations made from the tables.

2. *Industrial Disputes Involving Stoppage of Work, Classified in Industrial Groups, 1930.*^(a)—The following tables give particulars of industrial disputes which either commenced or were current during the year 1930, classified according to industrial groups. Similar information for the years 1914 to 1929 was published in previous issues of the Year Book and in Labour Reports Nos. 6 to 20.

(a) Six disputes in New South Wales (involving 35 establishments and 10,732 workers) commenced in 1929 and were uncompleted at the end of that year, and in respect of number of disputes, number of establishments and workpeople involved are duplicated in the figures for 1930.

INDUSTRIAL DISPUTES CLASSIFIED ACCORDING TO INDUSTRIAL GROUPS, 1930.

Class.	Industrial Group.	No. of Disputes.	No. of Estab. Involved.	No. of Workpeople Involved.			No. of Working Days Lost.	Estimated Loss in Wages.
				Directly.	In-directly.	Total.		
NEW SOUTH WALES.								
II.	Engineering, metal works, etc.	7	7	332	176	508	2,065	£ 2,241
III.	Food, drink, etc.	9	106	4,445	205	4,650	62,930	60,292
VI.	Other manufacturing	2	2	38	76	114	1,716	1,040
VIII.	Mines, quarries, etc.	123	153	38,979	976	39,955	1,327,958	1,398,599
IX.	Railway and tramway services	1	1	81	147	228	25,992	27,291
XI.	Shipping, wharf labour, etc.	1	1	40	..	40	80	70
XII.	Pastoral, agricultural, etc.	1	90	600	300	900	18,000	22,900
XIV.	Miscellaneous	12	24	1,903	271	2,174	4,625	3,893
	Total	156	384	46,418	2,151	48,569	1,448,366	1,516,296
VICTORIA.								
II.	Engineering, metal works, etc.	1	1	152	..	152	7,448	6,850
III.	Food, drink, etc.	2	2	65	23	88	128	220
VIII.	Mines, quarries, etc.	1	1	128	..	128	128	130
XIV.	Miscellaneous	1	1	40	..	40	40	28
	Total	5	5	385	23	408	7,744	7,228
QUEENSLAND.								
II.	Engineering, metal works, etc.	1	1	4	3	7	85	33
III.	Food, drink, etc.	1	1	263	..	263	1,315	1,020
VIII.	Mines, quarries, etc.	4	6	857	17	874	3,494	4,718
XII.	Pastoral, agricultural, etc.	1	20	300	50	350	4,900	5,200
XIV.	Miscellaneous	3	3	137	..	137	137	88
	Total	10	31	1,561	70	1,631	9,881	11,059
SOUTH AUSTRALIA.								
I.	Wood, saw-mill, timber, etc.	2	9	103	6	109	773	694
III.	Food, drink, etc.	1	3	125	..	125	750	660
X.	Other land transport	1	23	800	..	800	4,300	3,440
XI.	Shipping, wharf labour, etc.	2	11	1,542	..	1,542	16,055	17,503
XIII.	Domestic, hotels, etc.	1	200	300	..	300	900	690
	Total	7	246	2,870	6	2,876	22,778	22,987
WESTERN AUSTRALIA.								
V.	Books, printing, binding, etc.	1	1	18	..	18	72	76
XII.	Pastoral, agricultural, etc.	1	25	450	..	450	27,000	34,302
	Total	2	26	468	..	468	27,072	34,378
TASMANIA.								
VIII.	Mines, quarries, etc.	2	2	230	..	230	360	370
XIV.	Miscellaneous	1	1	40	..	40	40	24
	Total	3	3	270	..	270	400	394
AUSTRALIA.								
I.	Wood, sawmill, timber, etc.	2	9	103	6	109	773	694
II.	Engineering, metal works, etc.	9	9	488	179	667	9,548	9,124
III.	Food, drink, etc., manufacturing and distribution	13	112	4,898	228	5,126	65,123	62,192
V.	Books, printing, binding, etc.	1	1	18	..	18	72	76
VI.	Other manufacturing	2	2	38	76	114	1,716	1,040
VIII.	Mines, quarries, etc.	130	162	40,194	993	41,187	1,331,940	1,403,817
IX.	Railway and tramway services	1	1	81	147	228	25,992	27,291
X.	Other land transport	1	23	800	..	800	4,300	3,440
XI.	Shipping, wharf labour, etc.	3	12	1,582	..	1,582	16,135	17,573
XII.	Pastoral, agricultural, etc.	3	135	1,350	850	1,700	49,900	62,402
XIII.	Domestic, hotels, etc.	1	200	300	..	300	900	690
XIV.	Miscellaneous	17	29	2,120	271	2,391	4,842	4,003
	Total—Australia	183	695	51,972	2,250	54,222	1,511,241	1,592,342

3. Industrial Disputes, Australia, 1926 to 1930.—The following table gives particulars of the number of industrial disputes, the number of workpeople involved, and the losses in working days and wages caused by disputes which either commenced or were current during each of the years 1926 to 1930, classified according to industrial groups.

Satisfactory comparisons of the frequency of industrial disputes in classified industries can be made only after omitting those which are recorded for mining, quarrying, etc. (Group VIII.). For the year 1913 the proportion of disputes in those industries represented practically 50 per cent. of the total number recorded. In subsequent years the proportion remained high, ranging from 45 per cent. in 1917 and 1918 to as much as 81 per cent. in 1921 and 1924. During the year 1930 disputes classified in the Mining Group (VIII.) represented 71 per cent. of the total during the year, as compared with 79 per cent. during 1929. During the past five years working days lost through dislocations involving workpeople engaged in mining and quarrying work numbered 5,995,510, representing 61 per cent. of the total loss of working days during the period.

INDUSTRIAL DISPUTES.—AUSTRALIA, 1926 TO 1930.

Year.	Manu- facturing. (Groups I. to VI.)	Building. (Group VII.)	Mining. (Group VIII.)	Transport, Land and Sea. (Groups IX. to XI.)	Miscel- laneous. (Groups XII. to XIV.)	ALL GROUPS.
NUMBER OF DISPUTES.						
1926 ..	60	17	227	29	27	360
1927 ..	60	19	285	41	36	441
1928 ..	28	6	194	42	17	287
1929 ..	29	8	204	9	9	259
1930 ..	27	..	130	5	21	183
1926 to 1930 ..	204	50	1,040	126	110	1,530

Year.	Manu- facturing. (Groups I. to VI.)	Building. (Group VII.)	Mining. (Group VIII.)	Transport, Land and Sea. (Groups IX. to XI.)	Miscel- laneous. (Groups XII. to XIV.)	ALL GROUPS.
NUMBER OF WORKPEOPLE INVOLVED.						
1926 ..	12,408	924	93,107	2,901	3,694	113,034
1927 ..	11,368	9,690	132,766	42,487	4,446	200,757
1928 ..	3,304	290	72,504	17,902	2,332	96,422
1929 ..	25,364	732	76,766	1,286	456	104,604
1930 ..	6,034	..	41,187	2,610	4,391	54,222
1926 to 1930 ..	58,478	11,636	416,330	67,276	15,319	569,039

Year.	Manu- facturing. (Groups I. to VI.)	Building. (Group VII.)	Mining. (Group VIII.)	Transport, Land and Sea. (Groups IX. to XI.)	Miscel- laneous. (Groups XII. to XIV.)	ALL GROUPS.
NUMBER OF WORKING DAYS LOST.						
1926 ..	271,049	10,015	950,770	36,693	41,734	1,310,261
1927 ..	168,432	342,649	868,779	304,586	29,135	1,713,581
1928 ..	71,603	3,419	316,245	307,271	18,540	777,278
1929 ..	1,896,091	4,456	2,527,776	30,237	2,918	4,461,478
1930 ..	77,232	..	1,331,940	46,427	55,642	1,511,241
1926 to 1930 ..	2,484,607	360,539	5,995,510	785,214	147,969	9,773,839

Year.	Manu- facturing. (Groups I. to VI.)	Building. (Group VII.)	Mining. (Group VIII.)	Transport, Land and Sea. (Groups IX. to XI.)	Miscel- laneous. (Groups XII. to XIV.)	ALL GROUPS.
ESTIMATED LOSS IN WAGES.						
1926 ..	£ 249,712	£ 7,721	£ 1,093,111	£ 27,306	£ 32,063	£ 1,415,813
1927 ..	138,418	293,792	1,009,580	210,214	24,692	1,676,696
1928 ..	61,160	3,225	378,655	317,337	14,982	775,359
1929 ..	1,680,629	5,060	2,847,091	33,971	2,554	4,569,305
1930 ..	73,126	..	1,403,817	48,304	67,095	1,592,342
1926 to 1930 ..	2,203,045	309,798	6,737,254	637,132	142,236	10,029,515

4. Summary of Disputes (involving Stoppage of Work), 1926 to 1930.—The following table gives particulars of the number of industrial disputes in each State in various years from 1926 to 1930, together with the number of workpeople involved, the number of working days lost, and the total estimated loss in wages.

INDUSTRIAL DISPUTES.—SUMMARY, 1926 TO 1930.

State or Territory.	Year.	No. of Disputes.	Establishments Involved in Disputes.	No. of Workpeople Involved.			No. of Working Days Lost.	Total Estimated Loss in Wages.
				Directly.	In-directly.	Total.		
New South Wales	1926	256	631	68,281	28,359	96,640	1,111,200	£ 1,229,410
	1927	339	470	103,116	40,425	143,541	1,133,963	1,200,000
	1928	230	313	70,303	10,119	80,422	480,394	521,768
	1929	231	513	75,197	4,152	79,349	3,146,038	3,421,412
	1930	(a) 156	384	46,418	2,151	48,569	1,443,366	1,516,296
Victoria	1926	33	39	6,320	2,245	8,565	100,735	106,423
	1927	24	36	8,937	284	9,221	54,367	44,470
	1928	21	51	4,309	1,567	5,876	110,659	96,454
	1929	11	320	8,893	12,719	21,612	1,296,676	1,130,565
	1930	5	5	385	23	408	7,744	7,228
Queensland	1926	29	37	2,054	391	2,445	30,118	27,412
	1927	30	376	29,594	640	30,234	428,135	325,884
	1928	12	329	2,958	670	3,628	70,764	62,008
	1929	4	23	1,691	8	1,699	3,443	3,379
	1930	10	31	1,561	70	1,631	0,881	11,059
South Australia	1926	17	60	2,008	740	2,748	22,826	17,133
	1927	19	24	6,517	1,359	7,876	51,284	40,266
	1928	8	40	2,257	1,211	3,468	54,835	45,999
	1929	2	21	532	40	572	9,040	7,910
	1930	7	246	2,870	6	2,876	22,778	22,987
Western Australia	1926	9	23	523	78	601	9,031	5,998
	1927	20	25	3,345	47	3,392	23,819	19,944
	1928	11	62	2,106	422	2,528	54,896	43,472
	1929	4	8	827	50	877	2,672	2,771
	1930	2	26	468	..	468	27,072	34,378
Tasmania	1926	10	12	600	231	831	5,080	4,363
	1927	6	6	354	421	775	14,950	9,182
	1928	4	8	371	84	455	5,595	5,508
	1929	6	40	333	142	475	3,409	8,063
	1930	3	3	270	..	270	400	394
Northern Territory	1926	2	2	93	112	205	996	870
	1927	2	2	338	..	338	5,163	4,753
	1928	1	1	45	..	45	135	150
	1929	..	..	..	..	..	..	..
	1930	..	..	..	..	..	..	..
Fed. Cap. Territory	1926	4	4	829	110	939	30,185	24,204
	1927	1	5	380	..	380	1,900	2,137
	1928	..	..	..	..	..	..	..
	1929	1	1	20	..	20	200	260
	1930	..	..	..	..	..	..	..
Australia	1926	360	813	80,768	32,266	113,034	1,310,261	1,415,813
	1927	441	944	157,581	43,176	200,757	1,713,581	1,676,696
	1928	287	804	82,349	14,073	96,422	777,278	775,359
	1929	259	926	88,793	17,111	104,604	4,461,478	4,569,305
	1930	(a) 183	695	51,972	2,250	54,222	1,511,241	1,592,342

(a) See footnote on page 391.

Detailed information in regard to the disputes during these and previous years is given in the Labour Reports issued by this Bureau.

The number of industrial disputes recorded during 1930 was 183, as compared with 259 during the previous year. In New South Wales 156 disputes occurred. Of this number 123 involved workpeople engaged in mining and quarrying. Working days lost during 1930 totalled 1,511,241 for all disputes in Australia, as compared with 4,461,478 working days lost during 1929. The estimated loss of wages was £1,592,342 in 1930 as compared with £4,569,305 for the year 1929.

5. *Particulars of Principal Disputes in 1930.*—(i.) *General.*—The preceding tables show the number and effect of all disputes for the year 1930 classified according to Industrial Groups. The figures show large decreases compared with those of the previous year as regards number of working days and amount of wages lost. The number of disputes is the lowest since 1926. The tables show that of the total number of disputes (183) which occurred in 1930 no less than 130 were in connexion with the mining industry, and of these 123 occurred in New South Wales. The total loss in wages through all disputes in Australia was £1,592,342. The loss through disputes in the coal-mining industry in New South Wales was £1,397,838, or 88 per cent. of the total loss in wages for Australia.

(ii) *Details regarding Principal Disputes.*—The principal disputes which occurred during the year 1930 involved slaughtermen and other employees at the abattoirs, Homebush Bay, and other slaughtering establishments near Sydney; engineers at the State Electricity Commission's works at Yallourn, Victoria; wharf labourers, carters and timber workers at Port Adelaide, South Australia; and shearers in certain districts of New South Wales, Queensland and Western Australia. The dispute concerning the rates of pay at the collieries in the northern district of New South Wales, which commenced in March, 1929, was current at the end of the year and did not terminate until June, 1930. Brief particulars regarding the above-mentioned dislocations of work are given hereunder.

The most serious dislocation of work recorded during recent years in Australia commenced on 2nd March, 1929, when the principal collieries on the northern coalfields of New South Wales closed down owing to the refusal of the employees to accept reduced rates of wages. For some time prior to the closing down of the collieries, the coal position in Australia had become very serious, owing to depression in trade and the loss of oversea markets. Exports of Australian coal declined considerably during 1928, as compared with previous years, and oversea competition became so keen that coal was being imported into Australia at a lower price than locally produced coal could be sold. The New South Wales colliery proprietors were unable to quote at a profit against oversea coal, and attributed their inability to do so to the high cost of production locally.

The Premier of New South Wales proposed that the owners of the collieries should forgo 1s. per ton of their profits, on condition that the State Government reduced railway freights and other Government charges by the equivalent of 2s. per ton, and miners undertook to accept reduced rates for hewing and in other wages, equivalent to 1s. per ton. These reductions represented 4s. per ton, and were considered to be the minimum that would be required to stimulate local consumption. In order to compete successfully with oversea coal it was estimated that a reduction of at least 5s. per ton was necessary, and the Commonwealth Government undertook to help the industry by paying a Commonwealth bounty of 1s. per ton on all coal shipped out of New South Wales.

These proposals were submitted to the Coal and Shale Employees' Federation, and were rejected by the officials on the ground that the employees were not prepared to accept any reduction in rates of wages. The owners thereupon withdrew their offer to forgo 1s. per ton of their profits.

Trade continued to decline, and the proprietors of the principal collieries on the Northern field decided to close the pits, owing to the lack of orders and to their inability to compete at a profit against the oversea coal. The closing of the majority of the Northern collieries, numbering about 30 with 10,000 employees, occurred on 2nd March, 1929, after a fortnight's notice of the owners' intentions had been given to the employees.

On 31st May, a Royal Commission was appointed to inquire into and make recommendations and report upon—(a) the present position of the coal industry, including the production, carriage, export, distribution, and sale of coal; (b) the causes which have led to the present position of the coal industry. The Commission met during June, and issued an interim report in September. The final report of the Commission was presented to the State Parliament on 29th March, 1930, and contained recommendations for the re-organization of the coal industry in the interests of the industry and of the general community. The findings of the Commission were not accepted by the parties involved in the current dispute.

During November, the State Government decided to open one of the collieries, and invited applications from men prepared to accept work at reduced rates of pay. The mine was opened in December, and serious disturbances occurred. Coal miners in Victoria ceased work for a short period in sympathy with the colliery employees in New South Wales.

Notwithstanding special efforts by the members of the Commonwealth and State Governments to effect a settlement of the dispute, the collieries remained idle. Numerous conferences were convened, including one under the provisions of the Industrial Peace Act, and two under Section 16 (a) of the Commonwealth Conciliation and Arbitration Act. The dispute continued until June, 1930. The actual result of the industrial conflict was the reduction of rates of pay in the whole of the Newcastle area by 12½ per cent. on hewing rates and 6d. per day on daily rates, a reduction by the New South Wales Government of railway freightage and shipping charges on coal produced in Newcastle area by 1s. 6d. per ton, and a reduction by certain shipping companies of 3d. per ton on coal exported to other States. The selling price of coal was reduced by 3s. 3d. per ton at port of shipment or 1s. 9d. per ton at the mines as from 2nd June, 1930. The rates of pay for contract workers and day workers in the Southern and Western colliery districts of New South Wales, in Tasmania, and at the State-owned mine at Wonthaggi, Victoria, were reduced to the same extent by an award of the Commonwealth Court of Conciliation and Arbitration made on 15th August, 1930.

Two disputes involving slaughtermen and other employees at abattoirs in the County of Cumberland, New South Wales, occurred during 1930; the first dislocation occurred in June and was of short duration, while the second commenced on 8th November and work was not resumed until 8th December. The cause of the stoppage of work in June was the enforcement by the employers of the terms of the 48 Hours Act which increased the number of hours of work per week from 44 to 48, with a consequential reduction in the rates of pay for pieceworkers. After negotiations, the representatives of the parties involved were successful in terminating the dispute, the workpeople resuming work on the terms of the 48 Hours Act. The stoppage of work in November was an attempt by the employees to anticipate the proposal of the Government to reduce the working hours per week from 48 to 44 hours, and to obtain an increase in the piece-rates for mutton slaughtermen. Meat supplies were curtailed. Stock sales and the meat export trade were affected. Master butchers undertook the work of killing stock and supplies of meat were received in Sydney from the country. Notwithstanding repeated efforts to settle the dispute the men were idle for over four weeks. After a conference with the Minister for Labour and Industry the parties involved agreed to refer the strike issues to the Industrial Commission, which decided that the men should resume work on the terms of the award made in September, 1930, and on work being resumed all questions involved in the dispute to be determined by the Commission at an early date. (The hours of labour per week provided for in the award mentioned were 48 hours.)

The dispute at the State Electricity Commission's works at Yallourn, Victoria, commenced on 9th May, when the engineers stopped work as a protest against certain provisions in the Metal Trades award of the Commonwealth Court. Prior to the award coming into force engineers were receiving a camp and isolation allowance of 6s. 6d. per week. This allowance was not included in the award. An increase in the number of hours of work for certain engineers from 44 to 48 per week was a contributing cause of the dispute. Although the engineers ceased work, the management succeeded in keeping the works going, as the majority of the employees were not involved in the

dispute. Several conferences between the parties were held during the currency of the dispute but finality was not reached until the 4th July when the strike was declared off. Work was resumed on the 7th July on the terms of the award, on the understanding that the Commission would consider the possibility of making an agreement.

The employment of volunteer labour on the wharves at Port Adelaide, South Australia, was the cause of a serious dislocation of work during August and September. Waterside workers and carters and drivers were mainly affected, but other sections of workers involved in the dispute were seamen, timber workers and employees in flour mills. Coastal shipping was affected, several vessels being held up. Volunteer labourers were subjected to attacks and disturbances occurred. The State Government passed legislation for the preservation of the public safety, and shortly afterwards the trouble ended, the workpeople involved returning to work.

Shearing was delayed in three States during the year. In New South Wales and Western Australia the dispute arose out of the refusal of the shearers to abide by the variation of the award of the Commonwealth Court of Conciliation and Arbitration, which provided for a reduction in rates of pay. In New South Wales the rate for shearing was reduced from 41s. to 32s. 6d. per 100 sheep, and in Western Australia from 40s. to 31s. 6d. per 100 sheep. The award of the State Industrial Court in Queensland reduced rates of wage by ten per cent., the rate per 100 sheep being reduced from 40s. to 36s. These rates were not satisfactory to the shearers and in each State members of the union refused to sign on at the reduced terms although officially the awards had been accepted by the union. At some sheds the places of those who refused to work were filled by others who were prepared to accept the terms of the award, while shearing at other sheds was deferred pending the termination of the dispute. In New South Wales the dispute commenced on 15th July and continued until 12th August when the men decided to accept employment on the terms of the award as varied. In Queensland shearing was delayed at certain sheds in November, and disputes arose in various localities until February, 1931, when the men decided to accept the terms of the State award which came into operation on 1st December. In Western Australia the dispute commenced in August and continued until 14th November when the representatives of the employees, after a meeting, recommended a return to work on the terms of the award.

6. Duration of Industrial Disputes, 1930.—The following table gives particulars respecting the number of disputes, workpeople directly and indirectly involved, working days lost, and estimated amount of loss in wages respectively, consequent on the cessations of work recorded for Australia during the year 1930, classified under the adopted limits of duration :—

INDUSTRIAL DISPUTES.—DURATION, AUSTRALIA, 1930.(a)

Limits of Duration.	No. of Disputes.	No. of Workpeople Involved.			Number of Working Days Lost.	Total Estimated Loss in Wages.
		Directly.	Indirectly.	Total.		
1 day and less	81	21,031	335	21,366	20,907	£ 22,975
2 days and more than 1 day	27	5,315	298	5,613	11,055	12,422
3 days and more than 2 days	14	2,454	18	2,472	7,398	7,760
Over 3 days and less than 1 week (6 days)	15	3,233	105	3,338	14,193	16,774
1 week and less than 2 weeks	20	2,897	492	3,389	25,018	25,245
2 weeks and less than 4 weeks	12	2,895	419	3,314	47,444	53,860
4 weeks and less than 8 weeks	6	2,668	360	3,028	73,514	70,453
8 weeks and over	8	11,479	223	11,702	1,311,712	1,382,853
Total	183	51,972	2,250	54,222	1,511,241	1,592,342

(a) See footnote (a) on page 391.

Similar figures for the years 1913 to 1929 will be found in previous issues of the Year Book and in the Labour Reports of this Bureau.

7. Causes of Industrial Disputes, 1913 to 1930.—The following table shows the number of disputes, number of workpeople involved, and the total number of working days lost in disputes during the years 1913 and 1925 to 1930, classified according to principal cause :—

INDUSTRIAL DISPUTES.—CAUSES, AUSTRALIA, 1913 and 1925 TO 1930.

Causes of Dispute.	1913.	1925.	1926.	1927.	1928.	1929.	1930.
NUMBER OF DISPUTES.							
1. Wages—							
(a) For increase ..	42	33	23	24	8	8	..
(b) Against decrease ..	4	5	5	4	3	6	9
(c) Other wage questions	31	99	67	66	39	46	44
2. Hours of Labour—							
(a) For reduction ..	3	4	13	14	2	6	4
(b) Other disputes re hours	7	6	2	4	2	2	..
3. Trades Unionism—							
(a) Against employment of non-unionists ..	8	8	5	12	6	3	..
(b) Other union questions	5	27	22	24	11	12	20
4. Employment of particular Classes or Persons ..	44	113	103	152	105	87	48
5. Working Conditions ..	51	106	46	72	48	31	27
6. Sympathetic ..	5	16	8	5	9	6	11
7. Other Causes ..	8	77	61	64	54	53	20
Total ..	208	499	360	441	287	259	(a)183
NUMBER OF WORKPEOPLE INVOLVED.							
1. Wages—							
(a) For increase ..	8,633	23,443	17,046	7,316	2,775	1,414	..
(b) Against decrease ..	563	1,123	1,275	300	1,317	10,532	12,824
(c) Other wage questions	7,160	31,387	18,883	20,297	17,057	8,742	12,686
2. Hours of Labour—							
(a) For reduction ..	460	462	9,730	7,813	61	21,646	4,334
(b) Other disputes re hours	1,819	2,668	250	288	1,005	2,067	..
3. Trades Unionism—							
(a) Against employment of non-unionists ..	5,370	1,592	125	4,432	193	103	..
(b) Other union questions	1,418	10,957	3,790	25,848	2,311	4,367	4,160
4. Employment of particular Classes or Persons ..	11,370	36,075	25,165	55,174	35,379	22,933	7,751
5. Working Conditions ..	10,785	35,034	12,889	29,766	14,169	4,672	4,278
6. Sympathetic ..	947	5,328	3,499	1,454	6,123	11,604	4,010
7. Other Causes ..	1,758	28,677	20,342	48,039	16,032	16,524	4,181
Total ..	50,283	176,746	113,034	200,757	96,422	104,604	54,222
NUMBER OF WORKING DAYS LOST.							
1. Wages—							
(a) For increase ..	100,069	200,356	580,183	150,691	6,548	7,433	..
(b) Against decrease ..	9,438	24,352	2,573	2,578	3,824	2,332,157	1,227,808
(c) Other wage questions	78,183	154,169	82,898	83,831	80,755	47,261	113,102
2. Hours of Labour—							
(a) For reduction ..	2,774	12,816	280,152	305,782	725	1,887,196	63,583
(b) Other disputes re hours	15,111	16,173	290	4,487	2,667	3,183	..
3. Trades Unionism—							
(a) Against employment of non-unionists ..	91,002	14,784	1,623	82,156	2,137	424	..
(b) Other union questions	32,368	105,195	15,607	204,802	8,900	49,921	50,225
4. Employment of particular Classes or Persons ..	191,723	214,738	114,917	310,425	423,555	78,492	24,683
5. Working Conditions ..	73,582	150,325	123,390	303,788	98,862	8,545	8,551
6. Sympathetic ..	24,066	41,046	38,381	3,573	106,358	23,482	17,648
7. Other Causes ..	5,212	185,616	70,247	261,468	42,957	23,381	5,641
Total ..	623,528	1,128,570	1,310,261	1,713,581	777,278	4,461,478	1,511,241

(a) See footnote (a), page 391.

The main causes of industrial disputes are "Wage" questions, "Working Conditions," and "Employment of Particular Classes or Persons." In each of the years 1913 to 1925, with the exception of 1922, the number of dislocations concerning wages exceeded those caused by any other question, and varied between a minimum proportion of 26 per cent. in 1922 and a maximum of 45 per cent. in 1916. During 1930 the number of disputes concerning "Wages" represented 29 per cent. of the total number for the

year. The majority of the dislocations of work classified under the heading, "Employment of Particular Classes or Persons," are stoppages for the purpose of protesting against the dismissal of certain employees, who, in the opinion of their fellow-workers, have been unfairly treated or victimized. This class of dispute occurs very frequently in the coal-mining industry. The number of disputes over "Trade Union" questions has represented a fairly uniform proportion of the total number of disputes during the years under review, while stoppages of work concerning "Hours of Labour" increased during 1926 and 1927, but decreased during 1928 to 1930. "Sympathetic" disputes have not been numerous during the past five years.

8. Results of Industrial Disputes.—The following table shows the number of disputes, number of workpeople involved, and the number of working days lost in disputes throughout Australia during the five years 1926 to 1930, classified according to results:—
INDUSTRIAL DISPUTES CLASSIFIED ACCORDING TO RESULTS.—AUSTRALIA,
1926 TO 1930.(a)

Year.	No. of Disputes.				Number of Workpeople Involved in Disputes.				Total Number of Working Days Lost by Disputes.			
	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.
1926 ..	72	243	30	11	11,631	85,115	14,220	1,623	73,313	891,093	257,004	21,486
1927 ..	88	307	35	5	28,005	152,429	18,571	995	207,009	1,198,163	294,102	10,285
1928 ..	39	228	14	1	7,362	85,306	2,814	178	55,757	674,076	16,309	178
1929 ..	70	135	44	5	11,200	69,859	7,150	15,304	38,943	4,315,760	43,174	26,302
1930 a b	36	117	24	1	4,133	45,204	3,343	520	18,497	1,358,044	25,177	13,000

(a) See footnote (a), page 391.

(b) The following particulars of disputes which were incomplete at the 31st December, 1930, should be added to the above figures to effect a balance with those published in the preceding table :—5 disputes ; 1,022 workpeople involved ; and 101,523 working days lost.

The figures for the year 1929 in the above, and also in the following table, include the number of workpeople involved and the working days lost in 1929 in the dispute on the Northern Coalfield of New South Wales which commenced in March, 1929, and terminated in June, 1930.

9. Methods of Settlement.—The following tables show for Australia the number of disputes, number of workpeople involved, and number of working days lost in industrial disputes during the years 1913 and 1925 to 1930, classified according to the adopted schedule of methods of settlement :—

INDUSTRIAL DISPUTES.—METHODS OF SETTLEMENT, AUSTRALIA, 1913 TO 1930.(a)

Methods of Settlement.	1913.	1925.	1926.	1927.	1928.	1929.	1930.(b)
NUMBER OF DISPUTES.							
Negotiations—							
Direct between employers and employees or their representatives	119	209	166	220	138	130	134
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	17	24	16	18	8	8	3
Under State Industrial Acts—							
By intervention, assistance, or compulsory conference	19	12	8	13	10	3	6
By reference to Board or Court	22	2	10	19	8	1	2
Under Commonwealth Conciliation and Arbitration Act—							
By intervention, assistance, or compulsory conference	4	13	13	19	6	6	..
By Filling Places of Workpeople on Strike or Locked Out	13	4	8	5	10	7	9
By Closing-down Establishment permanently	1	1	..	10	3	3	1
By Other Methods	13	226	135	122	99	90	23
Total	208	491	356	435	282	254	(b)178

(b) See footnote (b) to previous table.

INDUSTRIAL DISPUTES—METHODS OF SETTLEMENT, AUSTRALIA, 1913
TO 1930(a)—continued.

Causes of Dispute.	1913.	1925.	1926.	1927.	1928.	1929.	1930.(b)
NUMBER OF WORKPEOPLE INVOLVED.							
Negotiations—							
Direct between employers and employees or their representatives	23,357	75,961	44,095	94,070	37,708	32,393	40,804
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	3,172	12,767	17,072	5,839	1,242	19,161	196
Under State Industrial Acts—							
By intervention, assistance, or compulsory conference	6,505	1,781	936	3,763	2,009	487	3,476
By reference to Board or Court	12,774	208	684	4,314	2,975	56	184
Under Commonwealth Conciliation and Arbitration Act—							
By intervention, assistance, or compulsory conference	659	3,251	4,332	33,517	1,497	511	..
By Filling Places of Workpeople on Strike or Locked Out	658	160	245	533	11,047	5,411	2,940
By Closing-down Establishment permanently	170	28	..	1,104	266	144	40
By Other Methods	2,988	81,158	44,325	56,860	38,916	45,350	5,560
Total	50,283	175,314	112,589	200,000	95,660	103,513	53,200
NUMBER OF WORKING DAYS LOST.							
Negotiations—							
Direct between employers and employees or their representatives	94,400	470,110	417,158	700,968	273,254	2,417,171	1,289,487
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	26,335	320,046	549,427	100,148	36,937	1,279,258	2,893
Under State Industrial Acts—							
By intervention, assistance, or compulsory conference	187,871	17,650	11,281	80,815	38,878	5,201	56,648
By reference to Board or Court	221,769	4,338	8,744	60,236	29,533	56	1,272
Under Commonwealth Conciliation and Arbitration Act—							
By intervention, assistance, or compulsory conference	2,105	67,272	134,841	305,303	3,962	1,882	..
By Filling Places of Workpeople on Strike or Locked Out	14,139	1,163	2,865	9,706	266,369	610,686	34,612
By Closing-down Establishment permanently	20,400	1,932	..	30,289	750	9,861	80
By other Methods	56,509	180,665	118,580	422,094	96,637	100,004	24,726
Total	623,528	1,063,176	1,242,896	1,709,550	746,320	4,424,179	1,409,718

(a) See footnote on page 391.

(b) See footnote (b) to previous table.

The majority of the disputes were settled by direct negotiations between employers and employees, the proportion so settled ranging between 47 per cent in 1924 and 76 per cent. in 1921. Of the 178 disputes during 1930, 134 or 75 per cent. were settled by this method. The proportion of dislocations settled by compulsory conferences or the intervention and assistance of officials under State or Commonwealth Arbitration Acts has varied considerably during the period under review, ranging from 2 per cent. in 1923 to 15 per cent. in 1920. The proportion in 1930 was 5 per cent. In connexion with the comparatively large number of disputes which are classified as having been settled "By other methods," many stoppages of work occur each year, principally at collieries, but the cause for such stoppages is not officially known to the employers or their representatives. Such stoppages usually last for one day, and work is resumed without negotiations for a settlement of the trouble.

§ 2. Fluctuations in Employment.

1. General.—The particulars given in the following tables are based upon information furnished by the secretaries of trade unions. The membership of the unions regularly reporting exceeds 430,000. Unemployment returns are not collected from unions the members of which are in permanent employment, such as railway and tramway employees, and public servants, or from unions whose members are casually employed

(wharf labourers, etc.). Very few of the unions pay unemployment benefit, but the majority of the larger organizations have permanent secretaries and organizers who are closely in touch with the members and with the state of trade within their particular industries. In many cases unemployment registers are kept, and provision is made in the rules for payment of reduced subscriptions by members out of work. In view of these facts, and of the large membership of the unions from which quarterly returns are received, percentage unemployment results based on the information supplied may be taken to show the general trend of unemployment. Seasonal fluctuations in unemployment have been provided for by collecting returns quarterly since the 1st January, 1913, the yearly figures quoted representing the average of the four quarters.

2. Unemployment.—(i) *States.* In addition to the qualifications referred to above, allowance must be made for the circumstance that the industries included in the returns from trade unions are not quite identical in the various States. The results, may, however, be taken as representing fairly well labour conditions generally.

UNEMPLOYMENT.—STATES, 1930.

State.	Unions Reporting.		Unemployed.	
	Number.	Members.	Number.	Percentage.
New South Wales	112	189,569	41,319	21.7
Victoria	79	122,807	22,448	18.3
Queensland	47	54,922	5,847	10.7
South Australia	59	34,648	8,050	23.3
Western Australia	62	27,639	5,339	19.2
Tasmania	36	9,239	1,764	19.1
Australia	395	438,874	84,767	19.3

(ii) *Summary for Australia.* The following table gives a summary for Australia for the last five years :—

UNEMPLOYMENT.—AUSTRALIA, 1926 TO 1930.

Particulars.	Unions.	Membership.	Unemployed.	
			Number.	Percentage.
1926	374	415,397	29,326	7.1
1927	375	445,985	31,032	7.0
1928	375	423,422	45,669	10.8
1929	382	424,093	47,359	11.1
1930	395	438,874	84,767	19.3
1929 1st Quarter	375	420,756	39,159	9.3
2nd „	376	409,503	40,996	10.0
3rd „	388	433,388	52,480	12.1
4th „	390	432,727	56,801	13.1
1930 1st Quarter	392	432,464	63,144	14.6
2nd „	394	435,239	80,595	18.5
3rd „	396	439,971	90,379	20.5
4th „	399	447,822	104,951	23.4

NOTE.—Similar figures for each of the four quarters of the years since 1912 will be found in the Labour Reports. The quarterly figures show the number of persons who were out of work for three days or more during a specified week in each quarter, and the annual figures, the average of the four quarters; they do not include persons out of work through strikes or lock-outs.

The highest percentage of unemployed yet recorded (23.4) was reached in the fourth quarter of 1930.

(iii) *Industrial Groups.* The next table shows the percentages unemployed in industrial groups. Industries in which employment is either unusually stable or exceptionally casual, such as railways, shipping, agricultural, pastoral, etc., and domestic,

hotels, etc., are insufficiently represented in the returns owing to the impossibility of securing the necessary information from the trade unions. Particulars are not, therefore, shown separately for these groups, such returns as are available being included in the last group, "Other and Miscellaneous."

UNEMPLOYMENT IN INDUSTRIAL GROUPS.—AUSTRALIA, 1930.

Industrial Group.	Number Reporting.		Unemployed.	
	Unions.	Members.	Number.	Percentage.
Manufacturing:—				
I. Wood, Furniture, etc. ..	16	16,397	4,014	24.1
II. Engineering, Metal Works, etc. ..	64	81,093	17,088	21.1
III. Food, Drink, Tobacco, etc. ..	53	36,922	5,116	13.9
IV. Clothing, Hats, Boots, etc. ..	23	39,638	7,221	18.2
V. Books, Printing, etc. ..	13	20,183	1,472	7.3
VI. Other Manufacturing ..	63	40,214	12,866	32.0
VII. Building ..	46	54,736	12,904	23.6
VIII. Mining, Quarrying, etc. ..	19	22,981	4,288	17.6
X. Land Transport other than Rail- way and Tramway Services ..	12	16,315	2,494	14.9
IX., XI., XII., XIII., and XIV. Other and Miscellaneous ..	86	110,395	17,304	15.7
All Groups ..	395	438,874	84,767	19.3

3. *Seasonal Employment in Australia.*—An investigation concerning the extent of seasonal employment in Australia was made during 1929. The State Statisticians were requested to furnish brief reports regarding the industries and callings in their respective States subject to seasonal fluctuations. From the reports received from these officials, supplemented by information from other sources, particulars were compiled and published in Official Year Book, No. 22, and in Labour Report, No. 19.

§ 3. Apprenticeship.

In Year Book No. 16, pp. 602-3, information was given with regard to legislation relating to the question of apprenticeship. Tables were included showing the periods of apprenticeship fixed in the awards of the various industrial tribunals of the States and Commonwealth, also the proportion of apprentices to journeymen and journeywomen. This information has been omitted from the present issue. Reference to recent legislation covering apprenticeship will be found in the Appendix to Official Year Book, No. 23.

D.—ASSOCIATIONS.

§ 1. Labour Organizations.

1. *Registration.*—(i) *Under Trade Union Acts.* The benefits obtained by registering trade unions under the Trade Union Acts in force in the various States are not considered of much value; consequently the statistics of registered trade unions of employees do not accurately represent the position of unionism. Further, the returns for past years are so defective as to be practically valueless, inasmuch as no reliable indication is afforded of the numerical and financial position of the unions. Some of the registered unions fail to supply returns; this non-supply may lead to cancellation of the registration. Others have obtained the cancellation of their certificates of registration, the apparent reason being that they proposed to register under the Commonwealth Conciliation and Arbitration Act or a State Arbitration Act. 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. In Victoria and in South Australia very few of the existing unions are registered under the Trade Union Acts. It will be seen, therefore, that the available information under this heading is too meagre for statistical purposes.

(ii) *Under Industrial Arbitration Acts.* Information with regard to registrations of employers' associations and trade unions under the various State Industrial Arbitration Acts will be found in previous issues of the Year Book. The latest information available as to registrations is as follows:—New South Wales, 163 industrial unions of employers and 150 industrial unions of employees, the membership of the latter being 305,029; Queensland, 6 industrial unions of employers with 9,929 members and 79 industrial unions of employees with approximately 132,100 members; South Australia, 25 organizations of employees with 23,000 members; Western Australia, 36 organizations of employers with 1,053 members, and 119 organizations of employees with 39,693 members. There is no provision in the South Australian Industrial Acts for the registration of organizations of employers, and in Victoria and Tasmania, where Wages Board systems of wage fixation are in operation, organizations of employers and employees are not required to register. 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. In December, 1930, there were on the register 23 organizations of employers with 18,000 persons, firms or corporations affiliated; and 136 organizations of employees with approximately 750,000 members.

2. *Particulars regarding Trade Unions.*—(i) *Types.* The trade unions in Australia are very diverse in character, and range from the small independent association to the large interstate organization, which, in its turn, may be merely a branch of a British or International union. Broadly speaking, there are four distinct classes of labour organizations, viz.:—(i) the local independent, (ii) the State, (iii) the interstate, 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) issued by this Bureau.

(ii) *Number and Membership.* 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 with the cordial co-operation of the officials of the labour organizations, comprehensive figures relating to the development of organized labour are now available. The following table shows the position at the end of 1930:—

TRADE UNIONS, BRANCHES, AND MEMBERS, 1930.

State or Territory.	Number of Separate Unions.	Number of Branches.	Number of Members.
New South Wales	203(c)	598	343,134(c)
Victoria	151	410	229,322
Queensland	107	319	141,925
South Australia	106	173	63,318
Western Australia	127	190	60,243
Tasmania	82	71	16,831
Northern Territory	4	..	984
Total	780	1,761	855,757
Australia (a)	362(a)	2,179(b)	855,757

(a) Allowing for interstate duplication. The figures represent the number of distinct organizations and interstate groups of organizations in Australia—not the total number of organizations, which are practically independent and self-governing. (b) See remarks below. (c) Includes 13 unions with a membership of 1,042 in the Federal Capital Territory.

In the preceding table the number of separate unions in each State refers to the number of unions which are represented in each State, exclusive of branches therein, and each union is counted once only. 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 organization. In taking the total number of separate unions in Australia (see last line but one), 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. The scheme of organization of these interstate or federated unions varies greatly in character, and the number of separate Commonwealth unions does not, therefore, fairly represent the number of practically independent organizations in Australia. In some of these unions the State organizations are bound together under a system of unification and centralized 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. There are therefore 362 distinct organizations and interstate groups of organizations in Australia, having 2,179 State branches and sub-branches, and a total of 855,757 members.

(iii) *Classification in Industrial Groups.* The following table shows the number of unions and members thereof in Australia at the end of each of the last five years. The number of unions specified refers to the number of different unions represented in each State; and, while interstate or federated unions are counted once in each State in which they are represented, sub-branches within a State are not counted.

TRADE UNIONS.—INDUSTRIAL GROUPS, AUSTRALIA, 1926 TO 1930.

Industrial Groups.	1926.	1927.	1928.	1929.	1930.
NUMBER OF UNIONS.					
Manufacturing :—					
I. Wood, Furniture, etc.	18 (a)	18 (a)	18 (a)	18 (a)	18 (a)
II. Engineering, Metal Works, etc.	68 (22)	61 (23)	60 (23)	61 (22)	63 (22)
III. Food, Drink, Tobacco, etc.	65 (35)	63 (32)	65 (33)	65 (33)	65 (32)
IV. Clothing, Hats, Boots, etc.	22 (9)	24 (11)	25 (12)	25 (12)	24 (12)
V. Books, Printing, etc.	14 (9)	15 (8)	14 (8)	14 (8)	15 (9)
VI. Other Manufacturing	77 (37)	80 (41)	78 (40)	79 (42)	79 (41)
VII. Building	51 (31)	49 (28)	51 (28)	50 (28)	51 (28)
VIII. Mining, Quarrying, etc.	15 (12)	15 (12)	17 (14)	18 (14)	18 (14)
IX. Railway and Tramway Services	51 (33)	51 (28)	51 (30)	52 (31)	52 (30)
X. Other Land Transport	13 (8)	13 (8)	12 (5)	11 (5)	12 (5)
XI. Shipping, etc.	54 (26)	54 (24)	58 (29)	50 (28)	59 (26)
XII. Pastoral, Agricultural, etc.	8 (3)	8 (3)	8 (3)	8 (3)	8 (3)
XIII. Domestic, Hotels, etc.	23 (16)	23 (10)	24 (20)	24 (10)	20 (15)
XIV. Miscellaneous :—					
(i) Banking, Insurance and Clerical	29 (19)	29 (19)	29 (19)	30 (20)	30 (20)
(ii) Public Service	139 (53)	143 (53)	144 (54)	143 (50)	143 (45)
(iii) Retail and Wholesale	9 (6)	9 (7)	9 (7)	9 (7)	9 (7)
(iv) Municipal, Sewerage and Labouring	14 (12)	14 (13)	14 (13)	14 (13)	14 (13)
(v) Other Miscellaneous	98 (37)	92 (36)	91 (37)	91 (35)	100 (36)
Total	768 (372) ^a	759 (369) ^a	768 (379) ^a	771 (374) ^a	780 (362) ^a

NUMBER OF MEMBERS.

Manufacturing :—					
I. Wood, Furniture, etc.	35,315	37,110	35,740	35,898	30,944
II. Engineering, Metal Works, etc.	79,201	82,720	87,417	85,425	79,081
III. Food, Drink, Tobacco, etc.	67,255	70,012	71,994	71,948	71,437
IV. Clothing, Hats, Boots, etc.	47,932	53,641	56,874	56,300	50,025
V. Books, Printing, etc.	18,592	19,214	19,771	19,817	19,822
VI. Other Manufacturing	44,605	47,671	46,779	44,033	44,742
VII. Building	53,881	57,234	60,416	61,191	59,620
VIII. Mining, Quarrying, etc.	46,014	49,179	43,044	43,038	42,405
IX. Railway and Tramway Services	114,899	121,300	116,061	112,281	108,968
X. Other Land Transport	20,844	22,137	20,632	18,817	18,211
XI. Shipping, etc.	40,594	42,702	38,361	38,308	38,050
XII. Pastoral, Agricultural, etc.	54,173	60,394	55,547	50,266	43,639
XIII. Domestic, Hotels, etc.	25,760	23,318	30,488	29,767	25,504
XIV. Miscellaneous :—					
(i) Banking, Insurance and Clerical	28,053	31,343	28,371	30,440	31,140
(ii) Public Service	72,941	76,225	79,175	79,773	81,275
(iii) Retail and Wholesale	23,374	30,685	31,034	31,887	28,859
(iv) Municipal, Sewerage and Labouring	40,009	42,811	48,691	46,577	41,027
(v) Other Miscellaneous	38,036	38,961	41,146	43,682	42,399
Total	851,478	911,652	911,541	901,168	855,757

(a) Allowing for interstate duplication.

(iv) *Trade Unions—Numbers and Percentages of Male and Female Members.—Australia.* The Census of 1921 gives the percentage of male and female employees (i.e., persons in "receipt of wages or salary," and persons "unemployed"), 20 years of age and over, on the total male and female population, and by applying these percentages to the estimated total male and female population at the end of each year, an estimate of the number of adult employees of each sex in the year is obtained.

The following table shows separately for males and females (a) the number of members of trade unions, (b) the estimated number of employees of each sex 20 years of age and over in all professions, trades, and occupations, and (c) the percentage of the former (a) on the latter (b) at the end of each year, 1926 to 1930. The estimated number of employees includes all persons (over the age specified) in receipt of wages or salary, as well as those unemployed, and therefore embraces a large number of adults who are not eligible for membership of any trade union, such as certain persons employed in professional occupations, as well as others who, while eligible for membership so far as the nature of their trade or occupation is concerned, do not reside in a locality which is covered by any union devoted to their particular trade or occupation. Moreover the age at which persons are eligible for membership varies in different unions. The Census results are classified in quinquennial age groups, and age 20 years is taken as approximating to the age of admission to membership. A line has also been added showing the estimated numbers of "junior" workers under 20 years of age.

TRADE UNIONS—NUMBER AND PERCENTAGES OF MALE AND FEMALE MEMBERS.—AUSTRALIA, 1926 TO 1930.

Particulars.	1926.	1927.	1928.	1929.	1930.
MALES.					
Estimated Total No. of Employees 20 years of age and over	1,240,914	1,267,636	1,288,200	1,302,400	1,313,000
No. of Members of Unions	745,681	793,131	785,189	774,031	735,767
Percentage of Members on Estimated Total					
Number of Employees	60.1	62.6	60.9	59.4	56.0
Junior Workers (under 20)	230,003	234,994	239,050	241,000	243,400
FEMALES.					
Estimated Total No. of Employees 20 years of age and over	293,594	299,205	304,000	308,200	311,600
No. of Members of Unions	105,797	118,521	126,352	127,137	119,990
Percentage of Members on Estimated Total					
Number of Employees	36.0	39.6	41.5	41.3	38.5
Junior Workers (under 20)	129,540	132,015	134,200	136,000	137,500

(v) *Interstate or Federated Unions.* The following table gives particulars as to the number and membership of interstate or federated unions in 1930 :—

INTERSTATE OR FEDERATED UNIONS.—AUSTRALIA, 1930.

Particulars.	Unions Operating in—					Total.
	2 States.	3 States.	4 States.	5 States.	6 States. (a)	
Number of Unions	18	15	16	19	43	111
Number of Members	24,699	63,103	99,861	183,309	357,469	728,441

(a) Certain unions in this group have, in addition to branches in each of the six States, branches in the Northern Territory and the Federal Capital Territory.

It appears, therefore, that 111 out of the 362 separate associations and groups of associations in Australia are organized on an interstate basis. The membership of these 111 unions reaches 728,441, or 85 per cent. of the membership (855,757) of all unions.

3. *Central Labour Organizations.*—In each of the capital cities, and in a number of industrial centres elsewhere, delegate organizations, 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 organizations exist, the majority of the local unions are affiliated with the central organization, which is usually known as the Labour or the Trades Hall Council, or the Labour Federation. In Western Australia a unified system of organization extends over the industrial centres throughout the State. In this State there is a provincial branch of the Australian Labour Party, having a central council and executive, and 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 five States, however, the organization is not so close, and, while provision usually exists in the rules of the central council at the capital city of each State for the organization of district councils or for the representation of the central council on the local councils in the smaller industrial centres of the State, the councils in each State are, as a matter of fact, independent bodies.

A new Central Labour Organization, called the Australasian Council of Trade Unions, came into being during 1927. The Council was created to function on behalf of the Trade Unions of the Commonwealth, and was founded at an All-Australian Trade Union Congress, held in Melbourne in May, 1927. The Australasian Council is based on the Metropolitan Trades and Labour Councils in each State, such bodies having the right to appoint two representatives to act on the Executive of the Council. The Metropolitan Trades and Labour Councils are the branches of the Australasian Council. In addition to the representatives from the Metropolitan Councils the Executive consists of four officers, viz., the President, two Vice-Presidents, and a Secretary, who are elected by and from the All-Australian Trade Union Congress.

The objective of the Council is the socialization of industry, i.e., production, distribution, and exchange. The methods to be adopted are:—(a) The closer organization of the workers by the transformation of the Australasian Trade Union Movement from the Craft to an Industrial basis by the establishment of one Union in each industry; (b) the consolidation of the Australasian Labour Movement with the object of unified control, administration, and action; (c) the centralized control of industrial disputes.

The table below shows the number of metropolitan and district or local labour councils, together with the number of unions and branches of unions affiliated thereto in each State at the end of the year 1930:—

CENTRAL LABOUR ORGANIZATIONS.—NUMBER, AND UNIONS AFFILIATED, 1930.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
Number of Councils	3	5	5	2	9	2	..	26
Number of Unions and Branch Unions affiliated ..	84	188	68	65	237	59	..	701

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 organization of unions may be classed certain State or district councils organized on trade lines, and composed of delegates from separate unions, the interests of the members of which are closely connected by reason of the occupation of their members. 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 may be so classed.

4. **Laws relating to Conditions of Labour.**—In Official Year Book No. 16, pp. 538 to 566, a conspectus was given of Labour Laws in force in Australia at the end of the year 1922, and of Acts and Regulations relating to Factories and Shops.

Information was contained in the same issue with regard to employment under Mining Acts, followed by a brief reference to Employers' Liability and Workmen's Compensation Acts and miscellaneous legislation relating to conditions of labour enacted by the States. A conspectus of the Tribunals for the Regulation of Wages and Conditions of Labour was also included. Owing to considerations of space these references have been omitted from the present issue.

§ 2. Employers' Associations.

1. **General.**—Recent investigations show that the spirit of association is no less manifest in the case of employers than in the case of workers. Associations for trade purposes merely are not included in the present chapter, which deals with those associations only whose members are united for their own protection, and for representation in cases before Arbitration Courts, Wages Boards and other wage-fixing tribunals. Associations of employers and employees are recognized under the Commonwealth Conciliation and Arbitration Act as well as under several State Acts, and organizations of these bodies may be registered.

The year 1922 was the first for which information was collected, and detailed particulars for that and subsequent years will be found in previous issues of the Official Year Book and in the Labour Reports.

2. **Employers' Associations in each State.**—The following table gives particulars of the number of employers' associations in each State at the end of the years 1926 to 1930 :—

EMPLOYERS' ASSOCIATIONS.—STATES, 1926 TO 1930.

Year.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	Total.
NUMBER OF ASSOCIATIONS.							
1926	136	143	72	52	50	25	478
1927	141	136	77	52	52	27	485
1928	146	140	76	56	59	28	505
1929	146	154	80	56	62	29	527
1930	146	152	83	58	66	29	534
NUMBER OF BRANCHES.							
1926	464	617	183	..	16	..	1,280
1927	825	483	109	..	281	1	1,699
1928	907	525	188	13	301	1	1,935
1929	921	526	191	12	301	6	1,957
1930	930	495	197	12	297	7	1,938
MEMBERSHIP.							
1926	42,666	32,386	21,113	6,572	8,356	2,481	113,574
1927	53,715	31,629	18,381	6,361	10,190	2,464	122,740
1928	55,353	33,626	18,393	6,751	10,390	2,668	127,181
1929	57,839	36,357	20,113	6,871	11,410	2,752	135,342
1930	56,430	37,790	18,791	7,218	11,723	2,717	134,669

The large increase shown for "Number of Branches" since the year 1926 is due to the inclusion of associations representing agricultural interests, while the increase in total membership is partly attributable to a more complete collection of statistics relating to these organizations.

3. Employers' Associations in Industrial Groups.—The figures in the following table refer to Australia at the end of the years 1929 and 1930.

EMPLOYERS' ASSOCIATIONS.—INDUSTRIAL GROUPS.—AUSTRALIA, 1929 AND 1930.

Class.	Number of Associations.		Number of Branches.		Membership.	
	1929.	1930.	1929.	1930.	1929.	1930.
Manufacturing:—						
I. Wood, Furniture, etc. ..	20	19	3	3	1,740	1,607
II. Engineering, etc. ..	16	16	12	12	3,271	3,352
III. Food, Drink, etc. ..	111	113	82	91	19,603	20,585
IV. Clothing, Hats, etc. ..	18	20	2	2	2,323	2,147
V. Books, Printing, etc. ..	43	45	2	2	3,453	2,970
VI. Other Manufacturing ..	51	51	3	3	3,722	3,847
VII. Building ..	27	27	17	17	3,795	3,311
VIII. Mining, Quarrying, etc. ..	13	12	..	..	245	247
X. Other Land Transport ..	18	19	21	21	2,836	2,798
XI. Shipping, etc. ..	16	16	6	6	241	240
XII. Pastoral, Agricultural, etc. ..	44	45	1,785	1,750	74,592	74,409
XIII. Domestic, Hotels, etc. ..	21	20	..	..	1,869	1,756
XIV. Miscellaneous ..	129	131	24	31	17,652	17,400
Total	527	534	1,957	1,938	135,342	134,669

The female membership of these associations was 5,282 for 1929, and 5,072 for 1930.

The organization of employers is relatively strongest in the pastoral and agricultural industries and in the manufacture and distribution of articles of food and drink. In the former case there has been considerable growth in organization among small farmers, and in the latter, the number of small shops purveying foodstuffs of which the proprietors are members of grocers', butchers', and other similar associations accounts for the large membership.

4. Federations of Employers' Associations.—In addition to the associations in various industries, there are central associations in each State, to which many of these separate organizations are affiliated. Examples of this kind of association are provided in the Chamber of Manufactures, Chamber of Commerce, and Employers' Federation in each State. Further, these State associations are, in some cases, organized on a federal basis, e.g., there is an Associated Chamber of Manufactures, an Associated Chamber of Commerce, or a Central Council of Employers, to which State branches are affiliated.

The affiliation of these associations is, however, of a very loose nature when compared with that of the Federated Trade Unions. Whereas in the latter case the central body has complete control of its State branches, in the case of the Employers' Associations each State body enjoys complete independence, the central body acting in a more or less advisory capacity only.

The following table gives particulars, so far as can be ascertained, of interstate or federated associations having branches in two or more States from 1926 to 1930 :—

INTERSTATE OR FEDERATED EMPLOYERS' ASSOCIATIONS, 1926 TO 1930.

Particulars.	Associations Operating in—					Total.
	2 States.	3 States.	4 States.	5 States.	6 States.	
NUMBER OF ASSOCIATIONS.						
1926	4	3	5	8	8	28
1927	4	1	4	9	14	32
1928	3	3	3	11	16	36
1929	3	4	4	10	16	37
1930	4	3	4	12	16	39
NUMBER OF MEMBERS.						
1926	534	432	1,861	24,118	25,950	52,895
1927	352	315	1,655	40,548	37,654	80,524
1928	205	1,126	208	59,175	41,511	102,225
1929	201	1,066	594	60,729	43,166	105,756
1930	1,169	339	975	61,327	43,303	107,113

The above table shows that associations having 80 per cent. of the total membership (134,669) of employers' organizations are grouped together on an interstate basis.

CHAPTER XIV.

DEFENCE.

§ 1. Military Defence.

1. *State Systems.*—A detailed historical account of the Australian defence forces prior to Federation will be found in Official Year Book No. 2, pp. 1075–1080. See also Official Year Book No. 12, p. 999.

The strength of the military forces of the States on the 31st December, 1900, (the eve of Federation) was:—New South Wales, 9,338; Victoria, 6,335; Queensland, 4,028; South Australia, 2,932; Western Australia, 2,696; Tasmania, 2,024; total for Australia, 27,353. This total was exclusive of cadets, reservists, and rifle club members.

2. *Commonwealth System.*—(i) *General.* Under the terms of the Constitution Act 1900, the Commonwealth took over control of defence matters in March, 1901. The growth of the Commonwealth Military Forces may be considered to have taken place in five phases, viz. :—

- (a) The first phase, *i.e.*, the welding together of the military forces of the States into one homogeneous army, was entrusted by the Government in 1902 to Major-General Sir Edward Hutton, K.C.B., K.C.M.G., and a sound foundation was laid, upon which the subsequent organization and training were based.
- (b) The second phase was the introduction of Universal Training in 1911. During the year 1909 a measure providing for universal training was enacted, and the scheme came into force in 1911 after the advice and recommendations of the late Lord Kitchener had been obtained. By the Defence Acts of 1903 and 1904 all male inhabitants between the ages of 18 and 60 years were made liable to serve in Australia with the defence forces in *time of war*. Subsequent legislation made training and service compulsory up to the age of 26 years in *time of peace*. By the Act of 1909 the principle of universal liability to training was made law for the first time in any English-speaking community. More detailed reference to these matters will be found in Official Year Book No. 12, p. 999 *et seq.*
- (c) The third phase, Divisional Organization, came into operation from the 1st May, 1921. Under this system a war organization, evolved from the Australian Imperial Force, is applied to peace conditions, with a minimum of permanent personnel. Numbers of units and formations were altered to correspond with those of the A.I.F. and every effort was made to maintain the traditions established by those units in the Great War.
- (d) The fourth phase, which was initiated by the Government in 1922, entailed the reduction of the Divisional Organization to a nucleus force.
- (e) The fifth phase, the suspension of all compulsory obligations in *time of peace* (under Part XII. of the Defence Act) and the reconstitution of the forces on a basis of voluntary enlistment, was brought into operation as from 1st November, 1929. The Divisional Organization has been retained, but the peace nucleus has been reduced from 48,000 Citizen Forces and 16,000 Senior Cadets to 35,000 Militia Forces and 7,000 Senior Cadets by reductions in the training establishments of units and by ceasing to maintain certain light horse regiments and infantry battalions.

(ii) *Military Population.* In connexion 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 1921 (4th April) was about 300,000; at citizen soldier age, *i.e.*, between 18 and 26, 354,000; these latter, with 409,000 at ages between 26 and 35, give 763,000 as the total males at the best period for military service. It is estimated that 529,000 of those available between the ages of 18 and 35 were unmarried or widowers without

children, and 233,000 were married or widowers with children. In addition, there were about 768,000 between the ages 35 and 60. In connexion with the foregoing figures it should be noted that since the Census of 1921 the total male population of Australia has increased from 2,762,870 to 3,308,561 at the 31st March, 1931.

(iii) *Allotment of Units.* The organization is territorial, and the divisions are based upon infantry units. There are 55 battalions, forming 14 brigades. The areas have approximately equal numbers of males of citizen soldier age, and each furnishes a battalion of infantry, and a proportion of other troops.

ALLOTMENTS OF UNITS TO AREAS, 31st March, 1931.

State.	Military District.	Number of Infantry Brigade Areas.	Battalion Areas.									
			Number of Battalion Areas. (a)	Providing the undermentioned Units—								
				Infantry Battalions.	Light Horse Regiments.	Field Artillery Batteries.	Medium Artillery.		Heavy Artillery.		Artillery Survey.	Anti-aircraft Battery.
							Brigade Head-quarters.	Batteries.	Brigade Head-quarters.	Batteries.		
New South Wales ..	2nd	5	18	16	6	18	1	3	1	4	1	1
Victoria ..	3rd	5	18	16	6	17	1	3	1	2	1	1
Queensland ..	1st	2	6	6	3	6	..	..	..	2	..	..
South Australia ..	4th	1	4	3	3	4	..	..	..	1	..	..
Western Australia ..	5th	1	3	3	1	4	..	..	..	2	..	..
Tasmania ..	6th	..	2	2	1	2	..	..	..	1	..	..
Total ..	..	14	53	46	19	50	2	6	2	12	2	1

State.	Military District.	Battalion Areas.													
		Providing the undermentioned Units—													
		Engineers.		Signals.		Tank Corps.	A.A.S.C.			A.A.M.C.		A.A.O.C. Companies.	A.A.V.C. Sections.		
		Companies.	Troops.	Companies.	Sections.	Troops.	Tank Section.	Head-quarters Supply Companies.	Head-quarters Horse Transport Companies.	Supply Sections.	Horse Transport Sections.				
												Field.	For-tress.	Field Ambulance.	Field Hygiene Sections.
New South Wales	2nd	5	3	2	23	5	1	3	3	7	7	7	3	4	4
Victoria ..	3rd	5	3	1	22	5	..	3	3	7	7	7	3	4	4
Queensland ..	1st	2	1	1	6	1	..	1	1	3	3	3	1	1	1
South Australia ..	4th	1	..	..	3	1	..	..	..	2	2	2	1	1	1
Western Australia	5th	1	..	1	4	..	..	..	..	1	1	1	1	..	..
Tasmania ..	6th	1	..	1	4	..	..	..	..	1	1	1	1	..	..
Total ..	..	15	8	6	62	12	1	7	7	21	21	21	10	10	10

(a) Two University battalions are not allotted to any specific battalion area.

(iv) *Strength of Military Forces. (a) Districts.* 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 to 1918, however, the annual increase was considerable. As a result of the International Conference which met at Washington on the 11th November, 1921, it was decided by the Australian Government in 1922 that the universal training law was to be continued,

but its operation was to be restricted to the more populous centres and to certain quotas only. From 1st July, 1922, to 30th June, 1925, training in the Senior Cadets was limited to two quotas instead of four, and in the Citizen Forces to two quotas instead of seven. On 1st July, 1925, Senior Cadet training was reduced to one quota only, while Citizen Force training was increased to three quotas. These conditions remained in force until 1st November, 1929, when the constitution of the forces on a voluntary basis was adopted. During the period last mentioned Senior Cadet training commenced on 1st July of the year in which Senior Cadets reached the age of 17 years, and on 1st July of the following year they were allotted to the Citizen Forces, in which training continued until the 30th June of the year in which they attained the age of 21 years. Notwithstanding the reduction in training, all males residing within 5 miles of a training centre were required to register during the months of January or February of the year in which they reached the age of 14 years. Junior Cadet training of boys of the ages of 12 and 13 years which was in abeyance during the years 1922-23 and 1923-24, was also supervised by the Defence Department during the period 1st July, 1925, to 31st October, 1929.

Under the voluntary enlistment system now in force men from 18 to 40 years of age may be enlisted. The first period of enlistment is for three years, and on its completion, the member concerned may be re-engaged for successive periods of one year until he reaches the age for retirement (48 years). The normal period of training is 16 days per annum (including 8 days in camp of continuous training).

The Senior Cadet Corps, in which enrolment is voluntary, is organized on the following basis:—(a) Detachments affiliated with Militia Units:—Light Horse, Nil; Infantry, Signals and A.S.C., 25 per cent. of the establishment of the Militia Unit; Other Arms, 20 per cent. of the establishment of the Militia Unit; and (b) Detachments consisting of pupils attending approved educational establishments. The ages for enrolment in the regimental detachments are 16 and 17 years, and in the school detachments over 14 years.

TRAINING STRENGTH OF MILITARY FORCES, 1901 TO 1931.

(a) District.	1901. (b) 1/3/01.	1913. 30/6/12.	1922. 31/12/22.	1926. 1/8/26.	1929. 1/2/29.	1930. 30/4/30.	1931. 31/8/31.
Hd. Qrs. .. .. .	..	(c) 277	(c) 499	(c) 158	(c) 197	(c) 166	(d) 78
1st (Q'ld.)	4,310	4,625	4,319	4,908	5,610	3,325	3,892
2nd (N.S.W.)	9,772	12,105	14,561	17,249	18,825	10,810	11,524
3rd (Vict.)	7,011	10,840	11,117	14,347	15,110	8,452	10,339
4th (S. Aus.)	2,956	3,228	3,452	4,235	4,234	1,946	2,450
5th (W. Aus.)	2,283	1,685	2,018	2,399	2,600	1,753	1,820
6th (Tas.)	2,554	1,777	1,190	1,338	1,355	1,002	1,179
Total	28,886	34,537	37,156	44,634	47,931	27,454	31,282

(a) Approximately coterminous with boundaries of States. (b) Date of taking over the military forces from States by Commonwealth. (c) Including cadets at Royal Military College of Australia, and Staff Corps Officers abroad, unallotted, or training with other Commonwealth Departments. (d) Including cadets at the Royal Military College of Australia.

(b) *Various Arms.* The numbers of the different arms of the service on the 31st March, 1931, were as follows:—

ARMS OF THE AUSTRALIAN MILITARY FORCES, ACTIVE LIST, 31st MARCH, 1931.(a)

Head-quarters Staffs	120	Fortress Engineers	278
Staff Corps	259	Signals	1,237
Corps of Staff Cadets	31	Infantry	13,800
Instructional Corps	516	Tank Corps	34
Light Horse	4,051	Army Service Corps	1,449
Royal Australian Artillery	406	Army Medical Corps	1,068
Field Artillery	4,679	Army Ordnance Corps (b)	259
Garrison Artillery	1,573	Army Veterinary Corps	114
Royal Australian Engineers	145	Provost Staff	12
Field Engineers	1,251	Total	31,282

(a) Excluding civilian staff.

(b) Includes Ordnance Officers and Artificers.

(c) *Classification of Land Forces.* The following table shows the strength of the land forces in each State, classified according to nature of service, on the 31st March, 1931.

**DISTRIBUTION OF LAND FORCES,(a) ACTIVE AND RESERVE LISTS,
31st MARCH, 1931.**

Branch of Service.	Army Head-quarters.	1st Military District. (Qld.)	2nd Military District. (N.S.W.)	3rd Military District. (Vic.)	4th Military District. (S. Aus.)	5th Military District. (W.Aus.)	6th Military District. (Tas.)	Total.
Permanent Forces ..	(b) 70	142	613	464	89	115	63	1,556
Militia Forces ..	8	3,750	10,911	9,875	2,361	1,705	1,116	29,726
Engineer and Railway Staff Corps ..	2	9	10	12	11	9	5	58
Unattached List of Officers ..	6	59	145	112	19	28	12	381
Reserve of Officers ..	..	763	2,204	2,058	548	504	207	6,314
Chaplains ..	3	42	84	92	27	23	14	285
Total ..	89	4,765	13,967	12,643	3,055	2,384	1,417	38,320

(a) Excluding civilian staff. (b) Including cadets at Royal Military College of Australia.

(d) *Militia Forces and Senior Cadets, by Formations.* The following table shows the strength of Militia Forces and Senior Cadets, by formations, at the 31st March, 1931 :—

**STRENGTH OF MILITIA FORCES AND SENIOR CADETS, BY FORMATIONS,
31st MARCH, 1931.**

State.	Military Formation.	Militia Forces.	Senior Cadets.	
			Regimental Detachments.	Educational Establishments.
Victoria..	Army Head-quarters ..	8	..	..
Queensland ..	Field Troops, 1st Military District	3,595	526	477
Queensland ..	1st District Base ..	155	2	..
New South Wales	1st Cavalry Division ..	2,009	99	75
New South Wales	1st Division ..	3,285	398	335
New South Wales	2nd Division ..	4,527	826	545
New South Wales	2nd District Base ..	1,090	195	..
Victoria..	2nd Cavalry Division ..	1,694	107	..
Victoria..	3rd Division ..	4,399	1,148	632
Victoria..	4th Division ..	3,079	543	245
Victoria..	3rd District Base ..	703	162	..
South Australia ..	Field Troops, 4th Military District	2,287	354	200
South Australia ..	4th District Base ..	74	3	..
Western Australia	Field Troops, 5th Military District	1,523	267	49
Western Australia	5th District Base ..	182	16	..
Tasmania ..	Field Troops, 6th Military District	1,045	113	24
Tasmania ..	6th District Base ..	71	15	..
Total ..		29,726	4,774	2,582

(e) *Numbers who served under Compulsory Provisions.* In previous issues of the Year Book (see No. 22, pp. 411-413) tables were published showing the numbers registered and training under the compulsory system, distinguishing Citizen Forces and Senior Cadets.

(v) *Administration and Instruction.* The staff provided for the administration and training of the various arms consists of 259 officers (Staff Corps), 51 quartermasters, and 465 warrant and non-commissioned officers (Australian Instructional Corps).

(vi) *Royal Military College.* This College was established in 1911 at Duntroon in the Federal Capital Territory for the purpose of providing trained officers for the permanent forces. In January, 1931, the College was transferred to Victoria Barracks, Sydney. Admission is by open competitive examination, a definite number of vacancies being allotted in past years to each State on a population basis, but no new entry was accepted for 1931. Further particulars respecting the College are given on page 915 of Official Year Book No. 15. On the 31st March, 1931, the cadets in training numbered 31.

(vii) *Railways and Defence.* A War Railway Council, consisting of military and railways 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 Defence Department and the Railway Departments in regard to concentration and mobilization of troops. To prevent delay in the transport of troops, particularly that caused by the transshipment 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 58 officers on 31st March, 1931. Fuller details will be found in Official Year Book No. 6, pp. 1070-1.

(viii) *Rifle Clubs.* On the 30th June, 1930, there were 1,154 rifle clubs with a membership of 43,471 and 80 miniature rifle clubs having a membership of 2,579. Members of rifle clubs must fire an annual course of musketry, but do not undergo any systematic drill.

For the purposes of administration the control of rifle club activities reverted from the Secretary for Defence to the Military Board with effect from the 1st March, 1931. Government Grants are made for the construction and maintenance of rifle ranges, etc., and 200 rounds of ammunition are issued free annually to each efficient member.

§ 2. Naval Defence.

1. *State Systems.*—Information regarding naval defence systems prior to 1901 will be found in Official Year Book No. 12, p. 1011, but considerations of space preclude its insertion in the present volume.

2. *The Present System.*—(i) *General.* An outline of the development of Australian naval policy was given in Official Year Book No. 3, pp. 1060-61, and No. 12, p. 1012. Some account of the building of the Australian Fleet, the proposed and modified cost thereof, the compact with the Imperial Government, etc., appears in Official Year Book No. 15, pp. 921 *et seq.* Up to the 30th June, 1930, the expenditure on construction amounted to £13,819,914.

The Washington Conference of 1921 has had a marked effect on naval defence schemes, and all warship building and naval base construction were for a time suspended. The Fleet personnel was reduced from 4,843 in 1921 to 3,500 in 1923, and the ships in commission were reduced from 25 to 13. H.M.A.S. *Australia* was sunk in accordance with the provisions of the Washington Treaty on 12th April, 1924.

In 1925 the Commonwealth Government, however, decided to build two cruisers of 10,000 tons (the maximum size allowed for new construction under the Washington Naval Treaties), two ocean-going submarines, and a seaplane-carrier. The two cruisers, which were named *Australia* and *Canberra*, were commissioned in 1928. The two submarines, *Otway* and *Oxley*, which were built in England, arrived at Thursday Island on 25th January, 1929. These latter vessels were paid off on the 9th April, 1931, and re-commissioned as H.M. Ships on the following day. They form part of the Empire quota under the London Naval Treaty of 1930. As their maintenance in the highest state of efficiency was difficult in Australia, where they were a small specialized unit, the British Government, after consultation, agreed to take over the submarines as a free gift and maintain them at its expense. The seaplane-carrier *Albatross*, built at Cockatoo Island Dockyard, Sydney, by the Commonwealth Shipping Board, was commissioned on 23rd January, 1929.

To ensure closer co-operation with the Royal Navy, arrangements have been concluded with the Admiralty for the periodical exchange of a cruiser, thus giving an opportunity for Australian sailors to gain experience in fleet exercises on a large scale.

The British Admiralty have, in addition, lent to the Royal Australian Navy the sloop *Silvia*, which was refitted in England as a surveying ship, and renamed H.M.A.S. *Moresby*. This vessel was principally employed in surveying the Great Barrier Reef, but, owing to the need for economy, was paid off in April, 1930.

In 1926 the Commonwealth Government entered into an agreement with the New South Wales Government whereby the latter, in consideration of the payment of a subsidy of £135,000, constructed at Walsh Island, Newcastle, a floating dock capable of lifting 15,000 tons. This dock, which is capable of docking the new 10,000-ton cruisers, has been completed.

(ii) *Naval College.* A naval college was established at Geelong in 1913, and was transferred in 1915 to Captain's Point, Jervis Bay, Federal Capital Territory, and thence in 1930 to the Flinders Naval Depot, Victoria. The course is similar to that carried out in naval colleges in England. In February, 1931, there were 38 cadet midshipmen under training. A boy who reaches the age of thirteen years during the calendar year in which the entrance examination is held is eligible to compete provided he is the son of natural-born or naturalized 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. Altogether 170 officers who have passed through the college are now serving with the Fleet. In view of the financial situation and the fact that a number of cadets who recently passed through the college have been retrenched, no examinations for entry to the college were held in 1930 and 1931.

(iii) *Training Establishments.* Recruits from 17 to 21 years of age receive their preliminary training at the Naval Depot, Westernport, where, in addition to the new entry school, instruction is given in Gunnery and Torpedo, Signals and Wireless Telegraphy, Engineering, etc. The entry and training of boys have been suspended.

(iv) *The Naval Station.* A description of the limits of the Australian Naval Station is contained in earlier issues of the Official Year Book (see No. 18, pp. 608-9), but lack of space precludes its repetition in the present issue.

(v) *Vessels.* A list of the vessels of the Royal Australian Navy is given hereunder:—

SHIPS OF THE ROYAL AUSTRALIAN NAVY, MAY, 1931.

Vessel.	Description.	Displacement.	Power.
		Tons.	H.P.
IN COMMISSION—			
<i>Albatross</i> ..	Seaplane Carrier	6,000	12,000
<i>Anzac</i> ..	Flotilla Leader	1,660	36,000
<i>Australia</i> ..	Cruiser	10,000	80,000
<i>Canberra</i> ..	"	10,000	80,000
<i>Cerberus</i> ..	Motor Boat (Flinders Naval Depot)	61	220
<i>Penguin</i> (late <i>Plutus</i>)	Depot Ship, Sydney	3,460	3,500
IN RESERVE—			
<i>Adelaide</i> ..	Cruiser	5,500	25,000
<i>Brisbane</i> ..	"	5,400	25,000
<i>Geranium</i> ..	Sloop	1,250	2,000
<i>Mallow</i> ..	"	1,200	1,800
<i>Marguerite</i> ..	"	1,250	2,000
<i>Moresby</i> ..	"	1,320	2,500
<i>Stalwart</i> ..	Destroyer	1,075	27,000
<i>Success</i> ..	"	1,075	27,000
<i>Swordsman</i> ..	"	1,075	27,000
<i>Tasmania</i> ..	"	1,075	27,000
<i>Tattoo</i> ..	"	1,075	27,000
FLEET AUXILIARY—			
<i>Kurumba</i> ..	Fleet Oiler	3,970	2,000

(vi) *Naval Forces.* Besides the sea-going forces, there is a R.A.N. Reserve, which is composed of Citizen Naval Forces. The personnel of the sea-going forces, which was originally largely composed of Imperial officers and men, is now 97 per cent. Australian. The strength of the naval forces is given hereunder :—

**STRENGTH OF NAVAL FORCES (PERMANENT AND RESERVES),
15th FEBRUARY, 1931.**

Description of Force.	Numbers Borne.		
	In Training.	Officers.	Men.
Royal Australian Navy (Sea-going)	360	3,013
Royal Australian Naval Auxiliary Services	30	141
Cadet Midshipmen undergoing training at R.A.N. College	38	..	..
Royal Australian Naval Reserve (Sea-going)	44	..
Royal Australian Fleet Reserve	175
Royal Australian Naval Reserve	226	4,974
Royal Australian Naval Volunteer Reserve	35	..

§ 3. Air Defence.

1. *General.*—A statement in regard to the preliminary steps taken in connexion with the development of air defence will be found in Official Year Book No. 13, p. 610.

The Royal Australian Air Force is administered by a Board consisting of three Air Force members and a Finance member. To this Force is entrusted the air defence of Australia, the training of personnel for co-operation with the naval and military forces, and the refresher training of pilots engaging in civil aviation. The present establishment of the Force includes the following units :—(a) Head-Quarters Royal Australian Air Force, with representation in London ; (b) a Flying Training School ; (c) a Stores Depot ; (d) two service landplane squadrons and (e) one service amphibian flight.

2. *Establishment.*—The present approved establishment of the Permanent Air Force is 104 officers and 788 airmen, and of the Citizen Air Force, 60 officers and 290 airmen. Three aerodromes are under the control of the Air Board : all other aerodromes and routes have been taken over by the Controller of Civil Aviation.

3. *Aerial Routes.*—Aerodromes and alighting sites have been prepared between the capital cities and on certain parts of the coast for service and civil purposes. At the 30th June, 1931, 186 Government aerodromes and emergency landing grounds had been prepared and 66 licensed public aerodromes were also available for use.

4. *Civil Aviation.*—Details regarding the formation and activities of the Civil Aviation Department will be found in Chapter VII., Section D. Aircraft.

§ 4. Expenditure on Defence.

The following table shows defence expenditure, exclusive of war services, in 1901-2 and during each of the last five years. Details of the expenditure of the Defence Department and the cost of the war, repatriation, and war services are given in Chapter VIII.—Finance.

DEFENCE EXPENDITURE (EXCLUDING WAR SERVICES).—AUSTRALIA,
1901-2 TO 1929-31.

Item.	1901-2.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31. (a)
	£	£	£	£	£	£
Central Administration	5,594	29,003	26,700	27,901	25,382	24,500
Naval	178,819	2,765,033	2,597,864	2,395,910	2,167,325	1,762,083
Military	732,620	1,526,108	1,494,201	1,465,718	1,239,394	1,191,471
Air Services—						
R. A. Air Force .. .. .	..	571,769	516,639	549,126	498,366	395,790
Civil Aviation .. .. .	..	111,669	113,368	97,499	102,809	157,340
Munitions Supply Branch .. .. .	..	433,338	461,038	383,324	358,160	248,830
Rifle Clubs and Associations	41,653	48,880	47,699	47,851	39,922	33,617
Special Appropriations—						
Naval Construction .. .. .	..	2,262,199	2,060,580	1,349,819	307,845	50,000
Survey of Gt. Barrier Reef .. .. .	..	26,903	46,217	61,900	39,005	..
Reconditioning Equipment and Purchase of Aircraft Equip- ment .. .. .	..	115,436	7,076	115,315	3,323	18,500
Development of Civil Aviation .. .. .	..	..	13,722	42,113	104,458	30,000
	958,692	7,890,938	7,385,710	6,536,482	4,685,989	3,913,031

(a) Estimated.

In addition to the above, expenditure on war services, naval and military only, directly under the control of the Defence Department amounted in 1929-30 to £104,783 from Revenue, while the estimated expenditure in 1930-31 was £108,784 from Revenue.

The total cost of war services including interest, sinking fund, war pensions, repatriation, etc., will be found in Chapter VIII., Section A § 5—Cost of War and Repatriation.

§ 5. Munitions Supply.

1. *General.*—A statement dealing with the powers and functions of the Munitions Supply Board is given on p. 612 of Official Year Book No. 18, but limits of space preclude its repetition in the present volume.

2. *Factories.*—(i) *General.* The Explosives Factories at Maribyrnong, Victoria, which manufacture explosives for cartridges and artillery ammunition, aeroplane dopes, nitro-benzine, and special paints, were established in 1911. The staff at 30th June, 1930, numbered 142.

The Acetate of Lime Factory, established at Bulimba, Brisbane, in September, 1918, provides acetate of lime (a raw material used in the manufacture of acetone) and is now being held in reserve. Employees at 30th June, 1930, numbered 2.

The Clothing Factory at Melbourne, Victoria, which had a staff of 236 employees on 30th June, 1930, commenced output in July, 1912, and since that date has been able to supply the whole of the uniform clothing required for the Defence forces, and the Post-master-General's Department. It also supplies clothing required by State Departments and local public bodies.

The Small Arms Factory at Lithgow, New South Wales, which was opened on 1st June, 1912, and delivered the first instalment of Australian arms in May, 1913, had on its pay roll on 30th June, 1930, 264 employees. Rifles and machine guns are being produced, and provision has been made for the manufacture of pistols.

On the 1st January, 1927, the Defence Department entered into possession by purchase of the works of the Colonial Ammunition Company Limited at Footscray, Victoria. As from the 1st July, 1928, this establishment, known as the Small Arms Ammunition Factory, was amalgamated with the Gun Ammunition Factory, and this group is now known as the Ammunition Factories, where in addition to rifle and pistol ammunition, big gun fuses and cartridge cases are also produced. Brass and other non-ferrous metals required for munitions manufacture are rolled at this factory. The staff at 30th June, 1930, numbered 225.

At the Ordnance Factory, Maribyrnong, Victoria, established in 1924, provision is made for the production of guns, shells, gun carriages and military vehicles. This group includes a well equipped forge and woodworking and electrical shops. The number of employees at 30th June, 1930, was 152.

(ii) *Investment in Factories.* Up to 30th June, 1930, the amount invested in lands, buildings, machinery and plant, factory fittings and furniture in connexion with the factories now in operation was approximately as follows:—Small Arms Factory, £512,918; Explosives Factories, £547,173; Clothing Factory, £7,633; Acetate of Lime Factory, £90,306; Ammunition Factories, £471,237; and Ordnance Factories, £509,127.

§ 6. Remount Depot.

Information in regard to the establishment of this branch of activity is contained in earlier issues of the Official Year Book (see No. 18, p. 613). When war was declared in 1914 little difficulty was experienced by the Remount Service in coping with the enormous task of obtaining and training horses for the mounted units of the A.I.F. and in providing for the shipment of horses to Egypt and India as required.

§ 7. Australian Contingents.

1. *General.* In earlier issues of the Year Book an account was given of the composition, etc., of the Australian contingents dispatched for service in the New Zealand and Sudan Campaigns, in South Africa, China, and the Great War of 1914–18 (see Official Year Book No. 12, pp. 1019 *et seq.*).

2. *Australian Troops (Great War).*—Particulars of the enlistments, casualties, honours and decorations won, and engagements of the Australian Imperial Force during the Great War were given in Official Year Book No. 16, pp. 628 *et seq.* Limits of space, however, preclude the repetition of this information in the present volume.

§ 8. War Gratuity.

Reference was made in earlier Year Books (see No. 15, p. 930) to the bonus payable in accordance with the War Gratuity Acts of 1920 as a war service gratuity to soldiers and sailors who served in the Great War. Owing to limitations of space this information cannot be repeated, but it may be noted that the gratuity was paid in Treasury Bonds, maturing not later than 31st May, 1924, and bearing interest at 5½ per cent. In necessitous cases payment was made in cash when desired by the person entitled. The first gratuities were made available about the beginning of June, 1920. The total amount paid to 30th June, 1930, was £27,488,324.

§ 9. Special Defence Legislation.

Information regarding special defence legislation enacted by the Commonwealth Government during the War was given in Official Year Book No. 15, p. 930. It may be pointed out here that the War Precautions Act Repeal Act of 1920 repealed the Act 1914–18, but a limited number of matters dealt with under the original Act are now provided for under the War Precautions Act Repeal Act of 1920–28 or by regulations made thereunder.

§ 10. Repatriation.

1. *General.*—An outline of the activities leading up to the formation of the Commonwealth Department of Repatriation was given in Official Year Book No. 15, p. 931, but limits of space preclude its repetition in the present volume. Some account was given also in the Year Book referred to, and in subsequent issues, of the policy and activities of the Department generally, while detailed information was incorporated in regard to such matters as sustenance rates and pensions to soldiers and

dependents. (See Official Year Book 17, pp. 598 to 601.) During the year ended 30th June, 1928, sustenance rates were amended to bring them into line with war pensions rates, and the scale of rates in respect to war pensions was amplified by providing for an allowance to the third or subsequent child at such a rate as will provide, together with pension in respect of that child, a sum of 15s. per fortnight.

The main activities of the Repatriation Commission at 30th June, 1930, were confined to the grant, review and assessment of war pensions, medical treatment, the renewal and repair of artificial replacements and surgical appliances, the grant and review of living allowances, and the administration of the Soldiers' Children Education Scheme.

2. War Pensions.—(i) *Year ended 30th June, 1930.* During the year ended 30th June, 1930, in comparison with the previous year, there was an increase in the numbers of new claims granted and rejected. The total number of pensioners and the payments were greater than in any prior year, and it is difficult to forecast when the "peak" of expenditure will be reached. The outstanding figures are as under :—

New claims granted during the year	13,650
Claims rejected during year	1,257
Pensions reviewed during year	51,086
Pensions cancelled or discontinued during year	6,442
Pensioners died during year	2,489
Number of pensions in force at 30th June, 1930	279,285
Annual pension liability on the 30th June, 1930	£7,762,508

At the close of the year special rate pension of £8 per fortnight was being paid to—

Blinded soldiers	129
Tubercular soldiers	1,111
Totally and permanently incapacitated soldiers	1,355

It is interesting to observe that an analysis of the total number of new grants (13,650) during the year reveals the following :—

Members (i.e., ex-soldier pensioners)	1,317
Wives of members	2,374
Children	9,522
Other dependents	437
	13,650

(ii) *Pensions in Force at 30th June, 1930.* The following table, which is an approximation, shows for each class of pensioner the number receiving pensions and the total pensions payable at the 30th June, 1930 :—

PENSIONS IN FORCE, AUSTRALIA, AT 30th JUNE, 1930 (APPROXIMATE).

Category.	Number of Pensioners.	Total Pensions Payable.
		£
Orphan children	4,035	96,000
War widows	6,424	642,400
Soldiers	74,578	3,715,915
Children	106,621	989,086
Wives	58,818	1,176,360
Parents	26,927	1,100,000
Brothers and sisters	697	18,000
Others	1,185	159,530(a)
Total	279,285	7,897,291

(a) Includes certain payments not included in the other categories.

(iii) *Summary, Years 1921, 1926 to 1930.* The subjoined table shows the numbers of pensions granted, claims rejected, and pensions in force, together with the amount paid in pensions for the year ended 30th June, 1921, and for each of the five years ended 30th June, 1930 :—

PENSIONS.—SUMMARY, AUSTRALIA, YEARS 1920-21 AND 1925-26 TO 1929-30.

Year ended 30th June—	Pensions Granted.	Claims Rejected.	Pensions in Force.				Amount paid in Pensions.
			Incapaci- tated Members of the Forces.	Depend- ents of Incapaci- tated Members.	Depend- ents of Deceased Members.	Total.	
1921 ..	25,983	3,388	79,491	93,995	49,051	222,537	£ 7,386,842(a)
1926 ..	14,826	1,878	72,128	139,477	41,004	252,609	7,347,246
1927 ..	13,323	2,518	72,388	147,568	39,865	259,821	7,558,559
1928 ..	13,547	1,826	72,667	155,809	38,194	266,670	7,690,890
1929 ..	12,857	1,044	73,436	163,013	36,182	272,631	7,734,921
1930 ..	13,650	1,257	74,578	170,437	34,270	279,285	7,919,476

(a) Includes payments made from Trust Fund, War Pensions Account, on behalf of other countries, less recoveries.

During the period in which war pensions have been granted the annual amount paid has, with one or two exceptions, steadily increased to its maximum in the year 1929-30.

3. Summary of Other Activities.—The following is a summary of the work of the Department from 8th April, 1918, to 30th June, 1930 :—

(i) *Employment.* Number of applications, 253,952; number of positions filled, 133,025.

(ii) *Vocational Training.* Number of men completed training, 27,692; number in training, 3.

(iii) *Assistance other than Vocational Training and Employment.* Applications received, 787,705; applications approved, 689,012.

(iv) *Soldiers' Children Education Scheme.* From the inauguration of the scheme in February, 1921, up to 30th June, 1930, 13,973 applications for assistance had been received. Of these 12,717 had been approved, of which 5,062 recipients of the benefits had completed their training, 6,018 were undergoing training, 41 applications were pending, and the remainder had been refused or withdrawn.

Up to 30th June, 1930, the expenditure was £1,072,044.

(v) *Assistance Granted.* The total expenditure incurred during the period from 8th April, 1918, to 30th June, 1930, was £17,463,893, of which £1,675,747 represented loan, and £15,788,146 general expenditure. Of the total the largest amounts were absorbed by vocational training, with £5 millions, and expenses of providing employment, £2½ millions.

(vi) *Medical Treatment.* At 30th June, 1930, there were 1,536 in-patients and 11,327 out-patients receiving medical treatment. The expenditure to this date was £5,110,043.

4. **Expenditure of Department of Repatriation.**—The expenditure of the Department during the twelve months ended 30th June, 1930, was £8,881,146, and was applied as follows :—

Repatriation benefits—	£
Loans to soldiers	535
Grants to soldiers and general expenditure (including maintenance of training schools, medical institutions, etc.) ..	703,813
Assistance to soldiers in necessitous circumstances	79
Allowances to dependents of soldiers not provided for under the Act	1,250
Medical treatment to Home Service personnel	211
Defalcations, deficiencies and over-payments	695
	706,583
Capital expenditure—	
Office premises and furniture	1,256
Hostels and other Medical Institutions	4,087
	5,343
War Pensions	7,897,291
Administrative costs—	
Salaries	190,126
Contingencies	81,803
	271,929
Total	8,881,146

The total expenditure for the previous year was £8,717,625.

5. **Settlement of Soldiers on the Land.**—At the Premiers' Conference in Melbourne in 1917, it was agreed that the States should undertake the work of settling on the land returned soldiers and munition and war workers, but that the Commonwealth should finance them for this purpose.

The original arrangement provided that the Commonwealth should take the responsibility of finding up to £500 per settler as working capital for improvements, implements, seed, etc., an amount which was subsequently increased to £625, together with £375 per settler for resumptions and works incidental to land settlement approved by the Commonwealth. Loans were to be advanced to the settlers by the States at reasonable rates of interest not exceeding 3½ per cent. in the first year, increasing by ½ per cent. each subsequent year to the full rate of interest at which the money had been raised, plus working expenses; the difference between these rates and the cost of the money to the Government to be borne equally by the Commonwealth Government and the State Government. This provision respecting interest loss was not ultimately carried out as passed, the Commonwealth Government assuming responsibility for more than one-half of the interest loss, viz. :—a rebate of interest equal to 2½ per cent. per annum during a period of five years from the date of payment to the State of each instalment of loan money.

In addition to this expected loss of interest other losses have occurred in connexion with soldier settlement, and in 1927 Mr. Justice Pike, of the Land Valuation Court of New South Wales, was commissioned to report, not only on the losses, but on the principles on which financial responsibility should be divided. His report in 1929, to which reference should be made for fuller information, finds that in all the negotiations concerning soldier settlement on the land the States insisted on undivided control, and that financial responsibility went along with control except so far as the Commonwealth definitely

promised to give assistance. The undertaking of the Commonwealth to share equally with the States the cost of lower interest rates to soldier settlers is made the basis of a practical compromise, and the report recommends that the total loss be shared equally between the two parties.

The following table from Mr. Justice Pike's report shows the losses as found by him, the amount contributed at that date by the Commonwealth, and the further amount to be written off by the Commonwealth:—

LOSSES ON SOLDIER SETTLEMENT.

State.	Gross losses as found by Mr. Justice Pike.	Commonwealth half share thereof.	Amount already contributed by Commonwealth.	Further amount to be written off by Commonwealth.
	£	£	£	£
New South Wales ..	7,003,950	3,501,975	2,612,215	889,760
Victoria	7,721,891	3,860,945	3,331,193	529,752
Queensland	1,853,315	926,657	817,272	109,385
South Australia ..	3,565,829	1,782,914	977,927	804,987
Western Australia ..	2,059,368	1,029,684	1,477,688	Nil
Tasmania	1,321,169	660,585	546,688	113,897
Total	23,525,522	11,762,760	9,762,983	2,447,781

The report refers to a further small loss in certain States consequent upon providing home maintenance areas. The Commonwealth's share of this loss was subsequently fixed at £150,000.

The report finds that the chief loss was in interest on capital cost, which amounted to more than half the total loss. Loss of advances came next, due to inflated values of improvements and stock when settlement was taking place. The loss due to administration expenses is defined as the excess costs above ordinary closer settlement costs and this excess is found to be about £3,000,000, or 12½ per cent. of the total loss.

The following table shows the total advances to the States, repayments made to the Commonwealth, remissions of advances made by the Commonwealth and the loans outstanding at the 30th June, 1931. The remissions which have been tentatively agreed upon but still await ratification include an amount of £5,000,000 made by the Commonwealth in 1925, and the Commonwealth's share of losses, other than for interest, as recommended by Mr. Justice Pike (including the £150,000 for home maintenance areas).

ADVANCES TO STATES FOR SOLDIER SETTLEMENT, AT 30th JUNE, 1931.

State.	Number of Settlers.		Total Advances.	Repay-ments by States.	Remissions by Com-monwealth. (a)	Advances less Repay-ments and Remissions. (a)
	Originally.	Remaining.				
			£	£	£	£
New South Wales ..	9,302	6,640	9,826,203	20,219	2,274,722	7,531,262
Victoria	11,140	9,249	11,968,176	174,101	2,160,960	9,633,115
Queensland	6,031	3,617	2,717,697	17,114	612,233	2,088,350
South Australia .. .	4,082	2,754	2,857,780	24,775	1,371,988	1,461,017
Western Australia ..	5,030	3,545	5,463,782	32,580	796,000	4,635,202
Tasmania	1,976	777	2,168,303	38,740	381,879	1,747,684
Total	37,561	26,591	35,001,941	307,529	7,597,782	27,096,630

(a) The remissions shown have been tentatively agreed upon but still await ratification.

The figures in the above table relating to the number of settlers, are taken from Mr. Justice Pike's report.

6. **Conspectus of State Laws affecting Settlement of Returned Soldiers on the Land.**—In Official Year Book No. 13, pp. 1018 *et seq.*, will be found a table giving particulars of the laws of the various States relating to returned soldiers' land settlement.

Later modifications have been made with a view to simplifying procedure and liberalizing the conditions under which holdings may be acquired.

§ 11. War Service Homes.

The operations of the War Service Homes Commission at 31st March, 1931, may be briefly set out as follows:—Total applications approved, 41,448; expenditure on provision of homes, purchase of land for future use, etc., £28,686,263; 21,215 houses had been completed; 34 homes had been enlarged; 5 houses were in course of construction; and 266 building applications had been approved in respect of which building operations had not been commenced.

In addition, the Commission had purchased on behalf of eligible applicants 12,923 already-existing properties, and had taken over mortgages existing on 2,582 dwelling-houses. Homes are insured under a comprehensive policy, the total insurances in force, including cover notes, amounting to £16,987,952. The total receipts received by the Commission to 31st March, 1931, were £16,428,608, of which £5,737,866 was paid to the National Debt Sinking Fund. The percentage of arrears of repayments on the repayments due was only 1.83.

The foregoing figures include the operations of the State Bank of South Australia and the State Savings Bank of Victoria, which are now carrying out the provisions of the War Service Homes Act in their respective States, the Commonwealth's obligations being to make available to the Government in each State as a loan the funds required for the purpose.

CHAPTER XV.
THE TERRITORIES OF THE COMMONWEALTH.
GENERAL.

The Territories under the control of the Commonwealth are :—The Northern Territory; the Federal Capital Territory; Papua (formerly British New Guinea); Norfolk Island; the Territory of New Guinea (by Mandate of the League of Nations); Nauru (under joint Mandate of the Commonwealth, Great Britain and New Zealand).

Information regarding forms of government, etc., will be found in Official Year Book No. 22, pages 587–588.

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 incorporated in that colony 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. The total area is 523,620 square miles, or 335,116,800 acres.

2. **Population.**—(i) *Europeans.* At the census taken in 1881 there were only 670 Europeans in the Territory. The total increased slowly, reaching its maximum in 1919 with 3,767 persons. At the census of 1921 the white population had decreased to 2,459. In 1930 it was 3,030.

(ii) *Asiatics.* With the exception of a few Japanese, Filipinos and others, the Asiatics in the Northern Territory consist mainly of Chinese. These numbered at one time over 4,000, but have gradually dwindled. In 1930 the total number of coloured persons, exclusive of aboriginals, was 884. (See Year Book No. 22, p. 589).

(iii) *Total Population.* The highest recorded population of all races, except aboriginals, was 7,533 in 1888. The estimated population for the last five years is given in the following table :—

**NORTHERN TERRITORY.—POPULATION (EXCLUSIVE OF ABORIGINALS),
1926 TO 1930.**

Year.		Males.	Females.	Total.
1926	.. ..	2,773	1,125	3,898
1927	.. ..	3,137	1,224	4,361
1928	.. ..	2,739	1,243	3,982
1929	.. ..	2,945	1,525	4,470
1930	.. ..	2,993	1,623	4,616

The Census population (4th April, 1921) was 2,821 males, 1,046 females, total 3,867.

(iv) *Movement of Population.* The following is a summary of movement of population in 1930 (excluding overland migration) :—

NORTHERN TERRITORY.—MOVEMENT OF POPULATION, 1930.

Immigration	..	807	Emigration	..	655	Excess of immigration over emigration ..	152
Births	..	71	Deaths	..	77			Excess of births over deaths ..	—6
Increase	..	878	Decrease	..	732	Net Increase ..	146

The immigration and emigration figures for the Territory during the five years ending 1930 are shown in the following table :—

NORTHERN TERRITORY.—IMMIGRATION AND EMIGRATION, 1926 TO 1930.

Year.					Immigration.	Emigration.
1926	..	..	..	..	731	498
1927	..	..	..	..	1,163	692
1928	..	..	..	..	710	1,101
1929	..	..	..	..	1,079	579
1930	..	..	..	..	807	655

(v) *The Aborigines.* A special article contributed by Dr. W. Ramsay-Smith on the subject of the Australian aborigines, was incorporated in Year Book No. 3 (pp. 158–176). The chapter “Population,” in Year Book No. 17, contained information regarding the number and distribution of aborigines and the measures taken by the States (in the case of the Northern Territory, by the Commonwealth) to protect them and to conserve their interests. In the Northern Territory large numbers of the aborigines are still outside the influence of Europeans. The total number of full-blood and half-caste aborigines in the Territory at 30th June, 1930, was estimated at about 21,800, of whom 2,673 were in regular employment. (See also Chapter XXIV.—Population, hereinafter.)

§ 2. Legislation and Administration.

On 1st January, 1911, the Territory was transferred by South Australia to the Commonwealth. The terms were outlined in Year Book No. 15, p. 940. Regarding administration, see Year Book No. 22, p. 590. The Territory elects a member to the House of Representatives, who can take part in the debates, but may not vote.

§ 3. Physiography.

1. *Tropical Nature of the Country.*—The Territory is within the torrid zone, with the exception of a strip 2½ 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 1,000 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 generally is 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 weather. 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 fresh-water fish and littoral mollusca. Butterflies and beetles are strongly represented. The white ant is a pest, anthills 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. Buffalo formerly existed in large herds, but, as pointed out later, their number has been greatly reduced by indiscriminate shooting.

3. **Flora.**—The vegetation is North Australian in type, but a number of the forms belongs 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 in the interior there is little vegetation. The principal orders represented in the Territory are:—*Euphorbiaceae*, *Compositae*, *Convolvulaceae*, *Rubiaceae*, *Goodeniaceae*, *Leguminosae*, *Urticaceae*.

Fuller particulars regarding fauna and flora are given in Year Book No. 6, pp. 1116-7.

§ 5. Production.

1. **Agriculture.**—Up to the present agriculture has made little progress in the Territory, although it has been proved that rice, tobacco, coconuts, mangoes, bananas, cotton, various fodder plants, and peanuts can be successfully grown. Expense of harvesting is, at present, an obstacle to the economic production of rice, and until labour-saving machinery is procured it cannot be produced with profit. Some 5 miles from Darwin a coconut plantation, about six acres in area, is thriving, and at a small plantation at Shoal Bay the palms planted along the sea-shore are giving excellent results. There is a large stretch of first-class coconut land on the coast, but hitherto planting has not been attempted on a commercial scale. Peanuts have become the principal crop, and in 1929 about 150 tons were produced, compared with 38 tons in the preceding year. The returns for 1930 were adversely affected by continued dry weather. Some 57 settlers are now engaged in peanut growing, the area under crop amounting to about 1,000 acres.

2. **Pastoral Industry.**—The pastoral possibilities of certain parts of the Northern Territory were recognized at an early date, and in 1866 stock was brought into the Macdonnell Range country from South Australia. Six years later cattle were moved from Queensland to the northern parts of the Territory, and in 1879 Mr. Giles reached the Katherine River with 2,000 head of cattle and 12,000 sheep from South Australia. For various reasons sheep-raising did not succeed. The cattle industry progressed and has become the mainstay of the Territory. A great impetus was given to this industry in 1917 by the opening of extensive meat works at Darwin. Unfortunately the works closed down in 1920, and are still standing idle. The number of cattle exported by land from North Australia during the year 1929-30 was 75,909, and by sea (to Manila) 6,180. The cattle industry has been retarded by the ravages of ticks and by the difficulty of travelling stock through waterless country. These difficulties are however, gradually being overcome, the former by the introduction of the practice of "dipping," and the latter by adding to the number of wells on the various stock-routes and the creation of stock reserves. Horses thrive well. Buffaloes thrive in the coastal districts, but their number has been greatly reduced by indiscriminate shooting for the sake of the hides, of which 9,309 were exported during 1929-30.

The estimated number of live stock in the Territory in the last five years is given in the table hereunder:—

NORTHERN TERRITORY.—LIVE STOCK, 1925 TO 1929.

Year.	Horses.	Cattle.	Sheep.	Pigs.	Goats.	Camels.	Donkeys.	Mules.
1925 ..	46,380	970,342	8,030	382	21,859	452	1,113	280
1926 ..	42,801	863,597	6,407	343	22,318	410	1,062	413
1927 ..	40,108	835,390	9,589	292	20,103	402	1,137	499
1928 ..	37,452	768,751	7,635	407	16,499	603	1,112	496
1929 ..	33,703	711,607	11,803	359	9,247	707	779	492

The stock in 1929 was distributed between North Australia and Central Australia as follows :—

Area.	Horses.	Cattle.	Sheep.	Pigs.	Goats.	Camels.	Donkeys.	Mules.
North Australia..	23,698	648,782	400	339	3,433	153	213	441
Central Australia..	10,005	62,825	11,803	20	5,814	554	566	51

3. Mining.—(i) *General*. Alluvial gold-digging in the Northern Territory commenced in 1869, and up to the end of 1880 gold to the value of £79,022 had been produced. In 1881 the gold production reached its maximum, the value for that year being £111,945. During the following years it fluctuated considerably, but as long as the alluvial deposits lasted the output was satisfactory. In the transition period from alluvial to reef mining the industry declined considerably. The production of metals other than gold has suffered from vagaries of prices, and from the disadvantages of high cost of transport and of white labour. The year 1928-29 showed a considerable increase in the production of mica and a corresponding decrease in tin ore. The only mineral produced in Central Australia was mica, but the opening of the railway to Alice Springs is expected to give a fresh impetus to gold mining.

(ii) *Mineral Production*. The following table shows the total mineral production for the last five years :—

**NORTHERN TERRITORY.—VALUE OF MINERAL PRODUCTION,
1925-26 TO 1929-30.**

Year.	Gold.	Tin Ore.	Silver- Lead Ore.	Copper Ore.	Mica.	Tantalite.	Total Value all Minerals.
	£	£	£	£	£	£	£
1925-26	593	15,852	447	60	2,132	..	19,084
1926-27	468	18,754	379	..	2,596	8	22,205
1927-28	431	10,828	22	..	3,280	65	14,626
1928-29	552	6,958	79	..	10,548	207	18,344
1929-30	57	3,345	1,685	589	6,099	1,013	a 16,657

(a) Including Wolfram £3,867 and Bismuth £2.

(iii) *Coal and Mineral Oil*. Five licences for mineral oil and coal were in existence in 1928-29, covering an aggregate area of 5,000 square miles. No prospecting for oil was carried on during the year.

4. *Pearl, Trepanng, and Other Fisheries*.—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. During 1929-30, 32 boats were operating, employing 82 Japanese divers, 59 diver's tenders, a large number of Timorese boat hands, and a few aboriginals. The year's output was 600 tons of saleable, valued at £84,000, compared with 204 tons in the previous year. The territorial waters teem with fish, but the hope of establishing a salt and dried fish trade has not materialized. In the procuring of trepanng, three boats and four persons, beside aboriginals, were engaged.

§ 6. Land Tenure.

A description of the system of land tenure in force in the Territory will be found in Chapter V.—Land Tenure and Settlement, Official Year Book No. 22.

§ 7. Commerce and Shipping.

1. Trade.—No record is kept of the direction of trade between the Commonwealth States and Territories. The value of the direct oversea trade for 1901 and for each of the years 1925–26 to 1929–30 is given hereunder :—

NORTHERN TERRITORY.—VALUE OF DIRECT OVERSEA TRADE, 1901 AND 1925–26 TO 1929–30.

Items.	1901.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
	£	£	£	£	£	£
Imports	37,539	34,168	36,814	30,387	32,069	37,874
Exports	29,191	35,902	29,786	29,265	53,720	58,471
Total	66,730	70,070	66,600	59,652	85,789	96,345

The principal items of overseas export in 1929–30 were cattle, £22,209; pearl-shell, £27,837; trepang, £2,882.

2. Shipping.—The Territory is dependent for its shipping facilities chiefly on the services of vessels trading between Sydney and Singapore. Other vessels make occasional visits, while a sixty-days' service between Fremantle and Darwin is carried out by the "Koolinda," belonging to the West Australian State Shipping Service.

NORTHERN TERRITORY.—SHIPPING, 1925–26 TO 1929–30.

Period.	Arrivals.		Departures.	
	No. of Vessels.	Tonnage.	No. of Vessels.	Tonnage.
1925–26	48	118,478	49	118,665
1926–27	50	126,735	50	126,999
1927–28	54	125,533	45	121,451
1928–29	61	129,997	48	129,218
1929–30	52	126,004	47	125,925

The foregoing figures are exclusive of particulars of coastwise shipping. During 1929–30, 33 vessels of 771 tons net were entered as coastwise.

§ 8. 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 terminated at Oodnadatta, about 100 miles south of the southern boundary of the Territory, but has recently been extended to Alice Springs, an addition of 292 miles. The line from Darwin to Katherine River, about 200 miles, has been extended as far as Birdum, 316 miles from Darwin. The completion of the remainder of the gap would permit of the development of the broad belts of pastoral and mineral country towards the centre of Australia. The Commonwealth also acquired on 1st January, 1911, the property in the line from Port Augusta to Oodnadatta (478 miles), and on 1st January, 1926, the control of the line was transferred to the Commonwealth Railways Commissioner. (See under Federal Railways.)

2. Posts.—Postal communication is maintained by vessels belonging to Burns, Philp and Co., who carry on a monthly service between the Territory and the Eastern States. In addition, the vessels belonging to the State Steamship Service of Western Australia give a service once every 60 days between Fremantle and Darwin. Inland, the northern part of the Territory receives its mail via Darwin, while the southern districts are served via Adelaide.

3. **Telegraphs.**—The transcontinental telegraph line, covering a length of 2,230 miles, was completed on the 22nd 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.

High-power wireless stations have been constructed by the Federal Government at Wave Hill in the Territory, and at Camooweal, just over the eastern boundary, in Queensland.

§ 9. Finance.

1. **Revenue and Expenditure, 1929-30.**—In the Commonwealth finance statements separate accounts are given for Northern Territory administration. Receipts and expenditure for 1929-30 are given below:—

REVENUE AND EXPENDITURE.—NORTHERN TERRITORY, 1929-30.

REVENUE.	£	EXPENDITURE.	£
Customs and Excise ..	8,307	Administrative Staff ..	89,350
Postal, Telegraph, and Telephone ..	11,149	Northern Territory Railways	254,263
Darwin-Katherine River Railway ..	31,291	Interest and Sinking Fund, Northern Territory Loans..	424,871
Central Australia Railway ..	104,725	New Works, Artesian Bores, Roads, etc. ..	15,445
Territorial ..	712	North Australia Commission	66,459
Land and Income Tax ..	4,034	Miscellaneous ..	63,485
Lighthouses and Light Dues..	817		
North Australia Commission	38,812		
Miscellaneous ..	26,713		
Deficiency on year's transactions ..	687,313		
Total ..	913,873	Total ..	913,873

2. **Northern Territory Debt.**—The items making up the total debt of the Territory as at 30th June, 1930, are as follows:—

	£	£
Debt at date of transfer to the Commonwealth,		
1st January, 1911 ..		3,931,086
Redeemed under Commonwealth Loan Acts ..	2,358,212	} 2,818,962
Redeemed from Consolidated Revenue ..	460,625	
Redeemed from Sinking Fund ..	125	
Balance, 30th June, 1930 ..		1,112,124

In addition, the balance of the Port Augusta—Oodnadatta Railway Loans taken over from South Australia amounted at the same date to £921,046, making a total of £2,033,170.

THE FEDERAL CAPITAL TERRITORY.

1. **Introductory.**—In Year Books Nos. 4 and 5, information was given in Section XXXI., in regard to the events leading to the selection of the Federal Capital Territory and the necessary legislation and the progress of operations in connexion 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 connexion 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. (A special article contributed by Dr. F. Watson, entitled "Canberra Past and Present", appears at the end of this chapter.)

2. **Transfer of Parliament.**—On 9th May, 1927, Parliament House at Canberra was officially opened by His Royal Highness Albert, Duke of York, the occasion being the 26th anniversary of the opening of the first Parliament of the Commonwealth at Melbourne by His Royal Highness George, Duke of Cornwall and York—now His Majesty the King—on the 9th May, 1901. (For particulars of the opening ceremony see Year Book No. 21, page 604.)

3. **Administration.**—In Year Book No. 18, a summary was given of the development of the administration up to the taking over of the control of the Territory by the Federal Capital Commission.

The administration of the Territory entered upon a new phase when the Federal Capital Commission, consisting of three members appointed by the Government took over the control of its affairs at the beginning of 1925 in accordance with the provisions of the *Seat of Government (Administration) Act 1924*. This Act was amended in 1926 with the object of further defining the powers and functions of the Commission. A new Act in 1928 provided that the third Commissioner should be elected by the people of the Territory. (See Year Book No. 22, p. 596.) The Act under which the Commission was constituted was repealed by the *Seat of Government (Administration) Act 1930*. The new Administration provided for the general control of the Territory by the Minister for Home Affairs, with the assistance of the Department of Public Health in health matters, the Department of Works in the operation of the engineering services and in the construction of works, and the Attorney-General's Department in the administration of the Courts, Police and Probate, and the Registration of Titles. Subsequently an Advisory Council was established by an Ordinance under the Act.

The Advisory Council consists of:—the Secretary, Department of Home Affairs; the Director-General of Health; the Secretary, Department of Works and Railways; the Civic Administrator; and three residents of the Territory elected for two years.

The Civic Administrator is responsible for a Branch of the Department of Home Affairs which deals with the general administration of the Territory, subject to the specific services being undertaken by the other Commonwealth Departments mentioned.

4. **Progress of Work.**—The general progress of the work of construction up to the time when the Territory was taken over by the Commission was outlined in Year Book No. 18. Later progress made under the Commission is described in Year Book No. 22, p. 597.

Structures completed in 1930 comprised the Australian Institute of Comparative Anatomy with laboratories and accommodation for a museum of Australian fauna; the Institute for Scientific and Industrial Research; a public bath; and a small number of additional residential buildings.

5. **Lands.**—(i) *In the Federal Territory Proper.* Reference has been made in previous issues to the general conditions of land tenure in the Territory for the Seat of Government and to the area of alienated and leased land.

As considerable portions of the Territory lands are not required in connexion with the establishment of the city, large areas have been leased under special improvement conditions in regard to the extermination of noxious weeds and the destruction of rabbits and other noxious animals. The lands are classified into three grades of agricultural and three grades of grazing land. About 279,032 acres, comprising 442 leases in 267 holdings, are at present held under lease for periods varying from quarterly tenure to 25 years.

Regarding auction sales of city leaseholds see Year Book No. 22, p. 599.

Eight leases for church purposes have been granted under the *Church Lands Leases Ordinance 1924–27*, which require the lessees to submit a definite building programme within a specified period, and a further five leases have been granted for church and scholastic purposes under the *Leases (Special Purposes) Ordinance 1925–29*.

The total number of leases granted under the City Areas Leases Ordinance, not including surrendered leases, at the end of the financial year 1929–30 was 303, representing a capital value of £179,520. During the year 33 new leases were granted. The number of business and residential blocks surrendered to or determined by the Commonwealth to the end of the year was 192.

Under the terms of the *City Area Leases Ordinance 1924–29*, each block is leased for a period of 99 years at a rental of £5 per centum per annum of the unimproved capital value as assessed by the Commonwealth or bid at auction.

(ii) *Land at Jervis Bay.* The Commonwealth has acquired from the State of New South Wales sovereign rights over the area comprising about 28 square miles of land and water at Jervis Bay for possible use as a port in connexion with the Federal Capital. The Royal Australian Naval College was established in this area on a site known as Captain's Point, but was removed in 1930 to Flinders Naval Base. Portions of the remaining lands have been leased.

6. *Railways.*—Canberra is connected with the railway system of New South Wales by a line $4\frac{1}{2}$ miles long to Queanbeyan. This line was opened for goods traffic on the 25th May, 1914, and for passenger traffic on the 15th October, 1923, and is being worked by the New South Wales Railways Commissioners for, and on behalf of, the Commonwealth.

The railway terminus is situated in the area known as Kingston.

A direct and convenient passenger service is in operation connecting Canberra with Sydney and Melbourne, and trains leave both cities for Canberra daily except Saturdays. Improved facilities for goods traffic have also been provided.

A trial survey of the Canberra—Jervis Bay line has been completed, and plans prepared to enable an estimate of the cost of the line to be obtained, but no action in regard to this project is contemplated at present.

Under the provisions of the *Seat of Government Surrender Act* 1909 of New South Wales, and the *Seat of Government (Acceptance) Act* 1909 of the Commonwealth, an agreement exists between the Commonwealth and the State of New South Wales in relation to the construction of a railway from Canberra to Yass—a distance of, approximately, 43 miles, of which about 32 miles extend through New South Wales. The State is required to construct its portion of the line as soon as the Commonwealth builds a line to the boundary of the Territory.

7. *Population.*—The census return of population on the 30th June, 1930, was 8,493 in the Federal Capital Territory and 348 in Jervis Bay Territory, or a total of 8,841 persons.

8. *Live Stock.*—The live stock, according to the latest return, comprises :—

Horses	..	..	..	895
Cattle	..	..	..	5,541
Sheep	..	..	..	212,942

9. *Educational Facilities.*—Arrangements have been made with the New South Wales Education Department to continue for the time being the administration of education in the Territory, the expenditure involved being refunded annually to the State. There are twelve schools in the Territory, including one at Jervis Bay. The largest of these is Telopea Park Intermediate High School, which is situated on the south side of the city area. It has accommodation for 1,000 scholars, and its curriculum provides a standard of education comparable in range of subjects with that provided at the best of the Government High Schools in New South Wales, thus permitting scholars to qualify for entrance to the Universities.

The School also provides for Junior Technical, Commercial, and Trades School Branches, as well as Evening Commercial and Matriculation Classes.

The Trades School, which is excellently equipped, supplies the necessary training for apprentices and journeymen who are desirous of improving their respective trade qualifications.

Provision at the School has also been made for Domestic Science and Dressmaking Sections.

An Infants' School, to accommodate 450 children, has been erected on the north side of the city, where for the present scholars of the primary standard on the north side of the river are being catered for. Apart from two other smaller schools in the temporary section of the city settlement, the balance are small rural schools serving the needs of leaseholders settled in the Territory.

Reference to the establishment of a University College at Canberra will be found in Chapter IX., Education, herein.

There are at present three private schools in the Territory. The Canberra Grammar School for boys under the direction of the Council of the Monaro Grammar School, St. Gabriel's Church of England Grammar School for Girls, and St. Christopher's Convent—all of which provide for primary and secondary education.

10. Finance.—(i) *Financial Year 1930-31.* Receipts and Expenditure for the financial year 1930-31 are given in the table hereunder.

FEDERAL CAPITAL TERRITORY.—RECEIPTS AND EXPENDITURE, 1930-31.

Receipts.		Expenditure.				
Items.	£	Items.	Capital.	Mainten- ance.	Other.	Total.
			£	£	£	£
Rents	103,290	Cottages, Buildings, &c.	70,008	17,159	..	87,167
Rates	8,206	Public Utilities—				
Electricity ..	46,001	General (a) ..	17,830	79,258	..	97,088
Motor Registration and Fees ..	7,089	Other (b) ..	7,884	39,226	..	47,110
Water Charges ..	3,174	Advances under Hous- ing Ordinance ..	42,203(e)	..	..	42,203
Hotels	103,092	Alleviation of Distress ..	..	..	27,017	27,017
Transport and Bus Service ..	29,037	Education .. ..	..	..	22,338	22,338
Hospital	2,587	Hotels — Working Expenses .. ..	..	..	104,720	104,720
Miscellaneous ..	12,413	Transport and Bus Service .. ..	..	..	30,302	30,302
		Hospital .. ..	..	..	14,947	14,947
		Interest and Sinking Fund .. ..	..	..	371,063	371,063
		Administrative ..	..	..	59,579	59,579
		Miscellaneous—Police, Fire Brigade, etc.	..	..	22,663	22,663
Total Receipts ..	314,899	Total Expenditure	137,925(d)	135,643	652,629	926,197

(a) Includes Roads, Bridges, Water Supply, Sewerage, etc. (b) Includes Parks and Gardens, Forestry, etc. (c) Includes advances made in previous year, £21,832. (d) Less Sale of Stores, £24,848.

(ii) *From Date of Selection of Site to 30th June, 1930.* The total receipts and expenditure from the date of selection of site to the 30th June, 1930, were as follows:—

FEDERAL CAPITAL TERRITORY.—RECEIPTS AND EXPENDITURE TO
30th JUNE, 1930.

Receipts.		Expenditure.	
Items.	Amount.	Items.	Amount.
	£		£
Loans and Advances (a) ..	6,220,299	Acquisition of Lands ..	899,107
Rents	947,555	Engineering Works ..	3,567,753
Hotel and Liquor Receipts ..	498,318	Architectural Works ..	3,525,573
Revenue from Local Govern- ment and State under- takings	504,421	Other Capital Expenditure	301,608
Receipts from Sundry Debtors, Sale of Goods, Transport, etc. . .	697,789	Maintenance and Adminis- tration	3,386,060
		Other	12,588
Total Receipts ..	8,868,382	Total Expenditure ..	11,692,689

(a) To 30th April, 1930. On 1st May, 1930, all services were taken over by various Government Departments, which entailed a complete change in the method of financing Governmental activities within the Territory.

The sources from which the expenditure has been made are shown in the statement hereunder :—

£	£
Receipts as above .. 8,868,382	<i>Less</i> —Credits in Trust Fund at
Initial Liability of the	30th June, 1930 3,243
Federal Capital Com-	Interest paid to Treasury,
mission 2,966,600	but subsequently taken
Expenditure on Parlia-	as a repayment of Ad-
ment House and	vances 190,621
Railways at 31st	Repayment to Treasury of
December, 1924, not	Loans under Housing
taken over by Com-	Ordinance made from
mission 177,438	Treasury Funds 66,591
Expenditure, May and	Loans under Housing
June, 1930, from Loan	Ordinance 107,607
Fund 39,007	368,062
Expenditure over	368,062
Receipts, May and	
June, 1930, from	
Consolidated Revenue	
9,324	
12,060,751	Expenditure as above..11,692,689

NORFOLK ISLAND.

1. Area, Location, etc.—Norfolk Island, discovered by Captain Cook in 1774, is situated in latitude 29° 3' 45" south, longitude 167° 58' 6" east. Its total area is 8,528 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, the temperature ranging between 56° and 82°, with a mean of 68°. The average annual rainfall is 55 inches. It has been said that the salubrious climate, coupled with the beauty of its land and sea scapes, should combine to render Norfolk Island "the Madeira of the Pacific." At present the island is visited annually by a fair number of tourists, but with improved shipping facilities the traffic would considerably increase.

2. Settlement.—The first colonization, 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 1813, and for 13 years thereafter 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 males and 99 females—and were the descendants of British sailors and Tahitian women.

3. Administration.—In 1856 the island was created a distinct and separate settlement under the jurisdiction of New South Wales. In 1896 it was made a dependency under the Governor of that Colony. In 1913, however, the Federal Parliament provided for the taking over of the island as a territory of the Commonwealth, and since the 1st July, 1914, the island has been administered by the Department of Home and Territories, through an Administrator and Chief Magistrate. (See also Official Year Book No. 22, p. 604.)

4. Population.—The population on 30th June, 1930, was 517 males and 425 females, a total of 942. In the year 1929–30, 18 births, 14 deaths, and 9 marriages were recorded.

5. Live Stock.—The latest returns of live stock show that in 1929 there were on the island 1,590 cattle, 645 horses, 279 sheep, and 65 pigs. In addition, there were 5,772 head of poultry. The number of cattle has since declined.

6. **Production, Trade, etc.**—The soil throughout is rich, and is specially suitable for the cultivation of citrus fruits, bananas, and (in parts) coffee. The banana industry is making progress and about 26,000 cases were shipped in 1929–30, as compared with about 25,000 cases during the preceding year. Various other sub-tropical fruits thrive well. During 1929–30, the export of oranges was 378 cases; passion fruit and pulp, 1,092 cases; lemon juice, 171 casks; and lemon peel, 15 cases; mixed fruit, 806 cases; potatoes, 802 cases. There are many thousands of lemon trees and guavas growing wild throughout the island.

Large numbers of whales pass the island throughout the season, but whaling has now practically ceased. The preserved fish industry which was established some years ago has been abandoned; although such fish as trevalla, kingfish, schnapper, and many others, are plentiful. 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. A monthly steamship service between Norfolk Island and Sydney is carried on by Burns, Philp and Co. A regular steamship service with Auckland, previously maintained by the New Zealand Government, was terminated in 1930; and the island has in consequence lost a convenient market for some of its produce, as well as the income derived from tourists from the Dominion.

Imports and exports for the last five years are given hereunder:—

NORFOLK ISLAND.—IMPORTS AND EXPORTS, 1925–26 TO 1929–30.

Heading.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
	£	£	£	£	£
Imports	18,882	27,869	42,756	55,894	46,776
Exports	6,156	13,578	19,254	33,027	32,255
Total	25,038	41,447	62,010	88,921	79,031

7. **Social Condition.**—Education is free and compulsory up to the age of fifteen years. The school is under the New South Wales Department of Public Instruction, with standards corresponding to the State public schools, but the salaries and allowances of the teachers are paid by the Norfolk Island Administration. A Parents and Citizens' Association has been formed in connexion with the school, and a school-paper is printed. The number of scholars enrolled at the end of 1930, was 144. There is one private school, which at the end of last year had twenty pupils.

The Magistrates' Court has criminal jurisdiction in all crimes except capital offences, civil jurisdiction in all matters, and authority to grant probate and letters of administration.

8. **Finances.**—The receipts and expenditure for the year 1929–30 were as follows:—

NORFOLK ISLAND.—RECEIPTS AND EXPENDITURE, 1929–30.

Heading.	Receipts.	Heading.	Expenditure.
	£		£
Brought forward	4,505	Salaries	6,474
Commonwealth Subsidy	4,000	Miscellaneous	2,989
Tariff Collections in Sydney	3,805	Purchase of Liquor	3,607
Sale of Liquor	4,517	Balance carried forward	5,454
Miscellaneous	1,697		
Total	18,524	Total	18,524

Traffic in intoxicating liquor is prohibited, and the item “Sale of liquor” in the table refers to liquor dispensed under medical prescription.

PAPUA.

§ 1. General Description.

1. **Early Administration.**—Particulars of the early administration of Papua were given in Official Year Book No. 19, p. 576, but owing to limitations of space have not been included herein.

2. **Administration by Commonwealth of Australia.**—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. The Territory is now under the administration of the Commonwealth, but not included within it, and is divided into magisterial districts.

3. **Area, etc.**—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 estimated at 3,664 miles—1,728 on the mainland, and 1,936 on the islands. The total area is about 90,540 square miles, of which 87,736 are on the mainland, and 2,754 on the islands. A reference to the physical characteristics of the Territory appears in previous issues of the Official Year Book (see No. 18, p. 633).

§ 2. Population.

The white population of Papua on 4th April, 1921, was 1,343, made up of 961 males and 382 females. Included in these figures were 79 persons, who were passengers and crew of the s.s. *Marsina*, which was at Samarai at the taking of the Census. The following table gives the white population in each of the last five years:—

WHITE POPULATION OF PAPUA, 1926 TO 1930.

YEAR ENDED 30TH JUNE.

1926.	1927.	1928.	1929.	1930.
1,452	1,366	1,428	1,523	1,525

The chief occupations of the non-indigenous population at the taking of the Census were:—Government officials and employees, 132; commercial pursuits, 150; shipping, 124; tropical agriculture, 266; missionary work, 144; mining, 159.

It is not possible to give exact data regarding the number of natives, because a large area of the interior is not yet under Government control. The official estimate is 275,000. Such censuses of the native population as have been taken during recent years point to a slight increase. The coloured population, other than Papuans, numbered on 4th April, 1921, 577, and included many mission teachers from Samoa, Fiji, and other Pacific Islands. On the same date, half-castes, with one of the parents a European, totalled 158. An Immigration Restriction Ordinance prohibits the immigration of persons who fail to pass the dictation test, or who are 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 required for employment as overseers or foremen.

§ 3. Native Labour, Taxation, Health, etc.

1. **Native Labour.**—Information regarding the conditions connected with the employment of native labour will be found in Official Year Book No. 22, p. 607. Particulars for the five years ended June, 1930, are given in the table hereunder:—

PAPUA.—NATIVE LABOUR, 1926 TO 1930.

Year ended 30th June—	Natives Engaged.	Natives paid Off.			
		Number.	Wages Paid.		Average Annual Wage per Native.
			£	s. d.		£	s. d.
1926	6,716	6,317	63,082	17 5	9 19 8
1927	5,566	6,666	62,086	12 8	9 6 4
1928	6,485	6,269	62,246	17 2	9 18 7
1929	5,355	5,101	50,736	0 0	9 18 11
1930	5,476	5,820	57,262	15 4	9 16 9

The average number of natives under contract of service in 1930 was 7,274, as compared with 6,729 in the foregoing year. Approximately 1,379 were employed as free and casual labourers. Hitherto the supply of native labour has been sufficient to meet the demand. The smaller numbers employed in 1929 and 1930 were due to a fall in rubber and copra prices, a slump in mining, and decline of the *bêche-de-mer* industry.

2. **Native Taxes.**—Under the Native Taxes Ordinance, passed in 1918, a tax not exceeding £1 may be imposed on natives, excepting native constables, mission teachers, natives unfit for work, and those who have not less than four living children. The proceeds of the tax must be expended on education, or devoted to purposes directly benefitting the natives, as may be prescribed.

The taxes collected in 1929–30 amounted to £16,524, of which £4,431 was transferred to the Native Education Fund, and £9,821 to the Native Benefit Fund. The Native Education Fund during the year 1929–30 disbursed to primary and technical education £5,062 and to agricultural education £1,509, leaving a credit balance of £27,941. From the Benefit Fund the expenditure included:—Anthropology £838, health £7,395, village improvements £168, family bonuses £1,499.

3. **Care of Half-caste Children.**—An Ordinance was passed in 1922, to provide for the care and maintenance of neglected half-caste children. The Ordinance provides that a sum of £26 per annum shall be paid to the Commissioner for Native Affairs by the adjudged father of the child until the child, if a boy, shall reach the age of 16 years, or, if a girl, 18 years.

4. **Health.**—During the year natives to the number of 1,443 were admitted to the native hospitals in Port Moresby and Samarai. The chief complaints treated were yaws, ulcers, lung affections, and gonorrhoea. Two travelling medical officers and five European medical assistants were employed, and native medical assistants are being trained by them. Two qualified doctors and a number of nurses are now employed by mission societies, and these have assisted greatly in improving the health of the natives. The work done consisted chiefly of dealing with cases of yaws by means of the latest arsenical drugs, the distribution of hookworm treatment, the treatment of the common skin disease *timea imbricata*, and the control of venereal diseases. Out of an average of 7,274 native labourers employed by Europeans, 79 died, as compared with 57 during the previous year. This is equal to a death rate of a little over 1 per cent.

§ 4. Land Tenure.

1. **Method of Obtaining Land.**—Information under this heading is given in Official Year Book No. 22, p. 608, but limitations of space preclude its repetition in the present volume.

2. Holdings.—(i) *General.* On the 30th June, 1930, the lands of the Territory were held as follows :—

PAPUA.—HOLDINGS, 1930.

Description.	Area.
	Acres.
Land held by the natives	56,926,407
Crown land	814,598
Freehold land	22,934
Leasehold land	181,661
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.

(ii) *Leaseholds.* The area of land held under lease during each of the last five years is shown in the table below :—

PAPUA.—LEASEHOLDS, 1925-26 TO 1929-30.

Year ended 30th June ..	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Land held under lease .. acres (as recorded)	186,966	169,956	170,427	180,685	181,517

Of the total area of 181,517 acres shown above, agricultural leases accounted for 164,842, pastoral leases for 15,070, special leases for 866, mission leases for 531, and other leases for 208 acres.

The area of land acquired by the Crown in 1929-30 was 243 acres.

The total area surveyed in the Territory is 21,694 acres of freehold, and 297,673 acres of leasehold.

§ 5. Production.

1. *General.*—The products of the Territory are obtained from its agricultural, forestal, fishing, mining, and manufacturing industries. For many years gold-mining yielded the largest returns, but the production has dwindled considerably owing to the exhaustion of the alluvial deposits. There is a possibility of obtaining petroleum in marketable quantities. Amongst plantation products, copra occupies the foremost place, but little coconut planting has been done in recent years. Portions of the Territory appear well suited for cotton cultivation.

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 favour the cultivation of a variety of tropical products including sugar cane, coconuts, sago palm, bread fruit, dyewoods, spices, ginger, nutmegs, bananas, and other fruits. There are large areas of rich alluvial and volcanic soils along the coast, and fertile land is found at elevations up to 6,000 feet. Heavy rainfalls occur, 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 23 meteorological stations throughout the Territory, and an economic museum and agricultural library have been established.

(ii) *Plantations.* On 31st December, 1929, there were 331 plantations. Agricultural settlement has been mostly in the Central and Eastern Divisions, and the area planted was 59,487 acres, as against 60,136 in 1928. The principal plantation crops are coconuts, rubber, and sisal hemp. There is also some cultivation of bowstring hemp, kapok, coffee, tobacco, cotton, vanilla, cocoa, tapioca, cinnamon, tea, rice, and maize. The natives are compelled by an ordinance to plant coconuts for food supply. In addition to the coconuts in these plantations, many more are planted over small and widely scattered areas by the older natives in accordance with custom. A recently promulgated ordinance, the *Native Plantations Ordinance*, is an attempt at establishing plantations in which the Government and the natives are joint partners. The following table shows the areas under the different cultures at the end of December, 1929 :—

PAPUA.—AREA OF PLANTATIONS, 1929.

Description.	Area.
	Acres.
Coconuts	49,072
Rubber	9,012
Hemp	250
Kapok	55
Coffee	98
Cotton	320
Other cultures (including fruit trees)	680
Total	59,487

The quantities of copra and rubber exported during the year ended 30th June, 1930, were :—Copra, 11,693 tons ; rubber, 764 tons. There has been a slight increase in the acreage under coconuts and rubber. The acreage under hemp shows a considerable decline.

(iii) *Government Plantations.* There are two Government plantations, the Orangerie Bay coconut plantation, and the Kemp Welch rubber plantation. The profits from these plantations in 1929-30 were £992, as against £2,812 in 1928-29.

3. *Forestry.*—According to the Commonwealth Forestry Adviser the principal softwood timber is known as “ilimo,” while among satisfactory timbers of the lowlands are “nara,” “medobi,” and “melila.” There is a large number of woods, varying from the softest to the hardest, including beautiful cabinet woods, but research is necessary to determine their usefulness. The development of a coniferous belt at the higher altitudes offers great possibilities. It is believed that teak and sandalwood are well suited for cultivation.

4. *Live Stock.*—On 31st December, 1929, the live stock in the Territory consisted of 709 horses, 6,754 head of cattle, 136 mules, 16 donkeys, 3,135 goats, and 655 pigs. A Government stud-farm established for the breeding of horses has been closed. The introduction of rabbits, foxes, hares, and monkeys is prohibited.

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 and trochus are found along the shores and reefs, and form valuable articles of export.

6. *Mining.*—(i) *Variety of Minerals.* Minerals have been found over a wide range of country. Those discovered so far are—gold, copper, tin, lead, zinc, cinnabar, iron, osmiridium, gypsum, manganese, sulphur, graphite, chromite, brown coal, lignite, and petroleum. The existence of petroleum has been traced at scattered intervals over a large area.

Of precious stones, only the topaz and beryl have been obtained. Large beds of apparently good coal also exist.

(ii) *Gold.* In 1888 the first gold was discovered, and the search gradually spread over every division, finds being reported wherever the explorers went. The yield in 1923-24 was the lowest recorded since 1895; it then improved, and last year shows a slight increase on the previous year.

The total quantity in fine ounces and the value as returned of the gold yield for the last five years are given below :—

PAPUA.—GOLD YIELD, 1925-26 TO 1929-30.

1925-26.		1926-27.		1927-28.		1928-29.		1929-30.	
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
fine ozs. 6,388	£ 27,135	fine ozs. 6,150	£ 26,124	fine ozs. 1,704	£ 7,240	fine ozs. 1,025	£ 6,901	fine ozs. 2,368	£ 10,059

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. The total value of gold won to 30th June, 1930, was £1,757,536.

(iii) *Copper.* Owing to the very low prices ruling for copper in the world's market, the copper mines in Papua have suspended operations. The total value of the copper exported to the 30th June, 1929, was £366,489.

(iv) *Osmiridium.* The existence of osmiridium had been known for several years, but for some time no serious attempt was made to collect it, the alluvial gold miner formerly picking out the larger slugs of the metal from his gold parcel and throwing them away. The production in 1929-30 amounted to 29 ozs., valued at £500.

(v) *Other Minerals.* Some good samples of galena (sulphide of lead) have been obtained, while cinnabar (sulphide of mercury), graphite (or plumbago), zinc-blende, native sulphur, and other minerals are known to exist. In 1924 a deposit of lignite was discovered on Smoky Creek, a tributary of the Era River.

A mineral laboratory and museum have been fitted up, and are available to prospectors and others interested.

7. *Water Power.*—Most of the rivers in Papua carry a large volume of water from a great height over a relatively short distance, thereby offering opportunities for the installation of hydro-electric power plants. It is estimated that there are at least 10,000,000 h.p. available for this purpose.

§ 6. Finance, Trade, Postal and Shipping.

1. *Finance.*—The principal sources of revenue were as follows :—Commonwealth Grant, £42,000; Customs and Excise, £51,454; Government Plantations, £8,290; Fees of Office, £6,722; Land Revenue, £4,900; Post Office, £3,483; Port and Wharfage Dues, £3,171; and Miscellaneous, £13,668.

Returns of revenue and expenditure for the last five years, exclusive of Commonwealth grants, are given hereunder :—

PAPUA.—LOCAL REVENUE AND EXPENDITURE, 1925-26 TO 1929-30.

Item.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Revenue	116,367	111,508	107,052	93,751	107,266
Expenditure	157,203	167,727	158,964	152,949	151,874

2. Trade.—The value of imports and exports for the last five years is shown in the table below :—

PAPUA.—VALUE OF IMPORTS AND EXPORTS, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Imports	470,774	455,904	403,561	361,271	373,918
Exports	685,896	454,462	350,363	337,365	324,775
Total Trade ..	1,156,670	910,366	753,924	698,636	698,693

The decrease in the value of exports is due to a fall in prices for copra and rubber, and to the closing down of the copper mines.

As in all new countries, the imports consist chiefly of articles necessary for the primal needs of the community, such as agricultural products and groceries, drapery, machinery, tobacco, oils, paints, beverages, wood, wicker and cane, drugs, etc. The chief items of export during the last five years are as follow :—

PAPUA.—PRINCIPAL EXPORTS, 1925-26 TO 1929-30.

Article.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Bêche-de-Mer	10,205	16,193	14,907	11,833	6,381
Copper Ore	201,732	35,799	208	..	194
Copra	204,097	186,837	194,019	214,051	176,485
Cotton	4,866	824	59	415	167
Gold	22,320	29,115	6,364	6,767	10,632
Hemp	7,695	33	..	..	3
Osmiridium	1,500	430	550	375	500
Pearls	13,249	8,968	827	1,861	11,422
Pearl Shell and Trochus Shell ..	14,317	7,576	12,086	9,058	10,975
Rubber	194,849	156,274	102,158	46,816	50,640
Natural History Specimens	13	..	14	776	64

3. Shipping.—The following table shows the number and tonnage of oversea vessels entered and cleared at ports during the years 1925-26 to 1929-30. All the vessels except two were of British nationality.

PAPUA.—OVERSEA SHIPPING, 1925-26 TO 1929-30.

Year.	Vessels.	Tonnage.
1925-26	115	129,553
1926-27	143	226,948
1927-28	159	226,784
1928-29	171	184,946
1929-30	180	228,391

Throughout, the figures are exclusive of ships of war and Government vessels.

§ 7. Progress of Papua.

As already stated (§ 1, *supra*) the Territory was placed under the Commonwealth control on 1st September, 1906. The following table indicates the progress that has been made since that date:—

PAPUA.—STATISTICAL SUMMARY, 1907 TO 1930.

Items.	Year ended 30th June—	
	1907.	1930.
White population	690	1,525
Native labourers employed	2,000	7,274
Armed constabulary	185	250
Village constables	401	1,161
Territorial revenue	£21,813	100,349
Territorial expenditure	£45,335	151,874
Value of imports	£87,776	373,918
Value of exports	£63,756	324,775
Area under lease acres	70,512	181,661
Area of plantations acres	1,467	59,487
Meteorological stations established	3	22
Gold yield fine ounces	12,439	2,368
Live stock in Territory —		
Horses	173	709
Cattle	648	6,754
Mules	40	136

THE TERRITORY OF NEW GUINEA.

§ 1. General Description.

The present Territory of New Guinea comprises that portion of the German New Guinea Protectorate which lay south of the equator (excepting only the island of Nauru), and which was known in German times as the "Old Protectorate." The principal islands (with their German names if these differ from those now in use) and their approximate areas are as follow:—

AREA OF TERRITORY OF NEW GUINEA.

Particulars.	Approximate Area.
	Square miles.
North-East New Guinea (Kaiser Wilhelm's Land)	70,000
Bismarck Archipelago—	
New Britain (Neu Pommern)	13,000
New Ireland (Neu Mecklenburg)	3,000
Lavongai (New Hanover or Neu Hannover)	600
Admiralty Islands and North-Western Islands	1,000
Solomon Islands—	
Bougainville	3,200
Buka	200
Total	91,000

Information regarding physiography and climate will be found in Official Year Book No. 22, p. 613. A map of the territory was published in Year Book No. 16, p. 665.

§ 2. Government.

1. The Military Occupation.—On the 17th September, 1914, the Acting Governor of German New Guinea signed terms of capitulation with the officer commanding a Naval and Military Expedition sent from Australia, and thereafter the Territory was under military administration until the establishment of Civil Government in May, 1921

2. **Mandate.**—The Mandate in accordance with which the Territory of New Guinea is administered by the Commonwealth was issued by the League of Nations in December, 1920. The terms of the Mandate appear in *Official Year Book No. 16*, p. 662–3.

3. **New Guinea Act.**—In anticipation of the issuing of the Mandate, the Commonwealth Parliament had already, in September, 1920, passed the New Guinea Act 1920, by which the Governor-General was authorized to accept the Mandate when issued. The Territory was, by the Act, declared to be a Territory under the authority of the Commonwealth, by the name of the Territory of New Guinea.

The Act provided for an Administrator, while power to legislate for the Territory was to be exercised by the Governor-General, and provision was also made for the observance of safeguards in the interests of the natives as set out in the Mandate.

4. **Establishment of Civil Government.**—*Official Year Book No. 19*, p. 586, contains an account of the establishment of Civil Government in the Territory. Owing to considerations of space, however, the information is not repeated here.

5. **Expropriation.**—The Treaty of Peace provided that German nationals resident in her former colonies might be repatriated; and that the property rights and interests of German nationals in former colonies might be retained and liquidated by the Allies, the proceeds being credited to Germany in part payment of the reparation payable by her under the Treaty. In pursuance of these powers, in September, 1920, the property of the principal German companies in the Territory, and in March, 1921, that of a large number of German planters, was vested in the Public Trustee. (See *Year Book No. 17*, p. 631.) In 1926 and 1927 these plantations were transferred to private owners.

6. **Departments and Districts.**—The Administration is organized in seven Departments—Government Secretary; Treasury; Native Affairs; Public Health; Customs and Shipping; Lands, Mines, Surveys, and Forestry; and Agriculture.

For administrative purposes the Territory is divided into eight Districts. They are as follows:—New Britain, comprising New Britain and adjacent islands; on the Mainland—Morobe, Madang, Aitape, and Sepik; New Ireland, comprising New Ireland, Lavongai and adjacent islands; Manus, comprising the Admiralty Group; and Kieta, the former German portion of the Solomon Islands. Each district is under a District Officer, assisted by a small staff.

7. **Statute Law.**—The Acts of the Commonwealth Parliament do not (unless expressly so stated) extend to the Territory, but the *Laws Repeal and Adopting Ordinance 1921* provided that certain Acts and Ordinances should be applied thereto. (See *Year Book No. 17*, p. 631.)

8. **Reports to the League of Nations.**—Ten reports have been rendered to the League of Nations in compliance with Article 6 of the Mandate, the latest being for the year ended 30th June, 1930.

§ 3. Population.

1. **White Population.**—The increase in the white population at various intervals since 1885 is shown in the appended tabulation. On 4th April, 1921, it was 1,288, of whom about 250 were missionaries, and 262 were persons engaged in administration. 715 were British subjects, and nearly all the remainder were nationals of former enemy countries. On 30th June, 1930, the number of Europeans was about 2,850.

TERRITORY OF NEW GUINEA.—WHITE POPULATION. 1885 TO 1930.

Year.						Number.
1885	..	..	..	..	..	64
1927	..	..	..	..	..	1,800
1928	..	..	..	..	..	2,400
1929	..	..	..	..	..	2,600
1930	..	..	..	..	..	2,850

2. **Asiatic Population.**—Malays seem to have been the first Asiatics brought by the Germans to German New Guinea; 37 of them are recorded on the mainland in 1885. About 1889 the New Guinea Company began to bring Chinese, Malays, and Javanese in growing numbers from Singapore and Java to work on its plantations; by 1892 there were about 1,800 on the mainland. By 1898 the number had decreased to 300 or 400, while at present it is less than 250.

About ten years later, Chinese were brought from China to the Protectorate; in 1911 there were 555; in 1914, 1,377; in 1921, 1,424 and in June, 1930, about 1,240.

In 1895 there were 2 Japanese in the Protectorate; in 1911 there were 25; in 1914, 103; in 1921, 87, and in June, 1930, 45 residents. The total Asiatic population was 1,681 in 1914, and 1,778 in 1921. There were also, in 1921, 28 Polynesians and 69 half-castes.

The number of Asiatics has slightly decreased. In 1929-30 the births of Chinese exceeded the deaths by 23, but departures exceeded arrivals by 38. The number of Japanese also showed a slight decline.

The Chinese provide the skilled artisans of the Territory, and many of them are small traders. Most of the Japanese residents are employed on the plantations, or in shipyards and stores.

3. **Native Population.**—As a large portion of the Territory is not under Government influence it is not possible to obtain reliable figures in regard to the number of the natives.

The following table shows the number enumerated in 1929-30.

TERRITORY OF NEW GUINEA.—NATIVE POPULATION, 1929-30 (EXCLUSIVE OF INDENTURED LABOURERS).

District.	Children.			Adults.			Totals.		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.
Aitape ..	12,701	9,662	22,363	20,458	19,028	39,486	33,159	28,699	61,849
Kieta ..	8,490	6,761	15,251	11,322	12,314	23,636	19,812	19,075	38,887
Madang ..	10,885	8,540	19,425	18,242	16,933	35,175	29,127	25,473	54,600
Manus ..	3,001	2,850	5,851	3,893	4,323	8,216	6,894	7,173	14,067
Morobe ..	12,135	10,163	22,298	17,428	18,800	36,228	29,563	28,963	58,526
New Britain ..	17,602	14,965	32,567	24,642	24,358	49,000	42,244	39,343	81,587
New Ireland ..	8,273	6,569	14,842	11,202	12,432	23,634	19,475	18,941	38,416
Sepik ..	3,702	3,146	6,848	7,087	8,138	15,225	10,789	11,254	22,073
Totals ..	76,789	62,616	139,405	114,274	116,326	230,600	191,063	178,942	370,005

The total native population in the Territory is estimated roughly at about 520,000. Whether the number is increasing or decreasing cannot yet be ascertained with certainty. The number of natives indentured as labourers, mostly for plantation work, on 30th June, 1930 was 30,130, compared with 30,325 in the previous year.

§ 4. The Natives.

1. **General.**—A brief description of the native inhabitants of the Territory was included in Year Book No. 16, p. 670. It may be noted here that the natives are divided into two main groups—Melanesian and Papuan—the former, with odd exceptions, constituting the population of the Bismarck Archipelago, the Solomon Islands, and the coastal districts of the New Guinea mainland; while the latter inhabit the interior of the mainland. Odd tribes of Negritoes are known to exist in the mountains of New Guinea. In the Admiralty Islanders there is a strain of Papuan, and, possibly, of Polynesian blood, while the Western Islanders and the inhabitants of the small islands east and south-east of New Ireland are Micronesians.

2. **Land Tenure.**—Native customs in regard to the ownership and use of land may be briefly outlined as follows :—The ownership and use of the land are generally individual, although, in some rare cases, particularly in North Bougainville, the communal system exists. In districts where a great many coconut-bearing palms are growing on native lands it is often found that the land is the property of a chief or of one of the old men of the tribe, and that the coconut palms growing thereon are divided into small groups, and are the property of several members of the tribe. Customs with regard to the use of unoccupied forest lands vary. Right of inheritance to land is almost invariably through the maternal branch. (See Year Book No. 17, p. 634.)

3. **Research Work.**—During the German occupation of the Territory a certain amount of research work was carried out, partly by scientific expeditions, and partly by missionaries and by a local resident. An anthropologist has been appointed by the Commonwealth Government to consolidate the work already done, and to extend it to parts of the Territory which have not yet been covered. The results of his work appear in special reports.

4. **Education.**—The education of the natives was provided for in the "Education Ordinance of 1922" under which the Administrator was authorized to establish schools, grant money therefor, prescribe instruction, and arrange for the training of teachers and other matters. Simultaneously a Native Education Trust Fund was inaugurated, over which the Administrator was given control, and for the benefit of which he was empowered, within certain limits, to levy taxes on the natives and on employers of native labour. The expenditure on native education in 1929-30 was £14,227. Though the natives are liable to pay education tax, none has been collected since 1922-23, whereas a considerable sum annually is obtained from a tax levied on employers of native labour.

In 1929 the Under-Secretary for Education in Queensland visited the Territory to advise regarding educational matters and his reports have been accepted as the basis of future educational policy. During the year ended 30th June, 1930, the following schools were maintained by the Administration :—Native elementary schools, Rabaul and Kavieng ; native technical school, Rabaul ; native agricultural school, Keravat. In addition there is a school for Europeans at Rabaul. (See Year-Book No. 17, p. 635.)

A considerable amount of educational work is carried out by the missions, the schools maintained being of three classes—(a) elementary schools in villages ; (b) intermediate boarding schools at head-quarters ; and (c) high schools and technical schools. At the end of June, 1930, the various missions maintained 1,431 schools, employing 246 European teachers, 4 Asiatic and 1,452 native teachers. The pupils numbered 38,800.

The missions also conducted schools for Chinese children in Rabaul and Kavieng.

The granting of assistance to mission schools is authorized by the Education Ordinance, but no grants have hitherto been made.

5. **Health of Natives.**—In a report dealing with the health of the natives in New Britain submitted before the war, it was stated that "the natives in the districts examined are not degenerate ; but they are sick." The same qualification undoubtedly applies to the native population throughout the Territory.

The diseases taking the greatest toll of native life—directly, or through lowering vitality—are :—Malaria, respiratory diseases, dysentery, frambœsia, yaws, tropical ulcer, hookworm, filariasis, and beriberi. Further reference to this subject will be found in Official Year Book No. 18, p. 647.

The Health Department in Rabaul possesses :—(i) a staff of medical officers and orderlies, including travelling doctors ; (ii) Native Hospitals at Government stations and sub-stations (its staff also supervises hospitals on plantations) ; (iii) a laboratory ; (iv) training system for natives as medical orderlies ; (v) scheme of distribution of medical necessaries ; (vi) two leper-stations ; and (vii) undertakes the general oversight of sanitary conditions. A scheme for the establishment of a series of Infant Welfare Centres amongst the natives is in process of development.

6. **Missions.**—Several mission societies are operating in the Territory. The Society of the Sacred Heart of Jesus works in the Bismarck Archipelago, the Society of the Holy Ghost along the coast of North-East New Guinea from Sek to the Dutch border, the Marists in Buka and Bougainville. These are Roman Catholic Missions. The Protestant Missions are the Australian Methodist Mission in New Britain and New Ireland, the New Zealand Methodist Mission in Bougainville, the Liebenzell Mission in the Admiralty Group, the Lutheran Mission (supported and staffed by the Lutheran Churches in Australia and America), which work along the coast of North-East New Guinea from Sek to the Papuan border, the Melanesian Mission (Anglican), in New Britain; and the Seventh Day Adventist Mission, in Bougainville and New Britain. All these societies combine teaching and planting with their missionary work.

§ 5. Land Policy.

1. **Acquisition of Land.**—A short account of the modes of acquiring land appears in Official Year Book No. 19, p. 590, but considerations of space preclude its repetition herein.

2. **Land Policy of the Present Administration.**—The Land Ordinance 1922–28 provides for sale as well as leasing of land belonging to the Crown. The divergence from the policy usually adopted by the British in the Pacific (including Papua), which provides for leasehold only, was made with a view to disposing by sale of the freehold properties taken over from Germans, and which until 1927 were controlled by the Expropriation Board. Reference to the leasehold system in force will be found in Official Year Book 18, page 648.

A total area of 267,387 hectares (about 650,000 acres) had been alienated up to the 30th June, 1930. The area alienated in 1929–30 was 7,586 hectares (about 18,700 acres).

3. **Registration of Titles.**—Under German law there was a system of registration of titles in a "Ground Book," but registration did not confer an indefeasible title. The German system has been replaced by one modelled on the Torrens plan, embodied in an Ordinance entitled the "Lands Registration Ordinance," 1924.

§ 6. Production.

1. **General.**—The natives have been described as a people of peasant proprietors, and everywhere they practise a crude form of agriculture. Their gardens and groves afforded but a small amount of produce for oversea trade, and the exports of the Protectorate grew only as European plantations were made, and natives were employed to work them. In recent years scientific methods of cultivation have been adopted, and production is being greatly accelerated thereby.

2. **Agriculture.**—(i) *General.* Under the supervision of the Director of Agriculture, soil analyses have been undertaken in different parts of the Territory, experimental stations have been founded, and an agricultural school has been established, where natives are being trained in tropical agriculture. A laboratory and a herbarium have been established, an entomologist engaged, and travelling inspectors appointed for the purpose of combating plant pests. Experiments are being carried on with a variety of crops; these, in conjunction with the *Papua and New Guinea Bounties Act* 1926, and the preference given by the Commonwealth Tariff to certain produce grown in the Territories have greatly stimulated tropical agriculture.

(a) *Coconuts.* Coconut-growing is by far the most important industry in the Territory. The present low price of copra has temporarily checked further expansion, but last year's export showed an increase of 3,397 tons on previous year's figures. The desiccated coconut industry is progressing, and there are now three factories operating.

(b) *Tobacco.* This crop has been cultivated with success at Astrolabe Bay in North-East New Guinea, and in the Bismarck Archipelago. Tobacco of high quality, rivalling the best Sumatra leaf, has been produced.

(c) *Cotton*. In 1924-25 the Government obtained 1,615 lb. of cotton seed, and cultivation was tried at the experimental stations as well as by private planters, including a few natives.

(d) *Sisal Hemp*. There was a steady although small export of sisal hemp in German times. The quantity exported in 1913 was 10 tons, but there was no export later.

(e) *Cocoa*. Cocoa has been successfully grown, principally at Vitu (French Islands); in 1913, 137 tons were exported. The export in 1929-30 amounted to 91 tons.

(f) *Coffee*. The cultivation of coffee for export has been commenced; but progress is slow.

(g) *Rubber*. On the mainland a small area has been planted with *Ficus elastica* but in consequence of the low price of the inferior rubber produced from this source the trees are not being tapped.

(h) *Other Crops*. The climate and soil of the Territory are suitable for the cultivation of rice, Manila hemp, cinchona, nutmeg, vanilla, peanuts, kapok and maize, but hitherto their cultivation has either not advanced beyond the experimental stage or has been attempted on a small scale only. Sugar-cane of many varieties flourishes, and the natives cultivate extensive areas for their own use: other indigenous food-producing plants include the sago palm and the cassava.

(i) *Plants Yielding Power Alcohol*. It seems probable that alcohol for power purposes will be obtainable economically from the Territory. The sago palm and nipa palm yield as much as 60 gallons a ton, and in places are very abundant.

(ii) *Area of Plantations*. The area of plantations and the principal crops grown thereon are shown in the table hereunder for the year ended 30th June, 1930. The figures are exclusive of native plantations. (One hectare equals 2.4711 acres).

TERRITORY OF NEW GUINEA.—PLANTATIONS, 30th JUNE, 1930.

Particulare.	Government. Plantations.	Privately owned Plantations.	Total.
Area of Holdings hectares	1,599	172,832	174,431
Area Cleared "	940	86,779	87,719
Area Cleared and Planted "	796	81,983	82,779
Coconuts—			
Area Planted hectares	764	79,383	80,147
Area Bearing "	606	64,146	64,752
Cocoa—			
Area Planted hectares	..	647	647
Area Bearing "	..	356	356
Coffee—			
Area Planted hectares	14	47	61
Area Bearing "	..	6	6
Kapok—			
Area Planted hectares	..	..	110
Area Bearing .. .. . "	..	..	2
Native Food (a) hectares	31	2,490	2,521
Other Crops "	..	1,097	1,097

(a) Native food of all kinds is mostly grown between young coconut palms not yet in bearing.

The area of plantations at various periods from 1885 to 1930 is shown hereunder. As in the case of the previous table, the figures are exclusive of native plantations:—

TERRITORY OF NEW GUINEA.—PLANTATIONS, 1885 TO 1930.

Year.	Total Area.	Area under Coconuts (including Area not in Bearing).
	Acres.	Acres.
1885	148	(a)
1895	2,152	(a)
1911	58,837	51,510
1914	84,941	76,845
1924	179,163	172,373
1930	204,555	198,051

(a) Not recorded.

3. **Live Stock.**—There is little natural pasture in the Territory, but the coconut plantations are now of a sufficient area to maintain numerous live stock, the stock being depastured on the indigenous grasses growing between the rows of trees. In 1930 there were 964 horses, 15,119 cattle, 1,327 sheep, 6,705 goats, and 5,792 pigs (exclusive of the large number of pigs kept by the natives). (See also Official Year Book No. 16, page 677.)

4. **Timber.**—An investigation of the timber resources of the Territory has been made by the Commonwealth Forestry Adviser, and a report in connexion therewith was published in 1926. According to this report, while offering no prospects of immediate gain to large saw-milling interests, the Territory possesses forest potentialities of a high order. The timber required for house and ship-building and for other purposes is mostly obtained locally. In North-East New Guinea the Neuendettelsauer Mission and the Holy Ghost Mission both possess up-to-date saw-milling plants, while most of the timber required in the Archipelago is supplied by the Sacred Heart Mission's saw-mill, and by a privately owned mill, both at the eastern end of New Britain.

The Timber Ordinance 1922 provides for the issue of permits and licences to cut timber. Timber growing on native lands cannot be acquired by private purchasers directly from the natives, but must be obtained through the Administration. A royalty is to be paid on all timber exported. Twenty-one timber permits were issued in 1929-30, and 1,111,920 super. feet of timber were cut.

5. **Fisheries.**—The wealth of the waters of the Territory has so far been little exploited. Fish is caught at many places along the coast to supply the small local demand of the natives and of the few resident Europeans. Pearl-shell is exported in fair quantities, while trepang, trochus-shell, and tortoise-shell also figure amongst the exports. The value of marine products exported in 1929-30 was £24,848, compared with £27,485 in the previous year.

6. **Mining.***—Except for gold there has been little mining in the Territory, and knowledge of the mineral resources is as yet but scanty. Gold has been discovered on the Waria, the Ramu, the Francisco, and the Markham Rivers, etc. Rich gold was discovered in the Morobe District in 1926: the field is not very extensive and is situated 60 miles inland. Communication has been established with the coast by a regular aeroplane service. Osmiridium is reported to have been found on the upper tributaries of the Ramu, and platinum on the Kabenau River. Copper has been discovered in the form of chalcopyrite and malachite in the Baining District. Iron occurs as magnesite and hæmatite in the Baining District, apparently in large quantities. Sulphur occurs in several localities in the volcanic regions of the Territory. Phosphates suitable for use in the making of manures are found in the Purdy Islands. Brown coal has been found on the mainland in the vicinity of Astrolabe Bay and in the southern portion of New Ireland.

* Fuller details in regard to minerals in the Territory will be found in E. R. Stanley's Report on Salient Geological Features and Natural Resources of the Territory (printed as Appendix B. to the Report for 1921-22).

The following table shows the quantity of gold exported, and its value during the last five financial years:—

Year.	Quantity.	Value.
1925-26	10,067	25,169
1926-27	84,760	195,428
1927-28	113,874	256,216
1928-29	79,748	179,433
1929-30	42,819	96,338

By the Mining Ordinance of 1923, private companies incorporated or registered in the Territory, two-thirds of whose shares are held by British subjects, became eligible to engage in prospecting and mining for mineral oil and coal. On the 30th June, 1930, 3 licences to search for mineral oil were in force.

§ 7. Trade.

1. **Total Trade.**—The value of the imports, exports, and total trade at various periods since 1887, and during each of the last five years, is given in the table hereunder:—

TERRITORY OF NEW GUINEA.—TRADE, 1887 TO 1930.

Year.	Imports.	Exports.	Total.
1887	17,133	19,580	36,713
1897	36,713	31,352	68,065
1907	166,585	97,563	264,148
1925-26	568,339	1,105,158	1,673,497
1926-27	660,753	1,079,855	1,740,608
1927-28	811,832	1,471,026	2,282,858
1928-29	869,514	1,146,112	2,015,626
1929-30	878,450	997,335	1,875,785

The import values are exclusive of money and Government stores. In 1929-30 the imports were distributed as follows:—From Australia, £292,147; United Kingdom, £178,527; America, £107,667; China, £27,740; Germany, £54,390; Japan, £23,103; India, £51,050; Burma, £68,338; Dutch East Indies, £24,864; other countries, £54,190.

2. **Principal Items of Imports.**—From Australia the principal items of imports are foodstuffs and beverages, tobacco, apparel, foot-wear, textiles, machinery, hardware, building material, etc.; from the United Kingdom textiles, apparel, machinery and hardware, whisky; from America petrol, kerosene, motor vehicles and lubricating oil, tobacco; from India rice and sacks; from Burma rice; from China rice and textiles; from Germany textiles, machinery and hardware, beverages, fancy goods, wood and wicker manufactures, motor vehicles and sewing machines; from Japan, textiles and cement.

3. **Principal Items of Export.**—Values of the principal items of export for the last five years are shown hereunder:—

TERRITORY OF NEW GUINEA.—EXPORTS, VALUE OF ITEMS, 1925-26 TO 1929-30.

Commodity.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Copra	10,16,930	849,852	1,176,040	933,769	864,358
Cocoa	6,510	3,500	3,859	3,816	3,074
Stone and Ivory Nuts	456	152	..	153	77
Trepang	8,246	13,750	11,259	4,440	6,360
Shell	47,434	17,000	23,436	22,695	18,410
Tortoise Shell	413	173	216	350	78
Gold	25,169	195,428	256,216	179,433	96,338
Desiccated Coconut .. .. .	..	..	..	1,456	8,640
Total	1,105,158	1,079,855	1,471,026	1,146,112	997,335

4. Exports of Copra and Cocoa.—The next table shows the quantities of these items exported during the last five years:—

TERRITORY OF NEW GUINEA.—EXPORTS OF COPRA AND COCOA,
1925-26 TO 1929-30.

Commodity.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	Tons.	Tons.	Tons.	Tons.	Tons.
Copra	45,806	47,613	65,285	60,435	63,832
Cocoa	113	65	73	72	53

Most of the copra is shipped direct to European and American ports.

5. Banks.—There are two banks operating in the Territory, the Commonwealth Bank of Australia, and the Bank of New South Wales.

§ 8. Shipping and Communication.

1. General.—A subsidized mail service between the Territory and Australia is maintained by Burns, Philp and Co. Ltd. Rabaul is included as a port of call in a service between New Caledonia and the East Indies provided by a Dutch shipping company. Shipping within the Territory is regulated by the *Coastal Vessels Regulations*, 1920, and the *Wharfage and Berthage Regulations* made during the Military Administration of the Territory.

2. Oversea Tonnage in 1929-30.—The number and net tonnage of oversea vessels which entered and cleared the Territory during the year 1929-30 are shown hereunder:—

TERRITORY OF NEW GUINEA.—SHIPPING, 1929-30.

Nationality.	Vessels Entered.		Vessels Cleared.		Total.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
American	3	7,287	3	7,287	6	14,574
British	52	97,249	50	95,416	102	192,665
Danish	2	5,474	2	5,474	4	10,948
Dutch	4	8,240	4	8,240	8	16,480
French	12	31,599	12	31,599	24	63,198
German	6	5,568	6	5,568	12	11,136
Japanese	3	801	3	801	6	1,602
Norwegian	2	5,520	2	5,520	4	11,040
Totals	84	161,738	82	159,905	166	321,643

Country from which Entered or for which Cleared.	Vessels Entered.		Vessels Cleared.		Total.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Australia	36	73,450	24	42,772	60	116,222
Batavia .. .. .	..	..	4	8,240	4	8,240
Caroline Islands	3	801	3	801	6	1,602
China	11	18,814	10	14,723	21	33,537
France	6	15,838	14	38,541	20	54,379
Malay States	2	3,261	1	3,222	3	6,483
New Caledonia	12	30,481	7	18,732	19	49,213
New Hebrides	1	2,612	1	2,612	2	5,224
New Zealand	1	1,195	..	..	1	1,195
Ocean Island .. .. .	..	..	1	1,920	1	1,920
Papua	1	25	1	45	2	70
Solomon Islands	5	655	5	655	10	1,310
United Kingdom	2	6,118	2	5,462	4	11,580
United States of America	4	8,488	9	22,180	13	30,668
Total	84	161,738	82	159,905	166	321,643

3. **Local Shipping.**—A service between Rabaul and the various outports not visited by the mail steamers is maintained by small steamers and motor craft.

4. **Land Communication.**—Means of communication on land are scanty. There are no railways. Roads lead from Rabaul to places within 30 or 40 miles, and there is a road 170 miles long in New Ireland. Elsewhere there are few roads outside plantations and the stations of the District Officers. The large rivers of the mainland are as yet but little used.

There is a high power wireless station at Bita Paka near Rabaul, and low power installations at the out-stations.

5. **Communication by Air.**—The discovery of gold in New Guinea has resulted in great aviation activity in the vicinity of the gold-fields. On account of the mountainous country and dense undergrowth between the coast and the gold-fields the task of transporting food and stores to the fields and of bringing the gold to the seaboard by land is an irksome and costly process. The fields are situated about 60 miles inland from Salamaua, and whereas aircraft cover the distance in approximately an hour, the nature of the country is such that a journey by other means occupies more than a week. (See Chapter VII.—Transport and Communication.)

§ 9. Revenue and Expenditure.

1. **Revenue.**—Details of the revenue collected from various sources during each of the last two years are given hereunder:—

TERRITORY OF NEW GUINEA.—REVENUE, 1928-29 AND 1929-30.

Heading.	1928-29.	1929-30.
	£	£
Revenue from Taxation (direct and indirect) ..	233,969	222,687
Revenue from Public Services and undertakings ..	56,724	38,305
Other receipts	60,274	75,654
Grant by Commonwealth Government .. .. .	..	2,996
	350,967	339,642

2. **Expenditure.**—The expenditure for the financial year 1929-30 was distributed as follows:—

TERRITORY OF NEW GUINEA.—EXPENDITURE, 1929-30.

Secretary and Central Administration	£18,153	Trade and Customs	£15,358
Justice	4,837	Agriculture	11,265
Treasury	26,731	Public Health	65,453
Audit	4,477	District Services	106,058
Lands and Survey	27,701	Miscellaneous	4,578
Native Affairs, Police, and Prisons	15,237		
Public Works	56,434	Total	356,312

NAURU.

1. **General.**—Nauru is an oval-shaped atoll about 12 miles in circumference having an area of 5,400 acres, of which approximately four-fifths is phosphate-bearing. It is situated in long. 166° E., and is 26 miles south of the Equator. Portion of the island between the sandy beach and the coral cliffs is fertile, and it is there that the native Nauruans have established themselves. With the exception of a small fringe round an inland lagoon, the plateau which contains the phosphate deposits possesses few food plants and is uninhabited, but portion of the area has been planted with fruit trees. The system of land tenure is governed by old custom, and, with the exception of small allotments held by the Government and Missions, the whole of the island is owned by individual natives. The climate is hot, but not unpleasant, the average shade temperature ranging between 72 and 95° F., and the average humidity between 70 and 80. The average rainfall is 120 inches, but droughts occasionally occur, and in 1916 and 1917 only 40 inches were received for the two years.

2. **History.**—The island was annexed by Germany in 1888, and prior to 1914 was part of the protectorate of German New Guinea.

In November, 1914, Nauru was occupied by a detachment from the Australian Expedition at Rabaul, and it was included in the cession of colonies made by Germany in 1919 to the Allied and Associated Powers, whose representatives agreed that a mandate over it should be given to His Majesty the King. On 2nd July, 1919, the British, Commonwealth, and New Zealand Governments agreed that the administration of the island (which, since 1915, had been in charge of an official appointed by the British Colonial Office) should be vested in an Administrator; the first Administrator was appointed for a term of five years by the Australian Government; his term of service having expired in February, 1926, it was extended for another five years. The Agreement between the three Governments was approved by the Commonwealth Parliament in the Nauru Island Agreement Act 1919, and is printed in the Schedule to that Act. The first Administrator appointed by the Commonwealth Government assumed duty in June, 1921.

The Mandate for Nauru, issued by the Council of the League of Nations in December, 1920, is in terms similar to that for the Territory of New Guinea.

3. **Administration.**—The Administrator has all the powers of government—administrative, legislative, and judicial—in the island. An Advisory Council has been created which consists of two Europeans chosen by the Administrator, and two native chiefs elected by the natives. All expenses of administration are met from local revenue. Native industries such as canoe-building, fishing, mat-making, etc., are encouraged by the provision of prizes at annual competitions. A branch of the Commonwealth Savings Bank has been established. There is a co-operative store managed by the natives themselves, the books, however, being audited by Government officers. Natives are not allowed to carry firearms, and the use by them of intoxicating liquors and deleterious drugs is prohibited.

4. **Population.**—Figures for population from 1926 to 1930 on 1st April in each year are given hereunder:—

NAURU.—POPULATION, 1926 TO 1930.

Population.	1926.	1927.	1928.	1929.	1930.
Europeans	117	115	131	134	147
Chinese	822	761	1,051	1,099	1,110
Nauruans (a)	1,251	1,266	1,297	1,365	1,411
Other South Sea Islanders	27	21	20	16	16

(a) The natives of Nauru are Micronesians.

5. *Health.*—There is no malaria, but cases occur of other diseases known in the Pacific. Venereal disease is rare, but at the end of 1930, 251 cases of leprosy were under treatment. An area has been set apart for the segregation of lepers, and the latest methods of treatment are applied to cope with the disease. Two hospitals are maintained on the island, one by the Administration for Nauruans, and one by the British Phosphate Commission for its employees. In common with other natives, the Nauruans are very susceptible to tuberculosis and influenza, and in 1921 an influenza epidemic caused the deaths of 230 islanders. Dysentery, both amœbic and bacillary, is endemic. The usual steps have been taken by the authorities to improve the water supply and to provide efficient sanitation generally. Four baby clinics have been established to give help and advice to Nauruan mothers in regard to infant nurture.

6. *Education.*—On the 1st October, 1923, the Administration took over the education of the Nauruans and other native children, and native schools were established in five districts and at the leper station. Previously education had been looked after by the Missions subsidized by the Government. A school for European children is presided over by a teacher on loan from the Education Department of Victoria who also supervises educational matters generally. The curriculum is similar to that of corresponding schools in Australia, and the teaching is, as far as possible, wholly in English. Education is compulsory between the ages of six and sixteen. After the termination of ordinary school attendance, twelve months are devoted to technical training. Officers from the Missions visit the schools to give religious and moral training. The scholars in 1930 numbered 22 Europeans and 311 Nauruans. Educational classes for adults have been inaugurated.

7. *Religion.*—The London Missionary Society (Protestant) and the Sacred Heart of Jesus Mission (Roman Catholic) operate in Nauru.

8. *Phosphate Deposits.*—(i) *General.* From 1906 to 1919 the deposits were worked by the Pacific Phosphate Company, which also worked the deposits on Ocean Island (about 165 miles east of Nauru and part of the Gilbert and Ellice Islands Colony administered by the Colonial Office). The quantity on the two islands has been estimated at not less than 100,000,000 tons, and the rock phosphate, as shipped, averages 85 per cent. to 88 per cent. of tribasic phosphate of lime.

The interests of the Pacific Phosphate Company in the two islands (though not in other islands in the Pacific in which it has workings) were bought by the British, Commonwealth, and New Zealand Governments in 1919 for £3,500,000, the purchase money being contributed in the proportions of 42, 42, and 16 per cent. respectively. The Agreement of 2nd July, 1919, provides for the working of the deposits by the British Phosphate Commission of three members, one appointed by each Government; and the three countries are to receive the output in the same proportions of 42, 42, and 16 per cent.

(ii) *Output.* The output from the two islands in 1913, the last year before the war, was 350,000 tons. During the five years 1925–26 to 1929–30 exports were as follows:—

NAURU AND OCEAN ISLAND.—EXPORT OF PHOSPHATES, 1925–26 TO 1929–30.

Year.	Total.	To Australia.	To New Zealand.	To United Kingdom.	To other Countries.
		Tons.	Per cent.	Per cent.	Per cent.
1925–26	393,032	69.76	24.97	..	5.27
1926–27	594,825	77.96	22.04	..	..
1927–28	501,908	75.20	24.80	..	..
1928–29	575,390	75.38	24.62	..	..
1929–30	499,456	74.74	25.26	..	..

From Nauru alone, during the calendar year 1930, the export was 271,255 tons, of which 217,945 tons went to Australia, and 53,310 tons to New Zealand.

(iii) *Accounts of Commission.* A statement for the five years ended June, 1930, is given hereunder.

NAURU AND OCEAN ISLAND.—SALES OF PHOSPHATES, 1925-26 TO 1929-30.

Receipts from Sales of Phosphate, etc.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Receipts from sales, etc. ..	611,654	780,070	666,992	736,420	648,165
F.o.b. cost, including interest on capital, sinking fund, etc. ..	607,256	720,439	659,122	698,056	645,987

The amount due by the Commission to the partner Governments for purchase money and other capital sums was £3,666,457 on 30th June, 1921, and at 30th June, 1930, this had been reduced to £3,371,175. The contribution to the sinking fund paid by the Commission provides for interest at 6 per cent. and extinction of the capital sum in 50 years from 1st July, 1920.

(iv) *Employees.* Apart from a limited number of Europeans and a few Pacific Islanders, the employees are Chinese engaged under a three years' contract. A few Nauruans are from time to time employed, but they are not partial to sustained labour of any kind.

9. *Trade.*—Information regarding imports and exports for years 1926 to 1930 is appended herewith:—

NAURU.—IMPORTS AND EXPORTS, 1926 TO 1930.

Heading.	1926.	1927.	1928.	1929.	1930.
	£	£	£	£	£
Imports	104,117	82,650	240,229	101,692	143,416
Exports—	tons.	tons.	tons.	tons.	tons.
Phosphate	274,935	318,185	318,845	326,125	271,255
Copra	117	263	181	..	..

10. *Revenue and Expenditure.*—The revenue and expenditure of the Administration during the years 1926 to 1930 were as follows:—

NAURU.—REVENUE AND EXPENDITURE, 1926 TO 1930.

Heading.	1926.	1927.	1928.	1929.	1930.
	£	£	£	£	£
Revenue	16,424	17,041	19,903	19,936	18,992
Expenditure	13,963	17,243	18,267	17,860	15,532

Of the revenue in 1930, £6,448 was royalty on phosphate, £4,486 consisted of Customs receipts, £1,802 of capitation taxes, and £778 of harbour dues. The total credit balance on the 31st December, 1930, amounted to £21,331.

CANBERRA PAST AND PRESENT.*

1. **Introductory.**—Canberra is the capital city of a continent, notable amongst other things as being the first in history committed to a policy of exclusive occupation by white people. When it is remembered that it is only 143 years since the colonization of Australia was inaugurated by Captain Arthur Phillip with a little more than 1,000 persons at Sydney Cove on the shores of Port Jackson; when it is remembered, moreover, that it is only 111 years since the first white man saw Canberra and the Federal Capital Territory, it is difficult to realize that this short period has been marked by the birth of a nation, finally symbolized by the establishment in May, 1927, of the component parts of that nation in a federal capital city. The occupation of Canberra begins a new era, during which Australia, owing to its geographical position with respect to the Pacific Ocean, may exert an increasing influence in world politics.

2. **Discoveries by Early Explorers.**—(i) *Difficulties Encountered.*—It is probable that, at the present time, more than nine-tenths of the continent are fully explored; it is thus difficult to realize that, for 25 years after Captain Phillip landed in Port Jackson, knowledge of the country inland was restricted to an area of about 1,500 square miles situated within a radius of about 30 miles of the site of the first settlement at Sydney Cove. The smallness of the known area was due to what were regarded as impassable natural barriers, i.e., on the north, the Hawkesbury River and the barren country on its left bank; on the west, the Blue Mountains, forming portion of the Great Divide extending throughout the length of the continent from Cape York to Cape Howe; and on the south, the gorges and barren country about the upper watershed of the Nepean River and the lower watershed of the Wollondilly River and their respective tributaries. The southern barrier, however, was penetrated and the Moss Vale district reached in 1798, but no settlement resulted.

(ii) *Passage of the Blue Mountains.* In May and June, 1813, the passage of the Blue Mountains was accomplished by the discovery of one of the only two possible routes, over the main Divide near the latitude of Port Jackson. Within a few months, the passage of the Blue Mountains was followed by the discovery of the Bathurst Plains, the Macquarie River, and the fertile country to the west of the mountains.

(iii) *The Southern Barrier.* During the next four years, the "Southern Barrier" was again crossed, and, in 1817, Charles Throsby explored the country near Moss Vale and Sutton Forest, and penetration southerly towards the site of Canberra began. In 1818, Throsby and James Meehan, Deputy Surveyor-General, sought an overland route to Jervis Bay. After being entangled in the gorges of the Shoalhaven River, the party divided near Marulan. Throsby reached Jervis Bay, but Meehan, who failed, made other valuable discoveries. He followed the highlands west of the Shoalhaven River, and discovered Lake Bathurst, and, during his return journey traversed the fertile Goulburn Plains. In 1819, Throsby and John Rowley discovered a route connecting the Bathurst and Goulburn Plains, thus effecting the passage of the main Divide in a more southerly latitude.

(iv) *Development following on Discovery.* These discoveries were rapidly followed by settlement. In 1815, a road was constructed across the Blue Mountains to Bathurst Plains, and, in 1820, a road to Goulburn Plains, which lie within 60 miles of Canberra. The natural boundaries which had defied conquest for 25 years, were passed, and the development of the vast interior of Australia was commenced.

The immensity of the task of the pioneers in overcoming these initial natural obstacles and making possible the extension of settlement thereby can be fully realized only by those conversant with the country in its natural state. It must be remembered that the pioneers were not experienced bushmen used to Australian conditions. They were immigrants from the well-settled counties and the small holdings of England, Scotland and Ireland. But they came of sturdy British stock, and the tasks they accomplished would redound to the credit of the most experienced Australian bushman.

* By Dr. F. Watson, Gunzahleen, Canberra.

3. **Discoveries by Throsby and Wild.**—(i) *General.* The two outstanding figures in the discovery of the Federal Capital Territory were Charles Throsby and Joseph Wild, each in his own way a typical example of the virile pioneers of the Australian nation.

Charles Throsby, who was an educated Englishman, arrived in Australia in 1802 as a naval surgeon at the age of thirty-one years. He joined the colonial medical establishment, and, in 1804, was appointed to the settlement at Newcastle, four months after its foundation. In the following year, he was made commandant of that settlement, and held the position until for health reasons he resigned in 1809. For the next eight years, he lived in retirement on his land grant near Liverpool. As already noted, in the year 1817 he made his first exploring tour, and penetrated through the Bargo brush to the country near Moss Vale and Sutton Forest. In successive following years, he discovered the overland routes to Jervis Bay and the Bathurst Plains via Moss Vale. In 1819, he became the first land holder in the southern districts by forming a stock station (now known as Throsby Park) on the Wingiecarribee River near Moss Vale. After exploring the Territory, he settled on his land grants and became one of the first non-official members in the nominee Legislative Council in 1825. He died in 1828. He was successful as a surgeon, as an administrator, as an explorer, as a pioneer grazier, and as a pioneer legislator. Such varied phases in life were typical of the adaptability of many of the early pioneers.

Joseph Wild was illiterate, but, by instinct, a natural bushman and a natural observer. He was born in the year 1759, and was employed by Charles Throsby and participated in all Throsby's explorations. Wild was of sturdy physique, retaining his vitality to a great age. He was fifty-eight years of age at the date of Throsby's first exploring tour, and had reached eighty-eight when he was killed by a wild bull near the Wingiecarribee swamps.

When the road to Goulburn Plains was under construction in the year 1820, Throsby was charged with the general supervision, and Wild acted as overseer.

From the aborigines, Throsby learned that there was a large lake, which they called Wee-ree-waa, near Lake Bathurst, (known to them as Bundong) which had already been discovered by Meehan; that, about two days' journey from this lake, there was a large river, which they called Murrumbidgee; that this river communicated with the sea a long distance to the southward; and that its waters were tidal.

In August, 1820, Throsby sent Joseph Wild and two men of the road party to search for the lake. On the 19th of August, Throsby parted from these men 40 miles in advance of the road construction party, and, in the afternoon of the same day, Wild reached the lake at its northern end. During the ensuing two days, he and his two companions followed the eastern shore, and camped for the night of the 21st on Turallo creek, near Bungendore, at the southern end of the lake. On the following day, Wild ascended Gibraltar mountain and discovered "Snowy Mountains to the S.W.," the first recorded glimpse by a white man of a part of the highest ranges in Australia. During the night of the 22nd, with his capacity for close observation, he noticed that the waters of the lake fell 6 inches, the first recorded observation of a daily rise and fall of the water level in the lake. He returned with his companions to the road construction camp on the Wollondilly River six days later.

In the following October, Governor Macquarie and J. T. Bigge, who held a Royal Commission to inquire into the condition of the Colony, visited the lakes. On the 27th of October, Macquarie, Bigge and their attendants encamped on the east side of the newly-discovered lake near Mount Ellenden or Governor's Hill, and, on the following day, Macquarie named it Lake George in honour of His Majesty King George III. Throsby accompanied Macquarie during his tour, and, whilst the party were at Lakes Bathurst and George, proceeded in advance and endeavoured to discover the Murrumbidgee River. In this he was unsuccessful; but he discovered the Yass River, or Boongaroon as the aborigines called it, and probably visited the north-eastern portion of the Federal Territory.

The zest for discovery continued, and Governor Macquarie forthwith decided to send a party, with provisions for one month, to discover the Murrumbidgee River. Wild was at once selected, together with James Vaughan, a constable, and Charles Throsby Smith. The last-mentioned, who was a nephew of Charles Throsby, kept the journal.

The detailed instructions given to these men by Charles Throsby are of interest on account of the deductions implied therein. The men were ordered to proceed to Lake George and thence to the Yass River at the spot visited by Throsby and Vaughan in October; to follow the river down "until you meet the tides way"; and then to observe "how long the ebb tide continues longer than the flood". They were provided with acid to test for limestone. Throsby rightly assumed that the Yass River was a tributary of the Murrumbidgee, and that the latter river could be recognized by the "tides", if the reports of the aborigines had been correct.

On the 2nd December, 1820, Wild and his companions were camped at the southern end of Lake George. On the following day, they travelled along the western side of the lake, ascended the steep hills on that side at or near Geary's Gap, and camped for the night on Shingle House Creek. Owing to heavy rain, they remained at this camp for the next day. On the 5th, they arrived at the Yass River near the site of old Gundaroo, and following the river down camped on the reach running westward below the modern Gundaroo. Here they caught five fish "like the Bathurst fish" (Murray cod). In the morning of the 6th, they followed the river for some miles, and, finding it running in a north-west direction and having caught more fish of a similar kind, they presumed it was the Lachlan and decided to turn back. Although their deduction was incorrect, it is remarkable that, during their journey, they were not more than 3 or 4 miles from the head waters of the Lachlan. In the afternoon of the 6th, they travelled across country and returned to and camped at the Yass River near old Gundaroo.

(ii) *Description of First Visit to Site of Canberra.* The narrative of the first visit by white men to the site of Canberra is recorded in their journal as follows:—

Thursday, 7th December, 1820.

"Time, $\frac{1}{2}$ past 6. Course, S.b.W. 3 miles; $\frac{1}{4}$ past 7, S.W. 9 miles; 11 a.m., S.S.E. 12 miles.

"At daylight, calm and cloudy. Set out thro' a fine forest country for 3 miles, ascending a Stony Range, Iron Stone and Barren Scrubby timber, Stringy Bark, Gum and Box; from this Range we had a view of some clear grassy hills, bearing N. by West, Distant about 8 miles.

"Crossed a chain of ponds, rather indifferent country.

"Ascending a Stony Range, Barren and Scrubby; at 11, on top of the hill; some beautiful clear plain in sight, bearing S. by E.; an extensive chain of mountains running S.S.E. and N.N.W.*; thick hazy wr. with light showers of rain occasionally. We then descended the range into a scrubby country for about half a mile, then into a most beautiful forest country, gentle hills and valleys, well watered by streams, and a fine rich Black Soil. Came on to one of the plains we saw at 11 o'clock. At half past 1, came to a very extensive plain, fine Rich Soil and plenty of grass. Came to a Beautiful River† that was running thro' the plains in a S.W. direction, by the side of which we slept that night. When we made the Hut this evening, we saw several pieces of stone that had been burnt by all appearances. I then examined some of it, which proved to be limestone. We then went along the Banks of the River, and found immense quantities of the same sort, some of which I have preserved as a specimen; this Evening caught 3 fish of the same kind we caught before; throughout the Night, Calm and Cloudy.

Friday, 8th December, 1820.

"At Daylight, cloudy wr., Wind E. Myself and Vaughan set out down the River in a S.W. direction for the purpose of ascertaining which way the waters went; at 10 o'clock we ascended a very high hill from the top of which we had an extensive view all round; and, finding the waters still continue to run in a S.W. direction, we declined going down the River. We then returned to the hut, and staid for the Night; the Banks of the River on both sides, the whole of the way we went which was a distance of near 10 miles, is a most beautiful forest as far as we could see, thinly wooded by Gums and Bastard Box, the tops of the Hills stony and Stone Sand, but in the valleys a fine Rich Soil; the banks of this River is flooded about 30 feet perpendicular. At Noon, hot sultry wr., saw several natives' fires at a distance, the first I have seen since I left the New Country; this afternoon myself and Wild went about 5 miles up the East part of the plains by the side of the River, and found 2 Branches, the one coming from the N.E., and the other from the Southward. Throughout the night, fine and clear."

* *Marginal note on original.*—"This agrees with my own observations and with the accounts of the natives, under which mountains they say a river runs to the S.E.—C. THROSBY."

† *Marginal note on original.*—"This river or stream is called by the natives Yeal-am-bid-gie; its situation and course perfectly agrees with my observations, when at Lake George.—C. THROSBY."

It is evident that, on the 7th, Wild and his companions crossed the low ridge of hills which separates the watersheds of the Yass and Molonglo Rivers. From one of these hills, they observed the Canberra Plains, and, after crossing these plains, camped somewhere near Duntroon. In the evening, they discovered the deposits of limestone, which gave the first name to the district—Limestone Plains. In the following morning, Smith and Vaughan went down the river and ascended "a very high hill", presumably Black Hill, where they saw the river running south-west past Yarrolumla. In the afternoon, Wild and Smith travelled up the river to the site of Queanbeyan, "and found 2 Branches, the one coming from the N.E. (i.e., the Molonglo) and the other from the southward (i.e., the Queanbeyan)."

On the 9th December, Wild and his companions, the discoverers of Canberra, travelled direct to the southern end of Lake George where they had camped seven days previously, and returned thence to the settled districts.

(iii) *Discovery of the Murrumbidgee.* Charles Throsby was still determined to discover the Murrumbidgee, and, with two companions, left Throsby Park near Moss Vale in March, 1821, for this purpose. He was successful in locating the river; but it is difficult to determine the precise locality of the discovery, as a personal letter and not his journal is alone available. It is certain, however, that he travelled over the site of Canberra; that he traced the Molonglo River towards its junction with the Murrumbidgee; and that he discovered the Murrumbidgee, probably, a little below Point Hut crossing.

4. *Explorations by Currie, Ovens and Wild.*—The adventurous quest for knowledge of the country characteristic of the pioneers was again evident in the final major exploration of the Territory. This expedition was undertaken by a naval captain named Mark John Currie, and the brigade-major and captain of the 74th regiment, named John Ovens, both of whom were untrained in bushcraft. In May, 1823, accompanied by Joseph Wild, they left Throsby Park to explore the country south of Lake George. On the 31st May, they camped on the river near the site of Queanbeyan. On the following day, they crossed the Limestone Plains; discovered a small plain which they named Isabella's Plain (now known as Tuggeranong) in honour of the daughter of Governor Sir Thomas Brisbane; arrived at the Murrumbidgee River; and, after ascending its right bank, being unable to cross, camped somewhere near Tharwa. During the following five days, they travelled southerly, more or less parallel with the Murrumbidgee River; crossed the Unaralla River under the impression that it was the Murrumbidgee; and, on the 6th June, discovered the fertile plains which they called Brisbane Downs, but which are now known as the Monaro Plains.

The epoch of discovery closed with this expedition, and was followed immediately by the epoch of pioneer settlement.

5. *Pioneer Settlers in the Capital Territory.*—The Federal Capital Territory was first settled by men whose names are linked with many important events in Australian and English history, including the arrival of the First Fleet in 1788. The outstanding figures in the first twenty years were J. J. Moore, Robert Campbell, G. T. Palmer, John Macpherson, Sir Terence A. Murray, and James Ainslie.

Moore, who arrived in Australia in 1816 with his brother-in-law, Judge Advocate Sir John Wylde, was a retired lieutenant of the 14th Regiment of Foot, and had served at the battle of Waterloo. In 1824, he became the first Prothonotary of the Supreme Court of New South Wales.

Campbell was the second son of the last laird of Ashfield in Scotland. In 1798, he settled in Australia, became the first merchant, and built up large mercantile and shipping interests. In 1825, he became one of the first non-official members in the nominee Legislative Council, and held his seat until the final dissolution of that Council in 1843. He died at Duntroon in 1846. During his active life, he was probably the most trusted colonist and the greatest philanthropist in the community.

Palmer was a retired lieutenant of the 61st Regiment of Foot, and had served in Egypt at the time of the battle of the Nile. His father, John Palmer, arrived in 1788 with Captain Phillip in the First Fleet, and was for many years Commissary of the Colony.

Macpherson arrived in Australia in 1825 with his father, a retired army officer. As a reward for the capture of a bushranger, he was promised a land grant.

Murray arrived in Australia in 1827 with his father, a captain in the 48th Regiment of Foot. He became the first elected member for the district in 1843, and served continuously in different branches of the New South Wales legislature until his death in 1873. During this lengthy service, he was knighted, and, at different times, held office as Auditor-General, Secretary for Lands and Works, Speaker of the Assembly, and President of the Council.

Ainslie had been a trooper in the Scots Greys at the battle of Waterloo, where he was severely wounded in the head by a sabre cut. He was overseer for Robert Campbell, and was eccentric, his idiosyncrasy being probably resultant on his injury.

6. **Initiation of Grazing.**—After the conquest in 1813 and succeeding years of the barriers which had limited the extension of settlement, the abundance of natural pasture in the newly discovered areas was a powerful attraction to graziers, and the practice was adopted of forming a grazing station without permit or licence on vacant Crown lands. In some districts, such a station might be held by the same grazier undisturbed for many years. The first settlement at Canberra and in the Territory was a stock station, formed in this way at Acton by employees of John Joshua Moore, probably about the end of the year 1824. Moore, however, was not permitted to hold this area for any length of time. The rapidity with which the land on the Limestone Plains and neighbourhood was granted, purchased, or promised, indicates that its value was realized at an early date. During the years 1826–27, therefore, Moore purchased 1,000 acres at 5s. an acre, and erected thereon the building now used as the police station for Canberra. He subsequently purchased an additional 742 acres.

In 1825, Robert Campbell was granted land to the value of £1,000, and live-stock to an equal value as compensation for the loss of his ship “Sydney” in 1806, off the coast of New Guinea, when under charter to the Government. James Ainslie, his overseer, took delivery of 700 sheep from the Government flocks at Bathurst; overlanded them via Yass to the Territory; settled on the south-eastern slopes of Mount Pleasant; and formed Duntroon. A few years later, Campbell’s claim that the land was valued excessively at 5s. an acre was admitted; the value was reduced to 4s., and he was given an additional 1,000 acres to complete the compensation awarded. Less than eighteen months after Ainslie settled at Duntroon, Campbell obtained permission to purchase 5,000 acres on the south bank of the Molonglo River opposite Duntroon, and he thus became the first large landed proprietor in the Territory.

Within a few years of the formation of Moore’s station at Acton, almost the whole of the land on Limestone Plains and a large proportion of the area in the neighbourhood were allotted to private holders.

George Thomas Palmer acquired a large area at Ginninderra, and 2,000 acres at Jerrabomberra, which had been promised to his father, were granted to him after his father’s death.

John Macpherson’s reward grant of 640 acres was located on the spurs of Black Hill and was named Springbank.

In partnership with Thomas Walker, Terence Aubrey Murray acquired 2,560 acres, which formed the nucleus of the Yarrolumla estate, and on which Murray erected the homestead where he resided.

About the end of the year 1836, Charles Sturt was staying at Yarrolumla, recuperating from the privations endured during his exploration of the Murrumbidgee and Murray Rivers from Jugiong to Lake Alexandrina. He there received a notice requiring the early selection of his reward grant of 5,000 acres. He forthwith selected an area between the Molonglo and Murrumbidgee Rivers and the Ginninderra Creek, and this grant was named Belconnel. Soon after, Sturt sold this grant to Charles Campbell, a son of R. Campbell.

So rapidly was the land alienated that, when he criticized the land administration after a visit to the Limestone Plains in 1834, John Lhotsky, the German naturalist, said :—“ More especially the disposition of land is loudly claiming attention, if an Agrarian Law in some shorter or longer period is to be avoided. With regard to Limestone, this is now too late, the whole plains belonging by grant or purchase to a few (although very worthy) land-holders.”

7. **Early Social Conditions.**—During the early years of settlement, conditions were primitive. The nearest post office was at Inverary, a few miles from Bungonia and about 60 miles from Canberra. The principal occupation was grazing; and, there being no fences, the sheep were shepherded, and the country side was dotted with shepherds’ huts. Even the homesteads were primitive; and, in 1834, Lhotsky described the cottage at Duntroon as the last house south of Sydney with windowpanes. Labour, principally as shepherds, was provided by convicts under the system of assignment, and the supervision of the properties was left to overseers.

Within five years of its first settlement, the district became infested with gangs of armed bushrangers, who were absconding convicts and who existed by robbery and plunder. In 1828, a gang of six bushrangers was captured, the two leaders Tennant and Ricks, by Campbell's overseer, Ainslie, and Moore's overseer, Cowan, respectively, and four were tried and hanged. Large forces of military and mounted and foot police were frequently required to maintain order; but the convict type of bushranger was not suppressed until after the abolition of transportation and the extension of settlement in the forties.

Notwithstanding the primitive and disturbed conditions, the isolation, the entire want of social intercourse, and the absence of medical aid, John Macpherson and his wife began to reside at Springbank on the slopes of Black Hill about the year 1832, and he was the first educated resident land owner in the Territory. In 1834, his son, John Alexander, was born at Springbank, and this son became Premier of Victoria in 1869-1870, and Chief Secretary in 1875-1877.

Within five years many land owners followed the example of Macpherson. Palmer took up residence at Ginninderra, Murray at Yarrolumla, and Charles Campbell, the third son of R. Campbell, at Duntroon. In 1837, C. Campbell married the eldest daughter of G. T. Palmer, and initiated the long series of inter-family marriages characteristic of the district.

At this time, 1836, the population consisted half of convicts and half of free men. The two magistrates were Palmer, at Ginninderra, and Murray, at Yarrolumla; and, at these two homesteads, punishments were inflicted. In 1837, however, a resident magistrate was appointed, a doctor settled, a post office was established at Queanbeyan, and conditions began rapidly to improve.

8. Early Economic Conditions.—The economic conditions during the first twenty years of settlement were indicated by Charles Campbell and J. F. Murray, a brother of T. A. Murray, who had obtained the grant of Woden, in their evidence before a Select Committee in 1843. During the consideration of the Masters and Servants Act, Murray stated that the relations between master and servant were good in and about the district of Limestone Plains, whereas the reverse was generally the case in other parts of the Colony. Campbell indicated the methods adopted by graziers in the district. He stated that sheep farming was remunerative, provided that a price of seven shillings a head could be obtained. The sheep were shepherded, and each station required a large staff of employees. On Duntroon and the adjoining station, 50 or 60 shepherds and watchmen were employed at wages of £20, £22 and £24 a year and rations, or a cost of about £1,200 a year apart from rations. Campbell advocated the settlement of the employees on each station in a group of cottages or "village", each cottage possessing a small cultivation area. By this plan, the employees became more settled and contented. The remains of such a "village" may be seen to-day near the old Palmer homestead at Ginninderra.

In the year 1838, one of the most severe droughts on record commenced, and it continued until the year 1842. All the creeks in the district dried up, very few water holes remained in the Molonglo River, and the Murrumbidgee ceased to run for two years. All the crops failed, and the price of wool fell from 36d. in 1833 to 18d. in 1841. Superimposed on these troubles, the financial crisis of 1843 occurred, a happening characterized by many similar features to that of 1930-31.

One result of the financial depression was that sheep became almost unsaleable at any price. In 1843, the wages of shepherds on the Duntroon estate were reduced from £24 to £18 a year, and of watchmen from £20 to £16. J. J. Moore, the first landed proprietor, was forced to sell his estate of 1742 acres at Acton to Arthur Jeffreys, R.N., who married the second daughter of Robert Campbell.

No immediate remedy for the financial chaos was forthcoming, and many settlers were ruined. Some relief was obtained for the graziers by the passing of the Lien on Wool Act. Further relief was obtained from the introduction by H. D. O'Brien at Douro, near Yass, of the practice of boiling down. It was found that by boiling down a full-grown sheep the value of the products in tallow, skins, mutton hams, etc., was 14s. The result was that sheep recovered in value and sold at 5s. to 8s. a head.

9. *Effect of the Discovery of Gold.*—The financial restoration of Australia was largely due to the discovery of gold in 1851.

The "gold fever", which lasted for a decade or more, had, however, mainly indirect effects in the area now forming the Federal Territory. It caused a general betterment of conditions, but rendered the district liable to sporadic raids by bushrangers. A quiet and conservative epoch then began, and continued until the Territory became the property of the Commonwealth of Australia on the 1st January, 1911. There is probably no area in Australia, in which there have been fewer changes over an extended term of years.

10. *Conditions Prevailing between 1841 and 1911.*—(i) *The Land-holders and their Descendants.* The system of assignment of convicts had ceased in July, 1841; and thereafter the number of convicts working for private individuals naturally declined, until free labour finally became universal. The lands in the Territory were well-managed, and, in most instances, the owners and their descendants resided on their properties for many years.

Charles Campbell managed Duntroon until 1855 and was succeeded by his brother, George, who resided there until 1876, when he went to England, where he died in 1881. After the death of George Campbell, his widow resided at Duntroon until her death in 1903. Charles Campbell had purchased Belconnel from Charles Sturt in 1837, and acquired other lands near Ginninderra, which he held until his death in 1888, when his son, Frederick, inherited.

Sir Terence Aubrey Murray, father of Sir Hubert Murray, Lieutenant-Governor of Papua, and Professor Sir Gilbert Murray, held Yarrolumla until 1858, when he sold the property to his brother-in-law, Augustus Gibbes, son of Colonel Gibbes, a former Collector of Customs. In 1881, Gibbes sold Yarrolumla to Frederick Campbell, who, when he inherited his father's estates in 1888, became the largest land holder in the district.

G. T. Palmer owned the Ginninderra estates until his death in 1854, when they passed to his son, G. T. Palmer, junr. William Davis, junr., married Palmer's sister, and acquired the estates. He built the new homestead at Gungahleen, and resided there until he sold to E. K. Crace in 1877.

Charles and Martin Byrne acquired Woden from J. F. Murray, the original grantee, and later sold to Frederick Arthur Campbell, whose son still resides in the homestead.

Thomas McQuoid, Sheriff of New South Wales, was granted Tuggeranong about 1837, and on his death in 1841 bequeathed it to his son, Thomas Hyam. T. H. McQuoid was drowned in the wreck of the Dunbar in 1857, and Andrew Cunningham acquired the estate. Cunningham had previously, in 1847, purchased the adjoining property known as Lanyon.

Uriarra was held by Alexander McDonald and his descendants from 1839 onwards. Tidbinbilla was held by George Webb and his sons from 1842 to 1875, when it was acquired by James Cunningham, then of Tuggeranong.

Alexander, Archibald and Charles McKeahnie each owned properties in the mountainous country in the south of the Territory for many years.

Large land holders settled in the district permanently, and several large properties have been held by successive generations of the one family, which is somewhat unusual in Australia. In the Campbell family, four generations have held property within the Territory. Amongst the smaller land holders, a similar practice has often prevailed, and sons have succeeded fathers on the same farms as freeholders or tenants.

All members of the community were content to lead quiet lives, developing their properties, and rearing large families; and many families became closely connected by intermarriage.

(ii) *Other Settlers.* It is remarkable also that, apart from land-owners, many others followed their occupations for unusually lengthy periods. The Reverend P. G. Smith was Rector at Canberra for over 50 years (1855-1906), and baptized, married, and sometimes even buried successive generations. W. F. Hayley was surgeon at Queanbeyan for 30 years (1837-1867), and was succeeded by Andrew Morton, who remained for many years, and their names were household words in times of sickness, death and accident. James Abernethy was schoolmaster at Canberra for 17 years (1863-1880) and taught successive generations of children.

(iii) *Transport Facilities.* During the period of the "gold fever", Cobb and Co. established regular communication with Sydney by a daily coach from Picton to Goulburn, and a tri-weekly coach from Goulburn to Queanbeyan. The time of journey from Goulburn to Queanbeyan was thirteen hours, i.e., from 1 a.m. to 2 p.m. In 1867, the railway was opened to Goulburn, and, in 1886, to Queanbeyan. In 1860, a post office was established at Ginninderra, in 1861 at Lanyon, and in 1863 at Canberra. At first a mail was received three times a week, and the time of transit from Sydney was 50 hours, which, three years later, was reduced to 38 hours. In 1881, a daily mail was established, running three days a week via Queanbeyan, and three days a week via Collector and old Gundaroo.

As time went on, although the ownership remained in the same families, slab huts were replaced by pisé houses, and later brick, stone, or weatherboard buildings. Old homesteads were extended or demolished and new homesteads erected on the same or new sites.

Owners improved their properties, and the most striking change was the abolition of shepherds and the introduction of fencing. F. Campbell, at Yarrolumla, was prominent in making changes. He subdivided his estate into over sixty paddocks, cleared the forest land, and cleaned and dried the flukey country by an extensive system of drainage. Bullock teams were replaced by horses, spring carts by buggies and sulkeys, and tools by machines. The community was contented, conservative and self-contained; and probably would have so remained for another 100 years, if Canberra had not been selected as the site of the Federal Capital.

11. *Conditions after 1911.*—(i) *Commonwealth Control.* The Commonwealth of Australia was established in 1901; and, even before that date, Canberra was suggested as the capital site. It is not necessary here to detail the history of the selection of Canberra as the capital city for Australia. One needs only to note the date, 1st January, 1911, when the Commonwealth of Australia assumed possession of the Federal Territory and the site of Canberra.

With the transfer of the Territory to the Commonwealth, freehold tenure was abolished; and it was provided that all Crown lands, and all privately-owned land after resumption, should for ever remain the property of the nation. This alteration in tenure caused a cessation in the transfer of properties from father to son, which was so marked a feature of the preceding epoch.

(ii) *Resumption of Lands.* For the purposes of the capital city large resumptions of land became necessary. The first area to be resumed was the land which had been originally taken up on behalf of J. J. Moore in 1824, and sold to A. Jeffreys in 1843. In February, 1911, 1,780 acres were resumed from A. H. Jeffreys for £9,743, after he and his forbears had been in possession for 68 years. In July, 1912, 30,451 acres of Duntroon were resumed for £144,690, the Campbell family having held the area for 87 years; and 39,640 acres of Yarrolumla were resumed for £149,662, the property of F. Campbell for 31 years, together with the Belconnel estate which he or his father had held for 75 years. In 1916-17, 21,060 acres of Tuggeranong and Tidbinbilla were resumed for £78,093; this estate having been occupied by the Cunningham family for 60 years. Up to date, 213,830 acres have been resumed at a total cost of £791,837.

(iii) *Leasing of Resumed Lands.* Since its resumption the land, apart from the area reserved for the city of Canberra, has been subdivided and leased to 170 lessees in small areas for grazing and farming, whereas, prior to resumption, more than half the resumed land was held in four estates. No figures are, however, available to show whether the production and thereby the contribution from the lands of the Territory towards the national income have been increased or diminished through this drastic change. As the population of the Territory at the census in 1911 was 1,714 persons, practically all of whom were on the land, and as the population on the 30th June, 1930, resident in the Territory on the land outside the city of Canberra, was 1,963 persons, an increase of 249 persons in nineteen years, it is evident that closer settlement has caused no large increase in the population on the land.

12. **Plan of the Federal Capital**—The history of the world competition for a city plan, of the selection of the design submitted by W. B. Griffin, of the naming of the city by Lady Denman in 1913, of the various forms of administration during the past twenty years, and finally of the opening of Parliament at Canberra in 1927 by H.R.H. the Duke of York have been detailed in previous volumes of the Official Year Book.

13. **Finances of Canberra.**—The finances of Canberra are more involved and therefore more misunderstood possibly than any other public finances in the history of Australia. One of the principal reasons for this has been the provision in the Seat of Government Administration Act of 1924, that the capital liability of the Territory should include all expenditure, from the 1st January, 1901, with annual interest added, on the selection and establishment of the capital of the Commonwealth. When the Act came into operation on the 1st January, 1925, the total liability of the Territory was on this basis £3,409,531. This sum included the net expenditure, less net receipts, £2,966,600, and the sum of £442,961 for interest since the financial year 1902-3. Since the 1st January, 1925, this initial liability has been subject to an annual increment of £88,017 for interest; and, with these annual increments, on the 31st December, 1930, the sum of £971,063 is included in the capital liability of the Territory for interest, some of which has accumulated since 1901. Included in the expenditure £2,966,600, there is the sum of £351,804, expended on administration, maintenance, selection of a capital site, visits of parliamentarians and pressmen to these sites, etc., etc. The capitalization of costs of administration, maintenance, interest on these costs, and interest on expenditure creating no tangible assets, prior to the 1st January, 1925, amounted at the 31st December, 1930, to the sum of £1,322,867, or about 12½ per cent. of the presumed total cost of the capital city and the Territory.

Included in the capital liability of Canberra, there are certain large sums, which represent the funding of expenditure incurred for national purposes without creating any tangible asset, and also other large sums expended on national works, a part of which would in all probability have been paid from the Consolidated Revenue of the Commonwealth, if the Federal Capital Fund had not been established by the Act of 1924.

All available facts seem to indicate that the foundation of Canberra has been an excellent financial investment for the Commonwealth. The nation will ultimately occupy its own buildings, erected on its own cheaply acquired lands, and supplied with its own water supply and sewerage, and will derive its electric light and power under special and favourable conditions, statutorily enacted by the Seat of Government Acceptance and Surrender Acts of 1909. The nation eventually will no longer pay for essential services to State, municipal or private corporations, and will no longer pay rent to States or private persons for office accommodation in buildings on expensive sites in State Capitals.

CHAPTER XVI.

PASTORAL PRODUCTION.

§ 1. Initiation and Growth of Pastoral Industry.

1. **Early Statistics.**—In earlier issues of the Year Book will be found a brief reference to the pastoral industry in Australia prior to the year 1860. (See Year Book No. 6, page 330.)

2. **Subsequent Statistics.**—While the statistical records of live stock in Australia prior to the year 1860 are somewhat defective, from that year onwards fairly complete particulars are available for 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, these particulars were not collected in South Australia, and similar gaps occur on the Victorian records for the periods 1895 to 1899 inclusive, and 1901 to 1903. In order to obtain totals for Australia 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 Live Stock.**—Particulars concerning the numbers of each of the principal kinds of live stock in Australia at decennial intervals from 1860 to 1920, and from 1925 onwards in single years, are given in the following table, and are shown continuously in the graphs hereinafter.

During the sixty-nine years covered by the table the live stock of Australia increased considerably, horses 328 per cent., cattle 183 per cent., sheep 419 per cent., and pigs 190 per cent. The average annual increases which these aggregates represent are as follow :—Horses, 2.12 per cent. ; cattle, 1.52 per cent. ; sheep, 2.42 per cent. ; and pigs, 1.56 per cent.

LIVE STOCK.—AUSTRALIA, 1860 TO 1929.

31st December.	Horses.	Cattle.	Sheep.(a)	Pigs.
1860	431,525	3,957,915	20,135,286	351,096
1870	716,772	4,276,326	41,593,612	543,388
1880	1,068,774	7,527,142	62,184,252	815,776
1890	1,521,598	10,299,816	97,881,221	891,138
1900	1,609,654	8,640,225	70,602,995	950,349
1910	2,165,866	11,744,714	98,066,046	1,025,850
1920	2,415,510	13,499,737	81,795,727	764,406
1925	2,250,361	13,279,785	103,563,218	1,128,374
1926	2,122,516	11,963,278	104,267,101	989,009
1927	2,040,691	11,617,056	100,827,476	878,207
1928	1,942,753	11,300,757	103,430,773	910,181
1929	1,845,614	11,202,134	104,558,342	1,018,324

(a) See note to Table in § 4, 2 hereinafter.

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 1868, 1877, 1883-4, 1892, 1893, 1895, 1901-2, 1912, 1914-15, 1918, 1919, 1922-23, 1925-26, and 1927-28, in which latter years Central and Northern Queensland experienced one of the driest periods on record with a heavy mortality of stock.

The years in which the numbers of live stock attained their maxima are as follows:—Horses, 1918, 2,527,149; cattle, 1921, 14,441,309; sheep, 1891, 106,421,068; and pigs, 1917, 1,169,365.

5. Live Stock in Relation to Population.—The number of each kind of live stock per head of the population of Australia has varied during the past sixty-nine years in the manner shown in the succeeding table:—

LIVE STOCK PER HEAD OF POPULATION.—AUSTRALIA, 1860 TO 1929.

Year.	Horses.	Cattle.	Sheep.	Pigs.	Year.	Horses.	Cattle.	Sheep.	Pigs.
1860	0.38	3.45	17.58	0.31	1920	0.44	2.49	15.11	0.14
1870	0.43	2.60	25.24	0.33	1925	0.38	2.22	17.28	0.19
1880	0.48	3.37	27.87	0.37	1926	0.35	1.96	17.06	0.16
1890	0.48	3.17	31.06	0.28	1927	0.33	1.86	16.14	0.14
1900	0.43	2.29	18.75	0.25	1928	0.31	1.78	16.32	0.14
1910	0.49	2.65	22.16	0.23	1929	0.29	1.75	16.30	0.16

6. Live Stock in Relation to Area.—The numbers of live stock per square mile in the several States and Territories of Australia are given in the following table:—

LIVE STOCK PER SQUARE MILE, 1929.

States and Territories.	Horses.	Cattle.	Sheep.	Pigs.
New South Wales (a)	1.73	8.68	157.45	1.05
Victoria	4.47	15.19	198.30	3.03
Queensland	0.75	7.76	30.31	0.35
South Australia	0.50	0.54	16.28	0.20
Western Australia	0.16	0.86	9.79	0.07
Tasmania	1.31	8.19	79.77	2.02
Northern Territory	0.06	1.36	0.02	0.00
Federal Capital Territory (a)	0.99	5.06	255.79	0.13
Total	0.62	3.77	35.15	0.34

(a) 30th June, 1930.

7. Minor Classes of Live Stock.—The numbers of minor classes of live stock returned for 1929 were as follows:—Goats, 131,869; camels, 6,252; mules and donkeys, 13,871; and ostriches, 136. Of these, goats were most numerous in Queensland; camels, mules and donkeys in Western Australia; and ostriches in South Australia. In the raising of goats, attention has in recent years been devoted to the angora goat and its product (mohair), and 6,489 angora goats are included in the total of 131,869 goats shown above. Of these, 1,468 were in New South Wales, 1,007 in Tasmania, 1,228 in Western Australia, 554 in South Australia, and 2,215 in Queensland, while the quantity of mohair produced in the latter State in 1929 was set down at 1,425 lbs., and the number of skins placed on the market was returned as 360.

8. Net Exports of Principal Pastoral Products.—The quantities by which the exports of the principal pastoral products of Australia exceeded the imports for the years 1925-26 to 1929-30 were as follows:—

NET EXPORTS OF PASTORAL PRODUCTS.—AUSTRALIA, 1925-26 TO 1929-30.

Products.	Unit of Quantity.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
QUANTITIES.						
Animals (living)—						
Cattle	No.	9,898	10,093	11,131	8,452	6,191
Horses	"	5,255	5,276	5,627	5,356	5,969
Sheep	"	20,331	26,218	30,871	29,545	38,764
Bones	cwt.	27,329	18,394	14,486	14,060	10,503
Glue-pieces and Sinews	"	-8,757	-12,840	-13,469	-18,420	-20,176
Glycerine	lb.	-603,485	-553,950	-571,266	-388,800	-703,682
Hair	"	(a)	(a)	(a)	(a)	(a)
Hoofs	cwt.	20,510	8,371	13,543	9,852	11,273
Horns	"	(a)	(a)	(a)	(a)	(a)
Meats—						
Frozen Beef	lb.	214,058,586	112,124,913	169,094,472	189,090,102	156,748,365
Frozen Mutton and Lamb	"	85,679,850	93,514,533	46,359,146	84,905,335	100,410,980
Frozen Rabbits and Hares	pair	4,043,511	3,298,372	3,433,098	3,598,075	3,873,337
Frozen, Other	lb.	8,935,456	3,893,937	7,592,372	7,127,553	6,115,445
Potted, and Extract of	"	(a)	(a)	(a)	(a)	(a)
Preserved in Tins, etc.	lb.	10,209,971	8,674,251	3,760,147	3,168,759	3,381,248
Other (excluding Bacon and Ham)	"	211,403	106,537	322,117	447,495	434,050
Sausage Casings	cwt.	24,119	24,222	22,714	31,489	30,984
Skins—						
Hides	No.	699,080	720,065	1,034,317	816,980	702,135
Sheep	"	8,007,249	8,487,652	11,315,072	11,026,291	12,944,781
Rabbit and Hare	cwt.	134,024	126,745	112,547	100,655	77,566
Other (including Undressed Furs)	"	(a)	(a)	(a)	(a)	(a)
Tallow	cwt.	824,974	833,330	648,502	768,314	592,231
Wool—						
Greasy	lb.	767,812,768	709,438,954	682,913,332	759,443,979	696,578,126
Scoured	"	49,972,194	52,110,342	55,397,621	46,019,959	44,195,688
Tops	"	5,219,085	4,519,357	2,559,159	872,774	552,152

NOTE.—The minus sign — signifies net imports. (a) 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 £358,167,689 for the period, or an average of £71,633,538 per annum, of which wool represents 79.82 per cent. Skins, meat and tallow rank next in order of importance.

NET EXPORTS OF PASTORAL PRODUCTS.—AUSTRALIA, 1925-26 TO 1929-30.

Products.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
VALUES.					
Animals (living)—	£	£	£	£	£
Cattle	32,632	43,663	41,352	21,205	-19,814
Horses	-8,655	35,313	65,285	79,257	85,178
Sheep	27,958	15,390	40,512	43,447	35,681
Bones	22,407	11,783	8,932	10,775	8,015
Glue-pieces and Sinews	3,071	-6,442	-2,503	-6,956	-13,577
Glycerine	-15,380	-21,284	-15,097	-35,060	-15,167
Hair	-63,981	-44,354	-43,054	-35,660	-47,591
Hoofs	10,459	4,765	7,826	6,162	7,128
Horns	36,102	21,291	25,488	24,385	22,626
Meats—					
Frozen Beef	3,263,859	1,626,640	2,377,871	2,888,284	2,569,782
Frozen Mutton and Lamb	2,430,430	2,057,443	1,158,388	2,165,321	2,386,175
Frozen Rabbits and Hares	399,039	305,752	309,149	331,456	339,917
Frozen, Other	166,538	75,956	142,475	180,422	152,310
Potted, and Extract of	-30,580	-25,673	-60,662	-76,328	-52,491
Preserved in Tins, etc.	328,888	273,167	100,110	84,029	118,513
Other (excluding Bacon and Ham)	3,083	1,671	6,243	11,086	8,695
Sausage Casings	259,209	179,434	136,567	144,063	245,246
Skins—					
Hides	713,589	605,600	1,401,029	886,430	459,192
Sheep	3,413,800	3,320,745	4,385,138	4,526,170	3,123,282
Rabbit and Hare	2,874,582	2,832,128	2,490,709	2,624,253	1,507,142
Other (including Undressed Furs)	569,744	1,026,667	831,042	277,477	586,842
Tallow	1,584,405	1,402,020	1,043,311	1,366,341	981,454
Wool—					
Greasy	56,429,712	53,224,169	58,295,914	55,592,624	32,775,631
Scoured	5,537,671	5,726,308	6,621,937	5,519,161	3,563,207
Tops	1,035,107	822,713	488,109	166,957	87,781
Total Values	79,023,942	73,518,868	79,886,161	76,823,552	48,915,166

NOTE.—The minus sign — signifies net imports.

9. Value of Pastoral Production.—Details of the quantities and values of the items included in the value of pastoral production for the year 1929-30 are shown in the following table:—

PASTORAL PRODUCTION.—AUSTRALIA, 1929-30.

Item.	Quantity.	Value.
		£
Wool	lb. 937,596,816	44,222,000
Meats—		
Beef—		
Local Consumption (including Factories)	„ 675,804,596	17,148,542
Exports of Carcasses	„ 156,748,665	2,569,788
Mutton and Lamb—		
Local Consumption (including Factories)	„ 505,219,696	8,520,062
Exports of Carcasses	„ 100,411,243	2,386,186
Rabbits and Hares (Export only)	pair 3,873,337	339,917
Other Meats, frozen and other (Export only) .. .. .	.. (a)	165,922
Sausage Casings (Export only)	cwt. 44,930	426,415
Skins—		
Exports—		
Cattle and Calf	No. 1,036,243	857,360
Sheep	„ 13,235,605	1,050,145
Rabbit and Hare	cwt. 78,241	1,525,117
Other Furred .. .. .	.. (a)	1,041,326
Other Skins .. .. .	.. (a)	3,838
Consumption in Factories .. .. .	.. (a)	1,859,360
Tallow—		
Exports	cwt. 598,533	991,592
Local Consumption	„ 485,301	804,144
Hair, Horns, &c. (Export only) .. .. .	.. (a)	81,350
Net Exports of Live Stock .. .. .	.. ..	41,655
Increase in Live Stock—		
Sheep	No. 1,127,569	528,332
Cattle .. .. .	„ ..	..
Horses .. .. .	„ ..	..
		84,563,051

(a) Not available.

10. Consumption of Meats.—Particulars of the per capita consumption of meat in Australia are shown in the following table, together with returns for certain other countries. The figures have in each case been obtained from official sources, although it is not definitely known that they are all on a similar basis.

While the average consumption in Australia is considerably below that of New Zealand, it is greatly in excess of that of Canada, Great Britain and the United States. The deficiency in these countries is partly counterbalanced by the large consumption of pork, the average of which is greatly in excess of that recorded for Australia and New Zealand.

MEATS.—PER CAPITA CONSUMPTION.—AUSTRALIA AND OTHER COUNTRIES.

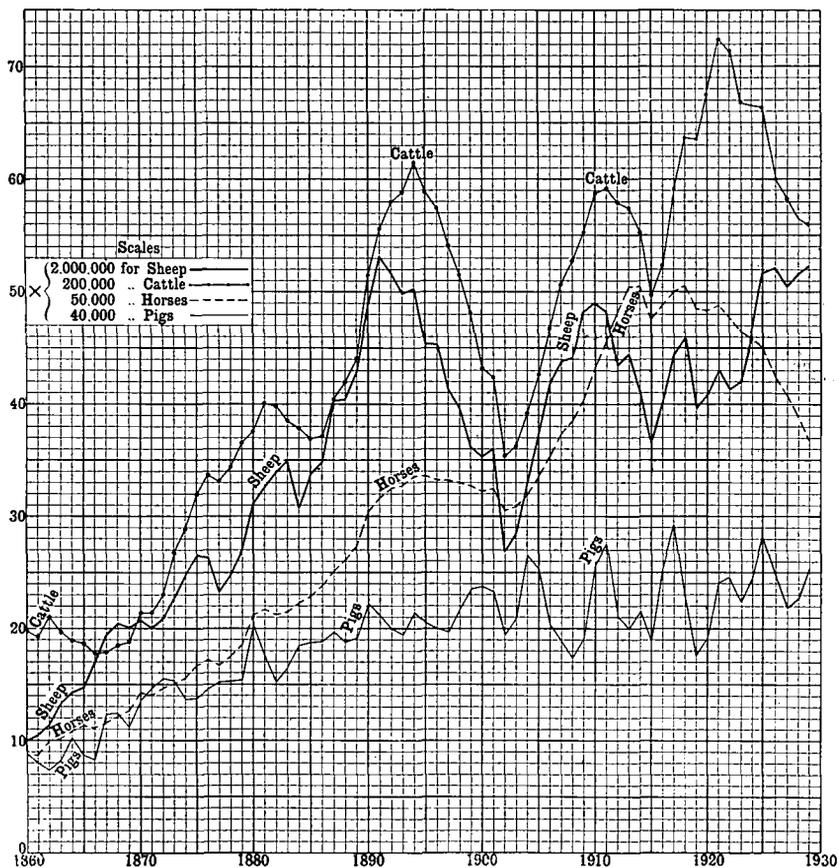
Description.	Australia, 1929-30.	New Zealand, 1929-30.	Great Britain, 1924-27.	Canada, 1928.	United States of America, 1929.
	lb.	lb.	lb.	lb.	lb.
Beef and Veal	104.86	155.73	71.40	67.33	58.20
Mutton and Lamb	78.60	86.87	26.20	6.46	5.80
Pork	6.00	13.11	(b) 46.80	82.48	(c) 72.80
Total	189.46	255.71	144.40	156.27	136.80
Bacon and Ham	10.73	14.51	(a)	(a)	(a)
Total All Meats	200.19	270.22	(b) 144.40	156.27	(c) 136.80

(a) Probably included with Pork.

(b) Including Lard.

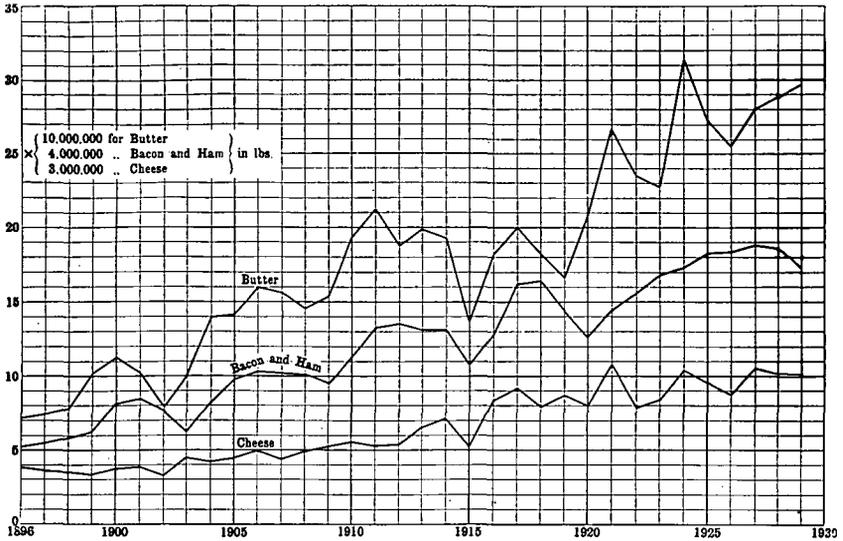
(c) Excluding Lard.

NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS—AUSTRALIA, 1860 TO 1929.



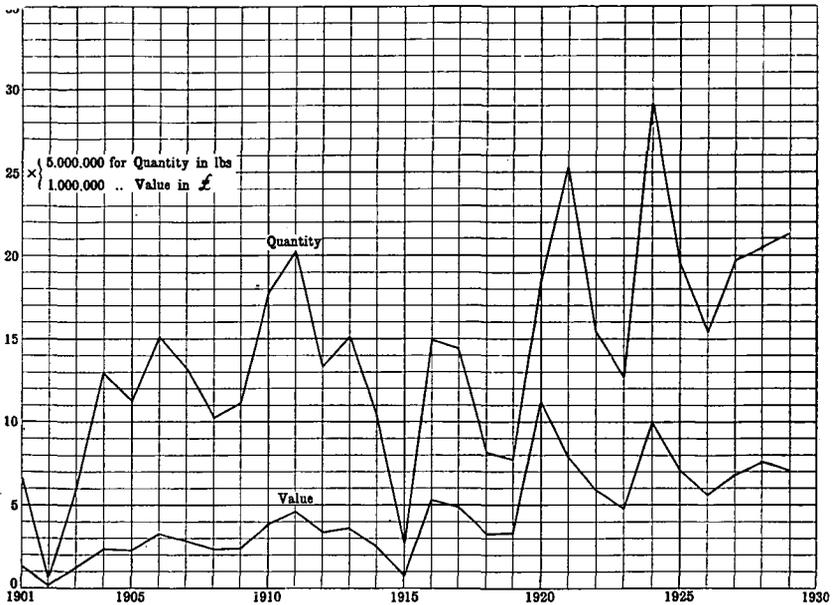
EXPLANATION.—The base of each small square represents an interval of one year, and the vertical side 2,000,000 in the case of sheep, 200,000 for cattle, 50,000 for horses, and 40,000 for pigs.

PRODUCTION OF BUTTER, CHEESE, AND BACON AND HAM—AUSTRALIA,
1896 TO 1929.



EXPLANATION.—The base of each small rectangle represents an interval of one year, and the vertical height of each 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.

QUANTITY AND VALUE OF NET EXPORTS OF BUTTER FROM AUSTRALIA, 1901 TO 1929.



EXPLANATION.—The base of each small rectangle represents an interval of one year, and the vertical height of each 5,000,000 lbs. in weight, or £1,000,000 in value.

§ 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 recognized. By the importation of high-class sires, and the careful selection of breeding mares, these natural advantages are utilized 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. During the war, Australian horses were found to be well adapted for all purposes, especially in Palestine and Sinai, where the rigours of the desert campaign fully tested their powers of endurance.

2. Distribution throughout Australia.—The States of New South Wales, Queensland and Victoria together depasture more than 75 per cent. of the total number of horses in Australia. In the following table figures are given for each State, etc., for each of the last five years :—

HORSES.—NUMBER, 1925 TO 1929.

Year.	N.S.W. (a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	F.C.T. (a)	Total.
1925	649,534	463,051	637,436	244,111	170,563	37,785	46,380	1,501	2,250,361
1926	622,009	447,988	570,600	234,352	166,463	36,830	42,801	1,383	2,122,516
1927	598,377	428,666	547,412	224,027	165,021	35,872	40,108	1,208	2,040,691
1928	567,371	412,867	522,490	205,865	160,876	34,908	37,452	924	1,942,753
1929	534,945	393,015	500,104	189,054	159,528	34,336	33,703	929	1,845,614

(a) 30th June year following.

The number of horses attained its maximum in Australia during 1918, when 2,527,149 were recorded. Since that date, however, a gradual decline has taken place in all divisions of the Commonwealth, except Northern Territory, and the number for 1929 is the lowest recorded since 1906. The decrease for Australia during the period amounted to 681,535.

Particulars regarding the number of horses in Australia from 1860 onwards, may be ascertained from the graph herein.

3. Proportions in the Several States and Territories.—The percentages of the number of horses in the several States and Territories on the total for Australia for the past five years are as follows :—

HORSES.—PERCENTAGE IN EACH STATE, 1925 TO 1929.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	F.C.T.	Total.
	%	%	%	%	%	%	%	%	%
1925 ..	28·86	20·58	28·32	10·85	7·58	1·68	2·06	0·07	100·00
1926 ..	29·30	21·11	26·89	11·04	7·84	1·73	2·02	0·07	100·00
1927 ..	29·32	21·00	26·83	10·98	8·09	1·76	1·97	0·05	100·00
1928 ..	29·20	21·25	26·89	10·60	8·28	1·80	1·93	0·05	100·00
1929 ..	28·98	21·29	27·10	10·24	8·64	1·86	1·83	0·06	100·00

The relative changes in distribution are insignificant, the greatest alteration being a decrease of under 2 per cent. in Queensland.

4. *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 Australia. Queensland is next in order, while Tasmania has the smallest number of horses per head. The number per head of population has declined in all the statistical divisions since 1925. Particulars for the past five years are as follows:—

HORSES.—NUMBER PER HEAD OF POPULATION, 1925 TO 1929.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	All States
1925 ..	0·28	0·27	0·74	0·44	0·46	0·17	12·69	0·38	0·38
1926 ..	0·26	0·26	0·65	0·41	0·44	0·17	10·98	0·28	0·35
1927 ..	0·25	0·25	0·61	0·39	0·43	0·17	9·47	0·21	0·33
1928 ..	0·23	0·23	0·57	0·36	0·40	0·16	9·41	0·11	0·31
1929 ..	0·22	0·22	0·54	0·33	0·38	0·16	7·54	0·11	0·29

5. *Comparison with other Countries.*—The number of horses in some of the leading horse-breeding countries of the world, according to the latest available returns, is as follows:—

HORSES.—NUMBER IN PRINCIPAL COUNTRIES.

Country.	Date.	Number of Horses (,000 omitted).	Country.	Date.	Number of Horses (,000 omitted).
Soviet Republics ..	1929	33,969	Union of South Africa	1926	856
U.S. of America ..	1929	13,440	Cuba ..	1929	758
Argentine Republic ..	1922	9,432	Czechoslovakia ..	1925	740
Brazil ..	1920	5,254	Dutch East Indies ..	1928	706
China ..	1916	4,401	Spain ..	1925	698
Poland ..	1927	4,047	Sweden ..	1928	628
Germany ..	1929	3,611	Lithuania ..	1929	588
Canada ..	1929	3,376	Denmark ..	1929	521
France ..	1928	2,936	Uruguay ..	1924	513
India (British and Native) ..	1928	2,190	Turkey ..	1927	490
Rumania ..	1929	1,959	Bulgaria ..	1926	482
Australia ..	1929	1,846	Irish Free State ..	1929	436
Japan ..	1928	1,494	Finland ..	1929	395
United Kingdom ..	1929	1,246	Latvia ..	1929	360
Jugoslavia ..	1929	1,140	Philippine Islands ..	1928	332
Italy ..	1926	1,050	Chile ..	1925	324
Mexico ..	1926	1,036	New Zealand ..	1929	299
Colombia ..	1927	978	Netherlands ..	1930	297
Hungary ..	1929	892	Paraguay ..	1926	210

6. *World's Totals.*—Several countries do not issue annual statistics of live stock, the information available consisting of censuses or estimates made at varying intervals. It is not possible, therefore, to give world aggregates for the different classes of stock year by year, nor to make a satisfactory comparison between the totals for consecutive years. In order, however, to give some idea of the latest position as regards live stock and the changes that have taken place as compared with pre-war years, the following information has been taken from the Year Book issued by the International Institute of Agriculture. The list of countries included is fairly complete, but China, which possesses large numbers of horses, is omitted, as also are certain parts of Asiatic Russia, together with a few other countries. While for some countries the figures are the result of careful enumeration, in the case of others they are merely approximations. The totals, therefore, can be regarded as a general indication only of the position at the dates shown. The figures for horses are as follow:—

HORSES.—WORLD'S TOTALS, 1913 AND 1927.

Continents, etc.	Number at the date nearest—		Increase (+) or Decrease (-) in 1927.	
	1913.	1927.	Actual Figures.	Percentages.
	,000	,000	,000	%
Europe (excluding Soviet Republics) ..	22,698	22,863	+ 165	+ 0·7
Union of Socialist Soviet Republics ..	35,522	31,258	- 4,264	-12·0
North and Central America ..	26,134	20,465	- 5,669	-21·7
South America ..	18,162	17,653	- 509	- 2·8
Asia (excluding Soviet Republics) ..	4,914	5,394	+ 480	+ 9·8
Africa ..	1,692	2,079	+ 387	+22·9
Oceania ..	2,976	2,445	- 531	-17·8
Total ..	112,098	102,157	- 9,941	- 8·9

Compared with the pre-war totals reductions have taken place in all the continents, with the exception of Africa, where the number of horses is relatively insignificant. The greatest decrease occurred in North and Central America, viz. :-5,669,000, largely as the result of the decline in the United States.

7. Oversea Trade in Horses.—(i) *Exports.* Australia's export trade in horses has fluctuated considerably since the war, and is now far below that of earlier years. For instance, during the period 1901-5 the average number exported was over 18,000, whereas during the last five years the figure was under 6,000. The total number of horses exported during that period amounted to 29,191, valued at £806,791, or equal to an annual average of 5,878 for £161,358. The average export price for the period was £27 9s. 0d. About 86 per cent. of the horses exported went to India, where they are largely used for remount purposes.

(ii) *Imports.* The number of horses imported into Australia is comparatively small, consisting mainly of valuable animals introduced for breeding purposes, principally from the United Kingdom and New Zealand. The average value per head of the horses imported during the last five years was £323 15s. 6d., as compared with £27 9s. 0d. per head for the exports for the same period. The average number imported per annum was, however, only 340, and the average annual value, £110,083. The following table gives the imports, exports, and net exports of horses during each of the years from 1925-26 to 1929-30 :-

HORSES.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1925-26 ..	355	135,124	5,610	126,469	5,255	- 8,655
1926-27 ..	343	111,297	5,610	146,610	5,276	35,313
1927-28 ..	300	87,065	5,936	152,350	5,636	65,285
1928-29 ..	339	95,025	5,695	174,282	5,356	79,257
1929-30 ..	362	121,902	6,331	207,080	5,969	85,178

NOTE.—The minus sign (-) signifies net imports.

§ 3. Cattle.

1. *Purposes for which Raised.*—In all the States, 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 led to a considerable increase in numbers and improvement in quality of the dairy herds in Victoria, New South Wales, and Southern Queensland in particular, the portion of Australia in the temperate zone being 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, 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 Australia.—Until 1880, New South Wales occupied the leading position as a cattle-raising State, but in that year Queensland took first place, which it has since maintained. The graph herewith shows a rapid increase in the number of cattle in Australia up to the year 1894, when 12,311,617 head were depastured. From 1895 onwards, however, the effects of droughts and the ravages of tick fever reduced the number to 7,062,742 in 1902. Following the disastrous drought which terminated in the latter year, the herds were gradually built up, and despite recurring droughts, they continued to increase in recent years until the maximum number of 14,441,309 cattle was attained in 1921. The decline in the frozen beef trade and the droughts of 1922–23 and 1925–26, which particularly affected the beef cattle areas of New South Wales and Queensland, were mainly responsible for the heavy decreases recorded in both these States during recent years.

The number of cattle in the several States and Territories during each of the last five years is as follows :—

CATTLE.—NUMBER, 1925 TO 1929.

Year.	N.S.W. (a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor.Ter.	Fed. Cap. Ter. (a)	Total.
1925	2,931,818	1,513,787	6,436,645	373,597	835,911	212,373	970,342	5,312	13,279,785
1926	2,813,144	1,435,761	5,464,845	340,007	827,303	213,112	863,597	5,509	11,963,278
1927	2,848,654	1,327,077	5,225,804	316,314	846,735	219,894	835,390	6,188	11,617,056
1928	2,784,615	1,304,426	5,128,341	263,016	837,527	208,812	768,751	5,269	11,300,757
1929	2,636,132	1,335,242	5,208,588	204,516	836,616	214,643	711,607	4,760	11,202,134

(a) 30th June year following..

3. Proportion in each State.—Percentages showing the relative importance of the various cattle-breeding States during the years 1925 to 1929 are given hereunder :—

CATTLE.—PERCENTAGE IN EACH STATE, 1925 TO 1929.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Total.
	%	%	%	%	%	%	%	%	%
1925	22·08	11·40	48·47	2·81	6·29	1·60	7·31	0·04	100·00
1926	23·51	12·00	45·63	2·84	6·92	1·78	7·22	0·05	100·00
1927	24·52	11·42	44·98	2·72	7·29	1·82	7·19	0·06	100·00
1928	24·64	11·54	45·38	2·33	7·41	1·85	6·80	0·05	100·00
1929	23·97	11·92	46·50	1·83	7·47	1·92	6·35	0·04	100·00

Queensland contains within its borders nearly one half of the cattle herds of Australia. Despite decreases during recent years the percentage of cattle in Queensland on the total for Australia amounted to 46.50 in 1929. The largest relative gain since 1925 occurred in New South Wales, whilst a slight increase was recorded in Victoria, Western Australia, and Tasmania.

4. Relation to Population.—The number of cattle per head of population varies considerably in the several States, as may be seen from the following table :—

CATTLE.—NUMBER PER HEAD OF POPULATION, 1925 TO 1929.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	All States.
1925	1.28	0.90	7.47	0.68	2.24	0.93	265.41	1.35	2.22
1926	1.20	0.84	6.19	0.60	2.18	0.99	221.55	1.12	1.96
1927	1.20	0.76	5.81	0.55	2.16	0.98	191.56	1.08	1.86
1928	1.14	0.74	5.59	0.45	2.06	0.96	193.06	0.65	1.78
1929	1.08	0.75	5.60	0.35	2.01	0.98	159.20	0.57	1.75

5. Comparison with other Countries.—In the following comparisons 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 :—

CATTLE.—NUMBER IN VARIOUS COUNTRIES.

Country.	Date.	No. of Cattle (,000 omitted).	Country.	Date.	No. of Cattle (,000 omitted).
India (British and Native)	1928	146,633	Cuba	1929	4,865
Soviet Republics	1929	68,069	Siam	1929	4,808
U.S. of America	1929	57,967	Czechoslovakia	1925	4,691
Argentine Republic	1922	37,065	Dutch East Indies	1928	4,406
Brazil	1920	34,271	Rumania	1929	4,334
Germany	1929	18,008	Irish Free State	1929	4,137
China	1921	15,973	Spain	1925	3,794
France	1928	15,005	Jugoslavia	1929	3,728
Australia	1929	11,202	Kenya	1929	3,498
Union of South Africa	1929	10,518	New Zealand	1929	3,446
Poland	1929	9,057	French Equatorial and West Africa	1928	3,440
Canada	1929	8,931	Nigeria	1929	3,105
Uruguay	1924	8,432	Denmark	1929	3,031
United Kingdom	1929	7,891	Paraguay	1926	2,973
Italy	1926	7,400	Sweden	1928	2,898
Turkey	1927	6,934	Rhodesia	1928	2,767
Madagascar	1929	6,841	Netherlands	1930	2,352
Colombia	1927	6,727	Venezuela	1922	2,278
Mexico	1926	5,584	Austria	1923	2,162
Tanganyika Territory	1929	4,867	Bolivia	1929	1,855

6. World's Totals.—The information in the appended table has been taken from the returns published by the International Institute of Agriculture at Rome. The figures given therein are subject to the limitations previously noted in respect to horses (See § 2, 6 ante).

CATTLE.—WORLD'S TOTALS, 1913 AND 1927.

Continents, etc.	Number at the date nearest—		Increase (+) or Decrease (-) in 1927.	
	1913.	1927.	Actual Figures.	Percentages.
	,000	,000	,000	%
Europe (excluding the U.S.S.R.)	98,764	100,339	+ 1,575	+ 1.6
Union of Socialist Soviet Republics	60,280	67,835	+ 7,555	+ 12.5
North and Central America	76,485	79,415	+ 2,930	+ 3.8
South America	86,662	101,053	+ 14,391	+ 16.6
Asia (excluding the U.S.S.R.)	131,300	143,927	+ 12,627	+ 9.6
Africa	34,537	51,270	+ 16,733	+ 48.4
Oceania	13,859	15,476	+ 1,617	+ 11.7
Total	501,887	559,315	+ 57,428	+ 11.4

The number of cattle has increased in all continents since 1913, the most notable advances being in Africa and South America. In these continents the development of the cattle industry has been most marked, the number of cattle having increased by more than 16 and 14 million head respectively since the pre-war year.

7. Imports and Exports of Cattle.—Although the various products of the cattle-raising industry bulk largely in the export trade of Australia, the export of live cattle has never been considerable. The number of cattle imported is also small, consisting, as in the case of horses, mainly of valuable animals for the purpose of breeding. Details are as follow :—

CATTLE.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1925-26 ..	173	15,743	10,071	48,375	9,898	32,632
1926-27 ..	103	4,412	10,196	48,075	10,093	43,663
1927-28 ..	89	3,553	11,220	44,905	11,131	41,352
1928-29 ..	96	17,761	8,548	33,966	8,452	21,205
1929-30 ..	193	44,309	6,384	24,495	6,191	-19,814

Note.—The minus sign (—) signifies net imports.

The average value of the cattle imported during the last five years was £131 3s. 2d. per head, while the average value of the cattle exported during the same period was £4 8s. 3d. As previously stated, the imported cattle were required principally for stud purposes.

8. Cattle Slaughtered.—The number of cattle slaughtered during each of the years 1925 to 1929 is given hereunder:—

CATTLE (INCLUDING CALVES) SLAUGHTERED, 1925 TO 1929.

Year.	N.S.W. (a)	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	N. Ter.	Fed. Cap. Ter. (a)	Total.
1925	825,628	523,960	778,060	157,210	110,286	36,824	2,000	456	2,434,424
1926	809,810	499,519	567,640	143,747	101,948	32,989	1,369	2,784	2,159,806
1927	694,527	469,610	739,995	142,557	101,146	36,249	1,854	2,924	2,188,862
1928	778,994	466,576	685,196	127,627	100,982	36,264	2,065	2,074	2,199,778
1929	680,316	387,662	630,620	117,806	91,195	35,278	1,531	2,143	1,946,551

(a) For year ended 30th June of year following.

9. Production and Consumption of Beef.—The production of beef in Australia during the year 1929-30 was estimated at 832,553,000 lbs. The requirements of the local market absorbed 672,600,589 lbs., approximately 81 per cent., leaving a balance of 19 per cent., which was exported as frozen and canned beef. (See also § 1, 10 *ante*.)

10. Export of Frozen Beef.—The establishment of the frozen meat export trade about the year 1882 provided an outlet for the surplus stock of Australia, and since that date the trade in frozen beef has grown to large proportions, the quantities and values exported during the past five years being as follows, viz.:—1925-26, 214,089,981 lbs., £3,264,920; 1926-27, 112,198,096 lbs., £1,627,998; 1927-28, 169,098,425 lbs., £2,377,967; 1928-29, 189,090,357 lbs., £2,888,287 and 1929-30, 156,748,665 lbs., £2,569,788. (See Table § 1 No. 8.) The largest purchaser of Australian beef is the United Kingdom, which during the year 1929-30 took £1,278,665 worth, or about 50 per cent., of the total shipments. Other importing countries in order of importance were Belgium, Germany, Philippine Islands, Italy, Japan, and Egypt. These countries, together with the United Kingdom, accounted for 91 per cent. of the total exports.

§ 4. Sheep.

1. Initiation of the 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, while 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 Australia.—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 the lead in sheep-raising which naturally attached to it as the portion of Australia in which settlement was first effected. Within its borders is contained generally one half of the flocks of Australia, and in the returns for the years 1924 to 1926 even this high percentage was exceeded.

Fluctuations in the number of sheep recorded for each year in Australia from 1860 onwards may be seen from the graph accompanying this chapter. Five marked periods of decline depleted the numbers at successive intervals, but these gaps were quickly restored. Since 1925 the sheep flocks have exceeded 100 millions, reaching 104,558,342 in 1929, and an estimated number of 105,895,894 in 1930. At no previous period have such large numbers been depastured continuously. This development in spite of the annual slaughter of some ten to fifteen million sheep and lambs for the mutton and lamb trade is a striking commentary on the soundness of the sheep and wool industry in Australia.

The number of sheep in the several States and Territories for each year from 1926 to 1929 with an estimate for the year 1930 is as follows :—

SHEEP.—NUMBER, 1926 TO 1930.

Year.	New South Wales. (a)	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Nor. Ter.	Fed. Cap. Ter. (a)	Total.
1926	55,705,923	14,919,653	16,800,772	7,283,945	7,458,766	1,807,558	6,407	224,077	104,267,101
1927	50,510,000	15,557,067	16,642,385	7,542,345	8,447,480	1,904,955	9,585	218,659	100,827,476
1928	50,184,950	16,498,222	18,509,201	7,079,947	8,943,002	2,000,005	7,635	207,211	103,430,773
1929	48,720,000	17,427,203	20,324,303	6,186,252	9,556,823	2,091,113	12,203	240,445	104,558,342
1930 ^b	49,870,000	16,477,995	21,795,899	5,500,000	10,000,000	2,000,000	12,000	240,000	105,895,894

(a) 30th June year following.

(b) Estimate as at 31st December, 1930.

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 1925 to 1929 are given hereunder :—

SHEEP.—PERCENTAGE IN EACH STATE, 1925 TO 1929.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Total.
	%	%	%	%	%	%	%	%	%
1925 ..	51.84	13.27	19.95	6.58	6.62	1.56	0.01	-0.17	100.00
1926 ..	53.43	14.31	16.17	6.99	7.15	1.73	0.01	0.21	100.00
1927 ..	49.99	15.46	16.54	7.50	8.40	1.89	0.01	-0.21	100.00
1928 ..	48.52	15.95	17.90	6.84	8.65	1.93	0.01	0.20	100.00
1929 ..	46.60	16.67	19.44	5.92	9.14	2.00	0.00	0.23	100.00

Apart from the effect of drought the percentage of sheep depastured in the different States shows little change. The most noteworthy alteration was a loss of 1.92 per cent. in New South Wales and a gain of 1.54 per cent. in Queensland during 1929 as compared with the previous year.

4. Relation to Population.—The relation of the flocks of the several States and Territories to the population at the end of each year from 1925 to 1929 is as follows :—

SHEEP.—NUMBER PER HEAD OF POPULATION, 1925 TO 1929.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Total.
1925 ..	23.36	8.16	23.99	12.35	18.44	7.46	2.20	43.76	17.28
1926 ..	23.73	8.72	19.11	12.86	19.69	8.42	1.64	45.53	17.06
1927 ..	20.95	8.93	18.51	13.10	21.53	8.82	2.20	37.25	16.14
1928 ..	20.52	9.37	20.19	12.22	22.03	9.24	1.92	25.62	16.32
1929 ..	19.66	9.81	21.83	10.66	22.93	9.55	2.73	29.03	16.30

5. **Comparison with other Countries.**—As regards the size of its flocks, and the quantity and quality of wool produced, Australia has long occupied a leading position amongst the sheep-raising countries of the world. The following comparison taken mainly from the Year Book of the International Institute of Agriculture gives the latest figures relative to the number of sheep in the principal wool-producing countries. The leading position, so long held by Australia, is now occupied by the United Socialist Soviet Republics. This interchange of positions is due to the fact that figures regarding the number of sheep have been revised, and now include those depastured in Europe and Asia. Efforts are being made by the Soviet Government to improve the quality of the wool and the quantity shorn per fleece, and to this end merino sheep were imported from America and Germany in 1927. In 1928-29, and 1929-30, 2,031 and 5,006 sheep valued at £6,017 and £13,606, respectively were exported from Australia to Russia for breeding purposes. The production of wool, however, amounted to about 384 million lbs. only during the year 1929.

SHEEP.—NUMBER IN VARIOUS COUNTRIES.

Country.	Date.	No. of Sheep (,000 omitted).	Country.	Date.	No. of Sheep (,000 omitted).
Soviet Republics ..	1929	147,158	Jugoslavia ..	1929	7,736
Australia ..	1930	105,896	Greece ..	1928	6,920
U.S. of America ..	1929	48,913	Algeria ..	1929	6,196
Union of South Africa ..	1929	45,012	French Equatorial and West Africa ..	1928	5,730
Argentine Republic ..	1922	36,209	Bolivia ..	1929	5,552
India (British and Native) ..	1928	35,505	Iraq (a) ..	1926	5,055
New Zealand ..	1929	29,051	Chile ..	1925	4,095
United Kingdom ..	1929	24,316	Canada ..	1929	3,728
Uruguay ..	1927	22,500	Portugal ..	1925	3,721
China ..	1916	22,232	Germany ..	1929	3,475
Spain ..	1925	20,067	Irish Free State ..	1929	3,375
Rumania ..	1929	12,406	Kenya ..	1929	2,905
Italy ..	1926	12,350	Mexico ..	1926	2,698
Turkey ..	1926	11,702	Poland ..	1929	2,523
Peru ..	1922	11,335	Sudan (Anglo-Egyptian) ..	1929	2,200
France ..	1928	10,445	Basutoland ..	1929	2,150
French Morocco ..	1929	8,848	Tanganyika Territory ..	1929	2,135
Bulgaria ..	1926	8,739			
Brazil ..	1920	7,933			

(a) Including goats.

6. **World's Totals.**—The number of sheep in the various great divisions of the world has been estimated by the International Institute of Agriculture, and a comparison has been made with pre-war estimates. In the table below the results are shown, the totals being subject to the limitations noted for other classes of live stock. (See § 2, 6 *ante*.)

SHEEP.—WORLD'S TOTALS, 1913 AND 1927.

Continents, etc.	Number at the date nearest—		Increase (+) or Decrease (-) in 1927.	
	1913.	1927.	Actual Figures.	Percentages.
	,000	,000	,000	%
Europe (excluding the U.S.S.R.) ..	126,999	129,733	+ 2,734	+ 2.2
United Socialist Soviet Republics ..	111,051	120,237	+ 9,186	+ 8.3
North and Central America ..	43,148	51,097	+ 7,949	+ 18.4
South America ..	100,392	89,642	- 10,750	- 10.7
Asia (excluding the U.S.S.R.) ..	41,802	43,994	+ 2,192	+ 5.2
Africa ..	76,583	84,118	+ 7,535	+ 9.8
Oceania ..	109,331	129,947	+ 20,616	+ 18.9
Total ..	609,306	648,768	+ 39,462	+ 6.5

7. **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. During the past five years the principal consignments of ordinary sheep have been made to Malaya (British) from the State of Western Australia. The purchases by South African and Japanese buyers at the Australian Stud Sheep Sales during recent years have opened up a regular export trade with these two countries in stud sheep, the bulk of which has been secured from the leading flocks of New South Wales, Victoria and South Australia. Other countries purchasing stud sheep during 1929-30 were Russia and New Zealand. The following are particulars of the imports and exports for the years 1925-26 to 1929-30 :—

SHEEP.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1925-26 ..	2,375	13,873	22,706	41,831	20,331	27,958
1926-27 ..	6,951	34,595	33,169	49,985	26,218	15,390
1927-28 ..	3,045	12,417	33,916	52,929	30,871	40,512
1928-29 ..	3,764	17,797	33,309	61,244	29,545	43,447
1829-30 ..	2,908	23,278	41,672	58,959	38,764	35,681

8. **Sheep Slaughtered.**—The number of sheep slaughtered in the several States during each of the years from 1925 to 1929 was as follows :—

SHEEP (INCLUDING LAMBS) SLAUGHTERED, 1925 TO 1929.

Year.	N.S.W. (a)	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	Nor. Ter.	Fed. Cap. Ter.(a)	Total.
1925 ..	4,244,497	4,194,572	635,335	1,028,533	613,935	286,691	..	7,908	11,011,471
1926 ..	5,600,083	4,528,113	679,266	1,000,756	712,647	310,425	..	19,319	12,940,612
1927 ..	5,009,511	4,732,494	669,742	1,209,608	784,349	323,671	..	22,507	12,756,882
1928 ..	4,967,875	5,286,642	805,461	1,263,352	807,510	331,820	..	30,384	13,483,004
1929 ..	6,326,925	6,024,702	1,089,978	1,242,835	861,785	341,527	644	23,026	15,011,422

(a) Year ended 30th June year following.

9. **Production and Consumption of Mutton and Lamb.**—The annual production of mutton and lamb during the year 1929-30 amounted to 605,631,000 lbs., of which 504,151,694 lbs., or 83 per cent., was consumed locally, leaving a balance of 17 per cent. for exportation. See also § 1, No. 10.

10. **Exports of Frozen Mutton and Lamb.**—The export trade in mutton and lamb preserved by cold process grew rapidly until in 1913, the year immediately before the war, the value of the shipments amounted to nearly £3,000,000. The exports fell away considerably during the war years, but a record shipment of 246,971,346 lbs., valued at £5,482,564, was made in 1919-20, and another large consignment, valued at £4,321,917, was dispatched in 1922-23. Climatic conditions have since favoured a considerable output, and shipments have responded accordingly.

The quantity and value of the shipments during each of the past five years were as follows :—1925-26, 85,681,970 lbs., £2,430,465 ; 1926-27, 93,520,154 lbs., £2,057,607 ; 1927-28, 46,362,954 lbs., £1,188,506 ; 1928-29, 84,929,176 lbs., £2,166,043 ; 1929-30, 100,411,243 lbs., £2,386,186. See Table § 1 No. 8.

As in the case of frozen beef, the principal customer in this trade is the United Kingdom, which absorbed 88 per cent. of the total quantity exported from Australia during the year 1929-30, while the balance was shipped mainly to Canada, Belgium and Malaya (British).

§ 5. Wool.

1. *General.*—Australia is the leading wool-growing country in the world. With less than one-sixth of the world's sheep Australia produced in 1928-29, 25 per cent., or one-quarter of the world's supply. Her contribution was even more important as it represented one-half of the world's production of fine quality merino wool. The bulk of the production is exported, but with the greater activity of Australian woollen mills the quantity used locally is increasing, nevertheless the amount so used represents under 6 per cent. of the total production.

2. *Value.*—Wool is the chief factor in the pastoral wealth of Australia and the nation's prosperity is largely dependent upon the satisfactory sale of its annual wool clip. The severity of the decline in the price of wool during the season 1929-30 and its effect upon the national income are reflected in the following figures. Based upon the export values of the produce of the various States the output for the season 1929-30 was valued at £44,222,000 compared with £70,833,000 in the previous year, £81,430,000 in the record price year 1924-25, and £64,350,000 the average of the previous five seasons. The average export price of greasy wool declined from 17.58d. per lb. in 1928-29 to 11.30d. per lb. in 1929-30, a fall of more than 35 per cent. During the period 1925-26 to 1929-30 the export of wool averaged 44 per cent. of the value of the total shipments of merchandise from Australia, and during 1929-30 the ratio was 37.6 per cent.

3. *Greasy and Scoured Wool.*—For the purpose of comparing the clips 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 greasy wool which was scoured and washed before export during the last five years has been on the average about 17 per cent. of the total export in terms of greasy wool. The 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 uncertainty as to average loss of weight is thereby minimized.

In the tables dealing with production, "scoured and washed" wool has been converted into the estimated equivalent amount of "greasy" on the assumption that two and one-sixth pounds of "greasy" wool are on the average required to produce one pound of "scoured and washed."

4. *Production.*—(i) *Quantity.* The annual shearing of the live sheep provides the main source of Australia's wool supply, the resultant clip forming about 90 per cent. of the total production. A small quantity, approximately 6 per cent. of the total output is obtained by fellmongering, or removing wool from skins of slaughtered sheep, while the remaining 4 per cent. represents the estimated quantity of wool exported on sheepskins. Statistics of wool production are compiled from data received from

growers, fellmongers, etc. The following table furnishes figures for each State and the Commonwealth during the past five seasons :—

WOOL.—TOTAL PRODUCTION, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales(a) ..	402,490,000	499,322,000	443,860,000	484,753,597	461,852,890
Victoria ..	139,076,017	151,624,526	148,503,795	179,854,306	160,662,578
Queensland ..	158,744,544	129,435,804	136,544,333	150,108,044	161,087,873
South Australia ..	69,007,266	72,365,200	78,369,918	74,616,004	67,300,881
Western Australia ..	51,827,080	59,300,023	67,549,734	63,890,984	72,562,594
Tasmania ..	12,564,000	12,333,000	13,272,000	14,900,000	14,100,000
Northern Territory(b)	30,000	30,000	30,000	30,000	30,000
Total ..	833,738,907	924,410,553	888,129,780	968,152,935	937,596,816

(a) Including Federal Capital Territory. (b) Approximate figures.

(ii) *Estimate for 1930-31.* Although the returns are not yet complete, the total wool production of the Commonwealth during 1930-31 is estimated at 910,000,000 lbs., valued at approximately £34,719,000 or 9d. per lb. in Australian currency.

5. *Care Needed in Comparing Clips.*—In comparing successive clips, allowance must be made for the circumstance that, 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.

6. *World's Wool Production.*—The following table compiled by the Textile Division of the United States Department of Commerce shows the importance of Australia as a wool-producing country. Out of a total production of 3,748 million lbs. in 1930, Australia's contribution amounted to over 937 million lbs., or more than 25 per cent. of the world's supply.

WOOL(a).—WORLD'S PRODUCTION, 1909 TO 1930.

Countries.	Average Annual Pre-War Production.(b)	Production.	
		1929.	1930.(c)
North America—	lbs.	lbs.	lbs.
United States	314,110,000	363,447,000	397,907,000
Canada	11,210,000	21,420,000	21,207,000
Mexico	7,000,000	1,320,000	12,400,000
Total	332,320,000	386,187,000	431,514,000
Central America and West Indies	1,000,000	..	..
South America—			
Argentina Republic	358,688,000	323,400,000	333,336,000
Brazil	35,000,000	24,200,000	24,200,000
Chile	17,430,000	32,600,000	30,000,000
Peru	9,940,000	10,300,000	10,300,000
Uruguay	156,968,000	135,000,000	140,000,000
All other	9,324,000	19,847,000	8,097,000
Total	587,350,000	545,247,000	545,933,000

(a) Computed on "greasy" basis. (b) Average for years 1909 to 1913 inclusive. (c) Where 1930 figures were not obtainable, an earlier figure or an unofficial estimate has been inserted. (d) As returned.

WOOL(a).—WORLD'S PRODUCTION 1909 TO 1930—continued.

Countries.	Average Annual Pre-War Production.(b)	Production.	
		1929.	1930.(c)
	lbs.	lbs.	lbs.
Europe—			
Austria	15,360,000	860,000	820,000
Belgium	1,060,000	775,000	775,000
Bulgaria	23,700,000	22,887,000	22,036,000
Czechoslovakia		3,290,000	3,290,000
Denmark	3,508,000	2,959,000	2,646,000
Estonia		1,499,000	1,499,000
Finland		4,250,000	4,501,000
France	80,688,000	44,000,000	46,297,000
Germany	52,000,000	34,750,000	35,000,000
Greece	14,000,000	16,625,000	19,000,000
Hungary	17,637,000	6,150,000	6,150,000
Iceland	1,980,000	(d)	(d)
Italy	55,000,000	37,500,000	33,000,000
Jugoslavia	25,446,000	30,000,000	30,000,000
Netherlands	3,556,000	4,400,000	3,520,000
Norway	8,160,000	5,515,000	5,515,000
Poland	7,100,000	8,818,000	9,921,000
Portugal	10,000,000	5,105,000	6,616,000
Rumania	13,228,000	55,000,000	53,000,000
Russia	320,000,000	384,252,000	384,252,000
Spain	72,000,000	99,000,000	75,000,000
Sweden	2,875,000	1,250,000	1,295,000
Switzerland	1,049,000	850,000	850,000
Turkey	28,000,000		
United Kingdom	134,000,000	117,869,000	152,644,000
Irish Free State		14,461,000	14,747,000
All other		9,886,000	9,495,000
Total	890,347,000	911,951,000	921,869,000
Asia—			
British India	60,000,000	70,000,000	70,000,000
China	50,000,000	55,505,000	55,500,000
Persia	12,146,000	45,000,000	45,000,000
Russia in Asia	60,000,000	(e)	(e)
Turkey in Asia	90,000,000	7,700,000	9,900,000
All other	1,000,000	51,594,000	52,050,000
Total	273,146,000	229,799,000	232,450,000
Africa—			
Algeria	35,221,000	43,000,000	48,000,000
British South Africa	165,888,000	311,967,000	337,000,000
Tunis	3,735,000	3,801,000	8,787,000
Morocco	14,850,000	21,657,000	23,148,000
All other	30,000,000	19,538,000	20,409,000
Total	249,694,000	399,963,000	437,344,000
Oceania—			
Australia	741,377,000	968,153,000	937,597,000
New Zealand	198,474,000	222,491,000	241,770,000
Total	939,851,000	1,190,644,000	1,179,367,000
Total all other Countries	13,000,000		
GRAND TOTAL	3,286,708,000	3,663,791,000	3,748,477,000

(a) Computed on "greasy" basis. (b) Average for years 1909 to 1913 inclusive. (c) Where 1930 figures were not obtainable, an earlier figure or an unofficial estimate has been inserted. (d) Included with Denmark. (e) Included with Russia in Europe.

7. Wool Locally Used.—The quantity of wool used in the woollen and tweed mills of the various States during the past five years was approximately as follows; the total shown for 1929-30 includes 464,546 lbs. (as in the grease) of wool used in the manufacture of hats :—

WOOL.—GREASY, USED IN LOCAL WOOLLEN, TWEED, AND TOP MILLS, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales	15,332,166	15,394,828	12,038,830	14,796,906	12,671,342
Victoria	17,642,326	29,020,842	24,075,102	23,372,872	23,644,398
Queensland	2,192,482	3,373,800	3,589,730	3,116,009	2,266,052
South Australia					
Western Australia	3,321,213	4,337,881	4,400,698	5,862,862	6,829,858
Tasmania					
Total	38,488,187	52,127,351	44,104,360	47,148,649	45,411,650

8. Exports of Wool.—(i) *Greasy—Quantities.* Of the total weight of wool expressed in terms of “greasy” shipped overseas during the past five years slightly more than 29 per cent. was sent to the United Kingdom, as compared with 38 per cent. dispatched in pre-war years. The other leading consignees since 1926-27 were France, Japan, Germany, Belgium, United States of America, and Italy, the principal continental countries taking 52.6 per cent., and America and Japan 16.4 per cent. of the total shipments. The following table shows for the years 1926-27 to 1929-30 in addition to the average for the five years, 1909-13, and the five yearly period ending 1929-30, the quantities of “greasy” wool exported, and the principal countries of destination :—

WOOL IN THE GREASE.—EXPORTS, AUSTRALIA, 1909-13 TO 1929-30.

Country to which Exported.	Average, Five Years, 1909-13.	1926-27.	1927-28.	1928-29.	1929-30.	Average for Five Years ending 1929-30.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom	212,004,088	211,874,803	196,106,241	212,035,141	202,438,310	215,706,558
France	149,835,946	174,426,470	140,913,531	172,006,450	172,783,716	176,836,623
Japan	7,262,683	78,913,977	106,399,417	101,092,258	83,243,431	85,848,876
Germany	106,344,696	97,808,703	95,402,154	99,933,251	94,962,530	90,781,866
Belgium	55,143,706	76,891,243	76,032,767	99,695,826	80,764,804	79,597,425
United States of America	15,486,447	41,446,243	27,089,377	19,154,235	19,346,569	33,670,880
Italy	4,381,197	28,185,823	34,691,092	40,104,242	35,582,700	34,547,528
Netherlands	(a)	1,090,882	100,604	296,051	770,940	740,130
India	425,547	448,275	778,328	1,404,506	948,394	754,577
Canada	126,653	338,045	177,208	270,921	310,185	311,615
Other Countries	5,830,377	925,744	11,157,204	17,346,556	8,249,325	7,806,445
Total	556,841,340	712,350,208	688,847,983	763,339,527	699,400,904	726,608,523

(a) Included in Other Countries.

(ii) *Scoured and Washed—Quantities.* Similar particulars concerning the exports of "scoured and washed" wool were as follow:—

WOOL, SCOURED AND WASHED(a).—EXPORTS, AUSTRALIA, 1909-13 TO 1929-30.

Country to which Exported.	Average Five Years 1909-13.	1926-27.	1927-28.	1928-29.	1929-30.	Average for Five Years ending 1929-30.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	32,032,577	30,113,626	19,242,933	24,818,010	26,859,655	26,703,129
France ..	16,068,910	10,078,090	9,193,140	5,463,934	6,331,892	8,104,104
Japan ..	1,888,161	5,002,337	3,179,822	1,972,525	1,333,763	3,594,603
Belgium ..	7,528,058	5,739,607	6,266,931	6,987,612	4,382,722	5,334,513
Germany ..	12,310,967	5,344,667	7,004,132	3,534,812	3,964,028	4,325,727
United States of America	66,156	305,374	796,867	875,775	585,993	730,367
Canada ..	(b)	320,900	288,396	614,677	440,097	434,136
Italy ..	265,442	294,957	395,277	544,585	336,770	375,981
Netherlands ..	(b)	..	23,653	12,718	12,590	15,486
India ..	59,684	1,816	17,310	174,272	354,569	111,272
Other Countries ..	127,155	534,329	7,454,477	2,202,143	342,720	2,226,986
Total ..	70,347,110	57,736,693	53,862,938	47,201,063	44,944,799	51,956,304

(a) Including "tops." (b) Included with Other Countries.

The figures for "scoured and washed wool" include tops, amounting in 1925-26, to 5,953,442 lbs., valued at £1,162,877; in 1926-27, 4,519,357 lbs., valued at £822,713; in 1927-28, 2,559,159 lbs., valued at £488,199; in 1928-29, 872,774 lbs., valued at £166,957, and in 1929-30, 552,152 lbs., valued at £87,781. See also § 1 No. 8. The total exports of wool tops during the last five years amounted to 14,456,884 lbs., valued at £2,728,527, of which 12,774,875 lbs., or more than 88 per cent., were shipped to Japan.

(iii) *Total Value of Exports.* The total value of the wool exported from Australia to the principal countries during the periods under review was as follows:—

WOOL EXPORTS.—TOTAL VALUE, AUSTRALIA, 1909-13 TO 1929-30.

Country to which Exported.	Average Five Years 1909-13.	1926-27.	1927-28.	1928-29.	1929-30.	Average for Five Years ending 1929-30.
	£	£	£	£	£	£
United Kingdom ..	10,603,967	19,013,978	10,093,795	19,947,694	12,648,045	18,959,780
France ..	6,494,832	13,164,721	11,960,477	11,865,744	8,075,006	12,177,566
Japan ..	516,528	7,868,883	10,310,846	8,693,195	4,434,746	7,438,728
United States of America	795,328	4,050,960	3,105,212	1,888,155	1,154,433	3,259,955
Germany ..	5,131,282	7,920,677	9,080,643	7,773,780	4,626,041	6,887,148
Belgium ..	2,546,915	5,507,034	6,180,070	6,434,323	3,316,902	5,133,195
Italy ..	202,434	2,156,454	2,944,103	3,019,802	1,641,166	2,457,013
Netherlands ..	(a)	89,078	13,527	27,411	44,061	58,297
Canada ..	6,765	69,695	79,137	113,926	82,850	93,393
India ..	22,308	23,670	53,026	110,802	74,292	55,337
Other Countries ..	267,283	159,210	2,364,282	1,745,413	502,968	997,010
Total ..	26,592,642	60,054,360	66,097,118	61,615,245	36,600,510	57,515,422

(a) Included with Other Countries.

9. *Average Export Value.*—The average values per pound of Australian wool according to the export returns for the periods indicated were as follow:—

AUSTRALIAN WOOL.—EXPORT VALUE PER POUND, 1909-13 TO 1930-31.

Description.	Average Five Years 1909-13.	Average Five Years 1923-27.	1927-28.	1928-29.	1929-30.	1930-31.
	d.	d.	d.	d.	d.	d.
Greasy ..	9.40	20.42	20.49	17.58	11.30	9.16
Scoured ..	16.36	30.12	31.87	28.72	19.36	13.57

10. **Exports and Local Sales of Wool.**—Wool selling in Australia has been developed to such a stage that approximately 90 per cent. of the wool grown is now disposed of locally prior to export. Buyers from the United Kingdom, France, Belgium, Germany, and other European countries, also from America, Japan, China, and India, attend the sales conducted in Sydney, Albury, Melbourne, Geelong, Ballarat, Brisbane, Adelaide, Perth, Hobart, and Launceston. Particulars regarding exports and local sales, as well as quantities and ratios of the various descriptions of wool marketed in each State, were inserted in preceding issues of the Official Year Book, but considerations of space preclude the inclusion of similar matter in the present volume. Detailed tables, however, will be found in the Production Bulletins issued by this Bureau.

11. **The Wool Market.**—(i) *The 1929-30 Season.* The 1929-30 wool-selling season proved an exceedingly difficult one. Prices which declined towards the end of the 1928-29 season showed a further decline at the opening sales of 1929-30 and the fall continued during the whole of the selling season. The average export price of greasy wool in 1928-29 was 17.58d. per lb., but in 1929-30 the average was 11.30d. per lb., representing a fall of over 35 per cent. The estimated value of the total wool production for the season 1929-30 amounted to £44,222,000 as compared with £70,833,000 in 1928-29, and £81,430,000 during the record year of 1924-25. The 1929-30 clip was grown under drought conditions and the quality of the wool was in consequence inferior to that of the previous season.

During the year the sales figures amounted to 2,553,321 bales, compared with 2,645,695 bales the previous year. Values depreciated considerably during the season, the average bale realizing £8 6s. 1d. less than the previous year, while the aggregate sales amounted to £33,924,062 as against £57,122,056 in 1928-29.

(ii) *Wool Realization Scheme.* The British Australian Wool Realization Association Ltd. ("B.A.W.R.A.") was formed on the 27th January, 1921, for the purpose of realizing the large stock of wool remaining at the close of the Imperial Wool Purchase Scheme, which covered part of the 1916-17 clip and the complete clips of the three following seasons. Detailed information in connexion with procedure is contained in the previous Official Year Books (see No. 22, p. 666). The whole of the wool controlled by B.A.W.R.A. was sold in three and a half years, and passed into consumption together with the current clips of the wool-growing countries.

A summary of the amounts distributed by the Central Wool Committee and B.A.W.R.A. will be found in previous issues of the Official Year Book (see No. 23, p. 469). The liquidation of this Association is now almost completed and it is expected that the final dividend will be paid in March, 1932.

12. **United Kingdom Importation of Wool.**—The appended statement of the quantity and value of wool imported into the United Kingdom during the year 1929 from the principal wool-producing countries shows the important position which Australia occupies in the supply of wool to the mother country :—

WOOL(a).—IMPORTS, UNITED KINGDOM, 1929.

Country from which imported.	Quantity.	Value.	Country from which imported.	Quantity.	Value.
	lbs.	£		lbs.	£
Australia ..	269,907,400	21,755,610	United States of America ..	917,200	64,855
New Zealand ..	193,986,000	13,035,623	Peru ..	2,329,200	175,591
Union of South Africa ..	167,420,800	12,719,929	Belgium ..	2,717,700	283,615
Argentina Re-public ..	51,294,400	3,486,806	Falkland Islands	1,890,500	148,767
India ..	53,713,700	2,982,022	Other British Possessions ..	2,768,900	190,572
Chile ..	15,953,000	1,207,296	Germany ..	1,947,800	120,161
France ..	19,784,600	1,852,414	Other Countries	12,967,300	803,189
Uruguay ..	9,129,300	704,211			
Irish Free State	8,923,400	532,385			
			Total ..	815,651,200	60,063,046

(a) Greasy, Scoured, and Tops.

Of the importations of wool into the United Kingdom, Australian wool represented 33 per cent. of quantity and 36 per cent. of value, and New Zealand 24 per cent. of quantity and 22 per cent. of value. It is interesting to note that 698,610,700 lbs., valued at £51,364,908, were received from British Possessions, being 86 per cent. of the total weight and 86 per cent. of the total value imported.

§ 6. Trade in Hides and Skins.

1. **Extent of Trade.**—In addition to the hides and skins treated in the tanneries of the several States, a very considerable export trade is carried on, the value of Australian cattle and horse hides and sheep and other skins exported during the five years 1925-26 to 1929-30 amounting to £42,642,996, or an average of £8,528,599 per annum.

2. **Sheepskins with Wool.**—By far the largest item included in the amount mentioned in the preceding sub-section arises from the value of sheepskins with wool—the exports of which during the five years aggregated £18,978,248. During the year 1929-30 France was the largest purchaser, taking 57.6 per cent. of the total consignments, while United Kingdom ranked next with 25.3 per cent., and the remaining 17 per cent. was shipped principally to the United States of America, Belgium, and Germany. The exports of sheepskins with wool during each of the years from 1925-26 to 1929-30 were as follow :—

SHEEPSKINS WITH WOOL.—EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929 30.	Total for 5 years.
Sheepskins (with wool) .. No.	8,585,054	9,152,287	10,829,913	10,910,516	12,562,384	52,040,154
Value .. £	3,509,328	3,409,833	4,410,702	4,544,827	3,103,558	18,978,248

3. **Sheepskins without Wool.**—In the case of sheepskins without wool the principal countries of consignment are the United States of America and the United Kingdom. These two countries were responsible for 95 per cent. of the exports during the past five years, the purchases of the United States of America alone amounting to 60 per cent. of the total shipments. Particulars concerning exports are as follow :—

SHEEPSKINS WITHOUT WOOL.—EXPORTS, AUSTRALIA, 1925 26 TO 1929 30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Total for 5 years.
Sheepskins (with-out wool) .. No.	89,860	217,102	553,170	514,302	673,221	2,047,655
Value £	13,858	30,228	42,447	44,001	53,415	183,949

4. **Hides.**—(i) *Exports.* The export trade in Australian cattle hides, which fell away during the war years, has again become important. Considerable quantities were shipped oversea during each of the last five years: the United States of America took 20 per cent. of the total shipments during that period, followed by Italy 19 per cent., the United Kingdom 18 per cent., Germany 16 per cent., and Finland 7 per cent.

Particulars concerning the export of cattle hides during the past five years are as follow:—

CATTLE HIDES.—EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Total for 5 years.
Cattle Hides .. No.	916,956	889,746	1,003,220	829,780	754,846	4,394,548
Value £	1,105,540	998,981	1,690,908	1,331,486	794,991	5,921,906

Calfskins exported during the years 1925-26 to 1929-30 numbered 1,423,677, valued at £410,775, and were shipped mainly to the United States of America, the value of the skins taken by that country averaging 52 per cent. of the total exports during the past five years. The annual export of horse hides is very small, and averaged only 6,807 hides, valued at £5,228.

(ii) *Imports.* The import trade in cattle hides and calfskins is fairly considerable, the number annually imported on the average during the past five years amounting to 375,533, with an average value of £453,310. New Zealand supplies the great bulk of these importations, and shipments of limited quantities are also obtained from the Pacific Islands, France, and Italy. The number and value of cattle hides, including calfskins, imported into Australia during the five years 1925-26 to 1929-30 were as follow:—

CATTLE HIDES.—IMPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Total for 5 years.
Cattle Hides .. No.	474,342	371,868	327,903	363,400	340,150	1,877,663
Value £	462,066	437,932	419,345	570,416	401,793	2,291,552

The number of horse hides imported into Australia is unimportant. Imports during the last five years averaged 425 valued at £286.

5. *Other Skins.*—The exports of skins other than those mentioned in the preceding sub-sections are valued as follow:—

OTHER SKINS.—EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Average for Five Years ending 1929-30.
	£	£	£	£	£	£
Rabbit and Hare	2,880,360	2,837,663	2,492,522	2,630,295	1,526,242	2,473,416
Opossum ..	362,406	921,833	540,735	166,059	681,472	534,501
Kangaroo ..	154,476	137,994	200,781	207,532	193,385	178,834
Fox ..	112,986	103,683	140,301	132,771	115,241	120,996
Wallaby ..	74,464	46,655	42,184	87,299	38,714	57,863
Other ..	13,320	26,400	214,085	20,839	19,281	58,785
Total ..	3,598,012	4,074,228	3,630,608	3,244,795	2,574,335	3,424,395

The United States of America and the United Kingdom took nearly all these skins, as shown below :—

**OTHER SKINS.—AVERAGE EXPORTS TO UNITED STATES AND UNITED KINGDOM.
1925-26 TO 1929-30.**

Particulars.	United Kingdom.	United States of America.
	£	£
Rabbit and Hare	831,017	1,445,462
Opossum	337,361	203,155
Kangaroo	24,997	151,915
Fox	94,214	16,630
Wallaby	49,082	7,551
Other	10,881	40,595
Total	1,347,552	1,865,308

CHAPTER XVII.

AGRICULTURAL PRODUCTION.

NOTE.—Except where otherwise stated, the "agricultural" years hereafter mentioned are taken as ending on 30th June.

§ 1. Introductory.

Preceding issues of the Official Year Book contain a brief reference to the attempts at cultivation by the first settlers in New South Wales, and to the discovery of suitable agricultural land on the Parramatta and Hawkesbury Rivers prior to the year 1813, and west of the Blue Mountains thereafter. (See No. 22, p. 670.)

§ 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, 3,361 acres; maize, 1,527 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, 6,874 acres; maize, 3,389 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, 37 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.—(i) General. The following table shows the area under crop in each of the States and Territories of Australia at decennial intervals since 1860 and during each of the last five seasons:—

AREA UNDER CROP, 1860 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1860-1	246,143	337,283	3,353	359,284	24,705	152,860	..	..	1,173,628
1870-1	385,151	692,840	52,210	801,571	54,527	157,410	..	..	2,143,709
1880-1	606,277	1,548,809	113,978	2,087,237	63,902	140,788	..	..	4,500,991
1890-1	852,704	2,031,955	224,993	2,093,515	69,678	157,376	..	..	5,430,221
1900-1	2,446,767	3,114,132	457,397	2,369,680	201,338	224,352	..	..	8,813,666
1910-11	3,386,017	3,952,070	667,113	2,746,334	855,024	286,920	360	..	11,893,838
1920-21	4,465,143	4,489,503	779,497	3,231,083	1,804,987	297,383	296	1,966	15,069,858
1925-26	4,541,360	4,433,492	1,033,705	3,583,867	2,932,110	266,412	391	2,161	16,793,578
1926-27	4,593,847	4,735,173	941,783	3,583,920	3,324,523	289,364	440	3,449	17,772,499
1927-28	4,998,272	4,942,258	1,066,613	4,192,167	3,720,100	296,875	570	2,539	19,219,394
1928-29	5,442,962	5,505,651	1,044,632	4,660,003	4,259,269	273,152	392	3,476	21,169,557
1929-30	5,500,946	5,579,258	1,046,235	4,966,916	4,566,001	265,317	609	4,436	21,929,721

The progress of agriculture was uninterrupted from 1860 until 1915-16, when, as the result of a special war effort, Australia cultivated 18,528,234 acres. Following that year, the decline in wheat-growing and the effects of the drought of 1918-19 reduced the acreage to 13,296,407 acres in 1919-20, a decrease of 5,231,827 acres in the space of four years. With the removal of the obstacles to the disposal of the wheat crop, the area began to expand in 1920-21, and despite occasional adverse seasons, the area planted in 1929-30 amounted to nearly 22 million acres. This area is the largest yet cultivated and exceeds the previous record of 1928-29 by 740,164 acres. Wheat continues to be the most extensively grown crop in Australia, the area thereunder for both grain and hay during 1929-30 amounting to almost 73 per cent. of the total acreage under cultivation. The extension of the wheat area since 1919-20, despite intermittent adverse climatic and market conditions, is a happy augury for the continuance of agricultural development in Australia.

(ii) *Relation to Population.* The total area under cultivation per head of population reached its lowest point in recent years during 1919-20, but since that year the position has considerably improved. The rate of progress during the past decennium has more than kept pace with the gain in population. Details for the past five seasons are as follow :—

AREA UNDER CROP PER 1,000 OF POPULATION, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925-26 ..	1,976	2,633	1,200	6,497	7,878	1,228	107	553	2,803
1926-27 ..	1,957	2,766	1,068	6,857	8,777	1,347	113	701	2,908
1927-28 ..	2,082	2,838	1,186	7,281	9,483	1,375	131	443	3,083
1928-29 ..	2,226	3,126	1,140	8,044	10,494	1,261	98	430	3,344
1929-30 ..	2,220	3,140	1,124	8,560	10,956	1,211	136	536	3,419

(iii) *Relation to Total Area.* The next table furnishes a comparison of the area under crop in the several States and Territories and Australia with the respective total areas. For Australia as a whole, the area under crop in 1929-30 represented only about 1 acre in every 90. In Victoria the proportion was about 1 acre in every 10, in New South Wales 1 in 36, in South Australia 1 in 49, in Tasmania 1 in 63, in Western Australia 1 in 126, in Queensland 1 in 411, and in the Federal Territory 1 in 135.

PERCENTAGE OF AREA UNDER CROP ON TOTAL AREA, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	%	%	%	%	%	%	%	%	%
1925-26 ..	2.293	7.882	0.241	1.473	0.469	1.587	..	0.362	0.882
1926-27 ..	2.320	8.418	0.219	1.597	0.532	1.725	..	0.573	0.934
1927-28 ..	2.524	8.787	0.249	1.723	0.596	1.769	..	0.422	1.009
1928-29 ..	2.748	9.789	0.243	1.916	0.682	1.628	..	0.578	1.113
1929-30 ..	2.778	9.919	0.244	2.042	0.731	1.581	..	0.738	1.152

In the Northern Territory the proportion which the area under crop bears to the total area is, at present, practically negligible.

3. Artificially-sown Grasses.—In all the States there are considerable areas under artificially-sown grasses mainly sown on uncultivated land after burning off the scrub, and not included in "area under crops." These areas are however liable to revert to bush and the information respecting them is too uncertain for formal record.

§ 3. Areas under Crops.

1. Distribution of Crops.—The following table gives the areas in the several States under each of the principal crops for the season 1929-30:—

DISTRIBUTION OF CROPS, 1929-30.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Aus-tralia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Wheat ..	3,974,064	3,566,135	204,116	3,645,764	3,568,225	16,805	..	1,455	14,976,564
Oats ..	181,354	630,234	2,003	277,923	385,134	39,061	..	162	1,515,871
Maize ..	108,219	17,640	171,614	..	29	..	..	..	297,502
Barley—									
Malting ..	4,803	65,740	6,318	287,900	17,806	6,287	..	..	388,854
Other ..	3,144	31,938	3,436	17,416	5,843	648	..	60	62,485
Beans and Peas	..	10,253	43	13,487	2,338	24,167	..	..	50,288
Rye ..	3,974	854	27	653	384	..	..	..	5,892
Other Cereals	19,780	..	1	..	8	..	..	..	19,789
Hay ..	698,395	865,015	49,745	544,438	418,698	80,153	..	2,217	2,658,661
Green Forage	356,903	169,253	208,624	86,500	132,505	23,245	..	465	977,495
Grass and other Seeds ..	..	1,670	1,866	1,991	..	761	..	..	6,288
Orchards and other Fruit Gardens ..	77,532	80,820	38,412	30,073	18,855	32,159	..	53	277,904
Vines—									
Productive ..	13,499	38,327	1,617	48,790	4,601	..	..	..	106,834
Unproductive	2,090	2,267	132	3,539	363	..	..	..	8,391
Market Gardens	8,380	21,210	862	1,658	3,075	530	..	10	35,725
Sugar Cane—									
Productive ..	7,967	..	214,880	..	..	..	..	..	222,847
Unproductive	7,458	..	76,780	..	..	..	..	..	84,238
Potatoes ..	13,630	58,789	10,182	4,536	6,028	33,722	5	8	126,900
Onions ..	131	7,828	467	452	56	..	..	1	8,935
Other Root Crops	1,187	3,229	899	610	280	5,357	..	3	11,565
Tobacco ..	446	1,822	159	37	6	..	..	..	2,470
Broom Millet ..	2,521	1,677	378	..	..	..	..	..	4,576
Pumpkins and Melons ..	2,818	1,231	11,014	314	1,065	..	..	4	16,446
Hops ..	..	201	..	1	..	1,196	..	..	1,398
Cotton—									
Productive ..	..	..	15,003	..	..	..	..	..	15,003
Unproductive	..	..	12,656	..	..	..	..	..	12,656
All other Crops	12,651	3,125	15,001	834	702	1,226	604	1	34,144
Total Area ..	5,500,946	5,579,258	1,046,235	4,966,916	4,566,001	265,317	609	4,439	21,929,721

2. Relative Areas of Crops in States and Territories.—Taking the principal crops, i.e., those in the case of which the cultivation in Australia amounts to more than 100,000 acres, the proportion of each in the various States and Territories on the total area under crop for the season 1929-30 is shown 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, whilst hay is second in extent. In Victoria and Western Australia the oat crop occupies third position, while green forage ranks third in New South Wales, and barley in South Australia. In Queensland the most extensive crops are sugar cane, wheat, maize, and green forage, while in Tasmania, hay, oats, potatoes, and orchards and fruit gardens occupy the greatest area.

As pointed out previously, wheat is the main crop in Australia, the area thereunder for grain and hay representing in 1929-30 nearly 73 per cent. of the total area under cultivation.

RELATIVE AREAS UNDER CROP, 1929-30.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia
	%	%	%	%	%	%	%	%	%
Wheat ..	72.24	63.92	19.51	73.40	78.15	6.33	..	32.78	68.29
Hay ..	12.70	12.52	4.75	10.96	9.17	30.21	..	49.94	12.12
Oats ..	3.30	11.30	0.19	5.60	8.43	14.72	..	3.65	6.90
Green Forage ..	6.49	3.03	19.94	1.74	2.90	8.76	..	10.48	4.46
Maize ..	1.97	0.32	16.40	..	0.00	..	..	..	1.36
Barley ..	0.14	1.75	0.93	6.15	0.52	2.61	..	1.35	2.06
Orchards and Fruit Gardens	1.41	1.45	3.67	0.61	0.41	12.12	..	1.19	1.27
Sugar-cane	0.28	..	27.88	..	..	..	..	..	1.40
Potatoes ..	0.25	1.05	0.97	0.09	0.13	12.71	0.82	0.18	0.58
Vineyards	0.28	0.73	0.17	1.05	0.11	..	..	..	0.53
All other ..	0.94	3.93	5.59	0.40	0.18	12.54	99.18	0.43	1.03
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

3. Area under Chief Crops, Australia.—The area under the chief crops during each of the last five seasons, together with averages for the decennial periods 1911-20 and 1921-30 are shown hereunder.

AREA UNDER CHIEF CROPS.—AUSTRALIA, 1911 TO 1929-30.

Crop.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Average 1911-20.	Average 1921-30.
	1,000 acres.	1,000 acres.					
Barley (a) ..	319	321	276	307	389	102	279
Maize ..	297	286	401	315	298	331	321
Oats ..	1,013	844	1,122	1,046	1,516	782	1,047
Rice ..	1.5	4.0	9.9	14.1	19.8	..	4.9
Wheat ..	10,201	11,688	12,279	14,840	14,977	8,928	11,291
Green Forage ..	1,055	881	1,389	860	977	633	844
Hay ..	2,832	2,700	2,632	2,739	2,659	2,768	2,956
Beans and Peas ..	51	49	64	48	50	41	46
Onions ..	6.5	10.1	8.7	8.6	8.9	7.1	7.7
Potatoes (b) ..	137	139	163	138	124	136	140
Sugar Beet ..	1.9	2.0	2.4	2.1	2.5	0.9	2.0
Vineyards ..	112	112	113	115	114	64	107
Hops ..	1.7	1.6	1.6	1.5	1.4	1.3	1.6
Sugar Cane ..	289	285	291	299	307	165	257
Cotton ..	54	32	29	26	28	0.2	37
Tobacco ..	2.8	2.2	2.1	2.2	2.5	2.1	2.4
Market Gardens (c) ..	45	45	54	45	52	43	46
Orchards ..	275	276	278	277	278	234	277
All other Crops ..	99	95	103	106	126	125	105
Total ..	16,794	17,772	19,219	21,190	21,930	14,364	17,771

(a) Malting only.

(b) Not including Sweet Potatoes.

(c) Including Pumpkins and Melons.

4. Total and Average Yield, Chief Crops, Australia.—The following table shows the yields of the chief crops for the five years ending 1929-30 together with averages for the decennia ending 1919-20 and 1929-30 :—

TOTAL AND AVERAGE YIELD CHIEF CROPS.—AUSTRALIA, 1911 TO 1929-30.

Crop.	Unit of Quantity.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Average 1911-20.	Average 1921-30.
Barley (a)	1,000 bushels	5,401	5,872	4,041	5,692	6,439	2,362	5,077
Maize	"	7,432	6,970	11,393	8,323	7,946	8,581	8,510
Oats	"	12,212	12,571	12,084	14,109	14,424	12,463	14,775
Rice	"	61	215	879	1,308	1,829		431
Wheat	"	114,504	160,762	118,200	159,679	126,884	95,480	135,400
Hay	tons	2,978	3,487	2,859	3,175	2,725	3,285	3,608
Beans and Peas	bushels	610	844	790	663	813	669	735
Onions	tons	27	50	37	34	50	32	40
Potatoes (b)	"	313	373	470	284	343	350	365
Beet Sugar	"	2.3	1.2	2.4	2.1	2.8	1.1	2.3
Grapes	"	252	348	241	393	386	100	263
Wine	gallons	16,231	20,456	17,303	18,600	16,069	5,875	14,761
Raisins and Currants	cwts.	740	1,125	657	1,444	1,469	283	842
Hops	lbs.	2,184	2,278	2,898	2,342	2,340	1,788	2,412
Cane Sugar	tons	518	416	509	538	538	212	402
Cotton, Unginned	lbs.	19,561	9,069	7,061	12,291	8,024	90	9,008
Tobacco	lbs.	2,252	1,218	1,808	1,839	(d)	1,861	(c) 1,842
Pumpkins and Melons	tons	43	38	78	37	45	54	48

(a) Malting only. (b) Not including Sweet Potatoes available. (c) Period 1920-1929. (d) Not yet available.

5. Average Yield per Acre, Chief Crops, Australia.—Details of the average yield for Australia of the principal crops are shown hereunder for the periods indicated :—

AVERAGE YIELD PER ACRE, CHIEF CROPS, AUSTRALIA, 1911 TO 1929-30.

Crop.	Unit of Quantity.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Average 1911-20.	Average 1921-30.
Barley (a)	bushel	19.91	18.30	14.62	18.53	16.56	18.07	18.20
Maize	"	25.01	24.36	28.45	26.41	26.71	25.93	26.47
Oats	"	12.05	14.89	10.77	13.49	9.52	15.94	14.11
Rice	"	39.21	54.16	88.88	93.02	92.44		87.07
Wheat	"	11.22	13.75	9.63	10.76	8.47	10.69	11.99
Hay	ton	1.05	1.29	1.09	1.16	1.03	1.19	1.22
Beans and Peas	bushel	11.86	17.24	12.23	13.74	16.16	16.32	15.85
Onions	ton	4.19	5.01	4.29	4.03	5.57	4.52	5.19
Potatoes (b)	"	2.29	2.68	2.88	2.06	2.76	2.57	2.61
Beet Sugar	"	1.23	0.58	1.00	0.99	1.39	1.14	1.20
Grapes (c)	"	2.55	3.41	2.31	3.71	3.61	1.89	3.09
Wine (c)	gallon	3.63	4.49	3.64	4.00	3.45	2.10	3.46
Raisins and Currants (c)	cwt.	15.67	22.67	13.43	27.52	27.77	16.46	21.03
Hops (c)	lb.	1,449	1,516	1,851	1,594	1,703	1,317	1,572
Cane Sugar (c)	ton	2.61	2.09	2.40	2.42	2.41	2.10	2.30
Cotton, Unginned (c)	lb.	487	482	472	605	535	376	388
Tobacco	lb.	816	801	848	822	(d)	867	(e) 780
Pumpkins and Melons	ton	3.10	3.02	3.58	2.79	2.76	3.93	3.31

(a) Malting only. (b) Not including Sweet Potatoes. (c) Per acre of productive crops. (d) Not yet available. (e) Period 1920-29.

6. Value of Agricultural Production, Australia, 1922-3 to 1929-30.—The following table shows the value of agricultural production in Australia for the years 1922-23 to 1929-30. For the year 1929-30 an attempt has been made to estimate also the local and net values of production in accordance with the resolutions of the Conferences of

Australian Statisticians. The gross value, represents the value in the metropolitan wholesale markets. Local value represents the amount accruing to the producer at the point of production and is obtained by deducting from the gross value the estimated costs of marketing, i.e., transport to market, value of containers, etc., and commission. A further deduction has been made for production costs, leaving an estimated net value of production, i.e., the amount available for distribution among those concerned in the agricultural industry, viz., workers of all grades, proprietors including landlords, and providers of capital. The items included in the above production costs are, (i) cost of seed, manures and sprays, (ii) value of hay, chaff, grain, etc., consumed by stock, (iii) value of power and water used (e.g., irrigation), (iv) value of material used in maintenance of buildings, fences, &c., and (v) depreciation of machinery, implements, tractors, etc. The net value of production as shown for 1929-30 must be regarded as a rough approximation only of the position. It is realized that complete data are not available, but the amount of £40,000,000 shown is considered to approximate the actual position. It is hoped to improve upon the reliability of this table as more accurate details are available. It may be noted that the net rather than the gross value affords a more comparable figure with the value of manufacturing production.

GROSS AND NET VALUES OF AGRICULTURAL PRODUCTION.—AUSTRALIA,
1922-23 TO 1929-30.

Crops.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000
Barley (b)	1,021	752	1,156	1,126	1,109	1,006	1,096	1,059
Maize	2,084	2,050	2,467	1,878	2,317	2,799	1,665	2,085
Oats	2,777	2,933	2,734	2,334	2,165	2,321	2,137	2,097
Rice			4	14	52	198	234	335
Wheat	28,459	29,936	53,547	35,724	42,453	31,895	38,303	27,299
Green Forage	2,502	3,559	2,309	3,381	3,912	2,731	2,680	3,167
Hay	24,004	20,712	18,493	17,078	17,252	15,120	14,137	12,721
Beans and Peas	299	202	234	267	337	333	256	257
Onions	206	265	381	457	221	319	314	193
Potatoes (c)	2,905	2,433	2,435	3,639	3,116	2,327	3,424	2,375
Sugar Beet	49	55	49	42	20	54	33	58
Grapes	3,251	2,466	3,593	3,866	5,590	3,786	4,022	4,145
Hops	254	236	268	207	171	258	189	132
Sugar Cane	5,931	5,106	7,683	6,789	6,568	7,469	7,444	7,476
Tobacco	277	130	109	168	123	108	97	92
Cotton, Unginned	92	289	377	380	190	145	214	186
Market Gardens (d)	1,778	2,158	2,177	2,331	2,680	2,374	2,384	2,640
Orchards	6,667	6,324	7,484	8,043	8,198	9,109	8,807	8,469
Other Crops	1,627	1,476	1,663	1,543	1,821	1,976	2,004	2,323
Total, Gross Value	84,183	81,166	107,163	89,267	98,295	84,328	89,440	77,109
Less Marketing Costs	(a)	(a)	(a)	(a)	(a)	(a)	(a)	17,063
Local Values	(a)	(a)	(a)	(a)	(a)	(a)	(a)	60,046
Less Production Costs	(a)	(a)	(a)	(a)	(a)	(a)	(a)	19,794
Net Value of Production	(a)	(a)	(a)	(a)	(a)	(a)	(a)	40,252

(a) No data available. (b) Malting only. (c) Not including Sweet Potatoes.
(d) Including Pumpkins and Melons.

§ 4. Wheat.

1. Progress of Wheat-Growing.—(i) Area and Production. (a) Seasons 1925-26 to 1930-31. Wheat is the principal crop raised in Australia, and its development during the past 30 years constitutes the most interesting feature of Australian agriculture. Since 1895, when the area under wheat amounted to 3½ million acres, an average of 343,000 acres has been added annually, until in 1929-30 more than 14.9 million acres were cut for grain. The area and yield of wheat for grain are given below for each State

for the five years ended 1929-30, and are shown from the year 1860 onwards in the graphs hereinafter. An estimate is also included for the 1930-31 crop:—

WHEAT.—AREA AND PRODUCTION, 1925-26 TO 1930-31.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925-26 ..	2,924,745	2,513,494	165,999	2,465,648	2,112,032	19,091	267	10,201,276
1926-27 ..	3,352,258	2,915,315	57,084	2,768,403	2,571,187	23,194	438	11,687,919
1927-28 ..	3,029,950	3,064,172	215,073	2,941,360	2,998,523	29,448	562	12,279,088
1928-29 ..	4,090,083	3,718,904	218,069	3,445,563	3,348,530	22,570	1,394	14,840,113
1929-30 ..	3,974,064	3,566,135 ^a	204,116	3,645,764	3,568,225	16,805	1,455	14,976,624
1930-31(a) ..	5,123,100	4,600,200	330,000	4,180,513	3,958,313	19,800	1,500	18,213,426
YIELD.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bush.	Bushels.
1925-26 ..	33,800,619	29,255,534	1,973,477	28,603,101	20,471,177	395,603	4,881	114,504,392
1926-27 ..	47,373,713	46,886,020	379,339	35,558,711	30,021,616	537,000	5,487	160,761,886
1927-28 ..	27,042,000	26,160,814	3,783,584	24,066,012	36,370,219	773,142	4,004	118,199,775
1928-29 ..	49,257,000	46,818,833	2,515,501	26,826,094	33,790,040	455,336	16,557	159,679,421
1929-30 ..	34,407,000	25,412,587	4,235,172	23,345,093	39,081,183	375,849	27,738	126,884,622
1930-31(a) ..	65,811,000	53,814,369	4,755,282	34,871,526	52,891,492	455,000	30,000	212,628,669

(a) Final estimate.

The area devoted to the production of wheat for grain increased steadily until 1915-16, when 12,484,512 acres were sown, largely as the result of a special war effort. After that year, however, there was a serious decline, brought about by war conditions and unfavourable seasons, and the area in 1919-20 fell to 6,419,160 acres, or only half that of 1915-16. The promise of remunerative Government guarantees, coupled with the prospects of high prices, was responsible for a marked advance in 1920-21, and the area has been extended during each of the subsequent years, the increase for Australia since 1919-20 amounting to more than 8.5 million acres.

Although final figures for 1930-31 for all the States are not yet available, the data to hand indicate the total area under wheat for grain in Australia at about 18,213,426 acres, an increase of 3,236,862 acres (about 22 per cent.) on the previous year's record figure, and the greatest area yet devoted to the cultivation of this cereal. This remarkable increase was due mainly to a special appeal by the Commonwealth Government to the growers to sow more wheat. With the exception of South Australia, where drought conditions were experienced, the season was generally satisfactory and resulted in either average or over average yields in the remaining States. The average for the Commonwealth amounted to 11.67 bushels per acre, as compared with 8.47 bushels for the previous year and 11.99 bushels the average for the decennium ending 1929-30. The total production of grain for the year amounted to more than 212 million bushels, the greatest quantity ever produced in Australia in any one year, and exceeding the previous record production of 1915-16 by more than 33,500,000 bushels, or 18.7 per cent.

The annual production during the seasons 1920-21 to 1929-30 averaged 135,400,000 bushels, and the extent to which this average may be exceeded during any year depends in a great measure on seasonal conditions. For the last eleven seasons the yield has exceeded 100 million bushels. During this period, for the first time, a succession of good harvests was experienced, despite some unfavourable seasons, and the result exemplifies the value of bare fallowing, seed selection, and the application of manures. It is the considered opinion of agricultural experts that the improved cultural methods practised by modern wheat-growers preclude the possibility of absolute failure of this crop.

(b) *Area, Production and Prices, 1861-70 to 1921-30.* The following table gives average area, production and yield per acre for decennial periods since 1861, together with the average wholesale price since 1871. The price quoted represents the average at Melbourne (Williamstown), and may be accepted as fairly representative for Australia.

**WHEAT.—AVERAGE AREA, PRODUCTION, AND WHOLESALE PRICE,
AUSTRALIA 1861-1930.**

Period.	Area.	Production.	Yield per Acre.	Average Wholesale Price.
	Acres.	Bushels.	Bushels.	s. d.
1861-70	831,457	10,621,697	12.77	(a)
1871-80	1,646,383	17,711,312	10.76	5 10
1881-90	3,257,709	26,992,020	8.29	4 7
1891-1900 .. .	4,086,701	29,933,993	7.32	3 8
1901-10	5,711,230	56,058,070	9.82	3 10
1911-20	8,927,974	95,479,866	10.69	5 0
1921-30	11,290,543	135,399,860	11.99	5 8

(a) Not available.

(ii) *Average Yields.* In the next table will be found the average yield of wheat per acre in each of the last five seasons, and for the decennium 1920-30:—

WHEAT.—YIELD PER ACRE, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1925-26	11.66	11.64	11.89	11.60	9.69	20.72	18.28	11.22
1926-27	14.13	16.08	6.65	12.84	11.68	23.15	12.53	13.75
1927-28	8.92	8.54	17.59	8.16	12.12	26.25	7.12	9.63
1928-29	12.04	12.59	11.54	7.79	10.10	20.17	11.88	10.76
1929-30	8.66	7.13	20.75	6.40	10.95	22.37	19.06	8.47
Average 10 seasons. 1920-30	12.43	13.29	15.44	10.72	10.89	21.74	15.74	11.99

There were, naturally, considerable variations in the average yields, chiefly due to the vagaries of the seasons. Considerable improvement has been shown in the averages for the past three decades, the figures being 9.82, 10.69, and 11.99 bushels per acre respectively. The increased yields of the later years are principally due to the better cultural methods employed in wheat farming. The best average yields were obtained in 1924-25, 15.20 bushels; in 1920-21, 16.08 bushels; and in 1866, 16.35 bushels. In the latter year less than 1,000,000 acres of relatively fertile land were sown.

(iii) *Relation to Population.* The main producing States of the Commonwealth are New South Wales, Victoria, South Australia and Western Australia. Queensland production approximates local requirements, but Tasmania imports from the mainland to satisfy its needs. Normally the production of wheat greatly exceeds Australian requirements and considerable quantities are exported overseas. During recent years Australia has ranked fourth on the list of exporting countries as compared with sixth in the pre-war period 1909-13. For the later years its exports are exceeded by those of Canada, the United States and Argentine. The quantity exported is approximately 11½ per cent. of the total quantity shipped by exporting countries.

2. *Australian and Foreign Wheat Yields.*—(i) *Average Yield.* The next table gives the average return per acre in the principal wheat-growing countries of the world, ranging from a maximum in Netherlands of 44 bushels per acre to a minimum in the Union of South Africa of 8 bushels per acre. Australia, with approximately 12, occupies a relatively subordinate position, but in comparison with the yields obtained in those countries where wheat is extensively grown the results obtained locally are very satisfactory. Germany, with 28.50 bushels; Canada, 20.55 bushels; France, 20.24 bushels; Italy, 17.85 bushels; United States, 15.27 bushels; and Argentine Republic, 13.49 bushels, exceed the Australian average, but the latter is in excess of the yields obtained in the Soviet Republics, and India.

WHEAT.—YIELD PER ACRE, VARIOUS COUNTRIES, 1926 TO 1929.

Country.	Average Yield in Bushels per acre.		Country.	Average Yield in Bushels per acre.	
	Average, 1926-1928.	1929.		Average, 1926-1928.	1929.
Netherlands ..	43.85	48.62	Jugoslavia ..	17.28	18.29
Belgium ..	40.20	37.17	Bulgaria ..	16.65	12.49
New Zealand ..	34.57	30.33	Lithuania ..	15.90	19.03
Denmark ..	32.54	45.79	United States of America ..	15.27	13.23
Switzerland ..	32.50	32.56	Rumania ..	13.57	14.72
United Kingdom ..	32.48	35.98	Argentine Republic ..	13.49	10.11
Sweden ..	31.47	33.16	Spain ..	12.82	14.57
Germany ..	28.50	31.08	Uruguay ..	12.03	12.04
Norway ..	26.54	25.43	Peru ..	11.61	11.89
Czechoslovakia ..	25.28	26.17	Australia ..	11.30	8.48
Japan ..	25.22	25.13	Soviet Republics ..	11.21	9.81
Egypt ..	24.89	27.95	Korea ..	10.47	9.52
Austria ..	22.58	22.45	India ..	10.10	9.96
Brazil ..	22.26	12.94	Greece ..	10.02	6.84
Hungary ..	21.15	20.22	Portugal ..	9.63	9.96
Canada ..	20.55	11.89	Cyprus ..	9.53	11.15
France ..	20.24	25.13	French Morocco ..	9.15	10.56
Chile ..	17.93	21.11	Union of South Africa ..	8.00	11.00
Italy ..	17.85	22.01			
Poland ..	17.65	18.73			

(a) Year 1928.

(ii) *Total Production.* The latest available official statistics of the production of wheat in various countries are given in the following table :—

WHEAT.—PRODUCTION IN VARIOUS COUNTRIES, 1926 TO 1929.

Country.	Yield in Bushels (,000 omitted).		Country.	Yield in Bushels (,000 omitted).	
	Average, 1926-1928.	1929.		Average, 1926-1928.	1929.
United States of America ..	871,164	806,521	French Morocco ..	22,960	31,764
Soviet Republics ..	808,197	738,916	Sweden ..	15,785	19,032
Canada ..	476,464	299,525	Belgium ..	15,688	13,225
India ..	316,251	317,595	Uruguay ..	13,617	13,404
France ..	263,063	319,866	Greece ..	12,409	8,502
Argentine Republic ..	255,786	137,437	Syria ..	11,671	16,288
Italy ..	218,352	260,219	Austria ..	11,438	11,559
Australia ..	146,214	126,462	Tunis ..	11,146	12,309
Spain ..	137,104	154,247	Mexico ..	11,055	11,333
Germany ..	119,183	123,064	Portugal ..	10,398	10,814
Rumania ..	107,722	99,754	Denmark ..	10,130	11,772
Hungary ..	83,685	74,986	Korea ..	9,385	8,320
Jugoslavia ..	77,098	95,000	New Zealand ..	8,480	7,100
Poland ..	57,601	65,862	Union of South Africa ..	7,036	10,273
United Kingdom ..	52,175	49,758	Netherlands ..	6,326	5,467
Bulgaria ..	44,626	33,192	Lithuania ..	5,260	9,329
Czechoslovakia ..	44,278	52,903	Brazil ..	4,581	14,628
Egypt ..	39,622	45,229	Switzerland ..	4,132	4,152
Japan ..	29,488	30,496	Peru ..	2,911	13,075
Algeria ..	27,392	33,307	Cyprus ..	1,684	2,195
Chile ..	27,091	37,051	Norway ..	663	750

(a) Year 1928.

NOTE.—The harvests reported above for 1929 relate to the year 1929 for the Northern, and 1929-30 for the Southern Hemisphere.

The complete compilation of the world's production of wheat is not possible owing to the failure of certain countries to report their harvests. The International Institute of Agriculture, Rome, has, however, compiled figures obtained from all the producing countries reporting, with the following results :—

WHEAT.—WORLD'S PRODUCTION(a), 1909-13 TO 1929.

Years.		Area.	Yield.	Yield per acre.
		Acres.	Bushels.	Bushels.
Average, 1909-1913		270,266,000	3,779,479,000	13.98
1926	.. ..	299,260,339	4,250,239,313	14.27
1927	.. ..	308,944,188	4,304,550,176	13.98
1928	.. ..	306,606,622	4,612,153,735	15.02
1929	.. ..	310,268,644	4,111,693,517	13.23
Average, 1926-1929		306,269,948	4,319,659,185	14.10

(a) From countries reporting.

It is stated in the Report of the Institute that if all countries for which progress data are lacking were taken into account, the world's total production of wheat may be approximately estimated at 4,500 million bushels.

The total area harvested in 1929 shows an increase on the figures for the previous year, the Soviet Union and the United States being chiefly responsible therefor. The other great divisions of the world showed little change in the area harvested, which exceeded the pre-war average by more than 40,000,000 acres. In comparison with the pre-war period, areas sown to wheat are still 2 per cent. lower in European Countries, exclusive of the Soviet Union. North America, Argentine, and Australia were the chief contributing countries to the increase in 1929 over the average for 1909-13.

Although the area sown in 1929 increased by nearly 4,000,000 acres, the production declined by 500,000,000 bushels as compared with that for the previous year, the decline being due to unfavourable seasons in several of the chief producing countries.

The Australian contribution to the world's average production shown above during the past four years amounted to almost $3\frac{1}{2}$ per cent.

3. **Export Price of Wheat.**—The table hereunder shows export prices of Australian wheat during each of the last five years :—

AUSTRALIAN WHEAT.—EXPORT PRICES, 1926-27 TO 1930-31.

Item.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
	<i>s. d.</i>	s. d.	s. d.	s. d.	s. d.
Price per bushel	5 7	5 6	4 10	5 0	2 5 $\frac{1}{2}$

The export prices here shown are the averages for the successive years in the principal markets of Australia.

4. **Exports of Wheat and Flour.**—(i) *Quantities.* The table appended shows the exports, and net exports of wheat and flour from 1925-26 to 1929-30. For the sake of convenience, flour has been expressed at its equivalent in wheat, 1 ton of flour being taken as equal to 48 bushels of grain. In ordinary seasons the Australian imports of

wheat and flour are negligible. During the past five years the exports ranged between 62,745,891 bushels in 1929-30 and 108,958,789 bushels in 1928-29, the net exports for the period averaging 84,288,570 bushels.

WHEAT AND FLOUR.—EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Exports.			Net Exports.
	Wheat.	Flour.	Total.	
	Bushels.	Eq. Bushels. ^a	Bushels.	Bushels.
1925-26 ..	54,227,728	24,049,536	78,277,264	78,273,795
1926-27 ..	73,925,315	23,686,272	97,611,587	97,607,874
1927-28 ..	53,042,357	20,822,160	73,864,517	73,863,184
1928-29 ..	81,896,245	27,062,544	108,958,789	108,954,924
1929-30 ..	40,390,707	22,355,184	62,745,891	62,743,071

(a) Equivalent in bushels of wheat.

(ii) *Destination.* The following table gives the exports of wheat to various countries for each of the five years ending 1929-30 together with averages for the pre-war period 1909-13 and for the five years 1926-30 :—

EXPORTS OF WHEAT.—AUSTRALIA, 1910 TO 1929-30.

Country to which Exported.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Average, 1910-13.	Average, 1926-30.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
United Kingdom ..	22,319,823	26,510,696	20,465,490	20,564,650	21,488,415	30,305,384	22,269,815
Italy ..	4,642,202	10,316,509	7,151,695	5,861,552	3,261,455	581,309	6,246,683
Japan ..	10,861,863	4,298,567	3,199,720	5,626,298	2,811,142	330,131	5,359,518
France ..	53,865	7,254,063	622,785	1,967,455	186,682	1,681,918	2,016,970
Union of South Africa ..	3,117,007	2,005,233	6,941,395	4,143,328	1,540,482	2,992,355	3,549,489
Belgium ..	1,349,347	4,782,332	1,729,143	994,923	408,990	1,218,131	1,852,947
Egypt ..	668,288	4,625,270	3,827,150	4,943,383	1,178,230	135,377	3,048,464
Germany ..	941,252	2,132,607	2,356,622	1,001,897		286,822	1,286,476
Netherlands ..	2,211,050	3,379,723	726,993	1,834,132	490,358	(a)	1,728,451
Other Countries ..	8,063,031	8,620,316	6,021,364	34,958,627	9,024,953	4,465,847	13,337,658
Total ..	54,227,728	73,925,316	53,042,357	81,896,245	40,390,707	41,997,274	60,696,471

(a) Included with Other Countries.

Exports of flour from Australia for the periods mentioned are given in the table below.

EXPORTS OF FLOUR.—AUSTRALIA, 1910 TO 1929-30.

Country to which Exported.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Average, 1910-13.	Average, 1926-30.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Egypt ..	194,909	185,392	150,795	243,468	125,963	(a)	180,105
United Kingdom ..	70,537	76,167	71,837	57,945	85,364	27,699	72,370
Netherlands East Indies ..	66,868	64,648	65,923	79,040	82,595	26,099	71,815
Malaya (British) ..	48,910	42,451	41,071	52,176	51,160	15,492	47,153
Union of South Africa ..	22,780	18,912	22,183	24,558	18,256	30,714	21,338
Ceylon ..	18,130	16,060	20,203	21,705	21,252	3,389	19,470
New Zealand ..	12,363	28,383	5,053	3,556	3,823	3,221	10,636
Philippine Islands ..	11,389	8,754	7,569	8,436	8,707	13,680	8,971
Hong Kong ..	9,703	3,966	5,856	2,972	2,933		5,086
Mauritius ..	3,990	7,781	4,979	9,395	5,988	2,221	6,427
Portuguese East Africa ..	5,441	5,802	7,531	5,917	5,410	13,462	6,020
Other Countries ..	36,012	35,148	30,795	54,635	54,282	23,463	42,174
Total ..	501,032	493,464	433,795	563,803	465,733	167,112	491,565

(a) Included with other Countries.

5. **Local Consumption of Wheat.**—The estimated consumption of wheat for food and for seed purposes in Australia during the past five years is shown hereunder :—

AVERAGE HUMAN CONSUMPTION, 1925-26 TO 1929-30.

Flour Milled	1,145,794 tons
Less Net exports of flour	491,507 tons
Less Net exports of flour in Biscuits	1,724 ..
	493,231 tons
Net quantity available for home consumption	652,563 ..
Equivalent in terms of wheat	31,323,014 bushels
Net quantity available per head of population—	
As flour	210 lbs.
As wheat	5.038 bushels

AVERAGE USED FOR SEED, 1925-26 TO 1929-30.

Average area sown for grain and hay	13,919,117 acres
Average quantity of seed used	13,006,800 bushels
Average quantity of seed used per acre	56 lbs.
Average quantity per head of population	2.092 bushels

In addition to the above, the quantity of grain fed to poultry and other live stock as well as that used as seed for green forage crops must be taken into consideration. These quantities vary from year to year according to the price of wheat and the nature of the season, and sufficient data are not available on which to base an annual estimate, but, taken over a period, the amount so consumed has been estimated to range from one half to one bushel per head of population per annum. The flour available for human consumption necessarily fluctuates from year to year coincident with stocks. In some years the flour available per head of population, after deducting net exports from the quantity milled, shows a substantial increase over the average for the previous year, this, however, being counterbalanced by a decline in the following year. The average quantity of flour consumed per annum for the five years under consideration was 210 lbs. per head of population, which, expressed in equivalent terms in wheat, represents 5.038 bushels. The estimates of quantity of grain used for seed purposes are 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 or hay. The average annual quantity thus used during the five years was 2.092 bushels per head of population, or 56 lbs. per acre sown. For all purposes the consumption of wheat in Australia during the past five years averaged 48,993,104 bushels, or 7.88 bushels per head of population.

6. **Value of the Wheat Crop.**—The estimated value of the wheat crop in each State and in Australia during the season 1929-30 is shown below :—

WHEAT.—VALUE OF CROP(a), 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
Aggregate value..	£ 6,738,040	£ 5,506,060	£ 1,036,735	£ 5,058,103	£ 8,860,518	£ 93,960	£ 5,432	£ 27,298,848
Value per acre ..	£1/13/11	£1/10/11	£5/1/7	£1/7/9	£2/9/8	£5/11/11	£3/14/8	£1/16/5

(a) Exclusive of the value of straw.

7. **Voluntary Wheat Pools.**—Reference to the operations of the voluntary Wheat Pools in the various States during 1930-31 will be found in the Appendix at the end of this volume.

§ 5. Oats.

1. Progress of Cultivation.—(i) *Area and Production.* Oats came next in importance to wheat amongst the grain crops cultivated last season, but while wheat grown for grain accounted for 68.29 per cent., oats represented only 6.91 per cent. of the area under crop in Australia. The area under cultivation of oats for the last five years is shown in the table hereunder, and more fully in the graphs herein:—

OATS.—AREA AND PRODUCTION, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925-26	100,652	437,696	1,293	158,062	278,344	36,741	445	1,013,233
1926-27	104,450	303,424	210	152,178	234,826	48,361	665	844,114
1927-28	114,988	529,322	2,272	197,024	235,469	42,950	208	1,122,303
1928-29	126,743	347,021	916	207,266	325,827	37,602	295	1,045,670
1929-30	181,354	630,234	2,003	277,923	385,134	39,061	162	1,515,871
PRODUCTION.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1925-26	1,607,520	4,998,165	14,546	1,808,443	2,939,380	835,473	8,130	12,211,657
1926-27	1,890,746	4,884,006	1,674	1,713,337	2,716,436	1,357,000	8,004	12,571,203
1927-28	1,654,560	4,682,724	43,788	1,378,437	2,922,865	1,399,824	2,067	12,084,265
1928-29	2,183,880	5,602,409	13,737	1,740,515	3,551,609	1,011,367	2,160	14,108,677
1929-30	2,528,610	5,058,541	38,494	1,564,287	4,058,160	1,175,041	1,053	14,424,186

The oat crop showed considerable variation during the past decennium, ranging from 12,084,265 bushels in 1927-28 to 19,393,737 bushels in 1924-25, with an average around 14,700,000 bushels. The demand for the grain for oatmeal is limited to about 2,000,000 bushels annually. It is mainly used as feed grain, and its value, particularly in good seasons, is not sufficient to warrant the increase in cultivation which may be expected when oats are more generally marketed through live stock, and better prices thereby realized than those now offering in the local market.

The principal oat-growing State is Victoria, which produces on the average more than one-third of the total quantity of oats grown in all States. South Australia, Western Australia, and Tasmania, also produce considerable quantities in excess of local requirements. Western Australia disposes of its surplus to the East, principally to British Malaya, whilst the other States export chiefly to New South Wales and Queensland. For Australia as a whole the record yield of oats was obtained during 1924-25, when 19,393,737 bushels were harvested.

(ii) *Average Yield.* The average yield per acre of oats varies considerably in the different States, being highest in Tasmania and lowest in South Australia. Particulars as to average yield in each of the last five seasons, and for the decennium 1920 to 1930 are given in the succeeding table:—

OATS.—AVERAGE YIELD PER ACRE, 1925-26 TO 1929-30.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1925-26 ..	15.97	11.42	11.25	11.44	10.56	22.74	18.27	12.05
1926-27 ..	18.10	16.10	7.97	11.26	11.57	28.06	12.04	14.89
1927-28 ..	14.39	8.85	19.27	7.00	12.41	32.59	9.94	10.77
1928-29 ..	17.23	16.14	15.00	8.40	10.91	26.90	7.32	13.49
1929-30 ..	13.94	8.03	19.22	5.63	10.54	30.08	6.50	9.52
Average for 10 seasons 1920-30	16.99	15.25	17.61	9.84	11.42	27.75	14.63	14.11

The smallest average yield per acre ever recorded for Australia was that experienced in the abnormally dry season 1914-15, viz., 5.60 bushels, while the largest in the past ten years was that of the season 1920-21, amounting to 19.77 bushels per acre.

2. **World's Production.**—The production of oats in the world for the year 1929, as reported by the International Institute of Agriculture, amounted to 3,937 millions of bushels. Compared with 1928 the area in 1929 increased by over 3 million acres, but unfavourable seasons resulted in a decreased production of 124 million bushels. The average yield per acre in 1929 was 26.02 bushels. In the pre-war years 1909 to 1913 the production averaged 3,613 millions of bushels from an average area of 142,870,000 acres. Subsequently the area declined, principally in Europe, but for 1929 a total was returned of 151,000,000 acres, an increase of approximately 8,000,000 acres over the pre-war period.

3. **Prices of Oats.**—The average wholesale prices of oats in the markets of the several capitals for the year 1929-30 are given in the following table:—

OATS.—AVERAGE WHOLESALE PRICES, 1929-30.

Particulars.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Average price per bushel ..	4 6½	3 7½	5 0½	3 0½	2 3	3 7

4. **Imports and Exports.**—The production of oats in Australia has not yet reached sufficient proportions to admit of a regular export trade; in fact in three of the years in the following table imports have exceeded the exports. The quantities and values of oats imported into and exported from Australia during the years 1925-26 to 1929-30 are given hereunder:—

OATS.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1925-26 ..	266,103	49,927	76,978	15,844	-189,125	-34,083
1926-27 ..	197,070	40,553	137,768	26,301	-59,302	-14,252
1927-28 ..	525,568	92,301	64,987	14,172	-460,581	-78,129
1928-29 ..	38,993	8,045	90,463	18,833	51,470	10,788
1929-30 ..	8,658	2,181	117,300	24,950	108,642	22,769

NOTE.—(-) signifies net import.

The principal country from which imports of oats have been obtained is New Zealand, while the principal countries to which oats were exported during the period under review were New Zealand, Malaya (British), Ceylon, and Netherlands East Indies.

5. **Oatmeal, etc.**—The production of oatmeal in Australia during 1929-30 amounted to 329,846 cwts., practically the whole of which is consumed locally, the quantity of oats used for oatmeal being 1,911,599 bushels or 13 per cent. of the total production. Oversea trade in this and similar products is small, the importations of oatmeal, wheatmeal and rolled oats during 1929-30 amounting to 4,374 cwts., while the exports totalled 6,028 cwts.

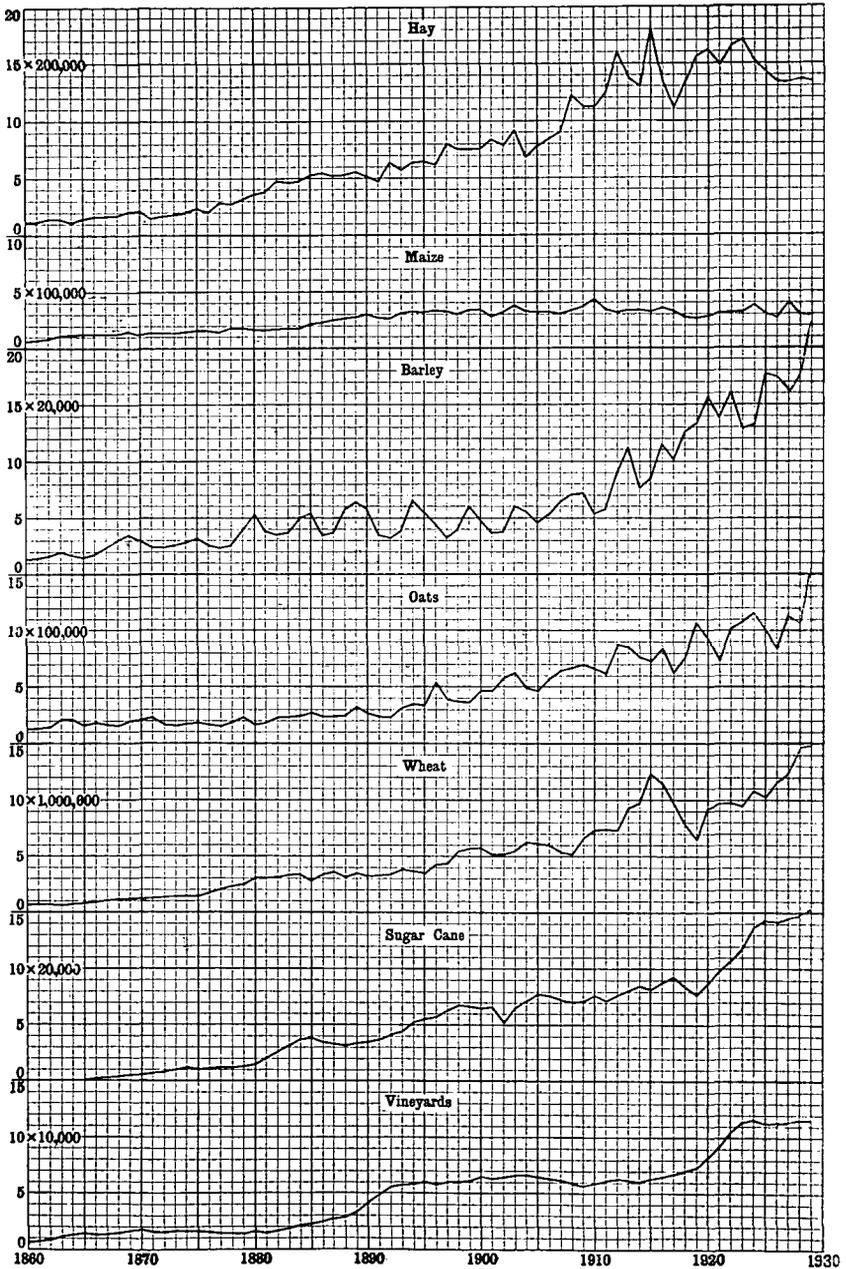
6. **Value of Oat Crop.**—The estimated value of the oat crop of the several States of Australia for the season 1929-30 is as follows:—

OATS.—VALUE OF CROP,(a) 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Aggregate value..	410,900	843,090	9,664	250,938	388,906	193,270	171	2,096,939
Value per acre ..	£2/5/4	£1/6/9	£4/16/6	£0/18/1	£1/0/2	£4/19/0	£1/1/2	£1/7/8

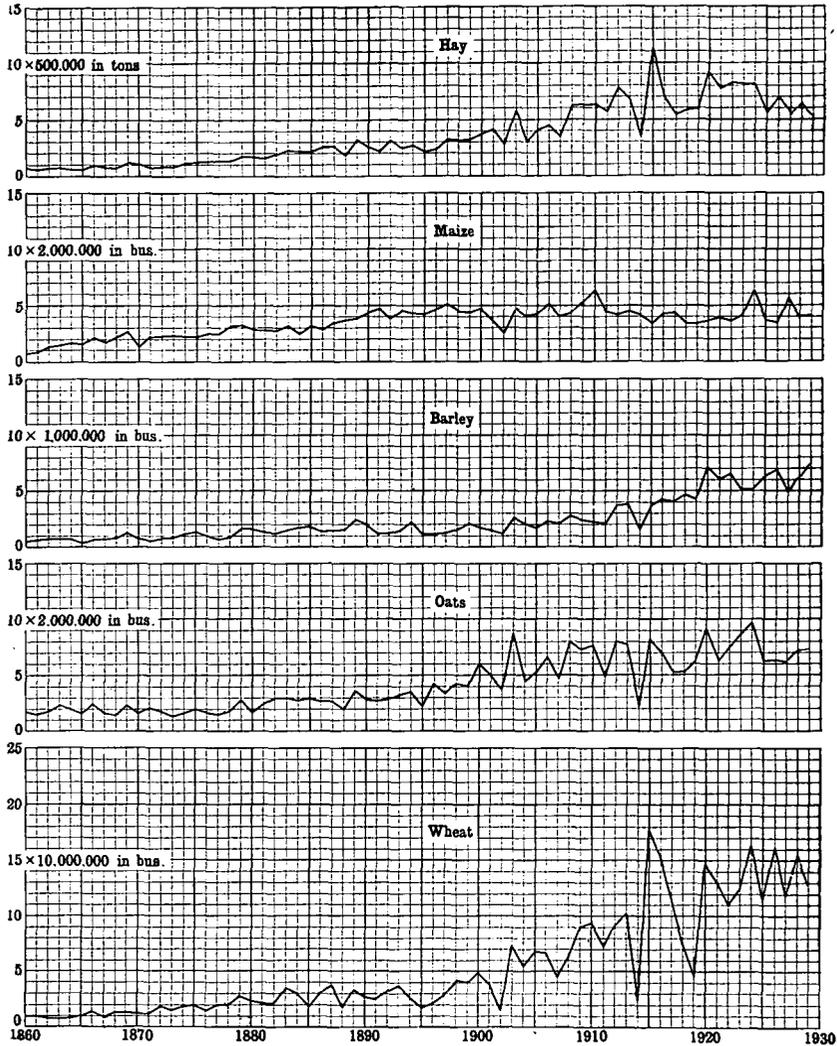
(a) Exclusive of the value of straw.

AREA UNDER PRINCIPAL CROPS—AUSTRALIA, 1860 TO 1930.



EXPLANATION.—The base of 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 of the graph. The height of each curve above its base line denotes, for the crop to which it relates, the total area under cultivation in Australia during the successive seasons.

PRODUCTION OF PRINCIPAL CROPS—AUSTRALIA, 1860 TO 1930.



EXPLANATION.—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 wheat, 10,000,000 bushels; oats, 2,000,000 bushels; barley, 1,000,000 bushels; maize, 2,000,000 bushels; and hay, 500,000 tons. The height of each curve above its base line denotes the aggregate yield in Australia of the particular crop during the successive seasons.

§ 6. Maize.

1. States Growing Maize.—Maize is grown for grain chiefly in New South Wales and Queensland, the area so cropped in these States during the season 1929–30 being 279,833 acres, or 94 per cent. of the total for Australia. Of the balance, Victoria contributed 17,640 acres, and Western Australia 29 acres. The climate of Tasmania is unsuitable for the growing of maize for grain. In the States mentioned the crop is grown to a greater or less extent for green forage, particularly in connexion with the dairying industry.

2. Progress of Maize-growing.—(i) *Area and Production.* Notwithstanding its valuable properties and its pre-eminence as the world's most extensively grown cereal, the cultivation of maize has decreased in Australia during the past decennium. Compared with the previous year, the area in 1929–30 decreased by more than 18,000 acres. The greatest area under this cereal was in 1910–11, when 414,914 acres were sown. The average area under cultivation during the decennium 1920–30 was 321,443 acres.

The area and production of maize for grain in each State are given in the following table for the last five years. The fluctuations from year to year are shown more fully on the graph herein.

MAIZE.—AREA AND PRODUCTION, 1925–26 TO 1929–30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Nor. Ter.	Fed. Cap. Ter.	Australia.
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AREA.

	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925–26	120,955	21,913	154,252	2	8	10	..	297,140
1926–27	128,512	20,046	137,542	2	32	40	4	286,178
1927–28	148,801	17,645	234,013	..	63	10	12	400,544
1928–29	106,835	16,077	192,173	..	55	..	..	315,140
1929–30	108,219	17,640	171,614	..	29	..	..	297,502

PRODUCTION.

	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1925–26	3,278,350	768,761	3,384,172	51	227	..	..	7,431,561
1926–27	3,625,410	685,407	2,658,895	99	342	..	120	6,970,273
1927–28	3,930,570	757,780	6,703,518	..	1,098	..	84	11,393,050
1928–29	2,508,470	679,810	5,135,607	..	831	..	..	8,322,718
1929–30	3,035,850	533,719	4,376,412	..	339	..	..	7,946,320

The maximum production of maize in Australia was recorded in 1910–11, when the harvest amounted to over 13,000,000 bushels. This figure was considerably in excess of the yields during recent years, except that of 1924, when a bountiful harvest in Queensland increased the Australian total to 12,400,000 bushels. The production for the year under review amounted to 7,946,320 bushels, while the average for the past decennium was 8,510,000 bushels.

(ii) *Average Yield.* The following table gives particulars of the average yield per acre of the maize crops of the States for the seasons 1925-26 to 1929-30, and for the decennium 1920-1930:—

MAIZE.—AVERAGE YIELD PER ACRE, 1925-26 TO 1929-30.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	N. Ter.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1925-26 ..	27.10	35.08	21.04	25.50	28.38	..	..	25.01
1926-27 ..	28.21	34.19	19.33	49.50	10.69	..	30.00	24.36
1927-28 ..	26.42	42.95	28.65	..	17.43	..	7.00	28.45
1928-29 ..	23.46	42.28	26.72	..	15.11	..	..	26.41
1929-30 ..	28.05	30.26	25.50	..	11.69	..	..	26.71
Average for 10 seasons 1920-30	27.03	39.68	24.26	19.90	13.13	5.70	20.83	26.47

The average yield of maize per acre in Victoria during the year 1929-30 was amongst the highest in the world. This is due, in large measure, to the fact that the area under maize in that State is comparatively small and is situated in districts peculiarly suited to its growth. The average yield in New South Wales generally exceeds that obtained in Queensland.

(iii) *Yield per Acre Various Countries.* The average yield of maize per acre in Australia for the past 10 years was 26.5 bushels per acre. Of the principal maize producing countries the United States has an average of 27.6 bushels, Argentine 32.3 bushels, Rumania 15.5 bushels, and the Soviet Republic 16.1 bushels per acre.

3. *World's Production.*—The maize harvest in 1925, when the production amounted to 4,685 million bushels, was one of the most abundant on record. Since then the total yield has declined, except in 1929 when an increase of approximately 200 million bushels was recorded. The average yields per acre since 1927 are 24, 22, and 23 bushels respectively. The total yields from 1909 to 1928 were as follows:—

Average 1909 to 1913,	4,119,000,000 bushels.
1925,	4,685,000,000 bushels.
1926,	4,463,700,000 ..
1927,	4,391,000,000 ..
1928,	4,248,000,000 ..
1929,	4,440,000,000 ..

4. *Australian and Foreign Maize Production.*—The United States of America is the most important maize-producing country of the world. Approximately 100,000,000 acres are planted annually, and nearly 3,000,000,000 bushels are reaped, representing about 75 per cent. of the world's production. Of the huge quantities raised, about 85 per cent. is fed to live stock on farms, 10 per cent. is used for human food, and only a very small fraction, viz., 1½ per cent., is exported.

5. *Price of Maize.*—The average wholesale price of maize in the Sydney market for each of the last five years is given in the following table:—

MAIZE.—AVERAGE PRICE, SYDNEY, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	<i>s. d.</i>	s. d.	s. d.	s. d.	s. d.
Average price per bushel ..	5 8	6 10	4 7	4 11½	6 0½

6. Oversea Imports and Exports.—The decline in the production of maize in Australia of late years has necessitated an average annual import of more than 500,000 bushels during the past quinquennium, the bulk of the supplies being furnished by South Africa. Details of imports and exports for the years 1925-26 to 1929-30 are as follow :—

MAIZE.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Imports.		Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1925-26 ..	1,562,453	323,486	54,720	14,734	1,507,733	308,752
1926-27 ..	1,173,514	277,821	2,477	890	1,171,037	276,931
1927-28 ..	115,638	25,443	145,402	24,421	— 29,764	1,022
1928-29 ..	773	539	278,289	50,451	— 277,516	— 49,912
1929-30 ..	66,968	13,899	5,911	824	61,057	13,075

NOTE.—(—) denotes net exports.

7. Prepared Maize.—A small quantity of corn-flour is imported annually into Australia, the principal countries of supply being the United Kingdom, South Africa, and the United States of America. During the year 1929-30 the imports amounted to 702,062 lb., and represented a value of £7,956. The exports from Australia are small, and in 1929-30 amounted to only 19,398 lb., valued at £409.

8. Value of Maize Crop.—The value of the Australian maize crop for the season 1929-30 has been estimated at £2,084,697, made up as follows :—

MAIZE.—VALUE OF CROP, 1929-30.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	F.C.T.	Australia.
	£	£	£	£	£	£	£
Aggregate value	923,410	144,549	1,016,604	..	134	..	2,084,697
Value per acre	£8/10/8	£8/3/11	£5/18/6	..	£4/12/5	..	£7/0/0

§ 7. Barley.

1. Progress of Cultivation.—(i) *Area and Production.* The area under barley in Australia has fluctuated very considerably, but results for the last ten years show a marked advance. The average annual area sown for the decennium 1920 to 1930 amounted to 336,889 acres, which was nearly double the average of the previous ten-yearly period, i.e., 190,913 acres. Victoria was originally the principal barley-growing State, but the rapid expansion of the cultivation of this crop in South Australia during recent years brought the latter State into the lead in 1913-14, and, during 1929-30, the area under barley in South Australia accounted for more than 67 per cent. of the Australian acreage. Victoria was next in importance with 22 per cent., leaving a small balance of about 11 per cent. distributed among the other States. The figures here given relate to

the areas harvested for grain ; small areas only are cropped for hay, while more considerable quantities are cut for green forage. These, however, are not included in this subsection. The area and production of barley for grain in the several States are shown in the following table for the last five years, while the progress since 1860 is illustrated in the graphs herein :—

BARLEY.—AREA AND PRODUCTION, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
AREA.							
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925-26 ..	6,614	103,395	7,001	239,337	13,306	5,223	374,876
1926-27 ..	5,626	88,896	399	256,528	13,826	5,665	a370,943
1927-28 ..	5,600	76,768	3,220	219,491	12,138	5,101	322,318
1928-29 ..	5,024	75,451	7,654	247,348	14,429	4,613	b354,539
1929-30 ..	7,947	97,678	9,754	305,316	23,649	6,935	c451,339
PRODUCTION.							
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1925-26 ..	105,150	1,774,963	92,441	4,134,824	158,300	90,619	6,356,297
1926-27 ..	100,221	1,920,722	1,091	4,630,044	128,136	149,800	a6,930,953
1927-28 ..	65,850	1,552,109	72,400	3,001,420	126,835	141,407	4,960,021
1928-29 ..	80,910	1,556,118	107,593	4,583,715	189,560	99,085	b6,617,341
1929-30 ..	113,850	2,183,325	205,567	4,656,254	261,870	166,984	c7,588,852

(a) Including Federal Capital Territory, 3 acres, 39 bushels.

(b) Including Federal Capital Territory, 20 acres, 360 bushels.

(c) Including Federal Capital Territory, 60 acres, 1,002 bushels.

The States in which the annual production of barley averaged over 1,000,000 bushels for the past decade were South Australia and Victoria, the yields being respectively 3,828,456 and 1,916,154 bushels, the higher return per acre in the latter State tending to diminish the advantage held by South Australia in regard to acreage.

(ii) *Malting and other Barley.* (a) *Year 1929-30.* In recent years the statistics of all the States have distinguished between "malting" and "other" barley. Particulars for the season 1929-30 are as follow :—

BARLEY, MALTING AND OTHER.—AREA AND PRODUCTION, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Malting barley..	4,803	65,740	6,318	287,900	17,806	6,287	388,854
Other barley ..	3,144	31,938	3,436	17,416	5,843	648	a62,485
Total ..	7,947	97,678	9,754	305,316	23,649	6,935	a451,339
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
Malting barley..	74,460	1,378,022	139,604	4,501,605	195,492	149,667	6,438,850
Other barley ..	39,390	805,303	65,963	154,649	66,378	17,317	a1,150,002
Total ..	113,850	2,183,325	205,567	4,656,254	261,870	166,984	a7,588,852

(a) Including Federal Capital Territory, 60 acres, 1,002 bushels.

Taking Australia as a whole, about 86 per cent. of the area under barley in 1929-30 was sown with the malting variety. The proportion varies largely in the several States.

(b) *Progress of Cultivation.* The following table sets out the acreage and production of malting and other barley in Australia as a whole during the past five seasons :—

BARLEY, MALTING AND OTHER.—AREA AND PRODUCTION, AUSTRALIA, 1925-26 TO 1929-30.

Season.	Acres.			Bushels.			Average Yields per Acre.		
	Malting.	Other.	Total.	Malting.	Other.	Total.	Malting.	Other.	Total.
1925-26 ..	319,441	55,435	374,876	5,401,489	954,808	6,356,297	16.91	17.22	16.96
1926-27 ..	320,840	50,097	370,943	5,872,144	1,058,809	6,930,953	18.30	21.13	18.68
1927-28 ..	276,483	45,835	322,318	4,040,975	919,046	4,960,021	14.62	20.05	15.39
1928-29 ..	307,154	47,385	354,539	5,691,673	925,668	6,617,341	18.53	19.53	18.66
1929-30 ..	338,854	62,485	451,339	6,438,850	1,150,002	7,588,852	16.56	18.40	16.81
Average 10 seasons 1920-30	278,988	57,901	336,889	5,076,764	1,151,750	6,228,514	18.20	19.89	18.49

During the past ten seasons the area and production of malting barley have represented more than four times the corresponding figures for other barley. The average yield per acre differs very little in respect of the two classes, the results for the past ten-yearly period being slightly in favour of the Cape variety.

(iii) *Average Yield.* The average yield of barley per acre varies considerably in the different States, being as a rule highest in Victoria and Tasmania, and lowest in Western Australia. Details for each State during the past five seasons, and for the decennium 1920-30, are given in the following table :—

BARLEY.—YIELD PER ACRE, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1925-26 ..	15.90	17.17	13.20	17.28	11.89	17.35	16.96
1926-27 ..	17.81	21.61	4.99	18.05	9.27	26.44	18.68
1927-28 ..	11.76	20.22	22.48	13.67	10.45	27.72	15.39
1928-29 ..	16.10	20.62	14.06	18.53	13.14	21.48	18.66
1929-30 ..	14.33	22.35	21.08	15.25	11.07	24.08	16.81
Average for 10 seasons 1920-30	16.20	22.30	18.07	17.35	11.52	23.64	18.49

2. *Comparison with Other Countries.*—In comparison with the barley production of other countries, that of Australia appears extremely small. Particulars for some of the leading countries during recent years are as follows, viz., United States 258 million bushels; Soviet Republic 220 million bushels; Germany 129 million bushels; India 110 million bushels; and Canada 107 million bushels.

3. *World's Production.*—The area under barley in 1929 exceeded that of the previous year. Compared with the average pre-war area, i.e., for 1909-13, the total under cultivation in 1929, amounting to nearly 93 million acres, showed an increase of

about 7,500,000 acres. Weather conditions were generally favourable, and the yield of 1,897 million bushels was the greatest recorded since the war. The production of barley in millions of bushels from 1909 onwards was as follows :—

		Year.		Production.	
Average 1909–1913	1,676	millions of bushels.
1925	1,619	..
1926	1,531	..
1927	1,567	..
1928	1,781	..
1929	1,897	..

4. Price of Barley.—The average price of barley in the Melbourne market during each of the past five years is given in the following table :—

BARLEY.—AVERAGE MELBOURNE PRICE PER BUSHEL, 1925–26 TO 1929–30.

Particulars.		1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
		<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Malting barley	.. ..	4 11	4 3	4 7 $\frac{3}{4}$	4 7	4 1
Cape barley	.. ..	..	3 11	4 3	3 6	3 3 $\frac{1}{2}$

5. Imports and Exports.—Australian exports of barley during the last five years averaged 1,185,800 bushels. The grain was consigned mainly to the United Kingdom and Belgium, South Australia being the principal exporting State. Particulars of the Australian overseas imports and exports for the years 1925–26 to 1929–30 are contained in the following table :—

BARLEY.—IMPORTS AND EXPORTS, AUSTRALIA, 1925–26 TO 1929–30.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1925–26	.. .. 32	14	729,528	142,948	729,496	142,934
1926–27	.. .. 696	285	2,021,480	383,103	2,020,784	382,818
1927–28	.. .. 262	108	1,251,444	291,636	1,251,182	291,528
1928–29	.. .. 150	58	1,279,014	228,707	1,278,864	228,649
1929–30	.. .. 1,760	745	647,542	99,046	645,782	98,301

In some years there is an export of Australian pearl and Scotch barley, the total for 1929–30 reaching 16,209 lb., valued at £171, consigned mainly to the Pacific Islands.

6. Imports and Exports of Malt.—In pre-war times the imports of malt into Australia were fairly extensive, the supply being obtained principally from the United Kingdom. Since the outbreak of the war in 1914, however, imports have practically ceased, and in 1917–18 and 1920–21 fairly large quantities were exported to South Africa and Japan. Details of imports and exports for the years 1925–26 to 1929–30 are given in the next table :—

MALT.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1925-26	325	182	1,830	971	1,505	789
1926-27	688	197	2,285	1,340	1,597	1,143
1927-28	365	119	3,593	1,498	3,228	1,379
1928-29	508	186	4,953	1,897	4,450	1,711
1929-30	133	92	8,185	3,467	8,052	3,375

7. Value of Barley Crop.—The estimated value of the barley crop for the several States of Australia for the season 1929-30 and the value per acre are shown in the following table :—

BARLEY.—VALUE OF CROP(a), 1929-30.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
Total value..	£25,080	£382,530	£43,125	£713,328	£43,645	£30,180	£196	£1,238,084
Value per acre	£3/3/1	£3/18/4	£4/8/5	£2/6/9	£1/16/11	£4/7/0	£3/5/4	£2/14/10

(a) Exclusive of the value of straw.

§ 8. Rice.

The success attending the efforts of rice growers on the Murrumbidgee Irrigation Area has proved that rice can be grown profitably on the settlement. Experimental rice cultivation has been carried on at the Yanco Experimental Farm for some years, but it was not until 1924-25 that an attempt was made to grow the cereal on a commercial basis. Over-production should not present undue difficulties, as there is a ready market in the East, as well as in England and Germany. The United States of America first grew rice commercially in 1912, and having met its own requirements is now exporting to European countries and to Japan. The Commonwealth Government has protected the new industry by the imposition of a Customs duty of 8s. 4d. per cental on uncleaned rice and 12s. 6d. per cental on other than uncleaned.

Details of the area, production, and average yield, &c., since 1924-25 will be found in the following table :—

RICE.—AREA, PRODUCTION, ETC., AUSTRALIA, 1924-25 to 1929-30.

Year.	Area.	Production.	Average Yield.	Imports.	Exports.	Retail Price.
	Acres.	Bushels.	Bushels.	Bushels.	Bushels.	Pence per lb.
1924-25 ..	153	16,240	106.14	861,659	..	3.43
1925-26 ..	1,559	61,133	39.21	1,209,693	..	3.40
1926-27 ..	3,967	214,860	54.16	1,195,706	..	3.65
1927-28 ..	9,901	879,113	88.88	521,776	238	3.79
1928-29 ..	14,058	1,307,641	93.02	237,493	7,250	3.74
1929-30 ..	19,789	1,829,297	92.44	282,489	30,866	3.65

The area and production shown in the above table refer chiefly to the Murrumbidgee Irrigation Area. The production from several small experimental plots in other States is also included, but the quantity is negligible. According to the report of the Irrigation Commission of New South Wales, there are about 53,000 acres of land in the irrigation

settlement suitable for rice-growing, and it is estimated that at least 40,000 acres could be so used, of which, probably, 20,000 acres would be under fallow each year and 20,000 under crop. Annual local requirements are computed at 1,100,000 bushels, but the production during the past two years has exceeded consumption, the surplus of Australian-grown rice thus available being exported chiefly to the United Kingdom, New Zealand, and Nauru.

§ 9. Other Grain and Pulse Crops.

In addition to the grain crops already specified, the principal other grain and pulse crops grown in Australia are beans, peas, and rye. The total area under the two former crops for the season 1929-30 was 50,288 acres, giving a yield of 812,760 bushels, or an average of 16.16 bushels per acre, being above the average yield for the decennium ended 1929-30, which was 15.85 bushels per acre. The States in which the greatest area is devoted to beans and peas are Tasmania, South Australia and Victoria. Peas are exported in considerable quantities to the United Kingdom, the chief exporting State being Tasmania. The total area under rye in Australia during the season 1929-30 was 5,892 acres, yielding 75,332 bushels, giving an average of 12.79 bushels per acre. This was lower than the average for the past ten seasons, which was 13.14 bushels per acre. Over 76 per cent. of the rye grown during the season was produced in New South Wales, and 14 per cent. in Victoria.

§ 10. Potatoes.

1. Progress of Cultivation.—(i) *Area and Production.* The principal potato-growing State is Victoria, which possesses peculiar advantages for the growth of this tuber. The rainfall is generally satisfactory, while the atmosphere is sufficiently dry to be unfavourable to the spread of Irish blight, consequently potatoes are grown in nearly every district except in the wheat belt. Tasmania comes next in order of importance, followed by New South Wales.

The area and production of potatoes in each State during the last five years are given hereunder:—

POTATOES.—AREA AND PRODUCTION, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925-26 ..	22,723	63,369	10,478	2,895	4,262	33,190	8	136,925
1926-27 ..	21,906	66,185	8,642	3,549	5,144	33,984	35	139,445
1927-28 ..	21,578	77,649	10,035	4,309	5,280	44,359	21	163,231
1928-29 ..	14,830	63,412	8,154	4,518	4,819	37,299	16	138,068
1929-30 ..	12,785	58,789	8,116	4,536	6,024	33,722	8	123,980
PRODUCTION.								
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925-26 ..	43,031	160,729	15,386	10,764	16,052	67,341	56	313,409
1926-27 ..	53,223	162,909	9,749	15,375	17,755	114,100	65	373,176
1927-28 ..	47,397	230,348	18,914	17,749	16,746	138,837	50	470,041
1928-29 ..	26,339	140,158	9,687	13,859	18,774	75,222	11	284,050
1929-30 ..	23,907	171,747	13,214	14,990	27,546	91,137	..	342,541

(a) Includes Northern Territory, 20 acres.

The cultivation of potatoes in Australia during the last five years was fairly uniform, except in 1927-28, when the area was increased by nearly 24,000 acres, chiefly owing to larger planting in Victoria and Tasmania. The production for the year 1929-30 amounted to 342,541 tons, as compared with an average of 365,241 tons for the last ten years and 360,407 tons for the previous decennial period. The record production of 507,153 tons was obtained in 1906-7.

(ii) *Average Yield.* The suitability of the soil, climate, and general conditions for potato growing is evidenced by the satisfactory yields per acre which are generally obtained in Australia, the average yield during the past ten seasons being 2.61 tons per acre. The lowest yield was shown by Queensland with an average of 1.64 tons for the same period.

Particulars for each State for the seasons 1925-26 to 1929-30, and for the past decennium, are given hereunder :—

POTATOES.—YIELD PER ACRE, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925-26 ..	1.90	2.54	1.47	3.72	3.77	2.03	7.00	2.29
1926-27 ..	2.43	2.46	1.13	4.33	3.45	3.36	1.86	2.68
1927-28 ..	2.40	2.97	1.88	4.12	3.17	3.13	2.38	2.88
1928-29 ..	1.78	2.05	1.19	3.07	3.90	2.02	0.69	2.06
1929-30 ..	1.87	2.92	1.63	3.30	4.57	2.70	1.13	2.76
Averages for 10 seasons 1920-30	2.14	2.70	1.64	3.56	3.77	2.70	3.06	2.61

The comparatively low yield per acre as compared with many other countries where the return is double that of Australia is due in large measure to the neglect of rotation, and the insufficient use of manures. The production in New Zealand, for example, in 1929-30 averaged 5.60 tons per acre from an area of 23,214 acres, as compared with 2.61 tons per acre from 140,000 acres in Australia.

(iii) *Relation to Population.* The average annual production of potatoes per head of the population of Australia for the past five seasons was approximately 130 lb. 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, while for the past five seasons it has averaged almost 9 cwt. Details for all States for the seasons 1925-26 to 1929-30 are as follows :—

POTATOES.—PRODUCTION PER 1,000 OF POPULATION, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925-26 ..	19	95	18	20	43	310	14	52
1926-27 ..	23	95	11	27	47	531	13	61
1927-28 ..	20	132	21	31	43	643	9	75
1928-29 ..	11	80	11	24	46	347	1	45
1929-30 ..	10	97	14	26	66	416	..	53

(iv) *Consumption.* Oversea trade in potatoes is comparatively small, and the consumption in Australia averages between 50 and 60 tons per 1,000 of population or about 128 lb. per head. From the above table, therefore, it is apparent that New South Wales, Queensland and South Australia do not produce the quantities necessary for their

requirements and must import from Tasmania and Victoria which have a surplus. Assuming that the consumption is uniform in each State, the following table which gives the average annual production and consumption indicates also estimated average annual deficiencies or surpluses for the last five years :—

POTATOES.—PRODUCTION AND CONSUMPTION—STATES, 1926-30.

State.	Average Annual Production.	Average Annual Consumption.	Average Annual Imports.
	1,000 Tons.	1,000 Tons.	1,000 Tons.
New South Wales	39	138	99
Victoria	173	100	— 73
Queensland	13	52	38
South Australia	15	33	18
Western Australia	20	22	3
Tasmania	97	12	— 85
Australia	357	357	..

The minus sign (—) denotes average exports.

2. Imports and Exports.—Under normal conditions there is a moderate export trade in potatoes carried on by Australia principally with the Pacific Islands and Papua. On the other hand, when the recurrence of droughts causes a shortage in any of the States, importations are usually made from New Zealand. The quantities and values of the Australian oversea imports and exports of potatoes during the past five years are shown in the following table :—

POTATOES.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
1925-26	8,168	77,056	1,017	16,674	— 7,151	— 60,382
1926-27	14,491	125,188	1,153	14,950	— 13,333	— 110,238
1927-28	218	1,831	2,132	16,619	1,914	14,788
1928-29	4	82	1,766	19,948	1,762	19,866
1929-30	52	736	1,173	16,974	1,121	16,238

NOTE.—The minus sign (—) signifies net imports.

3. Value of Potato Crop.—The estimated value of the potato crop of each State for the season 1929-30 is given in the following table, together with the value per acre :—

POTATOES.—VALUE OF CROP, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Total value ..	207,690	987,545	225,739	126,358	212,219	615,180	78	2,374,809 ^(a)
Value per acre	£16/4/11	£16/16/0	£27/16/3	£27/17/2	£35/4/7	£18/4/10	£9/15/0	£19/3/1

(a) Includes £20, Northern Territory.

§ 11. 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 1929-30 being only 23,420 acres. The principal crops comprised are onions, mangolds, sugar beet, turnips, and "sweet potatoes." Of these, onions, sugar beet and mangolds are most largely grown in Victoria, turnips in Tasmania, and sweet potatoes in Queensland. The total area under onions in Australia during the season 1929-30 was 8,935 acres, giving a yield of 49,790 tons, and averaging 5.57 tons per acre. The area devoted in 1929-30 to root crops other than potatoes and onions, viz., 14,485 acres, yielded 94,872 tons, and gave an average of 6.55 tons per acre. The areas and yields here given are exclusive of the production of "market gardens," reference to which is made further on.

2. *Imports and Exports.*—The only root crop, other than potatoes, in which any considerable oversea trade is carried on by Australia is that of onions. During the past five years 11,073 tons, valued at £126,575, were imported, principally from Japan, the United States of America, and New Zealand, while during the same period the exports totalled 12,598 tons, valued at £124,161, and were shipped mainly to New Zealand, the Pacific Islands, the Philippine Islands, and Canada.

§ 12. Hay.

1. *Nature and Extent.*—(i) *Area and Production.* As already stated, the chief crop in Australia is wheat grown for grain. Next in importance is hay, which for the season 1929-30 averaged more than 12 per cent. of the total area cropped. In most European countries the hay consists almost entirely of meadow and other grasses, but in Australia a very large proportion is composed of wheat and oats. Large quantities of lucerne hay are also made, particularly in New South Wales and Queensland. The area under hay of all kinds in the several States during the last five years is given hereunder. The progress from 1860 onwards may be traced from the graph accompanying this chapter.

HAY.—AREA AND PRODUCTION, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	Fed. Cap. Ter.	Australia.
AREA.									
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925-26	749,192	1,013,513	66,828	517,220	391,142	92,595	..	1,413	2,832,003
1926-27	623,424	1,080,993	40,141	496,105	358,487	98,289	..	2,192	2,699,631
1927-28	680,919	908,804	65,412	532,568	357,065	85,769	..	1,632	2,632,219
1928-29	684,730	1,005,063	55,498	497,538	414,866	80,190	..	788	2,738,673
1929-30	698,395	865,015	49,745	544,438	418,698	80,153	..	2,217	2,658,661
PRODUCTION.									
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925-26	564,006	929,068	99,742	612,671	355,269	114,920	..	2,269	2,677,945
1926-27	875,227	1,387,971	47,740	598,835	423,839	151,200	..	2,540	3,487,352
1927-28	754,176	1,001,251	94,996	464,905	416,707	124,924	..	2,004	2,858,963
1928-29	793,255	1,267,437	85,651	486,993	421,504	119,427	..	971	3,175,233
1929-30	686,962	963,089	79,583	445,579	428,328	119,800	..	1,933	2,725,274

In all the States marked fluctuations occur yearly in the area under hay. 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 grain is not satisfactory. 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 Australia during the season 1915-16, i.e., 3,597,771 acres, was the highest on record, whilst the average during the past decennium amounted to 2,955,998 acres.

(ii) *Average Yield.* The States in which the highest average yields per acre have been obtained during the last decennium are Tasmania and Queensland, in which States also the smallest areas are devoted to this crop. For the same period the lowest yield for Australia as a whole was that of 21 cwt. per acre in 1929-30, while the highest was that of 29 cwt. in 1920-21, followed closely by 27 cwt. obtained in 1924-25. The average for the decennium was 24 cwt. Particulars for the several States for the seasons 1925-26 to 1929-30, and the average for the last ten years are given hereunder :—

HAY.—YIELD PER ACRE, 1925-26 TO 1929-30.

Season.	N.S.W.		Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Aus-tralia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925-26	0.75	0.92	1.49	1.18	0.91	1.24	..	..	1.60	1.05
1926-27	1.40	1.28	1.19	1.21	1.18	1.54	..	..	1.16	1.29
1927-28	1.11	1.10	1.45	0.87	1.17	1.46	..	..	1.19	1.09
1928-29	1.16	1.26	1.54	0.98	1.02	1.49	..	..	1.23	1.16
1929-30	0.98	1.11	1.60	0.82	1.02	1.49	..	..	0.87	1.03
Average for 10 seasons										
1920-1930	1.26	1.25	1.37	1.14	1.07	1.48	1.80	1.24	1.22	

(iii) *Varieties Grown.* Particulars concerning the kinds 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 :—

HAY.—VARIETIES GROWN, 1925-26 TO 1929-30.

Varieties.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
NEW SOUTH WALES—					
Wheaten	Acres. 449,653	Acres. 311,073	Acres. 369,960	Acres. 375,270	Acres. 381,071
Oaten	209,047	216,403	200,872	214,137	226,025
Barley	781	692	615	817	1,294
Lucerne	89,368	95,003	109,194	94,275	89,385
Other	343	253	278	231	620
Total	749,192	623,424	680,919	684,730	698,395

HAY.—VARIETIES GROWN, 1925-26 TO 1929-30—*continued.*

Varieties.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	Acres.	Acres.	Acres.	Acres.	Acres.
VICTORIA—					
Wheaten	230,364	101,243	224,454	135,718	165,564
Oaten	759,209	959,019	659,983	845,731	675,256
Lucerne, etc.	24,040	20,731	24,367	23,614	24,195
Total	1,013,613	1,080,993	908,804	1,005,063	865,015
QUEENSLAND—					
Wheaten	10,514	2,798	3,637	4,585	3,811
Oaten	2,214	790	2,468	2,192	2,608
Lucerne	50,526	33,263	48,346	45,476	40,013
Other	3,574	3,290	10,961	3,245	3,313
Total	66,828	40,141	65,412	55,498	49,745
SOUTH AUSTRALIA—					
Wheaten	273,300	230,120	289,219	270,805	318,239
Oaten	234,923	256,417	233,709	218,140	212,956
Lucerne	6,218	5,613	5,649	4,833	5,447
Other	2,779	3,955	3,991	3,760	7,796
Total	517,220	496,105	532,568	497,538	544,438
WESTERN AUSTRALIA—					
Wheaten	238,110	207,841	223,827	250,786	209,893
Oaten	150,534	148,150	130,109	160,675	198,529
Lucerne	368	340	120	184	293
Other	2,130	2,156	3,009	3,221	9,983
Total	391,142	358,487	357,065	414,866	418,698

Wheaten hay is the principal hay crop in New South Wales, South Australia, and Western Australia, oaten hay in Victoria and Tasmania, and lucerne in Queensland. For all States the proportions of the principal kinds of hay produced average about 54.7 per cent. for oaten, 34.4 per cent. for wheaten, 9.8 per cent. for lucerne, and 1.1 per cent. for other hay.

2. Comparison with 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, consequently any attempt to furnish extensive comparisons would be misleading. It may be noted, however, that in Great Britain the production of hay from clover, sainfoin, etc., for the year 1930 amounted to 2,980,000 tons from 2,005,536 acres, while from permanent grasses a yield of 5,843,000 tons of hay was obtained from 5,221,646 acres, giving a total of 8,823,000 tons from 7,227,182 acres, or about 24 cwt. per acre.

3. 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 Australia. During 1929-30, 355 tons were imported, while the exports amounted to 5,672 tons, valued at £34,319, the principal purchases being made by India, the Philippine Islands, Malaya (British), Ceylon, and Hong Kong.

4. Value of Hay Crop.—The following table shows the value, and the value per acre, of the hay crop of the several States for the season 1929-30:—

HAY.—VALUE OF CROP, 1929-30.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
Total Value ..	£ 4,269,160	£ 4,093,128	£ 447,284	£ 2,205,616	£ 1,184,856	£ 509,150	£ 12,040	£ 12,721,234
Value per acre ..	£8/2/3	£4/14/8	£8/19/10	£4/1/0	£2/16/7	£6/7/0	£5/8/7	£4/15/8

§ 13. Green Forage.

1. Nature and Extent.—(i) *Area.* In all the States a considerable area is devoted to the production of green forage, mainly in connexion with the dairying industry. The total area so cropped is considerably swollen in adverse seasons by the inclusion of wheat or other cereal crops deemed unsuitable for the production of either grain or hay. Under normal conditions 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 during each of the last five years are given in the following table:—

GREEN FORAGE.—AREA, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925-26	479,434	107,873	247,482	102,732	100,558	17,101	..	30	1,055,210
1926-27	217,385	87,241	342,580	105,170	109,314	19,213	..	54	880,957
1927-28	848,042	94,895	155,843	184,782	82,241	23,409	..	8	1,389,220
1928-29	264,699	107,351	180,524	155,460	125,311	25,402	..	837	859,584
1929-30	356,903	169,253	208,624	86,500	132,505	23,245	..	465	977,495

2. Value of Green Forage Crops.—The value of these crops is variously estimated in the several States, and the Australian total for the season 1929-30 may be taken approximately as £3,167,119 or about £3 4s. 10d. per acre.

§ 14. Sugar-cane and Sugar-beet.

1. Sugar-cane.—(i) *Area.* Sugar-cane for sugar-making purposes is grown only in Queensland and New South Wales, and much more extensively in the former than in the latter State. Thus, of a total area of 307,035 acres under sugar-cane in Australia for the season 1929-30, there were 291,660 acres, or about 95 per cent., in Queensland. Sugar-cane growing appears to have been started in Australia in or about 1862, as the earliest statistical record of sugar-cane as a crop is that which credits Queensland with an area of 20 acres for the season 1862-63. In the following season the New South Wales returns show an area of 2 acres under this crop. The area under cane in New South Wales reached its maximum in 1895-96 with a total of 32,927 acres. Thenceforward with slight variations it gradually fell to 10,490 acres in 1918-19, but from that year it expanded until 1924-25, when about 20,000 acres were planted. Later, however, the area declined, and in 1929-30 only 15,425 acres were under cultivation. In Queensland,

although fluctuations in area are manifest, the general trend has been upwards, the acreage under cane for the season 1929-30 being the highest on record. The area under sugar-cane in Australia from 1925-26 is given in the following table, and particulars for earlier years may be seen from the accompanying graphs.

SUGAR-CANE.—AREA, 1925-26 TO 1929-30.

Season.	New South Wales.		Queensland.		Australia.		Total.
	Productive.	Unproductive.	Productive.	Unproductive.	Productive.	Unproductive.	
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
1925-26 ..	8,688	10,675	189,675	79,834	198,363	90,509	288,872
1926-27 ..	10,128	8,181	189,312	77,207	199,440	85,388	284,828
1927-28 ..	8,556	7,905	203,748	71,090	212,304	78,995	291,299
1928-29 ..	6,783	9,055	215,674	67,802	222,457	76,857	299,314
1929-30 ..	7,967	7,458	214,880	76,780	222,847	84,238	307,085

(ii) *Productive and Unproductive Cane.* The areas given in the preceding table do not include the small acreage cut for green forage. The whole area was not necessarily cut for crushing during any one season, there being always a considerable amount of young and "stand over" cane, as well as a small quantity required for plants. The season in which the highest acreage is recorded may not show the greatest area of productive cane cut for crushing, as was evidenced in 1923-24, when, although the total acreage was greater, the area cut was less than in the previous year.

(iii) *Production of Cane and Sugar.* Queensland statistics of the production of sugar-cane are not available for dates prior to the season 1897-98. In that season the total for Australia was 1,073,883 tons, as against the maximum production of 3,965,587 tons in 1925-26. The average production of cane during the decennium ended 1929-30 was 3,148,291 tons. The three highest yields of sugar were in 1929-30, 1928-29, and 1925-26, the quantities being 538,084 tons, 537,574 tons, and 517,970 tons respectively. The decennial average was 402,082 tons of sugar. Particulars relative to the total production of cane and sugar for the past five years are as follows:—

SUGAR-CANE.—PRODUCTION OF CANE AND SUGAR, 1925-26 TO 1929-30.

Season.	New South Wales.		Queensland.		Australia.	
	Cane.	Sugar.	Cane.	Sugar.	Cane.	Sugar.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925-26 ..	297,335	32,385	3,668,252	485,585	3,965,587	517,970
1926-27 ..	230,254	26,604	2,925,662	389,272	3,155,916	415,876
1927-28 ..	208,612	23,349	3,555,827	485,745	3,764,439	509,094
1928-29 ..	147,414	16,954	3,736,311	520,620	3,883,725	537,574
1929-30 ..	174,110	19,568	3,581,265	518,516	3,755,375	538,084

The production of raw sugar in Australia in 1929-30 amounted to 538,084 tons manufactured from 3,755,375 tons of cane. These figures show a small improvement on the returns for the previous year, the fall in Queensland having been more than counterbalanced by an increase in New South Wales. The assistance given by the Commonwealth and State Governments during recent years has greatly benefited the sugar industry. In 1920-21 the area cultivated in Queensland was 162,619 acres and the number of cane farmers was 3,930, whereas in 1929-30, 291,660 acres were under cultivation and the number of growers of five acres and over had risen to 6,247, or an increase of 2,317 in the nine years.

Final figures for the 1930-31 season are not yet complete, but it is anticipated from the data available that the production of raw sugar will amount to 536,603 tons from 3,703,660 tons of cane crushed.

Early indications point to a reduced crop in 1931-32, and it is anticipated that the production will amount to about 530,000 tons of raw sugar.

(iv) *Average Yield of Cane and Sugar.* 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 25.59 tons for the former and 17.70 for the latter State. For some years prior to 1910-11, the yield in New South Wales remained practically constant at about 21 tons per acre. Since that year, the average yield per acre has shown an upward tendency, reaching 30 tons or over during 1913-14, 1914-15, 1917-18, and 1925-26. The climatic conditions affecting the long coastal area where this industry is situated in Queensland are largely responsible for the great variations in the yields of sugar for that State, the figures ranging during the past decennium from 14.75 tons per acre in 1923-24 to 19.34 tons in 1925-26.

The greatest production of sugar per acre crushed during the past decennium occurred in 1925-26, when 2.61 tons were obtained, the respective crushings for New South Wales and Queensland averaging 3.73 and 2.56 tons. The average yield per acre for the past ten years was 2.91 tons in New South Wales, and 2.28 tons in Queensland.

(v) *Quality of Cane.* The quantity of cane required to produce a ton of sugar varies with the variety planted, the district where grown, and with the season, and for the decennium ended 1929-30 averaged 7.83 tons, the average production of sugar being 12.77 per cent. of the weight of cane crushed. As the result of the systematic study of cane culture in Queensland, the sugar contents of the cane have been considerably increased in recent years, and in 1929 only 6.91 tons of cane were required to produce one ton of sugar. It is believed that this is the highest sugar content obtained anywhere in the world. During the ten years ended 1919-20 it required on the average 8.61 tons of cane to produce one ton of sugar, whereas the average figure for the past decennium was reduced to 7.83 tons.

SUGAR-CANE AND SUGAR.—YIELD PER ACRE, 1925-26 TO 1929-30.

Season.	New South Wales.			Queensland.			Australia.		
	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925-26	34.22	3.73	9.18	19.34	2.56	7.55	19.99	2.61	7.66
1926-27	22.73	2.63	8.65	15.45	2.06	7.52	15.82	2.09	7.59
1927-28	24.38	2.73	8.93	17.45	2.38	7.32	17.73	2.40	7.39
1928-29	21.73	2.50	8.69	17.32	2.41	7.18	17.46	2.42	7.22
1929-30	21.85	2.46	8.90	16.67	2.41	6.91	16.85	2.41	6.98
Average 10 seasons 1920-30 ..	25.59	2.91	8.78	17.70	2.28	7.78	18.03	2.30	7.83

The Bureau of Sugar Experiment Stations established in Queensland is rendering useful service to the sugar industry in that State by advocating and demonstrating better methods of cultivation, the use of green manures, limes, and fertilizers, together with the introduction and distribution of improved varieties of sugar cane. During the year 1929 a re-organization of the Bureau was effected, and it now comprises four divisions—Soils and Agriculture, Pathology, Entomology, and Sugar Mill Technology. Further experiments were conducted in connexion with cane cutting by machine, and results are regarded as satisfactory.

(vi) *Relation to Population.* The yield of sugar in Australia during the five years 1925-26 to 1929-30 was more than sufficient to supply local requirements, the average production during the period amounting to 181 lb. per head of population, while the consumption was estimated to average 118 lb. per head. Details for the period 1925-26 to 1929-30 are as follow :—

SUGAR.—PRODUCTION PER HEAD OF POPULATION, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	lb.	lb.	lb.	lb.	lb.
New South Wales	32	25	22	16	18
Queensland	1,263	988	1,210	1,272	1,248
Australia	194	152	183	190	188

2. **Sugar-beet.**—(i) *Area and Yield.* The following table shows the acreage under sugar-beet, and the production in Victoria, in which State alone is sugar-beet grown, during the past five seasons :—

SUGAR-BEET.—AREA AND PRODUCTION IN VICTORIA, 1925-26 TO 1929-30.

Particulars.		1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Area harvested ..	acres	1,880	2,024	2,353	2,130	2,500
Production ..	tons	21,194	9,851	25,438	15,237	26,525
Average per acre ..	„	11.27	4.87	10.81	7.15	10.61
Sugar produced ..	„	2,315	1,177	2,352	2,096	3,472

Seasonal conditions were favourable during 1929-30, the yield amounting to 26,525 tons. The sugar content, however, was not so high, the quantity of beet required to produce one ton of sugar being 7.64 tons as compared with 7.26 tons for the previous year. The average production per acre was 10.61 tons, while the average for the ten years ending 1930 was 10.05 tons.

(ii) *Encouragement of Beet-growing.* During recent years an effort has been made to expand the sugar-beet industry in Victoria. The State Government has advanced its irrigation scheme on the Macalister River to provide water for the district, and it is hoped that the industry will be greatly assisted thereby. A fine grade of white sugar is manufactured at Maffra, and considerable quantities of beet pulp and molasses are distributed for stock feed.

3. **Sugar Bounties.**—The provision of bounties or similar aids to the sugar growers of Australia 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 connexion therewith. An account of the various Acts in connexion with sugar bounties and sugar excise tariffs will be found on pages 394 to 396 of 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 connexion 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.

4. **Sugar Purchase by Commonwealth Government.**—The steps taken by the Commonwealth Government in connexion with this matter were alluded to in previous issues of the Year Book. (See No. 18, p. 720.)

5. **Sugar Agreement—Embargo on Imports, etc.**—By agreement between the Commonwealth and Queensland Governments in 1925, it was arranged that the embargo on the importation of foreign sugar should be extended for three years from 1st September, 1925. The price payable for the raw sugar needed for home consumption was fixed at £27 per ton, less £1 per ton to defray administrative and general expenses of the Sugar Board, and to provide special concessions to certain consumers of sugar, while for that portion reserved for export, the price was fixed at a much lower figure, the latter of course being subject to realization adjustments. The embargo was later extended for a further period of three years until 1st August, 1931, on practically the same terms as previously. In response to representations, the Commonwealth Government appointed a Committee of Inquiry on the 23rd August, 1930, to report on the sugar industry in Australia. The Committee consisted of eight members, representing the various interests concerned. The terms of reference were of a comprehensive nature, and included such important items as costs of production, manufacture, and distribution, terms of the existing agreement and any variations thereof considered desirable, efficiency in field and factory, prices at home and abroad, &c. The reports of the Committee were made available in March 1931, and the renewal of the sugar agreement with certain modifications was recommended. The terms of the present agreement follow largely on those previously in force, particularly as regards the embargo on imports and fixation

of prices. The assistance to the fruit industry has, however, been increased from £205,000 per annum to £315,000 by way of grant from the sugar industry. The agreement was signed on 1st June, 1931, and remains in force for a period of five years from 1st September 1931.

6. Net Return for Sugar Crop.—Final calculations by the Sugar Board regarding the disposal of the crop, net value of exports and the average price for the crop will be found in the following table:—

NET RETURN, ETC., SUGAR CROP, AUSTRALIA, 1925-26 to 1929-30.

Year.	Percentage Exported.	Net Value of Exports per Ton.		Average Price per Ton for Whole Crop.		Estimated Total Value of Crop.
		£	s. d.	£	s. d.	
	Per cent.	£	s. d.	£	s. d.	£
1925-26	44.00	11	5 9	19	10 7	10,114,000
1926-27	18.67	14	18 10	24	10 10	9,954,000
1927-28	31.18	12	2 6	22	0 4	11,034,000
1928-29	35.70	10	10 0	20	17 11	11,002,000
1929-30	37.71	9	17 0	20	8 2	10,713,000

The estimated value of the crop is obtained by applying the wholesale price of £26 per ton to the quantity locally consumed and the net value per ton of exports to the quantity exported and adding the totals.

7. Imports and Exports of Sugar.—Owing to the embargo and the increased production of sugar in Australia, the imports have dwindled to insignificant proportions. Supplies to make up for local deficiencies are usually drawn from Java and Fiji. Particulars concerning the imports and exports of cane sugar for the past five years are as follow:—

CANE SUGAR.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
1925-26	345	9,425	208,805	2,803,207	208,460	2,793,782
1926-27	3,611	47,844	66,523	1,140,315	62,912	1,092,471
1927-28	20	457	154,654	2,191,576	154,634	2,191,119
1928-29	11	241	199,497	2,391,469	199,486	2,391,228
1929-30	12	192	181,745	2,217,176	181,733	2,216,984

The export values quoted in the above table have been revised, and now show the value realized overseas instead of the value on the basis of market prices in Australia as shown hitherto.

8. Sugar By-products.—Large quantities of molasses are produced as a by-product in the sugar mills. Details for a series of years of the quantity produced and the proportions used for distilling, fuel, manure and other purposes will be found in Chapter XXII.—“Manufacturing.” A distillation plant erected at the Plane Creek Central Sugar Mill, Mackay, was opened during 1927 and produces power alcohol of a very fine quality.

Proposals have been under consideration in regard to the establishment of an industry to undertake the manufacture of a building material known as “megass board” from megass or bagasse, i.e., the residuum of crushed fibre after the removal of the sugar content from the sugar cane. The possibility of the manufacture of artificial silk from the same material has also been considered.

9. Sugar Prices.—The prices of sugar in Australia from 1915 to 1936 are shown in the table below. During recent years the prices were fixed in accordance with the agreement referred to previously.

AUSTRALIAN SUGAR PRICES, 1915 TO 1936.

Date of Determination.	Raw Sugar.		Refined Sugar.		
	Price to Grower and Miller per Ton.		Wholesale Price per Ton.	Retail Price per lb.	
	£	s. d.	£	s. d.	d.
19.7.15 to 15.1.16	18	0 0	25	10 0	3
16.1.16 to 30.6.17	18	0 0	29	5 0	3½
1.7.17 to 24.3.20	21	0 0	29	5 0	3½
25.3.20 to 30.6.20	21	0 0	49	0 0	6
1.7.20 to 31.10.22	30	6 8	49	0 0	6
1.11.22 to 30.6.23	30	6 8	42	0 0	5
1.7.23 to 21.10.23	27	0 0	42	0 0	5
22.10.23 to 31.8.25	26	0 0	37	11 4	4½
1.9.25 to 31.8.31	(a)26	10 0	37	6 8	4½
1.9.31 to 31.8.36	22	0 0	37	6 8	4½

(a) The price of raw sugar for the years 1925 to 1931 is estimated at £26 10s. per ton, but, as the result of the values received for the surpluses exported, the actual price obtained in 1925-26 was £19 10s. 7d.; in 1926-27, £24 10s. 10d.; in 1927-28, £22 0s. 4d.; in 1928-29, £20 17s. 11d.; and in 1929-30, £20 8s. 2d.

§ 15. Vineyards.

1. Progress of Cultivation.—(i) *Area of Vineyards.* The date of introduction of the vine into Australia has been variously set down by different investigators, the years 1815 and 1828 being principally favoured. It would seem, however, that plants were brought out with the first fleet in 1788, consequently the Australian vine is as old as Australian settlement. As already mentioned, a report by Governor Hunter gives the area under vines in 1797 as 8 acres. From New South Wales the cultivation spread to Victoria and South Australia, and these States have now far outstripped the mother State in the area under this crop. In Queensland and Western Australia also, vine-growing has been carried on for many years, but little progress has been made. 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. :—(a) for wine-making, (b) for table use, and (c) for drying. The total area under vines in the several States during each of the last five years is given in the following table, while particulars from 1860 onwards may be gathered from the graph accompanying this chapter.

VINEYARDS.—AREA, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925-26.. .. .	14,465	40,712	1,656	50,594	5,270	There are no vineyards in Tasmania.	112,697
1926-27.. .. .	14,281	40,612	1,682	50,271	5,274		112,120
1927-28.. .. .	14,880	40,988	1,762	50,663	4,959		113,252
1928-29.. .. .	15,200	41,565	1,787	51,802	4,943		115,297
1929-30.. .. .	15,589	40,594	1,749	52,329	4,964		115,225

The area under vines in Australia amounted to 65,673 acres in 1904-5. From that year onwards a gradual decline set in, and at the end of 1914-15 the acreage had decreased to 60,985. Since that date, however, as a result of extensive plantings, particularly of varieties suitable for drying, the 1904-5 figure was soon exceeded, and the area for 1928-29 was the highest on record, being practically equalled by that for 1929-30.

The wine-growing industry in Australia, especially in Victoria and New South Wales, received a severe check by various outbreaks of phylloxera. With a view to the eradication of this disease extensive uprooting of vineyards in the infested areas was undertaken, while further planting within such areas, except with phylloxera-resistant stocks, was prohibited.

(ii) *Wine Production.* The production of wine has not increased as rapidly as the suitability of soil and climate would appear to warrant. The cause is probably twofold, being due in the first place to the fact that Australians are not a wine-drinking people, and consequently do not provide a local market for the 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. Continued efforts are made to bring the Australian wines under notice, while the Commonwealth bounty on the export of fortified wine of specified strength has greatly benefited the industry. The bounty was increased to 1s. 9d. per gallon from 13th March, 1930, under the *Wine Export Bounty Act 1930* which provides that this rate will be paid until the 28th February, 1935.

Particulars of the quantity of wine produced in the several States during the past five seasons are given in the table hereunder:—

WINE.—PRODUCTION, 1925-26 TO 1929-30.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	No production of wine in Tasmania.	Gallons.
1925-26 ..	1,240,893	1,637,274	39,375	13,074,874	233,726		16,231,142
1926-27 ..	1,625,507	2,346,314	32,974	16,159,595	291,951		20,456,341
1927-28 ..	2,295,030	1,739,560	38,571	12,820,733	408,717		17,302,611
1928-29 ..	1,481,846	1,942,701	37,210	14,828,968	309,524		18,600,249
1929-30 ..	1,933,709	1,363,575	48,174	12,406,017	317,637		16,069,112

2. *Imports and Exports of Wine.*—(i) *Imports.* The principal countries of origin of wine imported into Australia are France, Spain, Portugal, and Italy, the bulk of the sparkling wines coming from France. Particulars relative to the importations of wine into Australia during the past five years are given hereunder:—

WINE.—IMPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Quantity.			Value.		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£	£	£
1925-26 ..	25,896	61,511	87,407	65,763	37,432	103,195
1926-27 ..	27,720	61,878	89,598	64,134	37,325	101,459
1927-28 ..	20,737	55,403	76,140	45,703	33,997	79,700
1928-29 ..	20,212	56,171	76,383	50,576	32,948	83,524
1929-30 ..	16,833	64,286	81,119	42,434	36,242	78,676

(ii) *Exports.* The principal countries to which wine is exported from Australia are the United Kingdom and New Zealand, the bulk of the shipments during the past two years being consigned to the former country. Details concerning the exports of wine from Australia during the past five years are given in the following table:—

WINE.—EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Quantity.			Value.		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£	£	£
1925-26 ..	3,564	1,719,045	1,722,609	7,156	364,766	371,922
1926-27 ..	2,956	3,078,841	3,081,797	6,075	827,722	833,797
1927-28 ..	2,744	3,770,035	3,772,779	5,577	1,056,831	1,062,408
1928-29 ..	2,932	1,738,047	1,740,979	5,685	495,299	500,984
1929-30 ..	2,884	2,181,253	2,184,137	4,439	551,682	556,121

3. Other Viticultural Products.—(i) *Table Grapes.* Large quantities of grapes for table use are grown in all the States except Tasmania, but the greatest development in the industry has taken place in the drying of raisins and currants, particularly in Victoria and South Australia. The quantities of table grapes grown in the several States during the past five seasons are as follow:—

TABLE GRAPES.—PRODUCTION, 1925-26 TO 1929-30.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925-26 ..	3,837	3,616	996	1,063	2,284	..	11,796
1926-27 ..	4,689	4,634	1,410	791	2,195	..	13,719
1927-28 ..	4,250	3,338	1,474	581	2,642	..	12,285
1928-29 ..	4,278	3,909	1,535	899	2,811	..	13,432
1929-30 ..	4,216	3,845	1,642	752	2,900	..	13,355

(ii) *Raisins and Currants.* Statistics of the quantities of raisins (sultanas and lexias) and currants dried during each of the past five seasons are given in the following table:—

RAISINS(a) AND CURRANTS.—QUANTITIES DRIED, 1925-26 TO 1929-30.

Season.	N.S. Wales.		Victoria.		South Aust.		Western Aust.		Australia.	
	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
1925-26 ..	1,158	307	17,575	6,187	5,563	5,196	492	546	24,778	12,236
1926-27 ..	2,053	455	32,836	6,773	8,120	4,383	443	1,147	43,502	12,758
1927-28 ..	1,542	227	20,116	3,655	2,757	2,521	810	1,222	25,225	7,825
1928-29 ..	3,004	488	38,556	9,499	10,527	8,207	602	1,311	52,689	19,505
1929-30 ..	4,170	542	39,183	8,911	10,562	8,094	652	1,332	54,567	18,879
Average 10 seasons 1920-30	1,485	327	21,825	5,962	5,940	5,236	491	805	29,750	12,330

(a) Sultanas and Lexias.

4. Imports and Exports of Raisins and Currants.—The following table gives the oversea imports and exports of raisins and currants during each of the past five years :—

RAISINS AND CURRANTS.—IMPORTS AND EXPORTS, AUSTRALIA,
1925-26 TO 1929-30.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
RAISINS.						
	tons.	£	tons.	£	tons.	£
1925-26 ..	46	5,224	15,874	1,026,339	15,828	1,021,115
1926-27 ..	44	5,385	19,678	1,265,994	19,634	1,260,609
1927-28 ..	48	4,388	24,236	1,398,595	24,188	1,394,207
1928-29 ..	148	7,002	33,575	1,620,307	33,427	1,613,305
1929-30 ..	83	4,777	35,413	1,486,580	35,330	1,481,803
CURRANTS.						
1925-26 ..	7	494	8,413	402,283	8,406	401,789
1926-27 ..	2	173	8,576	377,895	8,574	377,722
1927-28 ..	(a)	4	3,667	177,605	3,667	177,601
1928-29 ..	(a)	30	13,326	597,917	13,326	597,887
1929-30 ..	(a)	17	14,867	621,192	14,867	621,175

(a) Quantity negligible.

The quantities of raisins and currants imported into Australia were generally greater than the exports for all years prior to 1912, when the increased production in Australia left a surplus available for export. During the last five years the value of the exports exceeded that of the imports by £8,947,213, the average annual excess for the quinquennium being £1,789,443.

5. Marketing of Raisins and Currants.—The Dried Fruits Control Board appointed under the Dried Fruits Export Control Act has power to regulate the export, and sale and distribution after export, of Australian sultanas, lexias and currants. The Board, with an agency in London, is financed by an export levy charged on all dried fruits exported.

The regulation of sales and fixation of prices within the Commonwealth is in the hands of the Australian Dried Fruits Association which has, in addition, power to regulate interstate transfers. The prices fixed for home consumption are somewhat higher than those realized on exports overseas, as will be seen from the next table.

6. Prices of Australian Raisins and Currants.—The average prices of Australian raisins and currants both locally and in Great Britain during the last five years will be found in the following table :—

RAISINS AND CURRANTS.—PRICES 1925-26 to 1929-30.

Year.	Average Wholesale Price per lb.— Australia.		Average Price per lb.— Great Britain.	
	Sultanas.	Currants.	Sultanas.	Currants.
	d.	d.	d.	d.
1925-26	6½	7	7	4
1926-27	6½	7½	5½	4½
1927-28	6½	7½	3¾	6
1928-29	6¾	7½	4	4½
1929-30	7	7½	4½	3¾

§ 16. Orchards and Fruit Gardens.

1. *Progress of Cultivation.*—(i) *Total Area.* The maximum area under orchards and fruit gardens was recorded in 1921–22, when 281,149 acres were planted. Since that year the industry has declined slightly owing to difficulties experienced in disposing of the surplus production. The total area under orchards and fruit gardens in the several States is given in the following table:—

ORCHARDS AND FRUIT GARDENS.—AREA, 1925–26 TO 1929–30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925–26 ..	74,532	82,665	33,520	32,276	18,355	33,891	6	275,245
1926–27 ..	74,682	83,215	35,145	31,570	18,512	33,322	5	276,451
1927–28 ..	76,999	81,397	36,206	30,983	18,393	33,834	14	277,826
1928–29 ..	76,009	79,322	38,452	30,836	18,735	34,087	35	277,476
1929–30 ..	77,532	80,820	38,412	30,073	18,855	32,159	53	277,904

2. *Varieties of Crops*—(i) *General.* The varieties grown differ in various parts of the States, ranging from such fruits as the pineapple, paw-paw, mango, and guava of the tropics to the strawberry, the raspberry, and the currant of the colder parts of the temperate zone. The principal varieties grown in Victoria are the apple, peach, pear, orange, plum, and apricot. In New South Wales citrus fruits (oranges, lemons, etc.) occupy the leading position, although apples, peaches, plums, pears, cherries and bananas are extensively grown. In Queensland, the banana, the pineapple, the apple, the orange, the peach, the plum, and the coconut are the varieties most largely cultivated. In South Australia, in addition to the apple, orange, apricot, plum, peach, and pear, the almond and the olive are extensively grown. In Western Australia, the apple, orange, pear, plum, peach, apricot and fig are the chief varieties. In Tasmania the apple occupies nearly four-fifths of the fruit-growing area, but small fruits, such as the currant, raspberry, and gooseberry are extensively grown, while the balance of the area is taken up with the pear, apricot, plum, and cherry. The following tables give the acreage—bearing and non-bearing—under the principal kinds of fruit, and the quantity and value of fruit produced. Although statistics of area are not collected annually in Victoria, the acreage under each class of fruit is estimated from data based on the triennial collection of the number of trees, subject to annual variations in the total area under orchards and fruit gardens.

(ii) *Area.* The table hereunder shows the total acreage for 1929–30.

ORCHARDS AND FRUIT GARDENS.—TOTAL AREA, 1929–30.

Fruit.	New South Wales.	Victoria.	Queens-land.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Apples ..	14,718	32,205	4,012	10,328	10,885	25,307	33	97,483
Apricots ..	1,998	5,107	122	3,327	688	1,434	3	12,679
Bananas ..	3,340	..	19,357	..	8	..	..	22,705
Cherries ..	3,651	1,523	8	658	..	59	3	5,897
Lemons ..	2,839	2,016	179	438	503	..	..	5,975
Nectarines and Peaches ..	7,271	12,032	1,716	2,457	1,014	62	4	24,556
Nuts ..	558	531	..	1,369	(a)	..	1	2,459
Oranges ..	30,766	5,948	3,872	4,943	3,036	..	..	48,565
Pineapples ..	95	..	5,144	..	..	..	..	5,239
Pears ..	4,145	11,203	271	2,167	1,015	2,130	3	20,934
Plums ..	6,317	5,244	1,341	3,024	915	566	5	17,412
Small fruits ..	36	1,168	182	308	40	2,550	..	4,284
Other fruits ..	1,798	3,843	2,213	1,054	751	51	1	9,711
Total ..	77,532	80,820	38,412	30,073	18,855	32,159	53	277,904

(a) Included with "Other Fruits."

(iii) *Production—(a) Quantities.* The production in 1929-30 is shown in the next table.

ORCHARDS AND FRUIT GARDENS.—PRODUCTION, 1929-30.

Fruit.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Australia.
Apples .. bushels	931,486	2,779,107	177,062	1,224,541	442,243	3,950,000	873	9,505,312
Apricots .. bushels	166,653	447,131	5,530	261,278	62,193	126,000	49	1,068,834
Bananas .. bushels	175,680		2,205,513		1,684			2,382,877
Cherries .. bushels	86,630	46,060	294	38,886		1,600	60	173,030
Lemons .. bushels	284,491	114,081	16,423	35,887	58,180			509,062
Nectarines and Peaches .. bushels	495,780	1,210,463	114,764	183,707	80,778	5,000	26	2,090,518
Nuts .. lb.	202,552	106,706		664,160				973,418
Oranges .. bushels	2,228,877	385,106	272,801	406,383	232,488			3,525,656
Pineapples .. dozen	24,345		857,116					881,461
Pears .. bushels	313,060	1,166,418	13,829	210,221	87,461	274,000	59	2,065,048
Plums .. bushels	298,087	290,881	56,121	151,206	70,732	70,000	83	937,110
Small Fruits .. cwt.	840	28,737	4,423	8,570	569	87,205		130,344

(b) *Values.* The value of production for the various classes of fruit for the year 1929-30 is given in the following table.

ORCHARDS AND FRUIT GARDENS.—VALUE OF PRODUCTION, 1929-30.

Fruit.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Australia.
	£	£	£	£	£	£	£	£
Apples	530,250	521,033	95,355	347,744	279,166	663,000	497	2,437,095
Apricots	82,910	78,248	5,530	58,583	22,156	26,250	24	273,701
Bananas	138,590		927,923		2,526			1,069,039
Cherries	112,360	40,303	368	27,830		800	78	181,739
Lemons	158,430	57,041	10,435	15,252	33,514			274,672
Nectarines and Peaches	213,370	259,144	62,869	50,010	51,237	1,250	11	637,891
Nuts	5,469	4,303		18,240	(a)			28,012
Oranges	1,294,340	206,994	175,900	208,687	148,829			2,034,750
Pineapples	9,740		212,326					222,066
Pears	135,350	189,543	5,589	35,865	43,822	62,790	26	472,985
Plums	129,340	59,615	51,561	24,218	30,356	11,960	36	307,086
Small Fruits	5,200	70,652	33,143	15,156	4,423	98,500		227,074
Other Fruits	79,071	108,709	80,403	15,676	18,175	1,140	11	303,185
Total	2,894,420	1,595,635	1,661,402	817,261	634,204	865,690	683	8,469,295

(a) Included with "Other Fruit".

3. *Principal Fruit Crops—(i) Area.* The area in Australia under the principal fruit crops for the year 1913-14 and for each of the last five years is shown hereunder:

PRINCIPAL FRUIT CROPS.—AREA, BEARING AND NON-BEARING, AUSTRALIA, 1913-14 TO 1929-30.

Year.	Apples.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1913-14	56,577	7,778	24,840	13,645	9,657	8,410
1925-26	98,383	16,515	53,013	25,761	21,804	18,349
1926-27	98,322	18,345	53,570	25,420	22,014	18,070
1927-28	98,244	19,971	54,660	24,869	21,671	17,906
1928-29	98,338	21,681	54,286	23,722	21,268	17,433
1929-30	97,488	22,705	55,013	23,247	20,934	17,412

(ii) *Production*—(a) *Quantities*. In the next table the total production for the principal varieties of fruit grown in Australia is shown for the same periods.

PRINCIPAL FRUIT CROPS.—PRODUCTION, AUSTRALIA, 1913-14 TO 1929-30.

Year.	Apples.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1913-14 ..	5,000,178	835,868	1,638,961	930,144	951,277	621,525
1925-26 ..	8,491,780	2,039,786	3,892,558	2,232,546	1,521,541	870,691
1926-27 ..	5,228,475	2,163,345	3,667,895	1,801,818	1,166,566	675,595
1927-28 ..	11,505,289	2,260,295	3,922,773	2,225,636	1,804,604	895,105
1928-29 ..	5,519,341	2,571,616	4,642,142	1,765,818	1,516,253	794,488
1929-30 ..	9,505,312	2,382,877	4,034,717	1,998,632	2,065,048	937,110

(b) *Values*. The value of the principal fruit crops during the periods mentioned is given in the subjoined table.

PRINCIPAL FRUIT CROPS.—VALUE OF PRODUCTION, AUSTRALIA, 1913-14 TO 1929-30.

Year.	Apples.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums.
	£	£	£	£	£	£
1913-14 ..	1,132,427	157,710	719,808	306,433	258,235	135,654
1925-26 ..	2,471,148	819,594	1,605,565	862,289	485,324	301,716
1926-27 ..	2,477,708	730,576	1,900,613	882,366	447,127	287,695
1927-28 ..	2,837,137	1,276,532	1,916,864	897,571	498,869	289,409
1928-29 ..	2,707,273	1,042,305	2,056,830	702,602	543,940	295,240
1929-30 ..	2,437,095	1,069,039	2,323,256	594,133	472,985	307,086

4. *Imports and Exports of Fruit*.—(i) *General*. A considerable export trade in both fresh and dried fruits is carried on by Australia with oversea countries. The import trade in fresh fruits declined heavily during recent years, owing to the imposition of a Customs duty of 1d. per lb. on imported bananas, which had previously been the chief variety of fresh fruit imported into Australia. The imports of dried fruits at present consist mainly of dates. The export trade in fresh and dried fruits, however, has greatly expanded during recent years; the value of the shipments in 1929-30 amounting to £4,033,842. Apples constitute the bulk of the fresh fruit exported, although the exports of citrus fruits and pears are fairly considerable, and experiments are being conducted in regard to the dispatch of other fruits. Shipments of raisins and currants have developed into large proportions since 1914-15, and are mainly responsible for the increase in the dried fruits exports. Other fruits in the dried state, notably apricots, are also receiving attention from overseas.

(ii) *Fresh Fruits*. Information with regard to the Australian oversea trade in fresh fruits is given hereunder:—

FRESH FRUITS.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1925-26 ..	3,228,900	35,154	149,673,100	1,553,650	146,444,200	1,518,496
1926-27 ..	5,086,900	56,932	75,776,600	805,573	70,689,700	748,641
1927-28 ..	4,772,200	61,606	186,625,800	1,819,796	181,853,600	1,758,190
1928-29 ..	6,350,000	69,011	82,706,700	942,960	76,356,700	873,949
1929-30 ..	7,838,000	93,110	196,000,600	1,862,603	188,162,600	1,769,493

(iii) *Exports of Apples, Pears, and Citrus Fruits.* The quantity and value of apples, pears, and citrus fruits exported during each of the last five years are shown in the following table :—

APPLES, PEARS, AND CITRUS FRUITS.—EXPORTS, AUSTRALIA 1925-26 TO 1929-30.

Year.	Apples.		Pears.		Citrus Fruits.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cental.	£	Cental.	£	Cental.	£
1925-26 ..	1,297,180	1,275,485	40,468	57,063	127,156	156,990
1926-27 ..	631,508	624,040	30,007	37,001	65,803	80,246
1927-28 ..	1,736,965	1,636,000	57,831	62,742	32,388	46,645
1928-29 ..	644,183	703,037	55,006	68,290	71,932	76,023
1929-30 ..	1,737,872	1,576,275	127,897	136,353	39,271	58,481

(iv) *Dried Fruits.* The quantity and value of oversea imports and exports of dried fruits, other than raisins and currants, for the last five years are shown below; about 85 per cent. of the total imports consisted of dates obtained chiefly from Iraq.

DRIED FRUITS(a).—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1925-26 ..	11,669,068	136,204	650,437	29,778	11,018,631	106,426
1926-27 ..	11,214,659	168,404	72,140	3,284	11,142,519	165,120
1927-28 ..	11,983,431	178,225	685,052	23,954	11,298,379	154,271
1928-29 ..	11,098,182	146,078	2,096,416	81,106	9,001,766	64,972
1929-30 ..	11,579,470	134,244	1,780,189	62,060	9,799,281	72,184

(a) Excluding raisins and currants referred to separately under Vineyards, § 15, 4.

(v) *Jams and Jellies.* Jams and jellies were exported in large quantities during the war years, and in 1918-19 the record shipment of 79,277,560 lbs., valued at £1,847,970, was dispatched from Australia. Since that year, however, the trade has dwindled, the value of the exports in 1929-30 amounting to only £44,398. Particulars relative to imports and exports during each of the last five years are as follows :—

JAMS AND JELLIES.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1925-26 ..	190,302	8,813	2,665,243	82,447	2,474,941	73,634
1926-27 ..	357,838	15,004	2,422,988	72,354	2,065,150	57,350
1927-28 ..	438,427	18,408	2,298,225	68,949	1,859,798	50,541
1928-29 ..	325,422	13,133	1,947,786	58,204	1,622,364	45,071
1929-30 ..	300,805	10,811	1,535,720	44,398	1,234,915	33,587

(vi) *Preserved Fruit.* Details concerning the quantities and values of preserved fruit imported into Australia 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 preserved or partly preserved in liquid, or pulped, imported into Australia during 1929-30 was £222,199. Oversea exports in 1929-30 were as follows:—Apricots, 5,681,784 lb., £100,944; peaches, 19,060,032 lb., £323,184; pears, 5,589,720 lb., £117,295; pineapples, 40,263 lb., £909; and other, 1,085,397 lb., £24,474, or a total shipment of £566,806.

§ 17. Minor Crops.

1. *General.*—In addition to the crops previously dealt with, 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 included under the headings—Market Gardens, Pumpkins and Melons, Nurseries, Grass Seed, Tobacco, and Millet. Cotton-growing has recently received considerable attention in the tropical portions of Australia, and the prospects of establishing this industry are hopeful. The decline in area under cultivation from 82,409 acres in 1924-25 to 27,659 acres in 1929-30 was due to poor seasons and difficulty in marketing the product. The total area in Australia during the season 1929-30 devoted to crops not dealt with in previous sections was 126,360 acres, the major portion of which consisted of cotton and market-gardens.

2. *Market Gardens.*—Under this head are included all areas on which mixed vegetables are grown. Where considerable areas are devoted to the production of one vegetable, such for instance as the potato, the onion, the melon, the tomato, etc., the figures are usually not included with market gardens, but are shown either under some specific head, or under some general head as "Other Root Crops," or "All Other Crops." The area under market gardens during each of the last five seasons is given hereunder:—

MARKET GARDENS.—AREA, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1925-26 ..	8,973	16,609	1,017	1,517	2,725	587	..	12	31,440
1926-27 ..	8,184	17,751	1,096	1,320	2,872	599	..	46	31,868
1927-28 ..	7,729	18,984	1,083	1,303	2,647	732	..	32	32,510
1928-29 ..	7,709	18,630	918	1,408	2,924	546	..	11	32,146
1929-30 ..	8,380	21,210	862	1,658	3,075	530	..	10	35,725

3. *Grass Seed.*—The total area under this crop during 1929-30, exclusive of New South Wales and Western Australia, for which States complete figures as to area are not available, was 6,288 acres, of which 1,670 acres were in Victoria, 761 acres in Tasmania, 1,866 acres in Queensland, and 1,991 acres in South Australia. The total yield for 1929-30, including New South Wales, was 137,981 bushels, valued at £201,971. In addition to the areas planted above, 948 acres were sown to canary seed in Queensland during 1929-30, returning a yield of 11,208 bushels, valued at £9,565.

4. *Tobacco.*—Tobacco-growing has undergone marked fluctuations, although at one time it promised to occupy an important place amongst the agricultural industries of Australia. Thus, as early as the season 1888-89, 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 importance was, however, not fulfilled, and after numerous fluctuations, in the course of which the Victorian area rose in 1895 to over 2,000 acres, and that in Queensland to over 1,000 acres, the total area for the season 1920-21 had declined to 1,345 acres. Since that date the area has again fluctuated, but with an upward tendency, and in 1929-30, 2,470 acres were planted, of which 446 were in New South Wales, 1,822 in Victoria, 159 in Queensland,

37 in South Australia, and 6 in Western Australia. Greater attention is now being paid to the proper treatment of the leaf, and flue-curing is becoming more general. 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 heavy importations of tobacco in its various forms into Australia are an index of the extensive local market which exists for an article grown and prepared to meet the requirements of consumers. The value of the net importations of tobacco into Australia during the year 1929-30 amounted to £1,960,827 including 20,280,139 lb. of unmanufactured tobacco valued at £1,768,498.

A Select Committee appointed by the Commonwealth Government to inquire into the position of the industry in Australia presented its report in July, 1930. In accordance with its recommendations the duty on unmanufactured unstemmed tobacco was increased from 3s. per lb. to 5s. 2d. per lb. The Committee was not in favour of the payment of a bounty on Australian-grown leaf. A new agreement between the British-Australasian Tobacco Co. and the Commonwealth Government was entered into for three years from July, 1931, the company undertaking to contribute towards investigation work on a £ for £ basis with a maximum contribution of £3,000 per annum. Other manufacturing firms have been invited to co-operate. A Director of Australian Tobacco Investigation has been appointed with head-quarters at Canberra. Practical tests have shown that suitable leaf can be grown, and research is in progress with a view to improvement in quality and aroma of the product and the combating of disease. The sowing of seed free from blue mould will, it is believed, materially reduce the loss occasioned by this parasitic disease. The extensive local demand coupled with the protection afforded by the tariff has resulted in a large increase in the area sown to tobacco. Sufficient seed has been distributed to sow about 30,000 acres in the season 1931-32 as compared with 3,000 acres in 1930-31 and 2,470 acres in 1929-30. The quantity of seed supplied to growers is sufficient to produce the whole of Australia's requirements, but a certain amount of preliminary failure will be inevitable on account of inexperience in growing and curing the leaf. The number of persons engaged in the growing of tobacco is estimated at 603 in 1920, 454 in 1925 and 2,300 in 1931.

5. Pumpkins and Melons.—The total area under this crop in Australia during 1929-30 was 16,446 acres, of which 2,818 acres were in New South Wales, 1,231 acres in Victoria, 11,014 acres in Queensland, 1,065 acres in Western Australia, 314 acres in South Australia, and 4 acres in Federal Capital Territory. The production in all the States amounted to 45,368 tons.

6. Hops.—Hop-growing in Australia is practically confined to Tasmania and some of the cooler districts of Victoria, the total area for the season 1929-30 being 1,398 acres, of which 1,196 acres were in Tasmania, 201 acres in Victoria, and 1 acre in South Australia. The Tasmanian area, though still small, has increased considerably during the past thirty years, the total for the season 1901-2 being only 599 acres. In Victoria the area, which in 1901-2 was 307 acres, dwindled to 71 acres in 1918-19, then rose to 312 acres in 1925-26 and dropped to 201 in 1929-30. The cultivation of hops was much more extensive in Victoria some 40 years ago than at present, the area in 1883-84 being no less than 1,758 acres. During the year 1929-30 the imports of hops exceeded the exports by 130,069 lb., the excess value being £8,887. The value of the production in Australia in 1929-30 amounted to £131,662.

7. Flax.—For over twenty years flax has been grown intermittently in the Gippsland district of Victoria, and attempts have been made to introduce its cultivation into Tasmania and New South Wales, but without success. About the end of the year 1917 the shortage of flax fibre in the world had become acute, and endeavours were made by the Commonwealth Government to encourage local cultivation. The acreage in Victoria increased from 419 acres in 1917-18 to 1,611 acres in 1919-20, but the area had declined in 1928-29 to 179 acres. As the result of the bounty, however, the area increased to 773 acres in 1929-30, but there has not been any production of fibre. Flax products to the value of more than £1,500,000 are annually imported into Australia, and, as it has been demonstrated that flax can be grown to perfection here, good prospects exist for the ultimate establishment of a local industry. In order to assist in this direction the Commonwealth Parliament has granted the payment of a bounty on the production of

flax and linseed grown in Australia for a period of five years, commencing 1st March, 1930. The rates of bounty payable are 15 per cent. of the market value of the flax or linseed for the first two years, 10 per cent. for the next two years, and $7\frac{1}{2}$ per cent. for the last year. The total amount paid shall not exceed £20,000 in any one financial year.

8. Millet.—Millet figures in the statistical records of three of the States. The total area devoted thereto in 1929–30 was 4,576 acres, of which 2,521 acres were in New South Wales, 1,677 in Victoria, and 378 in Queensland. The particulars here given relate to millet grown for grain and fibre, the quantity for green forage being dealt with in the section relating thereto.

9. Nurseries.—In all the States fairly large areas are occupied as nurseries for raising plants, trees, etc. Statistics of the area under flowers, fruit trees, etc., are available for New South Wales, Victoria, South Australia, and Western Australia. During 1929–30 the areas in those States were 624, 1,266, 177, and 103 acres respectively.

10. Cotton.—The cultivation of cotton was begun in Queensland in 1860, and ten years later the area cropped had increased from fourteen to upwards of fourteen thousand acres. The re-appearance of American cotton in the European market on the conclusion of the Civil War gave a severe setback to the new industry, and the area declined continuously till 1888, when only 37 acres were planted. The industry was resuscitated soon after, and manufacturing was undertaken on two separate occasions at Ipswich, but operations were at no time very extensive, and low prices over a term of years checked development. Added interest was shown in the crop in 1903, and in 1913 the Queensland Government made an advance of $1\frac{1}{2}$ d. per lb. on seed cotton, and ginned it on owner's account, the final return being equal to about $1\frac{1}{2}$ d. per lb.

Rising prices for the staple enabled the Government to offer the substantial guarantee of $5\frac{1}{2}$ d. per lb. for seed cotton of good quality for the three years ended 31st July, 1923, and as a result considerable activity was displayed in the industry, the area picked rising from 166 acres in 1920 to 50,186 in 1924. Government guarantees were continued until 1926, when the Commonwealth Government granted a bounty of $1\frac{1}{2}$ d. per lb. on the better grades and $\frac{1}{2}$ d. on the lower grades of seed cotton grown in Australia. In addition to this direct assistance to the cotton-growing industry, the Government subsidized the cotton-manufacturing industry by granting a graduated bounty varying from $\frac{1}{2}$ d. to 1s. per lb. on all cotton yarn manufactured in Australia which contained 50 per cent. of home-grown cotton. The rates payable under the new Act for seed cotton vary from $1\frac{1}{2}$ d. per lb. for the first year for the higher grades and $\frac{3}{4}$ d. per lb. for the lower grades to $\frac{1}{2}$ d. and $\frac{1}{4}$ d. per lb. respectively for the year ending 30th September, 1936. The bounty payable on cotton yarn varies according to count, the rate decreasing each year until 1936. The amount of bounty payable in any financial year is limited to £260,000. The object of this policy is to foster and establish the primary and secondary industries concurrently, thus creating a home market for the raw cotton produced.

The area under cultivation and the yield in Queensland since the year 1920 are shown hereunder:—

COTTON.—AREA AND YIELD, QUEENSLAND. 1920 TO 1930.

Year.						Area. (a)	Yield of Unginned Cotton.
						Acres.	lb.
1920	..	..	..	..	..	166	57,065
1921	..	..	..	..	..	1,944	940,126
1922	..	..	..	..	..	8,716	3,956,635
1923	..	..	..	..	..	40,821	12,543,770
1924	..	..	..	..	..	50,186	16,416,170
1925	..	..	..	..	..	40,062	19,537,274
1926	..	..	..	..	..	18,743	9,059,907
1927	..	..	..	..	..	14,975	7,060,756
1928	..	..	..	..	..	20,316	12,290,910
1929	..	..	..	..	..	15,003	8,024,502
1930 (b)	..	..	..	..	..	22,652	17,022,897

(a) Area harvested.

(b) Estimated.

Consequent upon the lapse of the Government guarantees and the change over to the bounty system, a cotton pool was formed in Queensland under the Primary Products Pools Act and a cotton board was elected to control the handling, financing, and marketing of all cotton grown in the State. The serious decline in world prices, however, affected local prices and resulted in a smaller return to the growers during the year 1929, the amount paid for seed cotton, including Commonwealth bounty, averaging 4.62d. per lb. The whole of the crop was sold to local spinners.

11. *Coffee*.—Queensland is the only State in which coffee-growing has been extensively tried, but the results have not been satisfactory. The area under crop reached its highest point in the season 1901–2 with 547 acres. In subsequent seasons the acreage fluctuated, but on the whole with a downward tendency, and in 1929–30 only 12 acres were recorded with a yield of 8,227 lb.

12. *Other Crops*.—Amongst miscellaneous small crops grown in the several States may be mentioned tomatoes, rhubarb, artichokes, arrowroot, chicory, and flowers.

§ 18. Bounties.

With the object of encouraging the manufacture and production of certain articles in Australia, bounties have been granted by the Commonwealth Parliament, and during the year ending 30th June, 1931, the sum of £516,460 was paid in connexion therewith. In the following table will be found particulars regarding all bounties in operation in Australia during the years 1926–27 to 1930–31:—

BOUNTIES.—AUSTRALIA, 1926–27 TO 1930–31.

Articles on which Bounty was Paid.	Rate of Bounty Payable. (d)	Date of Expiry of Bounty.	Amount Paid.				
			1926–27.	1927–28.	1928–29.	1929–30.	1930–31.
Shale Oil Bounties Act— Crude Shale Oil, as prescribed, produced in Australia from Mined Kerose Shale	3½d. per gallon up to 3,500,000 gallons 2d. per gallon, 3,500,000 to 5,000,000 gallons 1½d. per gallon, 5,000,000 to 8,000,000 gallons 1½d. each additional gallon	31st Aug., 1929	£ 705	£ 428	£ ..	£ ..	£ ..
Iron and Steel Products Bounty Act— *Fencing Wire ..	£2 12s. per ton (f) ..	(g) 6th Nov., 1930	98,389	104,485	121,839	114,141	39,913
*Galvanized Sheets ..	£2 12s. per ton (a) ..	(g) 3rd Oct., 1930	67,915	65,128	102,650	89,561	79,429
*Wire Netting ..	£3 8s. per ton (e) ..	..	90,299	73,873	73,945	56,486	22,696
*Tractor Engines ..	According to capacity, £40–£90 per tractor less 8 per cent. from 9th July, 1930, and less 16 per cent. from 7th November, 1930	..	250	140	7,109	199	1,974
Sulphur Bounty Act— Sulphur from Australian Pyrites and other Sulphide Ores or Concentrates	£2 5s. per ton ..	..	34,339	57,377	52,009	55,018	48,520
Flax and Linseed Bounties Act 1930	Rates vary according to year	28th Feb., 1935	..	..	..	..	..

(a) Amount of Bounty raised to £3 12s. per ton on 1st January, 1928, to £4 10s. per ton from 1st January 1930, and reduced to £3 10s. on 21st June, 1930, and to £3 8s. on 10th July, 1930. (b) All Bounties are subject to 20 per cent. reduction from 20th July, 1931. (c) Amount of Bounty reduced to £2 14s. per ton on 10th July, 1930, and to £2 5s. 6d. per ton on 7th November, 1930. (d) Amount of Bounty reduced to £2 6s. on 10th July, 1930. (e) Date on which Bounty ceased.

BOUNTIES.—AUSTRALIA, 1926-27 TO 1930-31—*continued.*

Articles on which Bounty was Paid.	Rate of Bounty Payable. (d)	Date of Expiry of Bounty.	Amount Paid.				
			1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
			£	£	£	£	£
Wine Export Bounty Act— Fortified Wine, containing not less than 34 per centum of proof spirit, exported from the Commonwealth from 1st September, 1924, to 28th February, 1935	4s. per gallon to 31st August, 1927 1s. 9d. per gallon from 1st September, 1927, to 8th March, 1928 1s. per gallon from 9th March, 1928 1s. 9d. per gallon from 13th March, 1930	28th Feb., 1935	442,410	482,843	76,455	83,210	165,009
Canned Fruit Bounty Act— Apricots, Peaches, Pears, and Pineapples canned from 1st November, 1923, to 30th September, 1924	9d. to 1s. per dozen tins, each containing 30 oz. net	..	..	4,731	..	..	..
Such canned fruit exported from the Commonwealth on or before 28th February, 1925	1s. to 1s. 9d. per dozen tins, each containing 30 oz. net	..	..	..	..	..	..
Cotton Bounty Act— Seed Cotton grown in Australia and delivered and graded as prescribed	Varies on Higher Grades from 1½d. per lb. up to 1932, to ½d. per lb. in 1936 Varies on Lower Grades from ¾d. per lb. up to 1932, to ¼d. per lb. in 1936	30th Sept., 1936	7,038	81,454	64,930	70,307	100,848
Cotton Yarn manufactured in Australia	Varies according to count and year	" "	30,002	24,846	33,638	48,660	57,085
Papua and New Guinea Bounties Act— Cocoa and Coffee Beans (b) produced in these Territories imported into the Commonwealth for home consumption	1½d. per lb.	31st Dec., 1936	..	194	1,641	1,059	(c) 946
Sisal Hemp	£6 per ton	" "	..	..	..	..	40
Total ..	..	..	771,347	895,499	534,216	518,041	516,460

(b) Other goods are scheduled in the Act, but no importations of them were made. (c) Including £1 9s. 3d., being amount of bounty paid on 234 lbs. of splices. (d) All Bounties are subject to 20 per cent. reduction from 20th July, 1931.

§ 19. Fertilizers.

1. General.—In the early days of settlement in Australia, scientific cultivation was practically neglected. Farmers were neither under the necessity nor were they aware of the value of supplying the proper constituents to the soil for each class of crop. The widely divergent character of the soils, their degeneration by repeated cropping, the limitations of climatic conditions, and 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 fertilizer-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 in the future.

2. Fertilizers 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 fertilizers. A list of these Acts and their main features will be found in Year Book No. 12 (page 378).

3. Imports.—The local production of artificial manures has greatly increased in recent years, and the home requirements of prepared fertilizers can now be supplied by Australian manufacturers. Imports of fertilizers are also expanding, but the bulk of the inward shipments consists of rock phosphates, which form the raw material for the home manufactured superphosphate, a fertilizer which has proved eminently suitable for the growing of cereals in Australian soils. During 1929-30 the value of rock phosphates imported represented more than 78 per cent. of the total importation of fertilizers. Nauru and Gilbert and Ellice Islands Colony in almost equal proportions supplied almost the whole of the shipments. Sodium nitrate is wholly obtained from Chile.

The imports of artificial manures during the last five years are given in the following table. Although considerable quantities of manufactured superphosphates were annually imported up till 1914-15, importations during recent years were very small.

FERTILIZERS.—IMPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Fertilizer.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Bonedust cwt.	..	100	(a)	(a)	(a)
" £	..	58	(a)	(a)	(a)
Guano cwt.	1,829	20,826	600	52,018	1,000
" £	1,061	1,233	242	6,438	462
Superphosphates .. cwt.	1,035	1,201	1,400	2,560	4,572
" £	517	573	937	1,834	3,331
Rock phosphates .. cwt.	6,463,733	10,171,652	9,220,120	12,349,710	10,579,094
" £	799,273	1,109,414	915,840	1,291,583	1,126,531
Soda nitrate cwt.	187,284	100,567	175,074	152,747	256,457
" £	105,384	60,951	91,885	75,888	123,635
Other cwt.	172,993	187,773	237,354	308,425	402,188
" £	80,900	87,281	103,634	112,232	205,574
Total cwt.	6,826,874	10,482,119	9,634,448	12,865,460	11,243,311
" £	987,135	1,259,515	1,112,538	1,487,975	1,459,533

(a) Now included with Other Fertilizers.

4. Exports.—The subjoined table shows the exports of artificial manures for the years 1925-26 to 1929-30. Practically the whole of these fertilizers are manufactured locally, and are shipped mainly to New Zealand, Japan, Java, and the Pacific Islands :—

FERTILIZERS.—EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Fertilizer.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Bonedust cwt.	10,012	2,668	74	39	6,426
" £	3,664	1,220	46	27	2,756
Superphosphates .. cwt.	149	21	33	316	168
" £	49	18	14	83	54
Rock phosphates .. cwt.	62	200	..	..	4
" £	24	58	..	..	1
Soda nitrate cwt.	1,445	398	7	6	34
" £	1,241	311	7	9	27
Ammonia sulphate .. cwt.	141,866	99,928	71,911	18,610	972
" £	88,745	61,478	42,229	11,255	440
Other cwt.	124,263	39,718	29,464	66,429	31,474
" £	47,011	16,237	12,861	30,097	13,766
Total cwt.	277,797	142,933	101,489	85,400	39,078
" £	140,734	79,322	55,157	41,471	17,044

5. Statistics of Use of Fertilizers.—Statistics regarding the use of manures are collected in all the States, and the particulars for 1929-30 are as follow :—

FERTILIZERS USED IN EACH STATE, 1929-30.

State or Territory.	Area Manured.			Manure Used.	
	Total Area of Crops.	Aggregate.	Percentage on Total Area of Crops.	Natural (Stable Yard, etc.).	Artificial.
	Acres.	Acres.	%	Loads.	Tons.
New South Wales ..	5,500,946	3,901,635	70.93	130,009	126,173
Victoria ..	5,579,258	(a)6,022,951	(b) 97.17	120,991	(a)269,967
Queensland ..	1,046,235	112,895	10.79	39,405	22,925
South Australia ..	4,966,916	4,606,210	92.74	46,164	181,045
Western Australia ..	4,566,001	(a)5,049,339	(c) 98.64	57,212	(a)231,128
Tasmania ..	265,317	229,259	86.41	11,916	21,550
Northern Territory ..	609	..	..	..	..
Fed. Cap. Territory ..	4,439	3,699	83.33	115	137
Total ..	21,929,721	19,925,988	90.86	405,812	852,925

(a) Includes area under sown grasses and manure used. (b) 1926 figure. (c) 1923 figure.

Similar particulars in respect of Australia as a whole during the past five years are as shown below :—

FERTILIZERS USED IN AUSTRALIA, 1925-26 TO 1929-30.

Year.	Total Area of Crops.	Area Manured.			Manure Used.		
		Aggregate.	Percentage on Total Area of Crops.	Natural (Stable Yard, etc.).	Artificial.	Artificial per Acre of Total Area.	
	Acres.	Acres.	%	Loads.	Tons.	lb.	
1925-26 ..	16,793,578	13,387,111	78.98	625,099	576,786	77	
1926-27 ..	17,772,499	14,770,498	83.11	562,055	642,511	81	
1927-28 ..	19,219,393	16,607,826	86.41	516,241	725,782	85	
1928-29 ..	21,189,557	18,701,389	88.26	450,474	813,656	86	
1929-30 ..	21,929,721	19,925,988	90.86	405,812	852,925	87	

The quantity of chemical fertilizers used per acre of all crops has increased from 75 lb., the average for the period 1910-13, to 87 lb. in 1929-30.

The percentage of the area manured on the total area cultivated has advanced from 78.98 to 90.86 during the past five years, while the use of artificial manures has increased by more than 276,139 tons during the same period.

6. Local Production of Fertilizers.—Statistics relative to the local production of fertilizers are incomplete, and detailed returns for fertilizer factories other than bone mills are not available. The number of firms engaged in the manufacture of artificial manures in Australia at latest available date was 104, made up as follows :—New South Wales, 20; Victoria, 30; Queensland, 24; South Australia, 11; Western Australia, 11; and Tasmania, 8. The production of superphosphates in Australia during 1929-30 amounted to 932,209 tons, the largest producing States being Victoria and Western Australia.

§ 20. Ensilage.

1. Government Assistance in Production.—Efforts have been made for some years by the various State Governments to educate the farming community in regard to the value of ensilage. Monetary aid is afforded in the erection of silos, and expert advice is supplied in connexion with the design of the silos and the cutting and packing of the silage.

2. Quantity Made.—Particulars concerning the number of holdings on which ensilage was made, and the quantity made during the seasons 1925-26 to 1929-30, are given in the following table:—

ENSILAGE MADE, 1925-26 TO 1929-30.

State or Territory.	1925-26.		1926-27.		1927-28.		1928-29.		1929-30.	
	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.
	(a)		(a)		(a)		(a)		(a)	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
New South Wales	241	30,457	407	48,718	473	50,464	350	27,177	338	28,155
Victoria	113	6,092	94	6,132	75	6,037	89	7,775	74	4,783
Queensland	67	4,654	50	4,728	76	5,420	72	4,037	43	2,933
South Australia	28	2,857	23	2,405	17	2,415	12	2,508	22	1,319
Western Australia	43	3,325	72	5,642	72	5,147	93	7,022	105	7,966
Tasmania	3	170	8	488	12	526	5	115	6	75
Northern Territory	1	5								
Total	496	47,560	654	68,113	725	70,009	621	48,924	588	45,231

(a) No. of holdings on which ensilage was made.

Following the drought of 1902-3 greater attention was paid to the making of ensilage, and during the four seasons ended 1909-10 there was an increase both in the number of holdings on which ensilage was made and in the quantity produced. The following five seasons, however, showed a falling off, but the reduction was due to the fact that stocks had not been drawn upon to any great extent during the previous seasons. The accumulated stocks proved of great value during the 1914 drought, though far below what would have been the case if more attention had been paid to production during the previous years when there was a surplus of green forage. The quantities made since that date have fluctuated considerably, the output in 1929-30 amounting to 45,231 tons.

§ 21. Agricultural Colleges and Experimental Farms.

1. General.—In most of the States agricultural colleges and experimental farms have been established with a view to the promotion of more scientific methods in agriculture, stock-breeding and dairying. In the 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 fertilizers are made, manures are tested, and elementary veterinary science, etc., are taught, while general experimental work is carried on with cereal and other crops, not merely for the purpose of showing that it is practicable to produce certain crops in a given place, but also to show how it is possible to make farming pay in the 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 carpentering, blacksmithing, and other trades.

Travelling expert lecturers visit the various agricultural and dairying centres, and there is a wide distribution of periodical agricultural gazettes and bulletins.

2. Particulars of Agricultural Colleges and Experimental Farms.—In previous issues of this volume detailed information was given regarding agricultural colleges, experimental farms, and agricultural education generally. See Year Book No. 11, pp. 393-5.

3. Particulars respecting Agricultural and Stock Departments.—A synopsis of the activities and operations of the Agricultural and Stock Departments of the several States on 30th June, 1920, will be found in Year Book No. 14, pages 1180 to 1191. The main features of organization are set out under their respective headings as regards staff, expenditure, work undertaken in agricultural colleges, technical schools, experimental farms and orchards and vineyards. The subject of lectures and other forms of agricultural instruction by experts is dealt with, as well as such matters as the distribution of plants, and the special steps taken to disseminate information amongst agriculturists, and to facilitate the marketing of products.

CHAPTER XVIII.

FARMYARD, DAIRY, AND BEE PRODUCTS.

§ 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 earlier issues of this work (see Official Year Book No. 6, p. 430). 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 pasturages and in the processes of manufacture, coupled with herd testing and effective State supervision, the dairying industry has shown rapid expansion. An investigation into the problems of the dairying industry was decided upon by the Commonwealth Government in 1929, the task of making the necessary inquiries being referred to the Development and Migration Commission and the Council for Scientific and Industrial Research for joint action. The first report, which relates to farm production, was completed by the Federal Dairy Investigation Committee in 1930. The subjects covered in this report included the extent and value of the industry, existing conditions and practices, and the possibilities of improvement. Further reports are to be submitted regarding manufacture and marketing of dairy products.

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.

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 the true trade description, &c., 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. **Stabilization Scheme.**—A scheme for the stabilization of prices of butter and cheese advocated by the Hon. Thomas Paterson, M.H.R., was introduced in January, 1926. The working of the scheme, which is purely voluntary, is controlled by a body known as the Australian Stabilization Committee. Provision is made for levies on all butter and cheese produced within the Commonwealth sufficient to pay a bounty of not less than 3d. per lb. on butter exported and of 1½d. per lb. on cheese exported. Up to the present, however, cheese has not been included in the scheme. The rate of levy charged and the amount of bounty payable on butter exported since 1st January, 1926, are shown in the statement hereunder:—

Period.	Rate of Levy on Butter produced.	Amount of Bounty paid on Butter Exported.
	per lb.	per lb.
1st January, 1926 to 12th December, 1927 ..	d.	d.
13th December, 1927 to 31st December, 1927 ..	1½	3
1st January, 1928 to 31st August, 1928 ..	1½	4
1st September, 1928 to 31st December, 1928 ..	1½	3
1st January, 1929 to 31st December, 1930 ..	1½	4
1st January, 1931 to 31st March, 1931 ..	1½	4½
1st April, 1931 to latest available date (November)	1½	3½
	1½	3

The bounty results in an automatic increase in the local price up to the amount of bounty paid, while the average return to the producer on all butter produced is increased by approximately the amount of the bounty less the rate of levy charged.

On an average annual production of 265,000,000 lb., of which it is estimated that 180,000,000 lb. constitute the requirements for local consumption, leaving a balance of 85,000,000 lb. available for export—the extent to which the producer would benefit from an export bounty of 3d. per lb. is shown hereunder—

Increased value of 3d. per lb. on total production of 265,000,000 lb.	£3,313,000
Less amount required to provide export bounty of 3d. per lb. on 85,000,000 lb. exported	1,063,000
Estimated net gain to producer	£2,250,000

It should be noted that the above figures do not take into consideration any consequent increases in the price of milk or other milk products, nor any decrease in consumption resultant thereon.

Allowance must be made also for the fact that the plan, though voluntary, depends upon adequate tariff protection of the "home price". The duty on imported butter was raised to 6d. in 1927 to safeguard the scheme against imports from New Zealand.

4. **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.

5. **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.

6. **Butter and Cheese Factories.**—The factories in Australia for the manufacture of butter, cheese, and condensed milk numbered 509 in 1929-30, as compared with 585 in 1925-26. These were distributed in the various States as follows:—New South Wales, 138; Victoria, 163; Queensland, 117; South Australia, 44; Western Australia, 13; and Tasmania, 34. Fuller details regarding numbers of factories, output, etc., are given in Chapter XXII.

§ 2. Dairy Cattle and Dairy Products.

1. **Dairy Herds.**—The dairy herds of Australia were severely depleted during the drought of 1914-15, when the number was reduced to 1,684,393. Following that year substantial increases have taken place, and the number recorded in 1929 represents a gain of more than 556,000 in the past decade. In New South Wales, Victoria, South Australia, and Tasmania 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 past decennium, and the progress attained in that area has been largely responsible for the Australian increases since 1916. The returns for 1929 include heifers intended for milking and being within three months of calving. Details were not collected for Victoria, but the total of such heifers in the other States amounted to 98,039.

CATTLE AND DAIRY CATTLE.—NUMBER, 1925 TO 1929.

State.		1925.	1926.	1927.	1928.	1929.
New South Wales	All Cattle ..	2,931,818	2,813,144	2,818,654	2,784,615	2,686,132
	Dairy Cows ..	840,930	885,238	894,440	907,774	913,555
Victoria	All Cattle ..	1,513,787	1,435,761	1,327,077	1,304,426	1,335,242
	Dairy Cows ..	727,940	673,089	626,139	615,092	619,416
Queensland	All Cattle ..	6,436,645	5,464,845	5,225,804	5,128,341	5,208,588
	Dairy Cows ..	611,426	611,227	645,316	670,805	680,577
South Australia	All Cattle ..	373,597	340,007	316,314	263,016	204,516
	Dairy Cows ..	127,670	127,292	117,580	108,969	104,255
Western Australia	All Cattle ..	835,911	827,303	846,735	837,527	836,646
	Dairy Cows ..	63,008	69,627	70,580	69,047	74,223
Tasmania	All Cattle ..	212,373	213,112	210,894	208,812	214,643
	Dairy Cows ..	70,382	67,457	66,902	94,268	72,235
Northern Territory	All Cattle ..	070,342	863,507	835,300	768,751	711,607
	Dairy Cows ..	(a)	(a)	(a)	(a)	(a)
Federal Capital Territory	All Cattle ..	5,312	5,509	6,188	5,269	4,760
	Dairy Cows ..	646	815	1,417	704	679
Australia..	All Cattle ..	13,279,785	11,963,278	11,617,056	11,300,757	11,202,134
	Dairy Cows ..	2,442,002	2,434,745	2,422,674	2,466,650	2,464,940

(a) Not available.

2. Milk.—The annual quantity of milk produced per dairy cow varies greatly with breed, locality and season, reaching as high as 1,000 gallons, but averaging for the whole of Australia for all dairy cows and for all seasons prior to 1916 considerably under 300 gallons per annum. Of late years an improvement in the grade of dairy cattle has taken place, and the 300 gallon mark has been exceeded in each of the last six seasons, the yield of 363 gallons in 1924 constituting a record. The best yields over a series of years appear to be in Victoria, Tasmania, South Australia and New South Wales, while Queensland in normal years is above Western Australia. In the following table the annual average yields per cow for the last five years are based on the number of dairy cows which were in milk during any part of the year. The average given is considerably below that for cows which were yielding during the greater part of the year. The highest averages were, of course, obtained in those States which have most extensively adopted scientific methods of dairying, such as systematic breeding, culling of herds, milk testing, etc.

MILK PRODUCTION, 1925-26 TO 1929-30.

Heading.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia. (b)
1925-26—(c)								
Dairy Cows (a) .. No.	837,744	744,074	568,156	130,644	61,945	70,227	530	2,413,320
Production 1,000 gals.	289,861	255,120	153,386	41,380	14,823	18,684	199	773,459
Aver. per cow .. gals.	346	343	270	317	239	266	375	320
1926-27—(c)								
Dairy Cows (a) .. No.	837,373	700,515	553,472	123,066	63,768	68,920	730	2,347,844
Production 1,000 gals.	277,917	258,437	136,416	40,434	15,553	21,009	188	749,064
Aver. per cow .. gals.	332	369	246	329	244	305	271	319
1927-28—(c)								
Dairy Cows (a) .. No.	837,617	649,614	565,913	114,459	65,701	67,180	585	2,301,069
Production 1,000 gals.	283,046	260,648	180,679	37,947	17,159	22,556	220	862,255
Aver. per cow .. gals.	338	401	319	332	261	336	376	349
1928-29—(c)								
Dairy Cows (a) .. No.	849,769	620,616	606,637	105,800	65,982	67,491	567	2,316,862
Production 1,000 gals.	277,378	279,032	186,307	35,701	18,252	24,444	245	821,359
Aver. per cow .. gals.	326	450	307	337	277	362	432	354
1929-30—(c)								
Dairy Cows (a) .. No.	858,194	617,254	643,272	98,969	67,592	70,157	550	2,355,988
Production 1,000 gals.	283,947	274,172	188,520	34,774	21,366	25,466	276	828,521
Aver. per cow .. gals.	331	444	293	351	316	363	502	352

(a) Mean for the year.

(b) Exclusive of Northern Territory.

(c) Year ended 30th June.

3. **Butter and Cheese.**—Although the quantity of dairy production is largely affected by the nature of the season, an important advance in the output of butter has taken place in the past decade. During that period the average annual production increased from 188,000,000 lb. for the quinquennium 1916–1920, to 279,000,000 lb. for the latest five years under review. Queensland was responsible for the largest share of the increased output during recent years. The maximum output of butter in Australia was recorded in 1924, when, as a result of a specially favourable season, 313,952,291 lb. were manufactured. It is anticipated that this record will be broken by the return for the season 1930–31. Preliminary data indicate a total production for this season of 345,000,000 lb.

The manufacture of cheese is also largely dependent upon seasonal conditions. The production in 1921 of 32,653,003 lb. is the highest yet recorded, while for 1929–30 the production, amounting to 30,173,020 lb., follows very closely.

The development in dairy production since 1896, and in the exports of butter from 1901 onwards are shown in the graphs on page 468. Particulars for the past five years are as follow :—

BUTTER AND CHEESE PRODUCTION, 1925–26 TO 1929–30.

State.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
BUTTER.					
	lb.	lb.	lb.	lb.	lb.
New South Wales	106,953,339	95,832,624	100,794,838	95,337,240	104,175,340
Victoria	81,747,291	81,995,815	84,270,812	93,728,516	90,639,652
Queensland	63,001,073	51,402,633	72,039,151	77,044,859	78,796,483
South Australia	13,882,850	13,416,904	12,136,638	11,315,714	10,789,706
Western Australia	2,591,818	3,829,728	4,265,258	5,051,088	6,179,489
Tasmania	5,122,562	6,032,567	6,514,642	7,555,689	8,488,932
Federal Capital Territory	14,322	20,758	16,065	10,094	10,943
Australia	273,313,685	252,531,059	280,037,404	289,883,200	299,080,545
CHEESE.					
	lb.	lb.	lb.	lb.	lb.
New South Wales	6,469,535	6,735,960	7,284,622	6,339,052	6,345,785
Victoria	5,279,009	5,697,648	5,621,945	5,505,932	6,953,949
Queensland	12,580,942	9,260,043	14,126,420	14,391,910	12,380,832
South Australia	3,636,278	3,708,730	3,465,456	2,975,095	3,536,943
Western Australia	3,818	5,172	5,088	7,526	998
Tasmania	830,738	971,614	1,020,344	907,586	954,463
Australia	28,799,320	26,679,197	31,534,875	30,217,101	30,173,020

4. **Concentrated Milk.**—“Condensed” or “concentrated” milk represents milk the bulk of which is reduced by evaporation. The industry is of comparatively recent growth, the quantity of milk treated in 1901 being negligible, but production increased annually until in 1911 the output nearly doubled that of the previous year. Thenceforward rapid progress was made, the greatest development taking place in Victoria, where the industry is most largely established. The output of this State in 1925–26 amounted to 43,646,852 lb.; in 1926–27, 48,186,040 lb.; in 1927–28, 53,876,662 lb.; in 1928–29, 53,948,559 lb., and in 1929–30, 51,581,802 lb. There is still an import of milk, but the exports in each year far outweigh the quantity imported. No condensed or concentrated milk is made in South Australia, Western Australia, or Tasmania. The output in New South Wales and Queensland is not available for publication, but the volume of production is comparatively small.

5. **Oversea Trade in Butter, Cheese, and Milk.**—The following tables give the imports, exports, and net exports of butter, cheese, and milk. In each of the five years dealt with the exports of butter, cheese, and condensed milk exceeded the imports.

BUTTER, CHEESE, AND MILK, IMPORTS AND EXPORTS.—AUSTRALIA,
1925-26 TO 1929-30.

Products.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
IMPORTS.					
Butter lb.	2,961,243	7,160,864	6,975,370	964	3,947
.. .. . £	246,703	519,672	549,548	89	287
Cheese lb.	1,487,023	1,789,766	2,084,486	515,257	458,481
.. .. . £	111,827	133,600	116,200	45,817	34,462
Milk—concentrated and preserved(a)lb.	348,178	647,122	931,344	774,115	1,177,593
.. .. . £	20,398	34,115	36,837	33,422	36,219

EXPORTS.					
Butter lb.	97,899,824	76,767,844	99,164,946	102,442,843	107,663,264
.. .. . £	7,006,830	5,465,347	6,905,933	7,545,430	7,001,556
Cheese lb.	6,884,347	3,663,175	6,933,857	8,335,078	3,094,092
.. .. . £	271,973	133,266	260,879	330,165	125,102
Milk—concentrated and preserved(a)lb.	25,908,328	17,759,929	20,640,224	25,402,575	16,498,819
.. .. . £	1,476,422	1,081,256	1,188,903	1,424,554	997,756

NET EXPORTS.(b)					
Butter lb.	94,908,581	69,006,980	92,189,576	102,441,879	107,659,317
.. .. . £	6,760,127	4,915,675	6,356,385	7,545,341	7,001,269
Cheese lb.	5,397,324	1,873,409	4,849,371	7,819,821	2,635,611
.. .. . £	100,146	—334	144,679	284,348	90,640
Milk—concentrated and preserved(a)lb.	25,560,150	17,112,807	19,708,880	24,628,460	15,321,226
.. .. . £	1,456,024	1,047,141	1,152,066	1,391,432	961,537

NOTE.—The minus sign (—) indicates net imports.
(a) See definition above. (b) Excess of exports over imports.

6. Local Consumption of Butter and Cheese.—The total production of butter and cheese, with the subtraction or addition of the net export or import for the corresponding period gives approximately the quantity available for consumption in Australia. The figures for the past five years are as follows :—

BUTTER AND CHEESE.—LOCAL CONSUMPTION, 1925-26 TO 1929-30.

Products.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	lb.	lb.	lb.	lb.	lb.
Butter .. Total	178,465,104	132,924,079	187,847,828	187,441,321	191,421,223
.. .. Per head of population ..	29.77	29.94	30.13	29.58	29.84
Cheese .. Total	23,401,996	24,805,788	26,685,504	22,597,280	27,537,409
.. .. Per head of population ..	3.91	4.06	4.28	3.53	4.29

Consumption in 1929-30 averaged 29½ lb. of butter and 4½ lb. of cheese per head of population. The consumption of butter in the United Kingdom, Canada, and New Zealand is given at 15.4 lb., 29.3 lb., and 34.2 lb. per head per annum respectively, while that of cheese amounted to 9.5 lb., 3.5 lb., and 7.9 lb. respectively.

§ 3. Pigs and Pig Products.

1. Pigs.—The number of pigs in Australia from 1925 to 1929 is shown below :—

PIGS.—NUMBER, 1925 TO 1929.

State.	1925.	1926.	1927.	1928.	1929.
New South Wales (a) ..	382,331	332,827	301,819	311,605	323,499
Victoria	339,601	284,271	212,785	222,084	265,978
Queensland	199,598	183,662	191,947	215,764	236,037
South Australia ..	90,794	79,108	69,733	62,723	74,906
Western Australia ..	74,316	69,798	59,810	49,243	64,522
Tasmania	41,009	38,906	41,752	48,304	52,899
Northern Territory ..	382	343	292	407	359
Federal Cap. Territory (a)	343	94	69	51	124
Australia	1,128,374	989,009	878,207	910,181	1,018,324

(a) As on 30th June of year following.

For many years the number of pigs in Australia has fluctuated considerably. There was a heavy falling off in 1915, followed by substantial increases during the next two years, the number in 1917, viz., 1,169,365, being the highest recorded in Australia. From 1917 onwards the numbers have remained fairly constant at about 900,000. The number of pigs per head of population and the number per square mile, will be found in the tables of live stock, page 464.

2. Bacon and Ham.—(i) *Production.* The production of bacon and ham is increasing fairly rapidly, the averages for the past three quinquennia being 56,000,000, 62,000,000, and 73,000,000 lb. respectively. No increase in the volume of exports has taken place, the extra production being needed to supply the local demand, which is expanding with the population and the increasing consumption per head.

BACON AND HAM.—PRODUCTION, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	lb.	lb.	lb.	lb.	lb.
New South Wales ..	22,949,531	24,600,275	25,479,208	23,087,271	21,616,472
Victoria	21,213,925	20,952,310	20,605,148	19,401,447	18,888,537
Queensland	18,326,728	18,288,690	18,264,855	22,043,114	19,195,176
South Australia ..	5,600,760	5,165,670	5,111,465	5,110,352	5,232,878
Western Australia (a)	2,960,139	2,678,830	2,760,694	2,557,068	2,713,127
Tasmania	2,314,756	1,946,323	2,780,304	2,298,745	2,454,548
Federal Cap. Territory	8,840	2,790	..	1,400	1,243
Total	73,374,679	73,634,888	75,001,674	74,499,397	70,101,981

(a) A portion only from pigs slaughtered in the State; balance imported and subsequently cured.

(ii) *Local Consumption.* From about 1904 onwards the production of bacon and ham has been sufficient to meet the local demand and provide a small surplus for export. The total home consumption and the average per head of population for the last five years are given hereunder :—

BACON AND HAM.—LOCAL CONSUMPTION, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	lb.	lb.	lb.	lb.	lb.
Total	72,205,137	72,176,870	73,823,995	73,441,419	68,829,105
Per head of population ..	12.05	11.81	11.84	11.59	10.73

3. **Pork Consumption.** Data available regarding the consumption of pork indicate an average for Australia in 1929-30 of 6 lb. per head of population, as compared with 13 lb. per head in New Zealand, 82 lb. in Canada and 73 lb. in the United States of America.

4. **Oversea Trade in Pig Products.**—The oversea trade in pigs and pig products for the last five years is shown in the following table :—

PIG PRODUCTS.—AUSTRALIAN TRADE, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Pigs.					
Imports No.	6	8	..	85	59
" £	250	223	..	707	2,603
Exports No.	320	418	328	201	325
" £	1,951	2,506	1,294	934	1,365
Net Exports .. No.	314	410	328	116	266
" £	1,701	2,283	1,294	227	-1,238

BACON AND HAM.

Imports lb.	509,101	374,814	356,283	406,335	209,021
" £	33,773	23,101	21,108	23,465	12,325
Exports lb.	1,678,643	1,833,832	1,533,967	1,464,313	1,481,897
" £	139,864	147,886	129,073	122,929	116,709
Net Exports .. lb.	1,169,542	1,459,018	1,177,679	1,057,978	1,272,876
" £	106,091	124,785	107,965	99,464	104,384

LARD.

Imports lb.	244,517	575,293	712,307	420,609	206,037
" £	8,787	17,169	20,092	11,188	5,157
Exports lb.	1,953,796	1,334,421	1,380,960	1,609,914	969,512
" £	56,630	38,839	38,209	41,741	26,664
Net Exports .. lb.	1,709,279	759,128	668,653	1,189,305	763,475
" £	47,843	21,670	18,117	30,553	21,507

FROZEN PORK.

Imports lb.	466,425	733,179	2,112,595	2,288,385	413,949
" £	20,066	31,657	67,876	76,141	13,486
Exports lb.	90,106	481,330	159,494	199,336	934,149
" £	3,647	16,608	6,183	7,856	32,735
Net Exports .. lb.	-376,319	-251,849	-1,953,171	-2,089,049	520,200
" £	-16,419	-15,049	-61,693	-68,285	19,249

NOTE.—The minus sign (—) signifies net imports.

The output of pig products in Australia is usually sufficient to meet local requirements and provide a small surplus for export. During the last five years the value of the average annual net export amounted to £108,890, the bulk of the shipments consisting of bacon, ham and lard.

§ 4. Total Dairy Production.

The total dairy production of Australia in 1929-30 is shown below :—

TOTAL DAIRY PRODUCTION.—AUSTRALIA, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Total.
MILK.								
Used for—	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.
Butter	218,528,536	202,252,260	162,257,015	23,221,828	13,137,292	18,292,376	31,347	637,720,654
Cheese		6,700,830		3,260,144		936,534		
Condensing and concentrating	8,832,312		12,939,075					47,171,835
Other purposes	50,586,152	50,715,910	13,323,541	8,292,433	8,228,592	6,237,090	244,489	143,628,212
Total	283,947,000	274,171,940	188,519,631	34,774,410	21,365,884	25,466,000	275,836	828,520,701

BUTTER.								
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
In Factories On Dairy and other Farms	99,967,310	87,169,848	76,103,611	7,056,586	4,723,132	6,439,992	..	282,060,470
	4,208,030	3,469,804	2,692,872	3,133,120	1,456,357	2,048,940	10,943	17,020,066
Total	104,175,340	90,639,652	78,796,483	10,789,706	6,179,489	8,488,932	10,943	299,080,545

CHEESE.								
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
In Factories On Dairy and other Farms	6,163,295	6,747,894	12,374,705	3,536,943	..	761,583	..	29,584,420
	182,490	206,055	6,177	..	998	192,880	..	588,600
Total	6,345,785	6,953,949	12,380,882	3,536,943	998	954,463	..	30,173,020

CONDENSED, CONCENTRATED, OR POWDERED MILK.								
In Factories	lb. (b)	lb. 51,581,802	lb. (b)	lb. ..	lb. ..	lb. ..	lb. ..	lb. 51,581,802

BACON AND HAM.								
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
In Factories On Dairy and other Farms	20,984,249	18,222,220	18,924,040	4,819,604	2,601,422	1,696,263	..	67,247,798
	632,223	666,317	271,136	413,274	111,705	758,285	1,243	2,854,183
Total	21,616,472	18,888,537	19,195,176	5,232,878	2,713,127	2,454,548	1,243	70,101,981

(a) Including milk used for making cheese (b) Figures not available for publication.
(c) A portion only from pigs slaughtered in the State, the balance being imported and subsequently cured.

Particulars in regard to the production of other milk products are not available for all the States, but the following articles were made in Victoria during 1929-30:—Casein, 2,568,956 lb.; other milk products, 68,714 lb.

§ 5. Poultry Farming.

1. **General.**—Poultry stocks are largely maintained by farmers, and production therefrom furnishes a considerable addition to the annual agricultural or dairying returns. During recent years, however, poultry-keeping has assumed an independent position among rural industries, while it is also carried on in conjunction with pig-farming. Special poultry farms have been instituted for scientific breeding, poultry experts give lectures and instruction, and egg-laying competitions are conducted. Poultry for consumption is extensively reared, and the egg-producing qualities of the birds have 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. **Poultry Products.**—There is some difficulty in obtaining complete figures for the yield of poultry products. The following values relate to poultry and eggs:—

POULTRY AND EGGS.—VALUE OF PRODUCTION, 1925-26 TO 1929-30.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania. (a)	Australia.
	£	£	£	£	£	£	£
1925-26 ..	3,446,000	4,515,400	621,876	1,094,205	305,888	300,000	10,283,369
1926-27 ..	3,807,500	4,819,500	500,237	1,046,056	330,903	300,000	10,804,196
1927-28 ..	3,924,350	4,760,000	598,467	1,234,532	426,422	300,000	11,247,869
1928-29 ..	3,329,000	4,348,000	619,329	1,053,939	456,242	300,000	10,109,695
1929-30 ..	3,471,000	4,638,000	635,145	950,542	542,291	300,000	10,541,053

(a) Estimated.

(b) Includes Federal Capital Territory, 1927-28 £4,098, 1928-29 £3,185, and 1929-30 £4,075.

3. **Oversea Trade in Poultry Products.**—The Australian oversea trade in poultry products is confined chiefly to eggs, which are mainly consigned to the United Kingdom. New South Wales, Victoria, and Queensland are participating in this trade, which, during 1929-30, amounted to £255,925. The exports of frozen poultry have fluctuated considerably in recent years, being valued at £17,118 during 1929-30 as compared with £50,205 for 1921-22. The oversea trade during the past five years was as follows:—

POULTRY PRODUCTS, TRADE.—AUSTRALIA, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
LIVE POULTRY.					
Imports	No. 384	281	264	310	424
.. ..	£ 1,475	1,604	1,002	1,244	1,512
Exports	No. 3,418	1,847	2,585	2,116	2,165
.. ..	£ 2,311	1,311	1,837	1,757	1,821
Net Exports ..	No. 3,034	1,566	2,321	1,806	1,741
.. ..	£ 836	-293	835	513	309
FROZEN POULTRY.					
Imports	lb. 12,367	12,340	66,677	14,315	1,097
.. ..	£ 741	749	4,766	1,055	86
Exports	pair 22,381	19,880	9,570	12,419	13,908
.. ..	£ 25,242	30,259	8,930	15,341	17,118
Net Exports ..	(a)	(a)	(a)	(a)	(a)
.. ..	£ 24,501	29,510	4,164	14,286	17,032

NOTE.—The minus (—) signifies net imports.

(a) Quantity not available.

POULTRY PRODUCTS, TRADE.—AUSTRALIA, 1925-26 TO 1929-30—*continued.*

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Eggs.					
Imports doz.	29,652	24,182	25,752	21,349	16,568
" £	2,003	1,507	1,579	1,210	873
Exports doz.	1,531,744	3,151,990	1,104,005	2,916,338	3,570,219
" £	116,681	233,672	85,844	218,929	255,571
Net Exports doz.	1,502,092	3,127,808	1,078,253	2,894,989	3,553,651
" £	114,678	232,165	84,265	217,719	254,698
EGG-CONTENTS.					
Imports lb.	21,495	39,675	38,858	39,483	29,693
" £	4,313	6,382	6,531	5,147	3,901
Exports lb.	(a)	(a)	(a)	(a)	(a)
" £	95	97	17	127	354
Net Exports lb.	(a)	(a)	(a)	(a)	(a)
" £	-4,218	-6,285	-6,514	-5,020	-3,547

NOTE.—The minus (-) signifies net imports.

(a) Quantity not available.

§ 6. Bee Farming.

1. *General.*—As is the case with poultry-farming, bee-farming is frequently carried on in conjunction with agriculture or dairying. The returns of honey from productive hives during 1929-30 gave an average of 63.24 lb. per hive, while the average quantity of wax was 0.83 lb. per hive.

2. *Production of Honey and Beeswax.*—The number of hives and the production of honey and beeswax during the year 1929-30 are given in the following table:—

BEE-HIVES, HONEY, AND BEESWAX, 1929-30.

State.	Bee Hives.			Honey Produced.		Beeswax Produced.	
	Pro- ductive.	Unpro- ductive.	Total.	Quantity.	Value.	Quantity.	Value.
	No.	No.	No.	lb.	£	lb.	£
New South Wales ..	32,420	10,860	43,280	2,101,619	45,535	35,493	3,061
Victoria	41,909	16,806	58,715	3,097,805	67,765	29,682	2,226
Queensland	12,810	3,302	16,112	714,068	12,240	10,739	812
South Australia ..	13,776	15,334	29,110	678,348	9,893	7,924	561
Western Australia ..	10,508	1,262	11,770	611,938	10,788	10,419	700
Tasmania	4,254	911	5,165	115,845	2,620	1,779	170
Fed. Cap. Territory ..	130	101	231	4,170	90	65	5
Australia ..	115,807	48,576	164,383	7,323,793	148,931	96,101	7,535

The table hereunder gives the production of honey and beeswax for the latest available five years :—

HONEY AND BEESWAX PRODUCTION, 1925-26 TO 1929-30.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
HONEY.								
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
1925-26	2,234,495	2,114,807	801,587	1,360,916	311,492	116,392	600	6,940,289
1926-27	1,510,420	2,370,310	461,009	1,918,195	553,238	75,876	12,120	6,901,168
1927-28	1,154,201	2,992,860	394,960	931,711	366,286	88,419	..	5,928,437
1928-29	2,354,845	4,181,571	667,846	3,047,421	509,415	89,969	12,900	10,863,967
1929-30	2,101,619	3,097,805	714,068	678,348	611,938	115,845	4,170	7,323,793
BEESWAX.								
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
1925-26	38,171	28,812	11,888	11,772	3,737	1,566	100	96,046
1926-27	22,532	33,238	8,785	22,368	5,190	1,224	104	93,441
1927-28	17,139	34,358	7,504	13,069	5,501	1,337	..	78,908
1928-29	30,064	49,675	13,629	28,041	6,555	1,465	162	129,591
1929-30	35,493	29,682	10,739	7,924	10,419	1,779	65	96,101

The quantity of honey and beeswax produced naturally varies from year to year according to the condition of the seasons. During the last five years New South Wales has produced 9,355,580 lb. of honey and 143,399 lb. of beeswax, while the Victorian figures amounted to 14,757,353 lb. and 175,765 lb. respectively for honey and beeswax. These two States together accounted for 63.53 per cent. of the total production of honey, and 64.60 per cent. of the beeswax. Next in order of importance were South Australia, Queensland, and Western Australia.

3. **Oversea Trade in Bee Products.**—In normal years the local production of honey exceeds Australian requirements, and a small quantity is available for export. During the past five years the value of the exports amounted to only £26,312, or an annual average of £5,262, owing to the decrease in production. The more general use of frame hives has affected the production of wax, and as a result the quantity imported has exceeded that exported during each of the past five years.

BEE PRODUCTS.—IMPORTS, EXPORTS, ETC., AUSTRALIA, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
HONEY.					
Imports lb.	4,684	657	922	11,142	13,950
" £	211	20	43	349	332
Exports lb.	113,401	402,745	281,090	83,413	122,524
" £	3,756	9,157	6,912	2,856	3,631
Net Exports .. lb.	108,717	402,088	280,168	72,276	108,574
" £	3,545	9,137	6,869	2,507	3,299
BEESWAX.					
Imports lb.	22,937	75,104	96,101	82,261	54,475
" £	2,195	6,951	8,413	8,118	4,875
Exports lb.	1,577	326	3,596	1,959	1,411
" £	131	29	346	149	115
Net Exports .. lb.	-21,360	-74,778	-92,505	-80,602	-53,064
" £	-2,064	-6,922	-8,067	-7,969	-4,760

NOTE.—The minus sign (—) signifies net imports.

§ 7. Value of Farmyard, Dairy, and Bee Products.

The value of the farmyard, dairy and bee products raised in Australia in 1929-30 was as follows:—

FARMYARD, DAIRY, AND BEE PRODUCTS.—VALUE, 1929-30.

Products.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£	£
Milk, consumed as such ..	c3,040,426	2,535,796	c740,400	414,622	411,429	311,854	..	12,224	7,466,761
Butter ..	7,651,878	6,888,086	6,002,701	969,070	524,925	656,599	..	804	22,694,063
Cheese ..	288,217	381,183	550,869	188,464	.. 20	38,985	..	..	1,397,728
Condensed & concentrated milk ..	a	b1,557,879	a	..	..	..	..	..	1,557,879
Bacon and ham ..	1,079,188	1,078,272	1,030,660	296,784	171,881	112,135	..	62	3,768,982
Pork ..	544,766	343,340	274,420	115,215	104,322	113,973	662	993	1,497,691
Lard ..	22,630	39,534	37,749	7,174	3,531	4,361	..	..	114,979
Live Stock ..	11,894	109,735	15,205	24,366	38,198	3,447	..	..	202,918
Poultry and eggs ..	3,471,000	4,638,000	635,145	950,542	542,291	300,000	..	4,075	10,541,053
Honey and wax ..	48,596	69,991	13,052	10,454	11,488	2,790	..	95	156,466
Total ..	16,158,595	17,641,816	9,800,201	2,926,681	1,808,085	1,544,144	962	18,326	49,398,510

(a) Included with milk consumed as such. (b) Includes casein £63,548, milk sugar £8,724, and other milk products £2,173. (c) Includes condensed and concentrated milk.

§ 8. Exports of Australian Farmyard, Dairy, and Bee Products.

The quantities and values of Australian farmyard, dairy, and bee products exported during each of the last five years are shown below:—

AUSTRALIAN FARMYARD, DAIRY AND BEE PRODUCTS.—EXPORTS, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
QUANTITY.					
Beeswax	lb. 1,577	326	3,506	1,659	1,411
Butter	97,899,824	76,516,497	99,164,946	102,442,843	107,663,114
Cheese	6,872,781	3,643,832	6,926,601	8,330,972	3,089,382
Egg albumen and yolk	(a)	(a)	(a)	(a)	(a)
Eggs	1,531,744	3,151,965	1,104,005	2,916,333	3,570,219
Feathers, undressed	(a)	(a)	(a)	(a)	(a)
Honey	lb. 113,401	402,745	281,090	83,418	122,524
Lard	1,953,796	1,315,831	1,859,746	1,599,050	969,512
Meats—					
Bacon and Ham	1,678,643	1,833,468	1,533,967	1,461,313	1,473,036
Frozen Poultry	22,381	19,980	9,570	12,419	13,888
Frozen Pork	lb. 88,053	481,330	158,327	158,975	932,297
Milk, concentrated and preserved	23,026,795	17,762,506	20,622,779	25,385,174	16,493,546
Pigs, living	No. 320	418	328	201	325
Poultry, living	3,418	1,833	2,569	2,116	2,158
VALUE.					
	£	£	£	£	£
Beeswax	131	29	346	149	115
Butter	7,006,830	5,447,224	6,905,933	7,545,430	7,001,540
Cheese	270,712	131,168	200,233	329,700	124,716
Egg albumen and yolk	95	9	13	9	198
Eggs	116,681	233,670	85,841	218,929	255,571
Feathers, undressed	1,089	774	457	396	1,132
Honey	3,756	9,157	6,912	2,856	3,631
Lard	56,630	37,995	37,331	41,373	26,664
Meats—					
Bacon and Ham	139,864	147,861	129,072	122,742	116,150
Frozen Poultry	25,242	20,259	8,930	15,341	17,109
Frozen Pork	3,579	16,608	6,152	6,773	32,683
Milk, concentrated and preserved	1,261,417	1,080,963	1,188,504	1,424,813	997,512
Pigs, living	1,951	2,506	1,294	984	1,365
Poultry, living	2,311	1,281	1,817	1,757	1,801
Total	8,890,288	7,139,551	8,632,828	9,710,702	8,580,196

(a) Quantity not available.

Butter figures most largely in the list of exports shown above, the United Kingdom being the principal country of destination. During the year 1929-30, exports thereto amounted to 92,226,100 lb., or 86 per cent. of the total. Exports to Eastern countries were 11,132,000 lb., or 10 per cent. of the total. Canada during the same year took 1,069,600 lb. Consignments to the countries mentioned accounted for 97 per cent. of the total exports of butter for the year specified.

§ 9. British Imports of Dairy Products.

1. Quantities and Values.—The following table gives the quantities and values of the principal dairy products imported into the United Kingdom during the years 1925 to 1929 :—

DAIRY PRODUCTS.—IMPORTS, UNITED KINGDOM, 1925 TO 1929.

Products.		1925.	1926.	1927.	1928.	1929.
Butter	cwt.	5,853,245	5,818,840	5,818,611	6,112,972	6,397,266
	£	53,204,417	48,283,312	48,204,721	52,044,506	54,706,404
Cheese	cwt.	3,098,702	3,014,055	2,949,082	3,005,237	2,994,038
	£	15,696,800	13,940,648	13,493,668	14,997,173	13,912,535
Milk, concentrated and preserved	cwt.	2,413,350	2,556,890	2,684,019	2,907,225	2,935,151
	£	5,756,372	5,420,167	5,561,726	5,978,958	5,608,354
Bacon and ham	cwt.	9,002,912	8,666,467	9,370,696	9,794,909	9,306,909
	£	50,774,719	50,146,958	43,333,082	44,957,403	49,215,508
Pork (a)	cwt.	262,998	303,234	234,248	289,114	359,134
	£	1,133,048	1,396,714	912,271	1,014,253	1,305,804

(a) Frozen, chilled, and salted.

2. Butter.—(i) Imports. Australia has for many years supplied a large proportion of the butter imported into the United Kingdom. The quantity shipped in 1929 amounted to 768,173 cwt., or 12 per cent. of the total importation. The Australian contribution was valued at £6,342,454 and was exceeded only by that shipped from Denmark and New Zealand.

BUTTER IMPORTS.—UNITED KINGDOM, 1929.

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	Cwt.	£		Cwt.	£
Denmark	2,204,027	19,736,873	Union of South Africa	12,112	103,470
New Zealand	1,303,793	11,277,012	Lithuania	12,868	102,721
Australia	768,173	6,342,454	Germany	10,184	82,355
Irish Free State	566,177	4,579,937	Norway	5,516	51,841
Argentine Republic	302,882	2,537,187	United States of America	70	599
Soviet Republics	290,314	2,299,050	Canada	8	68
Sweden	248,301	2,112,561	British Possessions, n.e.i.	2,280	14,576
Finland	233,593	1,952,445	Foreign Countries, n.e.i.	1,849	12,961
Netherlands	129,816	1,068,813			
Estonia	110,233	893,301			
Latvia	80,992	649,718			
Poland (including Dantzig)	69,384	538,155			
France	44,694	350,307	Total	6,397,266	54,706,404

(ii) *London Prices.* The average price of the best quality Australian butter in London during the past ten years is shown in the following table :—

AUSTRALIAN BUTTER.—LONDON PRICES, 1918 TO 1929.

Year.	Average Top Price per cwt.	Year.	Average Top Price per cwt.
	<i>s.</i> <i>d.</i>		<i>s.</i> <i>d.</i>
1918	(a) 252 0	1924	189 6
1919	(a) 252 0	1925	184 0
1920	(a) 299 9	1926	169 6
1921	234 0	1927	169 6
1922	183 0	1928	171 0
1923	184 6	1929	175 0

(a) Flat rate for all imported butter.

The surplus output of Australian butter was sold under contract to the British Government from 1st July, 1918, to 31st March, 1921, but thereafter it has been sold in the open market.

3. *Cheese.*—The value of cheese imported into the United Kingdom in 1929 was £13,912,535, of which £8,299,734 was received from New Zealand, and £3,411,644 from Canada. Small experimental shipments from Australia were made in 1908 and following years, fair prices being realized. The value of the imports from Australia during 1929 amounted to £222,909.

4. *Bacon and Ham.*—Of a total import of bacon and ham valued in 1929 at £49,215,508, the United Kingdom received imports to the value of £27,239,189 from Denmark, £7,364,293 from the United States, and £1,567,422 from Canada. The import from Australia was small, experimental shipments only having been made during recent years.

5. *Pork.*—The value of the United Kingdom imports of pork (frozen and salted only) was £1,305,804 in 1929. There was only a small importation from Australia, the bulk of the supplies being forwarded from New Zealand, the United States, and Argentine Republic.

6. *Other Products.*—There was practically no shipment to the United Kingdom from Australia of beeswax, poultry, game, lard, or honey, but frozen rabbits to the value of £396,194 and eggs to the value of £315,724 were received from Australia in 1929.

CHAPTER XIX.

FORESTRY.*

§ 1. General.

1. **Introductory.**—Economic forestry aims at the preservation and development of existing forest areas by safeguarding against fire and other destructive agencies, by expert supervision of the removal of timber, by judicious thinning, and by reforestation of denuded areas with suitable new growths of local or exotic origin. It provides also for the continuance of an indispensable form of national wealth by the afforestation of available bare lands adapted to the growth of various timbers. Though large areas of virgin forests still remain in Australia, 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 beneficially regulates the effects of rainfall.

Successful planting of exotics in various parts of Australia has demonstrated that the climate is suitable for the cultivation of a large number of the most valuable and beautiful of the world's timber trees.

2. **Extent of Forests.**—(i) *Australia.* The wooded area of Australia contains a large number of xerophilous trees and woody shrubs which thrive in regions receiving less than 10 inches of rain per annum. Country devoid of tree growth is rare, the conditions being due to lack of suitable soil rather than lack of rainfall. Sand dunes, rock exposures, and clay pans are the most common treeless areas. A treeless region such as the 300 miles long Nullarbor plain is quite exceptional. There the lack of tree growth is due to the failure of the limestone formation to retain moisture. While, however, the major portion of Australia carries trees, and may be said to be well wooded (the term “desert” applying to relatively small areas only) dense forest is confined to a very narrow fringe. The savannah forests of the interior yield minor products such as sandalwood and tan barks, but do not produce timber. These open, park-like formations carry only scattered trees of low habit. The bulk of the commercial forest products comes from the thickly-timbered areas comprised in the 30-inch and over rainfall belt south of the Tropics, and the 70-inch and over rainfall belt in the Tropics. The total area is comparatively small, and is confined to the following districts:—(a) The coastal belt in the extreme south-west of Western Australia, from a little north of Perth to Albany; (b) the Otway country, in the south of Victoria, and the whole of the south-eastern portion of that State; (c) the mountain forests of Victoria and New South Wales. A forest fringe extends along the coast of New South Wales and Queensland, the rainfall rising from 30 inches in the south and temperate portion to 140 inches in the Tropics. The greater portion of Tasmania receives sufficient rainfall to carry high forest, but a very small area only in South Australia, and practically none in the Northern Territory are endowed with the necessary rainfall. Edaphic forests occur here and there, and the most important belt is probably that which is to be found on each side of the Murray River in New South Wales and Victoria. Red Gum (*E. rostrata*) is the riverine species. Practically the whole of Papua and New Guinea carry or have carried dense forests, the exceptions being certain small dry belts where the rainfall is less than 70 inches. Norfolk Island was, at one time, covered with a thick jungle.

Special articles relating to Australian Eucalyptus timbers and the chemical products of Eucalypts will be found in Official Year Book No. 10, pp. 85–98.

* A specially contributed article dealing with Forestry in Australia appeared as part of this chapter in Official Year Book No. 19 (*vide* pp. 701 to 712 therein).

Scientific surveys of the forests of the various States have not yet been completed, and there are, in consequence, conflicting reports regarding the total forest area of Australia. Expert foresters, however, estimate the forest area possible for permanent reservation at approximately 24,500,000 acres, distributed throughout the States as follows :—

ESTIMATED FOREST AREA.—AUSTRALIA.

State.					Total Forest Area.	Percentage on Total Area.
					Acres.	%.
New South Wales	..	..	..	..	8,000,000	4.04
Victoria	..	..	..	..	5,500,000	9.78
Queensland	..	..	..	..	6,000,000	1.40
South Australia	..	..	..	..	500,000	0.21
Western Australia	..	..	..	..	3,000,000	0.48
Tasmania	..	..	..	..	1,500,000	8.94
Total					24,500,000	1.29

(ii) *Comparison with other Countries.* The absolute and relative forest areas of Australia and other countries are shown below :—

FOREST LANDS.—RELATIVE AREAS, VARIOUS COUNTRIES.

Country.	Total Wooded Area.	Percentage on Total Area.	Country.	Total Wooded Area.	Percentage on Total Area.
	Sq. Miles.	%		Sq. Miles.	%
Soviet Republics	2,662,000	37.81	Norway	27,434	21.95
Canada	965,234	26.78	Rumania	26,436	21.62
United States	724,150	24.35	Italy	21,309	17.81
India (British)	228,850	20.91	Spain	18,965	9.74
Sweden	90,889	57.35	Czechoslovakia	17,996	33.17
Japan	74,019	50.13	New Zealand	17,969	17.30
Finland	71,770	55.80	Austria	12,220	37.75
Germany	50,608	26.29	Latvia	7,027	27.70
France	39,873	18.74	Greece	5,844	11.71
Australia	38,281	1.29	United Kingdom	5,180	3.90
Poland	32,781	21.99			

3. *Requisite Proportion of Forest Area.*—It is generally held that when the proportion of forest in any country falls below 0.86 acres per head of the population, that country will be obliged to import timber. Australia possesses 4.01 acres of forest per head of population, and the excess of imports of timber over exports amounts to 28,000,000 cubic feet. There are two reasons for this excess. In the first place the area of 24,500,000 acres given as the wooded area comprises all forest lands, reproductive or otherwise. The bulk of this area consists of cut-over forests swept by fire at frequent intervals, and the area of really productive forests is not available. Secondly, Australia does not possess a surplus of softwoods, and must, therefore—with the exception of a small quantity produced in Queensland and northern New South Wales—import the bulk of its requirements from overseas. The figure 24,500,000 acres represents the total area that in the estimation of foresters should be reserved for forestry, and taking the factor of 0.86, then, when all the forest area of Australia has been brought under silvicultural treatment, and is yielding its maximum of hard and soft woods, and none is being imported, the timber supply of Australia would support a population of 28½ millions.

§ 2. Activities of the Commonwealth Government.

Forestry was not included amongst the matters transferred by the States to the control of the Commonwealth, and federal supervision, therefore, is restricted to the forests in the Commonwealth Territories. These territories cover a large area, and, with the exception of the Northern Territory, are capable of sound forestry development. It is only during the last few years, however, that any attempt has been made to take stock of the forestry position. Reports have been issued in regard to Papua, New Guinea, the Federal Capital Territory, and Jervis Bay, and a general policy has been drawn up for the management of the forests of these Territories. So far as co-operation with the States is concerned, there has been progress in a small way in connexion with the investigation of minor forest products. The Council for Scientific and Industrial Research, for example, has carried out valuable research work into the pulping qualities of Australian hardwoods and into the tanning qualities of barks and other material. It is proposed to enlarge the work of investigation into minor products, and, through the Forestry Bureau of the Commonwealth Government, to co-operate with the States in major forest work. The Forestry Bureau was instituted in 1925 and an Act passed in 1930 provided certain statutory powers. The Australian Forestry School was inaugurated in 1926. A qualified forester has been appointed to manage the forests at Canberra and Jervis Bay, while it is anticipated that in both New Guinea and Papua the forests will shortly be placed under scientific management.

§ 3. State Forestry Departments.

1. Functions.—Each State has organized a separate Department or Commission specially charged with the control and management of the State forests and timber reserves. Extensive survey work is carried on with a view to the classification of forest lands and the proclamation of State forests. The forests are improved by systematic cutting and scientific treatment, by judicious thinning and ring-barking, by the making of roads and the establishment of fire-breaks, and by the removal and destruction of debris, and stunted, diseased or suppressed growth. Provision is made for effective patrols in forest districts to check the ravages caused by fire, often due, it is believed, to carelessness. The training of forest officers, the conduct of research work, and the collection of forestry statistics are also undertaken.

2. Forest Reservations.—At the Interstate Conference on Forestry, held at Hobart in 1920, the forestry authorities of the various States agreed upon the necessity of reserving an area of 24,500,000 acres of indigenous forest lands to meet the future requirements of Australia. This area was distributed among the States as set out in § 1, 2 *ante*.

Having been endorsed by the Premiers' Conference held later in the same year, this area was adopted as the Australian forest ration towards which the authorities are now aiming for permanent reservation. The progress made in the various States to the end of June, 1930, is set out in the following table:—

AREA OF FOREST RESERVATIONS, 30th JUNE, 1930.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Dedicated State forests ..	5,258,290	4,467,697	1,846,970	2,268,200	2,975,768	1,252,893	16,069,818
Timber and fuel reserves ..	1,543,235	741,945	3,398,240	..	1,423,545	950,538	8,057,503
Total ..	6,801,525	5,209,642	5,245,210	268,200	4,399,313	2,203,431	24,127,321

(a) Includes Timber and Fuel Reserves.

In addition to the work of permanently reserving their respective quotas, the State foresters are concerned with the surveying of all forest lands and the excising of those unsuitable for forestry. During the year considerable areas were revoked in certain States, but dedications of new areas resulted in a gain of 162,189 acres to the permanent estate, the greatest increase occurring in Victoria.

The area of State forests reserved in perpetuity amounted in June, 1930, to 16,069,818 acres, or 65.6 per cent. only, of the quota adopted for Australia. Of this area a considerable proportion consists of inaccessible mountainous country and cut-over lands, while the Australian quota recommended refers to merchantable forest only. The foresters of Australia are, therefore, faced with a difficult task in improving and preserving the existing forests, and in securing the reservation of further suitable forest country to ensure a permanent supply of accessible timber.

The Forestry Departments also control 8,057,503 acres of temporary timber and fuel reserves, but although these areas contain some land of high value for forestry purposes, the greater proportion thereof is not of importance for permanent reservation.

3. **Sylvicultural Nurseries and Plantations.**—Recognition of the necessity for systematic sylviculture has led to the creation in all 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 plantations and employment are given hereunder:—

SYLVICULTURAL PLANTATIONS AND FORESTRY EMPLOYMENT, 1929-30.

Particulars.	New South Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Total.
Total area of indigenous forest improved or regenerated .. Acres	819,460	532,021	54,230	8,255	80,771	..	1,494,737
Total area of Effective Plantations—							
Softwoods .. Acres	23,367	22,213	4,444	34,821	4,940	870	90,655
Hardwoods .. Acres	..	2,482	473	9,110	..	..	12,065
Number of persons employed in Forestry Departments—							
Office Staff .. No.	45	37	65	16	43	2	208
Field Staff .. No.	81	137	165	(a)439	(a)354	8	1,184

(a) Including casual hands.

4. **Revenue and Expenditure.**—The revenue and expenditure of the State Forestry Departments from 1925-26 to 1929-30 are given below:—

FORESTRY DEPARTMENTS.—REVENUE AND EXPENDITURE, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
REVENUE.					
	£	£	£	£	£
New South Wales	224,207	224,943	226,667	210,743	128,795
Victoria	161,608	156,700	140,715	129,684	128,645
Queensland	224,728	250,881	462,383	414,615	336,762
South Australia	19,418	24,376	37,586	34,666	48,423
Western Australia	227,061	222,507	228,614	191,023	173,219
Tasmania	20,715	18,600	17,790	14,810	10,545
Total	877,737	898,007	1,113,755	995,441	826,389
EXPENDITURE.					
	£	£	£	£	£
New South Wales	178,490	207,099	212,858	194,069	183,720
Victoria	274,732	320,217	285,271	240,191	220,875
Queensland	72,236	69,262	277,534	174,407	209,170
South Australia	53,977	120,036	105,279	166,903	141,633
Western Australia	101,321	103,319	125,745	157,827	142,376
Tasmania	13,007	12,098	11,017	8,895	10,091
Total	693,763	832,031	1,017,704	942,292	907,865

5. **Instruction in Scientific Forestry.**—Early in 1925 the Commonwealth Government assumed the responsibility of establishing a national forestry school, and the States agreed to nominate a certain number of students annually. The school, which opened with eighteen students in March, 1926, was housed for the first year at Adelaide University, but early in 1927 it was transferred to Canberra, the Federal Capital City. Applicants for entrance must be graduates of an Australian University or matriculated students who have completed a minimum University course of two years in science. The school provides a two years' course in pure forestry, and successful students are awarded the Commonwealth Forestry Diploma. It is anticipated that the institution will supply the States with foresters qualified to undertake all necessary forestry work, and that it will constitute a nucleus of forest knowledge designed to develop on sound lines the sylviculture of Australia.

6. **Forest Congresses.**—Reference to the various Forestry Conferences held in Australia and elsewhere will be found in Official Year Book No. 22, p. 743, but, owing to limitations of space, the information cannot be repeated herein.

§ 4. Production.

1. **Timber.**—Estimates of the quantity of local timber sawn and hewn in the saw-mills of the various States are given hereunder :—

SAWMILL OUTPUT OF NATIVE TIMBER, 1925-26 TO 1929-30.

State.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	1,000 sup. feet.	1,000 sup. feet.	1,000 sup. feet.	1,000 sup. feet.	1,000 sup. feet.
New South Wales	169,991	162,891	146,575	136,061	119,021
Victoria	109,534	115,813	100,567	79,018	86,145
Queensland	131,662	122,311	102,192	106,862	92,248
South Australia	3,362	3,971	4,833	3,219	3,613
Western Australia	(a)271,662	156,087	163,180	145,043	123,572
Tasmania	53,588	52,058	53,174	46,195	60,038
Total	739,799	613,131	570,521	516,388	484,637

(a) Figures for eighteen months ended 30th June, 1926.

In addition to the timber shown above for Western Australia, the following quantities were hewn by contractors for the Railway Department, Mines, etc., or were sawn in establishments other than forest sawmills during the past five years :—1925-26, 57,272,898 sup. feet; 1926-27, 73,107,815 sup. feet; 1927-28, 64,451,395 sup. feet; 1928-29, 29,281,146 sup. feet; and 1929-30, 36,071,054 sup. feet.

2. **Other Forest Products.**—(i) *Eucalyptus Oil.* Oil may be distilled from the foliage of all varieties of eucalyptus, and several of them furnish a product widely known for its commercial and medicinal uses. Complete information regarding Australian production and consumption of eucalyptus oil is not available, but large quantities are

manufactured, particularly in Victoria. Oversea exports amounted in 1925-26 to £73,023, in 1926-27 to £63,284, in 1927-28 to £90,729, in 1928-29 to £85,009, and in 1929-30 to £63,388, the bulk of the product being shipped from Victoria to the United Kingdom, the United States, and Germany. Large quantities of the crude oil are used locally in flotation processes at the mines.

(ii) *Tan Barks.* The forests of Australia contain a wealth of tanning materials, all the eucalypts being capable of furnishing a percentage of tannin. The principal source of supply in Australia is obtained from the golden and the black or green wattle, and in pre-war days the production was more than sufficient for local requirements, and an export trade was built up. The supply diminished during the six years ending 1926-27 and Australia imported on the average about 2,900 tons each year from Natal, where the plantations were originally started from Australian seed. During the past three years, however, the excess of exports over imports averaged 2,746 tons, valued at £33,858, the chief exporting State being South Australia. In addition to the wattle bark, a valuable tan bark is obtained from the mallet (*E. occidentalis*) of Western Australia. This bark is not extensively used in Australian tanneries, but is exported to Europe and other countries, where it is used for producing a tannin extract. A brief account of the work done by the Council of Scientific and Industrial Research in connexion with tanning materials will be found in Official Year Book No. 22, p. 743. The production of tan bark in Australia is estimated at about 26,000 tons per annum.

3. *Value of Production.*—Though the valuation of the quantity of firewood consumed in Australia presents serious difficulty, an estimate of the total value of forest production is compiled annually, with the following results for the past five years :—

VALUE OF FOREST PRODUCTION.—AUSTRALIA, 1925-26 TO 1929-30.

Production.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
Total ..	10,964,000	11,046,000	10,339,000	9,450,000	9,450,000

§ 5. Commercial Uses of Principal Australian Timbers.

1. *General.*—The uses of the more important Australian timbers are many and various, and are indicated in previous issues of this work. (See Official Year Book No. 6, pp. 454-6; and Official Year Book No. 10, Section III., § 7 and 8.)

A list of Australian timbers best known on the local markets appeared in Official Year Book No. 20, p. 713.

2. *Lack of Uniformity in Nomenclature.*—Unfortunately the vernacular names applied to the gums, ironbarks, etc., in the various States, and even in different parts of the same State, do not always refer to identical timbers. The resulting confusion has not only been productive of loss, but it has, to some extent, prejudicially affected the timber trade. This subject is referred to at some length in the special article "Australian Eucalyptus Timbers," in Section III., § 7 and 8, in Official Year Book No. 10. At the Forestry Conferences alluded to above, the matter came up for special consideration, and steps were taken to establish a uniform nomenclature.

§ 6. Oversea Trade.

1. Imports.—(i) *Dressed Timber*. The quantity and value of timber imports into Australia during the four years 1926-27 to 1929-30 inclusive are shown according to countries of origin in the following tables :—

DRESSED TIMBER.—IMPORTS, AUSTRALIA, 1926-27 TO 1929-30.

Country of Origin.	Quantity.				Value.			
	1926-27.	1927-28.	1928-29.	1929-30.	1926-27.	1927-28.	1928-29.	1929-30.
	sup. ft.	sup. ft.	sup. ft.	sup. ft.	£	£	£	£
United Kingdom ..	157,061	39,790	8,117	3,693	1,928	1,734	303	131
Canada ..	6,399,263	8,271,122	7,361,669	8,952,360	67,524	95,831	80,590	96,132
Other British Countries ..	57,513	21,823	212,733	104,437	700	490	2,124	898
Norway ..	44,103,593	21,397,756	36,184,991	22,459,088	487,284	258,707	391,159	212,565
Sweden ..	38,304,718	45,084,605	25,934,266	43,501,713	425,896	497,606	290,814	406,001
United States ..	7,561,278	6,878,065	7,851,388	8,022,251	78,504	65,002	86,289	88,886
Other Foreign Countries ..	1,405,503	1,636,579	358,136	1,278,267	24,143	25,209	7,312	17,154
Total ..	97,988,931	83,329,740	77,911,300	84,321,809	1,085,979	944,579	858,591	821,717

The figures in the table above are exclusive of items such as architraves, veneers, etc., quantities for which are either not shown, or are expressed in dissimilar units in the Customs entries. The total value of the items so excluded amounted to £209,864 in 1929-30, including plywood, veneered or otherwise, £155,613.

The bulk of the imports of dressed timber comes from Norway, Sweden, and the United States. Practically the whole of this timber consists of softwoods—deal and pine—used for lining, weatherboards, flooring, shelving, doors, box-making, etc.

(ii) *Undressed Timber*. Australian imports of undressed timber for the latest available four years are given hereunder :—

UNDRESSED TIMBER, INCLUDING LOGS (a).—IMPORTS, AUSTRALIA, 1926-27 TO 1929-30.

Country of Origin.	Quantity.				Value.			
	1926-27.	1927-28.	1928-29.	1929-30.	1926-27.	1927-28.	1928-29.	1929-30.
	sup. ft.	sup. ft.	sup. ft.	sup. ft.	£	£	£	£
United Kingdom ..	53,568	1,540,112	502,310	97,258	3,557	15,248	10,496	9,501
Canada ..	16,488,751	29,247,286	12,199,691	43,715,830	137,380	240,233	97,384	305,569
India ..	317,602	509,256	442,651	62,123	14,256	17,252	14,246	2,647
Malaya (British) ..	172,121	165,788	149,388	169,360	1,540	1,372	2,113	1,452
New Zealand ..	37,370,304	35,635,337	37,320,809	37,172,537	551,401	436,648	484,856	459,095
Other British Countries ..	2,563,920	1,888,052	2,926,161	3,540,928	20,460	16,778	28,567	31,806
Japan ..	8,365,463	7,502,972	7,512,930	7,344,925	176,516	165,149	146,576	149,085
Netherlands East Indies ..	377,217	882,892	1,582,775	1,269,866	3,124	5,273	9,301	9,921
Norway ..	305,855	307,450	565,474	153,229	4,021	3,138	6,676	1,262
New Caledonia ..	2,058,738	2,276,101	1,461,433	1,181,507	16,908	20,334	12,719	11,622
Philippine Islands ..	4,382,704	4,041,218	3,943,533	5,779,971	75,332	59,614	60,056	79,219
Sweden ..	3,716,748	4,690,710	3,512,165	4,147,499	36,428	45,711	33,576	38,184
United States ..	289,897,499	340,466,618	250,803,732	233,538,575	2,388,678	2,697,717	2,144,695	1,811,759
Other Foreign Countries ..	1,689,851	2,698,764	165,646	287,739	25,662	29,821	3,366	4,407
Total ..	367,820,251	431,852,556	323,068,698	338,461,347	3,455,414	3,754,283	3,054,597	2,915,619

(a) Exclusive of timber not measured in super. feet.

By far the larger proportion of the undressed timber imports consists of softwoods such as yellow pine, redwood, and oregon from the United States of America and Canada; kauri, rimu, and white pine from New Zealand; pine from Japan, and red deals from Norway and Sweden. Amongst the hardwoods imported, the principal are oak from the United States of America and Japan, and teak from India.

2. Exports.—The quantity and value of undressed timber exported from 1925-26 to 1929-30 are given below, the countries of destination being also shown :—

UNDRESSED TIMBER, INCLUDING LOGS (a).—EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Country to which Exported.	Quantity.					Value.				
	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	sup. ft.	sup. ft.	sup. ft.	sup. ft.	sup. ft.	£	£	£	£	£
United Kingdom ..	1,000	1,000	1,000	1,000	1,000	107,951	87,409	85,024	104,314	127,469
Canada ..	10,718	8,332	7,751	9,191	11,722	6,537	4,147	4,338	10,226	5,087
Ceylon ..	8,335	8,745	6,079	4,069	12,013	100,539	98,950	67,656	46,051	120,873
Hong Kong ..	131	927	184	478	28	1,618	12,566	2,818	5,813	440
India ..	7,920	12,971	10,946	6,124	1,391	79,890	130,772	119,192	70,302	15,607
Malaya (British) ..	4	6,575	4,846	574	39	25	67,347	49,879	5,745	410
Mauritius ..	67	293	1,356	1,240	382	1,040	2,927	13,796	12,434	3,840
New Zealand ..	31,750	28,792	18,350	23,041	24,256	424,214	369,920	262,422	208,057	318,671
Pacific Islands—										
Fiji ..	1,077	1,090	1,480	1,155	1,297	17,230	17,068	23,484	18,932	21,834
Territory of New Guinea ..	509	295	484	650	356	8,028	5,434	8,835	10,898	6,269
Other Islands ..	937	997	1,027	(b)1,003	(b) 840	17,471	18,293	18,260	(b)16,515	(b)14,496
Papua ..	357	419	247	136	149	7,244	9,736	4,818	2,709	3,197
South African Union ..	47,130	50,278	41,519	24,981	17,447	527,138	554,298	467,922	260,622	188,678
Belgium ..	157	207	82	1,230	1,246	1,473	2,259	852	12,579	12,460
China ..	1,703	2,175	5	2,006	89	17,032	21,787	77	20,521	1,018
Egypt ..	518	19	355	..	1,039	5,156	142	3,793	..	10,385
Japan ..	50	25	7	215	50	742	618	155	3,280	768
Pacific Islands—										
New Caledonia ..	40	15	12	37	23	990	281	233	642	378
Other Islands ..	83	140	176	306	144	1,717	2,433	2,979	4,674	2,364
U.S. of America ..	846	800	1,480	6,427	5,737	20,131	18,160	26,313	105,352	85,860
Other Foreign Countries ..	501	1,361	1,786	9,211	3,901	6,377	15,182	19,757	96,928	42,569
Total ..	113,185	124,054	99,008	92,601	82,361	1,352,550	1,440,379	1,182,603	1,125,494	982,673

(a) Exclusive of timber not measured in sup. feet. (b) Includes other British Countries, 33,458 sup. feet, £610.

As the table shows, the bulk of the exports of undressed timber was consigned to South Africa, New Zealand, India, and the United Kingdom, and consisted largely of the Western Australian hardwoods, jarrah and karri, which have earned an excellent reputation for such purposes as railway sleepers, harbour works, wood paving, etc.

3. Classification of Imports and Exports.—(i) *General.* The quantities of timber classified according to varieties imported and exported during the year 1929-30 are given in the next table :—

TIMBER, VARIETIES IMPORTED AND EXPORTED.—QUANTITIES, AUSTRALIA, 1929-30.

Description.	Unit of Quantity.	Imports.	Exports.	Excess of Imports over Exports.
Dressed ..	Sup. ft.	84,321,809	1,089,703	83,232,106
Undressed, including logs ..	..	338,461,347	82,360,887	256,100,460
Architraves, mouldings, etc. ..	lin. ft.	1,285,974	73,656	1,212,318
Plywood, veneered or otherwise ..	sq. ft.	10,637,730	(b)	(a)
Palings ..	No.	..	334,610	—334,610
Pickets ..	..	16,364	5,420	10,944
Shingles ..	..	1,033,543	9,000	1,024,543
Staves—				
Dressed, etc. ..	..	321,351	289	321,062
Undressed ..	..	1,081,869	..	1,081,869
Laths—				
For blinds ..	..	(a)	(a)	(a)
Other ..	..	14,186,391	..	14,186,391
Doors ..	..	5,504	(a)	(a)
Wood pulp ..	ton	23,709	(b)	(a)
Veneers ..	..	(a)	(b)	(a)
Spokes, rims, felloes, etc. ..	..	(a)	(a)	(a)
Other ..	..	..	..	..

(a) Quantity not available. (b) Exports not recorded separately.
NOTE.—The minus sign (—) denotes an excess of exports.

Similar particulars relative to the values of imports and exports during the year 1929-30 are shown hereunder :—

TIMBER, VARIETIES IMPORTED AND EXPORTED.—VALUES, AUSTRALIA, 1929-30.

Description.	Imports.	Exports.	Excess of Imports over Exports.
	£	£	£
Dressed	821,717	23,347	798,370
Undressed, including logs	2,915,619	982,673	1,932,946
Architraves, mouldings, etc.	8,420	517	7,903
Plywood, veneered or otherwise	155,613	(a)	155,613
Palings .. .. .	..	3,900	—3,900
Pickets	128	39	89
Shingles	2,202	18	2,184
Staves—			
Dressed, etc.	17,537	15	17,522
Undressed	13,225	..	13,225
Laths—			
For blinds .. .. .	..	..	..
Other	21,063	..	21,063
Doors	4,075	2,742	1,333
Wood pulp	269,270	(a)	269,270
Veneers	22,428	(a)	22,428
Spokes, rims, felloes, etc.	1,688	1,797	—109
Other	5,154	..	5,154
Total	4,258,139	1,015,048	3,243,091

NOTE.—The minus sign (—) denotes an excess of exports. (a) Exports not recorded separately.

(ii) *Sandalwood*. A considerable amount of sandalwood is annually exported principally from Western Australia to Hong Kong and China, where it is highly prized, and largely used for artistic and ceremonial purposes. Particulars for the past five years are as follow :—

SANDALWOOD.—EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Country to which Exported.	Quantity.					Value.				
	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	ton.	ton.	ton.	ton.	ton.	£	£	£	£	£
United Kingdom	1	25	..	..	..	7	858	..	..	..
Hong Kong	5,003	3,084	4,856	5,432	2,482	155,139	116,408	142,800	156,086	57,688
India	341	246	314	352	288	12,384	8,871	11,434	12,310	9,437
Malaya (British)	507	346	397	150	63	18,340	10,784	13,010	4,418	1,716
Other British Countries	1	12	13	17	15	53	583	470	504	424
China	2,255	3,991	822	3,486	737	66,039	114,026	25,170	103,485	19,521
Other Foreign Countries	7	11	46	33	37	245	411	1,052	1,345	641
Total	8,235	8,615	6,448	9,470	3,622	252,807	252,491	194,026	278,238	89,427

(iii) *Tan Bark.* Tan bark figures both as an export and import in the Australian trade returns, as the following tables show. The first table refers to exports :—

TAN BARK.—EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Country to which Exported.	Quantity.					Value.				
	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	cwt.	cwt.	cwt.	cwt.	cwt.	£	£	£	£	£
United Kingdom	104	..	1,505	11,153	..	58	..	922	5,488	..
New Zealand	1,008	1,033	27,070	17,934	22,038	701	1,355	21,431	12,496	14,109
Other British Possessions	..	102	22	20	2	..	51	11	12	3
Germany	303	2,050	15,414	26,466	41,567	159	1,272	10,086	15,256	21,266
Other Foreign Countries	..	5,033	2,150	2,538	1,231	6,433	2,900	1,332	1,061	546
Total	..	6,448	5,935	46,549	56,804	70,040	3,818	4,010	33,511	33,798
									38,604	

The exports of tan bark from Australia during the past five years consisted largely of mallet bark from Western Australia. The shipments of this bark, exported mainly to Germany, are not so large as in pre-war days, owing to the cutting out of supplies. A considerable improvement, however, was shown during the year 1928-29. New Zealand took 37 per cent. of the total exports, which were sent chiefly from South Australia.

A comparison of the imports and exports of tan bark during the last five years is given in the next table :—

TAN BARK.—IMPORTS AND EXPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Particulars.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	cwt.	cwt.	cwt.	cwt.	cwt.
QUANTITIES—					
Imports	44,372	57,302	5,114	1,562	1,936
Exports	6,448	5,935	46,549	56,804	70,040
Excess of exports over imports	-37,924	-51,367	41,435	55,242	68,104
VALUES—					
Imports	£ 21,498	£ 27,680	£ 2,633	£ 755	£ 950
Exports	£ 3,818	£ 4,010	£ 33,511	£ 33,798	£ 38,604
Excess of exports over imports	-£ 17,680	-£ 23,670	£ 30,878	£ 33,043	£ 37,654

NOTE.—The minus sign (-) denotes excess of imports.

The imports consist almost exclusively of wattle bark from the plantations in South Africa. One variety of Australian wattle is found to flourish in the sandy belts near the coast, but it is the *Acacia decurrens*, var. *mollis*, which is chiefly relied upon for the production of wattle bark in the South African plantations. Seed has been tried from New South Wales, Tasmania, and Victoria, but it is stated that most of the seed is obtained from the best wattle bark areas in eastern Tasmania and western Victoria.

Two reasons are given to account for the success of the industry in South Africa. (a) It is found that the treeless, grassy highlands of Natal are specially suitable for wattle culture, and the trees can therefore be grown in rows and economically attended to, while the necessary bark sheds and other appurtenances can be placed in the most advantageous positions. (b) There is an abundance of cheap and efficient native labour available for employment on the plantations.

Considerable quantities of tanning substances other than bark are annually imported into the Commonwealth. The total value of the importations in 1929-30 was £76,128, and was composed as follows :—Wattle bark extract, £397; quebracho extract, £13,025; other extract, £17,426; and valonia, myrobalans, catch, etc., £45,280.

CHAPTER XX. FISHERIES.*

§ 1. General.

1. **Fish Stocks.**—Australia possesses an abundant and varied fish fauna, which embraces both tropical and temperate varieties and includes destructive as well as valuable species. In rivers and lakes both indigenous and imported varieties thrive. The latter have been introduced and acclimatized 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, forbidden; proclaimed localities are closed against net-fishing, and a minimum size of mesh for nets is fixed. The sea-fishermen in some districts have made regulations in their own interests for the purpose of controlling the market supply.

2. **Progress of Industry.**—(i) *Transport and Marketing.* Despite the abundance of edible fish, the progress of the fishery industry in Australia has been slow, and transport and marketing of the proved supplies have not been satisfactorily dealt with.

In New South Wales, as shown in § 5 herein and § 6 of this Chapter in Official Year Book No. 17, the matter of exploiting trawlable fish was undertaken by the State Government, which also took steps to improve the conditions under which ordinary coastal fishing is carried on. In Queensland, State trawling was undertaken in 1919, and good trawling areas have been located and charted between Cape Moreton and Caloundra.

(ii) *Economic Investigations.* Although valuable work has been carried out by the State Governments in the way of experiment and culture, much yet remains to be done before the industry is at all commensurate in extent with the industrial progress or consuming capacities of the Commonwealth. All live fish imported into Australia are examined on shipboard in order to prevent the importation of undesirable fish. With the object of ascertaining the movements of oceanic fishes, and of estuarine fishes which make periodical oceanic migrations, reports are furnished regarding the various kinds of fishes, etc., and their movements along the coast. Details regarding the activities of the States in fish-culture were given in Official Year Book No. 6, pp. 471–2. By arrangement with the Commonwealth Fisheries Department some years ago 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. As pointed out in § 4, however, this vessel was lost with all hands in 1914, and has not since been replaced.

With the object of reviewing the potentialities of the fishing industry of Australia the Development and Migration Commission convened a meeting of State and Commonwealth representatives. The Conference, which was held in Melbourne during September 1927, affirmed:—

- (1) The importance of establishing a Marine Biological Institution to study the scientific problems connected with Australian fisheries, and to collect and disseminate authoritative information and give advice on matters concerning the fisheries.
- (2) The desirability of establishing an experimental trawling unit to explore the fisheries resources of Australia.

Committees were formed to deal with important problems concerning the preservation, transportation, marketing, and distribution of fish, canning and curing of fish, the production of fish by-products, factors of destruction in fisheries, the development of the oyster industry, etc. The reports submitted by these Committees to a further conference held in July, 1929, were adopted and forwarded to the Federal and State Governments with a recommendation that the necessary action be taken to carry out the procedure outlined therein.

3. **Consumption of Fish.**—It has been said that the Australians are not an "ichthyophagous" race, seeing that the annual consumption of fish per head of population in Great Britain is set down at 42 lbs., while in Australia it has been estimated

* A specially contributed article dealing with the Marine and Fresh Water Fisheries of Australia appeared as § 6 of this Chapter in Official Year Book No. 17 (*vide* pp. 752 to 767 therein).

at only 13 lbs. The heavy imports of dried and preserved fish indicate, however, that there is scope for the development of the industry, which now seems to be ill-managed, the price to the consumer being high, while the fisherman's gain is uncertain, and the system of distribution lacks method.

4. *Oyster Fisheries.*—Natural oyster beds 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 output has been very materially augmented. The areas are leased by the Government to private persons, lengths of foreshore being taken up under oyster leases. In New South Wales and Queensland the industry has thriven, and small yields are obtained in South Australia, Victoria, and Tasmania.

5. *Pearl-Shell, Pearls, Bêche-de-Mer, etc.*—(i) *General.* Pearl-shelling is carried on in the tropical waters of Queensland, the Northern Territory, and Western Australia. The pearl-oyster inhabits the northern and western coastal waters from Cape York to Shark Bay, a length of shore of over 2,000 miles. The shells are marketed in considerable quantities, and pearls are obtained in Queensland, Western Australia and the Northern Territory. The fishing is generally conducted with the aid of diving apparatus in water varying from 4 to 20 fathoms in depth. In Queensland and the Northern Territory the bêche-de-mer industry is carried on, and tortoise-shell 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 £3,000, was obtained at Broome. Further details regarding pearl-shelling are given in Official Year Book No. 6, p. 463. Trochus-shell to the value of £72,812, £76,116, £71,714 and £44,515 was exported from Australia during 1926-27, 1927-28, 1928-29, and 1929-30 respectively.

(ii) *Royal Commission on Pearl-shelling Industry.* In accordance with the "White Australia" policy it was originally determined that the employment of Asiatic labour in the pearl-shelling industry should be restricted, and ultimately cease, and it was proposed that after 31st December, 1913, permits to bring in Asiatics for the pearling-fleet should no longer be issued. In view, however, of the disorganization of the industry occasioned by the war, the time was extended to the 30th June, 1918, after which date permits to introduce Asiatic labour were to be granted only in cases where the diver and tender of a boat were Europeans. The Royal Commission appointed in March, 1912, presented its final report in 1916. The Commissioners stated that, though it might be practicable, they did not consider it advisable or profitable to attempt to transfer the industry from Asiatics to Europeans. They further stated that, while the labour now employed is almost entirely Asiatic, they did not consider that the "White Australia" policy would be weakened or imperilled by allowing the industry to continue as at present conducted.

§ 2. The Fishing Industry.

1. *Boats and Men Engaged, and Take.*—(i) *General Fisheries.* The returns have been compiled from particulars supplied by the State Departments, and while the data do not generally lend themselves to presentation on a uniform basis, the principal facts have been incorporated in the tables hereunder:—

GENERAL FISHERIES, 1929.

State or Territory.	No. of Boats Engaged.	Value of Boats and Equipment.	No. of Men Employed.	Total Take of—		Value of Take.	
				Fish.	Spiny Lobster (Crayfish).	Fish.	Spiny Lobster (Crayfish).
	No.	£	No.	cwt.	doz.	£	£
New South Wales ..	1,405	291,509	3,324	248,762	21,017	696,534	c101,720
Victoria ..	963	135,933	1,442	129,119	15,582	210,895	12,466
Queensland ..	888	66,389	1,745	72,240	d11,399	152,743	e10,357
South Australia ..	756	75,000	1,500	b131,632	(a)	b225,000	(f)
Western Australia	291	62,683	620	37,200	13,747	90,000	6,873
Tasmania ..	240	54,634	345	31,500	63,437	64,000	19,792
Northern Territory	3	300	3	65	..	183	..
Total ..	4,546	686,448	8,979	650,518	125,182	1,439,355	151,208

(a) Not available. (b) Estimate. (c) Including £70,195, the value of 9,991 cwt. prawns and 1,019 dozen crabs. (d) Crabs. (e) Including 240 turtles valued at £360. (f) Included with fish.

Returns for the past five years are given in the table below :—

GENERAL FISHERIES.—AUSTRALIA, 1925 TO 1929.

Particulars.	1925.	1926.	1927.	1928.	1929.
No. of boats engaged	4,399	4,940	4,843	5,213	4,546
No. of men employed	7,786	7,745	7,987	8,600	8,979
Fish obtained—					
Quantity cwt.	341,133	403,156	443,984	546,949	650,518
Value £	909,032	1,059,039	1,139,218	1,435,427	1,439,355
Lobsters obtained—Value	£ 103,338	108,092	140,439	155,890	151,208

(a) Exclusive of South Australia.

(ii) *Edible Oyster Fisheries.* The returns from oyster fisheries are given in the next table.

EDIBLE OYSTER FISHERIES, 1929.

State or Territory.	Number of Boats Engaged.	Value of Boats and Equip-ment.	Number of Men Em-ployed.	Number of Leases.	Oysters Taken.	
					Quantity.	Value.
	No.	£	No.	No.	cwt.	£
New South Wales	724	36,947	655	5,068	55,653	103,886
Victoria	11	1,565	25	11	91	228
Queensland	69	5,350	120	441	13,864	23,531
South Australia (a) .. ..	..	..	..	..	..	..
Western Australia	3	200	3	(d)	(d)	(d)
Tasmania	(a)	(a)	(a)	(d)	1,125	(c) 6,562
Northern Territory	1	100	1	1	40	18
Total (b)	808	44,162	804	5,521	70,773	134,223

(a) Included with General Fisheries.

(b) Exclusive of South Australia.

(c) Including £5,625, value of scallops. (d) Not available.

Returns for Australia for the last five years are given in the appended table :—

EDIBLE OYSTER FISHERIES.—(a) AUSTRALIA, 1925 TO 1929.

Particulars.	1925.(b)	1926.	1927.	1928.	1929.
No. of boats engaged	741	1,351	813	835	808
No. of men employed	709	752	790	833	804
Oysters obtained—					
Quantity cwt.	77,990	65,992	67,422	64,991	70,773
Value £	133,161	125,084	129,215	121,358	134,223

(a) Exclusive of South Australia.

(b) Exclusive of Tasmania.

(iii) *Pearls, Pearl-shell and Trepang.* Figures regarding the production, trade, etc., for these items, so far as they are ascertainable, are given hereunder. As regards pearls, for obvious reasons no correct estimate can be obtained of the value of those found. Pearl-shell (*Margaritifera*) is widely distributed in North Australian waters over an area facing some thousands of miles of coastline, though not intensively over the whole distance. The north-west beds are the most prolific, but those around and to the north of Cape York are also of importance. There is need for further investigation into the occurrence of this valuable shell, as well as of trochus, green snail, window-pane shell (*Placuna*), the various types of trepang or bêche-de-mer (*Holothuria*), both in tropical Australian waters and those of Papua and the mandated area of New Guinea. Particulars as returned for the year 1929 are as follow :—

PEARL, PEARL-SHELL, AND BÊCHE-DE-MER FISHERIES, (a), 1929.

State or Territory.	Number of Boats Engaged.		Value of Boats and Equipment.		Number of Men Employed.	Quantity of Pearl-shell obtained.	Value of Pearl-shell obtained.	Value of Pearls obtained. (b)	Value of Bêche-de-mer obtained.	Value of Tortoise shell obtained.
	No.	£	No.	£						
Queensland (c) ..	127	85,000	1,166	1,429	213,458	6,604	21,199	566		
Western Australia..	130	71,654	902	933	158,120	16,413	625	163		
Northern Territory	32	35,000	266	750	84,000	(d)	2,882	25		
Australia ..	289	191,654	2,334	3,112	455,578	23,017	24,706	754		

(a) No pearl-shelling industry in New South Wales, Victoria, South Australia, and Tasmania.

(b) Incomplete; as returned. (c) Also trochus-shell to the value of £33,725.

(d) No details available.

The figures for tortoise-shell and trochus-shell as returned are defective, as the necessary information is not collected in full detail. In the following summary of production during the past five years, export figures of Australian origin are inserted for both of these items:—

PEARL, PEARL-SHELL, AND BÊCHE-DE-MER FISHERIES.—AUSTRALIA, 1925 TO 1929.

Particulars.	1925.	1926.	1927.	1928.	1929.
No. of boats engaged ..	416	348	297	307	289
No. of men employed ..	3,347	2,893	2,062	2,407	2,334
Pearl-shell obtained—					
Quantity .. tons	2,602	2,098	2,243	2,212	3,112
Value .. £	362,235	302,848	332,739	345,227	455,578
Pearls obtained (a) —					
Value .. £	65,095	39,655	22,863	29,615	23,017
Bêche-de-mer obtained—					
Quantity .. tons	(b)	(b)	(b)	(b)	(b)
Value .. £	13,535	31,186	14,693	17,893	24,706
Tortoise-shell exported—					
Value .. £	4,730	3,364	2,894	3,113	693
Trochus-shell exported—					
Value .. £	76,280	72,812	76,116	71,714	44,515

(a) Incomplete; as returned. (b) Not returned.

2. Fish Preserving.—To encourage the industry, the Federal Parliament provided a bounty of $\frac{1}{2}$ d. per lb. for fish preserved as prescribed during the ten years 1907–8 to 1916–17. The payment, which amounted to only £3,005 during the period, or at the rate of £300 per annum, failed to develop the industry, and the bounty was not renewed on its expiration in 1916–17.

3. State Revenue from Fisheries.—The revenue from fisheries in each State during the year 1929 is given hereunder:—

FISHERIES.—REVENUE, 1929.

State or Territory.	Licences.	Leases.	Fines and Forfeitures.	Other Sources.	Total.
	£	£	£	£	£
New South Wales ..	1,488	13,376	430	382	15,676
Victoria	722	177	364	..	1,263
Queensland	3,275	2,315	89	65	5,744
South Australia ..	1,675	..	..	12	1,687
Western Australia ..	2,588	464	222	229	3,503
Tasmania	1,594	(a)	(a)	254	1,848
Northern Territory ..	272	..	..	..	272
Total	11,614	16,332	1,105	942	29,993

(a) Included with "Other Sources."

Similar particulars for Australia for the last five years are given in the following table:—

FISHERIES.—REVENUE, AUSTRALIA, 1925 TO 1929.

Particulars.	1925.	1926.	1927.	1928.	1929.
	£	£	£	£	£
Licences	12,557	9,890	11,769	12,864	11,614
Leases	15,927	16,439	16,631	15,498	16,332
Fines and Forfeitures	781	841	748	1,216	1,105
Other Sources	1,321	1,477	739	760	942
Total	30,586	28,647	29,787	31,338	29,993

§ 3. Oversea Trade in Fishery Products.

1. Imports of Fish.—The development of the local fishing industry leaves much to be desired, as is evident from the large imports. For the last five years the imports were as follow:—

FISH.—IMPORTS, AUSTRALIA, 1925-26 TO 1929-30.

Classification.		1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Fresh (oysters) ..	cwt.	2,899	2,115	1,488	1,308	508
	£	2,228	1,699	1,157	958	420
Fresh, or preserved by cold process	cwt.	69,855	61,151	75,835	72,866	67,503
	£	205,163	180,773	232,894	221,999	206,357
Potted	cwt.	(a)	(a)	(a)	(a)	(a)
	£	130,969	146,782	148,424	158,797	137,046
Preserved in tins..	cwt.	228,226	268,463	209,791	252,379	250,306
	£	1,164,223	1,418,103	1,141,493	1,265,510	1,342,016
Smoked, dried, and n.e.i.	cwt.	11,362	17,793	13,837	14,007	13,280
	£	45,079	62,984	51,723	48,430	46,556
Total	cwt.(b)	312,342	349,522	300,951	340,560	331,597
	£	1,547,662	1,810,341	1,575,691	1,695,694	1,732,395

(a) Not available. (b) Exclusive of potted fish.

Tinned fish constitutes by far the largest proportion of the imports, most of it consisting of salmon from Canada, the United States of America, Norway, and the United Kingdom. The potted fish comes chiefly from the United Kingdom, which also supplied the largest proportion of the fresh fish in 1929-30, the bulk of the remainder coming from New Zealand and the Union of South Africa. The small import of oysters is supplied by New Zealand.

2. Exports of Fish.—The exports of local fish produce for the five years 1925-26 to 1929-30 are given hereunder:—

FISH (AUSTRALIAN PRODUCE).—EXPORTS, 1925-26 TO 1929-30.

Classification.		1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Fish, fresh, smoked, or preserved by cold process	cwt.	1,498	435	496	496	684
	£	7,606	4,072	4,857	3,674	5,161
Preserved, in tins, dried, salted, etc.	cwt.	261	184	283	27	121
	£	491	371	548	40	818
Total	cwt.	1,759	619	779	523	805
	£	8,097	4,443	5,405	3,714	5,979

The quantity of fresh fish exported from Australia during 1929-30 was small, amounting in value to only £2,228. The balance, consisting of smoked and dried fishery products, was exported chiefly to Hong Kong and Egypt.

3. Exports of Pearl and Other Shell.—The exports of pearl, tortoise, and trochus-shell, of Australian origin, are given hereunder for the five years 1925-26 to 1929-30 :—

PEARL, TORTOISE, AND TROCHUS-SHELL.—EXPORTS, AUSTRALIA,
1925-26 TO 1929-30.

Article.		1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Pearl-shell ..	cwt.	48,631	45,451	44,119	45,058	58,503
	£	391,695	352,626	337,469	339,016	450,615
Tortoise-shell ..	lb.	4,993	3,662	4,506	4,311	1,541
	£	4,730	3,364	2,894	3,113	693
Trochus-shell ..	cwt.	19,787	22,851	21,968	18,814	11,184
	£	76,280	72,812	76,116	71,714	44,515

The bulk of the pearl-shell exported during 1929-30 was consigned to the United States of America and the United Kingdom, the respective values of the shipments amounting to £361,666 and £80,257, while trochus-shell to the value of £44,149 was dispatched to Japan.

§ 4. The Commonwealth Department of Fisheries.

In 1907 the Commonwealth Government decided to demonstrate what might be attained commercially by the application of modern methods in fishery. A Federal Investigation Ship, the *Endeavour*, was constructed specially for the work, and a Director of Fisheries was appointed. Experimental cruises were undertaken, which showed that Australia possesses an asset of considerable value in her sea fisheries. The *Endeavour* was unfortunately lost at sea with all on board at the end of 1914. A description of the trawling grounds discovered, data regarding oceanography to the east of Australia, and a list of the publications of the Department are given in pp. 333 to 335 of Year Book No. 14.

In accordance with the recommendations of the Australian Fisheries Conference of 1927-29 the Commonwealth Government decided to construct a vessel to continue investigations, but the project has been temporarily postponed.

§ 5. Trawling in Australian Waters.

The State Trawling Industry was established in New South Wales in 1915, and fishing operations were conducted with seven steel steam trawlers. The catches were landed at Sydney and Newcastle, and the fish distributed through retail shops, of which there were fourteen in the metropolitan area, one in Newcastle, and five in country towns. Early in the year 1923 the Government discontinued trawling operations, as the venture was not a commercial success, and the assets have since been disposed of. The operations of the Government trawlers, however, revealed some of the richest trawling areas in the world, and these grounds are being successfully exploited by private enterprise.

CHAPTER XXI. MINERAL INDUSTRY.

§ 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.

2. **Extent of Mineral Wealth.**—The extent of the total mineral wealth of Australia cannot yet be regarded as completely ascertained, as large areas of country still await systematic prospecting. More detailed allusion to this matter will be found in preceding Official Year Books.

3. **Quantity and Value of Production during 1929.**—The quantities (where available) and the values of the principal minerals produced in each State, and in Australia as a whole during the year 1929, are given in the tables immediately following. It must be clearly understood that the figures quoted in these tables refer to the quantities and values of the various minerals in the form in which they were reported to the States Mines Departments, and represent amounts which the Mines Departments consider may fairly be taken as accruing to the mineral industry as such. They are not to be regarded as representative of Australia's potentiality as a producer of *metals*, this matter being dealt with separately in § 17 hereinafter. It may be explained, therefore, that the item pig-iron in New South Wales refers only to metal produced from locally-raised ore and so reported to the Mines Department. New South Wales is, of course, in normal times, a large producer of iron and steel from ironstone mined in South Australia. As the table shows, the latter State receives credit for this ironstone in its mineral returns, but the iron and steel produced therefrom cannot be assigned to the mineral industry of New South Wales. Similarly lead, silver-lead, and zinc are credited in the form reported to the State of origin—chiefly New South Wales—although the actual metal extraction is carried out to a large extent elsewhere.

MINERAL PRODUCTION.—QUANTITIES, 1929.

Minerals.	Unit.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T. (c)	Australia.
Antimony ..	ton	25	2	..	..	..	..	..	27
Arsenic ..	..	250	..	..	..	..	..	..	250
Asbestos ..	..	..	..	..	1	255	..	..	256
Barytes ..	..	152	..	..	1,969	..	10	..	2,131
Bismuth ..	cwt.	65	..	2	..	..	..	..	67
Brown Coal ..	ton	..	1,741,176	..	..	..	..	..	1,741,176
Coal ..	..	7,617,736	703,828	1,368,745	..	544,719	130,291	..	10,365,319
Copper (ingot, matte, etc.) ..	..	176	..	3,748	..	..	8,689	..	12,613
Copper ore ..	..	..	10	..	277	120	..	..	416
Diatomaceous earth ..	..	1,107	..	..	..	..	..	..	1,107
Gold ..	fine oz.	7,496	26,275	9,476	1,009	377,176	5,597	130	427,159
Gypsum ..	ton	10,418	13,195	..	95,613	5,289	..	..	124,515
Iron (pig) (b) ..	..	3,911	..	..	..	..	..	..	3,911
Iron oxide ..	..	4,753	..	..	..	..	..	..	4,753
Ironstone ..	..	..	..	1,236	847,813	..	..	..	849,049
Kaolin ..	..	4,225	1,717	..	140	..	..	..	6,082
Lead (b) ..	..	..	..	389	..	..	5,983	..	6,372
Lead and silver- lead ore, concen- trates, etc. ..	..	285,031	..	..	6	444	..	11	285,402
Limestone flux ..	..	69,243	..	67,219	22,382	..	68,176	..	227,020
Magnesite ..	..	8,953	27	..	135	..	..	..	9,115
Manganese ore ..	..	233	..	..	..	80	..	..	313
Molybdenite ..	cwt.	10	..	..	..	..	..	..	10
Osmiridium ..	oz.	..	..	..	..	..	1,360	..	1,360
Phosphate ..	ton	70	..	..	..	..	..	..	70
Pigments ..	..	699	..	..	58	..	..	..	757
Platinum ..	oz.	128	..	..	..	..	..	..	128
Salt ..	ton	..	(a)	..	76,457	..	..	..	76,457
Sapphires ..	oz.	65	..	(d)	..	..	..	..	65
Shale (oil) ..	ton	..	..	..	..	..	4,299	..	4,299
Silver ..	fine oz.	4,471	909	52,663	1,206	49,834	864,354	..	973,437
Tin and tin ore ..	ton	934	25	988	..	77	640	59	2,723
Wolfram ..	..	14	..	20	..	..	152	..	186
Zinc and concen- trates ..	..	231,237	..	..	..	..	6,997	..	238,234

(a) Not available for publication.

(b) See letterpress preceding this table.

(c) Year ended 30th June.

(d) Quantity not stated.

The values of the minerals raised in each State during 1929 are given in the following table:—

MINERAL PRODUCTION.—VALUE, 1929.

Minerals.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T. (d)	Australia.
	£	£	£	£	£	£	£	£
Antimony ..	1,877	23	..	..	..	..	..	1,900
Arsenic ..	6,010	..	..	..	..	..	..	6,010
Asbestos ..	..	..	..	40	..	..	..	40
Barytes ..	204	..	..	5,907	8	24	..	6,203
Bismuth ..	2,013	..	48	..	14,681	..	..	16,742
Brown Coal ..	..	178,052	..	..	..	..	..	178,052
Coal ..	5,952,720	813,370	1,199,599	..	426,706	105,877	..	8,498,272
Copper (ingot and matte) ..	14,183	..	294,188	..	..	740,985	..	1,049,356
Copper ore ..	..	30	..	22,982	2,778	..	..	25,790
Diamonds ..	148	..	..	..	..	..	..	148
Diatomaceous earth ..	2,767	..	..	..	..	..	..	2,767
Gold ..	31,842	111,609	40,230	4,289	1,602,142	23,772	553	1,814,457
Gypsum ..	5,916	6,000	..	83,661	7,676	..	..	103,253
Iron (pig) (b) ..	17,600	..	..	..	..	..	..	17,600
Iron Oxide ..	2,757	..	..	..	..	..	..	2,757
Ironstone ..	..	..	974	974,985	..	..	..	975,959
Kaolin ..	6,885	2,330	..	560	..	..	..	9,775
Lead (b) ..	..	..	9,015	..	..	138,793	..	147,808
Lead and silver- lead ore, con- centrates, etc. ..	3,032,349	..	..	127	7,016	..	79	3,039,571
Limestone flux ..	25,966	..	29,940	8,393	..	66,597	..	130,896
Magnesite ..	14,161	101	..	270	..	..	..	14,532
Manganese ore ..	946	..	..	..	230	..	..	1,176
Molybdenite ..	46	..	..	..	..	..	..	46
Opal ..	6,071	..	600	11,056	..	..	..	17,727
Osmiridium ..	..	..	..	..	..	30,624	..	30,624
Phosphate ..	140	..	..	..	..	..	..	140
Pigments ..	925	..	..	450	..	..	..	1,375
Platinum ..	1,352	..	..	..	..	..	..	1,352
Salt ..	..	(a)	..	172,028	..	..	..	172,028
Sapphires ..	450	..	4,810	..	..	..	..	5,260
Shale (oil) ..	..	..	..	..	..	2,982	..	2,982
Silver ..	392	100	5,792	131	5,509	94,560	..	106,484
Tin and tin ore ..	191,199	3,545	114,518	..	13,432	130,014	6,958	459,866
Wolfram ..	1,402	..	1,323	..	..	18,358	..	21,083
Zinc & concentrates ..	802,693	..	..	..	..	185,964	..	988,657
Unenumerated ..	(c) 32,090	923	6,122	(e) 13,924	7,674	(f) 22,649	g 10,755	94,137
Total ..	10,155,164	1,116,083	1,707,179	1,298,803	2,087,852	1,561,199	18,345	17,944,625

(a) Not available for publication. (b) See letterpress above table. (c) Includes dolomite £9,488, silica £6,559, and fireclay £12,991. (d) Year ended 30th June. (e) Includes fireclay £11,620. (f) Includes cadmium £7,839, and nickel £14,765. (g) Mica, £10,548, Central Australia.

It may be pointed out in connexion 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 and pottery 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 certain instances, moreover, the published information is of little value. By restricting the comparison to items in connexion 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 1929 consist of—lime, £112,667; building stone, £294,366; Portland cement, £1,780,021; coke, £757,580; road materials, £1,031,957; shell grit, £1,336; mineral water, £139; sulphur and sulphuric acid £59,482; and brick and pottery clays, £387,956. Carbide, £53,841, and cement, £175,613, have been excluded from the Tasmanian figures.

4. Value of Production, 1925 to 1929.—The value of the mineral production in each State during the five years 1925 to 1929 is given in the table hereunder :—

MINERAL PRODUCTION.—VALUE, 1925 TO 1929.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Australia.
	£	£	£	£	£	£	£	£
1925 ..	16,657,585	1,000,763	2,012,456	1,028,396	2,393,890	1,477,944	21,715	24,592,749
1926 ..	16,319,265	1,082,006	1,608,661	1,032,353	2,371,864	1,573,997	19,085	24,007,231
1927 ..	15,449,702	1,176,378	1,645,111	1,188,522	2,202,437	1,301,312	19,609	22,983,071
1928 ..	12,600,668	1,098,691	1,356,016	1,032,952	2,128,109	1,335,571	14,627	19,596,634
1929 ..	10,155,164	1,116,083	1,707,179	1,298,803	2,087,852	1,561,199	18,345	17,944,625

For New South Wales the value of production in 1929 was over £6,500,000 lower than that for 1925, which was the highest ever recorded. The falling-off in 1929 was largely due to the decreased returns from coal, gold, iron, and zinc.

The increase in the Victorian returns for 1929 was chiefly due to a rise in the production of coal.

In Queensland the rise in production in 1929 was due to increases in the yields from coal, copper, and cobalt. The returns for South Australia in 1929 showed a rise of nearly £266,000 as compared with the figures for 1928, the increase being mainly due to the greater return from ironstone, which showed a value of £975,000 as compared with £711,000 in 1928. In Western Australia the returns for 1929 show a decrease of over £40,000 on the total for 1928, the fall being due chiefly to the decline in the return from gold amounting to nearly £69,000, although this was to some extent counteracted by increases in the case of asbestos and coal amounting to £14,000 and £7,000 respectively. The chief items contributing to the increased return in Tasmania for the year 1929 were copper, lead, and silver, the value of the yield from which rose by £296,000, £32,000, and £16,000 respectively. On the other hand, however, a fall of nearly £129,000 was recorded in the value of output from tin. It is stated that the decline in the Northern Territory returns for recent years is due in some measure to the fact that some of those engaged in mining forsook it to take up more profitable work in other pursuits. The number of Chinese miners in the Territory has steadily decreased and those remaining are all old men. An increase of about £6,600 in the value of mica produced was responsible for the small rise in total production in 1929.

5. Total Production to end of 1929.—In the next table will be found the estimated value of the total mineral production in each State up to the end of 1929. The figures given in the table are also exclusive of the same items referred to in connexion with the preceding table. Thus the total for New South Wales falls short by nearly £42,000,000 of that published by the State Department of Mines, the principal items excluded being coke, £13,756,000; cement, £17,347,000; lime, £1,596,000; and considerable values for marble, slate, granite, chert, gravels, etc., which the Department now includes in the returns for quarries.

MINERAL PRODUCTION.—VALUE TO END OF 1929.

Minerals.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter. (a)	Australia.
	£	£	£	£	£	£	£	£
Gold ..	63,867,750	303,406,261	85,889,110	1,636,550	163,525,220	8,968,444	2,283,715	630
Silver and lead ..	117,915,178	265,005	4,179,892	381,652	2,269,467	8,897,407	64,059	134
Copper ..	15,570,634	216,686	26,457,188	33,140,636	1,808,726	19,773,142	232,852	97
Iron ..	7,734,483	15,641	473,759	7,921,684	36,722	52,110	..	16
Tin ..	14,388,719	976,662	11,069,768	..	1,589,666	17,169,696	621,180	46
Wolfram ..	273,589	11,885	1,064,072	301	1,441	224,155	216,859	..
Zinc ..	22,892,852	..	19,460	15,993	5,437	976,755	..	24
Coal ..	184,388,879	12,188,022	18,499,868	..	6,207,554	1,747,149	..	223
Other ..	7,945,549	865,535	2,966,618	4,483,459	218,157	1,735,433	54,735	18
Total ..	434,977,633	318,035,697	150,613,635	47,580,275	175,662,390	59,544,291	3,473,400	1,190

(a) To 30th June, 1929.

The "other" minerals in New South Wales include alunite, £209,000; antimony, £357,000; bismuth, £236,000; chrome, £122,000; diamonds, £145,000; molybdenite, £212,000; opal, £1,592,000; scheelite, £193,000; and oil shale £2,691,000. In the Victorian returns antimony ore was responsible for £612,000. The value for coal in this State includes £1,253,000 for brown coal. Included in "other" in the Queensland production were opal, £185,000; gems, £622,000; bismuth, £118,000; cobalt, £154,000; molybdenite, £599,000; and limestone flux, £919,000. The chief items in South Australian "other" minerals were salt, £2,642,000; limestone flux, £525,000; gypsum, £708,000; phosphate, £131,000; and opal, £124,000. In the Tasmanian returns limestone flux was responsible for £860,000, osmiridium for £555,000, scheelite for £112,000, and iron pyrites for £94,000.

6. Decline in the Metalliferous Industry.—On the 1st December, 1921, a Select Committee was appointed by the Legislative Assembly of New South Wales to inquire into and report upon the serious decline in the metalliferous industry. The result of the Committee's investigations was published in a Report issued in 1922, wherein the chief contributing causes of the decline in New South Wales and in Australia generally were summarized as follows:—(1) High cost of production: (2) Deterioration in ore values in existing mines: (3) Inadequate machinery: (4) High freights: (5) High treatment charges: (6) Imperfect labour conditions in mines: (7) Lack of new payable discoveries: (8) Lack of efficiently-supported prospecting.

7. Geophysical Methods for Detection of Ore Deposits.—The Imperial Geophysical Experimental Survey which was set up early in 1928, to carry out a two years' programme of work in Australia, completed its field operations during the first few months of the year 1930. The purpose of the Survey was to test various methods that had been developed for prospecting by geophysical means, and if possible, to demonstrate their value under conditions that are common throughout the Empire. Gravimetrical, electrical, magnetometrical and seismic methods were investigated. The field work was carried out in Gelliondale, Cooper's Creek and the Mallee (Victoria), Leadville, Gulgong, Captain's Flat (New South Wales), Chillagoe (Queensland), Moonta, Port Lincoln (South Australia), Northampton (Western Australia), Copper-Nickel, Renison Bell (Tasmania). The findings of the Survey were subsequently tested by bores and shafts put down by the various State Departments of Mines and in quite a number of cases previously unknown ore bodies were found. The complete report of the work will be published early in 1931 by the Cambridge University Press. The Survey was financed by equal contributions of £16,000 each made available by the (British) Empire Marketing Board and the Commonwealth Government, the latter's contribution being appropriated under the *Geophysical Survey Act 1928*.

§ 2. Gold.

1. Discovery 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 its repetition in the present issue.

2. Production at Various Periods.—In the following table will be found the value of the gold raised in the several States and in Australia as a whole during each of the six decennial periods from 1851 to 1920, and in single years from 1921 to 1929, 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.

GOLD.—VALUE OF PRODUCTION, 1851 TO 1929.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Australia.
	£	£	£	£	£	£	£	£
1851-60..	11,530,583	93,337,052	14,565	..	..	788,564	..	105,870,764
1861-70..	13,876,103	65,106,264	2,076,494	..	..	12,174	..	80,871,035
1871-80..	8,576,654	40,625,188	10,733,048	579,068	..	700,048	79,022	61,293,028
1881-90..	4,306,541	28,413,792	13,843,081	246,668	178,473	1,514,921	713,345	49,216,821
1891-1900	10,332,120	29,904,152	23,989,359	219,931	22,308,524	2,338,336	906,988	89,999,410
1901-10..	9,569,492	30,136,686	23,412,395	310,080	75,540,415	2,566,170	473,871	142,009,109
1911-20..	4,988,377	13,354,217	9,876,677	238,808	46,808,351	873,302	100,652	76,240,384
1921 ..	271,302	554,087	214,060	13,933	2,935,693	23,311	1,299	4,018,685
1922 ..	118,359	501,515	378,154	4,693	2,525,811	16,101	540	3,545,173
1923 ..	83,325	422,105	392,563	4,199	2,232,179	16,300	743	3,151,414
1924 ..	86,905	312,398	459,716	4,093	2,255,932	21,516	3,270	3,143,830
1925 ..	82,498	200,901	197,118	3,535	1,874,320	14,969	1,939	2,375,280
1926 ..	82,551	208,471	43,914	3,219	1,857,716	17,936	594	2,214,401
1927 ..	76,595	163,699	161,321	1,776	1,734,571	20,646	468	2,159,076
1928 ..	54,503	144,068	56,395	2,258	1,671,093	15,306	431	1,944,054
1929 ..	31,842	111,609	40,250	4,289	1,802,142	23,772	553	1,814,457
Total ..	63,867,750	303,496,204	85,889,110	1,636,550	163,525,220	8,968,372	2,283,715	629,666,921

In the figures quoted above, allowance has been made in the values for the years in which gold was at a premium.

The value of the gold yield in 1929 was the lowest recorded since the discovery of the precious metal in 1851.

The amount of gold raised in Australia in any one year attained its maximum in 1903, in which year Western Australia also reached its highest point. For the other States the years in which the greatest yields were obtained were as follows:—New South Wales, 1852; Victoria, 1856; Queensland, 1900; South Australia, 1894; and Tasmania, 1899.

The following table shows the quantity in fine ounces of gold raised in each State and in Australia during each of the last five years. A separate line is added showing the total production in thousands of fine ounces since 1851:—

GOLD.—QUANTITY PRODUCED, 1925 TO 1929, AND TOTAL 1851-1929.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter. (a)	Australia.
	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.
1925 ..	19,422	47,296	46,406	832	441,252	3,524	456	559,188
1926 ..	19,435	49,078	10,339	758	437,343	4,222	140	521,315
1927 ..	18,032	38,538	37,979	418	408,353	4,861	110	508,291
1928 ..	12,831	33,917	13,277	532	393,408	3,603	101	457,669
1929 ..	7,496	26,275	9,476	1,009	377,176	5,597	130	427,159
Total(b)								
1851-1929	14,989	71,325	20,127	383	37,887	2,105	537	147,353

(a) Year ended 30th June.

(b) '000 omitted in each case.

Unfortunately, the general decline which has characterized Australia's gold output for a number of years has not been checked by new finds of importance, and unless more economic methods of exploiting existing low-grade deposits can be evolved the depression is likely to continue. At the present time, various monied interests are investigating the possibilities of developing these deposits in some of the States, while a considerable amount of prospecting is being carried on not only on old goldfields but in new areas.

3. Changes in Relative Positions of States as Gold Producers.—A glance at the figures in the table showing 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 1893, when its production was outstripped by that of Western Australia, the latter State from this year onward contributing practically half, and so far as recent years are concerned more than half the entire yield of Australia. New South Wales occupied the second place on the list until 1874, when Queensland returns exceeded those of the parent State, and, with the exception of the years 1921 and 1926, maintained this pre-eminence to the end of

1929. South Australia has occupied the position of lowest contributor to the total gold yield 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 Australia was as follows:—

GOLD.—RELATIVE POSITION OF STATES AS PRODUCERS, 1920 TO 1929.

State.	Annual Average of Gold Production, 1920 to 1929.	Percentage on Total.	State.	Annual Average of Gold Production, 1920 to 1929.	Percentage on Total.
	ozs.			ozs.	
Total	631,896	100·0	New South Wales	24,004	3·8
Western Australia ..	475,690	75·3	Tasmania ..	4,513	0·7
Victoria	72,185	11·4	South Australia ..	1,070	0·2
Queensland	54,123	8·6	Northern Territory	311	..

4. **Methods of Gold Mining adopted in Each State.**—Allusion to the methods of gold mining adopted in each State, and the production from the chief centres therein will be found in preceding issues of the Official Year Book, but considerations of space preclude reference to these matters in the present issue. (See Year Book No. 4.)

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. (See Year Book No. 4, page 500.)

6. **Modes of Occurrence of Gold in Australia.**—This subject has been alluded to at some length in earlier issues of the Year Book, but considerations of space will not permit of repetition in the present issue. (See No. 4, page 500.)

7. **Place of Australia 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 Australia therein during the five years 1925 to 1929. The figures given in the table have been compiled chiefly from returns obtained directly by the Commonwealth Bureau of Census and Statistics from the gold-producing countries of the world.

GOLD.—WORLD'S PRODUCTION, 1925 TO 1929.

Year.	World's Production of Gold.	Gold Produced in Australia.	Percentage of Australia on Total.
	£	£	%
1925	81,701,000	2,375,000	2·9
1926	82,684,000	2,214,000	2·7
1927	82,567,000	2,159,000	2·6
1928	83,829,000	1,944,000	2·3
1929	83,287,000	1,814,000	2·2

The value of the gold yield in the ten chief producing countries during each of the five years 1925 to 1929 is given in the table hereunder. Particulars of the quantity and value of the gold production for all countries for the ten years 1920-29 will be found in the Bulletin of Australian Production issued by this Bureau.

GOLD.—PRODUCTION, CHIEF COUNTRIES, 1925 TO 1929.

Country.	1925.	1926.	1927.	1928.	1929.
	£	£	£	£	£
Union of South Africa	40,768,000	42,285,000	42,998,000	43,982,000	44,229,000
United States	9,854,000	9,509,000	8,993,000	9,110,000	8,736,000
Canada	7,373,000	7,451,000	7,870,000	8,031,000	8,191,000
Russia	4,507,000	4,214,000	4,507,000	5,097,000	4,248,000
Mexico	3,351,000	3,282,000	3,081,000	2,970,000	2,769,000
Rhodesia	2,470,000	2,521,000	2,470,000	2,447,000	2,382,000
Australia	2,375,000	2,214,000	2,159,000	1,944,000	1,814,000
India	1,673,000	1,631,000	1,632,000	1,597,000	1,546,000
Japan	1,189,000	1,285,000	1,374,000	1,312,000	1,419,000
Gold Coast	844,000	847,600	728,800	670,400	883,000
Colombia	1,070,000	757,000	681,000	608,000	608,000 (a)

(a) Not available; previous year's figures taken.

The next table shows the average yearly value in order of importance of the yield in the chief gold-producing countries for the decennium 1920-1929.

GOLD.—AVERAGE ANNUAL PRODUCTION, CHIEF COUNTRIES, 1920 TO 1929.

Country.	Value.	Country.	Value.
	£		£
Union of South Africa ..	42,116,000	Australia	2,967,000
United States	10,516,000	Rhodesia	2,736,000
Canada	6,661,000	India	1,813,000
Mexico	3,387,000	Japan	1,305,000
Russia	3,013,000	Colombia	1,065,000

The comparison has been restricted to countries where the average for the period is in excess of a million sterling.

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 shown in the following table :—

GOLD MINING.—PERSONS EMPLOYED, 1901, AND 1925 TO 1929.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Total.
	No.	No.	No.	No.	No.	No.	No.	No.
1901 ..	12,064	27,387	9,438	1,000	19,771	1,112	200	70,972
1925 ..	831	2,353	347	34	5,009	103	32	8,709
1926 ..	808	1,967	321	26	4,488	107	26	7,743
1927 ..	670	1,126	304	17	4,056	65	12	6,250
1928 ..	736	655	343	30	3,863	47	12	5,686
1929 ..	684	864	326	58	4,108	63	5	6,108

The heavy decline noticeable since 1901 is of course due to the exhaustion of accessible payable deposits and the failure to locate any considerable fresh sources of supply.

9. **Bounty on Production.**—A reference to the bounty provided by the Commonwealth on gold production in Australia will be found in § 16. 1. hereinafter.

§ 3. Platinum and Platinoid Metals.

1. **Platinum.**—(i) *New South Wales.* The deposits at present worked in the State are situated at Platina in the Fifield division, near Parkes, and the production in 1929 amounted to 128 ozs., valued at £1,352 as compared with 354 ozs., valued at £4,544 in the preceding year, while the total production recorded to the end of 1929 amounted to 18,928 ozs., valued at £118,722. During the year 1929 a shipment of 10 tons of platinoid ore obtained near Broken Hill was sent overseas for experimental treatment.

(ii) *Victoria.* In Gippsland the metal has been found in association with copper, and 127 ozs. were produced in 1913, but there was no production in recent years.

(iii) *Queensland.* Platinum, associated with osmiridium, has been found in the beach sands between Southport and Currumbin, in creeks on the Russell goldfield near Innisfail, and in alluvial deposits on the Gympie gold-field, but no production has been recorded.

2. **Osmium, Iridium, etc.**—(i) *New South Wales.* Small quantities of osmium, iridium, and rhodium are found in various localities. 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 1929 the yield of osmiridium was returned as 1,360 ozs., valued at £30,624, the quantity raised being about 300 ozs. less than in 1928, the decrease being due to the decline in price, which at the end of the year had fallen to £16 10s. an ounce. Efforts are being made to stabilize the industry by arranging for a better marketing scheme. It is stated that one of the reasons for the decreased demand for the metal, and the consequent fall in price, is that osmiridium itself is of no commercial value, the value being in the osmium and iridium extracted therefrom. The process of extraction is a particularly dangerous one, owing to the fact that osmium oxide, which is a deadly poison, is given off in a gaseous state. Some of the American firms have ceased producing on this account, and are using African ore containing platinum and iridium, the extraction of which is simpler and less hazardous.

§ 4. Silver and Lead.

1. *Occurrence in Each State.*—Particulars regarding the occurrence of silver in each State will be found in preceding Year Books, Nos. 1 to 5, but considerations of space preclude the repetition of this matter in the present volume.

2. *Development of Silver Mining.*—The value of the production of silver, silver-lead and ore, and lead from each State during the five years ending 1929 is given hereunder:—

SILVER AND LEAD.—PRODUCTION, 1925 TO 1929.

Year	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Australia.
	£	£	£	£	£	£	£	£
1925 ..	5,320,976	291	240,684	1,655	114,961	302,961	(a) 617	5,982,145
1926 ..	4,399,953	307	147,724	865	85,604	281,155	(a) 447	4,916,055
1927 ..	3,487,980	304	32,102	143	30,421	222,427	(a) 379	3,773,756
1928 ..	2,492,089	275	3,387	..	10,836	180,517	(a) 22	2,687,126
1929 ..	3,032,741	100	14,807	258	12,525	233,353	(a) 79	3,293,863

(a) Year ended 30th June.

Low prices coupled with increased costs of production were responsible for the decrease in values recorded in New South Wales during the period dealt with. The improvement in 1929 as compared with 1928 was mainly due to an advance in the price of lead.

It must be understood that the totals 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 may 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 the Mines Department considers, therefore, that the State should not take full credit for the finished product. 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 of these metals locally produced, and the average contents by assay of concentrates exported during the last five years, will show, as regards New South Wales, the estimated total production and the value accruing to Australia from the three metals:—

SILVER-LEAD MINES.—NEW SOUTH WALES, TOTAL PRODUCTION, 1925 TO 1929.

Year.	Metal Produced within Australia.				Contents of Concentrates Exported.			
	Silver.	Lead.	Zinc.	Value.	Silver.	Lead.	Zinc.	Value.
	ozs. fine.	tons.	tons.	£	ozs. fine.	tons.	tons.	£
1925 ..	7,437,967	139,839	39,991	7,539,130	1,782,193	30,752	75,435	1,371,133
1926 ..	7,338,477	142,654	39,277	6,730,689	2,371,264	23,242	96,167	1,591,673
1927 ..	7,901,861	156,306	42,757	5,955,009	2,339,382	26,709	115,123	1,467,235
1928 ..	7,068,964	151,475	44,004	5,256,649	1,259,931	11,372	94,987	836,620
1929 ..	7,619,884	165,364	46,163	5,918,014	835,697	7,009	76,619	734,261

The figures given above are quoted on the authority of the Mines Department of New South Wales. Accurate details in regard to gold, copper, and antimony contained in the silver-lead ores are not available. Cadmium was first extracted in 1922 at Risdon, in Tasmania, and in 1929 the amount won from ores of New South Wales origin was given as 182 tons, valued at £81,343. As pointed out previously, credit for this value is not taken in the New South Wales returns, the value accruing to the State being taken as that of the declared value of the concentrates at the time of their dispatch.

3. Sources of Production.—Broken Hill, in New South Wales, is the chief centre of silver production in Australia.

(i) *New South Wales.* (a) *Broken Hill.* A description of the silver-bearing area in this district is given in earlier issues of the Year Book. (See No. 4, page 506.)

Although the returns are not complete in all cases, the following table relating to the companies controlling the principal mines at Broken Hill will give some idea of the richness of the field :—

SILVER.—BROKEN HILL RETURNS TO END OF 1929.

Mine.	Value of Output to end of 1929.	Dividends and Bonuses Paid to end of 1929.
	£	£
Broken Hill Proprietary Co. Ltd.	52,986,921	13,655,247
Broken Hill Proprietary Block 14 Co. Ltd.	4,664,128	670,160
British-Australian Broken Hill Co. Ltd.	5,858,998	821,280
Broken Hill Proprietary Block 10 Co. Ltd.	4,946,989	1,432,500
Sulphide Corporation Ltd. (Central and Junction Mines)	26,335,236	3,279,375
Broken Hill South Ltd.	21,158,263	4,855,000
North Broken Hill Ltd.	16,691,317	5,001,440
Broken Hill Junction Lead Mining Co.	1,185,058	87,500
Junction North Broken Hill Mine	3,511,940	171,431
The Zinc Corporation Ltd.	8,680,601	3,186,510
Barrier South Ltd.	151,517	50,000
Totals	146,170,968	33,210,443

The returns relating to dividends and bonuses paid are exclusive of £1,744,000 representing the nominal value of shares in Block 14, British, and Block 10 companies, allotted to shareholders of Broken Hill Proprietary Company. If the output of the companies engaged in treating the tailings, etc., be taken into consideration, the totals for output and dividends shown in the table would be increased to about 153 millions and 36 millions respectively. The authorized capital of the various companies amounted to £8,823,000.

(b) *Other Areas.* Silver is found in various other localities in New South Wales, but the production therefrom in 1929 was unimportant, with the exception of the Yerranderie area from which a yield of 86,500 ozs. was reported.

(ii) *Victoria.* The silver produced in 1929 amounted to 909 ozs., valued at £100, and was obtained in the refining of gold at the Melbourne Mint.

(iii) *Queensland.* Owing to low prices, the yields from the chief silver and lead producing centres in 1929 showed a considerable decline, the total value of the production of both metals being only £14,807, as compared with £148,000 in 1926, and £241,000 in 1925. Great hopes are entertained from the activities of the Company engaged in exploiting the immense silver-lead field at Mount Isa. It is proposed to work the deposits on a large scale, and the most modern appliances have been installed.

(iv) *South Australia.* Silver ore has been discovered at Mitalie and Poonana, in the Franklin Harbour district, also at Mount Malvern and Olivaster, near Rapid Bay, and in the vicinity of Blinman and Farina, at Baratta, and elsewhere. The production of silver in 1929 was valued at £131, and of silver-lead ore at £127.

(v) *Western Australia.* The quantity of silver obtained as a by-product and exported in 1929 was 49,834 ozs., valued at £5,509. In addition, 444 tons of lead and silver-lead ore and concentrates valued at £7,016 were exported. The production of lead ore from the Northampton mineral field amounted in 1929 to 1,075 tons.

(vi) *Tasmania*. The silver produced in 1929 amounted to 864,354 ozs., valued at £94,560, and the lead to 5,983 tons, valued at £138,793. About 715,000 ozs. of the total silver output were contained in silver lead, while 149,000 ozs. were contained in the blister copper produced by the Mount Lyell Co.

(vii) *Northern Territory*. Silver-lead ores are found near Pine Creek, and at Mount Shooobridge near Brock's Creek railway station. There are a number of fair-sized galena lodes in the Pine Creek and McArthur River districts, but, owing to costs of transport and realization little attention is devoted to them.

4. *World's Production*.—The world's production of silver during the last five years for which particulars are available is estimated to have been as follows :—

SILVER.—WORLD'S PRODUCTION, 1925 TO 1929.

Total.	1925.	1926.	1927.	1928.	1929.
World's production in 1,000 fine ozs.	245,186	253,186	251,232	257,273	262,598

The share of Australia in the world's silver production in 1919 was estimated at 7,800,000 ozs., or about $4\frac{1}{2}$ per cent. of the total production, but in 1921, owing to the cessation of operations at the Broken Hill field, the total local extraction fell to 4,573,000 ozs., and the estimated silver contents of the ores, bullion, and concentrates exported to 732,000 ozs., the total being a little over 3 per cent. of the world's production. For 1929 local extraction was set down as 9,230,000 ozs., and exports as 680,000 ozs., the total being equivalent to about $3\frac{1}{2}$ per cent. on the production for the world. The figures for the world's production are given on the authority of *The Mineral Industry*.

Arranged in order of importance the estimated yields in 1929 from the chief silver producing countries were as follow :—

SILVER.—PRODUCTION, CHIEF COUNTRIES, 1929.

Country.	Production.	Country.	Production.
	Fine ozs. (^{000 omitted} .)		Fine ozs. (^{000 omitted} .)
Mexico	108,700	Japan	4,500
United States	60,938	Central America	2,300
South America	29,500	Dutch East Indies	2,000
Canada	23,180	Transvaal	1,035
Europe	11,100	China	300
Australia	9,909	Rhodesia	110
British India	7,500		

5. *Prices*.—As the production of silver is dependent to a very large extent on the price realized, a statement of the average price per standard ounce in the London market during the last five years is given below :—

SILVER.—PRICES, 1925 TO 1929.

Price.	1925.	1926.	1927.	1928.	1929.
Pence per standard oz. ..	32.00	28.69	26.05	26.75	24.47

The average price in cents per fine ounce in New York fell from 69.07 in 1925 to 53.31 in 1929. The London price showed a further heavy fall in 1930, the average for the year being 17.66 pence.

6. **Employment in Silver Mining.**—The number of persons employed in silver mining during each of the last five years is given below :—

SILVER MINING.—PERSONS EMPLOYED, 1925 TO 1929.

Year.		N.S.W.	Q'land.	W. Aust.	Tasmania.	Nor. Ter.	Australia.
		(a)			(a)		
		No.	No.	No.	No.	No.	No.
1925	.. ..	5,770	590	(b) 204	579	4	(c) 7,166
1926	.. ..	5,924	390	(b) 138	523	2	(d) 7,002
1927	.. ..	5,833	277	(b) 51	718	..	(e) 6,882
1928	.. ..	4,666	282	(b) 12	627	..	(f) 5,589
1929	.. ..	5,001	447	(b) 31	540	2	(g) 6,028

(a) Silver, lead, and zinc. (b) Principally lead and silver-lead ore. (c) Including 19 in South Australia. (d) Including 25 in South Australia. (e) Including 2 in Victoria and 1 in South Australia. (f) Including 2 in Victoria. (g) Including 7 in South Australia.

The bulk of the employment up to 1924, when Queensland assumed importance, was in New South Wales and Tasmania, the quantity of silver raised in the other States being unimportant. With the early development of the great silver-lead field at Mt. Isa the employment returns for Queensland will, doubtless, increase considerably. In April, 1930, the population on the field was well over 3,000.

§ 5. Copper.

1. **Production.**—The production of copper in the various States has been influenced considerably by the ruling prices, which have undergone extraordinary fluctuations. The value of the local production as reported and credited to the mineral industry for the years 1925 to 1929 is shown in the following table :—

COPPER.—PRODUCTION, 1925 TO 1929.

State.	1925.	1926.	1927.	1928.	1929.
	£	£	£	£	£
New South Wales	30,215	22,473	12,655	3,497	14,183
Queensland	254,074	73,591	218,842	177,043	294,188
South Australia	35,878	14,681	12,452	13,321	22,982
Western Australia	18,200	84	101	765	2,778
Tasmania	436,661	454,854	302,988	444,802	740,985
Northern Territory	(a) 15	(a) 60	..	..	..
Australia	775,043	565,743	607,038	639,423	(b)1,075,146

(a) Year ended 30th June. (b) Includes £30, value of production in Victoria.

The total value of the production in 1920 was £2,658,000, and the heavy fall during recent years was due to the low price of the metal preventing the profitable working of many of the copper mines throughout Australia. Production in 1929 was stimulated by the rise in price, but the total for the year was less than half of that recorded in 1920.

2. **Sources of Production.**—(i) *New South Wales.* The depression in this branch of the mining industry during the last few years is likely to continue, unless copper appreciates in value, and less costly methods of production are evolved. For the year 1917 the yield was valued at upwards of £814,000, in 1918 it was returned at £697,000, but in 1928 it had declined to under £4,000. The rise in price during 1929 led to a moderate increase in activity, the production being principally obtained from the Mount Royal mine at Tottenham and the Budgery mine at Hermidale.

(ii) *Queensland.* The yield in this State amounted in 1929 to 3,748 tons valued at £294,188, and shows a serious decline as compared with 1920 when nearly 16,000 tons valued at £1,552,000 were raised. The falling-off in the yield in recent years was due partly to the low prices realized for copper and partly to old-fashioned plant and methods of treatment. Returns from the chief producing areas in 1929 were as follows :—Cloneurruy, 3,377 tons, £265,110; Mount Morgan, 180 tons, £14,130; Herberton, 83 tons, £6,535; and Gladstone, 64 tons. £5,060.

(iii) *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 recent years, however, Queensland, Tasmania, and New South Wales have come to the front as copper producers, as the table on the preceding page shows. Deposits of copper ore are found over a large portion of South Australia. A short account of the discovery, etc., of some of the principal mining areas, such as Kapunda, Burra Burra, Wallaroo, and Moonta, was given in earlier issues of the Official Year Book. During the year 1928 increased attention was given to the possibility of making fresh discoveries in the Moonta and Wallaroo copper field. Opened in 1860, this field worked continuously until 1923, and produced copper to the value of £20,000,000. In 1929 the production amounted to 277 tons, valued at £22,982. A certain amount of copper precipitate is recovered from old tailings and slime dumps.

(iv) *Western Australia.* The value of the copper exported from this State in 1929 was only £2,778 as compared with £18,200 in 1925, the small production in 1929 being due to the low price ruling for the metal.

(v) *Tasmania.* The quantity of copper produced in Tasmania during 1929 was 8,689 tons, valued at £740,985, the whole of the production being due to the Mount Lyell Mining and Railway Co. Ltd. This Company treated 46,836 tons of ore and concentrates and produced 8,788 tons of blister copper, containing copper, 8,689 tons; silver, 149,424 ozs.; and gold, 2,843 ozs.

(vi) *Northern Territory.* Copper has been found at various places, but lack of capital and difficulty of transport prevent the development of the deposits. In 1926, the production was returned at 7 tons of ore, valued at £60, obtained near Kilgour gorge in the Borroloola district, but none was recorded during the last three years.

3. Prices.—The great variation in price that the metal has undergone is shown in the following table, which gives the average price in London and New York during each of the last five years. The figures are given on the authority of the *The Mineral Industry*.

COPPER.—PRICES, 1925 TO 1929.

Year.				Average London Price per Ton Standard Copper.	Average New York Price in Cents per lb. Electrolytic Copper.
				£	Cents.
1925	..	..	..	61.92	14.04
1926	..	..	..	57.97	13.80
1927	..	..	..	55.65	12.92
1928	..	..	..	63.70	14.57
1929	..	..	..	75.41	18.11

As evidence of the tremendous variation in the price of copper it may be noted that in December, 1916, the average London price of standard copper was £145.32 per ton, while in June, 1927, it was quoted at £54.03. In 1929 the highest average was £89.15, recorded in March. In common with other metals there was a serious drop in the price of copper in 1930, the average London market price falling to £54.68.

4. World's Production of Copper.—The world's production of copper during the five years 1925 to 1929 is estimated to have been as follows. The figures for foreign countries have been taken from the latest issue of *The Mineral Industry* :—

COPPER.—WORLD'S PRODUCTION, 1925 TO 1929.

Year	..	..	..	1925.	1926.	1927.	1928.	1929.
World's production—tons	..	..	..	1,419,000	1,459,000	1,502,000	1,689,000	1,879,000

The yields from the chief copper-producing countries in 1929 were as follow :—

COPPER.—PRODUCTION, CHIEF COUNTRIES, 1929.

Country.	Production.	Country.	Production.
	Tons.		Tons.
United States	916,000	Russia	26,600
Chile	311,000	Germany	25,600
Africa	143,900	Jugoslavia	14,806
Canada	108,200	Norway	14,400
Mexico	77,500	Cuba	14,100
Japan	73,500	Australia	13,600
Peru	53,600	Bolivia	6,900
Spain and Portugal ..	50,600	Austria	3,400

The Australian production in 1929 amounted to under 1 per cent. of the total.

About 50 per cent. of the world's copper output in 1929 was produced in the United States, where the cartel known as Copper Exporters Inc. holds a dominating influence in the world's market for the metal.

5. **Employment in Copper Mining.**—The number of persons employed in copper mining during each of the last five years was as follows :—

COPPER MINING.—PERSONS EMPLOYED, 1925 TO 1929.

Year.	N.S.W.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Australia.
	No.	No.	No.	No.	No.	No.	No.
1925	47	878	55	34	743	6	1,763
1926	31	270	26	8	697	..	1,032
1927	29	271	20	9	760	..	1,089
1928	3	517	14	10	1,181	..	1,725
1929	32	366	74	9	1,307	..	(a)1,789

(a) Including 1 in Victoria.

§ 6. Tin.

1. **Production.**—The development of tin mining is, of course, largely dependent on the price realized for the metal, and, as in the case of copper, the production has been subject to somewhat violent fluctuations. The table below shows the value of the production as reported to the Mines Departments in each of the States during the five years 1925 to 1929 :—

TIN.—PRODUCTION, 1925 TO 1929.

State.	1925.	1926.	1927.	1928.	1929.
	£	£	£	£	£
New South Wales	250,944	326,474	287,539	231,843	191,199
Victoria	11,592	5,075	11,454	12,954	3,545
Queensland	161,500	174,147	193,774	134,727	114,518
Western Australia	15,392	10,450	13,316	15,002	13,432
Tasmania	297,515	322,526	317,593	258,676	130,014
Northern Territory (a) ..	15,966	15,852	18,754	10,828	6,958
Total	752,909	854,524	842,430	664,030	459,666

(a) Year ending 30th June.

The rise in the price of tin during the first three years covered by the table is reflected in the increased value of production. In 1923, the average London price was £202 3s. per ton, while in 1926 it had advanced to £291 2s. per ton. There was a decline in the average for 1927 to £289 1s. 5d. per ton, although in March of that year the price was £313 9s. 5d. The sharp decline in values to £227 4s. 8d., and £203 19s. 4d., respectively, is reflected in the decreased production in 1928, and 1929. In December, 1929, the price had fallen to £179 10s. 2d. per ton.

2. Sources of Production.—(i) *New South Wales*. A large proportion of the output in New South Wales is obtained by dredging, principally in the New England district, the quantity so won in 1929 being 531 tons, valued at £68,345.

(ii) *Victoria*. The production in 1929 was obtained by dredging, the Cook's Pioneer Gold and Tin Co. in the Beechworth district contributing 14 tons valued at 2,000, the balance mainly coming from Toora in Gippsland.

(iii) *Queensland*. The chief producing districts in Queensland during 1929 were *Herberton*, 642 tons, valued at £70,657; *Stanthorpe*, 148 tons, £18,900; *Kangaroo Hills*, 99 tons, £12,512; and *Chillagoe*, 50 tons, £6,172. The total production valued at £114,500, was much below that of 1920, when the yield was valued at £252,000.

(iv) *Western Australia*. The export of tin from the State during 1929 amounted to 77 tons, valued at £13,432. The production from the Greenbushes field amounted to 38 tons, valued at £4,100, and from the Pilbara field 18 tons, valued at £2,500.

(v) *Tasmania*. During 1929 the output of tin amounted to 640 tons, valued at £130,014, the respective figures being less than half those recorded in 1928. The decrease is due chiefly to the closing of the mines in the North-Eastern district affected by floods, and to cessation of production at Mt. Bischoff and other mines on account of the collapse of the tin market.

(vi) *Northern Territory*. The yield of tin concentrates and ore in 1929 amounted to 59 tons, valued at £6,958, of which 43 tons were raised at *Marranboy*, 5 tons at *Mt. Wells*, 4 tons at *Hayes Creek*, 4 tons at *Deans Camp*, while small quantities were raised at *Mt. Shoobridge*, *Collia*, and elsewhere.

3. World's Production.—According to *The Mineral Industry* the world's production of tin during each of the last five years was as follow:—

TIN.—WORLD'S PRODUCTION, 1925 TO 1929.

1925.	1926.	1927.	1928.	1929.
Tons. 145,804	Tons. 142,989	Tons. 157,000	Tons. 178,000	Tons. 190,300

The yields from the chief producing countries in 1929 were as follow:—

TIN.—PRODUCTION, CHIEF COUNTRIES, 1929.

Country.	Production.	Country.	Production.
	Tons.		Tons.
Federated Malay States ..	67,000	Australia	2,300
Bolivia	46,300	Burma	2,300
Netherlands East Indies ..	35,000	Unfederated Malay States ..	2,300
Nigeria	10,500	Spain and Portugal	1,500
Siam	9,900	South Africa	1,200
China	6,300	Indo-China and Japan	750
Great Britain	3,300		

Australia's share of the world's tin production would appear to be a little over 1 per cent.

4. Prices.—The average price of the metal in the London market for the years 1925 to 1929 was as follows, the figures being taken from *The Mineral Industry*.

TIN.—PRICES, 1925 TO 1929.

Year.			Average Price per Ton.	Year.			Average Price per Ton.
			£ s. d.				£ s. d.
1925..	..	..	261 1 6	1928	..	..	227 4 8
1926..	..	..	291 2 0	1929	..	..	203 19 4
1927..	..	..	289 1 5				

The production of tin in 1929 was the highest recorded in its history, but owing to the fall in price, the value of the output was only £38,000,000 as compared with an estimated value of about £41,000,000 for the preceding year. During 1930 there was a further serious fall in price, the average for the year declining to £141 19s. 1d.

5. Employment in Tin Mining.—The number of persons employed in tin mining during the last five years is shown below :—

TIN MINING.—PERSONS EMPLOYED, 1925 TO 1929.

Year.	N.S.W.	Victoria.	Q'land.	W. Aust.	Tas.	Nor. Ter.	Australia.
	No.	No.	No.	No.	No.	No.	No.
1925	1,012	(a)	653	55	1,035	118	(b)2,875
1926	1,235	(a)	714	78	1,057	112	3,196
1927	1,430	42	906	106	1,230	95	3,809
1928	1,275	118	954	119	1,113	95	3,674
1929	1,008	49	750	49	810	66	2,732

(a) The tin produced in Victoria was raised by a dredging company operating primarily for gold.

(b) Including 2 in South Australia.

§ 7. Zinc.

1. Production.—(i) *New South Wales.* (a) *Values Assigned.* The production of zinciferous concentrates is chiefly confined to the Broken Hill district of New South Wales, where zinblend forms one of the chief constituents in the enormous deposits of sulphide ores. During the earlier years of mining activity on this field a considerable amount of zinc was left unrecovered in tailings, but from 1909 onwards improved methods of treatment resulted in the profitable extraction of the zinc contents of the accumulations at the various mines.

As the metallic contents of the bulk of the concentrates, etc., raised in the Broken Hill district are extracted outside New South Wales, the mineral industry of that State is not credited by the Mines Department with the value of the finished product. During 1929 the zinc concentrates actually exported amounted to 231,000 tons, valued at £803,000.

(b) *Local and Foreign Extraction.* A statement of the quantity of zinc extracted in Australia and the estimated zinc contents of concentrates exported overseas during the five years 1925 to 1929 will be found in § 17 hereinafter.

(ii) *Queensland.* The total production of zinc in 1926 was returned at 200 tons, valued at £6,827, produced from ores raised in the Chillagoe area, but there was no record of production in later years.

(iii) *South Australia.* Zinc is known to exist in various localities in South Australia, but there has been no production during recent years.

(iv) *Tasmania*. During the year 1929 the production from local ores was taken as 6,997 tons, valued at £185,964, almost the entire output coming from the mines worked by the Electrolytic Zinc Co., which has erected extensive works at Rosebery. In addition, about 17 tons of cadmium, valued at £7,839, were obtained as a by-product.

The Electrolytic Zinc Co. at Risdon operated on raw materials obtained partly from the West Coast district of Tasmania, but chiefly from Broken Hill in New South Wales. Production from other than Tasmanian ores in 1929 consisted of 46,163 tons of zinc valued at £1,237,361, and 182 tons of cadmium, valued at £81,343.

2. *World's Production*.—According to *The Mineral Industry* the world's production of zinc during the five years 1925-29 was as follows:—

ZINC.—WORLD'S PRODUCTION, 1925 TO 1929.

1925.	1926.	1927.	1928.	1929.
Tons. 1,130,100	Tons. 1,226,100	Tons. 1,307,300	Tons. 1,397,300	Tons. 1,447,500

The yields from the chief producing countries in 1929 were as given hereunder.

ZINC.—PRODUCTION, CHIEF COUNTRIES, 1929.

Country.	Production.	Country.	Production.
	Tons.		Tons.
United States	570,400	Great Britain	58,300
Belgium	196,700	Netherlands	25,300
Poland (a)	166,400	Japan	22,600
Australia	121,900	Italy	15,400
Germany	100,200	Mexico	14,900
France	90,200	Rhodesia	12,100
Canada	76,800	Spain	11,600

(a) Including Upper Silesia.

The figures for Australia have been taken from returns supplied by the Australian Mines and Metals Association.

3. *Prices*.—During the four years 1911 to 1914, the London price of zinc averaged £23 15s. per ton, ranging from £21 in 1914 to £26 3s. 4d. in 1912. Owing to the heavy demand and other circumstances arising out of the war, the prices in 1915 and 1916 reached the very high average of £67 11s. 1d. and £72 1s. 5d. per ton respectively. For 1921 the average recorded was £25 16s. 11d.; for 1923, £33 1s. 2d.; for 1924, £33 14s. 7d.; for 1925, £36 12s. 6d.; for 1926, £34 2s. 1d. In 1927, the average fell to £28 10s. 3d. per ton and this was followed by further falls in 1928 and 1929 to £25 5s. 8d. and £24 15s. 10d., respectively. There was a remarkably heavy fall in price during 1930, the average for the year being only £16 16s. 9d. per ton.

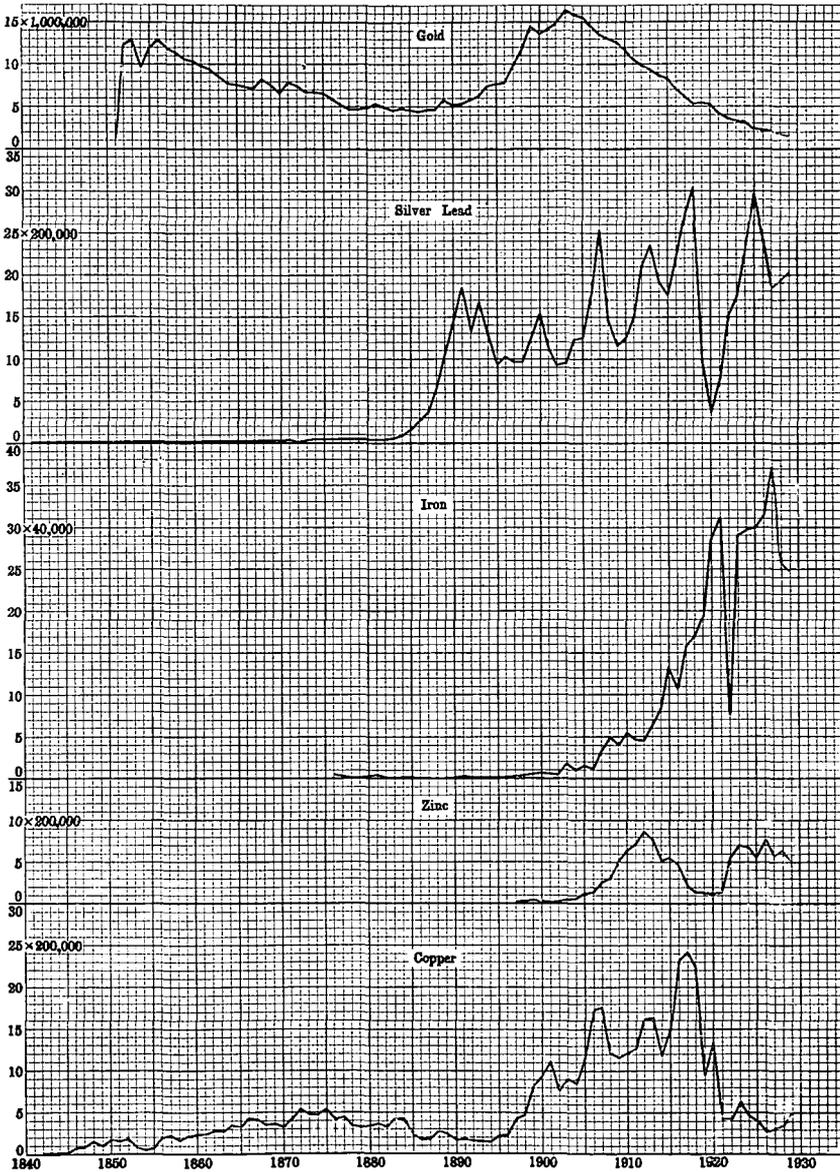
§ 8. Iron.

1. *General*.—The fact that iron ore is widely distributed in Australia has long been known, and extensive deposits have been discovered from time to time at various places throughout the States, but the utilization of these deposits for the production of iron and steel is, at present, confined to New South Wales.

2. *Production*.—(i) *New South Wales*. The production from local ores only in 1929 amounted to 3,911 tons, valued, at £17,600.

These figures do not, of course, represent the total production of pig iron in New South Wales, since a considerable quantity of ore raised in South Australia, and credited therefore to the mineral returns of that State, is treated in New South Wales. A quantity of iron oxide is purchased by the various gasworks for use in purifying gas, and is also

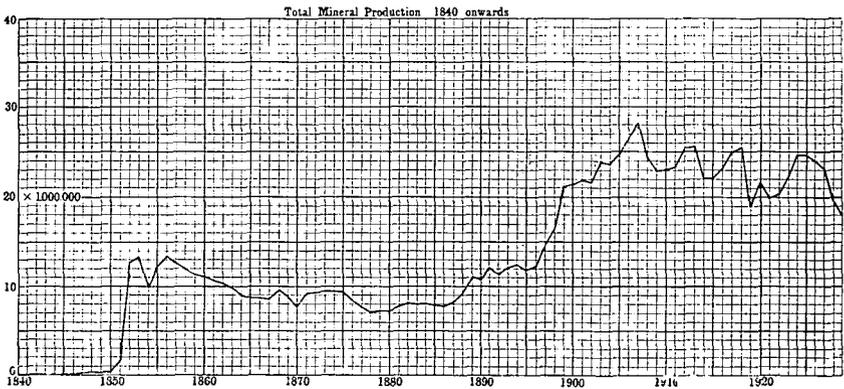
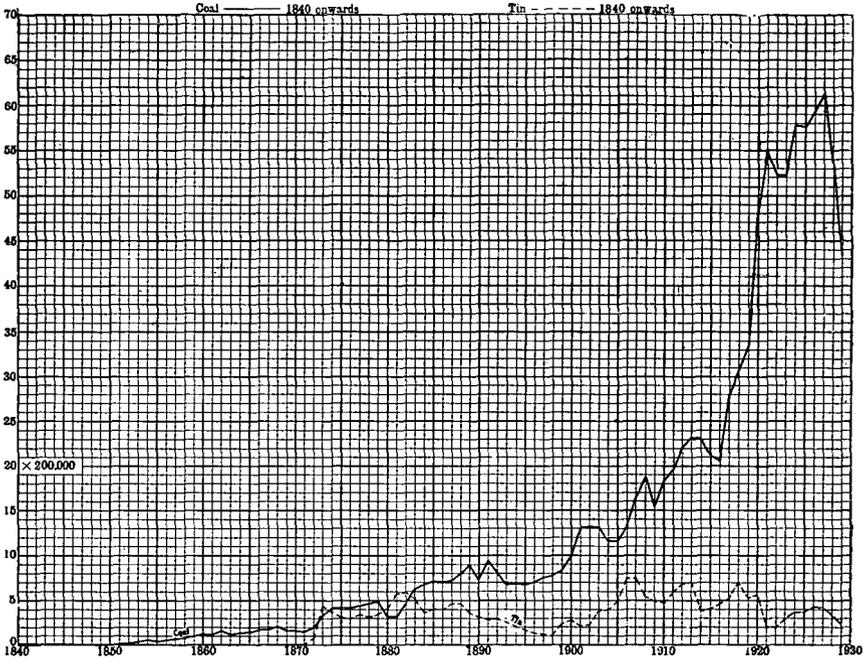
VALUES OF THE PRINCIPAL MINERALS PRODUCED—AUSTRALIA, 1840 TO 1929.



EXPLANATION.—The values shown are those of the total Australian production of certain of the most important minerals in successive years from 1840 onwards.

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; in the case of silver and lead, zinc and copper £200,000; and in the case of iron, £40,000.

VALUES OF PRINCIPAL MINERALS PRODUCED—AUSTRALIA, 1840 TO 1929—
continued.



EXPLANATION.—The values shown are those of the total Australian production of certain of the most important minerals in successive years from 1840 onwards.

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.

to some extent employed as a pigment, and in paper manufacture, the output in New South Wales being drawn chiefly from the deposits in the Port Macquarie, Milton, and Newcastle Divisions. During 1929 the iron oxide raised amounted to 4,753 tons, valued at £2,757.

(ii) *South Australia.* Operations on a large scale were carried on at the deposits worked by the Broken Hill Pty. Co. Ltd., at Iron Knob, and development is proceeding at the Company's immense deposits at Middlebank. The quantity of iron ore raised in 1929 was 848,000 tons valued at £975,000, the respective totals being the largest yet recorded.

(iii) *Other States.* Reference to the iron ore deposits in the other States will be found in preceding issues of the Official Year Book (see No. 22, page 779).

3. *Iron and Steel Bounties.*—During the year 1929-30 the bounties paid under the Iron and Steel Products Bounty Act on articles manufactured from locally produced materials were as follow:—fencing wire, £114,141; galvanized sheets, £89,561; wire-netting, £56,486; traction engines, £199.

4. *World's Production of Iron and Steel.*—The Australian production of iron and steel at present forms a very small proportion of the world's output. According to *The Mineral Industry*, the world's production of each commodity in the years specified for the principal countries was as follows:—

PIG IRON AND STEEL.—WORLD'S PRODUCTION, 1927 TO 1929.

Country.	Pig Iron.			Steel Ingots and Castings.		
	1927.	1928.	1929.	1927.	1928.	1929.
	Thousands of Tons.			Thousands of Tons.		
United States ..	36,566	38,156	42,614	44,935	51,544	56,433
Germany ..	12,870	11,618	13,401	16,090	14,517	16,246
France ..	9,170	9,928	10,439	8,090	9,387	9,666
Saar Territory ..	1,740	1,936	2,088	420	439	2,174
Belgium ..	3,650	3,825	3,970	3,640	3,870	4,039
Luxemburg ..	2,680	2,724	2,906	1,420	2,510	2,702
Austria ..	428	457	450	551	637	630
Italy ..	520	539	664	1,530	1,910	2,115
Spain ..	583	610	709	700	734	929
Czechoslovakia ..	1,240	1,400	1,643	1,661	2,100	2,145
Poland ..	608	662	699	1,223	1,437	1,398
Sweden ..	447	430	484	480	576	683
Russia ..	2,900	3,282	4,018	3,480	4,246	4,723
China ..	410	400	250	200	300	50
Japan ..	1,200	1,380	1,750	1,550	1,519	2,100
United Kingdom ..	7,294	6,611	7,580	9,170	8,520	9,655
India ..	910	1,010	1,000	550	440	600
Canada ..	766	1,083	1,090	870	1,239	1,380
Australia ..	410	420	333	420	439	348
Total—All Countries ..	84,281	86,760	95,900	98,781	109,789	118,213

The figures for Japan include Manchuria and Korea. Production of both iron and steel declined in 1929 in Australia, the fall being due principally to shortage in fuel owing to industrial disturbances on the coal-fields. The principal producers in Australia are the Broken Hill Proprietary and the Australian Iron and Steel Co., the former situated at Newcastle and the latter at Port Kembla in New South Wales.

§ 9. Other Metallic Minerals.

Detailed information in regard to the occurrence and production of other metallic minerals in each of the States will be found in Official Year Book No. 22, and preceding issues, but this information cannot be included in the present issue.

§ 10. Coal.

1. Production in each State.—An account of the discovery of coal in each State will be found in preceding issues of the Year Book. (See No. 3, pp. 515-6.) The quantity and value of the production in each State and in Australia during the five years 1925 to 1929 are given in the table hereunder:—

COAL.—PRODUCTION, 1925 TO 1929.

Year.	N.S.W.	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
QUANTITY.							
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925 ..	11,396,199	534,246	1,177,173	..	437,461	81,698	13,626,777
1926 ..	10,885,766	591,001	1,221,059	..	474,819	102,358	13,275,003
1927 ..	11,126,114	684,245	1,099,040	..	501,505	112,066	13,522,960
1928 ..	9,448,197	658,323	1,076,340	..	528,420	128,500	11,839,780
1929 ..	7,617,736	703,828	1,368,745	..	544,719	130,291	10,365,319
VALUE.							
	£	£	£	£	£	£	£
1925 ..	9,302,515	596,117	1,037,956	..	363,203	70,424	11,370,215
1926 ..	9,436,520	657,798	1,098,927	..	394,400	90,401	11,678,046
1927 ..	9,782,002	762,530	987,465	..	407,967	99,802	12,039,766
1928 ..	8,263,729	731,015	971,690	..	420,145	106,558	10,493,137
1929 ..	5,952,720	813,370	1,199,599	..	426,706	105,877	8,498,272

(a) Exclusive of brown coal, shown in next table.

The figures for Victoria quoted above are exclusive of brown coal, the quantity and value of which during the last five years were as follows:—

BROWN COAL.—PRODUCTION, VICTORIA, 1925 TO 1929.

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	Tons.	£		Tons.	£
1925 ..	876,468	166,404	1928 ..	1,591,858	202,393
1926 ..	957,935	188,899	1929 ..	1,741,176	178,052
1927 ..	1,455,482	220,003			

2. Distribution and Production of Coal in each State.—(i) *New South Wales.*—Estimates of the quantity of merchantable coal available in the deposits in each State were given in preceding issues of the Official Year Book (see No. 20, pp. 752 *et seq.*), but considerations of space preclude the repetition of the information in the present issue.

The coal from the various districts differs considerably in quality—that from the Northern 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 15 miles, is now the most important coal-mining district in Australasia.

The table hereunder gives the yields in each of the three districts during the five years 1925 to 1929:—

COAL.—PRODUCTION IN DISTRICTS, NEW SOUTH WALES, 1925 TO 1929.

District.	1925.	1926.	1927.	1928.	1929.
	Tons.	Tons.	Tons.	Tons.	Tons.
Northern ..	7,637,953	7,257,598	7,145,116	5,978,480	3,019,693
Southern ..	2,052,963	2,024,520	2,155,461	1,817,225	2,339,837
Western ..	1,705,283	1,603,648	1,825,537	1,652,492	2,258,206
Total ..	11,396,199	10,885,766	11,126,114	9,448,197	7,617,736

The reduction in output from the Northern District in 1929, and the consequent increase in the returns from the Southern and Western Coal fields, was due to the closing down of the Associated Northern Collieries early in the year owing to the alleged high cost of production. Although the mines and plant are capable of a larger production than in the record year 1924, the output for 1929 was the lowest since 1909.

(ii) *Victoria.* (a) *Black Coal.* 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.

The output of black coal in Victoria during the last five years was as follows :—

BLACK COAL.—PRODUCTION, VICTORIA, 1925 TO 1929.

Year.	State Coal Mine.			Other Coal Mines.		Total Production.	Value.
	Tons.			Tons.		Tons.	£
1925	468,146	66,100	534,246	596,117
1926	531,869	59,132	591,001	657,798
1927	610,618	73,627	684,245	762,530
1928	600,931	57,392	658,323	731,015
1929	634,805	69,023	703,828	813,370

Amongst the other coal mines the chief producers in 1929 were the Sunbeam Colliery at Korumburra, with 22,903 tons; the South Gippsland Coal Mining Co. at Kilcunda, with 17,105 tons; the Kilcunda Coal Mining Co. at Kilcunda with 9,224 tons; and the Howitt at Outtrim, with 8,347 tons.

(b) *Brown Coal.*—(1) *General.* Some account of the brown coal deposits and of the operations of the State Electricity Commission in connexion therewith will be found in preceding Official Year Books (see No. 22, page 785), but it is not proposed to repeat this information in the present issue. The brown coal produced in Victoria was raised chiefly at the State Open Cut at Yallourn, where the output in 1929 amounted to 1,698,813 tons, while 42,133 tons were raised at the old open cut at Morwell. Imperial Chemical Industries raised about 200 tons during the year at Gelliondale.

(2) *Production of Briquettes.* The briquetting plant started operations in November, 1924, and the output for the year 1929-30 was 161,708 tons. It should be noted, however, that the original Yallourn plant is what is known as a "half factory," and economic production necessitates an extension thereof. This work is now proceeding, and portion of the extended works came into operation in April, 1930. The Yallourn briquettes are considered to be equal in quality to those produced in the best German factories.

(3) *Distillation Products.* A new industry is in contemplation for the distillation of oil, motor spirit, and other valuable substances from brown coal, experiments in this direction on a small scale having yielded very satisfactory results.

(iii) *Queensland.* The distribution of production during the year 1929 was as follows :—

COAL PRODUCTION.—QUEENSLAND, 1929.

Districts.	1929.	Districts.	1929.
	Tons.		Tons.
Ipswich	667,640	Clermont	110,531
Darling Downs	97,619	Bowen	263,660
Wide Bay and Maryborough	146,247	Mount Mulligan (Chillagoe)	22,138
Rockhampton (Central)	60,910	Total	1,368,745

The output in 1929 was the highest recorded. There were 50 collieries operating in the Ipswich district, 9 in the Darling Downs, 8 in the Maryborough area, 5 in Clermont district, 1 in Rockhampton district, 1 in Chillagoe district, and 2 in the Bowen district. State coal mines are in operation at Collinsville in the Bowen field, at Mount Mulligan in the Chillagoe field, and at Baralaba and Styx in the Central area.

(iv) *South Australia.* So far no coal has been worked in South Australia (see Official Year Book No. 22, page 786).

(v) *Western Australia.* The production from the six collieries operating at Collie amounted in 1929 to 544,719 tons. The deposits at Wilga were not worked during the year.

(vi) *Tasmania.* The production in 1929 amounted to 130,000 tons, about 1,800 tons more than the total for 1928. About 63,000 tons of the total output in 1929 were contributed by the Cornwall Colliery; 38,000 tons by the Mt. Nicholas; and 18,000 tons by the Jubilee at St. Marys.

(vii) *Australia's Coal Reserves.* A summary of the information available in regard to estimated actual and possible reserves of coal for Australia as a whole was given in tabular form on p. 755 of Official Year Book No. 20, but considerations of space preclude its repetition in the present issue.

3. *Production in Various Countries.*—The total known coal production of the world in 1929 amounted to about 1,530 million tons, towards which Australia contributed about 12 million tons, or 0.8 per cent. The following tables show the production of the chief British and foreign countries during each of the last three years where the returns are available.

COAL PRODUCTION.—BRITISH EMPIRE, 1927 TO 1929.

Year.	Great Britain.	British India.	Canada.	Australia.	New Zealand.	Union of S. Africa.
BLACK COAL.						
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1927	251,232,300	22,082,300	12,145,700	13,523,000	1,290,500	12,381,700
1928	237,471,900	22,542,900	12,241,400	11,839,800	1,348,700	12,407,500
1929	257,906,800	23,418,700	12,079,000	10,365,300	1,367,200	12,812,800
BROWN COAL, LIGNITE.						
1927 .. ..	..	..	3,414,000	1,455,500	1,076,200	..
1928	640	..	3,432,100	1,591,900	1,088,000	..
1929	320	..	..	1,741,200	1,168,700	..

COAL PRODUCTION.—FOREIGN COUNTRIES, 1927 TO 1929.

Year.	Germany.	Austria.	Hungary.	Belgium.	France. (b)	Czechoslovakia.	Jugoslavia.
BLACK COAL.							
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1927	151,173,500	172,800	773,400	27,115,800	50,973,800	13,794,900	283,200
1928	142,478,900	198,900	770,900	27,142,700	50,554,500	14,330,300	351,900
1929	160,855,800	204,700	813,200	26,506,100	52,887,800	16,485,800	435,100
	Poland.	Netherlands.	Russia.	Japan.	China.	United States.	
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	
1927	37,482,600	9,175,900	29,435,800	33,001,000	23,000,000	533,802,600	
1928	39,974,900	10,525,300	34,657,100	33,325,400	20,000,000	514,368,800	
1929	45,685,700	11,398,300	38,084,000	31,450,000	(c)	541,232,000	
BROWN COAL, LIGNITE.							
Year.	Germany.	Austria.	Hungary.	Belgium.	France.	Czechoslovakia.	Jugoslavia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1927	143,126,900	3,015,700	6,144,300	..	1,065,900	19,310,800	4,338,100
1928	162,972,900	3,211,000	6,405,800	..	1,046,900	20,128,400	4,620,300
1929	172,411,200	3,469,100	6,932,700	..	1,168,700	21,155,600	5,363,500
	Poland.	Netherlands.	Russia.	Japan.	China.	United States.	
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	
1927	77,200	198,200	2,590,900	175,800	..	(a)	
1928	72,400	193,600	(a)	120,000	..	(a)	
1929	(a)	154,100	(a)	(a)	..	(a)	

(a) Included with black coal. (b) Exclusive of Saar District, which produced 13,381,100 tons in 1927; 12,899,700 tons in 1928; and 13,304,900 tons in 1929. (c) Not available.

4. Exports.—The exports of coal from Australia are chiefly confined to New South Wales.

The total quantity of coal of Australian production (exclusive of bunker coal) exported to other countries in 1929-30 was 295,000 tons, valued at £347,000, of which 153,000 tons were exported from New South Wales, 141,000 tons from Queensland, while there was a shipment of about 300 tons from Victoria.

The total overseas and interstate coal exports from New South Wales in 1929 amounted to 1,932,000 tons, valued at £2,339,000.

Of the total exports of coal from New South Wales in 1929, about 62 per cent., or 1,204,000 tons, were shipped from the port of Newcastle. Victoria took 501,000 tons, South Australia 350,000 tons, other Australian States 119,000 tons, New Zealand 61,000 tons, while 63,000 tons went to the United Kingdom, 31,000 tons to India, 10,000 tons to Japan, 10,000 tons to Nauru, and slightly under 10,000 tons to Noumea. The figures quoted include bunker coal.

During the year 1929 the exports from Port Kembla, Bulli and Bellambi to other States amounted to 243,000 tons, while 56,000 tons were sent to New Caledonia, and 49,000 tons to New Zealand. The coal shipped from Sydney went principally to New Guinea, the British Solomon Islands, and the New Hebrides. For the twelve months ended 30th June, 1929, about 35,000 tons of coal were dispatched to interstate ports from the jetty at Catherine Hill Bay, near Newcastle.

The distribution of the total output from New South Wales collieries during the last five years was as follows, the particulars given of quantity exported including coal shipped as bunker coal:—

COAL.—DISTRIBUTION OF OUTPUT, NEW SOUTH WALES, 1925 TO 1929.

Year.	Exports to Australian Ports.		Exports to Foreign Ports.		Local Consumption.		Total.	
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1925	3,001,823	1,769,215	6,625,161	11,396,199				
1926	2,740,570	1,797,257	6,347,939	10,885,766				
1927	2,651,492	1,687,716	6,786,906	11,126,114				
1928	2,209,981	1,135,572	6,102,644	9,448,197				
1929	1,237,272	694,913	5,685,551	7,617,736				

For the period of five years shown in the table above, 23 per cent. of the total output was exported to other States, 14 per cent. was sent overseas, and 63 per cent. was consumed locally. Since 1920 the home consumption has increased from 53 per cent. to 75 per cent. of the total output.

The figures quoted in the table above are given on the authority of the New South Wales Mines Department.

5. Consumption in Australia.—An estimate of the consumption of coal in Australia may be arrived at by adding the imports to the home production, and deducting the exports (including bunker coal taken by overseas vessels). The following table shows the consumption computed in the manner specified for the last five years:—

COAL.—CONSUMPTION, AUSTRALIA, 1925 TO 1929.

Year.	Quantity of Coal Consumed.		
	Home Produce.	Produce of Other Countries.	Total.
	Tons.	Tons.	Tons.
1925	12,538,179	9,137	12,545,316
1926	12,338,644	26,080	12,364,724
1927	13,378,301	23,563	13,401,864
1928	12,273,727	17,870	12,291,597
1929	11,140,576	493,461	11,634,037

The bunker coal taken away in 1929 was estimated at 624,000 tons. Figures for brown coal produced in Victoria are included in the total for home produce. The whole of the overseas imports in 1929 came from the United Kingdom.

6. Prices.—(i) *New South Wales.* The price of New South Wales coal depends on the district from which it is obtained, the northern district coal generally realizing a much higher rate than the southern or western product. The average price on the mine in each district and for the State as a whole during the last five years was as follows :—

COAL.—PRICES, NEW SOUTH WALES, 1925 TO 1929.

Year.	Northern District.	Southern District.	Western District.	Average for State.
				Per ton. s. d.
1925	17 7	15 11	11 1	16 4
1926	18 10	16 5	11 9	17 4
1927	19 2	16 8	12 6	17 7
1928	19 0	16 6	13 1	17 6
1929	16 8	16 11	12 11	15 8

(ii) *Victoria.* In Victoria the average price of coal in 1925 was 22s. 4d.; in 1926, 22s. 3d.; in 1927, 22s. 3d.; in 1928, 22s. 2d.; and in 1929, 23s. 1d. per ton. These averages are exclusive of brown coal, the production of which in 1929 was valued at 2s. 1d. per ton.

(iii) *Queensland.* Prices in the principal coal-producing districts during the last five years were as follows :—

COAL.—PRICES, QUEENSLAND, 1925 TO 1929.

District.	Value at Pit's Mouth.				
	1925.	1926.	1927.	1928.	1929.
	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.
Ipswich	16 7	17 2	17 0	16 11	16 10
Darling Downs	18 8	19 2	19 6	19 5	19 5
Wide Bay and Maryborough	24 3	24 2	23 9	23 8	23 2
Bundaberg .. ..	..	24 7	23 8	..	..
Mount Morgan .. ..	..	13 11	12 8	12 10	..
Rockhampton	16 1	17 10	22 10	23 3	22 11
Clermont	12 0	13 6	13 11	14 1	12 2
Bowen	16 0	16 2	16 3	15 2	15 4
Mackay .. ..	..	..	29 8	24 4	..
Mount Mulligan (Chillagoe)	31 3	30 4	32 0	31 11	31 9
Average for State ..	17 8	18 0	18 0	18 0	17 6

In 1901 the average value at the pit's mouth was 7s. per ton, and the average for the ten years 1901 to 1910 was about 6s. 8d.

(iv) *Western Australia.* The average price of the Collie (Western Australia) coal during the last five years was as follows :—In 1925, 16s. 7d.; in 1926, 16s. 7d.; in 1927, 16s. 3d.; in 1928, 15s. 11d.; and in 1929, 15s. 8d. per ton.

(v) *Tasmania.* The average price per ton of coal at the pit's mouth in Tasmania for the five years 1925 to 1929 was :—In 1925, 17s. 3d.; in 1926, 17s. 8d.; in 1927, 17s. 10d.; in 1928, 16s. 7d.; and in 1929, 16s. 3d. per ton.

7. Prices in the United Kingdom.—During the five years 1925 to 1929 the average selling value of coal at the pit's mouth in the United Kingdom was :—In 1925, 16s. 4d.; in 1926, 19s. 6d.; in 1927, 14s. 7d.; in 1928, 12s. 10d.; and in 1929, 13s. 5d. per ton.

8. Employment and Accidents in Coal Mining.—The number of persons employed in coal mining in each of the States during the year 1929 is shown below. The table also gives the number of persons killed and injured, with the proportion per 1,000 employed, while further columns are added showing 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. A further table gives the rate of fatalities during the last five years.

COAL MINING.—EMPLOYMENT AND ACCIDENTS, 1929.

State.	Persons Employed in Coal Mining.	No. of Persons.		Proportion per 1,000 Employed.		Tons of Coal raised for each Person.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales ..	14,577	12	89	0.82	6.10	634,800	85,600
Victoria ..	2,251	2	8	0.89	3.55	1,222,500	305,600
Queensland ..	2,773	3	150	1.08	54.09	456,200	9,100
Western Australia ..	858	4	111	4.66	12.93	136,200	4,900
Tasmania ..	311	..	1	..	3.22	..	130,300
Total ..	20,770	21	359	1.01	17.28	576,500	33,700

Owing to lack of uniformity in the definition of "injury," the figures relating to persons injured possess little comparative value.

The next table shows the average number of miners employed, number of fatalities, and rate per 1,000 during the quinquennium 1925-29 :—

COAL MINING.—FATALITIES, 1925 TO 1929.

State.	Average No. of Coal Miners.	Average No. of Fatal Accidents.	Rate per 1,000 Employed.
New South Wales ..	21,874	20.4	0.93
Victoria ..	2,500	2.8	1.12
Queensland ..	2,827	3.6	1.27
Western Australia ..	753	1.2	1.59
Tasmania ..	325	..	..
Total ..	28,279	28.0	0.99

According to the report of the Chief Inspector of Mines the average death-rate per 1,000 miners from accidents in coal mines in Great Britain during the quinquennium 1925-29 was 1.07, the rates varying between 1.11 in 1929, and 1.02 in 1925, while, as shown in the table preceding, the rate for Australia for the same period was 0.99. In the United States during the five years 1924-28 the death rate per 1,000 employees averaged 4.9 for bituminous coal miners, and 3.7 for anthracite miners. Rates for other coal-producing countries for the same period were—Canada, 2.5; South Africa, 3.4; Germany, 2.2; Spain, 1.7; Belgium, 1.1; France, 1.0. In comparing these rates, allowance must be made for the circumstance that the methods of calculation are not identical in all countries.

§ 11. Coke.

Notwithstanding the large deposits of excellent coal in Australia, there was, prior to the war, a fairly considerable amount of coke imported from abroad. During recent years, however, a high standard of excellence has been attained in the local product, and the necessity for import has to a large extent disappeared. For the year 1929-30 the coke imported amounted to 39,200 tons, of which 37,000 tons were obtained from the United Kingdom and 2,000 tons from Germany, the bulk of the product being taken by South Australia for use in the ore-treating works at Port Pirie. The table hereunder gives the production in New South Wales during the last five years :—

COKE.—PRODUCTION, NEW SOUTH WALES, 1925 TO 1929.

	1925.	1926.	1927.	1928.	1929.
Quantity .. tons	609,418	597,663	709,342	520,201	464,360
Value, total .. £	942,448	940,416	1,131,335	852,739	757,580
Value, per ton ..	30s. 11d.	31s. 6d.	31s. 10d.	32s. 9d.	32s. 8d.

The figures quoted refer to metallurgical coke, the product of coke ovens, and are exclusive of coke produced in the ordinary way at gas works. As regards both tonnage and value the production in 1927 was the highest recorded.

A small quantity of coke is made in Queensland, the quantity returned in 1929 being 4,079 tons, valued at £7,356. A certain amount is at times obtained from outside sources, but there was no import in 1929. The following table shows the amount manufactured locally during the last five years :—

COKE.—PRODUCTION, QUEENSLAND, 1925 TO 1929.

Year.	1925.	1926.	1927.	1928.	1929.
Quantity .. tons	5,384	6,191	4,196	4,058	4,079

In order to avoid duplication with coal values the returns for coke have not been included in the general tables of mineral production in the early part of this chapter.

§ 12. Oil Shale and Mineral Oil.

Reference to the deposits of oil shale as well as to the efforts put forward in connexion with the search for mineral oil in Australia will be found in Official Year Book No. 22, pages 791 to 793. Tasmania was the sole producer of oil shale in 1929, the quantity raised being about 4,300 tons. So far mineral oil has not been produced in commercial quantities, but hopes are entertained of ultimate success. The Commonwealth Government encourages the search for oil by placing at the disposal of Companies and individuals the advice and experience of its technical staff appointed for this purpose.

Attention is at present being devoted to the problem of economically obtaining fuel oil and other products from black and brown coals, to a review of the wasteful practice of burning lump coal to generate power, and to the effective utilization of the known extensive deposits of oil shale, particularly in New South Wales and Tasmania.

§ 13. Other Non-metallic Minerals.

A more or less detailed statement regarding the occurrence and production of other non-metallic minerals is given in preceding Official Year Books (see No. 22, pages 793 to 796), but this information cannot be repeated in the present volume. The tables of quantity and value in § 1 of this Chapter will, however, show the production for each State during the year 1929.

§ 14. Gems and Gemstones.

1. **Diamonds.**—It is difficult to secure accurate returns in connexion with the production of precious stones, but the yield of diamonds in 1929 in New South Wales was estimated at 119 carats, valued at £148, while the total production to the end of 1929 is given at 202,578 carats, valued at £144,964. The yield in 1929 was obtained wholly at Copeton in the Tingha division. There was no production from the other States in 1929.

2. **Sapphires.**—The production of sapphires in New South Wales during 1929 was returned as 65 oz., valued at £450, obtained wholly at Sapphire in the Inverell division. Production during recent years was restricted owing to the unfavourable market.

In Queensland production in 1929 was restricted by the low price of "seconds" and machine stones although there was a fair market for good quality blue sapphires. The yield was valued at £4,810.

3. **Precious Opal.**—The estimated value of the opal won in New South Wales during the year 1929 was £6,071, obtained chiefly on the Lightning Ridge and Grawin fields, while a small production was returned from White Cliffs. Some very fine stones are at times obtained, one weighing 5 oz. and valued at £300 being recovered in 1911. Three finds of large stone were made in 1928, the gems weighing 790, 590, and 232 carats respectively, and showing fine fire and lustre. No finds of importance were made in 1929. Occasionally, black opals of very fine quality are found,

one specimen from the Wallangulla field, weighing 6½ carats, being sold in 1910 for £102, while in the early part of 1920 a specimen realized £600. It is stated that this locality is the only place in the world where the "black" variety of the gem has been found. The total value of opal won in New South Wales since the year 1890 is estimated at £1,592,000, but it is a well known fact that fine pieces of the gem have been found and sold privately without notification to the Mines Department.

Small quantities of precious opal are found in the Beechworth district in Victoria.

The opaliferous district in Queensland stretches over a considerable area of the western interior of the State, from Kynuna and Opalton as far down as Cunnamulla. The yield in 1929 was estimated at £600, and up to the end of that year at about £185,000. These figures are, however, merely approximations, as large quantities of opal, of which no record is obtained, are disposed of privately. Operations in 1929 were greatly hampered by scarcity of water.

At the Coober Pedy opal field situated in the Stuart Range in South Australia, the estimated value of the production in 1929 was £11,056. The field is extremely prolific, a large quantity of precious white opal having been raised therefrom, while only a small portion of the known opal-bearing area has been thoroughly tested.

According to a report a few years ago by the Australian Trade Commissioner in the East there is a good sale for the gems in China. It is stated that there is no difficulty in cutting and polishing as the Chinese method of dealing with jade, dating back many centuries, can also be applied to opal.

4. Other Gems.—Various other gems and precious stones have from time to time been discovered in the different States, the list including agates, amethysts, beryls, chialstolite, emeralds, garnets, olivines, moonstones, rubies, topazes, tourmalines, turquoises, and zircons. In Western Australia 17,564 carats (rough) of emeralds, valued at £910, were produced during 1928 in the Cue district on the Murchison gold-field. The production from the same area in 1929 was returned at £278.

§ 15. Numbers Engaged, Wages Paid, and Accidents in Mining.

1. Total Employment in Mining.—The number of persons engaged in the mining industry in Australia fluctuates according to the season, the price of industrial metals, the state of the labour markets, and according to the permanence of new finds, and the development of the established mines. During the year 1929 the number so employed was as follows :—

NUMBER OF PERSONS ENGAGED IN MINING, 1929.

State.	Number of Persons engaged in Mining for—						Total.
	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Coal.	Other.	
New South Wales ..	684	5,001	32	1,008	14,577	1,591	22,893
Victoria	864	..	1	49	2,251	66	3,231
Queensland	326	447	366	750	2,773	407	5,069
South Australia ..	58	7	74	..	..	480	619
Western Australia ..	4,108	31	9	49	858	104	5,159
Tasmania	63	785	1,307	810	311	327	3,603
Northern Territory ..	5	2	..	66	..	80	153
Australia	6,108	6,273	1,789	2,732	20,770	3,055	40,727

Included in the figures for "other" in South Australia were 155 engaged in mining for iron, 51 gypsum miners, 94 salt gatherers, and 130 opal miners. The Tasmanian figures include 279 osmiridium miners, and those for the Northern Territory 75 mica miners.

The following table shows the number of persons engaged in mining in Australia during each of the years 1891, 1901, and 1929, together with the proportion of the total population so engaged :—

NUMBER ENGAGED IN MINING PER 100,000 OF POPULATION, 1891, 1901, AND 1929.

State.	1891.		1901.		1929.	
	Miners employed.	No. per 100,000 of Population.	Miners employed.	No. per 100,000 of Population.	Miners employed.	No. per 100,000 of Population.
New South Wales	30,604	2,700	36,615	2,685	22,893	926
Victoria	24,649	2,151	28,670	2,381	3,231	183
Queensland	11,627	2,934	13,352	2,664	5,069	548
South Australia	2,683	834	7,007	1,931	619	107
Western Australia	1,269	2,496	20,895	11,087	5,159	1,254
Tasmania	3,988	2,695	6,923	4,017	3,603	1,685
Northern Territory .. ..	..	..	..	..	153	3,662
Australia	74,820	2,341	113,462	2,992	40,727	639

The general falling-off since 1901 is largely due to the causes mentioned in §1.6 *ante*.

2. **Wages Paid in Mining.**—Information regarding rates of wages paid in the mining industry, which in earlier issues of the Year Book was given in this chapter, is now contained in the Labour Report issued by this Bureau.

3. **Accidents in Mining, 1929.**—The following table gives particulars of the number of men killed and injured in mining accidents during the year 1929 :—

MINING ACCIDENTS, 1929.

Mining for—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Australia.
KILLED.								
Coal ..	12	2	3	..	4	..	..	21
Copper ..	..	..	..	..	..	1	..	1
Gold ..	..	2	..	..	7	..	..	9
Silver, lead, and zinc ..	4	..	1	..	..	..	..	5
Tin ..	2	..	..	..	..	14	1	17
Other minerals ..	..	..	..	1	..	..	..	1
Total ..	18	4	4	1	11	15	1	54
INJURED.								
Coal ..	89	8	150	..	111	1	..	359
Copper ..	..	..	4	..	..	15	..	19
Gold ..	..	..	3	..	214	..	..	217
Silver, lead, and zinc ..	41	..	12	..	1	21	..	75
Tin ..	..	..	15	..	..	8	..	23
Other minerals ..	..	..	..	9	..	1	..	10
Total ..	130	8	184	9	326	46	..	703

The number killed in mining accidents in 1929 was considerably less than that for 1921 when 132 deaths were recorded, the figures for the earlier year being swollen by the 75 fatalities in the colliery disaster at Mount Mulligan in Queensland.

§ 16. Government Aid to Mining.

1. **Commonwealth.**—Assistance to mining is given by the Commonwealth under the provisions of the *Precious Metals Prospecting Act* 1926, and the *Petroleum Prospecting Acts* of 1926, 1927, and of 1928.

The first-mentioned Act provides for a sum of £40,000, of which £15,000 is to be expended in the Northern Territory, and the balance is to be allocated to the States in such proportions as the Minister determines. At the 30th June, 1930, the expenditure amounted to £13,031. The States of South Australia and Western Australia had made no claim on the fund at the date specified.

Under the *Petroleum Prospecting Act* 1926–1927 a trust account of £160,000 was established to assist in the search for oil. The Minister was authorized to make advances out of the money standing to the credit of this account to persons or companies engaged in the search for oil, and to assist persons, companies, or State Governments to make geological surveys. The *Petroleum Prospecting Act* of 1928 provides a further sum of £50,000. The Government has decided to discontinue the granting of subsidies for deep drilling and to confine its attention to assistance in the carrying out of geological surveys and scout boring. Owing to financial stringency, however, the payment of all subsidies for oil prospecting has been temporarily suspended. A palæontologist has been appointed to give expert advice.

The *Gold Bounty Act* 1930 provides that for a period of ten years from 1st January, 1931, a bounty of £1 per ounce is payable under prescribed conditions by the Commonwealth on each ounce of fine gold produced in excess of the average production for the three years 1928–30. Under the *Financial Emergency Act* 1930 the bounty was reduced to 10s. per ounce, subject to increases of 1s. according to each decrease of 3s. per cent. in the average rate of exchange. The rate of exchange on which the reduction to 10s. per ounce was based was taken as 30 per cent.

To provide for geophysical prospecting in Australia, a sum of £32,000 was made available by the Commonwealth Government in conjunction with the Empire Marketing Board. The survey has now been completed and a comprehensive report in connexion therewith has been issued.

2. **New South Wales.**—The chief aid given in this State is in the direction of assistance to prospectors. Up to the end of 1929 the total sum expended in this manner amounted to £610,469, of which £8,395 was advanced in 1929. A sum of £500 was made available during the year for the purpose of assisting in the erection of crushing batteries or reduction plants, but no advances were made therefrom. The reward for the discovery of new mineral fields within the State has been increased from £500 to £1,000, with provision for sums of £250 and £500 in respect of fields not large enough to qualify for the full amount, and the conditions have been made more liberal.

3. **Victoria.**—During the year 1929 expenditure in connexion with mining development amounted to £27,380, of which £3,733 represented advances to miners, £1,112 aid to mining companies, while £17,265 was expended on boring, £2,621 on batteries, and £2,649 on geological surveys.

4. **Queensland.**—State assistance to the mining industry in 1929-30 amounted to £15,220, of which £8,312 was advanced to prospectors, and £6,287 was expended in connexion with State Coal Mines.

State coal mines are in operation at Bowen, Styx, Baralaba, and Mount Mulligan. There is also a State Assay Office at Cloncurry at which assays and sampling are carried out for the public, and State batteries are maintained at Kidston, Charters Towers, Irvinebank, and Bamford.

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 1929 the total amount of subsidy paid was £68,517, of which £13,653 has been repaid, and £4,549 written off, leaving a debit of over £50,000. Portion of this amount is represented by machinery that has fallen into the hands of the Government. Repayments must be provided from profits, but in only two instances have the profits enabled a full return to be made. The State maintains batteries and cyanide works at Mount Torrens, Peterborough, Tarcoola, and Glenloth, and assays for public purposes are made at the School of Mines.

6. **Western Australia.**—Under the Mining Development Act of 1902 assistance was granted in 1929 in accordance with the subjoined statement:—Advances in aid of mining work and equipment of mines with machinery, £3,586; boring, £13,015; aid to prospectors, £8,418; subsidies on stone crushed for the public, £173; total, £25,192. In addition to the foregoing the vote was also charged with rebates on water supplied to the amount of £47,337. The industry has been further assisted by Government guarantees to banks on behalf of various companies, and at the end of 1929 the liability in this respect amounted to £51,500.

In 1929 there were 21 State batteries in operation. The amount expended thereon up to the end of 1929 was £91,981 from revenue and £322,918 from loan, giving a total of £414,899. The working expenditure up to the end of 1929 exceeded the revenue by £178,268. The total value of gold and tin recovered to the end of 1929 at the State plants was £6,280,860, resulting from the treatment of 1,494,603 tons of gold ore and 81,567 tons of tin ore, together with a small amount from residues. Free assays and determinations of mineral values for prospectors are made at the Kalgoorlie School of Mines.

7. **Tasmania.**—Aid to Mining in 1929 amounted to £7,619, of which £2,378 was expended under Part II. of the *Aid to Mining Act 1921*, on drilling and boring, about £2,800 was granted under Part IV. in assistance to the Federation Tin Mines, and £1,600 represented assistance and sustenance to prospectors. The amount received from ore sales was £110, the bulk of which was paid to tributers. Receipts amounted to £458, included in which was a sum of £377 received from the Commonwealth Treasury in aid of prospecting.

Tributers' assays are made at a nominal charge, and all tribute surveys are carried out free of charge by the Assay and Survey Office at Zeehan.

8. **Northern Territory.**—During the year 1928-29 a sum of £399 was expended on State aid to mining, £26 being granted to prospectors for gold, £309 to prospectors for tin, and £64 to prospectors for tantalite.

The Government maintains a battery at Marranboy, and the Government Assayer makes free assays for prospectors, and arranges for the sampling, storage, and sale of ores.

§ 17. Metallic Contents of Ores, etc., Produced and Exported.

1. Local Production.—According to returns compiled from various sources by the Australian Mines and Metals Association, the quantities of the principal metals (exclusive of gold) extracted in Australia during the five years 1925 to 1929 were as follows :—

REFINED METALS PRODUCED IN AUSTRALIA, 1925 TO 1929.

Metal.			1925.	1926.	1927.	1928.	1929.
Silver	..	ozs.	8,573,506	8,946,218	9,390,070	8,053,251	9,229,514
Lead, pig	..	tons	146,129	150,460	164,480	155,076	176,820
Zinc	..	tons	45,698	47,356	49,155	50,223	51,872
Copper	..	tons	10,984	11,148	9,564	11,858	10,874
Tin	..	tons	3,171	3,188	2,989	3,133	2,260

The local production of pig iron during the quinquennium 1923-27 ranged between 330,000 tons in 1923, and 517,000 tons in 1927. Complete information for later years is not available from the returns published by the Association, but according to the metal extraction returns published in the Statistical Register of New South Wales, the production of pig iron in that State amounted in 1927-28 to 428,000 tons, and in 1928-29 to 461,000 tons.

2. Metallic Contents of Ores, Concentrates, etc., Exported.—The estimated metallic contents of ores, concentrates, etc., exported during the five years 1925 to 1929 are given in the following table :—

METALLIC CONTENTS OF ORES, CONCENTRATES, ETC., EXPORTED, 1925 TO 1929.

Metal.		Contained in—	1925.	1926.	1927.	1928.	1929.
Silver	ozs.	Lead—Silver—Gold Bullion	189,223	..	..	..	44,677
		Lead Concentrates and Ores	850,552	190,647	615,484	117,846	31,121
		Zinc Concentrates and Ores	1,270,166	1,206,313	1,040,891	1,453,396	604,014
		Copper and Gold Ores	..	..	..	..	..
		Total	2,309,941	1,396,960	2,256,375	1,571,242	679,812
Lead	tons	Lead—Silver—Gold Bullion	2,751	2,483	488	..	689
		Lead Concentrates and Ores	19,651	7,174	12,115	2,221	878
		Zinc Concentrates and Ores	12,423	13,943	14,198	12,726	5,704
		Total	34,825	23,600	26,801	14,947	7,271
Zinc	tons	Lead Concentrates and Ores	366	529	579	77	21
		Zinc Concentrates and Ores	79,996	94,043	111,755	117,858	69,958
		Total	80,362	94,572	112,334	117,935	69,979
Copper	tons	Ores, Matte, etc.	864	1,112	1,597	1,989	2,737
Tin	tons	Concentrates and Ores	..	1	12	..	4

§ 18. Oversea Exports of Ores, Metals, etc.

The following table shows the quantity and value of the principal overseas exports of ores, concentrates, and metals, the produce of Australia, together with the countries to which the respective products were forwarded, for the year 1929-30 :—

OVERSEA EXPORTS OF AUSTRALIAN ORES, METALS, ETC., 1929-30.

Article.	Total Exports.	Exports to—						
		United Kingdom.	United States.	Belgium.	Germany.	Japan.	New Zealand.	Other Countries,
QUANTITY.								
Ores—	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
Copper	44,124	26,966	4,161	..	12,997	..	..	..
Silver and Silver-lead	86,159	..	80	83,442	2,637	..	..	..
Iron	11,604,841	153,360	3,854,260	..	..	3,325,500	..	(a) 4,271,721
Wolfram	5,406	3,310	1,704	..	392	..	..	..
Concentrates—								
Silver and Silver-lead	87,440	..	266	84,853	2,321	..	..	..
Zinc	3,990,717	2,736,439	..	1,010,249	25,476	..	..	(b) 218,553
Cadmium—Blocks, Ingots, etc.	3,444	2,174	..	..	..	50	..	(c) 1,220
Copper—								
Matte	79,332	273	..	79,059	..	..	..	..
Ingot	140,170	120,435	13,290	3,000	2,520	..	125	(d) 800
Tin—Ingot	17,128	7,157	5,920	..	270	..	3,766	15
Lead—								
Matte	11,959	11,959	..	..	..	..	..	..
Pig	3,210,442	2,006,383	..	650,014	421,001	72,991	26,476	(e) 33,577
Zinc—Bars, Blocks, etc.	658,844	264,418	..	95,005	30,006	258,255	..	(f) 11,160
(g) Platinum, Osmium, etc.	oz. 641	oz. 415	oz. ..	oz. ..	oz. 226	oz. ..	oz. ..	oz. ..
Gold—								
Bar, Dust, etc.	407	407	..	..	..	..	..	..
Silver—								
Bar, Ingot, etc.	8,919,895	4,100	..	..	..	..	924	(h) 8,914,871

VALUE—£.

Ores—								
Copper	39,988	26,031	7,911	..	6,046	..	..	..
Silver and Silver-lead	67,086	..	180	65,321	1,585	..	..	..
Iron	374,704	4,830	128,788	..	..	92,831	..	148,255
Wolfram	27,628	15,792	10,039	..	1,797	..	..	..
Concentrates—								
Silver and Silver-lead	70,001	..	320	68,001	1,680	..	..	..
Zinc	931,560	622,223	..	241,115	4,679	..	..	63,543
Cadmium—Blocks, Ingots, etc.	55,075	30,042	..	..	..	1,050	..	14,983
Copper—								
Matte	91,394	415	..	90,979	..	..	..	..
Ingot	533,765	470,615	37,500	12,790	10,050	..	410	2,400
Tin—Ingot	167,863	69,078	59,201	..	2,351	..	37,062	171
Lead—								
Matte	5,561	5,561	..	..	..	..	..	..
Pig	3,426,378	2,147,416	..	711,556	419,870	79,495	32,621	35,420
Zinc—Bars, Blocks, etc.	810,452	326,281	..	109,000	40,007	323,821	..	11,343
Platinum, Osmium, etc.	13,141	8,133	..	..	5,008	..	..	..
Gold—								
Bar, Dust, etc.	1,170	1,710	..	..	..	..	..	..
Silver—								
Bar, Ingot, etc.	847,635	402	..	..	..	..	118	847,115

(a) Netherlands. (b) France. (c) France, 320 cwt.; Sweden, 900 cwt. (d) India, (e) Hong Kong, 11,352 cwt.; South Africa, 21,349 cwt.; Philippines, 804 cwt. (f) India, 10,999 cwt. (g) Mainly osmiridium and platinum produced in Tasmania and New South Wales. (h) India, 8,913,671 oz.

**CHAPTER XXII.
MANUFACTURING INDUSTRY.**

[NOTE.]—For the year 1922-23 the Queensland, Western Australian and Tasmanian year ended 31st December, 1922, and that of the three remaining States ended 30th June, six months later. In 1923-24 Tasmania adopted the year ended 30th June, and Queensland fell into line during 1924-25. Western Australia made the change over in 1925-26, but included particulars for the eighteen months ended 30th June, 1926.

In all tables relating to employees—except where specially mentioned—"Number of Employees" includes working proprietors.

§ 1. Number and Classification of Factories.

1. General.—The number of factories in each State does not necessarily furnish an accurate indication of the extent or progress of manufacturing throughout Australia, since the larger establishments in many cases tend to absorb smaller enterprises, while on the other hand new factories are constantly springing up, and small plants are as numerous as large ones.

2. Number of Factories in each State, 1925-26 to 1929-30.—The following table gives the number of factories in each State for the years 1925-26 to 1929-30 :—

FACTORIES.—NUMBER IN EACH STATE, 1925-26 TO 1929-30.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1925-26 ..	8,196	7,461	1,897	1,791	1,170	727	21,242
1926-27 ..	8,222	7,690	1,877	1,807	1,216	767	21,579
1927-28 ..	8,362	8,245	2,118	1,860	1,398	792	22,775
1928-29 ..	8,465	8,197	2,156	1,844	1,469	785	22,916
1929-30 ..	8,208	8,195	2,172	1,814	1,466	845	22,700

(a) See general note above.

3. Classification of Factories, Australia, 1925-26 to 1929-30.—The following table shows the number of factories in Australia for each year from 1925-26 to 1929-30 classified in the groups agreed upon by the Conferences of Statisticians in 1902 and 1906. Details in regard to some of the principal industries in these groups will be found in § 9 hereinafter.

FACTORIES.—CLASSIFICATION, AUSTRALIA, 1925-26 TO 1929-30.

Class of Industry.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	(a)				
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	No. 751	No. 710	No. 658	No. 627	No. 615
II. Treating oils and fats, animal, vegetable, etc.	98	98	95	97	90
III. Processes in stone, clay, glass, etc.	900	910	896	877	879
IV. Working in wood	2,552	2,500	2,429	2,428	2,373
V. Metal Works, machinery, etc.	2,656	2,650	2,677	2,680	2,636
VI. Connected with food and drink, etc.	2,840	2,809	3,928	3,904	3,938
VII. Clothing and textile fabrics, etc.	4,635	4,757	4,813	4,871	4,741
VIII. Books, paper, printing, and engraving	1,511	1,533	1,556	1,562	1,592
IX. Musical instruments, etc.	48	55	55	56	54
X. Arms and explosives	12	12	12	13	12
XI. Motor and other road vehicles and accessories	2,499	2,626	2,707	2,794	2,652
XII. Ship and boat building and repairing	89	88	90	90	91
XIII. Furniture, bedding, and upholstery	1,223	1,273	1,303	1,267	1,191
XIV. Drugs, chemicals, and by-products	333	333	330	320	333
XV. Surgical and other scientific instruments	93	99	106	106	108
XVI. Jewellery, timepieces, and plated ware	270	269	264	273	264
XVII. Heat, light, and power	436	451	469	462	472
XVIII. Leatherware, n.e.i.	122	(b) 279	(b) 322	(b) 342	(b) 369
XIX. Other Industries, n.e.i.	174	67	70	87	90
Total	21,242	21,579	22,775	22,916	22,700

(a) See general note above. (b) Includes Rubber Goods formerly in Class XIX., Other Industries, n.e.i.

For the purpose of the returns in the above table the definition of a factory adopted at the Conference of Statisticians in 1902 is used, viz., "Any factory, workshop or mill where four or more persons are employed or power is used."

The addition of 1,196 factories during the year 1927-28 is due mainly to the inclusion of 951 bakeries, particulars regarding which industry were incorporated for the first time in the year named. The older tendency to increasing numbers has been checked by the depression and the weeding out of unprofitable enterprises. In spite of the stimulus of high protection and embargo, the number of factories in 1929-30 was less than in 1927-28.

4. Classification of Factories, States, 1929-30.—The following table shows the number of factories in each State during 1929-30 classified according to the nature of the industry:—

FACTORIES.—CLASSIFICATION, STATES, 1929-30.

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	No. 157	No. 234	No. 34	No. 78	No. 38	No. 74	No. 615
II. Treating oils and fats animal, vegetable, etc.	37	26	10	11	5	1	90
III. Processes in stone, clay, glass, etc.	393	262	50	87	65	22	879
IV. Working in wood	853	633	330	147	148	253	2,373
V. Metal works, machinery, etc.	962	1,022	109	233	178	42	2,636
VI. Connected with food and drink, etc.	1,200	1,200	682	408	295	153	3,938
VII. Clothing and textile fabrics, etc.	1,723	2,132	276	303	226	81	4,741
VIII. Books, paper, printing, and engraving	613	596	149	115	98	21	1,592
IX. Musical instruments, etc.	25	20	1	5	3	..	54
X. Arms and explosives	3	8	..	1	..	..	12
XI. Motor and other road vehicles and accessories	1,131	1,021	197	206	194	103	2,852
XII. Ship and boat building and repairing	51	14	6	7	7	6	91
XIII. Furniture, bedding and upholstery	424	425	114	92	90	46	1,191
XIV. Drugs, chemicals, and by-products	168	102	9	22	18	14	333
XV. Surgical and other scientific instruments	30	46	14	6	12	..	108
XVI. Jewellery, timepieces and plated ware	82	118	21	21	13	9	264
XVII. Heat, light, and power	186	138	48	39	52	9	472
XVIII. Rubber goods and leatherware, n.e.l.	130	162	16	31	20	10	369
XIX. Other Industries n.e.l.	40	36	7	2	4	1	90
Total	8,208	8,195	2,172	1,814	1,466	845	22,700

§ 2. Classification of Factories according to Number of Employees.

1. States, 1929-30.—The following table shows, for each State, the number of factories classified according to the number of hands employed, during 1929-30:—

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES, 1929-30.

No. of Persons Employed in each Factory.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
NUMBER OF FACTORIES.							
Under 4 ..	2,603	2,770	468	434	527	210	7,012
4 ..	753	919	209	194	148	112	2,335
5 to 10 ..	2,235	2,049	677	622	404	316	6,303
11 to 20 ..	1,104	1,013	377	265	165	114	3,038
21 to 50 ..	953	880	258	195	148	57	2,491
51 to 100 ..	297	309	93	72	54	22	847
Over 100 ..	263	255	90	32	20	14	674
Total ..	8,208	8,195	2,172	1,814	1,466	845	22,700

All States show an increase compared with 1928-29 in the number of small factories, but, except Tasmania, a decrease in the larger factories. The falling-off was most marked in New South Wales.

CLASSIFICATION OF FACTORIES ACCORDING TO NUMBER OF EMPLOYEES. 601

The relative importance of large and small factories is better shown by a classification of hands employed according to the size of factory in which they work.

FACTORIES.—CLASSIFICATION OF EMPLOYEES, ACCORDING TO SIZE OF FACTORY, 1929-30—*continued.*

No. of Persons Employed in each Factory.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
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AVERAGE NUMBER OF HANDS EMPLOYED.

Under 4 ..	5,210	4,940	1,026	956	1,043	476	13,651
4 ..	3,012	3,676	836	776	592	448	9,340
5 to 10 ..	15,495	14,124	4,712	4,288	2,736	2,164	43,519
11 to 20 ..	16,023	14,755	5,465	3,852	2,471	1,628	44,194
21 to 50 ..	30,214	27,232	7,845	6,236	4,735	1,715	77,977
51 to 100 ..	20,388	21,310	6,412	5,077	3,824	1,469	58,480
Over 100 ..	77,348	64,972	19,823	11,974	4,946	4,323	183,386
Total ..	167,690	151,009	46,119	33,159	20,347	12,223	430,547

2. Australia, 1925-26 to 1929-30.—The proportion of total employees which is employed in factories with more than 100 hands-increased up to 1925-26, but has since remained steady at a little over 43 per cent. with a decline in 1929-30.

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES, AUSTRALIA, 1925-26 TO 1929-30.

Year (a)	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.
1925-26—								
Number ..	17,053	111,653	3,455	143,724	724	195,543	21,242	450,920
Average per establishment ..	6.55	41.48	41.48	41.48	270.09	21.23	21.23	21.23
Percentage on total ..	80.28	24.76	16.31	31.87	3.41	43.37	100.00	100.00
1926-27—								
Number ..	17,259	111,545	3,587	151,939	733	204,303	21,579	467,247
Average per establishment ..	6.46	42.19	42.19	42.19	278.80	21.65	21.65	21.65
Percentage on total ..	79.98	23.87	16.62	32.39	3.40	43.74	100.00	100.00
1927-28—								
Number ..	18,502	116,930	3,566	148,001	707	198,365	22,775	464,196
Average per establishment ..	6.32	41.76	41.76	41.76	280.57	20.38	20.38	20.38
Percentage on total ..	81.24	25.19	15.66	32.08	3.10	42.73	100.00	100.00
1928-29—								
Number ..	18,714	115,457	3,477	144,127	725	201,607	22,910	461,191
Average per establishment ..	6.17	41.45	41.45	41.45	278.08	20.13	20.13	20.13
Percentage on total ..	81.66	25.03	15.17	31.25	3.17	43.71	100.00	100.00
1929-30—								
Number ..	18,688	110,704	3,338	136,457	674	183,386	22,700	430,547
Average per establishment ..	5.92	40.88	40.88	40.88	272.09	18.97	18.97	18.97
Percentage on total ..	82.33	25.71	14.70	31.69	2.97	42.00	100.00	100.00

(a) See general note on first page of this Chapter.

§ 3. Power used in Factories.

1. States, 1929-30.—The following table shows the number of factories using steam, gas, oil, electricity, or water, and the horse-power used during 1929-30 :—

FACTORIES.—HORSE-POWER USED, 1929-30.

State.	Number of Establishments.			Horse-power Used.					
	Using Power.	Others.	Total.	Steam.	Gas.	Oil.	Elec- tricity.	Water.	Total.
	No.	No.	No.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
N.S.W. ..	7,588	620	8,208	490,116	11,919	19,527	249,606	11,351	782,519
Victoria ..	7,405	790	8,195	259,618	9,671	13,993	155,911	26,546	465,739
Queensland ..	1,805	367	2,172	172,566	11,881	11,584	34,743	10	230,784
S. Australia ..	1,611	203	1,814	116,163	6,162	8,756	45,435	3	176,519
W. Australia ..	1,273	193	1,466	56,610	3,993	5,261	25,204	25	91,093
Tasmania ..	774	71	845	6,668	69	1,508	57,390	76,893	142,528
Australia ..	20,456	2,244	22,700	1,101,741	43,695	60,629	568,289	114,828	1,889,182

Factories in Australia include electric light and power works, and there is consequently a large amount of duplication in the above table. Practically all the horse-power and most of the steam-power is used in generating electric-power and light, and the power so produced is counted again under the heading of electricity. The actual amount of duplication cannot be given for all States, but a fair measure of the amount of power used in factories (in the common sense) is given by deducting the total of Class XVII., Heat, Light and Power, from the gross total for all factories. This is done in the last column of the table below. It must not be inferred that the whole of this deduction is a duplication. Some of it represents the production of light for general purposes and an appreciable amount of the power is not used in factories, but on farms or in private houses.

2. Australia, 1925-26 to 1929-30.—The following table shows the horse-power used in connexion with factories in Australia during each of the last five years :—

FACTORIES.—HORSE-POWER USED, AUSTRALIA, 1925-26 TO 1929-30.

Year. (a)	Number of Establishments.		Horse-power Used.						Total (b)	
	Using Power.	Others.	Steam.	Gas.	Oil.	Elec- tricity.	Water.	Gross.	Less Heat Light and Power Works.	
	No.	No.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	
1925-26 ..	18,358	2,884	753,010	60,645	24,116	425,417	72,014	1,335,202	668,526	
1926-27 ..	18,916	2,663	853,265	55,722	32,459	461,789	71,881	1,475,116	695,230	
1927-28 ..	19,926	2,849	879,082	52,351	43,133	507,163	74,580	1,556,309	730,454	
1928-29 ..	20,304	2,612	932,483	49,781	50,197	537,670	109,183	1,679,314	753,991	
1929-30 ..	20,456	2,244	1,101,741	43,695	60,629	568,289	114,828	1,889,182	769,576	

(a) See general note on first page of this Chapter. (b) See preceding paragraph.

The last column of the above table, which may be called roughly the net power used in factories, shows an average increase of about 30,000 horse-power per annum or rather over 4 per cent. per annum for the last five years. The net horse-power per employee increased from 1.4 in 1924-25 to 1.6 in 1928-29, but the decline in hands employed in 1929-30 raised the proportion to 1.8 horse-power per employee in that year. The corresponding figure for the United States was 4.5.

3. **Classes of Industry.**—The following tables give a classification of the horse-power used in factories of different descriptions in each state during 1929-30, and in Australia for the last five years :—

FACTORIES.—HORSE-POWER USED IN EACH CLASS, 1929-30.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Aus- tralia.
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	8,754	8,938	2,021	2,051	847	714	23,325
II. Treating oils and fats, animal, vegetable, etc. . .	2,098	1,479	826	506	143	20	5,072
III. Processes in stone, clay, glass, etc. . .	36,316	24,990	4,413	6,199	4,034	4,180	80,132
IV. Working in wood . . .	26,331	17,831	11,303	4,555	9,783	4,828	74,631
V. Metal works, machinery, etc. . .	98,817	28,784	10,515	11,079	5,926	41,218	196,339
VI. Connected with food and drink, etc. . .	61,738	49,459	61,515	13,979	9,401	5,201	201,293
VII. Clothing and textile fabrics, etc. . .	17,637	27,918	2,382	1,999	1,105	2,178	53,219
VIII. Books, paper, printing, and engraving . . .	13,516	12,882	2,770	1,940	1,841	485	33,434
IX. Musical instruments, etc. . .	2,067	751	3	115	9	..	2,945
X. Arms and explosives . . .	813	865	..	4	..	..	1,682
XI. Motor and other road vehicles and accessories . .	6,117	6,706	1,024	3,154	879	419	18,299
XII. Ship and boat building and repairing . . .	8,499	1,471	111	110	28	82	10,301
XIII. Furniture, bedding, and upholstery . . .	7,218	5,123	1,697	2,291	1,346	553	18,228
XIV. Drugs, chemicals, and by-products . . .	6,839	7,578	388	5,316	2,049	287	22,457
XV. Surgical and other scientific instruments . . .	110	89	22	18	24	..	263
XVI. Jewellery, timepieces, and plated ware . . .	639	849	59	137	19	18	1,721
XVIII. Rubber goods and leather-ware, n.e.i. . .	10,235	13,460	463	105	74	1,134	25,471
XIX. Other Industries, n.e.i. . .	275	245	160	3	48	23	754
Total less Class XVII . .	308,019	209,418	99,672	53,561	37,556	61,340	769,566
XVII. Heat, light, and power . .	474,500	256,321	131,112	122,958	53,537	81,188	1,119,616

FACTORIES.—HORSE-POWER USED, AUSTRALIA, 1925-26 TO 1929-30.

Class of Industry.	1925-26. (a)	1926-27.	1927-28.	1928-29.	1929-30.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	23,319	22,162	21,213	21,562	23,325
II. Treating oils and fats, animal, vegetable, etc. . .	4,973	5,597	5,546	6,030	5,072
III. Processes in stone, clay, glass, etc. . .	59,897	66,528	69,403	73,935	80,132
IV. Working in wood . . .	77,233	75,079	75,406	74,465	74,631
V. Metal works, machinery, etc. . .	187,120	195,308	201,496	199,438	196,339
VI. Connected with food and drink, etc. . .	172,519	174,355	186,092	194,295	201,293
VII. Clothing and textile fabrics, etc. . .	40,469	45,758	47,924	50,372	53,219
VIII. Books, paper, printing, and engraving . . .	29,613	29,954	33,348	32,608	33,434
IX. Musical instruments, etc. . .	1,550	2,046	2,420	2,900	2,945
X. Arms and explosives . . .	1,219	1,218	1,150	1,544	1,682
XI. Motor and other road vehicles and accessories . .	14,887	16,383	17,402	19,315	18,299
XII. Ship and boat building and repairing . . .	11,998	12,513	13,477	12,600	10,301
XIII. Furniture, bedding, and upholstery . . .	14,728	16,542	17,443	18,358	18,228
XIV. Drugs, chemicals, and by-products . . .	15,190	16,712	18,650	19,872	22,457
XV. Surgical and other scientific instruments . . .	278	250	261	255	263
XVI. Jewellery, timepieces, and plated ware . . .	1,339	1,264	1,437	1,574	1,721
XVIII. Leatherware, n.e.i. . .	561	(b)13,143	(b)17,142	(b)24,081	(b)25,471
XIX. Other Industries, n.e.i. . .	11,624	493	635	778	754
Total less Class XVII. . .	668,526	695,230	730,454	753,991	769,566
XVII. Heat, light, and power . . .	666,676	779,886	825,855	925,323	1,119,616

(a) See general note on first page of this Chapter.

(b) Includes Rubber Goods formerly in Class XIX., Other Industries, n.e.i.

The net horse-power (excluding heat, light, and power) has increased by 156,000 horse-power in five years. Class VI. (Food and Drink), increased by 41,000 horse-power, Class V. (Metal works), by 29,000 horse-power, Class III. (Bricks, Glass, &c.), by 25,000 horse-power, Class VII. (Textiles), by 17,000 horse-power, and Rubber and Leather by 15,000 horse-power. Increases in other classes have been small.

§ 4. Employment in 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 own business is counted as an employee, and all "outworkers" (see subsection 5 (ii) hereinafter) are also included. The individuals embraced may be classed under the following heads:—(i) Working proprietors; (ii) managers and overseers; (iii) accountants and clerks; (iv) engine-drivers and firemen; (v) skilled and unskilled workers in the factories, mills, or workshops; (vi) carters and messengers; and (vii) others.

The number of persons employed during the year 1929-30 has been computed in accordance with a resolution of the Conference of Statisticians held in 1928. This method shows the average number of persons employed over the whole year rather than the average over the period worked. Employment figures for previous years have also been recomputed on this basis for purposes of comparison. The tables relating to Classification of Factories according to the Number of Employees (*see* §2 *ante*) are, however, on the old basis. In all other tables relating to employment, average salaries and wages paid, output per employee, etc., the factor used is the average obtained in accordance with the abovementioned resolution.

The following table shows, for each year from 1925-26 to 1929-30 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 Australia; and (c) the numbers employed per ten thousand of the population in each State and Australia:—

FACTORIES.—EMPLOYMENT, 1925-26 TO 1929-30.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
AVERAGE NUMBER.							
1925-26	169,748	149,135	47,551	39,050	20,666	10,147	436,297
1926-27	179,364	157,598	44,122	41,075	19,403	10,622	452,184
1927-28	178,094	156,348	44,711	39,044	20,420	11,111	449,728
1928-29	180,806	156,568	45,031	36,807	20,804	10,466	450,482
1929-30	162,913	151,009	42,624	32,185	19,643	10,820	419,194
PERCENTAGE ON AUSTRALIAN TOTAL.							
1925-26	38.91	34.18	10.90	8.95	4.74	2.32	100.00
1926-27	39.67	34.85	9.76	9.08	4.29	2.35	100.00
1927-28	39.60	34.76	9.95	8.68	4.54	2.47	100.00
1928-29	40.14	34.76	9.99	8.17	4.62	2.32	100.00
1929-30	38.86	36.02	10.17	7.68	4.69	2.58	100.00
PER 10,000 OF POPULATION.							
1925-26	722	872	540	685	544	483	714
1926-27	744	906	490	708	496	483	726
1927-28	727	888	486	673	498	485	711
1928-29	729	880	484	635	495	476	703
1929-30	658	850	458	555	471	494	654

(a) See general note on first page of this Chapter.

2. Rates of Increase, 1925-26 to 1929-30.—The following table shows the percentage of increase or decrease on the average number of persons employed for the preceding year in each of the years from 1925-26 to 1929-30.

FACTORY EMPLOYEES.—PERCENTAGE OF INCREASE, 1925-26 TO 1929-30.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	%	%	%	%	%	%	%
1924-25—1925-26..	5.03	-1.62	2.31	3.54	-0.02	1.58	1.93
1925-26—1926-27..	5.66	5.67	-7.21	5.19	-6.11	4.68	3.64
1926-27—1927-28..	-7.08	-7.93	1.33	-4.94	5.24	4.60	-5.43
1927-28—1928-29..	1.52	0.14	0.72	-5.73	1.88	-5.81	0.17
1928-29—1929-30..	-9.90	-3.55	-5.35	-12.56	-5.58	3.38	-6.95

NOTE.—The minus sign indicates decrease.

(a) See general note on first page of this Chapter.

3. Employees in Classes of Industry, Australia, 1925-26 to 1929-30.—The following table gives the average numbers of persons employed in factories under each group in Australia during the years 1925-26 to 1929-30 inclusive :—

FACTORY EMPLOYEES.—CLASSES, AUSTRALIA, 1925-26 TO 1929-30.

Class of Industry.	1925-26. (a)	1926-27.	1927-28.	1928-29.	1929-30.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	10,076	9,990	8,870	7,805	7,630
II. Treating oils and fats, animal, vegetable, etc.	3,241	3,138	2,939	2,969	2,698
III. Processes in stone, clay, glass, etc.	20,051	20,894	20,720	19,692	17,215
IV. Working in wood	34,651	31,985	29,170	25,762	23,320
V. Metal works, machinery, etc.	93,643	98,482	95,830	98,145	89,842
VI. Connected with food and drink, etc.	63,941	62,818	68,975	67,029	65,591
VII. Clothing and textile fabrics, etc.	100,145	107,944	106,358	109,108	102,704
VIII. Books, paper, printing, and engraving	32,049	32,771	32,948	33,837	33,095
IX. Musical instruments, etc.	1,594	1,831	1,713	1,895	1,658
X. Arms and explosives	842	906	864	914	788
XI. Motor and other road vehicles and accessories	24,762	27,373	25,496	27,094	23,031
XII. Ship and boat building and repairing	5,909	6,095	6,543	6,144	4,990
XIII. Furniture, bedding, and upholstery	15,426	16,289	16,223	16,006	13,999
XIV. Drugs, chemicals, and by-products	7,496	7,932	7,940	8,251	7,852
XV. Surgical and other scientific instruments	674	703	749	771	734
XVI. Jewellery, timepieces, and plated ware	2,267	2,138	2,180	2,191	2,073
XVII. Heat, light, and power	11,160	11,571	11,722	12,216	11,679
XVIII. Leatherware, n.e.l.	2,690	(b)8,523	(b)9,544	(b)9,587	(b)9,123
XIX. Other Industries, n.e.l.	5,680	851	935	1,066	1,172
Total	436,207	452,184	440,728	450,482	419,104

(a) See general note on first page of the Chapter.

(b) Includes Rubber Goods formerly in Class XIX., Other Industries, n.e.l.

The numbers employed in factories, after being almost constant for three years, fell away in 1929-30 by 31,300, or 7 per cent. The only other decline in numbers recorded was in the war years, when there was a decrease of 6 per cent. spread over three years. The decline was spread evenly over most of the principal industries, except Food and Drink, and Printing. It was heaviest in Metal Works and the Motor Trade.

4. Employees in Classes of Industry, States, 1929-30.—The following table gives a classification of employees in manufacturing industries in each State during 1929-30 :—

FACTORY EMPLOYEES.—CLASSES, STATES, 1929-30.

Class of Industry.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus- tralia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	2,659	3,232	515	692	258	274	7,630
II. Treating oils and fats, animal, vegetable, etc.	1,301	823	225	243	68	38	2,698
III. Processes in stone, clay, glass, etc.	8,517	5,135	786	1,185	1,221	371	17,215
IV. Working in wood	7,234	6,509	4,407	1,287	2,424	1,459	23,320
V. Metal works, machinery, etc.	42,579	25,439	7,180	8,354	4,342	1,948	89,842
VI. Connected with food and drink, etc.	21,359	20,628	14,059	4,736	2,774	2,035	65,591
VII. Clothing and textile fabrics, etc.	33,369	53,115	6,220	4,532	3,250	2,218	102,704
VIII. Books, paper, printing and engraving	13,392	11,451	3,713	2,234	1,609	696	33,095
IX. Musical instruments, etc.	1,107	466	11	55	19	..	1,658
X. Arms and explosives	279	506	..	3	..	..	788
XI. Motor and other road vehicles and accessories	7,664	7,646	1,539	4,237	1,250	686	23,031
XII. Ship and boat building and repairing	4,331	385	75	115	49	35	4,990
XIII. Furniture, bedding, and upholstery	5,670	4,117	1,608	1,119	1,059	426	13,999
XIV. Drugs, chemicals, and by-products	3,534	2,522	139	998	591	68	7,852
XV. Surgical and other scientific instruments	286	246	90	68	44	..	734
XVI. Jewellery, timepieces, and plated ware	654	1,077	131	128	57	26	2,073
XVII. Heat, light, and power	4,638	3,231	1,152	1,914	455	289	11,679
XVIII. Rubber goods and leatherware, n.e.l.	3,738	4,143	596	273	130	243	9,123
XIX. Other Industries, n.e.l.	602	338	178	12	34	8	1,172
Total	162,913	151,009	42,624	32,185	19,643	10,820	419,194

The decline in employment compared with 1928-29 was 10 per cent. in New South Wales, and 12 per cent. in South Australia. It was about the average for Australia in Queensland and Western Australia, but smaller in Victoria. In Tasmania there was a small increase in numbers employed.

5. Employees According to Nature of Employment.—(i) *General*. In the following table the average numbers of persons employed in each State during 1929-30 are classified according to the nature of their employment :—

FACTORY EMPLOYEES.—NATURE OF EMPLOYMENT, 1929-30.

State.	Average Number of Persons Employed.						Total.
	Working Pro- priators.	Managers and Overseers.	Account- ants and Clerks.	Engine- drivers and Firemen.	Workers, Skilled & Unskilled, in Factory Mill or Workshop. (a)	Carters, Messen- gers and Others.	
New South Wales ..	6,285	6,423	9,775	2,597	135,867	1,966	162,913
Victoria ..	6,963	5,797	6,500	1,850	127,920	1,979	151,009
Queensland ..	1,590	1,738	2,558	1,798	31,824	3,116	42,624
South Australia ..	1,387	1,353	2,393	434	25,897	721	32,185
Western Australia..	954	804	1,170	407	15,635	673	19,643
Tasmania ..	462	452	893	235	8,496	282	10,820
Australia ..	17,641	16,567	23,289	7,321	345,639	8,737	419,194

(a) Including Outworkers.

(ii) *Outworkers*. The term "outworker" or "homeworker" has acquired a special meaning in connexion 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 1925-26 to 1929-30 inclusive :—

FACTORIES.—OUTWORKERS(a), 1925-26 TO 1929-30.

Year.(b)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1925-1926..	403	736	23	83	2	24	1,271
1926-1927..	336	592	31	66	7	53	1,085
1927-1928..	333	380	40	51	5	67	876
1928-1929..	288	240	44	41	2	22	637
1929-1930..	217	182	49	28	2	31	509

(a) In all tables relating to number of hands employed in factories, outworkers are included.

(b) See general note on first page of this Chapter.

The Factories Acts in each State contain provisions regulating the employment of outworkers. Records of outwork, specifying the names and remuneration of workers, and stating the places where the work is done, must be kept by factory proprietors. Fuller information regarding the operation of the Factories Acts will be found in Official Year Book No. 16, pp. 540 to 566.

§ 5. Sex Distribution in Factories.

1. **Employment of Females.**—In all the States the employment of female labour in factories is regulated by Acts of Parliament. More extended reference to this matter will be found in Official Year Book No. 16, pp. 540 to 566.

2. **Distribution of Employees according to Sex.**—(i) *General.* 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 1903 it became about one to four; and is now less 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 nearly one to two. In the remaining States the ratio was roughly one female employed to every five males, while that for Australia as a whole was one to three. The employment of women is, however, mainly confined to a few trades.

Increasing activity in the clothing and textile industries is the principal cause of the growth in female employment. Certain occupations are regarded as specially suitable for women, such as clothing and textile manufacture, preparation of food, book-binding, and wrapping and packing connected with various industries. A considerable number of women clerks and typists are also included in the returns.

(ii) *Average Number of Males and Females Employed, 1925-26 to 1929-30.* The following table shows the average number of male and female employees in factories in each State from 1925-26 to 1929-30 :—

FACTORIES.—MALES AND FEMALES EMPLOYED, 1925-26 TO 1929-30.

State.	1925-26.(a)	1926-27.	1927-28.	1928-29.	1929-30.
MALES.					
New South Wales ..	128,933	135,418	134,488	135,813	122,006
Victoria ..	101,899	106,245	105,366	104,648	100,135
Queensland ..	40,045	37,119	37,381	37,107	35,141
South Australia ..	32,289	34,076	32,214	30,385	26,485
Western Australia ..	17,392	15,959	16,710	16,993	15,921
Tasmania ..	8,225	8,616	8,730	8,164	8,547
Australia ..	328,783	337,433	334,889	333,110	308,235

(a) See general note on first page of this Chapter.

FACTORIES.—MALES AND FEMALES EMPLOYED, 1925-26 TO 1929-30—*continued.*

State.	1925-26.(a)	1926-27.	1927-28.	1928-29.	1929-30.
FEMALES.					
New South Wales	40,815	43,946	43,606	44,993	40,907
Victoria	47,236	51,353	50,982	51,920	50,874
Queensland	7,506	7,003	7,330	7,924	7,483
South Australia	6,761	6,999	6,830	6,422	5,700
Western Australia	3,274	3,444	3,710	3,811	3,722
Tasmania	1,922	2,006	2,381	2,302	2,273
Australia	107,514	114,751	114,839	117,372	110,959

(a) See general note on first page of this Chapter.

During two of the years specified in the above table there was an increase in the number of male factory employees in Australia, but since 1926-27 the number has declined by about 29,200 persons. The number of female employees, however, increased by 3,445, or an annual average of 689.

3. Rate of Variation for each Sex.—The percentages of annual increase or decrease during the years 1925-26 to 1929-30 in the average number of males and females employed in factories are shown below :—

PERCENTAGES OF ANNUAL INCREASE, MALE AND FEMALE FACTORY EMPLOYEES, 1925-26 TO 1929-30.

State.	1924-25— 1925-26.(a)	1925-26— 1926-27.(a)	1926-27— 1927-28.	1927-28— 1928-29.	1928-29— 1929-30.
MALES.					
New South Wales	3.73	5.03	-0.69	0.99	-10.17
Victoria	-2.22	4.27	-0.83	-0.68	-4.31
Queensland	3.08	-7.36	0.71	-0.79	-5.30
South Australia	5.12	5.53	-5.46	-5.68	-12.84
Western Australia	-0.05	-8.25	4.71	1.69	-6.31
Tasmania	0.43	4.75	1.32	-6.48	4.69
Total	1.88	2.63	-0.75	-0.53	-7.47

FEMALES.

New South Wales	6.62	7.67	-0.77	3.18	-9.08
Victoria	-0.28	8.72	-0.72	1.84	-2.01
Queensland	-1.57	-6.70	4.67	8.10	-5.57
South Australia	-3.37	3.52	-2.41	-5.97	-11.24
Western Australia	0.12	5.19	7.72	2.72	-2.36
Tasmania	6.78	4.37	18.69	-3.32	-1.26
Total	1.11	6.73	0.77	2.20	-5.46

NOTE.—The minus sign indicates decrease.

(a) See general note on first page of this Chapter.

The largest proportion of females is engaged 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 relation of their number to that of the males so employed, are shown in the following table :—

FEMALES EMPLOYED IN EACH INDUSTRY IN CLASS VII. DURING 1929-30.

Industry.	New South Wales.			Victoria.			Other States.		
	Males.	Females.	Femini- nity. (a)	Males.	Females.	Femini- nity. (a)	Males.	Females.	Femini- nity. (a)
Woolen and tweed mills ..	1,152	2,045	178	2,950	3,713	126	763	1,220	160
Knitting factories ..	999	3,094	310	1,824	6,171	338	58	301	519
Cotton mills ..	305	326	107	157	369	235	58	1	2
Boots and shoes ..	2,396	1,920	80	5,717	5,032	88	1,188	903	76
Boot repairing, including bespoke work ..	1,088	25	2	581	13	2	408	22	5
Clothing (tailoring and slop) ..	2,019	7,389	366	1,926	6,201	322	1,342	4,139	308
Clothing (waterproof and oilskin) ..	23	71	309	62	191	308	..	..	..
Dressmaking and millinery ..	106	2,400	2,264	508	7,548	1,486	42	2,105	5,012
Dyeworks and cleaning ..	311	234	75	218	192	88	161	207	129
Furriers ..	162	202	125	221	302	137	55	113	205
Hats and caps ..	628	1,170	186	537	1,162	216	53	108	204
Shirts, ties, and scarves ..	410	4,093	998	619	5,864	947	171	2,237	1,308
Rope and cordage ..	168	97	58	415	267	64	86	4	5
Tents and tarpaulins ..	128	109	85	130	99	76	110	99	80
Bags and sacks ..	172	127	74	68	58	85	128	138	108
Total, Class VII. ..	10,067	23,302	231	15,933	37,182	233	4,623	11,597	251

(a) Number of females per 100 males.

§ 6. Child Labour in Factories.

1. **Conditions of Child Labour.**—The employment of young persons in factories in each State of Australia is regulated by Acts of Parliament, as is the case with the employment of female labour. Reference to the legislation regarding the employment of child labour in factories will be found in Official Year Book No. 16, pp. 540 to 566. 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, 1925-26 to 1929-30.**—In the statistical compilations of the various States the term "child" may be taken to denote any person

under sixteen years of age. The following table shows the average number of children of each sex employed in manufacturing industries in each State during the years 1925-26 to 1929-30:—

CHILDREN EMPLOYED IN FACTORIES, 1925-26 TO 1929-30.

State.	1925-26.(a)	1926-27.	1927-28.	1928-29.	1929-30.
MALES.					
New South Wales ..	4,527	4,594	4,016	3,983	3,322
Victoria ..	3,980	4,567	4,231	4,209	3,748
Queensland ..	1,566	1,281	1,272	1,254	1,212
South Australia ..	1,095	1,215	1,073	883	654
Western Australia ..	682	614	677	647	575
Tasmania ..	214	311	343	290	261
Australia ..	12,064	12,582	11,612	11,266	9,772
FEMALES.					
New South Wales ..	4,688	5,001	4,747	5,085	4,196
Victoria ..	3,489	4,041	3,992	4,298	4,019
Queensland ..	1,003	927	850	921	906
South Australia ..	783	856	763	679	529
Western Australia ..	248	242	297	276	226
Tasmania ..	191	254	304	265	252
Australia ..	10,402	11,321	10,953	11,524	10,128
TOTAL.					
New South Wales ..	9,215	9,595	8,763	9,068	7,518
Victoria ..	7,469	8,608	8,223	8,507	7,767
Queensland ..	2,569	2,208	2,122	2,175	2,118
South Australia ..	1,878	2,071	1,836	1,562	1,183
Western Australia ..	930	856	974	923	801
Tasmania ..	405	565	647	555	513
Australia ..	22,466	23,903	22,565	22,790	19,900

(a) See general note on first page of this Chapter.

3. *Percentage of Children on Total Number of Employees.*—The decrease in the number of children employed in factories is greater than that of adult workers, the percentage of child workers on the total number of employees declining from 5.06 per cent. in 1928-29 to 4.75 per cent. in 1929-30. The total decrease amounted to 1,494 in respect of males and 1,396 in respect of females.

5. Apprenticeship.—In all the States Acts are in force for the regulation of the age at which children may be employed in gainful occupations. Legislative provision is also made for the regulation of apprenticeship under the various State Factories Acts or Arbitration Acts. These Acts, while laying down general principles, leave to the wages tribunals the actual determination of the conditions under which apprentices may be employed.

§ 7. Salaries and Wages Paid and Value of Production.

[NOTE].—In all tables relating to Salaries and Wages paid in Factories the amounts given are exclusive of all sums drawn by working proprietors.

1. General.—The importance of the manufacturing industries of Australia is indicated by the fact that the total value of the output for 1929–30 was £390,912,373, of which amount the sum of £220,945,187 represents the value of the materials used, and £13,602,754 the value of the power, fuel and light used. The difference between the sum of the two latter amounts and the value of the output, viz., £156,364,432, represents the value of production as defined by the Conference of Statisticians at Sydney in 1925, i.e., “The value of consumable commodities produced during the year, deducting, so far as possible, the value of goods consumed in process of production.” The total amount of salaries and wages paid in factories during 1929–30 was £84,717,033. This figure shows a decline of £6,269,875 as compared with the total for the previous year.

2. Salaries and Wages Paid.—(i) Total Amount, 1929–30. The total amount of salaries and wages paid during the year 1929–30 in various classes of factories in Australia is shown in the following table:—

SALARIES AND WAGES PAID IN FACTORIES, 1929–30.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	646,019	745,639	104,042	120,627	59,415	45,224	1,729,966
II. Treating oils and fats, animal, vegetable, etc.	270,528	171,597	47,099	46,754	12,723	7,025	556,626
III. Processes in stone, clay, glass, etc.	2,092,340	1,160,218	174,207	259,276	271,375	76,909	4,034,325
IV. Working in wood	1,637,893	1,403,711	834,426	259,943	554,416	265,209	4,955,598
V. Metalworks, machinery, etc.	10,558,274	5,686,856	1,680,554	2,018,166	1,030,693	484,893	21,459,436
VI. Connected with food and drink, etc.	4,603,746	4,425,189	3,128,972	961,456	650,803	381,320	14,151,492
VII. Clothing and textile fabrics, etc.	4,725,738	7,376,401	903,826	557,314	404,476	275,499	14,243,254
VIII. Books, paper, printing, and engraving	2,998,670	2,383,719	782,820	470,835	394,106	163,650	7,193,809
IX. Musical instruments, etc.	256,443	102,090	2,424	10,324	4,541	..	375,822
X. Arms and explosives	79,682	117,648	..	208	..	..	197,538
XI. Motor and other road vehicles and accessories	1,585,301	1,524,850	275,522	828,208	253,717	106,965	4,574,563
XII. Ship and boat building and repairing	1,170,802	95,056	10,421	27,133	11,812	6,745	1,331,560
XIII. Furniture, bedding, and upholstery	1,111,218	711,655	286,906	182,612	197,774	63,018	2,553,183
XIV. Drugs, chemicals, and by-products	768,901	563,327	25,204	222,417	142,875	14,359	1,737,083
XV. Surgical and other scientific instruments	61,310	46,956	14,444	12,240	7,990	..	142,958
XVI. Jewellery, timepieces, and plated ware	129,675	186,003	23,080	20,334	9,716	3,954	372,762
XVII. Heat, light & power	1,280,700	823,449	308,437	533,860	120,969	75,438	3,142,853
XVIII. Rubber goods and leatherware, n.e.i.	805,404	808,729	68,904	36,784	19,976	54,552	1,794,329
XIX. Other industries, n.e.i.	93,342	54,147	10,575	1,706	7,603	2,494	160,867
Total	34,875,995	28,387,840	8,690,872	6,570,186	4,154,980	2,028,160	84,717,033

(ii) *Totals and Averages, 1925-26 to 1929-30.* The following statement shows the total amount of salaries and wages paid, and the average amount paid per employee in each State, during each of the years 1925-26 to 1929-30. It should be noted that the average wage paid is not comparable with that shown in similar tables in the Official Year Book issued prior to No. 23, 1930. This is due to the change in method of computing the average number of hands employed as explained heretofore. The figures are exclusive of working proprietors and of the amounts drawn from the business by them :—

SALARIES AND WAGES PAID IN FACTORIES.—TOTAL AND AVERAGE PER ANNUM PER EMPLOYEE, 1925-26 TO 1929-30.

Year. (a)	Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
		£	£	£	£	£	£	£
1925-26	Total amount paid ..	33,566,546	27,657,753	9,544,115	7,787,912	6,288,036	1,880,321	86,724,683
	Average per employee	206.20	194.09	206.41	207.02	6210.98	194.38	207.35
1926-27	Total amount paid ..	37,092,196	29,889,557	9,298,370	8,390,603	3,922,923	1,981,517	90,575,166
	Average per employee	215.04	198.67	216.99	211.84	210.83	196.17	208.65
1927-28	Total amount paid ..	37,818,141	30,030,352	9,140,223	8,164,238	4,210,675	2,001,690	91,365,319
	Average per employee	220.75	201.83	212.33	217.34	216.60	189.30	212.12
1928-29	Total amount paid ..	38,544,687	29,466,767	9,097,624	7,609,813	4,373,090	1,894,927	90,986,908
	Average per employee	221.37	197.41	209.45	215.11	220.87	189.80	210.63
1929-30	Total amount paid ..	34,875,985	28,387,840	8,690,872	6,579,186	4,154,980	2,028,160	84,717,033
	Average per employee	222.67	197.07	211.80	213.02	222.32	195.80	210.97

(a) See general note on first page of this Chapter.

(b) Average computed on estimated salaries and wages for twelve months ended 30th June, 1926.

In comparing the figures in the preceding 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. In Victoria, for instance, there is a large number of hands employed in Class VII., comprising a heavy percentage of women and children. The highest average wages per employee in 1929-30 were paid in New South Wales, and Western Australia.

The increase in rates of salaries and wages paid reached its maximum in 1927-28 when the average amounted to £212.12, as compared with £210.63 in 1928-29, and £210.97 in 1929-30. The fall in the cost of living on which the rates of wage are chiefly based began in the last quarter of 1929-30, and its full effect was not, therefore, apparent in the total for that year.

(iii) *Earnings of Males and Females, 1929-30.* The following table shows the approximate amount paid in salaries and wages to males and females in each class of industry in each State during the year 1929-30 :—

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES, 1929-30.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES.							
	£	£	£	£	£	£	£
I. Treating raw material product of agricultural and pastoral pursuits, etc. . . .	634,141	738,641	102,418	128,825	58,254	45,037	1,707,316
II. Treating oils and fats, animal, vegetable, etc. . . .	227,662	153,829	43,780	40,956	11,337	7,187	484,751
III. Processes in stone, clay, glass, etc. . . .	2,063,587	1,142,714	171,425	257,679	266,403	76,352	3,973,160
IV. Working in wood . . .	1,612,715	1,390,569	823,104	254,565	552,880	262,022	4,895,855
V. Metal works, machinery, etc. . . .	10,365,839	5,571,167	1,654,269	1,995,356	1,022,114	480,901	21,089,646

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1929-30—continued.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
<i>MALES—continued.</i>							
	£	£	£	£	£	£	£
VI. Connected with food and drink, etc. . .	3,870,542	3,850,133	3,024,392	888,262	599,247	338,070	12,570,646
VII. Clothing and textile fabrics, etc. . .	2,115,319	3,267,167	347,959	227,470	153,383	146,529	6,257,827
VIII. Books, paper, printing, and engraving	2,563,489	2,005,299	690,608	411,306	346,877	147,063	6,165,242
IX. Musical instruments, etc. . .	225,505	97,556	2,210	10,078	4,541	..	339,899
X. Arms and explosives	78,642	95,437	..	208	..	..	174,287
XI. Motor and other road vehicles and accessories . .	1,543,003	1,503,446	260,747	797,562	241,762	102,381	4,448,901
XII. Ship and boat building and repairing	1,163,252	95,132	19,421	27,133	11,812	6,745	1,323,495
XIII. Furniture, bedding, and upholstery . .	980,013	639,256	271,396	169,710	187,956	60,356	2,308,687
XIV. Drugs, chemicals, and by-products	639,681	479,956	22,116	210,029	138,898	13,562	1,504,242
XV. Surgical and other scientific instruments . .	56,660	44,658	12,996	10,563	7,464	..	132,341
XVI. Jewellery, timepieces, and plated ware	121,088	172,952	21,362	19,944	9,498	3,912	348,756
XVII. Heat, light, & power	1,263,687	750,358	301,406	517,165	120,284	74,738	3,027,638
XVIII. Rubber Goods and Leatherware, n.e.i.	634,186	648,091	47,728	28,634	17,416	51,074	1,427,129
XIX. Other industries, n.e.i.	69,956	42,245	7,478	1,706	5,227	2,431	129,043
Total . .	30,228,967	22,688,606	7,824,824	5,997,151	3,755,353	1,818,960	72,313,861

FEMALES.

I. Treating raw material product of agricultural pursuits, etc. . .	11,878	6,998	1,624	802	1,161	187	22,650
II. Treating oils and fats, animal, vegetable, etc. . .	42,866	17,768	3,319	5,798	1,386	738	71,875
III. Processes in stone, clay, glass, etc. . .	28,753	17,504	2,782	1,597	4,972	557	56,165
IV. Working in wood . .	25,178	13,142	11,322	5,378	1,536	3,187	59,743
V. Metal works, machinery, etc. . .	192,435	115,689	26,285	22,810	8,579	3,992	369,790
VI. Connected with food and drink, etc. . .	733,204	575,056	104,580	73,194	51,556	43,256	1,580,846
VII. Clothing and textile fabrics, etc. . .	2,610,419	4,109,234	555,867	329,844	251,093	128,970	7,985,427
VIII. Books, paper, printing, and engraving	435,181	378,420	92,221	59,529	47,229	15,987	1,028,567
IX. Musical instruments, etc. . .	30,938	4,534	205	246	..	..	35,923
X. Arms and explosives	1,040	22,211	..	..	..	..	23,251
XI. Motor and other road vehicles and accessories . .	42,298	21,404	14,775	30,646	11,955	4,584	125,662
XII. Ship and boat building and repairing	7,550	524	..	..	..	..	8,074
XIII. Furniture, bedding, and upholstery . .	131,205	72,399	15,510	12,902	9,818	2,662	244,496
XIV. Drugs, chemicals, and by-products	129,220	83,371	3,088	12,388	3,977	797	232,841
XV. Surgical and other scientific instruments . .	4,659	2,298	1,448	1,686	526	..	10,617
XVI. Jewellery, timepieces, and plated ware	8,587	13,051	1,718	390	218	42	24,006
XVII. Heat, light, & power	17,013	73,091	7,031	16,695	685	700	115,215
XVIII. Rubber Goods and Leatherware, n.e.i.	171,218	160,638	21,176	8,130	2,560	3,478	367,200
XIX. Other industries, n.e.i.	23,386	11,902	3,097	..	2,376	63	40,824
Total . .	4,647,028	5,699,234	866,048	582,035	399,627	209,200	12,403,172

(iv) *Total and Average Earnings of Males and Females, 1925-26 to 1929-30.*
Similar information for the last five years is given in the table hereunder:—

**SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1925-26 TO 1929-30.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES.							
1925-26. a Amount paid	£ 29,370,052	22,544,903	8,797,552	7,139,556	5,796,081	1,703,209	75,357,263
Per cent. on total	87.50	81.51	92.18	91.67	92.19	90.85	86.89
Average per employee	£ 239.97	236.17	225.89	231.02	b 232.40	220.10	241.59
1926-27. Amount paid	£ 32,319,649	24,109,245	8,529,729	7,700,633	3,560,698	1,794,371	78,104,325
Per cent. on total	87.13	80.96	91.73	91.78	90.77	90.56	86.23
Average per employee	£ 250.64	242.59	237.66	235.80	234.21	221.42	243.65
1927-28. Amount paid	£ 32,929,653	24,268,920	8,388,158	7,471,581	3,514,903	1,790,152	78,663,378
Per cent. on total	87.07	80.81	91.77	91.52	90.60	89.43	86.10
Average per employee	£ 257.11	246.31	234.21	242.65	241.80	218.07	248.00
1928-29. Amount paid	£ 33,508,975	23,634,594	8,351,015	6,955,931	3,970,744	1,678,420	78,149,709
Per cent. on total	86.94	80.38	91.79	91.41	90.80	88.57	85.89
Average per employee	£ 258.68	241.51	234.71	239.74	247.57	217.89	247.35
1929-30. Amount paid	£ 30,228,967	22,688,606	7,824,824	5,997,151	3,755,353	1,818,900	72,313,861
Per cent. on total	86.68	79.92	90.03	91.15	90.38	89.69	85.36
Average per employee	£ 260.41	241.87	232.69	238.47	250.17	224.65	247.85
FEMALES.							
1925-26. a Amount paid	£ 4,196,484	5,112,850	746,563	648,356	491,055	172,112	11,367,420
Per cent. on total	12.50	18.49	7.82	8.23	7.81	9.15	13.11
Average per employee	£ 103.89	109.72	100.01	96.54	b 101.04	90.02	106.91
1926-27. Amount paid	£ 4,772,547	5,690,312	768,641	689,970	362,225	187,146	12,470,841
Per cent. on total	12.87	19.04	8.27	8.22	9.23	9.44	13.77
Average per employee	£ 109.61	112.25	110.42	99.25	106.41	92.71	109.83
1927-28. Amount paid	£ 4,888,482	5,761,432	752,065	692,657	395,767	211,528	12,701,941
Per cent. on total	12.93	19.19	8.23	8.48	9.40	10.57	13.90
Average per employee	£ 113.06	114.64	103.92	102.27	108.04	89.45	111.88
1928-29. Amount paid	£ 5,035,712	5,782,173	746,579	653,882	402,346	216,507	12,837,199
Per cent. on total	13.06	19.62	8.21	8.59	9.20	11.43	14.11
Average per employee	£ 112.96	112.94	95.05	102.78	107.01	94.92	110.63
1929-30. Amount paid	£ 4,647,028	5,699,234	866,048	582,035	399,627	209,200	12,403,172
Per cent. on total	13.32	20.08	9.97	8.85	9.62	10.31	14.64
Average per employee	£ 112.61	113.44	116.92	103.02	108.65	92.63	112.98

(a) See general note on first page of this Chapter.

(b) Averages computed on estimated salaries and wages for twelve months ended 30th June, 1926.

(v) *Managers, Overseers, and Other Employees.* A further analysis of salaries and wages paid 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.

**SALARIES AND WAGES.—MANAGERS, OVERSEERS, AND OTHER FACTORY
EMPLOYEES, AUSTRALIA, 1929-30.**

Class of Industry.	Salaries and Wages Paid to—						
	Managers, Overseers, Accountants, and Clerks.		All other Employees.		All Employees.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	£ 215,703	£ 13,429	£ 1,491,613	£ 9,221	£ 1,707,316	£ 22,650	£ 1,729,966
II. Treating oils and fats, animal, vegetable, etc.	122,566	23,744	362,185	48,131	484,751	71,875	556,626
III. Processes in stone, clay, glass, etc.	530,579	33,894	3,447,581	22,271	3,978,100	56,165	4,034,325
IV. Working in wood	634,531	51,447	4,261,324	8,296	4,895,855	59,743	4,955,598
V. Metal works, machinery, etc.	2,505,252	187,766	18,584,394	182,024	21,089,646	369,790	21,459,436
VI. Connected with food and drink, etc.	2,398,053	315,225	10,172,593	1,265,621	12,570,646	1,580,846	14,151,492
VII. Clothing and textile fabrics, etc.	1,169,160	463,977	5,088,667	7,521,450	6,257,827	7,985,427	14,243,254
VIII. Books, paper, printing and engraving	1,061,939	223,873	5,103,303	804,694	6,165,242	1,023,567	7,193,809
IX. Musical instruments, etc.	54,573	16,124	285,326	19,799	339,899	35,923	375,822
X. Arms and explosives	35,002	2,160	139,195	21,091	174,287	23,251	197,538

SALARIES AND WAGES.—MANAGERS, OVERSEERS, AND OTHER
FACTORY EMPLOYEES, AUSTRALIA, 1929-30—*continued.*

Class of Industry.	Salaries and Wages Paid to—						
	Managers, Overseers, Accountants, and Clerks.		All Other Employees.		All Employees.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
	£	£	£	£	£	£	£
XI. Motor and other road vehicles and accessories ..	677,241	96,752	3,771,660	28,910	4,448,901	125,662	4,574,563
XII. Ship and boat building and repairing ..	180,270	6,132	1,143,225	1,942	1,323,495	8,074	1,331,569
XIII. Furniture, bedding, and upholstery ..	238,017	52,089	2,070,670	192,407	2,308,687	244,406	2,553,183
XIV. Drugs, chemicals, and by-products ..	340,678	59,459	1,163,564	173,382	1,504,242	232,841	1,737,083
XV. Surgical and other scientific instruments ..	24,317	5,907	108,024	4,710	132,341	10,617	142,958
XVI. Jewellery, timepieces, and plated ware ..	38,059	8,933	310,697	15,073	348,756	24,006	372,762
XVII. Heat, light, and power	590,582	31,080	2,437,056	84,135	3,027,638	115,215	3,142,853
XVIII. Rubber Goods and Leatherware, n.e.i.	286,172	43,075	1,140,957	324,125	1,427,129	367,200	1,794,329
XIX. Other industries, n.e.i.	30,418	4,404	98,625	36,420	129,043	40,824	169,867
Total ..	11,133,202	1,639,470	61,180,659	10,763,702	72,313,861	12,403,172	84,717,033
Average paid per employee	383.60	151.34	232.85	108.78	247.85	112.98	210.97

3. Value of Power, Fuel and Light Used.—(i) *Total Amount, 1929-30.* The expenditure in factories on power, fuel and light is of considerable importance; in 1929-30 it amounted to £13,602,754, a decline of £280,652 when compared with the previous year. The following table shows the value of power, fuel and light used in the different classes of industry during 1929-30:—

VALUE OF POWER, FUEL AND LIGHT USED(a) IN FACTORIES, 1929-30.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	134,581	110,938	18,462	22,447	7,231	4,236	297,895
II. Treating oils and fats, animal, vegetable, etc. ..	51,582	49,484	6,326	7,871	2,530	1,362	119,155
III. Processes in stone, clay, glass, etc. ..	757,400	507,032	45,785	103,884	79,776	46,917	1,540,794
IV. Working in wood ..	82,066	58,538	37,844	12,782	17,549	21,244	230,023
V. Metal works, machinery, etc. ..	1,881,918	388,699	81,039	448,247	58,781	311,321	3,170,005
VI. Connected with food and drink, etc. ..	835,433	826,514	484,424	201,961	107,607	98,186	2,554,125
VII. Clothing and textile fabrics, etc. ..	204,408	373,434	21,145	21,681	13,946	48,035	682,649
VIII. Books, paper, printing, and engraving ..	172,978	158,727	33,084	17,787	13,117	5,897	401,590
IX. Musical instruments, etc. ..	12,957	3,999	24	230	69	..	17,279
X. Arms and explosives ..	3,550	20,652	..	15	..	..	24,217
XI. Motor and other road vehicles and accessories ..	66,407	73,033	12,856	37,436	10,732	5,917	206,381
XII. Ship and boat building and repairing ..	67,263	4,146	342	858	89	70	72,768
XIII. Furniture, bedding and upholstery ..	46,668	29,955	10,209	8,621	5,104	2,333	102,890
XIV. Drugs, chemicals, and by-products ..	96,662	71,300	4,239	32,835	29,703	1,947	236,686
XV. Surgical and other scientific instruments ..	2,304	2,027	627	493	451	..	5,902
XVI. Jewellery, timepieces, and plated ware ..	5,838	9,534	892	1,693	310	121	18,388
XVII. Heat, light, and power	1,938,622	895,616	187,751	333,685	268,503	30,390	3,654,567
XVIII. Rubber Goods and Leatherware, n.e.i.	106,619	128,360	4,367	2,548	1,718	15,757	259,369
XIX. Other industries, n.e.i.	3,815	2,084	778	72	542	780	8,071
Total ..	6,471,071	3,714,072	950,194	1,255,146	617,758	594,513	13,602,754

(a) Including lubricating oil and water.

(ii) *Total Amount, 1925-26 to 1929-30.* The following table gives the sums expended on power, fuel and light during the past five years :—

VALUE OF POWER, FUEL AND LIGHT USED IN FACTORIES, 1925-26 TO 1929-30.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
1925-26	6,256,725	3,156,382	1,134,530	1,332,914	701,008	501,667	13,083,226
1926-27	6,919,014	3,392,448	990,618	1,384,937	549,796	487,234	13,724,047
1927-28	6,791,285	3,712,686	1,032,303	1,360,853	536,065	483,685	13,973,977
1928-29	6,773,214	3,641,148	1,006,627	1,287,729	624,031	550,657	13,883,406
1929-30	6,471,071	3,714,072	950,194	1,255,146	617,758	594,513	13,602,754

(a) See general note on first page of this Chapter.

4. Value of Materials Used.—(i) *Total Amount, 1929-30.* The value of materials used (which includes the value of containers, packing, etc., the cost of tools replaced and repairs to plant) in factories in Australia during 1929-30 was £220,945,187, which represents 56.52 per cent. of the total value of the final output. (See next sub-section.) The following table shows the value of the materials used in various classes of industry in each State :—

VALUE OF MATERIALS USED IN FACTORIES, 1929-30.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . . .	3,450,959	3,022,137	868,806	708,231	109,721	34,825	8,284,679
II. Treating oils and fats, animal, vegetable, etc. . . .	1,544,379	848,550	150,516	215,916	79,918	27,893	2,873,178
III. Processes in stone, clay, glass, etc. . .	1,831,547	1,049,405	156,189	230,877	211,180	64,800	3,544,004
IV. Working in wood . .	3,975,096	1,724,948	1,506,334	831,786	810,263	305,994	9,154,421
V. Metal works, machinery, etc. . . .	22,690,237	6,723,030	1,341,794	5,026,433	880,438	1,252,627	37,914,564
VI. Connected with food and drink, etc. . . .	37,295,288	28,167,536	20,799,615	7,096,401	3,412,952	1,622,782	98,394,574
VII. Clothing and textile fabrics, etc. . . .	8,064,553	14,496,801	1,512,325	830,485	760,449	590,279	26,254,892
VIII. Books, paper, printing, and engraving . .	3,647,824	2,831,829	567,229	470,226	290,466	96,743	7,904,317
IX. Musical instruments, etc. . . .	316,716	134,077	2,600	9,363	742	..	463,498
X. Arms and explosives .	15,219	258,228	..	475	..	..	273,922
XI. Motor and other road vehicles and accessories . .	1,349,545	896,011	123,713	1,086,945	173,234	52,794	3,682,242
XII. Ship and boat building and repairing . .	554,755	47,166	11,230	10,506	8,132	2,300	634,089
XIII. Furniture, bedding, upholstery	2,068,806	1,292,053	395,732	304,332	257,099	60,971	4,378,993
XIV. Drugs, chemicals, and by-products . . .	2,830,376	2,048,566	195,790	805,848	1,423,088	103,064	7,406,732
XV. Surgical and other scientific instruments . . .	45,548	43,775	12,885	9,421	4,803	..	116,432
XVI. Jewellery, timepieces, and plated ware . .	107,593	221,577	11,438	17,080	5,789	419	363,896
XVII. Heat, light, and power	2,397,864	1,936,064	190,659	349,920	106,833	80,708	5,062,048
XVIII. Rubber goods and leatherware, n.e.i. . .	1,555,512	1,992,773	86,726	75,063	31,827	97,620	3,839,521
XIX. Other industries, n.e.i. . . .	190,120	103,127	65,660	1,676	28,713	9,889	399,185
Total ..	93,931,937	67,837,659	28,005,241	18,080,989	8,685,647	4,403,714	220,945,187

The largest value of materials used was in Class VI., "Connected with Food and Drink, etc." the total being £98,394,574. The next in order of importance was Class V., "Metal Works, Machinery, etc.", in which raw materials valued at £37,914,564 were used. The minimum value appears in Class XV., "Surgical and other Scientific Instruments," the total being only £116,432.

(ii) *Total Amount, 1925-26 to 1929-30.* The following table presents particulars of the values of materials used in factories during the past five years :—

VALUE OF MATERIALS USED IN FACTORIES, 1925-26 TO 1929-30.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1925-26 ..	98,868,051	68,788,141	27,885,361	21,430,234	11,137,678	3,725,443	231,834,908
1926-27 ..	102,534,388	71,102,047	25,067,489	21,848,126	8,007,509	4,023,899	232,043,518
1927-28 ..	102,807,287	70,954,166	28,620,604	20,571,650	8,579,656	4,083,837	235,617,260
1928-29 ..	104,897,920	71,231,036	29,882,434	19,821,262	8,736,849	4,369,005	238,938,566
1929-30 ..	93,931,937	67,837,659	28,005,241	18,080,989	8,685,647	4,403,714	220,945,187

(a) See general note on first page of this Chapter.

5. *Total Value of Output.*—(i) *Total, 1929-30.* The value of the output of new goods manufactured and of repairs effected in factories of various classes in each State during 1929-30 is shown in the following table. The figures given represent not only the increase in value due to the process of manufacture, but also include the value of the raw materials and the power, fuel and light used. The difference between the sum of the values of the materials and the fuel and light used and the total output (see sub-section 6 hereof) is the real value of production from manufactories.

TOTAL VALUE OF OUTPUT OF FACTORIES, 1929-30.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£'
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	4,657,151	4,435,297	1,043,277	937,548	307,074	89,780	11,470,127
II. Treating oils and fats, animal, vegetable, etc. ..	2,425,203	1,446,181	283,316	306,840	114,721	43,117	4,619,378
III. Processes in stone, clay, glass, etc. ..	6,253,909	3,697,796	608,156	789,446	747,927	230,060	12,327,294
IV. Working in wood ..	6,637,995	4,010,961	2,800,122	1,236,439	1,728,546	714,857	17,128,920
V. Metal works, machinery, etc. ..	40,498,532	15,460,865	3,810,992	8,427,633	2,433,329	2,471,676	73,103,027
VI. Connected with food and drink, etc. ..	51,313,959	39,257,923	28,171,457	9,329,400	5,087,702	2,368,765	135,529,206
VII. Clothing and textile fabrics, etc. ..	16,116,154	26,948,594	2,717,595	1,684,413	1,460,111	1,024,636	49,951,503
VIII. Books, paper, printing, and engraving ..	9,041,585	6,975,549	1,877,947	1,242,040	954,824	333,688	20,425,633
IX. Musical instruments, etc. ..	767,686	310,518	8,535	21,148	7,171	..	1,115,058
X. Arms and explosives ..	121,317	495,980	..	900	..	..	618,197
XI. Motor and other road vehicles and accessories ..	3,895,472	3,299,511	643,843	2,343,782	624,296	221,145	11,028,049
XII. Ship and boat building and repairing ..	1,879,989	176,756	36,140	44,740	24,057	13,446	2,175,128
XIII. Furniture, bedding, and upholstery ..	3,892,823	2,527,840	799,997	580,923	547,059	148,223	8,496,865
XIV. Drugs, chemicals, and by-products ..	5,599,390	3,648,944	344,892	1,252,716	1,927,174	154,602	12,927,718
XV. Surgical and other scientific instruments ..	151,009	131,503	47,676	37,317	20,560	..	388,065
XVI. Jewellery, timepieces, and plated ware ..	323,076	552,078	48,958	55,775	23,926	5,787	1,009,600
XVII. Heat, light, and power ..	10,057,832	5,445,617	1,516,818	1,873,264	765,536	459,621	20,118,688
XVIII. Rubber goods and leather-ware, n.e.i. ..	3,216,205	3,786,670	230,022	145,061	73,976	271,478	7,723,412
XIX. Other industries, n.e.i. ..	401,331	202,516	96,195	3,399	43,493	9,571	756,505
Total ..	167,250,618	122,811,099	45,085,938	30,312,784	16,891,482	8,560,452	390,912,373

(ii) *Totals, 1925-26 to 1929-30.* The following statement shows the value of output of factories in each State during the five years ended 1929-30 :—

TOTAL VALUE OF OUTPUT OF FACTORIES, 1925-26 TO 1929-30.

Year. (a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
TOTAL.							
	£	£	£	£	£	£	£
1925-26 ..	169,963,146	119,986,439	45,900,668	35,437,147	21,449,799	7,605,194	400,342,393
1926-27 ..	179,302,446	127,397,951	41,327,767	36,888,469	15,671,660	8,104,545	408,692,838
1927-28 ..	181,403,084	128,465,317	46,462,840	35,426,174	16,998,184	8,238,410	416,994,009
1928-29 ..	185,298,575	127,897,463	47,641,536	33,677,369	17,454,430	8,475,916	420,445,288
1929-30 ..	187,250,618	122,311,099	45,085,938	30,312,784	16,891,482	8,560,452	390,912,373

(a) See general note on first page of this Chapter.

6. **The Value of Production.** The value of production for any industry was defined by the Conference of Statisticians at Sydney in 1925, as "the value of consumable commodities produced during the year, deducting, so far as possible, the value of goods consumed in process of production."

In accordance with this principle, a rate was adopted for the valuation of factory production by deducting from the value of the output the cost of raw material, containers, power, fuel, light, oil, water, tools replaced, repairs to plant and depreciation. All these, except depreciation, are included in the two items "Value of materials used" and "Value of fuel used" as defined above. On account of the difficulty in obtaining accurate figures for depreciation, it was agreed that for the present no deduction should be made on this account. The value of production as given in the following tables is obtained, therefore, by deducting "Value of materials used" and "Value of fuel used" from the value of the output, and this method of valuing factory production is now in use in all the Australian States.

The figure thus obtained is, therefore, not the net value of production. The deduction for depreciation should probably be about 8 per cent. on the capital value or about £19,000,000 in 1929-30. Many miscellaneous expenses, also, such as insurance and advertising, were not taken into account. Hence, it must not be inferred that when wages and salaries are deducted from value of production, the whole of the "surplus" is available for interest and profit.

(i) *Total in Classes, 1929-30.* The following table shows the value of production during 1929-30 in each State for the various classes of factories.

VALUE OF PRODUCTION, 1929-30.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	1,071,611	1,302,222	156,009	206,870	100,122	50,719	2,887,553
II. Treating oils and fats, animal, vegetable, etc.	829,242	548,141	120,474	83,053	32,273	13,862	1,627,045
III. Processes in stone, clay, glass, &c.	3,664,962	2,141,359	406,182	454,685	456,071	118,337	7,242,496
IV. Working in wood	2,580,833	2,227,475	1,255,944	391,871	900,734	387,619	7,744,476
V. Metal works, machinery, etc.	15,926,377	8,349,136	2,388,159	2,952,948	1,494,110	907,728	32,018,458
VI. Connected with food and drink, etc.	13,183,238	10,263,873	6,887,418	2,031,038	1,567,143	647,797	34,580,507
VII. Clothing and textile fabrics, etc.	7,847,193	12,078,359	1,184,125	832,247	685,716	386,322	23,013,962
VIII. Books, paper, printing and engraving	5,220,783	3,984,993	1,277,634	754,027	651,241	231,048	12,119,726
IX. Musical instruments, etc.	438,013	172,442	5,911	11,555	6,360	..	634,281
X. Arms and explosives	102,548	217,100	..	410	..	..	320,058
XI. Motor and other road vehicles and accessories	2,479,520	2,330,467	507,274	1,219,401	440,330	162,434	7,139,426
XII. Ship and boat building and repairing	1,257,971	125,444	24,568	33,376	15,836	11,076	1,468,271
XIII. Furniture, bedding, and upholstery	1,777,349	1,205,832	394,056	267,970	284,856	84,919	4,014,982
XIV. Drugs, chemicals, and by-products	2,672,352	1,529,078	144,863	414,033	474,383	49,591	5,284,300
XV. Surgical & other scientific instruments	103,157	85,701	34,164	27,403	15,306	..	265,731
XVI. Jewellery, timepieces, and plated ware	209,645	320,967	36,628	37,002	17,827	5,247	627,316
XVII. Heat, light and power	5,721,346	2,613,937	1,138,408	1,189,659	390,200	348,523	11,402,073
XVIII. Rubber goods and leatherware, n.e.i.	1,554,074	1,665,537	138,929	67,450	40,431	158,101	3,624,522
XIX. Other industries, n.e.i.	207,396	97,305	29,757	1,651	14,238	-1,098	349,249
Total	66,847,610	51,259,368	16,130,503	10,976,649	7,588,077	3,562,225	156,364,432

(ii) *Totals and Averages, 1925-26 to 1929-30.* The value of production and the amount per employee and per head of population are shown in the following table for the years 1925-26 to 1929-30:—

FACTORIES.—VALUE OF PRODUCTION, 1925-26 TO 1929-30.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
VALUE.							
	£	£	£	£	£	£	£
1925-26 ..	64,838,370	48,041,916	16,880,777	12,673,909	9,611,113	3,378,084	155,424,259
1926-27 ..	69,849,044	52,903,450	15,269,600	13,655,406	7,054,295	3,503,412	162,325,273
1927-28 ..	71,804,512	53,793,265	16,809,873	13,487,671	7,831,563	3,670,588	167,402,772
1928-29 ..	73,627,441	53,025,279	16,752,475	12,568,377	8,003,550	3,558,194	167,623,516
1929-30 ..	66,847,610	51,259,368	16,130,503	10,976,649	7,588,077	3,562,225	156,364,432

PER EMPLOYEE.

Year.	£	£	£	£	£	£	£
1925-26 ..	382	322	355	325	(b) 310	333	356
1926-27 ..	389	336	346	332	364	338	359
1927-28 ..	403	344	376	345	364	330	372
1928-29 ..	407	359	372	341	389	340	372
1929-30 ..	410	339	378	341	386	329	373

PER HEAD OF POPULATION.

Year.	£	£	£	£	£	£	£
1925-26 ..	28.21	23.53	21.09	22.08	(b) 17.22	15.56	25.40
1926-27 ..	29.75	30.90	17.31	24.11	18.63	16.73	26.56
1927-28 ..	29.92	30.89	18.69	23.43	19.96	17.01	26.85
1928-29 ..	30.11	30.11	18.27	21.69	19.94	16.43	26.45
1929-30 ..	26.18	28.84	17.33	18.92	18.21	16.26	24.38

(a) See general note on first page of this chapter.

(b) Averages computed on the estimated added value for the twelve months ended 30th June, 1926.

7. **Value of Output and Cost of Production.**—As the total value of the output for Australia for 1929-30 was estimated at £390,912,373, there remained, after payment of £220,945,187, the value of the materials used, of £84,717,033 for salaries and wages, and of £13,602,754 for fuel, the sum of £71,647,399 to provide for all other expenditure and profits. The following table gives corresponding particulars for each State expressed absolutely, and as percentages on the total value of the output for the year 1929-30:—

FACTORIES.—VALUE OF OUTPUT AND COST OF PRODUCTION, 1929-30.

State.	Materials Used. (a)	Power, Fuel and Light. (b)	Salaries and Wages.	All other Expenditure, Interest, and Profits.	Total Value of Output.
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VALUE AND COST, ETC.

	£	£	£	£	£
New South Wales ..	93,931,937	6,471,071	34,875,995	31,971,615	167,250,618
Victoria ..	67,837,659	3,714,072	28,387,840	22,871,528	122,811,099
Queensland ..	28,005,241	950,194	8,690,872	7,439,631	45,085,938
South Australia ..	18,080,989	1,255,146	6,579,186	4,397,463	30,312,784
Western Australia ..	8,685,647	617,758	4,154,980	3,433,097	16,891,482
Tasmania ..	4,403,714	594,513	2,028,160	1,534,065	8,560,452
Australia ..	220,945,187	13,602,754	84,717,033	71,647,399	390,912,373

(a) Including the values of containers, packing, etc., also the cost of tools replaced and repairs to plant.

(b) Including lubricating oils and water.

FACTORIES.—VALUE OF OUTPUT AND COST OF PRODUCTION, 1929-30—
continued.

State.	Materials Used. (a)	Power, Fuel and Light. (b)	Salaries and Wages.	All other Expenditure, Interest, and Profits.	Total Value of Output.
PERCENTAGE OF COSTS, ETC., ON TOTAL VALUE.					
	%	%	%	%	%
New South Wales ..	56.16	3.87	20.85	19.12	100.00
Victoria ..	55.24	3.02	23.12	18.62	100.00
Queensland ..	62.12	2.11	19.28	16.49	100.00
South Australia ..	59.65	4.14	21.70	14.51	100.00
Western Australia ..	51.42	3.66	24.60	20.32	100.00
Tasmania ..	51.44	6.94	23.69	17.93	100.00
Australia ..	56.52	3.48	21.67	18.33	100.00

(a) Including the values of containers, packing, etc., also the cost of tools replaced and repairs to plant.

(b) Including lubricating oils and water.

§ 8. Value of Land, Buildings, Plant, and Machinery.

1. *General.*—As an indication of the permanent character and stability of the industries which have been established in Australia, 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 of Australia the total value of land and buildings and plant and machinery has increased from 1925-26 to 1929-30 by £36,882,138, i.e., from £208,813,782 to £245,695,920, or at the rate of £9,220,535 per annum.

The following statement shows the values of land and buildings and of plant and machinery used in connexion with manufacturing industries in each State during the year 1929-30 :—

VALUE OF LAND, BUILDINGS, PLANT, AND MACHINERY, 1929-30.

Value of—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
Land and buildings	53,785,319	36,988,485	9,690,313	8,937,039	5,670,214	2,996,859	118,068,229
Plant and machinery	53,515,368	35,022,535	15,723,983	10,286,674	6,112,186	6,966,945	127,627,691
Total ..	107,300,687	72,011,020	25,414,296	19,223,713	11,782,400	9,963,804	245,695,920

The values recorded in this section are in general the values standing in the books of the individual firms. Depreciation has been usually allowed for, often on a generous scale. The totals are consequently very different from the amount of capital invested in manufacturing plant now operating. No information is available as to the total capital expenditure, but it may be some 70 or 80 per cent. greater than the capital value as here recorded.

2. *Value of Land and Buildings.*—(i) *Total, Australia, 1925-26 to 1929-30.* The following table shows for Australia as a whole the approximate value of land and buildings occupied in connexion with manufacturing industries of various classes during each year from 1925-26 to 1929-30 inclusive :—

VALUE OF LAND AND BUILDINGS.—AUSTRALIA, 1925-26 TO 1929-30.

Class of Industry.	1925-26.(a)	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	2,273,275	2,257,921	2,108,813	2,072,791	2,040,633
II. Treating oils and fats, animal, vegetable, etc.	1,022,445	982,573	1,097,049	1,008,214	972,931
III. Processes in stone, clay, glass, etc.	4,368,411	4,087,979	4,916,868	5,102,907	5,132,550
IV. Working in wood	4,620,929	4,325,257	4,738,003	4,452,016	4,355,057
V. Metal works, machinery, etc.	15,382,362	16,649,605	17,399,778	18,253,678	19,024,705
VI. Connected with food and drink, etc.	20,802,518	21,892,282	24,708,527	26,013,697	26,662,076
VII. Clothing and textile fabrics, etc.	15,289,607	16,464,556	17,222,358	17,770,968	17,411,403
VIII. Books, paper, printing, and engraving	8,022,006	8,544,071	9,310,538	9,526,079	9,974,734
IX. Musical instruments, etc.	356,935	427,333	450,506	466,710	444,875
X. Arms and explosives	573,136	597,519	587,493	619,069	626,310
XI. Motor and other road vehicles and accessories	7,130,967	8,546,494	8,515,210	8,565,875	8,434,754
XII. Ship and boat building and repairing	1,852,896	1,717,756	1,718,777	1,754,487	1,753,933
XIII. Furniture, bedding, and upholstery	2,947,986	3,155,723	3,231,062	3,396,394	3,178,065
XIV. Drugs, chemicals, and by-products	2,565,553	2,815,161	3,199,653	3,467,608	3,791,189
XV. Surgical and other scientific instruments	250,766	296,435	282,113	335,285	292,368
XVI. Jewellery, timepieces, and plated ware	679,828	666,618	682,038	659,734	658,936
XVII. Heat, light, and power	7,107,993	7,600,312	7,805,082	8,523,226	10,142,655
XVIII. Leatherware, n.e.i.	409,110	b1,516,040	b2,065,878	b2,324,083	b2,787,592
XIX. Other industries, n.e.i.	869,819	201,543	283,947	343,540	383,463
Total	96,535,632	103,345,178	110,026,393	114,656,061	118,068,229

(a) See general note on first page of this Chapter.

(b) Includes Rubber Goods formerly in Class XIX. Other Industries n.e.i.

(ii) Value in each State, 1929-30. The following table gives similar information for each State for the past year:—

VALUE OF LAND AND BUILDINGS.—STATES, 1929-30.

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	860,266	873,740	80,497	121,632	92,730	11,718	2,040,633
II. Treating oils and fats, animal, vegetable, etc.	509,221	273,515	67,432	99,295	16,125	7,343	972,931
III. Processes in stone, clay, glass, etc.	2,762,582	1,267,400	192,368	377,676	218,924	313,600	5,132,550
IV. Working in wood	2,030,334	1,069,070	490,541	285,422	343,835	135,955	4,355,057
V. Metal works, machinery, etc.	9,625,251	5,141,345	1,140,984	1,591,700	949,685	575,740	19,024,705
VI. Connected with food and drink, etc.	10,003,260	7,449,105	4,714,344	2,211,389	1,509,030	774,948	26,662,076
VII. Clothing and textile fabrics, etc.	7,145,840	7,592,185	697,207	892,974	669,670	413,527	17,411,403
VIII. Books, paper, printing, and engraving	4,541,480	3,126,735	882,193	834,387	475,342	114,597	9,974,734
IX. Musical instruments, etc.	247,757	166,800	850	22,678	6,790	..	444,875
X. Arms and explosives	167,080	454,230	..	5,000	..	..	626,310
XI. Motor and other road vehicles and accessories	3,537,352	2,676,300	530,224	1,080,701	362,026	248,151	8,434,754
XII. Ship and boat building and repairing	1,504,639	193,115	8,651	31,750	9,551	6,227	1,753,933
XIII. Furniture, bedding, and upholstery	1,537,308	989,835	222,809	194,119	182,500	51,494	3,178,065
XIV. Drugs, chemicals, and by-products	1,705,830	1,184,785	34,537	355,233	442,658	68,246	3,791,189
XV. Surgical and other scientific instruments	106,853	101,505	22,745	38,170	23,095	..	292,368
XVI. Jewellery, timepieces, and plated ware	233,546	282,015	42,076	51,374	24,270	24,755	658,936
XVII. Heat, light, and power	5,807,702	2,871,300	447,233	624,311	283,358	108,751	10,142,655
XVIII. Rubber goods and leatherware, n.e.i.	1,264,458	1,151,685	63,354	114,288	52,250	141,557	2,787,592
XIX. Other industries, n.e.i.	194,560	123,820	51,368	4,890	8,475	350	383,463
Total	53,785,319	36,988,485	9,690,313	8,937,039	5,670,214	2,996,859	118,068,229

(iii) *Value in each State, 1925-26 to 1929-30.* The total value of factory land and buildings at the end of each year from 1925-26 to 1929-30 is given hereunder.

VALUE OF LAND AND BUILDINGS, 1925-26 TO 1929-30.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1925-26 ..	43,954,312	29,847,370	8,155,604	7,520,625	4,855,161	2,202,560	96,535,632
1926-27 ..	46,950,706	32,269,655	8,645,560	8,207,999	4,822,145	2,449,093	103,345,178
1927-28 ..	49,414,310	34,761,340	9,123,821	8,786,280	5,381,864	2,558,778	110,026,393
1928-29 ..	51,375,003	36,184,460	9,665,239	8,934,405	5,808,539	2,688,415	114,656,061
1929-30 ..	53,785,319	36,988,485	9,690,313	8,937,030	5,670,214	2,996,859	118,068,229

(a) See general note on first page of this Chapter.

Of the total increase of £3.4 m. in the value of land and buildings in 1929-30, much the greater part (£2.4 m.) is provided by New South Wales. It is in this State, however, that the value of manufacturing production and the numbers employed have fallen off most seriously in the same year. In 3 (ii) below it will be observed that most of the increase in value of plant and machinery has also taken place in New South Wales. In both cases, the increase is mostly due to Class XVII., Heat, Light and Power, but it has not been accompanied by any increase in the power used by other factories.

3. *Value of Plant and Machinery.—(i) Total, Australia, 1925-26 to 1929-30.* The following table shows for Australia as a whole the approximate value of plant and machinery used in factories during each year from 1925-26 to 1929-30 inclusive :—

VALUE OF PLANT AND MACHINERY.—AUSTRALIA, 1925-26 TO 1929-30.

Class of Industry.	1925-26.(a)	1926-27.	1927-28.	1928-29.	1929-30.
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	2,130,333	2,049,422	1,804,612	1,802,487	1,715,462
II. Treating oils and fats, animal, vegetable, etc. ..	1,322,592	1,207,096	1,015,775	1,007,548	900,844
III. Processes in stone, clay, glass, etc. ..	5,928,978	6,509,183	6,422,300	6,643,768	6,499,852
IV. Working in wood ..	5,562,722	5,171,047	4,827,638	4,615,488	4,352,660
V. Metal works, machinery, etc.	21,015,046	21,836,505	21,194,939	21,733,398	22,081,984
VI. Connected with food and drink, etc. ..	25,368,336	26,283,623	27,401,095	28,040,258	28,042,678
VII. Clothing and textile fabrics, etc.	7,251,468	8,235,014	8,191,144	8,013,923	8,162,396
VIII. Books, paper, printing, and engraving ..	7,736,172	8,114,407	8,187,155	8,422,027	8,317,935
IX. Musical instruments, etc. ..	140,000	195,203	197,703	218,124	210,365
X. Arms and explosives ..	328,458	337,291	368,901	405,530	420,091
XI. Motor and other road vehicles and accessories ..	1,896,950	2,157,518	2,830,624	2,681,231	2,670,549
XII. Ship and boat building and repairing ..	1,949,848	2,093,447	2,081,791	2,155,557	2,083,404
XIII. Furniture, bedding, and upholstery ..	891,450	957,976	961,486	1,078,168	1,076,150
XIV. Drugs, chemicals, and by-products ..	2,460,230	2,300,020	3,171,262	3,407,246	3,762,568
XV. Surgical and other scientific instruments ..	58,143	60,411	61,329	70,829	68,485
XVI. Jewellery, timepieces, and plated ware ..	159,058	139,185	147,984	136,632	150,733
XVII. Heat, light, and power ..	26,752,765	27,175,926	30,636,949	32,196,267	34,465,715
XVIII. Leatherware, n.e.i. ..	93,340	b 1,357,774	b 1,847,052	b 1,972,401	b 2,527,823
XIX. Other industries, n.e.i. ..	1,232,261	72,137	78,016	91,011	117,997
Total ..	112,278,150	116,747,185	121,227,815	124,692,788	127,627,691

(a) See general note on first page of this Chapter.

(b) Includes Rubber Goods formerly in Class XIX., Other Industries n.e.i.

During the past four years there has been a steady and substantial net increase amounting in all to £15,349,541, or an annual average of £3,837,385. All classes of industry but four participated, the largest increase being in Class XVII, "Heat, Light and Power" where it amounted to £7,712,950, while the next in order were Class VI. Food, Drink, &c., £2,674,342, and Class V., Metal Works, £1,066,938. The greatest decrease was recorded in Class IV., Working in Wood, where the value of plant and machinery declined from £5,562,722 in 1925-26 to £4,352,660 in 1929-30.

(ii) *Value in each State, 1925-26 to 1929-30.* The figures in the previous table refer to Australia as a whole. In the following table results are shown for each State, and it will be seen that the increase is general throughout the States. New South Wales shows the largest advance, viz., £7,520,834; while Victoria came next with £4,483,405, followed by South Australia with £1,964,649.

VALUE OF PLANT AND MACHINERY.—STATES, 1925-26 TO 1929-30.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
1925-26 ..	45,994,534	30,549,130	15,226,566	7,529,854	5,480,905	6,704,990	112,278,150
1926-27 ..	48,659,375	31,550,350	16,043,678	8,322,025	5,310,140	6,411,712	116,747,185
1927-28 ..	50,489,075	32,745,680	16,592,358	8,741,929	5,553,295	6,425,605	121,227,815
1928-29 ..	51,365,710	33,724,910	16,719,349	9,421,202	6,154,115	6,346,447	124,662,788
1929-30 ..	53,515,368	35,022,535	15,723,983	10,286,674	6,112,186	6,966,945	127,627,691

(a) See general note on first page of this Chapter.

(iii) *Value according to Industry, 1929-30.* The following table shows the value of plant and machinery used in factories in each State during 1929-30, classified according to the nature of the industry in which used:—

VALUE OF PLANT AND MACHINERY.—INDUSTRIES, 1929-30.

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	692,321	657,120	137,861	97,841	63,839	66,480	1,715,462
II. Treating oils and fats, animal, vegetable, etc.	409,367	313,695	50,704	102,890	21,438	2,750	900,844
III. Processes in stone, clay, glass, etc.	3,526,644	1,316,055	329,623	536,441	327,641	463,448	6,499,852
IV. Working in wood	1,255,526	1,030,225	666,103	185,402	967,689	247,715	4,352,660
V. Metal works, machinery, etc.	12,313,047	4,247,865	1,161,276	1,983,357	780,493	1,595,946	22,081,984
VI. Connected with food and drink, etc.	8,627,762	6,475,895	9,367,294	1,735,268	1,394,904	441,555	28,042,678
VII. Clothing and textile fabrics, etc.	2,617,835	4,440,205	236,811	296,847	175,813	394,885	8,162,396
VIII. Books, paper, printing, and engraving	3,734,720	2,743,925	648,497	665,484	394,061	131,248	8,317,935
IX. Musical instruments, etc.	146,903	56,955	140	5,592	775	..	210,365
X. Arms and explosives	104,266	315,425	..	400	..	..	420,091
XI. Motor and other road vehicles and accessories	650,287	1,025,460	108,954	740,977	106,689	32,182	2,670,549
XII. Ship and boat building and repairing	1,916,834	110,150	36,598	4,039	2,945	12,838	2,083,404
XIII. Furniture, bedding and upholstery	511,164	280,655	96,274	103,359	62,363	22,335	1,076,150
XIV. Drugs, chemicals, and by-products	991,749	1,253,655	31,478	672,652	764,900	48,134	3,762,568
XV. Surgical and other scientific instruments	28,296	24,645	7,161	4,434	3,949	..	68,485
XVI. Jewellery, timepieces, and plated ware	58,188	71,695	5,737	10,351	3,073	1,683	150,733
XVII. Heat, light and power	14,871,245	9,320,145	2,794,256	3,118,834	1,021,183	3,340,052	34,465,715
XVIII. Rubber Goods and Leatherware, n.e.f.	995,952	1,306,610	24,914	22,151	13,592	164,604	2,527,823
XIX. Other Industries, n.e.f.	57,262	32,155	20,302	355	6,839	1,084	117,997
Total ..	53,515,368	35,022,535	15,723,983	10,286,674	6,112,186	6,966,945	127,627,691

§ 9. 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 adopted by the Conference of Statisticians in 1906. 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 work, to give a full and detailed account of all the manufacturing industries of Australia, 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.

Reference has already been made to the change in method of computing the average number of persons employed in manufacturing industries. (See § 4 *ante*.) In the following tables relating to individual industries the number of employees shown in each case for the years 1928–29 and 1929–30 have been computed by the new method, while those for previous years are on the old basis. The employment figures for each year of the period 1925–26 to 1927–28 are, therefore, somewhat in excess of the average number employed over the twelve months.

2. **Tanneries.**—(i) *Details for each State, 1929–30.* In Class I, the most important industry is tanning. Formerly the production of tanneries in Australia was confined to the coarser class of leathers, but there are now very few kinds which cannot be produced locally, and by reason of their superiority an export trade has been built up in some varieties.

TANNERIES, 1929–30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	Australia.
Number of factories	69	44	14	8	7	1	143
Number of employees	1,152	1,838	259	151	109	63	3,572
Actual horse-power of engines employed	2,901	3,840	509	438	(a)	(a) b	8,224
Approx. value of land and buildings £	262,937	454,580	30,261	26,193	(a)	(a) b	824,415
Approx. value of plant and machinery £	170,091	336,835	36,870	21,620	(a)	(a) b	603,083
Total amount of wages paid during year £	269,828	416,575	54,058	34,630	(a)	(a) b	812,772
Value of fuel used	£ 27,535	42,273	4,647	3,784	(a)	(a) b	81,660
Value of materials used	£ 1,229,765	1,434,437	190,589	102,574	(a)	(a)	3,071,761
Total value of output	£ 1,701,895	2,197,709	253,545	148,709	(a)	(a)	4,467,175
Value of production	£ 444,505	720,909	58,309	42,351	(a)	(a)	1,313,754

(a) Particulars not available for publication.

(b) Including Western Australia and Tasmania.

(ii) *Development in Australia, 1925–26 to 1929–30.* The development of the tanning industry during the period 1925–26 to 1929–30 is shown in the following table:—

TANNERIES.—AUSTRALIA, 1925–26 TO 1929–30.

Items.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
Number of factories	156	152	142	142	143
Number of employees	4,347	4,206	3,607	(a) 3,688	(a) 3,572
Actual horse-power of engines used	8,672	8,392	8,041	8,370	8,224
Approx. value of land and buildings	902,089	917,997	835,376	835,135	824,415
Approx. value of plant and machinery	729,546	730,857	669,575	628,295	603,083
Total amount of wages paid	959,653	945,598	825,841	828,078	812,772
Value of fuel used	84,041	81,274	87,748	82,788	81,660
Value of materials used	3,908,737	3,701,332	3,835,412	4,027,760	3,071,761
Total value of output	5,564,646	5,443,334	5,435,810	5,593,756	4,467,175
Value of production	1,571,868	1,060,728	1,512,650	1,483,268	1,313,754

(a) See § 9.1.

Decreases were recorded in both the number of factories and employees in the tanning industry during the past four years. For the year 1929–30, the output of leather was shown in greater detail than for previous years and complete comparisons on these lines for earlier years are not available.

(iii) *Raw Material Used and Production, 1929-30.* The quantities of raw material used and leather produced in tanneries in each State are shown in the following table :—

TANNERIES.—RAW MATERIAL USED AND PRODUCTION, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Hides and calf skins No.	778,432	1,084,013	162,342	35,808	53,404	17,096	2,131,095
Sheep pelts	2,750,969	468,970	71,283	143,314	..	700	3,435,236
Other skins	504,980	579,032	135,760	1,715	6,170	..	1,227,657
Bark tons	9,191	11,709	1,536	682	649	140	23,907
Leather made—							
Sole and harness lb.	9,772,903	12,894,295	2,389,134	739,319	1,651,695	496,218	27,943,564
Upholstery	a	1,701,186	..	..	..	..	b 1,701,186
Dressed and upper from hides sq. ft.	5,276,798	10,671,374	544,971	473,323	35,802	118,000	17,120,268
Dressed from skins sq. ft.	10,116,388	8,663,751	d129,540	67,849	2,166	6,210	c18,856,364
Upper from horse hides sq. ft.	a	544,604	..	8,024	..	..	b 552,628
Rough tanned hides and splits sq. ft.	a	1,342,676	46,424	a	..	..	b 1,401,100
Basils produced .. lb.	2,025,747	..	a	143,290	..	a	b 2,169,037

(a) Information not available.

(b) Incomplete.

(c) Excluding Queensland.

(d) Number of skins, area not available.

3. *Fellmongering and Wool-scouring Works.*—(i) *Details for each State, 1929-30.* 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 during the past year :—

FELLMONGERING AND WOOL-SCOURING WORKS, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	Australia.
Number of factories	29	33	13	5	5	..	85
Number of employes	559	449	229	159	78	..	1,474
Actual horse-power of engines used	2,162	1,846	1,320	336	204	..	5,868
Approx. value of land and buildings £	178,547	183,385	44,137	24,079	44,271	..	474,419
Approx. value of plant and machinery £	140,085	163,260	91,278	30,511	20,599	..	445,733
Total amount of wages paid	£ 142,286	106,623	43,721	26,438	19,447	..	338,515
Value of fuel used	£ 29,239	26,496	11,933	6,978	2,807	..	77,453
Value of materials used	£ 1,199,995	1,158,962	654,104	249,272	87,394	..	3,349,727
Total value of output	£ 1,460,421	1,411,324	752,747	293,623	115,061	..	4,033,176
Value of production	£ 231,187	225,866	86,710	37,373	24,860	..	605,996

(ii) *Development in Australia, 1925-26 to 1929-30.* The following return furnishes particulars of fellmongering and wool-scouring establishments in Australia for the last five years :—

FELLMONGERING AND WOOL-SCOURING WORKS.—AUSTRALIA,
1925-26 TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories	93	93	90	87	85
Number of employes	2,195	2,175	1,901	a 1,738	a 1,474
Actual horse-power of engines used	5,734	4,993	4,798	4,987	5,868
Approx. value of land and buildings £	537,540	527,306	485,521	462,548	474,419
Approx. value of plant and machinery £	704,789	595,632	468,054	460,385	445,733
Total amount of wages paid	£ 398,278	463,313	387,096	335,860	338,515
Value of fuel used	£ 85,308	94,866	82,748	71,348	77,453
Value of materials used	£ 6,324,429	7,224,472	6,989,508	5,400,300	3,349,727
Total value of output	£ 7,130,008	8,631,769	7,363,212	5,844,511	4,033,176
Value of production	£ 720,271	712,431	290,956	372,863	605,996

(a) See § 9. 1.

The wool-scouring industry developed considerably under the régime of the Central Wool Committee, and during 1919-20 the record output of 107,726,653 lb. of scoured wool was produced. The production declined considerably since that date, however, and during 1929-30 only 82,726,950 lb. of greasy wool and 4,644,093 skins were treated for an output of 50,754,206 lb. of scoured wool.

4. Soap and Candle Factories.—(i) *Details for each State, 1929-30.* In Class II. soap and candle factories are the most important establishments. The manufacture of these two products is frequently carried on in the same factory, so that separate returns cannot be obtained; it may, however be noted that the manufacture of soap is the more important. The following table gives particulars of soap and candle factories in each State during the year 1929-30:—

SOAP AND CANDLE FACTORIES, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	Australia.
Number of factories	25	17	9	5	5	1	62
Number of employees	997	653	180	212	63	38	2,148
Actual horse-power of engines employed	1,040	828	199	365	a	a b	2,595
Approx. value of land and buildings £	330,964	204,895	36,822	85,669	a	a b	681,818
Approx. value of plant and machinery £	274,106	246,020	26,146	84,187	a	a b	654,647
Total amount of wages paid during year £	194,109	135,164	37,951	38,736	a	a b	426,608
Value of fuel used	£ 35,096	33,745	3,380	6,126	a	a b	82,239
Value of materials used	£ 759,383	650,111	114,922	165,461	a	a b	1,797,688
Total value of output	£ 1,389,285	1,138,963	216,392	241,360	a	a b	3,143,838
Value of production	£ 594,806	455,107	98,090	69,773	a	a b	1,263,911

(a) Particulars not available for publication.

(b) Including Western Australia and Tasmania.

(ii) *Development in Australia, 1925-26 to 1929-30.* The following table gives similar particulars for the last five years as regards Australia as a whole:—

SOAP AND CANDLE FACTORIES.—AUSTRALIA, 1925-26 TO 1929-30.

Items.	1925-26.a	1926-27.a	1927-28.a	1928-29.a	1929-30.a
Number of factories	66	66	66	67	62
Number of employees	2,487	2,507	2,362	62,333	62,148
Actual horse-power and engines used	2,962	2,933	3,084	3,550	2,595
Approx. value of land and buildings £	638,013	636,116	743,823	701,125	681,818
Approx. value of plant and machinery £	893,712	843,399	689,718	718,611	654,647
Total amount of wages paid	£ 492,789	493,505	473,550	489,341	426,608
Value of fuel used	£ 104,897	112,885	98,745	100,555	82,239
Value of materials used	£ 2,145,157	1,949,717	1,988,098	2,133,004	1,797,688
Total value of output	£ 3,592,832	3,421,879	3,452,912	3,661,958	3,143,838
Value of production	£ 1,342,778	1,359,277	1,360,069	1,428,399	1,263,911

(a) Including other small establishments in Western Australia.

(b) See § 9.1.

(iii) *Raw Material Used and Production, 1925-26 to 1929-30.* The following statement shows the quantities of certain raw material used, together with the production, in soap and candle factories in Australia during the years 1925-26 to 1929-30:—

SOAP AND CANDLE FACTORIES.—RAW MATERIAL USED, AND PRODUCTION, AUSTRALIA, 1925-26 TO 1929-30.

Particulars.	1925-26.a	1926-27.a	1927-28.a	1928-29.	1929-30.
Tallow used cwt.	470,101	473,787	502,903	548,112	491,603
Alkali used "	162,887	188,785	204,003	226,156	219,648
Coconut oil used gal.	763,910	800,140	807,941	1,012,246	920,531
Soap made cwt.	955,893	1,001,378	1,020,192	1,130,947	1,026,373
Candles made "	80,043	75,444	66,091	70,526	49,812

(a) Exclusive of Western Australia.

The total output for the year 1929-30 comprised the following quantities of the various kinds of soap manufactured:—Household, 812,538 cwt.; toilet, 124,223 cwt.; sand, 71,532 cwt.; soft, 11,799 cwt.; and other, 6,281 cwt.

5. *Saw-mills, etc.*—(i) *Details for States, 1929-30.* 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., 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories ..	748	532	316	135	141	237	2,109
Number of employees ..	6,368	5,658	4,106	1,158	2,413	1,254	20,957
Actual horse-power of engines employed ..	24,367	16,003	10,471	4,379	9,733	4,348	69,301
Approximate value of land and buildings .. £	1,754,287	894,280	433,808	264,298	341,829	114,383	3,802,885
Approximate value of plant and machinery .. £	1,093,302	912,900	577,832	177,346	965,794	223,105	3,950,279
Total amount of wages paid during year ..	£ 1,464,097	1,210,078	775,680	235,940	553,913	237,783	4,477,491
Value of fuel used ..	£ 72,999	49,480	33,530	11,714	17,456	17,150	202,329
Value of materials used ..	£ 3,722,375	1,510,845	1,375,656	777,632	809,897	276,161	8,471,366
Total value of output ..	£ 6,067,138	3,482,051	2,577,629	1,134,160	1,724,592	620,136	15,605,706
Value of production ..	£ 2,271,764	1,921,926	1,168,443	344,814	898,239	326,825	6,932,011

(ii) *Development in Australia, 1925-26 to 1929-30.* The development of forest and other saw-mills, etc., since 1925-26 is shown in the following table:—

**SAW-MILLS, FOREST AND OTHER ; JOINERY, ETC.—AUSTRALIA,
1925-26 TO 1929-30.**

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of establishments ..	2,340	2,244	2,168	2,164	2,109
Number of employees ..	33,309	30,217	27,399	a 24,975	a 20,957
Actual horse-power of engines used ..	72,924	69,813	69,912	68,330	69,301
Approx. value of land and buildings .. £	4,119,714	3,757,056	3,878,828	3,877,292	3,802,885
Approx. value of plant and machinery .. £	5,195,973	4,760,400	4,428,949	4,184,260	3,950,279
Total amount of wages paid ..	£ 7,401,907	6,074,006	5,571,162	5,017,539	4,477,491
Value of fuel used ..	£ 221,458	214,842	221,108	201,033	202,329
Value of materials used ..	£ 11,355,751	11,097,006	10,751,059	10,139,429	8,471,366
Value of final output ..	£ 22,223,017	20,712,673	19,705,157	18,178,153	15,605,706
Value of production ..	£ 10,645,808	9,400,825	8,732,990	7,834,691	6,932,011

(a) See § 9.1.

The effect of the depression in the saw-milling industry is reflected in the decreases recorded in the manufacturing returns during the past three years. The saw-mill output of native timber declined from 739,799,000 super. feet in 1925-26 to 484,637,000 super. feet in 1929-30.

6. *Agricultural Implement Works.*—(i) *General.* The manufacture of agricultural implements is an important industry in Australia, and is of particular interest, owing to the fact that it was one of the first to which it was sought to apply the so-called "New Protection." The articles manufactured include stripper-harvesters, header harvesters or reaper thrashers, strippers, reapers and binders, stump-jump and other ploughs, harrows, disc and other cultivators, winnowers, corn-shellers and baggers, drills, kerosene and petrol engines, and other implements employed in agriculture. The stripper harvester, which combines the stripper with a mechanism for winnowing and bagging grain, is an Australian invention, and is universally employed in agriculture.

(ii) *Details for States, 1929-30.* The following table gives particulars of the agricultural implement works in each State for the year 1929-30 :—

AGRICULTURAL IMPLEMENT WORKS, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	27	72	5	36	8	..	148
Number of employees	565	2,639	277	790	192	..	4,463
Actual horse-power of engines employed	542	2,656	23	1,278	238	..	4,737
Approx. value of land and buildings £	169,145	324,305	44,902	164,426	54,176	..	756,954
Approx. value of plant and machinery £	77,477	319,705	12,690	201,116	29,812	..	640,800
Total amount of wages paid during year £	135,101	583,956	54,463	163,407	48,442	..	985,369
Value of fuel used	£ 4,975	45,224	5,103	11,141	1,877	..	68,320
Value of materials used	£ 154,124	551,261	37,222	159,189	18,046	..	919,842
Total value of output	£ 379,828	1,378,287	131,199	382,615	125,633	..	2,397,562
Value of production	£ 220,729	781,802	88,874	212,285	105,710	..	1,409,400

(iii) *Development in Australia, 1925-26 to 1929-30.* The agricultural implement industry declined considerably during the war years, but great progress was made thereafter. The fall in world prices of agricultural products resulted, however, in a considerable slackening in employment and output in 1929-30 as compared for example with 1926-27. Details for the past five years are as follow :—

AGRICULTURAL IMPLEMENT WORKS.—AUSTRALIA, 1925-26 TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories	148	155	157	150	148
Number of employees	5,691	6,636	5,729	(a) 5,480	(a) 4,463
Actual horse-power of engines used	5,344	6,002	6,355	4,808	4,737
Approx. value of land and buildings £	695,214	767,817	789,966	771,805	756,954
Approx. value of plant and machinery £	622,165	686,821	682,270	662,119	640,800
Total amount of wages paid	£ 1,270,555	1,501,725	1,291,330	1,227,720	985,369
Value of fuel used	£ 71,137	82,651	87,996	77,642	68,320
Value of materials used	£ 1,385,089	1,574,492	1,335,986	1,266,128	919,842
Total value of output	£ 3,228,502	3,819,449	3,303,557	3,167,332	2,397,562
Value of production	£ 1,772,276	2,162,306	1,870,575	1,823,562	1,409,400

(a) See § 9.1.

7. *Engineering Works.* Formerly it was impossible to record separate details for the engineering industry owing to the limited classification adopted by some of the States, but since 1926-27 these particulars have been obtained, and with one or two duplications of minor importance, the following figures are representative of the engineering industry :—

ENGINEERING WORKS, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	282	295	44	56	69	13	759
Number of employees	6,380	5,693	1,237	1,092	817	211	15,430
Actual horse-power of engines employed	8,835	7,984	2,873	1,677	1,522	315	23,206
Approximate value of land and buildings £	1,470,102	1,314,070	101,693	128,179	214,899	42,248	3,271,191
Approximate value of plant and machinery £	1,274,868	1,219,315	263,893	178,509	195,106	33,992	3,165,683
Total amount of wages paid during year	£ 1,570,639	1,324,913	293,408	237,438	183,159	45,728	3,655,285
Value of fuel used	£ 73,550	80,205	16,530	15,264	16,288	3,669	205,506
Value of materials used	£ 1,681,475	1,535,036	213,339	246,667	204,871	29,014	3,910,402
Total value of output	£ 3,939,666	3,607,883	659,122	594,957	512,669	97,565	9,411,862
Value of production	£ 2,184,641	1,992,642	429,253	333,026	291,510	64,882	5,295,954

In addition to engineering works which supply ordinary requirements, there is now a large number of establishments which engage in the manufacture of special classes of machinery and implements. The manufacture of mining, smelting, and textile machinery and apparatus forms an important section of this industry.

8. **Ironworks and Foundries.** The extension of the classification noted in the preceding sub-section has made possible the separate publication of details for the group of industries comprised under the heading of ironworks and foundries. This combination consists of ironworks, foundries, iron safes and doors, steel castings, iron bedsteads, sash weights, steel window frames and sashes, nut and bolt making, oxy-acetylene welding, springs, horse-shoes, screws, lift making, tools, and brickmakers' implements. Particulars for the year 1929-30 are as follows:—

IRONWORKS AND FOUNDRIES, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	167	169	20	29	14	..	399
Number of employees	6,948	3,883	502	843	346	..	12,522
Actual horse-power of engines employed	36,050	7,034	708	1,355	335	..	45,482
Approximate value of land and buildings £	1,563,620	669,330	73,846	125,511	37,141	..	2,469,448
Approximate value of plant and machinery £	2,806,908	702,420	117,069	67,120	41,715	..	3,735,232
Total amount of wages paid during year £	1,798,199	822,116	112,070	170,842	87,477	..	2,990,704
Value of fuel used £	381,361	96,563	12,331	14,575	6,343	..	511,173
Value of materials used £	7,084,646	890,003	122,434	165,322	81,783	..	8,344,188
Total value of output £	10,213,855	2,245,262	289,460	395,210	199,040	..	13,342,827
Value of production £	2,747,848	1,258,696	154,695	215,313	110,914	..	4,487,466

9. **Railway and Tramway Workshops.**—(i) *Details for each State, 1929-30.* The railway and tramway workshops which form an important item in Class V. are chiefly State-owned institutions. The following table giving details concerning them includes, however, private and municipal establishments for manufacturing and repairing rolling-stock:—

RAILWAY AND TRAMWAY WORKSHOPS, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	42	20	14	16	22	6	120
Number of employees	13,304	6,462	3,774	3,115	2,295	389	29,339
Actual horse-power of engines employed	15,238	4,704	5,033	3,241	2,959	425	31,600
Approximate value of land and buildings £	2,890,763	1,304,055	700,368	848,623	472,842	13,860	6,230,511
Approximate value of plant and machinery £	3,023,713	1,084,980	510,417	727,324	433,587	92,117	5,872,138
Total amount of wages paid during year £	3,520,149	1,635,683	961,382	819,553	572,253	89,985	7,599,005
Value of fuel used £	108,157	80,081	31,182	41,921	28,249	5,825	295,415
Value of materials used £	2,343,809	1,605,760	548,228	806,799	385,746	18,986	5,709,328
Total value of output £	6,802,678	3,810,552	1,867,366	1,870,433	1,138,031	126,530	15,615,590
Value of production £	4,350,712	2,124,711	1,287,956	1,021,713	724,036	101,719	9,610,847

In addition to the above, a railway workshop is in operation in the Northern Territory. The work is confined almost exclusively to repairs to rolling-stock, etc., no new goods being manufactured. For the sake of convenience this establishment is not included in any of the tables in this chapter.

(ii) *Development in Australia, 1925-26 to 1929-30.* The following table shows the development of railway and tramway workshops in Australia since 1925-26 :—

RAILWAY AND TRAMWAY WORKSHOPS.—AUSTRALIA, 1925-26 TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories	121	125	122	122	120
Number of employees	28,558	30,715	31,315	(a) 31,658	(a) 29,339
Actual horse-power of engines used .. .	26,168	28,938	31,819	32,346	31,600
Approx. value of land and buildings £	4,491,396	5,062,626	5,345,963	5,836,151	6,230,511
Approx. value of plant and machinery £	5,076,776	5,722,784	5,338,210	5,726,639	5,872,138
Total amount of wages paid	7,192,369	7,815,202	7,967,515	8,058,200	7,599,005
Value of fuel used	250,632	278,598	294,913	322,936	295,415
Value of materials used	6,008,231	6,043,377	6,219,442	6,667,634	5,709,328
Total value of output	£ 14,855,394	15,539,846	16,338,532	17,072,699	15,615,590
Value of production	£ 8,627,131	9,267,961	9,724,228	10,052,129	9,610,847

(a) See § 9.1.

The growth of the railway and tramway systems, conjointly with heavy increases in passenger and goods traffic throughout Australia, has resulted in corresponding activity in workshops engaged in the manufacture or repair of rolling-stock, etc. During the five years prior to 1929-30 the number of employees increased by more than 5,000, and the output rose from £12,384,177 to £17,072,699, but in 1929-30 there was a decrease of over 2,000 employees with a consequent fall in the output as compared with the preceding year.

10. *Metal Extraction and Ore Reduction Works.*—The following table gives particulars of metal extraction and ore reduction works. The classification of these works is not uniform in the several States, and the combination of industries is, therefore, somewhat unsatisfactory. The returns do not include particulars of plants used on mines.

METAL EXTRACTION AND ORE REDUCTION WORKS, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A. (a)	Tas.	Australia.
Number of factories	17	7	7	2	..	5	38
Number of employees	2,131	41	141	1,338	..	1,203	4,854
Actual horse-power of engines employed ..	19,701	45	884	b	..	b	c 63,635
Approx. value of land and buildings £	528,943	15,215	8,669	b	..	b	c 1,175,523
Approx. value of plant and machinery £	2,827,123	8,440	78,247	b	..	b	c 5,034,949
Total amount of wages paid during year £	714,355	8,884	31,389	b	..	b	c 1,492,565
Value of fuel used	£ 1,080,197	1,751	7,300	b	..	b	c 1,743,323
Value of materials used	£ 5,740,872	86,883	58,828	b	..	b	c 10,365,710
Total value of output	£ 8,632,665	111,187	74,387	b	..	b	c 15,505,609
Value of production	£ 1,811,596	22,553	8,259	b	..	b	c 3,396,576

(a) In Western Australia all the plants are worked on the mines, and are therefore not included.
 (b) Information not available for publication. (c) Including South Australia and Tasmania.

11. Bacon-curing Factories.—(i) *Details for each State, 1929-30.* The following table gives particulars of factories engaged in bacon-curing in each State during the past year:—

BACON-CURING FACTORIES, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	23	19	8	8	5	6	69
Number of employees	348	544	559	169	47	41	1,708
Actual horse-power of engines employed	1,130	1,798	1,443	410	192	98	5,071
Approximate value of land and buildings £	153,503	227,670	177,513	56,387	17,330	17,539	649,942
Approximate value of plant and machinery £	60,969	120,600	116,738	28,349	7,791	6,575	341,022
Total amount of salaries and wages paid £	98,501	135,157	134,775	44,569	12,634	7,931	433,567
Value of fuel used £	14,000	26,992	19,801	5,317	2,439	5,525	74,074
Value of materials used £	1,015,858	1,045,999	952,882	306,089	152,721	82,408	3,555,957
Total value of output £	1,238,390	1,367,179	1,470,097	395,580	186,828	104,925	4,765,999
Value of production £	208,332	294,188	497,414	87,174	31,068	16,992	1,135,968

(ii) *Quantity and Value of Production.* The following table shows the number of pigs killed and the quantity and value of the production of bacon-curing factories in each State for the year 1929-30:—

BACON-CURING FACTORIES.—PIGS KILLED, AND PRODUCTION, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
PIGS KILLED.							
Number	233,435	218,799	263,775	51,325	20,315	19,373	807,022
PRODUCTS.							
Bacon and ham lb.	^a 20,984,249	18,222,220	18,024,040	4,819,604	^a 2,601,422	1,696,263	67,247,793
Lard	625,604	1,012,218	939,890	180,863	88,988	104,709	3,002,272
VALUE.							
Bacon and ham £	1,047,625	1,040,235	1,016,102	273,345	164,804	77,493	3,619,604
Lard	21,968	38,139	37,216	6,607	3,386	4,050	111,366
Other products £	132,915	279,218	405,195	118,628	18,428	13,084	957,468

(a) A portion of the bacon and ham treated was imported or purchased.

Bacon and ham and other pig products are dealt with more fully in Chapter XVIII. *Farmyard, Dairy, and Bee Products.*

12. Butter, Cheese, and Condensed Milk Factories.—(i) *Details for each State, 1929-30.* The subjoined table gives particulars of butter, cheese and condensed milk factories in each State during the year 1929-30 :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.A.	Tas.	Aus- tralia.
Number of factories	138	163	117	44	13	34	509
Number of employees	1,230	2,387	1,087	271	121	180	5,276
Actual horse-power of engines employed	8,806	7,003	7,582	866	548	418	25,223
Approximate value of land and buildings	£ 704,018	1,029,860	523,033	174,870	70,093	36,715	2,538,589
Approximate value of plant and machinery	£ 814,422	1,010,225	703,808	110,408	57,949	38,373	2,735,185
Total amount of wages paid	£ 333,415	580,481	263,757	55,510	30,229	27,867	1,291,259
Value of fuel used	£ 93,493	171,583	56,167	12,656	6,725	15,187	355,811
Value of materials used	£ 7,270,021	7,426,765	5,525,338	739,986	381,567	448,153	21,791,835
Total value of output	£ 8,125,666	8,753,102	6,422,374	851,597	459,456	541,051	25,153,846
Value of production	£ 762,152	1,154,754	840,869	98,955	71,164	78,306	3,006,200

(ii) *Development in Australia, 1925-26 to 1929-30.* The following table shows the progress of the factories in this industry during the past five years :—

**BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—AUSTRALIA,
1925-26 TO 1929-30.**

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories	585	579	563	523	509
Number of employees	5,490	5,419	5,520	a 5,441	a 5,276
Actual horse-power of engines used	17,089	20,148	22,668	24,219	25,223
Approx. value of land and buildings	£ 1,964,887	2,297,656	2,392,225	2,366,789	2,538,589
Approx. value of plant and machinery	£ 2,522,367	2,649,044	2,604,018	2,598,702	2,735,185
Total amount of wages paid	£ 1,244,470	1,242,813	1,298,540	1,289,000	1,291,259
Value of fuel used	£ 314,186	315,004	342,404	334,556	355,811
Value of materials used	£ 19,248,172	17,907,326	20,529,240	22,623,740	21,791,835
Total value of output	£ 22,971,416	21,737,110	24,788,248	26,365,690	25,153,846
Value of production	£ 3,409,058	3,514,780	3,916,604	3,407,394	3,006,200

(a) See § 9.1.

(iii) *Quantity and Value of Production.* The following table shows 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 the past year :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—PRODUCTION, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Aus- tralia.
MILK USED (,000 OMITTED).							
Butter factories .. gals.	210,192	199,974	156,185	14,848	9,255	13,877	604,331
Cheese	6,648	6,561	12,302	3,260	(a)	747	b 29,518
Condensed milk factories ..	(a)	14,443	(a)	..	..	..	c 14,443

(a) Particulars not available for publication.

(b) Excluding Western Australia.

(c) Victoria only.

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—PRODUCTION,
1929-30—*continued.*

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Aus- tralia.
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PRODUCTS (,000 OMITTED).

Butter lb.	100,814	87,170	76,104	7,657	4,723	6,440	282,908
Cheese "	6,163	6,748	12,375	3,537	(a)	762	(c) 29,585
Condensed and concentrated milk lb.	(a)	39,752	(a)	..	..	..	(b) 39,752
Powdered milk "	(a)	11,829	..	..	..	..	(b) 11,829

VALUE (,000 OMITTED).

Butter £	7,405	6,624	5,798	688	401	498	21,414
Cheese £	280	370	551	138	(a)	31	(c) 1,370
Condensed and concentrated milk £	(a)	1,014	(a)	..	..	..	(b) 1,014
Powdered milk £	(a)	470	..	..	..	..	(b) 470

(a) Information not available for publication.

(b) Victoria only.

(c) Excluding Western Australia.

The butter, cheese, and condensed milk industries are dealt with more fully in the Chapter entitled *Farmyard, Dairy, and Bee Products.*

13. *Meat and Fish Preserving Works.*—These industries are now of considerable importance in Australia. Large freezing works have been installed at many ports throughout the continent for the purpose of freezing produce chiefly for export, while insulated space for the carriage of frozen produce is provided by steamship companies trading between Australia and other parts of the world.

MEAT AND FISH PRESERVING WORKS, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	4	13	10	..	4	3	34
Number of employees	213	907	1,888	..	147	17	3,172
Actual horse-power of engines employed	181	3,937	7,859	..	660	3	12,640
Approximate value of land and buildings £	48,004	600,740	1,290,720	..	371,310	2,717	2,313,491
Approximate value of plant and machinery £	19,996	372,540	758,675	..	385,391	2,876	1,539,478
Total amount of wages paid dur- ing year £	47,664	242,496	552,434	..	79,594	3,117	925,305
Value of fuel used £	8,595	34,660	77,571	..	7,701	1,456	129,983
Value of materials used	166,148	1,617,544	3,172,498	..	170,618	6,855	5,133,663
Total value of output £	240,396	2,074,443	3,634,224	..	250,470	18,031	6,217,564
Value of production £	65,653	422,239	384,155	..	72,151	9,720	953,918

Full particulars regarding quantities and values of beef, mutton, and lamb preserved by cold process, exported from Australia during a series of years, will be found in Chapter XVI.

14. *Bakeries.*—The following table gives particulars regarding establishments at which the manufacture of bread, cakes, etc., was carried on in each State during the year 1929-30.

BAKERIES (INCLUDING CAKES AND PASTRY), 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	Australia.
Number of factories	358	464	223	98	63	47	1,253
Number of employees	3,144	2,951	1,933	781	293	877	9,979
Actual horse-power of engines employed	2,282	1,944	654	638	287	1,369	7,174
Approximate value of land and buildings	£ 1,615,114	£ 1,019,260	£ 388,916	£ 273,635	£ 103,791	£ 298,654	£ 3,699,370
Approximate value of plant and machinery	£ 491,090	£ 366,290	£ 169,605	£ 94,078	£ 34,276	£ 91,965	£ 1,247,304
Total amount of wages paid during year	£ 726,230	£ 575,383	£ 366,487	£ 142,196	£ 61,690	£ 134,441	£ 2,006,427
Value of fuel used	£ 97,763	£ 88,005	£ 32,877	£ 19,952	£ 5,474	£ 21,211	£ 268,282
Value of materials used	£ 2,137,657	£ 2,000,540	£ 730,001	£ 502,245	£ 217,830	£ 327,803	£ 5,016,076
Total value of output	£ 3,687,427	£ 3,313,820	£ 1,492,644	£ 811,742	£ 383,921	£ 538,099	£ 10,227,653
Value of production	£ 1,452,007	£ 1,225,275	£ 729,766	£ 289,545	£ 157,617	£ 189,085	£ 4,043,295

(a) Includes Biscuits and Confectionery.

15. Jam and Fruit Preserving, Pickles, Sauces, and Vinegar Factories.—(i) *Details for each State, 1929-30.* The subjoined table gives particulars of factories at which these industries were carried on in each State during the year 1929-30.

JAM AND FRUIT PRESERVING, PICKLES, ETC., FACTORIES, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	39	39	12	18	6	7	121
Number of employees	1,213	2,261	341	481	41	443	4,780
Actual horse-power of engines employed	1,616	2,085	747	382	47	1,224	6,101
Approximate value of land and buildings	£ 326,442	£ 460,635	£ 41,427	£ 120,977	£ 14,222	£ 100,958	£ 1,064,661
Approximate value of plant and machinery	£ 143,772	£ 286,240	£ 31,851	£ 69,109	£ 5,857	£ 31,004	£ 567,833
Total amount of wages paid during year	£ 220,262	£ 411,886	£ 49,284	£ 78,745	£ 6,777	£ 106,554	£ 873,508
Value of fuel used	£ 20,132	£ 40,936	£ 3,794	£ 7,042	£ 1,601	£ 10,079	£ 83,634
Value of materials used	£ 793,800	£ 1,624,703	£ 240,033	£ 275,949	£ 24,404	£ 331,379	£ 3,290,268
Total value of output	£ 1,278,633	£ 2,592,061	£ 343,549	£ 414,258	£ 42,853	£ 507,084	£ 5,178,438
Value of production	£ 464,701	£ 926,372	£ 99,722	£ 131,267	£ 16,848	£ 165,626	£ 1,804,536

(ii) *Development in Australia, 1925-26 to 1929-30.* The following table refers to jam and fruit preserving, etc., establishments in Australia for the last five years:—

JAM AND FRUIT PRESERVING, PICKLES, ETC., FACTORIES.—AUSTRALIA, 1925-26 TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories	165	164	167	121	121
Number of employees	6,189	6,119	6,627	5,478	4,780
Actual horse-power of engines employed	4,520	4,528	5,215	5,198	6,101
Approx. value of land and buildings	£ 1,038,819	£ 1,084,835	£ 1,177,963	£ 1,058,445	£ 1,064,661
Approx. value of plant and machinery	£ 615,452	£ 634,771	£ 748,888	£ 601,229	£ 567,833
Total amount of wages paid	£ 902,869	£ 974,224	£ 1,049,136	£ 869,144	£ 873,508
Value of fuel used	£ 70,549	£ 79,311	£ 92,373	£ 78,422	£ 83,634
Value of materials used	£ 3,135,573	£ 3,511,388	£ 3,703,161	£ 3,030,762	£ 3,290,268
Total value of output	£ 5,002,487	£ 5,480,065	£ 5,967,876	£ 5,054,595	£ 5,178,438
Value of production	£ 1,796,365	£ 1,889,360	£ 2,172,342	£ 1,945,411	£ 1,804,536

(a) See § 9.1.

The progress of the jam-making industry was very marked during the war years, when considerable quantities were exported overseas for the supply of army requirements. With the loss of this trade on the termination of the war, production declined considerably, and in 1929-30 amounted to only 79,698,965 lb., compared with 75,252,189 lb. in 1928-29, and 142,290,204 in 1918-19. The output of preserved fruit has grown to considerable proportions, and during 1929-30, 86,334,408 lb. were processed. The production of pickles and sauces, however, showed a slight decline.

(iii) *Production.* The following table shows the quantity and value of jams, pickles and sauces manufactured in each State during 1929-30 :—

JAMS, PRESERVED FRUIT, PICKLES AND SAUCES.—OUTPUT, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
QUANTITY (,000 OMITTED).							
Jams lb.	15,806	37,579	6,923	(a)	(a)	12,145	c 79,099
Pulp "	4,828	16,873	1,492	(a)	(a)	6,954	c 35,718
Fruit, preserved "	16,853	57,153	5,074	2,763	..	4,491	86,334
Pickles pints	1,885	1,452	(a)	556	(a)	(a)	b 4,167
Sauces "	5,346	8,806	777	4,160	(a)	(a)	b 19,469

VALUE.

Jams £	456,795	850,125	165,205	(a)	(a)	267,022	c1,885,564
Pulp £	29,296	85,378	10,580	(a)	(a)	88,327	c 235,976
Fruit, preserved £	259,543	998,876	109,643	52,083	..	144,109	1,564,254
Pickles £	55,812	60,218	11,578	23,352	(a)	(a)	b 159,553
Sauces £	317,909	304,397	26,797	139,807	(a)	(a)	b 800,210

(a) Particulars not available for publication. (b) Including Western Australia and Tasmania.
(c) Including Western Australia and South Australia.

16. Confectionery Factories.—(i) *Details for each State, 1929-30.* The growth of this industry will be apparent when it is stated that at the close of 1900 there were in New South Wales only 16 establishments, with 706 employees, and in Victoria 16 establishments, employing 731 persons, the plant and machinery in the former State being valued at £2,815, and in the latter at £19,070. Returns for 1929-30 are given hereunder :—

CONFECTIONERY FACTORIES, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	Australia.
Number of factories	74	140	12	17	11	..	254
Number of employees	2,957	3,097	582	358	266	..	7,260
Actual horse-power of engines employed	4,033	6,784	716	638	261	..	12,432
Approximate value of land and buildings £	1,077,023	589,095	182,107	96,226	63,041	..	2,007,492
Approximate value of plant and machinery £	1,044,522	888,355	158,989	79,023	77,581	..	2,248,470
Total amount of wages paid during year £	485,766	511,392	79,000	47,879	43,617	..	1,167,654
Value of fuel used £	54,278	89,331	7,991	11,402	4,824	..	167,526
Value of materials used £	1,502,044	1,605,520	141,868	159,750	140,491	..	3,549,673
Total value of output £	2,919,893	2,801,299	359,427	252,355	234,785	..	6,567,759
Value of production £	1,363,371	1,106,448	209,368	81,203	89,470	..	2,850,560

(a) Included with Bakeries.

(ii) *Development in Australia, 1925-26 to 1929-30.* The growth of the confectionery industry during the past four years is exhibited in the following table :—

CONFECTIONERY FACTORIES.—AUSTRALIA, 1925-26 TO 1929-30.

Items.	1925-26. (a)	1926-27. (c)	1927-28. (a)	1928-29. (a)	1929-30. (c)
Number of factories	267	286	293	320	254
Number of employees	8,849	9,048	8,610	8,386	b 7,260
Actual horse-power of engines employed	13,047	14,166	14,241	12,737	b 12,432
Approx. value of land and buildings £	2,014,563	2,084,233	2,074,074	2,201,885	2,007,492
Approx. value of plant and machinery £	2,199,860	2,311,513	2,332,479	2,368,208	2,248,470
Total amount of wages paid during year £	1,391,114	1,426,779	1,365,241	1,385,997	1,167,654
Value of fuel used £	166,846	165,181	186,323	183,787	167,526
Value of materials used £	3,884,045	3,918,090	4,054,201	3,998,906	3,549,673
Total value of output £	6,993,566	7,097,911	7,300,429	7,455,428	6,567,759
Value of production £	2,942,675	3,014,640	3,059,905	3,272,735	2,850,560

(a) Including Biscuits and Bakeries in Tasmania. (b) See § 9.1. (c) Figures for Tasmania included in Bakeries.

The confectionery industry has expanded considerably during recent years, largely as a result of the stimulus afforded by the embargo placed on the importation of luxuries during the period of the war. The establishments engaged therein found employment for 7,260 persons in 1929-30, and the value of the output amounted to £6,567,759. The decline in the value of output, etc., in 1929-30 is due to the exclusion of the returns for Tasmania which have been incorporated with Bakeries to avoid disclosing confidential information. The Australian market has been captured, and an export trade is being developed. Several large British manufacturers of confectionery have established branch works in Australia.

17. Flour Mills.—(i) *Details for States, 1929-30.* The following table shows the position of the flour-milling industry in each State in 1929-30:—

FLOUR MILLS, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust. (a)	W. Aust.	Tas. (a)	Australia.
Number of factories ..	53	38	9	34	19	9	162
Number of employes ..	1,043	898	274	428	350	104	3,097
Actual horse-power of engines employed ..	7,331	5,591	1,411	2,964	2,485	527	20,309
Approximate value of land and buildings ..	£ 810,602	431,710	151,992	217,961	229,883	59,715	1,901,863
Approximate value of plant and machinery ..	£ 864,462	580,835	168,236	322,247	261,594	42,910	2,240,284
Total amount of wages paid during year ..	£ 301,866	235,971	72,354	106,162	91,268	25,743	833,364
Value of fuel used ..	£ 69,576	57,843	12,827	32,099	22,354	5,103	199,802
Value of materials used ..	£ 5,091,862	4,370,908	812,418	1,650,678	1,352,916	317,504	13,596,286
Total value of output ..	£ 5,976,447	5,106,194	985,460	1,846,142	1,605,937	374,391	15,894,571
Value of production ..	£ 815,009	677,443	160,215	163,365	230,667	51,784	2,098,483

(a) The manufacture of cornflour, oatmeal, etc., was also carried on in some of these establishments.

(ii) *Production of Flour and By-products, 1925-26 to 1929-30.* The production of flour by the mills in each State for the years 1925-26 to 1929-30 was as follows:—

FLOUR MILLS.—PRODUCTION OF FLOUR, 1925-26 TO 1929-30.

Year.(b)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1925-26 ..	Tons.a 434,407	Tons.a 336,704	Tons.a 61,587	Tons.a 138,127	Tons.a 190,369	Tons.a 24,774	Tons.a 1,185,968
1926-27 ..	431,532	360,051	52,959	140,426	133,919	22,861	1,141,748
1927-28 ..	400,363	367,383	53,858	122,107	127,246	21,675	1,092,632
1928-29 ..	449,011	390,286	54,433	137,202	119,550	21,277	1,171,759
1929-30 ..	432,472	364,682	61,102	138,115	120,595	19,899	1,136,865

(a) Tons of 2,000 lb.

(b) See general note on first page of this Chapter.

The total production of flour in Australia for the last year, viz., 1,136,865 tons was valued at £12,188,550. In addition, 464,909 tons of bran and pollard, valued at £3,419,006 were made. The total quantity of wheat ground was 53,996,662 bushels.

18. Sugar Mills.—(i) *Details for 1929-30.* The following table shows the position of the cane-crushing branch of the sugar-making industry in Queensland and New South Wales in 1929-30. Sugar-cane is not grown in the other States. Details regarding the area, yield, etc., of sugar-cane will be found in Chapter XVII., *Agricultural Production.*

SUGAR MILLS, 1929-30.

Items.	N.S.W.	Queensland.	Australia.
Number of factories	3	35	38
Number of employees	170	5,459	5,629
Actual horse-power of engines employed	2,114	32,040	34,154
Approximate value of land and buildings £	135,042	1,026,657	1,161,699
Approximate value of plant and machinery £	540,679	6,283,921	6,824,600
Total amount of wages paid during year	£ 75,135	1,223,492	1,298,627
Value of fuel used	£ 13,730	175,968	189,698
Value of materials used	£ 329,705	7,558,993	7,888,698
Total value of output	£ 476,355	10,586,450	11,062,805
Value of production	£ 132,920	2,851,489	2,984,409

The products of the sugar mill are 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 for distillation, part is prepared for human consumption, part is turned into food-cake for cattle, part is used for manuring land, and the balance is either burnt as fuel or is allowed to run to waste. This latter quantity, however, is being reduced each year.

(ii) *Progress of Industry.* (a) *New South Wales.* The following table shows the progress of this industry in New South Wales since 1925-26 :—

SUGAR MILLS.—NEW SOUTH WALES, 1925-26 TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories ..	3	3	3	3	3
Number of employees ..	487	447	413	(a) 375	(a) 170
Cane crushed .. tons	297,335	230,254	208,612	147,414	174,110
Sugar produced .. tons	32,385	26,604	23,349	16,954	19,568
Molasses produced gals.	1,820,000	1,371,700	1,196,700	914,000	1,064,405

(a) See § 9.1.

The number of mills in New South Wales has been reduced to three during recent years owing chiefly to the tendency towards concentration of cane-crushing in mills fitted with modern machinery, and the consequent closing of the small home mill. The stability afforded the sugar industry by Government assistance referred to in the chapter dealing with agriculture has been responsible for considerable progress in the cultivation of sugar cane, and consequently increased activity has occurred in the sugar mills in Queensland during recent years.

(b) *Queensland.* Details for Queensland from 1911 onwards are given hereunder.

SUGAR MILLS.—QUEENSLAND, 1911 TO 1929-30.

Items.	1911.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories ..	49	39	35	35	35
Number of employees ..	4,295	6,949	6,005	(a) 6,077	(a) 5,459
Cane crushed .. tons	1,534,451	2,930,860	3,570,743	3,741,715	3,572,068
Sugar produced .. tons	173,296	457,914	479,803	516,081	513,551
Molasses—					
Sold to distillers and others .. gals.	2,393,669	3,301,557	4,823,728	5,676,821	5,854,398
Used as fodder .. gals.	789,564	2,828,118	2,523,390	2,524,136	2,382,192
Used as manure .. gals.	223,000	89,600	473,260	7,200	298,395
Run to waste .. gals.	1,847,333	4,748,015	3,495,063	3,044,889	2,253,083
Burnt as fuel .. gals.		2,547,140	3,204,997	5,131,726	4,202,588
In Stock .. gals.	1,197,626	1,172,003	1,335,366	488,600	871,292
Total Molasses .. gals.	6,451,192	14,686,433	15,855,804	16,873,372	15,861,948

(a) See § 9.1.

19. **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 1929-30 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 quantity of raw sugar operated upon amounted to 328,943 tons, for a yield of 319,804 tons of refined sugar, valued at £11,270,699.

20. **Breweries.**—(i) *Details for each State, 1929-30.* The following table gives particulars concerning breweries in each State :—

BREWERIES, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust. (a).	Tas.	Australia.
Number of breweries	8	9	9	6	10	3	45
Number of employees	1,156	1,153	396	311	462	112	3,590
Actual horse-power of engines employed	4,609	4,186	2,165	1,478	1,647	715	14,800
Approximate value of land and buildings	£ 847,108	714,795	292,780	179,333	282,024	141,388	2,457,428
Approximate value of plant and machinery	£ 1,003,849	1,007,420	276,509	201,311	298,489	169,329	2,956,907
Total amount of wages paid during year	£ 350,178	409,815	115,940	104,517	151,721	33,209	1,165,380
Value of fuel used	£ 93,581	81,876	20,690	23,831	20,424	29,797	276,199
Value of raw materials used	£ 990,968	1,021,035	224,861	242,471	347,261	60,655	2,887,251
Total value of output	£ 2,856,404	2,334,283	551,553	559,201	805,308	152,124	7,258,933
Value of production	£ 1,771,915	1,231,372	300,002	292,899	437,623	61,672	4,095,483

(a) Includes malting.

(ii) *Development in Australia, 1925-26 to 1929-30.* The following table shows the progress of this industry during the past four years :—

BREWERIES.—AUSTRALIA, 1925-26 TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of breweries	52	48	46	45	45
Number of employees	3,812	3,844	3,881	a 3,874	a 3,590
Actual horse-power of engines used	13,246	13,143	14,688	14,217	14,800
Approx. value of land and buildings	£ 2,141,886	2,205,779	2,347,851	2,476,207	2,457,428
Approx. value of plant and machinery	£ 2,595,955	2,710,319	2,853,623	2,912,078	2,956,907
Total amount of wages paid	£ 1,194,424	1,173,086	1,208,091	1,208,699	1,165,380
Value of fuel used	£ 283,300	248,780	272,151	295,908	276,199
Value of raw materials used	£ 3,577,212	3,315,441	3,318,521	3,310,659	2,887,251
Total value of output	£ 7,842,180	7,941,978	7,964,626	7,921,010	7,258,933
Value of production	£ 3,981,668	4,377,757	4,373,954	4,314,443	4,095,483

(a) See § 9.1.

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 centralized 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 Australia decreased from £7,842,180 in 1925-26 to £7,258,933 in 1929-30, and the quantity of ale and stout brewed dropped from 72,505,829 to 66,578,265 gallons during the same period. The consumption of ale and stout per head of the population remains fairly constant in Australia, and for the year 1929-30 averaged about 10½ gallons.

(iii) *Materials Used and Production.* The table below shows the quantity of raw material used and the quantity and value of ale and stout brewed in each State during the year 1929-30.

BREWERIES.—MATERIALS USED AND PRODUCTION, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
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RAW MATERIAL USED.

Malt .. bushels	850,707	754,288	190,326	175,012	210,579	44,784	2,225,696
Hops .. lb.	809,098	619,218	171,549	183,687	193,000	40,864	2,017,416
Sugar .. cwt.	95,313	103,328	24,930	20,520	28,707	3,921	276,719

RAW MATERIAL USED PER 1,000 GALLONS OF ALE AND STOUT PRODUCED.

Malt .. bushels	32.58	34.36	31.08	33.85	35.05	37.04	33.43
Hops .. lb.	30.98	28.21	28.01	35.53	32.12	33.80	30.30
Sugar .. cwt.	3.65	4.71	4.07	3.97	4.78	3.24	4.16

ALE AND STOUT BREWED.

Quantity gallons	26,113,448	21,952,775	6,124,413	5,170,387	6,008,184	1,209,058	66,578,265
Value(a) £	2,827,267	2,376,797	551,553	554,633	700,297	153,124	7,223,671

(a) Exclusive of excise duty.

21. *Distilleries.*—Distilleries are located in all the States with the exception of Western Australia and Tasmania. Complete details, however, are not obtainable, as the particulars for New South Wales factories are not available. The materials used in all distilleries during 1929-30 comprised 881,835 cwt. of molasses, 300,267 bushels of malt, and 8,817,948 gallons of wine, while the output of distilled spirit amounted to 7,240,090 proof gallons.

22. *Tobacco, etc., Factories.*—(i) *Details for each State, 1929-30.* During the year 1929-30 there were twenty-three establishments in which the manufacture of tobacco, cigars, and cigarettes was carried on. There were no factories engaged in this industry in Queensland or Tasmania.

TOBACCO, CIGAR, AND CIGARETTE FACTORIES, 1929-30.

Items.	N.S.W.	Victoria.	S. Aust.	W. Aust.	Australia.
Number of factories	8	12	1	2	23
Number of employees	2,505	1,475	14	102	4,096
Actual horse-power of engines employed	1,221	725	(a)	(a)	b 1,986
Approx. value of land and buildings £	587,033	250,225	(a)	(a)	b 857,787
Approx. value of plant and machinery £	382,545	174,745	(a)	(a)	b 565,556
Total amount of wages paid during year £	481,879	318,559	(a)	(a)	b 818,342
Value of fuel used	14,554	9,042	(a)	(a)	b 24,941
Value of materials used	3,983,928	1,185,141	(a)	(a)	b 5,111,443
Total value of output	5,406,662	2,005,347	(a)	(a)	b 7,523,114
Value of production	1,498,180	810,564	(a)	(a)	b 2,386,730

(a) Not available for publication. (b) Including South Australia and Western Australia.

(ii) *Development in Australia.* This industry was among the first to be established in Australia. In 1861 New South Wales had eleven factories, producing 177,744 lb. 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 imports into Australia during 1929-30 comprised—manufactured tobacco 882,008 lb., cigars 87,443 lb., and cigarettes 879,112 lb., while the quantities manufactured in Australian factories were respectively 16,064,402 lb., 306,740 lb., and 5,371,005 lb. The following tables show the development of the tobacco manufacturing industry in Australia during recent years:—

TOBACCO, CIGAR, AND CIGARETTE FACTORIES.—AUSTRALIA,
1925-26 TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories	26	24	23	23	23
Number of employees	4,325	4,286	4,217	a 4,137	a 4,096
Actual horse-power of engines used	1,713	1,645	1,684	1,946	1,986
Approx. value of land and buildings £	640,239	675,089	783,895	794,421	857,787
Approx. value of plant and machinery £	508,100	512,441	510,661	543,462	565,556
Total amount of wages paid	£ 800,615	£ 812,300	£ 818,985	£ 808,865	£ 818,342
Value of fuel used	£ 28,053	£ 22,032	£ 21,991	£ 24,115	£ 24,941
Value of materials used	£ 4,589,301	£ 4,523,086	£ 4,492,363	£ 4,427,806	£ 5,111,443
Value of final output	£ 6,892,332	£ 6,800,026	£ 6,817,391	£ 6,812,791	£ 7,523,114
Value of production	£ 2,274,978	£ 2,254,908	£ 2,303,037	£ 2,360,870	£ 2,386,730

LEAF USED AND PRODUCTION.

Leaf used	1,000 lb.	18,061	18,610	18,620	19,136	19,175
Tobacco made	15,405	15,008	15,097	15,678	16,064	16,064
Cigars	456	410	390	339	307	307
Cigarettes	5,134	5,309	5,391	5,358	5,371	5,371

(a) See § 9. 1.

Although the manufacturing side of the tobacco industry is so firmly established in Australia, the production of locally-grown leaf is comparatively small, and manufacturers are dependent on imported leaf for the supply of their raw material. In this connexion, however, see item "Tobacco" in Chapter XVII., *Agricultural Production*. The respective quantities of Australian and imported leaf used during 1929-30 were 1,191,568 and 17,983,113 lb.

23. Woollen and Tweed Mills.—(i) *Details for each State, 1929-30*. 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 for 1929-30, shows that the industry is now well established:—

WOOLLEN AND TWEED MILLS, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.A.	Tas.	Australia.
Number of factories	15	31	2	3	1	6	58
Number of employees	3,197	6,663	353	260	111	1,259	11,843
Actual horse-power of engines employed	7,933	14,627	(a)	(a)	(a)	1,963	b 26,407
Approx. value of land and buildings £	601,207	1,135,975	(a)	(a)	(a)	265,974	b 2,124,486
Approx. value of plant and machinery	£ 1,048,301	£ 1,835,875	(a)	(a)	(a)	£ 355,496	b £ 3,553,493
Total amount of wages paid during year	£ 493,085	£ 1,025,101	(a)	(a)	(a)	£ 159,874	b £ 1,780,514
Value of fuel used	£ 71,388	£ 170,249	(a)	(a)	(a)	£ 41,390	b £ 298,212
Value of materials used	£ 1,173,662	£ 2,030,093	(a)	(a)	(a)	£ 417,890	b £ 3,758,577
Total value of output	£ 2,082,499	£ 3,903,164	(a)	(a)	(a)	£ 675,885	b £ 6,964,160
Value of production	£ 837,449	£ 1,702,822	(a)	(a)	(a)	£ 216,605	b £ 2,907,371

(a) Information not available for publication.

(b) Including Queensland, South Australia, and Western Australia.

(ii) *Development in Australia, 1925-26 to 1929-30.* The progress of woollen and tweed milling in Australia during the last four years is shown in the following table :—

WOOLLEN AND TWEED MILLS.—AUSTRALIA, 1925-26 TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories	50	53	57	53	58
Number of employees	8,735	11,068	11,638	11,430	11,843
Actual horse-power of engines used	18,426	22,441	23,158	24,748	26,407
Approx. value of land and buildings	£ 1,659,446	1,892,108	1,933,654	1,984,124	2,124,486
Approx. value of plant and machinery	£ 3,247,602	3,779,316	3,688,023	3,487,795	3,553,493
Total amount of wages paid	£ 1,222,596	1,607,595	1,755,538	1,766,820	1,780,514
Value of fuel used	£ 203,237	251,093	272,578	270,995	298,212
Value of materials used	£ 3,400,316	3,681,164	4,172,120	4,363,482	3,758,577
Total value of output	£ 5,758,267	6,986,296	7,601,435	7,477,295	6,964,160
Value of production	£ 2,154,714	3,054,039	3,156,737	2,842,818	2,907,371

(a) See § 9.1.

(iii) *Quantity and Value of Production.* The production consists chiefly of tweed cloths, flannels, rugs, blankets and yarn, 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 Australia during 1929-30 was 9,887,273 yards. In New South Wales 3,118,673 yards of tweed and cloth, and in Victoria 6,077,129 yards were manufactured. The production of flannel amounted to 5,994,544 yards, while blankets, shawls, and rugs to the number of 875,888 were manufactured. The output of yarn reported was 7,658,849 lb., most of which was produced in Victoria.

In addition to the woollen and tweed factories, there were 268 hosiery and knitting mills operating throughout Australia during 1929-30. These establishments provided employment for 12,447 persons, of whom 9,566 were females, and the value of their output amounted to £6,525,226.

Cotton ginning has been carried on intermittently in the Northern States, and the recent development in cotton growing has led to the establishment of modern ginning plants at convenient centres in Queensland. In New South Wales during 1923-24 the first up-to-date mill for the manufacture of cotton goods was erected. There were twenty-two establishments treating cotton in Australia during 1929-30, and these employed 1,216 hands, while the value of the output was £892,770.

24. *Boot Factories.*—(i) *Boot and Shoe Factories, 1929-30.* Among the manufactures of Australia the boot and shoe industry holds an important place in regard to employment afforded and extent of output. In certain items the operations of these factories have been rather obscured in recent years by the inclusion in the returns of a large number of repair establishments, but this difficulty has been avoided by the collection of separate statistics for each industry, and in the following table the details relate to boot and shoe factories as distinct from those devoted to repairing and bespoke work :—

BOOT AND SHOE FACTORIES, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	100	197	18	16	8	5	344
Number of employees	4,316	10,749	1,111	476	355	149	17,156
Actual horse-power of engines employed	1,843	3,601	300	258	212	60	6,274
Approx. value of land and buildings	£ 519,115	914,365	67,012	76,959	36,726	13,690	1,627,867
Approx. value of plant and machinery	£ 251,530	571,325	43,521	26,488	20,218	6,606	919,688
Total amount of wages paid during year	£ 748,637	1,808,261	166,420	72,904	52,929	26,701	2,875,852
Value of fuel used	£ 14,781	41,220	2,629	1,523	1,194	740	62,087
Value of materials used	£ 1,055,745	2,962,116	226,064	101,734	111,694	54,636	4,511,989
Total value of output	£ 2,176,933	5,726,739	462,175	191,923	195,519	89,125	8,842,414
Value of production	£ 1,106,407	2,723,403	233,482	88,666	82,631	33,749	4,268,338

(ii) *Boot Repairing, including Bespoke Work.* The introduction of small power plants in repairing shops has brought this class of establishment within the meaning of a factory for statistical purposes. These shops have spread rapidly throughout the Commonwealth, and during 1929-30 the number recorded amounted to 1,123, in which 2,137 hands were employed. The sum of £203,964 was distributed in salaries and wages, and the total output value was £916,917.

(iii) *Quantity and Value of Production.* The number and value of boots, shoes, and slippers made at factories in each State are shown in the following table:—

BOOT AND SHOE FACTORIES.—OUTPUT, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
QUANTITY (,000 OMITTED).							
Boots and shoes .. pairs	3,517	7,891	695	356	316	120	12,895
Slippers .. "	923	2,567	8	14	203	..	3,718
Uppers (a) .. "	52	20	41	7	..	3	123
VALUE.							
Boots and shoes .. £	1,960,627	5,003,236	454,862	184,241	166,304	88,217	7,857,517
Slippers .. £	128,011	383,159	2,744	2,315	30,986	..	547,215
Uppers (a) .. £	17,062	8,770	4,673	3,409	186	880	34,950

(a) Made for other than factory use.

25. Clothing (Tailoring and Slop) Factories.—(i) Details for each State, 1929-30. The importance of this industry in the several States is shown in the following table:—

CLOTHING (TAILORING AND SLOP) FACTORIES, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	463	485	129	122	89	39	1,327
Number of employees	9,408	8,127	2,065	1,730	1,235	451	23,016
Actual horse-power of engines employed	1,076	621	149	106	78	32	2,062
Approximate value of land and buildings .. £	2,031,491	1,135,780	299,107	332,229	266,193	86,555	4,151,355
Approximate value of plant and machinery .. £	139,791	110,340	33,006	23,730	16,013	4,896	328,676
Total amount of wages paid during year .. £	1,260,354	1,085,123	412,723	212,255	164,583	54,648	3,190,686
Value of fuel used .. £	21,475	25,016	6,294	5,673	2,892	1,661	63,011
Value of materials used .. £	1,554,805	1,935,306	421,472	256,834	249,104	56,428	4,473,949
Total value of output .. £	3,421,731	3,576,817	993,333	572,914	517,397	140,313	9,222,505
Value of production .. £	1,845,451	1,616,495	565,567	310,407	265,401	82,224	4,685,545

(ii) *Development in Australia, 1925-26 to 1929-30.* The tailoring and slop branch of the clothing industry made little progress during the four years ended 1928-29. The number of factories and number of persons employed decreased, but the value of raw material used and output remained fairly constant. A considerable decline in the industry, however, was recorded during 1929-30. Details for the past five years are as follow:—

**CLOTHING (TAILORING AND SLOP) FACTORIES.—AUSTRALIA,
1925-26 TO 1929-30.**

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories	1,481	1,465	1,422	1,440	1,327
Number of employees	28,294	28,409	27,401	a 26,953	a 23,016
Actual horse-power of engines used	1,787	1,833	1,954	1,802	2,062
Approx. value of land and buildings .. £	4,403,707	4,308,772	4,364,779	4,389,473	4,151,355
Approx. value of plant and machinery .. £	376,509	387,923	370,757	387,057	328,676
Total amount of wages paid £	3,634,760	3,664,940	3,616,157	3,524,994	3,190,686
Value of fuel used £	65,638	64,742	65,946	65,100	63,011
Value of materials used £	5,582,354	5,456,963	5,121,106	5,092,739	4,473,949
Total value of output £	11,274,583	11,118,283	10,827,374	10,602,874	9,222,505
Value of production £	5,626,596	5,596,578	5,640,322	5,445,035	4,685,545

(a) See § 9.1.

26. Dressmaking and Millinery Establishments.—(i) *Details for each State, 1929-30.* Particulars of dressmaking and millinery establishments are given in the following table:—

DRESSMAKING AND MILLINERY ESTABLISHMENTS, 1929-30.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	182	474	42	54	51	13	816
Number of employees	2,506	8,056	610	829	630	78	12,709
Actual horse-power of engines employed	155	670	33	54	55	4	971
Approximate value of land and buildings	£ 698,622	1,320,695	59,902	124,634	95,935	10,570	2,310,358
Approximate value of plant and machinery	£ 24,224	104,925	8,677	11,219	6,933	1,073	157,051
Total amount of wages paid during year	£ 273,004	917,211	57,599	81,601	63,040	6,711	1,399,256
Value of fuel used	£ 3,994	13,213	592	1,728	1,168	147	23,842
Value of materials used	£ 415,441	1,774,207	83,728	117,567	104,497	6,160	2,501,600
Total value of output	£ 892,447	3,220,321	175,315	246,108	203,912	15,803	4,753,906
Value of production	£ 473,012	1,429,901	90,995	126,813	93,247	9,496	2,223,464

(ii) *Development in Australia, 1925-26 to 1929-30.* The development of dressmaking and millinery establishments in Australia during the past five years is shown in the following table:—

DRESSMAKING AND MILLINERY ESTABLISHMENTS.—AUSTRALIA, 1925-26 TO 1929-30.

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of factories	898	912	916	897	816
Number of employees	14,703	15,051	15,019	a 14,778	a 12,709
Actual horse-power of engines used	854	906	898	1,182	971
Approximate value of land and buildings	£ 2,308,405	2,498,532	2,596,384	2,570,963	2,310,358
Approximate value of plant and machinery	£ 173,368	171,235	170,653	175,151	157,051
Total amount of wages paid	£ 1,462,410	1,507,373	1,525,947	1,532,734	1,399,256
Value of fuel used	£ 21,344	22,171	25,054	24,056	23,842
Value of materials used	£ 2,805,062	2,840,827	2,590,753	2,724,974	2,501,600
Total value of output	£ 5,243,483	5,294,390	5,034,713	5,227,620	4,753,906
Value of production	£ 2,417,077	2,431,401	2,418,906	2,478,590	2,228,464

(a) See § 9.1.

27. Electrotyping, Stereotyping, Printing, and Binding Works.—(i) *Details for each State, 1929-30.* Printing ranks high in importance among the industries of Australia. It affords employment for about 26,000 employees, and pays nearly £6,000,000 in salaries and wages. During 1929-30 the total value of the output amounted to £15,756,005.

The following table gives particulars of these industries in each State for the year 1929-30:—

ELECTROTYPING, STEREOTYPING, PRINTING, AND BINDING ESTABLISHMENTS, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	499	500	137	99	88	21	1,344
Number of employees	9,929	9,115	3,430	1,749	1,428	696	26,347
Actual horse-power of engines employed	9,963	8,098	2,666	1,504	1,779	485	24,555
Approximate value of land and buildings	£ 3,436,072	2,483,530	818,187	692,093	445,660	114,597	7,990,139
Approximate value of plant and machinery	£ 3,032,819	2,087,465	618,884	586,800	381,221	131,248	6,838,437
Total amount of wages paid during year	£ 2,380,910	1,963,994	735,900	387,541	361,867	163,650	5,993,862
Value of fuel used	£ 94,565	67,913	31,464	14,698	12,393	5,897	226,930
Value of materials used	£ 2,430,022	2,126,465	516,426	352,938	270,140	96,743	5,792,734
Total value of output	£ 6,476,359	5,368,224	1,736,977	967,323	873,434	333,688	15,756,005
Value of production	£ 3,951,772	3,173,846	1,189,087	599,687	590,901	231,048	9,736,341

(ii) *Development in Australia, 1925-26 to 1929-30.* The development of electrotyping, stereotyping, printing, and binding in Australia since 1925-26 is shown in the following table :—

**ELECTROTYPING, STEREOTYPING, PRINTING AND BINDING ESTABLISHMENTS.—
AUSTRALIA, 1925-26 TO 1929-30.**

Items.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
Number of establishments	1,254	1,307	1,322	1,325	1,344
Number of employees	25,213	27,059	27,049	a 26,067	a 26,347
Actual horse-power of engines used	19,048	20,581	23,042	23,550	24,555
Approximate value of land and buildings	£ 0,258,485	7,012,899	7,421,436	7,583,461	7,990,139
Approximate value of plant and machinery	£ 5,961,070	6,562,612	6,507,575	6,906,523	6,833,437
Total amount of wages paid	£ 5,526,681	5,934,778	5,980,513	6,059,303	5,993,862
Value of fuel used	£ 185,513	197,648	209,647	210,085	226,930
Value of materials used	£ 5,277,369	5,969,691	6,079,643	6,152,030	5,792,734
Total value of output	£ 14,493,764	16,000,811	16,307,832	16,419,674	15,756,005
Value of production	£ 9,030,882	9,833,472	10,018,542	10,057,559	9,736,341

(a) See § 9.1.

The figures shown in the above table for some years were considerably augmented by the inclusion of all details in respect of the newspaper industry, but from 1924-25 onwards only the cost of printing and publishing the papers has been taken into account.

28. *Motor Vehicles and Accessories.*—The industries catering for the motor trade comprise the principal branches of manufacture in Class XI. The statistical classification has been amended and does not now permit the separation of the assembling and repairing of motors from the body building section. The number of bodies manufactured during 1929-30 was 46,409 valued at £3,118,987. The returns for the combined industries during the year 1929-30 are as follow :—

MOTOR VEHICLES AND ACCESSORIES, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	967	814	135	147	164	73	2,300
Number of employees	6,796	5,901	1,183	3,962	1,087	494	19,423
Actual horse-power of engines employed	5,232	4,667	700	2,780	771	282	14,432
Approximate value of land and buildings	£ 3,259,964	2,113,405	449,639	1,023,320	288,774	204,310	7,339,412
Approximate value of plant and machinery	£ 586,259	855,860	87,326	720,590	96,979	25,048	2,372,962
Total amount of wages paid during year	£ 1,439,262	1,190,452	225,746	790,667	226,171	79,130	3,951,428
Value of fuel used	£ 58,509	58,234	10,626	34,217	9,454	4,594	175,634
Value of materials used	£ 1,181,927	595,927	62,467	1,042,791	126,046	31,167	3,040,325
Total value of output	£ 3,459,180	2,467,797	486,299	2,231,780	531,624	153,968	9,330,648
Value of production	£ 2,218,744	1,813,636	413,206	1,154,772	396,124	118,207	6,114,639

29. Furniture and Cabinet Making and Billiard Table Making Factories.—These industries constitute the principal manufactures in Class XIII. The following table gives particulars for each State :—

FURNITURE AND CABINET MAKING AND BILLIARD TABLE MAKING
FACTORIES, 1929-30.

Items.	N.S.W.	Vic.	Q'land. (b)	S. Aust.	W. Aust. (a)	Tas.	Australia.
Number of factories	248	285	79	51	64	34	761
Number of employees.. ..	3,098	2,479	1,246	671	730	328	8,552
Actual horse-power of engines employed	4,732	3,508	1,437	1,810	1,131	484	13,102
Approximate value of land and buildings £	743,779	618,495	172,905	104,578	138,816	41,398	1,819,971
Approximate value of plant and machinery £	254,752	179,685	77,718	81,219	49,577	19,489	662,440
Total amount of wages paid during year £	657,801	432,958	231,766	118,745	144,258	49,561	1,635,089
Value of fuel used £	22,485	19,008	8,591	5,962	3,889	2,028	61,963
Value of materials used	922,705	620,785	321,281	164,598	188,819	41,884	2,260,072
Total value of output £	1,932,890	1,364,551	643,130	335,529	402,620	111,176	4,789,896
Value of production £	987,700	724,758	313,253	164,969	209,912	67,264	2,467,861

(a) Excluding Billiard Tables.

(b) Includes Furnishing Drapery.

30. Electric Light and Power Works.—The increased demand for electrical energy has been responsible for considerable development in the electric light and power works of Australia during recent years. Since 1925-26 the production of electric light and power has increased from 1,729,936,637 to 2,435,857,904 British units, or by more than 40 per cent. An increase in the value of land and buildings and plant and machinery in New South Wales was mainly due to the establishment of new works at Bunnerong by the Sydney Municipal Council, the value of the items mentioned being £1,382,000 and £1,884,000 respectively. Particulars for the year 1929-30 are as follow :—

ELECTRIC LIGHT AND POWER WORKS, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	127	91	31	33	47	6	335
Number of employees.. ..	2,188	1,230	761	1,172	336	96	5,783
Actual horse-power of engines employed	465,645	248,193	130,219	120,619	53,314	77,250	1,095,240
Approximate value of land and buildings £	4,610,185	1,960,115	302,833	580,993	203,267	28,270	7,685,663
Approximate value of plant and machinery £	10,680,578	6,559,245	2,110,271	1,924,044	842,496	3,108,574	25,225,208
Total amount of wages paid during year £	675,336	353,398	202,538	325,340	89,578	25,697	1,671,887
Value of fuel used £	1,639,731	683,290	171,187	287,860	253,750	3,313	3,039,131
Total value of output £	5,398,470	1,873,361	840,757	1,123,806	606,990	267,303	10,110,687

31. Gas and Coke Works.—(i) *Details for each State, 1929-30.* Gas works are in operation in nearly all the chief towns in Australia. In New South Wales there are nine coke factories and in Queensland one which are worked as separate industries.

The subjoined table gives particulars of gas and coke works in each State for the year 1929-30 :—

GAS AND COKE WORKS, 1929-30.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	56	39	17	6	5	2	125
Number of employees	2,200	1,052	391	742	119	95	4,599
Actual horse-power of engines employed	8,110	2,965	893	2,339	223	156	14,686
Approximate value of land and buildings £	1,140,303	589,985	144,400	43,318	80,091	49,243	2,047,340
Approximate value of plant and machinery £	4,076,371	2,138,240	683,985	1,194,790	178,687	162,153	8,434,226
Total amount of wages paid during year £	555,220	299,524	105,899	208,520	31,391	25,563	1,226,117
Value of fuel used £	293,452	167,202	16,564	45,825	14,753	7,891	545,687
Value of materials used £	2,162,954	1,555,493	166,705	306,765	75,010	36,230	4,303,157
Total value of output £	4,464,468	2,783,437	676,061	749,458	158,546	96,501	8,928,471
Value of production £	2,008,062	1,060,742	492,792	396,868	68,783	52,380	4,079,627

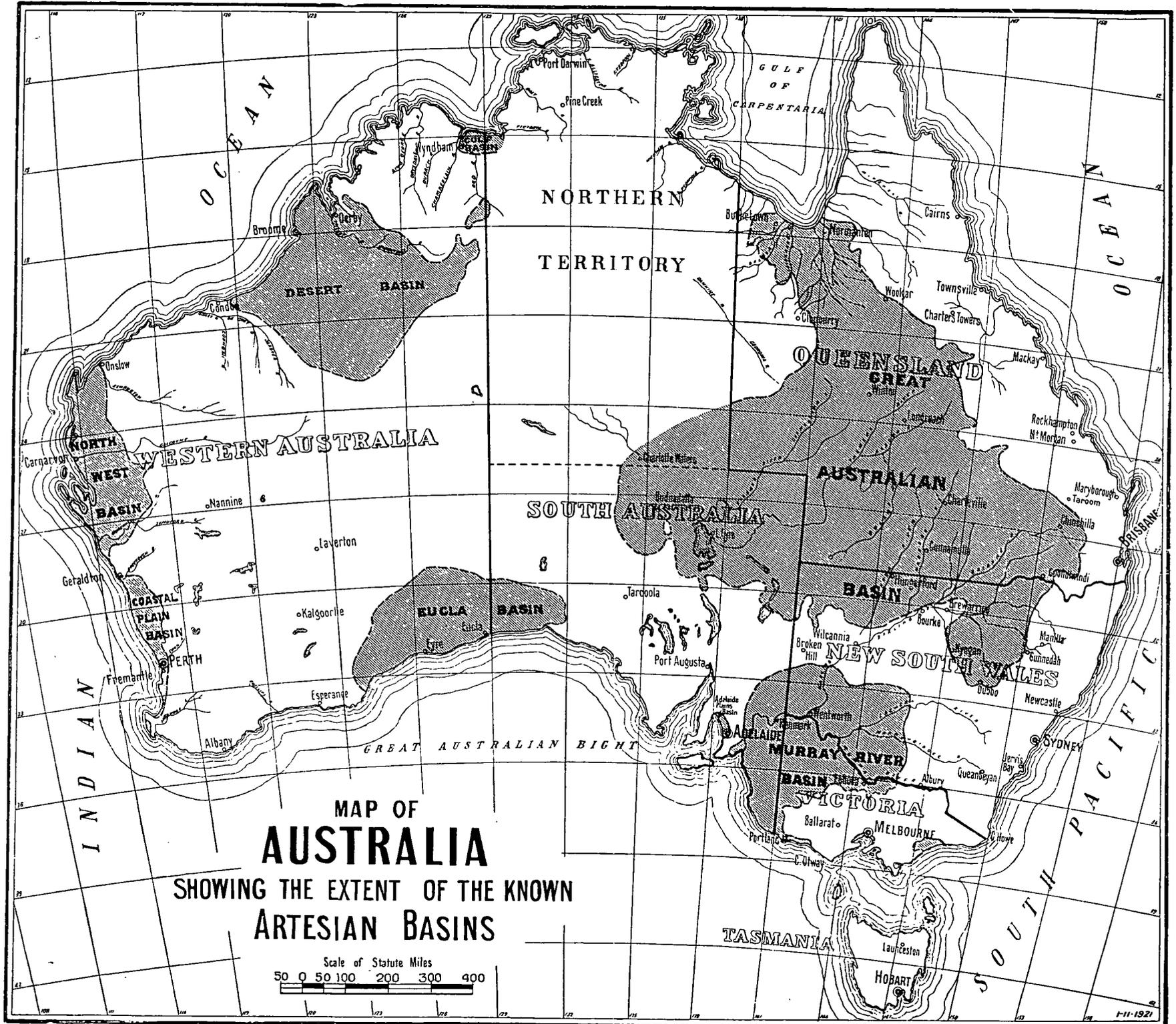
(ii) *Coal Used and Production, 1929-30.* The following table shows the quantity and value of the production of gas and coke works in each State during the year 1929-30 :—

GAS AND COKE WORKS.—COAL USED AND PRODUCTION, 1929-30.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
COAL USED.							
Coal tons	1,259,178	399,182	496,205	115,732	20,890	15,484	1,906,671
PRODUCTS.							
Gas .. 1,000 cubic feet	10,991,780	6,409,110	1,381,107	1,547,234	408,213	192,125	20,929,569
Coke tons	821,257	260,436	453,805	67,422	12,496	5,787	1,221,203
VALUE.							
Gas £	2,190,737	1,552,759	614,805	575,321	131,694	92,856	5,158,172
Coke £	1,131,455	416,601	442,458	114,573	19,428	13,815	1,738,330

(a) Relates to Gas Works only.

In order to cope with the general industrial expansion, the production of gas increased from 19,088,340 cubic feet in 1925-26 to 20,929,569 cubic feet in 1929-30. The output of coke decreased from 1,391,370 to 1,221,203 tons during the same period.



This map was included in the Report of the Third Interstate Conference on Artesian Water held in Adelaide during September, 1921. The area has been slightly extended since the year named. See also letterpress on page 651.

CHAPTER XXIII.

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 Australia 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 in the chapter dealing with Local Government. Interstate Conferences on artesian water were held in 1912, 1914, 1921, 1924, and 1928, when combined Governmental action was agreed upon with reference to delimitation of the artesian basins, hydrographic surveys, reason for decrease in flow, analyses and utilization of artesian water, etc. (See map on page 649.)

2. **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 (shown approximately by the map on page 649) is said to be the largest yet discovered, and measures about 600,000 square miles, of which 376,000 square miles are in Queensland, 118,000 square miles in South Australia, 80,000 square miles in New South Wales, and 25,000 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).

3. **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, 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 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. 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.

4. **The Murray River Basin.**—The Murray River basin extends over south-western New South Wales, north-western Victoria, and south-eastern South Australia. It is bounded on the west by the azoic and palaeozoic rocks of the Mount Lofty and other ranges extending northwards from near the mouth of the Murray to the Barrier Range, 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 exist along the courses of other branches of the River Murray system, where they cut through the tertiary formation. On the Victorian side bores have been put down, and water has been struck at various levels.

5. *Plutonic or Meteoric Waters.*—In previous Year Books will be found a statement of the theory of Professor Gregory* as to the origin of the water in the Australian artesian basins, together with the objections held thereto by a former Government Geologist of New South Wales † (See Official Year Book No. 6, p. 570).

6. *Artesian and Sub-Artesian Bores.*—(i) *General.* The following table gives particulars of artesian and sub-artesian bores in each State and in the Northern Territory :—

ARTESIAN AND SUB-ARTESIAN BORES, 1929-30.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust. (c)	W. Aust.	N. Ter.	Total.
Bores existing .. No.	575	380	4,713	209	245	191	6,318
Total depth of existing bores .. feet	940,484	101,200	4,133,481	122,794	224,849	62,375	5,585,183
Daily flow .. 1,000 gals.	275,795	(b)	289,022	12,971	72,142	7,723	2457,653
Depth at which artesian water was struck—							
Maximum .. feet	4,338	800	6,000	4,851	3,325	1,760	6,000
Minimum .. feet	100	125	10	233	39	42	10
Temperature of flow—							
Maximum .. °Fahr.	142	(b)	212	208	140	(b)	212
Minimum .. °Fahr.	73	(b)	78	82	75	(b)	78

(a) Flowing bores only. (b) Not available. (c) Government bores only. (d) Total depth of all bores. (e) Incomplete.

(ii) *Details for States.*—Considerations of space preclude the insertion of separate particulars of operations in the States during the year 1929-30. Details for earlier years will, however, be found in previous issues of the Official Year Book.

§ 2. Irrigation.

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 generally proved fairly successful, most of the States, instead of promoting new settlement in unoccupied regions, are adopting the policy of making existing settlements closer, by repurchasing large estates, subdividing them into holdings of suitable sizes for cultivation, and selling the land upon easy terms of payment. It is in connexion with this Closer Settlement policy that the special value of irrigation is recognized. Information regarding the various irrigation schemes in operation was given in some detail in preceding issues of the Official Year Book (See No. 23, pages 637 to 661), but owing to considerations of economy it was decided to omit this matter in the present volume.

* See J. W. Gregory, *F.R.S., D.Sc.*: "The Dead Heart of Australia," London, John Murray, 1906; and "The Flowing Wells of Central Australia," *Geogr. Journ.*, July and August, 1911.

† E. F. Pittman, *A.R.S.M., formerly 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); "The Great Australian Artesian Basin," Sydney, 1914; and "The Composition and Porosity of the Intake Beds of the Great Australian Artesian Basin," Sydney, 1915.

2. Areas Irrigated.—The following table gives the area irrigated in each State during the years 1919–20 to 1929–30. Victoria shows the largest irrigated acreage, the area so returned in 1929–30 amounting to 566,577 acres, or 73.5 per cent. of the total for Australia. New South Wales for the same year returned an area of 126,321 acres, or 16.5 per cent. of the total. The areas under irrigation in the remaining States are relatively very small.

IRRIGATION.—AREAS IRRIGATED, 1919–20 TO 1929–30.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1919–20 ..	20,814	371,248	9,267	17,301	2,039	..	420,669
1920–21 ..	31,065	282,534	9,803	19,631	3,225	(a)6,966	353,224
1921–22 ..	35,451	287,907	11,264	22,636	2,535	10,500	370,323
1922–23 ..	46,273	350,727	14,314	26,307	2,772	7,059	447,452
1923–24 ..	57,242	324,558	18,417	27,866	3,035	7,402	438,520
1924–25 ..	73,432	375,503	18,235	35,313	3,126	7,267	512,876
1925–26 ..	83,795	343,685	21,669	36,409	3,551	7,361	496,470
1926–27 ..	89,528	406,532	38,044	35,443	3,756	7,882	581,185
1927–28 ..	102,533	477,500	21,411	38,379	4,292	7,016	651,131
1928–29 ..	123,129	471,695	25,344	39,236	4,907	7,054	(b)671,475
1929–30 ..	126,321	566,577	26,282	40,002	4,943	6,693	770,818

(a) Particulars not available for previous years.

(b) Including 100 acres, Northern Territory and 10 acres, Federal Capital Territory.

3. Crops on Irrigated Areas.—A classification of the crops grown on the irrigated areas in each State during the year 1929–30, together with the averages for Australia during the quinquennium 1925–26 to 1929–30, will be found in the table hereunder. Lucerne, grasses and green forage accounted for 55 per cent., cereals for 22 per cent., orchards and vineyards for 16 per cent., and root crops, market gardens, &c., for about 6 per cent. of the total area under irrigation in 1929–30.

IRRIGATION.—CROPS ON IRRIGATED AREAS, 1929–30 AND 1925–26 TO 1929–30.

Crop.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total.	Average 1925–26 to 1929–30.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Cereals ..	64,151	106,399	163	..	83	..	170,796	131,383
Lucerne, Grasses and Green Forage	28,280	380,761	378	10,333	1,753	4,666	426,171	333,959
Orchards and Vineyards ..	25,256	70,265	3,466	26,581	1,924	804	128,296	125,077
Root Crops, Market Gardens and other Crops	8,634	9,152	(b)22,275	3,088	1,183	c)1,223	45,555	43,796
Total ..	126,321	566,577	26,282	40,002	4,943	6,693	770,818	634,215

(a) Including Fallow, 12,596 acres.

(b) Including Sugar Cane, 20,280 acres, and Cotton 1,085 acres.

(c) Including Hops, 1,063 acres.

CHAPTER XXIV.

POPULATION.

§ 1. Enumerations and Estimates.

The nature of the early "musters" of the population and the subsequent Census enumerations which have been conducted in Australia were reviewed in *Official Year Book*, Number 15, pp. 1083-5. This review was accompanied by a tabular statement showing the dates on which the various enumerations were made, and the numbers counted on such occasions.

§ 2. Accuracy of Estimates of Population.

Throughout this chapter there appear various estimates of population, e.g., at Census dates; at intercensal periods in respect of both States and Commonwealth; metropolitan and certain incorporated areas. It must be constantly borne in mind that the same degree of accuracy does not attach to the various estimates.

The results obtained at the Census attain a very high degree of accuracy and may be accepted without reservation. Inasmuch as the factors causing variation, e.g., births, deaths, and migration are subject to accurate record, estimates for total persons for the Commonwealth at the end of calendar years are substantially correct, while those for the sexes separately are subject to a slightly larger error. Equal accuracy cannot, however, be claimed for the estimates in respect of States, as there is no record kept of interstate movements by land other than by rail.

As regards population estimates for portions of States, e.g., metropolitan and incorporated areas, the figures given must be accepted with caution as it is impossible to collect the data necessary for accuracy of a high order.

It will also be obvious that in all cases, the greater the interval from the last Census the less accurate is the estimate.

§ 3. Census of 1931.

In accordance with the provisions of the Census and Statistics Acts 1905-20, the third Commonwealth Census would have been taken in 1931. Owing to the necessity for economy in government expenditure, however, it has been decided to defer this Census until 1935.

§ 4. Censuses, 1881 to 1921.

1. *Census of 1921.*—The Census for the whole of Australia was taken as for the night between the 3rd and the 4th of April, 1921, and was the second Census under the provisions of the *Commonwealth Census and Statistics Act 1905-20*, which provides for the enumeration 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 were as follow :—

POPULATION.—4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

States and Territories.	Males.	Females.	Persons.
States—			
New South Wales	1,071,501	1,028,870	2,100,371
Victoria	754,724	776,556	1,531,280
Queensland	398,969	357,003	755,972
South Australia	248,267	246,893	495,160
Western Australia	177,278	155,454	332,732
Tasmania	107,743	108,037	213,780
Territories—			
Northern	2,821	1,046	3,867
Federal Capital	1,567	1,005	2,572
Australia	2,762,870	2,672,864	5,435,734

2. Increase since Census of 1881.—(i) *Australia.* The increase of population between the Census of 3rd April, 1911, and that of 4th April, 1921, was 980,729, of which 449,835 were males and 530,894 were females, as compared with an increase of 681,204, comprising 335,107 males and 346,097 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, 3rd April, 1911, and 4th April, 1921, was as follows :—

POPULATION.—AUSTRALIA, LAST FIVE CENSUSES.

(EXCLUSIVE OF FULL-BLOOD 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
4th April, 1921	2,762,870	2,672,864	5,435,734	1.66

(a) Excess of males over females per 100 persons.

(ii) *States and Territories.* The increases in the population of the several States and Territories during the past four intercensal periods have been as follow :—

POPULATION.—STATES, ETC., INTERCENSAL INCREASES.

State or Territory.	1881-1891.		1891-1901.		1901-1911.		1911-1921.	
	Numerical.	Per cent.						
N.S. Wales	(a)374,129	49.90	(a)230,892	20.54	(a)293,602	21.67	453,637	27.55
Victoria	278,274	32.30	61,230	5.37	114,481	9.53	215,729	13.40
Queensland	180,193	84.39	104,411	26.52	107,684	21.62	150,159	24.79
South Australia	39,110	14.15	42,813	13.57	50,212	14.01	86,602	21.20
Western Australia	20,074	67.57	134,342	269.86	97,990	53.22	50,615	17.94
Tasmania	30,962	26.76	25,808	17.60	18,736	10.86	22,569	11.80
N. Territory	1,447	41.93	(b)-87	(b)-1.78	(b)-1,501	(b)-31.20	557	16.83
Fed. Cap. Ter.							858	50.06
Australia	924,198	41.07	599,409	18.88	681,204	18.05	980,729	22.01

(a) Including Federal Capital Territory. (b) Decrease.

For Australia as a whole, the increase during the period 1911–1921 was greater by 299,525 than that for the period 1901–1911, the rate of increase being 22.01 per cent. for 1911–1921, as against 18.05 for 1901–1911. During the earlier period the increase corresponds to 1.67 per cent. per annum, and in the latter, to 2.01 per cent. per annum.

For the reasons given in § 3 *ante* a Census was not taken in 1931. On 1st April, 1931, however, the estimated population was 6,488,705, which was an increase of 1,052,971 or 19.37 per cent. since the Census of 1921.

§ 5. Distribution and Fluctuation of Population.

1. **Present Number.**—The population of Australia on the 31st December, 1930, was estimated at 6,476,032 persons, of whom 3,304,091, or 51.02 per cent., were males and 3,171,941, or 48.98 per cent., were females. The increase during the year 1930 was 61,660, equal to 0.96 per cent., males having increased by 26,739, or 0.84 per cent., and females by 34,921, or 1.11 per cent. Of the increase referred to, 73,068 was due to the excess of births over deaths. For the first time for several years, however, there was a loss by migration of 11,408, which reduced the total gain in population to 61,660, the smallest since 1916.

2. **Growth and Distribution.**—In issues of the Year Book up to No. 15, the male and female populations of Australia as a whole were given at quinquennial periods from 1788, but it is considered that the abridged table presented herewith will suffice for general purposes.

POPULATION.—1788 TO 1930.

Year.	Estimated Population at end of Year.								Australia.
	States.						Territories.		
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern.	Federal Capital.	
MALES.									
(a) 1800	3,780	..	..	..	..	..	..	..	3,780
1810	7,585	..	..	..	..	..	..	..	7,585
1820	23,784	..	..	..	..	..	..	..	23,784
1830	33,900	..	..	..	..	877	(b)18,108	..	52,885
1840	85,500	..	..	..	8,272	1,434	32,040	..	127,306
1850	154,976	..	..	..	35,902	3,576	44,229	..	238,683
1860	197,851	(b)330,302	(b)16,817	..	64,340	9,597	49,653	..	668,560
1870	272,121	397,230	69,221	..	94,894	15,511	53,517	..	902,494
1880	404,952	450,558	124,013	..	147,438	16,985	60,568	..	1,204,514
1890	602,704	595,519	223,252	..	160,049	28,854	76,453	..	1,602,831
1900	710,047	601,773	274,684	..	186,349	110,088	89,763	(c)4,288	1,576,992
1910	858,181	646,482	325,513	..	206,557	157,971	98,806	2,738	2,296,308
1920	1,067,945	753,803	396,555	..	245,300	176,895	107,259	2,911	(b)1,062
1921	1,084,399	764,905	404,907	..	252,144	178,500	110,026	2,718	1,128
1922	1,107,695	788,626	415,802	..	257,475	183,386	109,494	2,540	1,443
1923	1,127,195	806,546	428,312	..	265,340	189,546	109,546	2,527	1,407
1924	1,150,759	824,182	440,115	..	273,701	193,341	108,569	2,538	1,643
1925	1,171,590	838,693	454,819	..	282,790	198,596	108,047	2,550	2,230
1926	1,193,559	852,399	465,644	..	292,846	203,210	106,350	2,773	2,820
1927	1,216,976	867,409	475,147	..	298,262	211,628	107,036	3,137	3,228
1928	1,243,234	875,449	485,290	..	299,679	220,209	107,371	2,739	4,504
1929	1,261,133	881,650	493,080	..	299,641	225,861	108,473	2,945	4,619
1930	1,270,524	886,662	502,719	..	300,506	226,713	109,368	2,993	4,606

(a) Details as to sex not available for earlier decennial dates.

(b) Previously included with

New South Wales.

(c) Previously included with South Australia.

POPULATION.—1788 TO 1930—continued.

Year.	Estimated Population at end of Year.								
	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern.	Federal Capital.	
(a) 1800	1,437	..	..	..	..	..	..	..	1,437
1810	3,981	..	..	..	..	..	..	..	3,981
1820	9,759	..	..	..	..	..	..	..	9,759
1830	10,688	..	..	..	295	(b)6,171	..	..	17,154
1840	41,908	..	..	6,358	877	13,059	..	..	63,102
1850	111,924	..	..	27,798	2,310	24,641	..	..	166,673
1860	150,095	(b)207,932	(b)11,239	61,242	5,749	40,168	..	..	477,025
1870	225,871	326,695	46,051	89,652	9,024	47,389	..	..	745,282
1880	336,190	408,047	87,027	128,955	12,576	54,222	..	..	1,027,017
1890	510,571	538,209	168,804	152,893	19,648	68,334	..	..	1,458,524
1900	644,258	594,440	219,163	176,901	69,879	83,137	(c)569	..	1,788,347
1910	765,074	654,926	273,503	200,311	118,861	94,937	563	..	2,128,775
1920	1,023,777	774,106	354,069	245,706	154,428	105,493	1,078	(b)910	2,659,567
1921	1,043,517	785,781	363,324	250,267	157,215	108,290	1,016	936	2,710,346
1922	1,065,237	801,599	372,488	255,719	160,222	109,430	1,011	1,114	2,766,820
1923	1,082,250	818,834	382,856	259,408	164,386	109,528	1,028	1,215	2,819,505
1924	1,103,691	832,913	394,779	264,805	168,783	109,270	1,059	1,355	2,876,655
1925	1,126,852	845,324	406,366	268,843	172,587	108,985	1,106	1,706	2,931,769
1926	1,151,222	859,428	416,549	273,548	175,536	108,424	1,125	2,101	2,987,933
1927	1,176,290	873,981	424,029	277,509	180,664	108,826	1,224	2,508	3,045,031
1928	1,199,046	885,515	431,399	279,689	185,664	109,192	1,243	3,523	3,095,251
1929	1,216,452	895,415	437,841	280,630	190,002	110,592	1,525	3,663	3,137,020
1930	1,229,962	904,155	445,476	281,621	193,893	111,276	1,623	3,935	3,171,941

FEMALES.

PERSONS.

1788	859	..	..	..	..	..	..	..	859
1790	2,056	..	..	..	..	..	..	..	2,056
1800	5,217	..	..	..	..	..	..	..	5,217
1810	11,566	..	..	..	..	..	..	..	11,566
1820	33,543	..	..	..	..	..	..	..	33,543
1830	44,588	..	..	..	1,172	(b)24,279	..	..	70,039
1840	127,468	..	..	14,630	2,311	45,999	..	..	190,408
1850	266,900	..	..	63,700	5,886	68,870	..	..	405,356
1860	348,546	(b)538,234	(b)28,056	123,582	15,346	89,821	..	..	1,145,585
1870	497,992	723,925	115,272	184,546	25,135	100,886	..	..	1,647,750
1880	741,142	858,605	211,040	276,393	29,561	114,796	..	..	2,231,531
1890	1,113,275	1,133,728	392,116	318,947	48,562	144,787	..	..	3,151,355
1900	1,360,305	1,196,213	493,847	357,250	179,067	172,900	(c)4,857	..	3,765,339
1910	1,643,855	1,301,408	599,016	406,868	276,832	193,803	3,301	..	4,425,083
1920	2,091,722	1,527,909	750,624	491,006	331,323	212,752	3,989	(b)1,972	5,411,297
1921	2,127,916	1,550,686	768,231	502,411	335,715	218,316	3,734	2,064	5,509,073
1922	2,172,932	1,590,225	788,290	513,194	343,608	218,924	3,551	2,557	5,633,281
1923	2,209,445	1,625,380	811,168	524,748	353,815	219,074	3,555	2,622	5,749,807
1924	2,254,450	1,657,095	834,894	538,506	364,124	217,839	3,597	2,998	5,873,503
1925	2,298,442	1,684,017	861,185	551,633	372,183	217,032	3,656	3,036	5,992,084
1926	2,347,781	1,711,827	882,193	566,394	378,746	214,754	3,898	4,921	6,110,514
1927	2,400,266	1,741,390	899,176	575,771	392,292	215,862	4,361	5,736	6,234,854
1928	2,445,280	1,760,964	916,659	579,348	405,873	216,563	3,982	8,087	6,336,786
1929	2,477,585	1,777,065	930,871	580,271	416,763	219,065	4,470	8,282	6,414,372
1930	2,500,486	1,790,817	948,195	582,127	420,606	220,644	4,616	8,541	6,476,032

(a) Details as to sex not available for earlier decennial dates. (b) Previously included with New South Wales. (c) Previously included with South Australia.

A comparison of annual rates of growth of population of Australia and other countries will be found in section 6, paragraph 4 of this chapter.

The growth of the population of Australia and of each State thereof, is illustrated by the graphs accompanying this chapter.

3. Mean Population.—The following table shows the mean population for each State and Territory for the years 1921 to 1930.

MEAN POPULATION, EXCLUSIVE OF FULL-BLOOD ABORIGINALS, 1921 to 1930.

Year.	States.							Territories.	Australia.
	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern.			Fed. Cap.
1921 ..	2,107,119	1,537,008	702,961	497,231	333,782	213,274	3,906	2,483	5,457,764
1922 ..	2,149,349	1,570,824	781,022	506,036	339,649	214,777	3,653	2,815	5,568,125
1923 ..	2,190,410	1,607,773	802,748	517,445	348,275	215,327	3,610	3,315	5,688,903
1924 ..	2,228,337	1,641,852	825,151	529,691	359,521	214,687	3,603	3,848	5,806,690
1925 ..	2,274,247	1,671,467	851,419	543,986	368,194	213,469	3,681	4,721	5,931,184
1926 ..	2,320,288	1,696,670	875,187	558,883	374,996	211,216	3,765	6,106	6,047,111
1927 ..	2,372,643	1,727,413	891,908	571,098	385,011	209,994	4,234	7,342	6,169,643
1928 ..	2,424,695	1,751,340	909,141	577,328	399,386	211,943	4,207	8,054	6,286,094
1929 ..	2,462,922	1,769,126	924,864	579,503	411,438	213,762	4,178	8,384	6,374,177
1930 ..	2,488,101	1,784,711	940,455	580,751	418,627	216,493	4,650	8,789	6,442,577

4. Area, Population, Masculinity, and Density—States, 1930.—A previous table showed the estimated number of persons on the 31st December, 1930, in each of the States and Territories. In the following table the proportions of the total area, and of the total population represented by each State or Territory, are given, together with the masculinity and the density of population:—

AREA, POPULATION, MASCULINITY, AND DENSITY.—STATES, 1930.

State or Territory.	Percentage on Total Area.	Per cent. Estimated Population 31st December, 1930.			Masculinity. (c)	Density. (b)
		Males.	Females.	Persons.		
New South Wales	10.40	38.45	38.78	38.61	1.62	8.08
Victoria	2.96	26.84	28.50	27.65	-0.98	20.38
Queensland	22.54	15.22	14.05	14.64	6.04	1.41
South Australia	12.78	9.09	8.88	8.99	3.25	1.53
Western Australia	32.81	6.86	6.11	6.50	7.80	0.43
Tasmania	0.88	3.31	3.51	3.41	-0.86	8.42
Northern Territory	17.60	0.09	0.05	0.07	26.98	0.01
Federal Capital Territory	0.03	0.14	0.12	0.13	7.86	9.09
Australia	100.00	100.00	100.00	100.00	2.03	2.18

(a) Excess of males over females in each 100 persons. (b) Number of persons per square mile.
NOTE.—The minus sign (—) indicates excess of females over males in each 100 persons.

Additional information regarding masculinity and density of population appears in later sections of this chapter.

5. Urban and Rural Distribution.—At the Census of 4th April, 1921, information was obtained regarding the distribution of the population amongst urban and rural areas. The metropolitan divisions include the capital city and the adjoining urban areas; the urban provincial districts cover those cities and towns which are not adjacent to the metropolitan areas, and which are incorporated for local government purposes; while those persons classed as migratory were mostly on board ships in Australian ports.

The results show that of the 5,435,734 persons recorded at the Census, 2,338,079, or 43.01 per cent., resided in the metropolitan divisions; 1,037,468, or 19.09 per cent., in urban provincial areas; 2,030,422 persons, or 37.35 per cent., in rural areas; and the remainder 29,765, or 0.55 per cent., were classed as migratory. More detailed information in connexion with this matter will be found in Official Year Book, No. 22, p. 890.

6. Metropolitan Population—Australia and Other Countries.—The abnormal concentration of population in the capitals of the States of Australia, as compared with other countries, may be readily seen from the following table. It may be mentioned, however, that, in many of the European countries, the capital is not the most populous of many big cities, whereas, in Australia, the capital is invariably the most populous city, and in some States is the only town of important magnitude.

METROPOLITAN POPULATION.—AUSTRALIA AND OTHER COUNTRIES.

State or Country.	Metropolis.	Year.	Population.	Percentage on total of State or Country.
				%
Australia	Canberra	} 31st Dec., 1930	7,000	0.11
New South Wales ..	Sydney		1,253,560	50.13
Victoria	Melbourne		1,014,600	56.66
Queensland	Brisbane		313,251	33.04
South Australia ..	Adelaide		324,420	55.73
Western Australia ..	Perth		204,780	48.69
Tasmania	Hobart		57,800	26.20
Australia	(7 Cities)		3,175,411	49.03
New Zealand	Wellington	1.4. 1931	148,210	9.81
New York State ..	New York (a) ..	1930	6,930,446	55.06
Northern Ireland ..	Belfast	1929	415,000	33.20
Austria	Vienna	1929	1,842,763	27.49
Denmark	Copenhagen	1925	731,496	21.30
Irish Free State ..	Dublin	1929	425,000	14.44
England	London (b)	1931	4,396,821	11.01
Belgium	Brussels	1929	833,345	10.34
Netherlands	Amsterdam	1929	749,459	9.57
Norway	Oslo	1930	252,000	8.72
Scotland	Edinburgh	1930	427,500	8.76
Sweden	Stockholm	1929	486,184	7.94
France	Paris	1926	2,871,429	7.05
Germany	Berlin	1925	4,024,165	6.37
Spain	Madrid	1929	825,471	3.63
Japan	Tokio	1925	1,995,567	3.34
Italy	Rome	1930	934,933	2.25
Russia (European) ..	Leningrad	1926	1,614,008	1.10
United States	Washington	1930	486,869	0.40

(a) Albany, the capital of New York State, had, in 1930, a population of 127,482, a percentage of 1.01 on total of State. (b) Population of Greater London in 1931 was 8,202,818.

7. Principal Urban Centres.—The following table gives particulars of the population of the principal urban incorporated areas in each State at the 31st December, 1930 :—

POPULATION OF PRINCIPAL URBAN INCORPORATED AREAS.—AUSTRALIA, 31st DECEMBER, 1930.

Town.	Population.	Town.	Population.
New South Wales—		Queensland—continued.	
Sydney and Suburbs	1,238,660	Toowoomba	26,145
Newcastle and Suburbs	104,170	Maryborough	12,000
Broken Hill	22,990	Bundaberg	11,250
Lithgow	15,300	Calrns	9,750
Hilroyd	14,850	Gympie	9,583
Cesenock	13,930	Mackay	9,230
Goulburn	12,560	Charters Towers	9,200
Lismore	10,370	Warwick	7,000
Wollongong	10,130	Southport	5,600
Katoomba	10,020	South Australia—	
Bathurst	9,690	Adelaide and Suburbs	324,420
Albury	9,320	Port Pirie	9,446
Wagga Wagga	8,920	Mount Gambier	3,978
Orange	8,590	Murray Bridge	3,569
Fairfield	7,840	Victor Harbour	3,450
Tamworth	7,690	Wallaroo	3,097
West Maitland	7,720	Western Australia—	
Arncliffe	7,090	Perth and Suburbs	204,780
Illawarra Central	7,090	Boulder	5,705
Victoria—		Kalgoorlie	5,400
Melbourne and Suburbs	1,014,600	Bunbury	5,100
Geelong and Suburbs	43,400	Northam	4,975
Ballarat and Suburbs	42,050	Geraldton	4,827
Bendigo and Suburbs	33,690	Albany	3,980
Warrnambool	8,100	Collie	3,500
Castlemaine and Suburbs	7,170	Narrogin	3,250
Wonthaggi	7,000	Tasmania—	
Mildura	6,000	Hobart and Suburbs	57,800
Queensland—		Launceston and Suburbs	31,040
Brisbane and Suburbs	313,251	Devonport	5,300
Townsville	31,800	Burnie	4,200
Rockhampton	30,000	Queenstown	3,400
Inpswich	26,233	Ulverstone	2,820

§ 6. Elements of Increase.

1. Natural Increase.—(i) *General.* 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. In earlier issues of the Official Year Book particulars of the natural increase from 1861 were given for each sex and State (See No. 22, page 899.) In the following table the last five years only are given for each sex, but from 1901 for persons. The natural increase for Australia from 1861 to 1930 inclusive was 4,028,148, consisting of 1,870,192 males and 2,157,956 females, and represented 75.57 per cent. of the total increase in population. During the present century, the rate of natural increase grew until the period 1911-15, since when it has declined steadily. A graph showing the natural increase to the population of each State and of Australia, from year to year since 1861, accompanies this chapter.

POPULATION.—NATURAL INCREASE (a), 1901 TO 1930.

Period.	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed. Cap.	
MALES.									
1926 ..	14,547	9,438	5,110	3,230	2,175	1,544	— 17	8	36,035
1927 ..	14,825	9,086	5,351	3,092	2,251	1,441	— 37	13	36,022
1928 ..	15,505	8,421	5,499	3,045	2,264	1,263	— 27	37	36,007
1929 ..	13,046	8,263	4,430	2,725	2,076	1,334	— 25	56	31,905
1930 ..	14,507	8,548	5,255	2,491	2,479	1,419	— 25	61	34,735
FEMALES.									
1926 ..	16,410	9,589	6,440	3,376	2,776	1,532	26	26	40,175
1927 ..	16,265	9,215	6,404	3,272	2,838	1,359	29	12	39,394
1928 ..	16,629	8,369	6,308	3,216	2,800	1,296	39	36	38,693
1929 ..	15,043	8,624	5,747	2,901	3,045	1,287	13	58	36,718
1930 ..	16,386	8,620	6,229	2,642	2,947	1,419	19	71	38,333
PERSONS.									
1901-05 ..	110,342	74,163	39,538	24,850	19,751	15,982	—195	(b)	284,431
1906-10 ..	135,424	81,577	47,463	29,254	24,116	17,225	—231	(b)	334,828
1911-15 ..	164,144	96,418	60,960	37,991	28,992	18,990	—139	156	407,512
1916-20 ..	153,829	84,274	59,167	33,238	22,972	17,494	10	147	371,131
1921-25 ..	170,298	98,939	63,230	34,316	24,123	17,380	59	119	408,464
1926 ..	30,957	19,027	11,550	6,606	4,951	3,076	9	34	76,210
1927 ..	31,090	18,301	11,755	6,364	5,039	2,800	— 8	25	75,416
1928 ..	32,134	16,790	11,807	6,261	5,064	2,559	12	73	74,700
1929 ..	28,089	16,887	10,177	5,626	5,121	2,621	— 12	114	68,623
1930 ..	30,893	17,168	11,484	5,133	5,426	2,838	— 6	132	73,068

(a) Excess of births over deaths.

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

NOTE.—Minus sign (—) denotes excess of deaths over births.

POPULATION.—NATURAL INCREASE (a), 1901 TO 1930—*continued.*

Period.	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed. Cap.	
RATE OF NATURAL INCREASE (b)—PERSONS.									
1901-05 ..	15.59	12.31	15.34	13.92	18.07	17.85	- 8.8	(c)	14.60
1906-10 ..	17.25	13.11	16.99	15.44	18.52	18.37	-12.6	(c)	15.93
1911-15 ..	18.27	13.91	18.61	17.55	18.76	19.63	- 7.6	13.71	17.05
1916-20 ..	15.69	11.65	16.74	14.51	14.56	17.46	0.43	12.23	14.57
1921-25 ..	15.55	12.32	15.72	13.23	13.79	16.22	3.20	6.93	14.36
1926 ..	13.34	11.21	13.20	11.82	13.20	14.56	2.39	5.57	12.60
1927 ..	13.10	10.59	13.18	11.14	13.22	13.33	-1.89	3.41	12.22
1928 ..	13.26	9.59	12.99	10.84	12.68	12.07	2.85	9.06	11.88
1929 ..	11.41	9.55	11.01	9.70	12.45	12.26	-2.87	13.60	10.76
1930 ..	12.42	9.62	12.21	8.84	12.96	13.11	-1.29	15.02	11.34

(a) Excess of births over deaths.
population.(b) Excess of births over deaths per 1,000 mean annual population.
(c) Part of New South Wales prior to 1911.

NOTE.—Minus sign (-) denotes excess of births over deaths.

(ii) *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 very low. The following table gives a comparison between the average rates per annum 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 Australia and the Dominion of New Zealand. Rates for the period 1909-1913 have been added for purposes of comparison :—

NATURAL INCREASE PER ANNUM PER 1,000 OF MEAN POPULATION.

(VARIOUS COUNTRIES.)

Country.	1909-13.	1926-30.	Country.	1909-13.	1926-30.
Australasia—			Europe— <i>continued.</i>		
Tasmania ..	18.8	13.1	Scotland ..	10.7	(c) 5.9
Western Australia	18.1	12.9	Irish Free State ..	6.3	(c) 5.8
New South Wales	18.0	12.7	Switzerland ..	9.3	(c) 5.4
Queensland ..	17.9	12.5	Belgium ..	7.8	(c) 4.7
Australia ..	16.7	11.8	England and Wales	10.7	(c) 4.3
New Zealand ..	17.1	11.1	Sweden ..	10.4	(c) 3.9
Victoria ..	13.6	10.6	France ..	0.8	(c) 1.1
South Australia ..	16.8	10.5			
Europe—			Asia—		
Soviet Republics	15.8	(a) 22.3	Japan ..	13.1	(c) 13.7
Netherlands ..	15.1	(c) 13.1			
Italy ..	12.8	(b) 13.2	Africa—		
Spain ..	9.3	(c) 10.7	Union of South		
Denmark ..	13.9	(b) 9.1	Africa (whites only)	(d)	(b) 16.4
Norway ..	12.4	(c) 7.1			
Germany ..	12.8	(b) 7.5	America—		
Northern Ireland..	6.3	(c) 6.2	Canada ..	(d)	(c) 13.1
			United States ..	(d)	(b) 8.7

(a) 1926-27.

(b) 1925-28.

(c) 1926-29.

(d) Not available.

Graphs of natural increase for each of the States, as well as for Australia, accompany this chapter.

2. *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 variations than is the factor of "natural increase." These variations are due to numerous causes, some of which are referred to in Official Year Book No. 22, pp. 906-7.

Information is given below for the last five years in the case of males and females, and in addition, quinquennial periods from 1901 to 1925 in the case of all persons.

POPULATION.—INCREASE BY NET IMMIGRATION, 1901 TO 1930.

Period.	States.					Territories.		Australia.	
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North- ern.		Fed. Cap.
MALES.									
1926 ..	10,422	4,268	5,715	6,826	1,439	- 3,261	240	582	26,231
1927 ..	12,592	5,924	4,152	2,324	6,167	- 735	401	395	31,220
1928 ..	6,753	- 381	4,644	- 1,628	6,317	- 928	- 371	1,299	15,705
1929 ..	1,853	- 2,062	3,310	- 2,763	3,576	- 232	231	- 1	3,912
1930 ..	- 5,116	- 3,536	4,434	- 1,626	- 1,627	- 524	73	- 74	- 7,996

FEMALES.									
1926 ..	7,960	4,515	3,743	1,329	173	- 2,093	- 7	369	15,989
1927 ..	8,803	5,338	1,076	689	2,290	- 957	70	395	17,704
1928 ..	6,127	3,165	1,062	- 1,056	2,200	- 930	- 20	979	11,527
1929 ..	2,363	1,276	695	- 1,940	2,193	113	269	82	5,051
1930 ..	- 2,876	120	1,406	- 1,651	44	- 735	79	201	- 3,412

PERSONS.									
1901-05 ..	17,237	- 59,955	- 1,903	- 19,479	50,420	- 2,497	- 616	(a)	- 16,793
1906-10 ..	20,547	9,410	20,071	14,993	2,578	- 9,807	- 514	(a)	57,278
1911-15 ..	87,095	26,619	25,091	1,132	10,839	- 15,257	1,315	28	136,862
1916-20 ..	44,444	19,190	6,390	11,783	- 8,312	- 2,278	- 504	- 4	70,709
1921-25 ..	36,422	57,169	47,331	26,311	16,737	- 13,100	- 392	1,845	172,323
1926 ..	18,382	8,783	9,458	8,155	1,612	- 5,354	233	951	42,220
1927 ..	21,395	11,262	5,228	3,013	8,457	- 1,692	471	790	48,924
1928 ..	12,880	2,784	5,706	- 2,684	8,517	- 1,858	- 391	2,278	27,232
1929 ..	4,216	- 786	4,005	- 4,703	5,769	- 119	500	81	8,963
1930 ..	- 7,992	- 3,416	5,840	- 3,277	- 1,583	- 1,259	152	127	- 11,408

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

NOTE.—Minus sign (-) indicates the excess of departures over arrivals.

A table showing the increase by net immigration since 1861 was given in previous issues, but limitations of space prevent its repetition here.

* The subject of immigration is dealt with at some length later in this chapter.

From 1861 to 1930 the increment to the population arising from net immigration amounted to 1,292,299 or 24.43 per cent. of the total increase in population. During the 30 years of the present century the total increase to the population was made up of 2,174,383 or 80.22 per cent. by natural increase, and 536,310 or 19.78 per cent. by net immigration.

3. Total Increase.—The total increase of the population is obtained by the combination of the natural increase with the net immigration.

The total increase in each decade from 1861 to 1920 and for the years 1921 to 1928 was given in Year Book No. 22, p. 902. The results for the last five years only are shown below for males and females, but quinquennial figures from 1901 to 1925 are added for persons. A graph showing the increase in the population in each State and Territory, and of Australia from 1860, accompanies this chapter.

POPULATION.—TOTAL INCREASE, 1901 TO 1930.

Period.	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed. Cap.	

MALES.

1926	24,969	13,706	10,825	10,056	3,614	- 1,717	223	590	62,266
1927	27,417	15,010	9,503	5,416	8,418	706	364	408	67,242
1928	22,258	8,040	10,143	1,417	8,581	335	- 398	1,336	51,712
1929	14,899	6,201	7,740	38	5,652	1,102	206	55	35,817
1930	9,391	5,012	9,689	865	852	895	48	13	26,739

FEMALES.

1926	24,370	14,104	10,183	4,705	2,949	- 561	19	395	56,164
1927	25,068	14,553	7,480	3,961	5,128	402	99	407	57,098
1928	22,756	11,534	7,370	2,160	5,000	366	19	1,015	50,220
1929	17,406	9,900	6,442	961	5,238	1,400	282	140	41,769
1930	13,510	8,740	7,635	991	2,991	684	98	272	34,921

PERSONS.

1901-05	127,579	14,208	37,635	5,371	70,171	13,485	- 811	(a)	267,638
1906-10	155,971	90,987	67,534	44,247	26,694	7,418	- 745	(a)	392,106
1911-15	251,239	123,037	86,051	39,123	39,831	3,733	1,176	184	544,374
1916-20	198,273	103,464	65,557	45,021	14,660	15,216	- 494	143	441,840
1921-25	206,720	156,108	110,561	60,627	40,860	4,280	- 333	1,964	580,787
1926	49,339	27,810	21,008	14,761	6,563	- 2,278	242	985	118,430
1927	52,485	29,563	16,983	9,377	13,546	1,108	463	815	124,340
1928	45,014	19,574	17,513	3,577	13,581	701	- 379	2,351	101,932
1929	32,305	16,101	14,182	923	10,890	2,502	488	195	77,586
1930	22,901	13,752	17,324	1,856	3,843	1,579	146	259	61,660

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

NOTE.—Minus sign (-) denotes decrease.

4. Rates of Increase.—(i) *For Various Countries.* The table hereunder gives approximate rates of increase in population for Australia, and its component States, and for other countries:—

POPULATION.—RATES OF INCREASE (VARIOUS COUNTRIES), 1891 TO 1930.

Countries.	Annual Rate of Increase in Population during period—							1930.
	1891 to 1896.	1896 to 1901.	1901 to 1906.	1906 to 1911.	1911 to 1916.	1916 to 1921.	1921 to 1926.	
AUSTRALASIA—	%	%	%	%	%	%	%	%
Australia ..	1.86	1.49	1.38	2.03	1.95	1.99	2.09	0.96
New South Wales	1.99	1.57	1.99	2.03	2.61	2.17	2.01	0.93
Victoria ..	0.37	0.52	0.18	2.17	1.38	1.68	2.00	0.77
Queensland ..	2.49	2.25	1.35	2.76	2.20	2.21	2.81	1.86
South Australia <i>b</i>	1.63	0.77	0.27	2.46	1.52	2.34	2.27	0.34
Western Australia	20.81	7.25	6.22	2.43	1.76	1.27	2.44	0.92
Tasmania ..	1.06	1.83	1.33	0.65	0.58	1.84	-0.33	0.72
New Zealand ..	2.41	1.98	2.86	2.56	1.61	2.32	1.95	1.36
EUROPE—								
England and Wales	1.15	1.15	1.04	1.04	-0.95	1.89	0.62	0.50
Scotland ..	1.06	1.06	0.55	0.56	0.31	0.24	0.09	0.04
Ireland ..	-0.60	-0.43	-0.22	-0.06	-0.21	0.58	-0.60	<i>d</i> -0.14
Belgium ..	1.15	0.92	1.26	0.69	0.54	-0.56	1.03	(<i>c</i>) 0.80
Denmark ..	0.99	1.32	1.12	1.26	1.20	2.13	1.01	(<i>d</i>) 0.60
France ..	0.09	0.24	0.15	0.06	-0.72	0.55	0.76	(<i>c</i>) 0.15
Germany ..	1.17	1.51	1.46	1.36	0.71	-1.62	0.73	(<i>d</i>) 0.54
Italy ..	0.68	0.61	0.52	0.80	1.16	0.22	0.91	0.82
Netherlands ..	1.28	1.30	1.53	1.22	1.72	1.16	1.53	1.35
Norway ..	0.96	1.31	0.52	0.66	1.00	1.14	0.90	(<i>d</i>) 0.37
Spain ..	0.45	0.45	0.52	0.87	0.66	0.82	0.65	(<i>d</i>) 0.70
Sweden ..	0.61	0.86	0.61	0.84	0.70	0.64	0.40	(<i>d</i>) 0.24
Switzerland ..	1.22	1.10	1.28	1.17	0.81	0.01	0.38	(<i>d</i>) 0.84
ASIA—								
Ceylon ..	1.41	2.03	1.62	1.20	1.71	1.28	2.30	(<i>d</i>) 1.05
Japan ..	0.96	1.25	1.29	1.08	1.42	0.37	1.42	(<i>d</i>) 1.36
AMERICA—								
Canada ..	0.97	1.19	2.99	2.99	2.20	1.81	1.33	1.51
United States ..	1.93	2.02	2.00	1.82	1.67	1.21	1.67	1.37

(a) Including Federal Capital Territory.

(b) Including Northern Territory.

(c) Year 1928.

(d) Year 1929.

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

(ii) *Variations in the Rates.* The fluctuations in the rates of increase in the population of Australia are, for the greater part, due to variations in the volume of immigration.

§ 7. Seasonal Variations of Population.

1. *Variations in Natural Increase.*—The following table shows the natural increase to the population, during each quarter of the year, based on the experience of the ten years 1921–1930. For Australia as a whole, the rate of natural increase was greatest in the quarter ended 31st March, and least in the quarter ending 30th September, the difference between the rates of increase for these two periods being equal to 26 persons for every 100,000 of the population. In New South Wales, Victoria, Queensland, South Australia, and Western Australia the March quarter was the most favourable, and in Tasmania the December quarter. The natural increase was lowest in New South Wales, Victoria, and South Australia in the September quarter, in Queensland and Western Australia in the December quarter, and in Tasmania in the June quarter. The differences between the least favourable and the most favourable quarters ranged from 14 per 100,000 of the population in Tasmania to 31 per 100,000 in Victoria.

POPULATION.—AVERAGE QUARTERLY NATURAL INCREASE, 1921 TO 1930.

State or Territory.	Average Natural Increase for Quarter ended on last day of—								Average Natural Increase per Annum, 1921-30.		
	March.		June.		September.		December.				
	Persons.	‰	Persons.	‰	Persons.	‰	Persons.	‰	Persons.	‰	
N.S.W.	8,422	3.66	8,023	3.48	7,822	3.40	8,079	3.51	32,346	14.05	
Victoria	4,945	2.95	4,620	2.76	4,426	2.64	4,720	2.82	18,711	11.17	
Q'land.	3,130	3.65	3,103	3.62	2,900	3.39	2,868	3.35	12,001	14.01	
S. Aust.	1,699	3.11	1,638	3.00	1,538	2.81	1,556	2.85	6,431	11.77	
W. Aust.	1,276	3.41	1,267	3.39	1,227	3.28	1,207	3.23	4,977	13.31	
Tas. . .	778	3.64	765	3.58	789	3.70	795	3.72	3,127	14.64	
N. Ter.	5	1.27	1	0.26	2	0.51	—	3	0.77	5	1.27
F.C. Ter.	11	1.97	12	2.15	15	2.69	—	12	2.15	50	8.96
Total	20,266	3.39	19,429	3.25	18,719	3.13	19,234	3.22	77,648	12.99	

NOTE.—The minus sign (—) indicates an excess of deaths over births, and ‰ denotes "per thousand."

2. Variations in Net Immigration.—In the following table the figures relating to the separate States and Territories include interstate migrants, but so far as these persons are concerned, the arrivals into any State are departures from some other State, so that they do not affect the figures shown for Australia as a whole, which, therefore, represent the oversea arrivals and departures. For the decade under review the December quarter showed the greatest rate of increase from migration.

The greatest gains in New South Wales have on the average occurred in the September quarter; in Victoria in the March quarter; in Queensland and Western Australia in the June quarter, and in South Australia and Tasmania in the December quarter. The gain to the southern States in the December quarter is due to oversea traffic and to tourists and sugar workers returning from Queensland, which loses heavily during the December quarter, but gains in the June quarter by tourists seeking the warmer climate. The June quarter has been most favourable to Queensland and Western Australia. The increase to Tasmania during the December quarter is from the influx of tourists from the mainland, but this is unfortunately more than counterbalanced by the consistent losses during each of the other quarters.

POPULATION.—AVERAGE QUARTERLY NET IMMIGRATION, 1921 TO 1930.

State or Territory.	Quarter ended on last day of—								Average Net Immigration per Annum, 1921-30.	
	March.		June.		September.		December.			
	Persons.	‰	Persons.	‰	Persons.	‰	Persons.	‰	Persons.	‰
N.S.W.	1,714	0.74	—1,245	—0.54	4,115	1.79	3,947	1.71	8,531	3.70
Victoria	3,429	2.04	—1,127	—0.67	2,315	1.38	2,963	1.77	7,580	4.52
Q'land.	1,748	2.04	7,101	8.29	1,121	1.31	—2,214	—2.58	7,756	9.06
S. Aust.	294	0.54	—155	—0.28	576	1.05	1,965	3.60	2,680	4.91
W. Aust.	803	2.15	1,257	3.36	987	2.64	905	2.42	3,952	10.57
Tas. . .	—3,919	—18.36	—2,627	—12.30	—914	—4.28	5,122	23.99	—2,338	—10.95
N. Ter.	16	4.05	83	21.02	12	3.04	—54	—13.67	57	14.44
F.C. Ter.	1,313	235.06	63	11.28	204	36.52	—973	—174.19	607	108.67
Total	5,398	0.90	3,350	0.56	8,416	1.41	11,661	1.95	28,825	4.82

NOTE.—The minus sign (—) denotes excess of departures over arrivals, and ‰ denotes "per thousand" of population.

§ 8. Influences affecting Increase and Distribution.

In previous issues of the Official Year Book the influence of the various factors influencing the growth and distribution of population was traced. Detailed information on this subject will be found in Year Book No. 22, pp. 906 and 907.

§ 9. Density.

1. General.—From certain aspects population may be less significant in respect of its absolute amount than in its relation to the area of the country. Australia, with an area of 2,974,581 square miles, and a population on 31st December 1930 of 6,536,032 including aborigines, has a density of only 2.20 persons to the square mile, and is, therefore, the most sparsely populated of the civilized countries of the world. For the other continents the densities are approximately as follow:—Europe, 126; Asia, 63; Africa, 12; North and Central America, 19 and South America, 12. The population of Australia has thus about 20 per cent. of the density of South America; about 18 per cent. of that of Africa; about 11 per cent. of that of North and Central America; about 3 per cent. of that of Asia; and about 2 per cent. of that of Europe.

On account of the enormous area of Australia, the density of population must necessarily increase slowly. In Australia as a whole, the figure has increased from 1.29 per square mile in 1901, to 2.20 in 1930. Victoria's density, however, has grown from 13.77 to 20.38, and that of New South Wales from 4.43 to 8.08 in the same period.

A map showing the density of population throughout Australia at the Census of 1921 accompanies this chapter.

Particulars concerning the number and density of the population of the most important countries of the world at the latest dates for which such information is available are given in the following table. These figures have in the main been taken from the 1931 issue of the "Statesman's Year Book," and in some instances, more particularly in the cases of Asia and Africa, must be considered as rough approximations only, complete data not being obtainable.

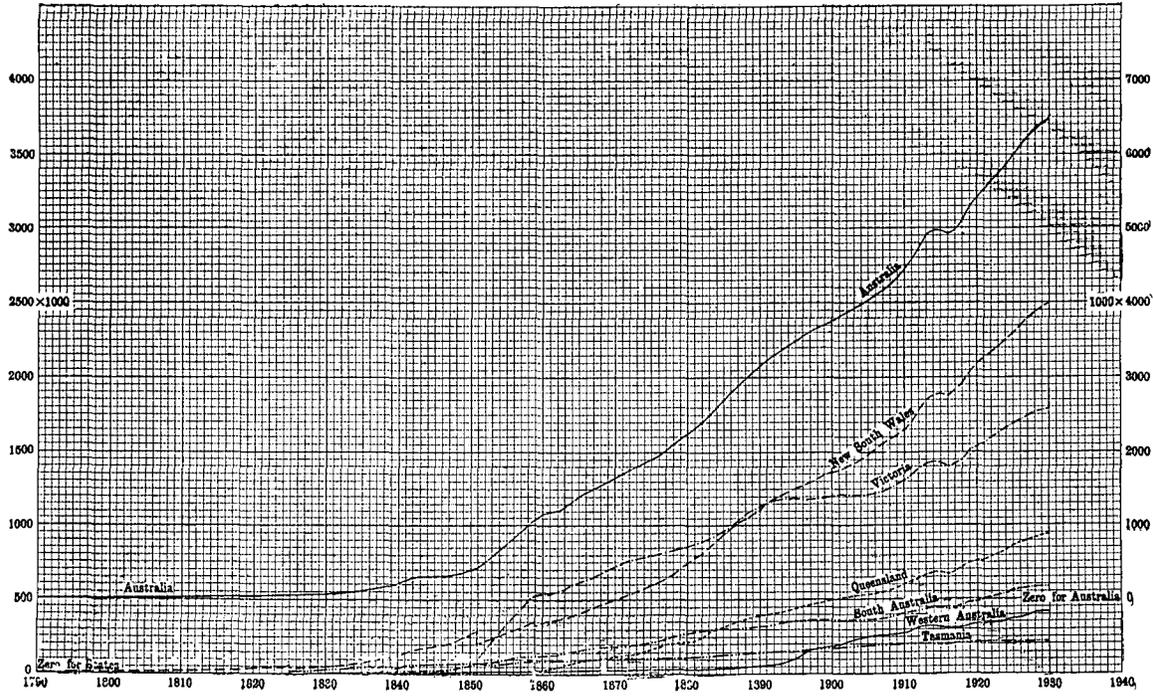
POPULATION, WORLD'S.—NUMBER AND DENSITY.

Country.	Population.	Density (a).	Country.	Population.	Density (a).
EUROPE.			AFRICA—continued.		
Russia	112,600,000	63.78	Abyssinia	10,000,000	28.57
Germany	63,178,619	347.66	Belgian Congo	8,725,679	9.51
Great Britain and North- ern Ireland	45,936,000	485.41	Union of South Africa	7,777,583	16.48
Italy	42,874,801	358.16	Anglo-Egyptian Sudan	5,579,776	5.53
France	41,130,000	193.41	Algeria	6,063,496	7.15
Poland	30,737,448	204.97	Total Africa	135,640,468	12.08
Spain (including Canary and Balearic Islands)	22,760,854	115.77	NORTH AND CENTRAL AMERICA.		
Rumania	17,905,000	146.42	United States of America	122,775,046	40.56
Czechoslovakia	14,608,142	269.49	Mexico	16,404,030	21.38
Jugoslavia	13,290,000	138.24	Canada	9,934,500	2.70
Hungary	8,683,740	242.06	Cuba	3,607,919	81.69
Belgium	8,060,189	685.68	Total North and Central America		
Netherlands	7,832,175	592.45	America	166,540,814	19.47
Austria	6,704,467	207.13	SOUTH AMERICA.		
Greece	6,204,684	124.31	Brazil	40,272,650	12.30
Sweden	6,120,080	35.34	Argentine Republic	11,192,702	9.71
Portugal	5,920,000	166.81	Colombia	7,967,783	18.07
Bulgaria	5,824,900	146.30	Peru	6,147,000	11.55
Total Europe	486,039,279	125.89	Chile	4,264,819	14.70
ASIA.			Total South America	81,263,029	11.51
China and Dependencies	438,933,373	102.58	OCEANIA, ETC.		
British India	247,003,293	225.72	Australia	(b) 6,536,032	2.20
Japan and Dependencies	89,535,490	337.70	New Zealand	1,506,087	14.51
Feadatory Independent States	71,939,187	101.75	Territory of New Guinea	406,869	5.16
Dutch East Indies	52,824,569	92.19	Hawaii	357,649	55.46
Russia in Asia	37,000,000	5.71	Papua	276,525	3.05
Turkey, including Armenia and Kurdistan	12,615,969	44.21	Dutch New Guinea	195,460	1.22
Philippine Islands	12,204,100	106.68	Fiji	180,005	25.41
Siam	11,506,207	57.49	Total Oceania, &c.	10,052,101	2.90
Afghanistan	11,000,000	44.90	SUMMARY.		
Persia	10,000,000	15.92	Europe	486,039,279	125.89
Tonking	7,401,912	182.63	Asia	1,049,997,364	63.14
Arabia	7,000,000	7.00	Africa	135,640,468	12.08
Nepal	5,600,000	103.70	America, North and Central	166,540,814	19.47
Ceylon	5,479,000	216.29	America, South	81,263,029	11.51
Annam	5,399,674	135.81	Oceania, etc.	10,052,101	2.90
Total Asia	1,049,997,364	63.14	Total	1,929,533,055	37.99
AFRICA.					
Nigeria and Protectorate	19,400,000	58.06			
Egypt	14,213,364	37.11			
French West Africa	13,541,011	9.40			

(a) Number of persons per square mile.

(b) Including 60,000 aborigines.

TOTAL POPULATION, 1788 TO 1930.

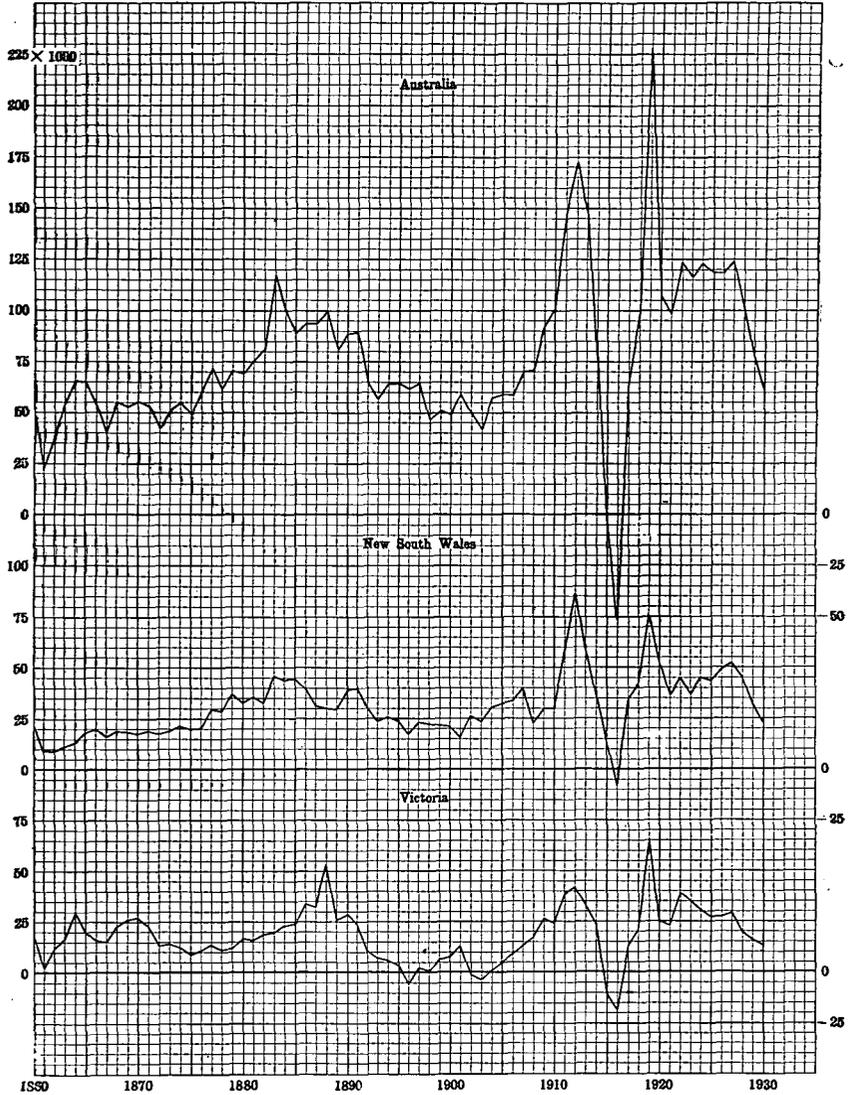


(See page 656.)

EXPLANATION.— The base of each small square represents one year's interval for the States and Australia, and the vertical height for the States 50,000 persons, and for Australia 100,000 persons.

Where the population falls suddenly, the fall denotes the creating of a new colony, e.g., New South Wales in 1825 lost the whole population of Tasmania.

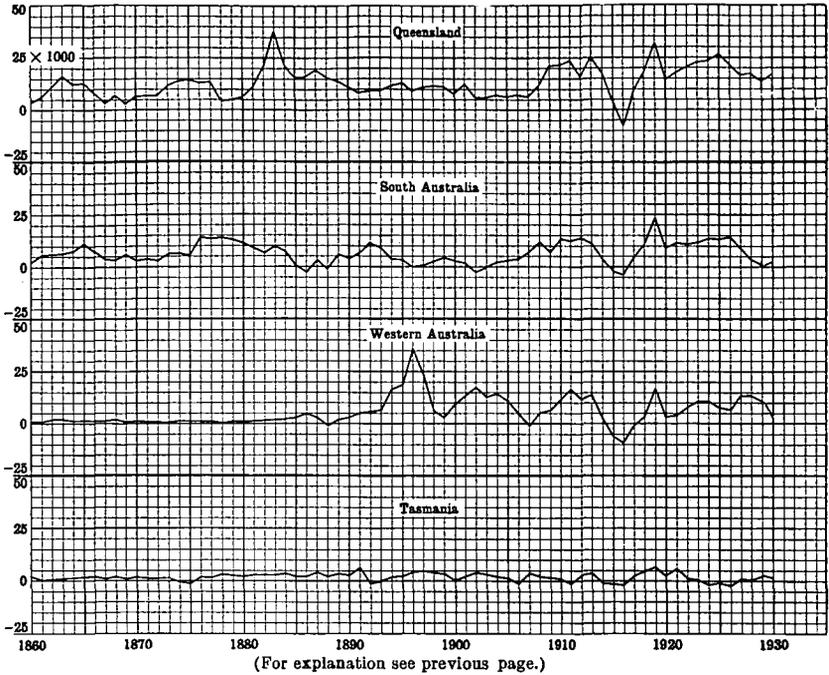
TOTAL INCREASE OF POPULATION—AUSTRALIA, AND NEW SOUTH WALES AND VICTORIA, 1860 TO 1930.



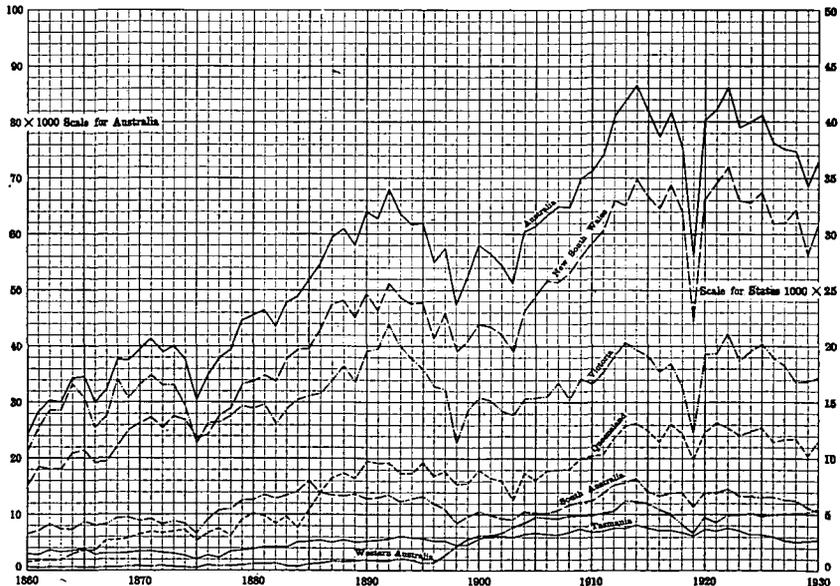
EXPLANATION.—The base of each small square represents an interval of a year for both States and Australia; the vertical height represents 5,000 persons. In the first graph three zero lines are taken (i) for Australia, (ii) for New South Wales, and (iii) for Victoria. In the second graph (on page 669) our zero lines are taken (i) for Queensland, (ii) for South Australia, (iii) for Western Australia, and (iv) for Tasmania.

DECREASES in population are shown by carrying the curve in such cases below the zero line, the distance below the zero line indicating the extent of the decrease.

TOTAL INCREASE OF POPULATION—QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA, AND TASMANIA, 1860 TO 1930.



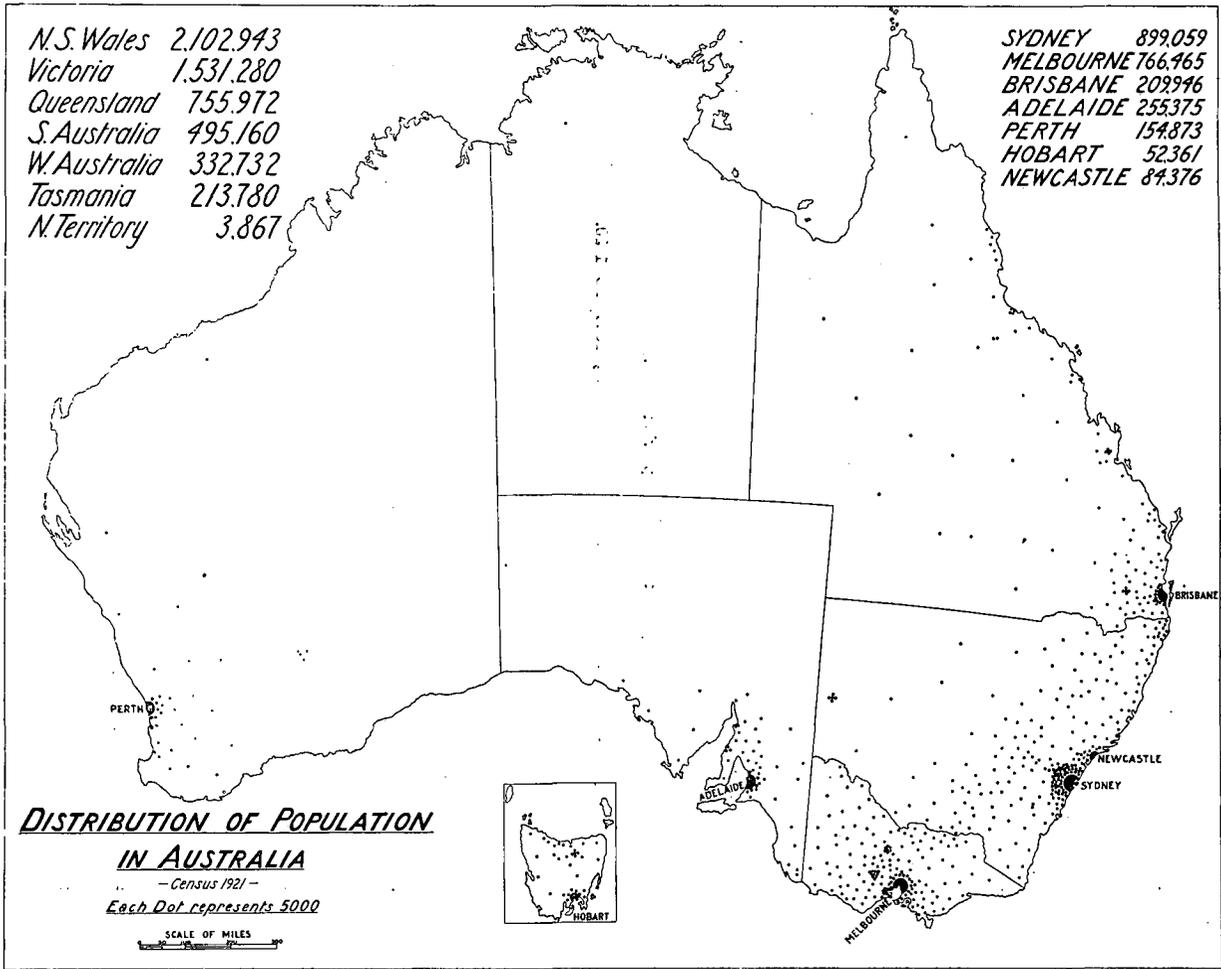
NATURAL INCREASE OF POPULATION, 1860 TO 1930.



EXPLANATION.—The base of each small square represents one year for both States and Australia, and the vertical height 1,000 persons for the States and 2,000 persons for Australia. The distances upward from the zero line, marked 0 for both Australia and States, denote the excess of births over deaths. The scale on the left relates to Australia, and that on the right to the States.

N.S. Wales 2,102,943
Victoria 1,531,280
Queensland 755,912
S. Australia 495,160
W. Australia 332,732
Tasmania 213,780
N. Territory 3,867

SYDNEY 899,059
MELBOURNE 766,465
BRISBANE 209,946
ADELAIDE 255,375
PERTH 154,873
HOBART 52,361
NEWCASTLE 84,376

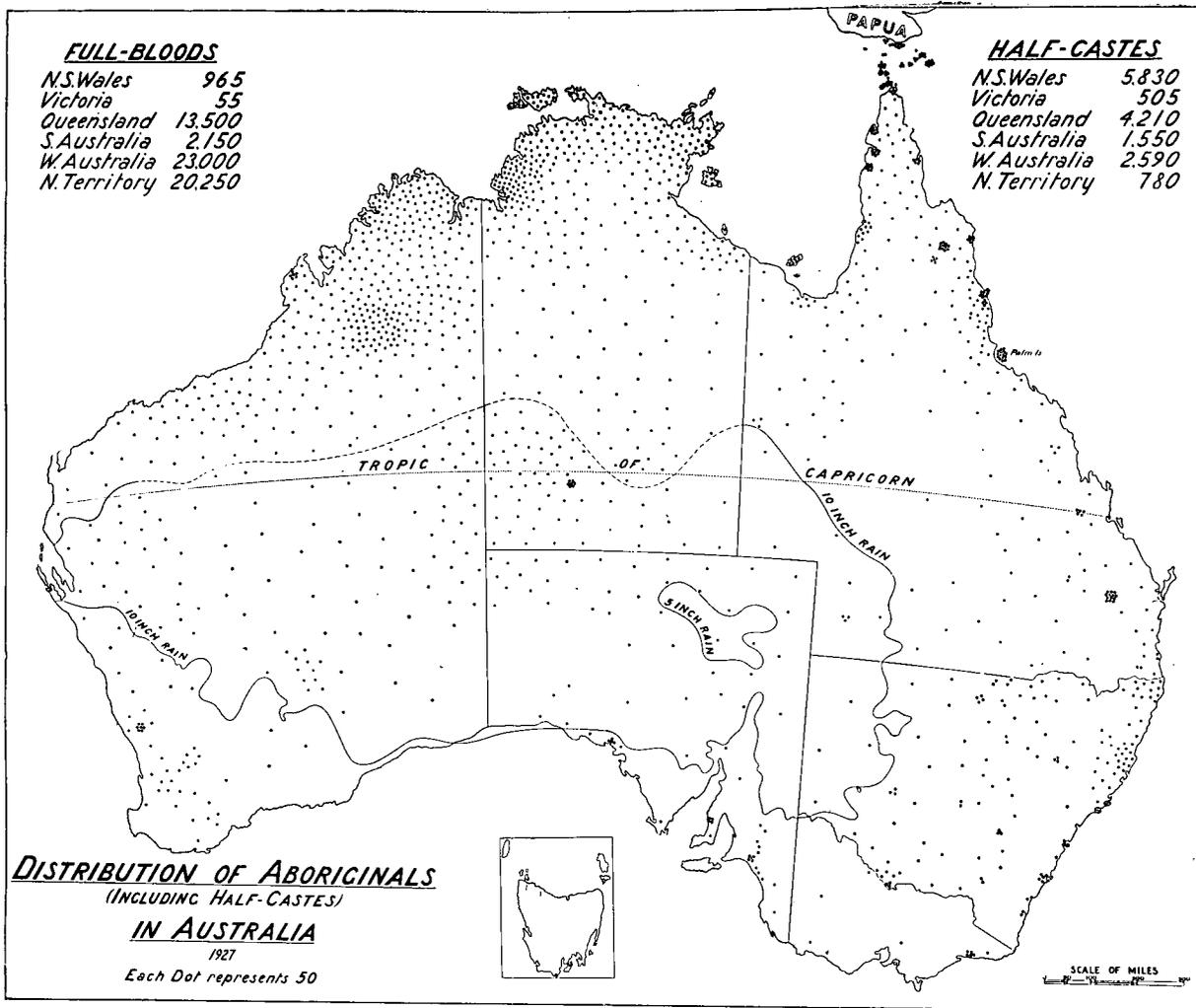


FULL-BLOODS

N.S.Wales	965
Victoria	55
Queensland	13,500
S.Australia	2,150
W.Australia	23,000
N.Territory	20,250

HALF-CASTES

N.S.Wales	5,830
Victoria	505
Queensland	4,210
S.Australia	1,550
W.Australia	2,590
N.Territory	780



DISTRIBUTION OF ABORIGINALS

(INCLUDING HALF-CASTES)

IN AUSTRALIA

1927

Each Dot represents 50

2. Position of the British Empire.—The approximate relationship of the British Empire to the world as a whole in regard to its area and population is given hereunder :—

BRITISH EMPIRE IN RELATION TO THE WORLD.

Particulars.	The World.	British Empire.
Area in square miles (exclusive of Polar Circles) ..	50,794,196	13,355,426
Population	1,929,533,055	460,365,281
Population per square mile	37.99	34.47

§ 10. General Characteristics.

1. Sex Distribution—(i) *General.* Detailed information respecting the distribution of the sexes in the population of Australia will be found in previous issues of the Official Year Book, but limitations of space preclude its retention in the present issue. (See No 22; page 910.)

(ii) *Masculinity.* On pages 163 to 165 in the second issue of this publication a table was included showing 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 to 1907 were modified in accordance with the results of the Census of 3rd April, 1911.

The ratio of the excess of males over females to the total population, expressed as a percentage, has been adopted as the "masculinity" of the population, and the ratios so computed for intervals of ten years from 1800 to 1910 and for the five years 1924 to 1928 appeared in Year Book No. 22, p. 911. The figures for 1930 will be found on p. 658 of this issue, as well as in the comparative table for various countries which follows.

The figures for earlier years referred to above disclose an almost continuous decline until 1921 in the preponderance of males in the population, broken only during the war years. In 1900 the masculinity was 5.01; in 1910, 3.79 and in 1920, 1.68. Since 1921, however, the masculinity has tended to rise.

Graphs showing the masculinity of the population of each State and of Australia, accompany this chapter.

The difference between young and old countries in the masculinity of their populations is clearly illustrated by the comparisons furnished in the following table, which are based on the latest statistics available.

POPULATION OF VARIOUS COUNTRIES.—MASCULINITY.

Country.	Year.	Excess of Males over Females in each 100 of Population.	Country.	Year.	Excess of Males over Females in each 100 of Population.
Argentine Republic ..	1928	6.57	Jugoslavia	1921	-1.92
Ceylon	1921	5.91	Denmark	1925	-2.39
British India	1921	2.73	Norway	1928	-2.74
India (Feudatory States)	1921	2.73	Spain	1920	-3.07
Australia	1930	2.03	Northern Ireland ..	1929	-3.36
Union of South Africa(a)	1928	2.02	Poland	1921	-3.37
New Zealand	1929	2.01	German Empire ..	1925	-3.47
United States of America	1920	1.98	Scotland	1929	-4.01
Irish Free State ..	1928	1.46	Great Britain and		
Japan	1929	0.68	Northern Ireland ..	1929	-4.17
Canada	1921	0.31	England and Wales ..	1929	-4.21
Belgium	1928	-1.04	France	1921	-4.92
Italy	1921	-1.37	Netherlands	1923	-7.29
Sweden	1929	-1.71	Russia (European) ..	1920	-9.56

NOTE.—The minus sign (—) denotes excess of females over males in each 100 of population.

(a) White population only.

2. *Age Distribution.*—The age distribution of the population is obtained only at a Census, the last of which was taken in 1921. The data then collected have been included in preceding issues of the Year Book, but owing to limitations of space have been omitted from the present issue. (See No. 22, p. 912.)

3. *Race and Nationality.*—(i) *General.* With regard to its racial characteristics the population of Australia may be divided into two main groups, one comprising the aboriginal natives, and the other consisting of the various immigrant races which have made the country their home. [It will of course be understood that full-blood aboriginals are not counted in the population.] The term “immigrant races” naturally covers not only those residents of Australia who were born in other countries, but includes their descendants who were born in Australia.

(ii) *Aboriginals.* At a Census of aboriginals taken on 30th June, 1930, 61,734 full-bloods were enumerated, of whom 36,906 were described as nomadic, 10,711 were in regular employment, and 10,149 were living in supervised camps. There were at the same date 17,797 half-castes. The aboriginals are scattered over the whole of the mainland, but the majority are concentrated chiefly in Western Australia, Queensland and North Australia.

A special article dealing with the number and distribution of aboriginals in Australia at the time of its first settlement was included in *Official Year Book No. 23*, pp. 687 to 696.

(iii) *Immigrant Races.* The immigrant races consist mainly of natives of the British Isles and their descendants. Of the total population (5,435,734) enumerated at the Census of 1921, 5,387,143, or 99.11 per cent., were of European race. Of the remainder, 30,975, or 0.57 per cent., were full-blood, and 17,616, or 0.32 per cent., were half-caste non-Europeans. Of 28,215 full-blood Asiatics, 17,157 were Chinese, 2,881 Hindus, 2,892 Syrians, 2,740 Japanese, and 1,087 Malays.

More detailed information under this heading will be found in previous issues of this book. (See No. 22, p. 916.)

(iv) *Nationality.* Prior to the Census of 1921 no attempt had been made to ascertain the allegiance of the people, except in so far as a person was or was not a British subject. At the last Census all persons were asked to state their nationality, and the results which are given in *Year Book No. 22*, show that of a population of 5,435,734, as many as 5,387,205, or over 99 per cent., were definitely stated to be British subjects. Of the foreign element, the Chinese were the most numerous, representing 30 per cent. of the foreign inhabitants and 2.56 in every 1,000 of the total population. Italians, with 0.90 per 1,000 of total population, were the next in numbers. (See *Year Book No. 22*, p. 917, for further information.)

(v) *Birthplaces.* The proportion of native-born in the Australian population has increased rapidly in recent years. At the Census of 1921 the Australian-born numbered 4,581,663 persons, or 84.51 per cent. of a total population of 5,421,242 persons whose birthplaces were specified. Of the remainder, 676,387, or 12.48 per cent., were natives of the British Isles, and 38,611, or 0.71 per cent., were natives of New Zealand, so that 97.70 of the total population at that time had been born either in Australasia or in the British Isles. Excluding these, the following countries are the most important recorded as the birthplaces of persons in Australia at the Census of 1921 :—

Germany, 22,396 (0.41 per cent.); China, 15,224 (0.28 per cent.); Scandinavia (comprising Sweden, Norway, and Denmark), 14,341 (0.26 per cent.); Italy, 8,135 (0.15 per cent.); British India, 6,918 (0.13 per cent.); United States of America, 6,604 (0.12 per cent.); Union of South Africa, 5,408 (0.10 per cent.); Canada, 3,550 (0.07 per cent.).

(vi) *Length of Residence of Immigrants.* At the Census of 1921 the population of Australia included 839,579 persons who were classed as immigrants. A table showing the number of years during which these people had resided in Australia will be found in *Official Year Book, No. 22*, p. 919.

4. **Education.**—Of the 5,435,734 persons who comprised the population of Australia on the 4th April, 1921, there were 805,798, of whom 600,206, or 74.5 per cent., were under five years of age, and many of the remaining 25.5 per cent. were also children, who were definitely shown to be unable to read, and there were 86,641 persons whose ability in this direction was not stated. Allowing for those persons whose ability to read and write was unspecified, it may be said that over 95 per cent. of the population over five years of age can read and write, and of those over ten years of age more than 98 per cent. can read and write.

5. **Religions.**—At the Census of the 4th April, 1921, of a total population of 5,435,734, 5,267,641, or 99.33 per cent. of those who stated their religion, were definitely stated to be Christians, and 35,405 were stated to be Non-Christians. Of the total Christians, 2,372,995, or 45.04 per cent., belonged to the Church of England; 1,134,002, or 21.53 per cent., to the Roman Catholic Church; 636,974, or 12.09 per cent., to the Presbyterian Church; and 632,629, or 12.01 per cent., were Methodists. The numbers belonging to other denominations will be found in Year Book No. 22, p. 921.

6. **Conjugal Condition.**—The number of persons whose conjugal condition was definitely stated at the Census of 4th April, 1921, was 5,421,191, of whom 2,753,740 were males and 2,667,451 were females. Of the 5,421,191 persons referred to, 1,998,662, or 36.86 per cent., were married, as compared with 33 per cent. in 1911; 237,821, or 4.39 per cent., were widowed; 8,528, or 0.15 per cent., were divorced; and 3,176,180, or 58.60 per cent., had never married. Of those who had never married, 1,725,004, or 54.31 per cent., were under 15 years of age.

7. **Occupations.**—Detailed information regarding the grouping of the population into occupations at the Census of 1921 will be found in previous issues of the Official Year Book. (See No. 22, p. 922.) A brief summary only is included here.

POPULATION.—OCCUPATION AND PERCENTAGES OF EACH CLASS ON TOTAL BREADWINNERS, AUSTRALIA, CENSUSES 1901 TO 1921.

Occupations.	Persons.			Percentage on Total Breadwinners.		
	1901.	1911.	1921.	1901.	1911.	1921.
I. Professional ..	112,356	146,608	201,887	6.8	7.3	8.7
II. Domestic ..	202,216	202,925	210,362	12.2	10.1	9.1
III. Commercial ..	224,028	291,366	355,767	13.6	14.5	15.3
IV. Transport and Communication	122,702	158,854	208,222	7.4	8.0	9.0
V. Industrial ..	429,012	569,132	725,816	26.1	28.4	31.2
VI. Primary Producers ..	535,766	608,843	599,750	32.5	30.4	25.8
VII. Independent ..	22,430	26,402	20,667	1.4	1.3	0.9
Total Bread- winners ..	1,648,510	2,004,130	2,322,471	100.0	100.0	100.0
VIII. Dependents ..	2,125,291	2,450,875	3,113,263			
Total ..	3,773,801	4,455,005	5,435,734			

8. **Grade of Employment.**—The term "grade of employment" indicates the capacity in which persons are employed in the various branches of industry. The grades recorded and the numbers of the population at the Census of 1921 in each grade were as follows:—(a) Employer (141,570), (b) Working on own account (347,250), (c) Assisting but not receiving wages or salary (34,983), (d) Receiving wages or salary (1,519,036), and (e) Unemployed (160,956). In addition to these categories, provision is made for (f) Grade not applicable (3,231,939)—which consists mainly of dependents and of persons of independent means not engaged in gainful occupations.

9. **Unemployment.**—(i) *Causes.* At the Census of the 4th April, 1921, there were in Australia 1,679,992 wage or salary earners, of whom 160,956 were unemployed. In 79,338 cases, or approximately 50 per cent. of the total, the unemployment was due to scarcity of work; in 46,912 cases, or 29 per cent., to illness or accident; in 4,818 cases, or 3 per cent., to industrial disputes; in 2,276 cases, or 1.5 per cent., to old age; and, in 27,612 cases, or 17 per cent., to other causes.

(ii) *Duration.* At the Census of 1921 persons who were unemployed on Saturday, 2nd April, 1921, were asked to state the number of working days during which they had been out of work. The results of the inquiry show that approximately 46 per cent. were unemployed under five weeks, 17.2 per cent. from five to ten weeks, 10.6 per cent. from ten to fifteen weeks, and 26.2 per cent. above fifteen weeks.

§ 11. Dwellings.

Information regarding the number, ownership, rental value, number of rooms, and inmates of dwellings recorded in Australia at the Census of 1921 will be found in Year Book No. 22, p. 926. More detailed information is given in the Census of 1921—Parts Nos. XVIII.—XXV.

§ 12. Immigration.

(A) The Encouragement of Immigration into Australia.

1. **Joint Commonwealth and States' Immigration Scheme.**—An outline of the arrangements made between the Commonwealth and State Governments to regulate immigration into Australia will be found in Official Year Book No. 22, p. 929.

Owing to financial and industrial depression the Commonwealth Government, early in 1930, decided to reduce the flow of assisted migrants by limiting the assisted passage concession to boys for farm work, young women for household employment, and to nominees, mainly wives and children of husbands in Australia.

The Governments of the various States have since cancelled all requisitions for boys and household workers, so that assisted passages are now confined to persons whose migration involves the reunion of a family.

2. **Assisted Passages.**—The British and Commonwealth Governments jointly donate the following contributions towards the passages of approved settlers for Australia from the United Kingdom:—Children under 12 years, £16 10s. (representing the full fare at half rate); juveniles 12 and under 17 years, £27 10s.; juveniles 17 years and under 19 years, £22; married couples, including widowers or widows, and wives nominated by husbands, with at least, one child under 19 years, £22 per parent (children at rate according to age); household workers, £22; others including children 19 years of age and over, £16 10s. Allowing for this financial assistance, children under 12 years will be carried free; juveniles 12 years of age and under 17 years, who are ordinarily charged for by the shipping companies as adult passengers, will merely require to pay £5 10s. each; juveniles 17 years and under 19 years, £11 each; married couples, including widowers or widows, and wives nominated by husbands, with at least one child under 19 years, £11 per parent (children at rate according to age); household workers, £11; others, including children 19 years and over, £16 10s. each. Persons who have previously resided in the Commonwealth are not eligible for assistance. In addition to these contributions, loans of the balance of the passage money are in special cases granted by the Governments concerned. Persons entitled to assisted passages are divided into two classes—"Selected" and "Nominated." "Selected" immigrants are those such as boy farm learners and household workers who are originally recruited abroad by the Commonwealth Government. "Nominated" immigrants are those nominated by persons resident in Australia, and the nominators, who must submit their applications through the officers in charge of the State Immigration Offices in the various capital cities, are held responsible for their nominees upon arrival, so that they shall not become a burden upon the State.

Intending settlers or immigrants may, on application, obtain full information from the Official Secretary, High Commissioner's Office, Australia House, Strand, London, W.C.2; or from the Secretary, Department of Transport, Commonwealth Offices, Treasury Place, Melbourne.

3. Migration Agreement between British and Commonwealth Governments.—On the 8th April, 1925, the British and Commonwealth Governments entered into an agreement under which it is proposed to furnish to the Governments of the various States, loan moneys at a very low rate of interest, to enable suitable areas of land to be made available for settlement, or to enable such public works to be carried out as will tend to develop and expand settlement areas or will enable areas already settled to carry a greater population. The maximum amount of loan moneys provided for in the agreement is £34,000,000. It is provided that for every principal sum of £75 issued to a State Government under the agreement, one assisted migrant shall sail direct from the United Kingdom and be received into and satisfactorily settled in the State concerned. If full advantage is taken of the offer of loan moneys contained in the agreement, 450,000 new settlers will be absorbed during a period of ten years.

Owing to the prevailing economic conditions no fresh works are being undertaken under this agreement, and assisted immigration is being restricted to cases involving the reunion of members of a family.

4. Results of Assisted Immigration.—The number of assisted immigrants for the years 1928 to 1930 and the total from the earliest years up to the end of 1930 are given in the following table :—

ASSISTED IMMIGRATION.—1928 TO 1930, AND UP TO THE END OF 1930.

Persons.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	F.C. Terr.	Total.
No. Assisted during 1928	8,732	5,149	2,178	1,623	4,485	203	24	22,394
" " " 1929	5,431	2,604	1,292	526	2,976	101	13	12,943
" " " 1930	1,174	468	484	61	471	20	5	2,683
Total from earliest years to end of 1930	345,710	255,257	235,926	115,811	85,985	24,947	66	1,063,702

Particulars of occupations of the number of selected and nominated immigrants during 1930 are shown below :—

ASSISTED IMMIGRATION.—SEXES AND INDUSTRIAL GROUPS, AUSTRALIA, 1930.

Industrial Group.	Selected.			Nominated.		
	Males.	Females.	Total.	Males.	Females.	Total.
I. Wood, Furniture, etc.	7	..	7
II. Engineering, Metal Works, etc.	43	..	43
III. Food, Drink, Tobacco, etc.	12	3	15
IV. Clothing, Hats, Boots, etc.	18	39	57
V. Books, Printing, etc.	3	2	5
VI. Other Manufacturing	12	6	18
VII. Building	24	..	24
VIII. Mining	27	..	27
IX. Rail and Tramway Services	3	..	3
X. Other Land Transport	11	..	11
XI. Shipping, Wharf Labour, etc.	7	..	7
XII. Pastoral, Agricultural, etc.	..	332	9	341	1	187
XIII. Domestic, Hotels, etc.	303	303	257	260
XIV. General Labour and Miscellaneous Dependents	..	4	..	4	111	285
	..	3	20	23	332	731
Total	339	332	671	862
	1,150	2,012

(B) The Regulation of Immigration into Australia.

1. Powers and Legislation of the Commonwealth.—(i) *Constitutional.* Under Part 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.

(ii) *Legislation.* A summary of the provisions of the Immigration Act 1901–1925 and the Contract Immigrants Act 1905 (excepting the provisions of the Amending Immigration Acts of 1920, 1924 and 1925, which will be found in Official Year Book, No. 21, p. 927), containing particulars regarding the admission of immigrants, prohibited immigrants, the liabilities of shipmasters and others, and kindred matters will be found in preceding Year Books (see Year Book, No. 12, pp. 1166 to 1168).

The Immigration Act 1930.—Under this Act it is provided that Section 5, subsection (1), of the Immigration Act 1901–1925, applies to any person who, since the commencement of the Immigration Restriction Act 1901, evaded an officer when entering the Commonwealth, or gained admission or re-admission by fraudulent means. Steps can be taken to deal with such persons as prohibited immigrants at any time after they have landed in Australia.

2. Conditions of Immigration into Australia.—(i) *Immigration of Non-European or Coloured Persons.* In pursuance of the “White Australia” policy, the general practice is not to permit Asiatics or other coloured immigrants to enter Australia for the purpose of settling permanently. Exclusion is effected, where necessary, by the application of a dictation test which may be imposed in any European language at the discretion of the officer who applies it. In other words, the test when applied is used as an absolute bar to admission: but, as a matter of fact, occasion does not arise for the test to be applied to any great extent, as shipping companies refrain from bringing coloured passengers to Australia unless they have authority to land on the ground of former domicile, or temporarily for business purposes, etc.

There are special arrangements with India, Japan, and China under which facilities are afforded for subjects of those countries who are bona fide merchants, students, or tourists to enter and remain in Australia under exemption whilst they retain their status.

(ii) *Immigration of White Aliens.* Owing to economic conditions in Australia, it was found necessary for the year 1931, and until further notice, to restrict alien immigration to persons who obtain landing permits or special authority for admission from the Department of Home Affairs. Such authority, as a rule, is being confined to very close dependent relatives of persons already settled in Australia, but cases having special features are considered on their merits, and provision has also been made for the temporary admission of bona fide visitors who may wish to enter the Commonwealth for purposes of business or pleasure.

Aliens seeking to enter Australia are also required to hold valid national passports visaed by a British Consul for travel to Australia except in cases where visa requirements have been abolished by reciprocal arrangements to which the Commonwealth Government of Australia is a party. The exemptions so far apply to nationals of the following countries, viz.:—Belgium, Denmark, France, Italy, Liechtenstein, Norway, Sweden, Switzerland, Holland and Germany.

(iii) *General Information.* General information as to conditions of entry into Australia may be obtained from the following offices:—

- (a) In Australia: The Secretary, Department of Home Affairs, Canberra, F.C.T., Australia; (b) In Great Britain: The Official Secretary, Australia House, Strand, London, England; (c) In the United States of America: The Official Secretary, Commissioner for Australia in the United States of America, “Cunard Building,” 25 Broadway, New York City, U.S.A.

3. Persons Admitted Without Dictation Test.—The following table shows the number and nationality of persons admitted during the year 1930 without passing the dictation test :—

PERSONS ADMITTED WITHOUT DICTATION TEST.—NATIONALITIES,
AUSTRALIA, 1930.

Nationality or Race.	1930.	Nationality or Race.	1930.
Albanian	1	American Negroes .. .. .	..
Austrian	59	West Indians	12
Belgian	68	ASIATICS—	
British	51,579	Arabs	1
Bulgarian	46	Chinese	1,290
Danish	105	Filipinos	6
Dutch	158	Japanese	228
Estonian	30	Javanese	4
Finnish	97	Malays	11
French	647	Natives of India and Ceylon	133
German	536	Palestinians	71
Greek	304	Syrians	60
Italian	2,127	Mauritians	1
Jugoslavian	374	OTHER RACES—	
Maltese (British)	99	Pacific Islanders	52
Norwegian and Swedish	120	Papuans	373
Polish	241	Unspecified	171
Russian	188		
Spanish	87		
Swiss	146		
United States of America	1,469		
Other Whites	172	Total	61,066

4. Departures of Persons of Non-European Races.—The number of persons of non-European races who left Australia during the year 1930 was 3,517, distributed among the various nationalities as follows :—American Negroes, 4 ; West Indians, 2 ; Arabs, 4 ; Chinese, 1,945 ; Filipinos, 21 ; Japanese, 434 ; Javanese, 58 ; Malays, 69 ; natives of India and Ceylon, 140 ; Pacific Islanders, 31 ; Papuans, 489 ; Koepangers, 282 ; Afghan, 1 ; and 37 others.

(C) Passports.

Provision is made in the Immigration Act 1920 for the production of passports by all persons over 16 years of age who desire to enter Australia. Similarly, the Passports Act 1920 provides that no person over the age of 16 years shall leave Australia unless—

- (a) he is the holder of a passport or other document authorizing his departure ; and
- (b) his passport has been visaed or indorsed in the prescribed manner for that journey, and the visa or indorsement has not been cancelled.

Among the exceptions to this requirement are natural-born British subjects leaving for New Zealand, Papua, or Norfolk Island ; members of the crew of any vessel who sign on in Australia for an oversea voyage and who satisfy an authorized officer that they are by occupation seafaring men ; aboriginal natives of Asia, or of any island in the East Indies, or in the Indian or Pacific Oceans. The charge for a Commonwealth passport is 10s., for an ordinary visa 8s., and for a transit visa 2s.

With regard to (b), the Commonwealth Government has agreed to the inclusion of Australia in reciprocal arrangements for the abolition of visa requirements made by the British Government with the respective Governments of the following countries, viz. :—France, Switzerland, Liechtenstein, Italy, Belgium, Denmark, Sweden, Norway, Holland, and Germany.

§ 13. Naturalization.

1. **Commonwealth Legislation.**—Naturalization in Australia is governed by the Nationality Act 1920–1930. The qualifications necessary for naturalization are :— (a) Residence in Australia continuously for not less than one year immediately preceding application for naturalization, and previous residence, either in Australia or in some other part of His Majesty's dominions, for a period of four years within the last eight years before the application; (b) good character and an adequate knowledge of the English language; and (c) intention to settle in the British Empire.

The amending Act of 1930 provided for the charge of a prescribed fee for a Certificate of Naturalization. The fee is £3, except in the case of a certificate granted to a woman who was a British subject prior to her marriage to an alien, in which case the amount is 5s.

A summary of the main provisions of the principal Act will be found in Official Year Book No. 22, pp. 934–935.

2. **Certificates Granted.**—(i) *Australia.* Particulars regarding the previous nationalities of the recipients of certificates of naturalization issued under the Act during the year 1930, and the countries from which such recipients had come, are given in the following table :—

NATURALIZATION.—COMMONWEALTH CERTIFICATES GRANTED, 1930.

Previous Nationalities of Recipients.	No. of Certificates Granted.	Previous Nationalities of Recipients.	No. of Certificates Granted.	Countries from which Recipients of Commonwealth Certificates had come.	No. of Certificates Granted.	Countries from which Recipients of Commonwealth Certificates had come.	No. of Certificates Granted.
	1930.		1930.		1930.		1930.
Italian ..	1,142	Portuguese ..	..	Great Britain ..	118	Belgium ..	8
Swedish ..	39	American (South) ..	..	Italy ..	1,143	New Zealand ..	12
Danish ..	30	Austrian ..	11	Germany ..	51	Switzerland ..	23
Russian ..	107	Serbian ..	27	America (North) ..	40	Spain ..	7
German ..	74	Syrian ..	27	Sweden ..	16	New Caledonia ..	4
Norwegian ..	30	Polish ..	40	Denmark ..	11	Argentina ..	1
Greek ..	413	Finnish ..	32	Norway ..	16	Finland ..	11
American (North) ..	16	Jugoslavs ..	389	Greece ..	285	Finland ..	43
Dutch ..	15	Others ..	75	France ..	72	Jugoslavia ..	322
Swiss ..	30			Egypt ..	102	China ..	45
French ..	14			America (South) ..	9	Other Countries ..	108
Spanish ..	16			Holland ..	9		
Belgian ..	2			Russia ..	38		
Rumanian ..	6	Total ..	2,508	South Africa ..	14	Total ..	2,508

(ii) *States.* The certificates of naturalization granted in 1930 were issued in the various States as follows :—New South Wales, 625; Victoria, 387; Queensland, 659; South Australia, 113; Western Australia, 710; Tasmania, 3; Northern Territory, 4; 6 in the Federal Capital Territory and one in Papua.

§ 14. Population of Territories.

At the Census of the 4th April, 1921, special arrangements were made to obtain complete and uniform information concerning each of the five Territories of the Commonwealth, viz. :—(1) Northern Territory; (2) Federal Capital Territory; (3) Norfolk Island; (4) Papua; and (5) Territory of New Guinea. Later estimates will be found in Chapter XV.

A summary of the population and number of dwellings in each Territory at the Census of 1921 is given in the following table :—

POPULATION AND DWELLINGS.—TERRITORIES, 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS IN THE NORTHERN AND FEDERAL CAPITAL TERRITORIES AND OF THE INDIGENOUS POPULATION OF PAPUA AND NEW GUINEA.)

Territory.	Population.			Dwellings.			Total.
	Males.	Females.	Persons.	Occu- pied.	Unoccu- pied.	Being Built.	
Northern Territory ..	2,821	1,046	3,867	1,074	138	1	1,213
Federal Capital Territory ..	1,567	1,005	2,572	526	29	..	555
Norfolk Island ..	339	378	717	168	22	3	193
Papua ..	1,408	670	2,078	672	43	4	719
Territory of New Guinea ..	2,502	671	3,173	1,056	18	..	1,074

§ 15. The Aboriginal Population.

In Official Year Book No. 17, pp. 951 to 961, a brief account was given of the Australian aboriginal population, its origin, its numbers as estimated from time to time, and the steps taken for its protection. Page 674 of this issue contains a statement showing the numbers of full-blood and half-caste aboriginals in Australia, and pages 914 to 916 in Official Year Book No. 22 give particulars for each of the States and Territories of Australia at successive periods, while a special article dealing with the estimated number and distribution of the native population at the date of first settlement of the white race in the Continent appeared on pages 687-696 of Official Year Book No. 23.

§ 16. The Chinese in Australia.

In Official Year Book No. 18, pp. 951 to 956, a brief historical sketch was given regarding "The Chinese in Australia," but limitations of space preclude its repetition in the present volume.

§ 17. The Pacific Islanders in Australia.

In Official Year Book No. 19, pp. 902-3, a brief account was given of the introduction of Kanakas into Australia.

CHAPTER XXV.

VITAL STATISTICS.

§ 1. Births.

1. Births, 1930.—The number of male and female births and the total births registered in Australia during the year 1930 are shown in the tables hereunder. The numerical relation which these births bear to the population, and various other associated features, are given in later tables.

BIRTHS, 1930.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Ter.	Fed. Cap. Ter.	Australia.
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MALE BIRTHS.

Single births	26,057	16,647	9,524	4,990	4,711	2,390	38	80	64,437
Twins ..	569	368	207	110	115	57	3	3	1,432
Triplets ..	7	..	2	..	1	..	..	..	10
Quadruplets	4	..	..	..	..	..	..	..	4
Total ..	26,637	17,015	9,733	5,100	4,827	2,447	41	83	65,883

FEMALE BIRTHS.

Single births	24,889	15,773	8,987	4,770	4,277	2,288	29	80	61,093
Twins ..	597	339	215	114	96	51	1	1	1,414
Triplets ..	5	..	4	..	..	..	..	..	9
Quadruplets	..	..	..	..	..	..	..	..	..
Total ..	25,491	16,112	9,206	4,884	4,373	2,339	30	81	62,516

TOTAL BIRTHS.

Single births	50,946	32,420	18,511	9,760	8,988	4,678	67	160	125,530
Twins ..	(a) 1,166	(b) 707	(c) 422	224	(b) 211	108	4	4	(d) 2,846
Triplets ..	12	..	6	..	(e) 1	..	..	..	(e) 19
Quadruplets	4	..	..	..	..	..	..	..	4
Total ..	52,128	33,127	18,939	9,984	9,200	4,786	71	164	128,399

(a) 5 Stillborn twins not included.

(b) 3 Stillborn twins not included.

(c) 4 Stillborn twins not included.

(d) 15 Stillborn twins not included.

(e) 2 Stillborn triplets not included.

2. Birth Rates.—The next table gives the crude birth rates from 1901 to 1930.

CRUDE BIRTH RATE(a), 1901 TO 1930.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Capital Territory.	Australia.
1901 ..	27.78	25.77	28.52	25.41	30.39	28.58	6.72	(b)	27.16
1911 ..	28.58	25.01	27.63	28.86	28.22	28.60	9.36	16.84	27.20
1921 ..	25.93	23.16	26.64	24.08	23.39	26.98	20.23	10.87	24.95
1926 ..	22.89	20.84	22.58	20.55	22.14	23.62	19.39	12.28	22.02
1927 ..	22.69	20.30	22.24	20.12	22.03	23.01	16.06	10.49	21.67
1928 ..	22.60	19.70	21.76	19.76	21.79	22.13	19.73	14.90	21.33
1929 ..	21.39	18.99	19.99	18.40	22.00	22.44	12.69	18.25	20.31
1930 ..	20.95	18.56	20.14	17.19	21.98	22.11	15.27	18.66	19.93

(a) Number of births per 1,000 of the mean annual population. (b) Part of New South Wales.

The preceding table shows a progressive reduction from 1901 to 1930, broken only by a slight rise in 1911 in some of the States and in Australia as a whole. The rate for Australia for 1930 represents only 73 per cent. of that for 1901 and is the lowest yet recorded.

The principal factor in determining the crude birth rate is the proportion of married women of child-bearing age in the community, but as the fecundity of women varies with age, the birth rate per 1,000 married women will vary according to the age composition of the group, and, other things being equal, the rate generally should be highest where the average age of married women is lowest. For the purposes of the following table the child-bearing age has been taken as from 15-44 years inclusive, and all births of which the mothers were stated to be over 45 years have been counted in the group 40-44. Exact information in respect of ages in this table is only available at census dates. An estimate has, however, been made of married and unmarried women for the period 1928-1930 and the accompanying rates have been calculated thereon.

BIRTH RATES, AND FACTORS AFFECTING THEM.—AVERAGE OF YEARS 1920-1922, AND 1928-1930.

Particulars.	1920-22.							1928-1930.
	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Australia.	Australia.
Crude birth rate per 1,000 persons	25.99	23.54	26.72	24.23	24.14	26.99	25.15	20.52
Birth rate per 100 women 15-44 incl.	11.04	9.79	11.83	10.25	11.05	11.91	10.74	8.76
Birth rate per 100 married women 15-44 incl. (a)	19.39	19.29	21.26	18.71	19.62	21.83	19.65	16.03
Birth rate per 100 married women 15-44 incl. (corrected for age variation)	19.14	19.44	20.77	18.99	20.44	21.24	19.65	16.03
Ex-nuptial births—per cent. on all births	4.82	4.84	5.00	3.28	4.02	5.11	4.69	4.68
Ex-nuptial births per 100 unmarried women 15-44 incl.	1.16	0.92	1.26	0.72	0.92	1.26	1.05	0.86
Women 15-44 incl.—per cent. all persons	23.54	24.02	22.57	23.65	21.83	22.67	23.41	23.41
Average age of all women 15-44 incl.	28.67	28.61	28.09	28.73	28.45	28.10	28.54	28.54
Married women 15-44 incl.—per cent. on all persons	12.75	11.61	11.93	12.53	11.81	11.73	12.20	12.20
Average age of married women 15-44 incl.	32.24	32.74	32.16	32.67	33.02	32.16	32.48	32.48

(a) Nuptial births only.

The following figures give a comparison for Australia, at Census periods from 1880, of the total births per 1,000 women (married and unmarried) and of the nuptial births per 1,000 married women of ages 15 to 44 inclusive:—

Particulars.	1880-82.	1890-92.	1900-02.	1910-12.	1920-22.	1928-30.
Births per 1,000 women aged 15-44 ..	169.7	158.8	117.3	117.2	107.4	87.0
Nuptial births per 1,000 married women 15-44	321.0	332.0	235.8	236.0	196.5	160.3

3. Birth Rates of Various Countries.—(i) *Crude Rates.* A comparison with other countries shows that the Australian States occupy a midway position, which is, however, counterbalanced by a still lower position in regard to their death rates, as evidenced in the table hereinafter in the section dealing with "Deaths." The rates for the pre-war period, 1908-1913 have been added for purposes of comparison.

CRUDE BIRTH RATES(a).—VARIOUS COUNTRIES.

Country.	1908 to 1913.	1930.	Country.	1908 to 1913.	1930.
Soviet Republics ..	45.6	44.4(d)	Northern Ireland ..	23.1	20.3(f)
Egypt ..	43.6	43.7(f)	Queensland ..	28.2	20.1
Ceylon ..	36.9	36.5(f)	Australia ..	27.4	19.9
Rumania ..	43.1	35.9(e)	Irish Free State ..	23.1	19.8
Japan ..	32.9	33.0	Scotland ..	26.2	19.3
Poland ..	37.4	32.6(f)	U.S. of America (b) ..	(g)	18.9(f)
Portugal ..	34.6	32.5	New Zealand ..	26.5	18.8
Spain ..	32.1	28.9	Denmark ..	27.1	18.6(f)
Argentina ..	37.1	28.4(f)	Victoria ..	25.3	18.6
Union of South Africa			Belgium ..	23.4	18.4(e)
(whites) ..	(g)	26.2(f)	France ..	19.5	18.1
Italy ..	32.4	26.0	Germany ..	29.5	17.5
Canada ..	(g)	24.0(f)	Norway ..	26.0	17.4
Czechoslovakia ..	31.1	22.7	South Australia ..	27.1	17.2
Netherlands ..	29.1	23.1	Switzerland ..	24.7	17.0(f)
Tasmania ..	29.6	22.1	Great Britain and		
Western Australia ..	28.9	22.0	Ireland ..	24.6	16.9
Finland ..	29.5	21.5(e)	England and Wales ..	24.9	16.3
New South Wales ..	28.2	21.0	Sweden ..	24.4	15.2(f)

(a) Number of births per 1,000 of the mean population. (b) Figures for "existing birth-registration area." (d) for 1927. (e) for 1925. (f) for 1929. (g) Not available.

(ii) *Nuptial Birth Rates at Child-bearing Ages.* The wide discrepancies between the crude birth rates of the various countries are, to some extent, due to differences in sex and age constitution and in conjugal condition. If the birth rates be calculated per 1,000 women of child-bearing ages, the comparison gives more reliable results. A table of results so calculated appeared in Year Book No. 22, p. 941, and showed that Australia, with a rate of 198 nuptial births per 1,000 married women aged 15 to 49 years, was midway between the maximum and minimum of the countries for which these rates were obtained.

4. Masculinity of Births.—(i) *General.* The masculinity of births, i.e., the excess of males over females per 100 births registered varies considerably from State to State and from year to year. For 1930 the figures ranged from 2.16 in South Australia to 4.93 in Western Australia. Greater variations are recorded among ex-nuptial births. The following table shows the results at intervals since 1901.

MASCULINITY^(a) OF BIRTHS REGISTERED, AUSTRALIA 1901 TO 1930.

Particulars.	1901.	1911.	1921.	1926.	1927.	1928.	1929.	1930.
Total Births ..	2.01	2.31	2.85	2.77	3.04	3.15	2.91	2.62
Ex-nuptial Births ..	2.03	1.53	2.96	1.97	3.67	2.57	2.73	2.51

(a) Excess of males over females per 100 total ex-nuptial births.

(ii) *Masculinity of Nuptial and Ex-nuptial Births—Various Countries.* A table showing the masculinity of nuptial and ex-nuptial births for various countries appeared on p. 942 of Official Year Book No. 22. It is, however, not proposed to repeat the table in this issue.

5. *Ex-nuptial Births.*—(i) *General.* The number of ex-nuptial births reached its maximum, 7,438, in 1913, but it has since fallen considerably. On the average of the five years 1910–14, the number of ex-nuptial births in Australia was 7,171, while for the period 1926–30 it was only 6,185, a decline of 13.7 per cent., whereas the annual average total births for the same period increased by 2 per cent.; hence a comparison between the results for these two periods shows that the proportion of ex-nuptial births has fallen from 5.55 to 4.69 per cent. of all births.

The numbers of births and the rates from 1901 to 1930 are shown below—

EX-NUPTIAL BIRTHS AND BIRTH RATE, 1901 TO 1930.

Particulars.	1901.	1911.	1921.	1926.	1927.	1928.	1929.	1930.
Number ..	6,165	7,074	6,463	6,284	6,289	6,331	6,088	5,935
Percentage on Total Births ..	5.99	5.79	4.75	4.72	4.70	4.72	4.70	4.62

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.

The variations of the ex-nuptial birth rates as between the individual States and Territories for 1930 are as follows :—

EX-NUPTIAL BIRTHS AND BIRTH RATE, 1930.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Capital Territory.	Australia.
Number ..	2,540	1,483	960	337	373	226	14	2	5,935
Percentage on Total Births ..	4.87	4.48	5.07	3.38	4.05	4.72	19.72	1.22	4.62

(ii) *Rate of Ex-nuptiality.* A better comparison than that given in the preceding paragraphs 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 number of ex-nuptial births per 1,000 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; and years 1920–22, 10.50. The estimated number for the years 1928–30 was 8.60. The comparative results given in the previous issue were taken from the *Annuaire International de Statistique*, Vols. II. and V., and showed that ex-nuptial births varied from 38 per 1,000 unmarried women aged 15 to 49 years in Hungary to 4 in Ireland and Bulgaria. The rate for Australia was 12 per thousand.

(iii) *Comparison of Rates.* The following table showing the relative proportions of ex-nuptial and nuptial births to the total population discloses a much greater proportional reduction in the ex-nuptial birth rate than in the nuptial rate.

CRUDE EX-NUPTIAL, NUPTIAL, AND TOTAL BIRTH RATES^(a).—AUSTRALIA, 1901 TO 1930.

Rates.	1901.	1911.	1921.	1926.	1927.	1928.	1929.	1930.
Ex-nuptial ..	1.62	1.57	1.18	1.07	1.02	1.01	0.95	0.93
Nuptial ..	25.52	25.64	23.77	20.95	20.65	20.32	19.36	19.00
Total ..	27.14	27.21	24.95	22.02	21.67	21.33	20.31	19.93

(a) Number of births per 1,000 of mean population.

6. *Legitimations.*—In the several States Acts have been passed to legitimize children born before the marriage of their parents, provided that no legal impediment to the marriage existed at the time of birth. On registration in accordance with the provisions of the Legitimation Acts, any child who comes within the scope of its intentions, born before or after the passing thereof, is deemed to be legitimized from birth by the post-natal union of its parents, and entitled to the status of offspring born in wedlock. (During 1930, 810 children were legitimized in Australia.)

7. *Multiple Births.*—Among the total number of 128,399 births registered in Australia in 1930, there were 125,530 single births, 2,846 twins, 19 triplets and 4 quadruplets. The number of cases of twins was 1,431, there being 16 stillbirths, and there were 9 cases of triplets, including two stillbirths. The total number of mothers was, therefore, 126,969; the proportion of mothers of twins being one in every 89, of mothers of triplets one in every 18,138 of total mothers, and of all multiple births one in every 88 mothers. Multiple births occurred in 1.13 per cent. of confinements.

The proportion of multiple births to total births does not vary greatly from year to year and exhibits no constant tendency towards increase or decrease.

MULTIPLE BIRTHS—AUSTRALIA, 1911 TO 1930.

	1911.	1921.	1926.	1927.	1928.	1929.	1930.
Total Multiple Births ..	1,236	1,465	1,423	1,472	1,423	1,320	1,439
Percentage on Total Mothers	1.02	1.09	1.08	1.11	1.07	1.03	1.13
Number of Mothers to each Multiple Birth ..	98	92	93	90	93	97	88

8. Ages of Parents.—The relative ages of the parents of children registered in 1930 have been tabulated separately for male and female births, twins and triplets being distinguished from single births, and are shown for single ages in the Bulletin of "Australian Demography," No. 48, published by this Bureau. In the present work the exigencies of space allow the insertion of a table showing the relative ages of parents of all births in groups of five years only.

AGES OF PARENTS—ALL BIRTHS.—AUSTRALIA, 1930.

Ages of Fathers and type of birth.	Total Births.	Ages of Mothers.								
		Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and upwards.	Unspecified.
Under 20 { Single	802	3	586	207	5	1	..	..	..	..
	5 { Twins	..	4	1	..	..	..	..	..	..
20 to 24 { Single	15,715	2	4,017	9,915	1,597	146	35	3	..	..
	127 { Twins	..	31	84	9	2	1	..	..	..
	1 { Triplets	..	..	..	1	..	..	..	..	..
25 to 29 { Single	31,846	1	1,656	13,226	14,131	2,486	310	33	3	..
	280 { Twins	..	11	110	124	32	3	..	..	..
	(a) 4 { Triplets	..	..	(a) 3	1	..	..	..	..	..
30 to 34 { Single	28,505	..	385	4,473	11,465	10,318	1,715	146	3	..
	280 { Twins	..	3	32	134	151	33	1	..	..
	1 { Triplets	..	..	..	1	..	..	..	..	..
35 to 39 { Single	21,326	..	104	1,213	4,475	7,914	6,824	784	12	..
	298 { Twins	..	..	6	50	122	111	9	..	..
	1 { Triplets	..	..	..	..	1	..	..	..	..
40 to 44 { Single	12,050	..	36	392	1,494	3,280	5,147	2,570	31	..
	177 { Twins	..	..	3	14	47	80	33	..	..
45 to 49 { Single	5,599	..	17	137	418	971	2,043	1,834	179	..
	79 { Twins	..	..	1	7	13	33	25	..	..
	1 { Triplets	..	..	..	..	..	..	1	..	..
50 to 54 { Single	1,998	..	6	46	113	309	650	773	101	..
	32 { Twins	..	..	..	..	5	15	11	1	..
55 to 59 { Single	675	..	2	19	40	04	226	247	47	..
	11 { Twins	..	..	..	..	1	9	1	..	..
60 to 64 { Single	203	..	3	7	21	35	63	74	4	1
	2 { Twins	..	..	..	..	..	1	1	..	..
65 and upwards { Single	94	..	1	4	13	13	31	26	6	..
	1 { Twins	..	..	..	..	..	1	..	..	..
Unspecified { Single	6	..	..	2	1	1	..	..	..	2
	.. { Twins	..	..	..	..	..	..	..	..	..
Mothers of nuptial children { Single	119,724	6	6,813	20,641	33,773	25,568	17,044	6,400	386	3
	1,366 { Twins	..	49	237	338	373	287	81	1	..
	(a) 8 { Triplets	..	..	(a) 3	3	1	..	1	..	..
	Total ..	121,098	6	6,862	20,881	34,114	25,942	17,331	6,572	387	3
Mothers of ex-nuptial children { Single	5,806	34	1,850	1,914	871	541	408	173	9	6
	65 { Twins	..	14	20	5	11	12	3	..	..
	5,871 { Total	34	1,864	1,934	876	552	420	176	9	6
Total Mothers { Single	125,530	40	8,663	31,555	34,644	26,109	17,452	6,663	395	9
	1,431 { Twins	..	63	257	343	384	299	84	1	..
	(a) 8 { Triplets	..	..	(a) 3	3	1	..	1	..	..
Total ..	126,969	40	8,726	31,815	34,990	26,494	17,751	6,748	396	9

(a) Includes 1 case of quadruplets.

9. Birthplaces of Parents.—The relative birthplaces of the parents of children whose births were registered during the year 1930 will be found in the Bulletin of "Australian Demography," published by this Bureau. A summary of the results of the tabulation with the addition of the corresponding figures for 1911 follows.

BIRTHPLACES OF PARENTS.—AUSTRALIA, 1911 and 1930.

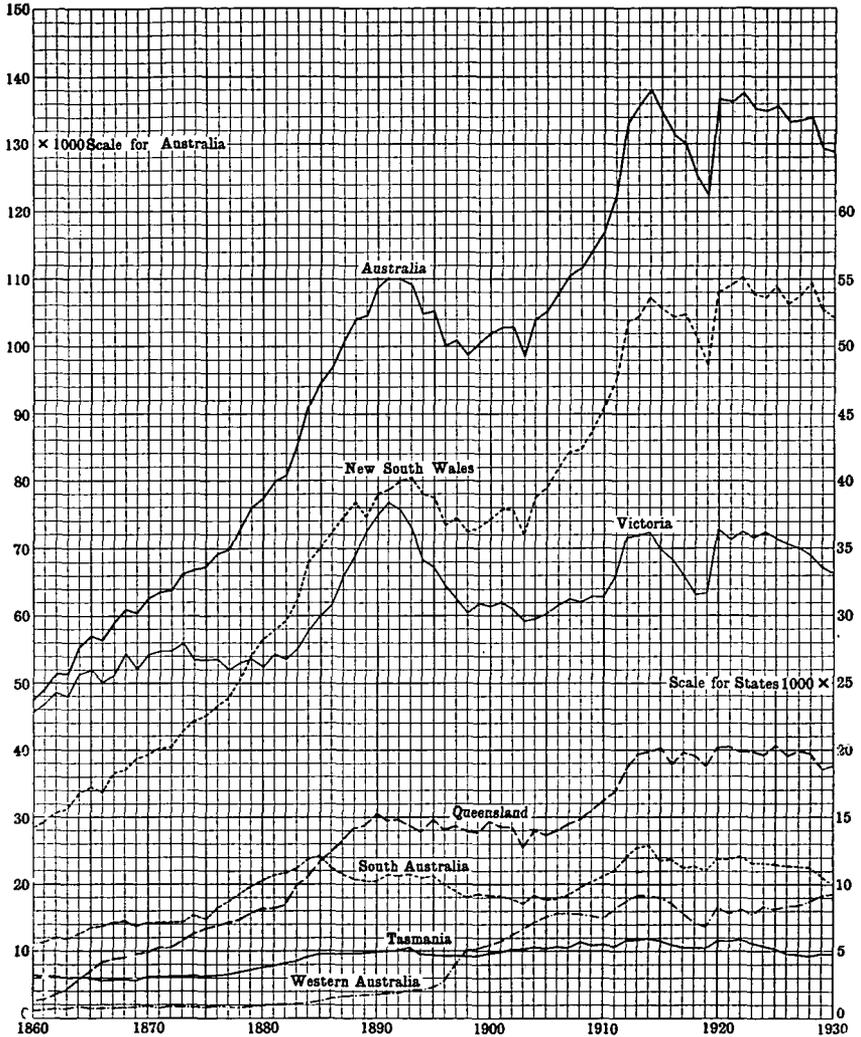
Birthplaces.	Fathers.		Mothers of Nuptial Children.		Mothers of Ex-nuptial Children.	
	1911.	1930.	1911.	1930.	1911.	1930.
AUSTRALASIA—						
Australia	94,834	101,090	102,073	104,904	6,570	5,277
New Zealand	1,257	920	1,201	726	68	68
EUROPE—						
England and Wales	9,849	11,286	6,067	9,542	210	317
Scotland	2,289	3,085	1,486	2,745	46	116
Ireland	2,138	1,265	1,374	869	46	32
Other British Possessions ..	49	176	20	131	1	1
Western Europe	607	314	165	126	9	5
Central Europe	1,185	430	606	233	8	4
Southern Europe	360	1,315	203	1,001	6	8
Eastern Europe	168	218	81	141	..	2
ASIA—						
British Possessions	217	130	114	76	2	3
Foreign Countries	317	274	139	165	3	4
AFRICA—						
British Possessions	111	181	116	164	2	5
Foreign Countries	11	19	13	25	..	..
AMERICA—						
Canada	59	95	34	49	3	3
Other British Possessions ..	8	10	5	6	..	..
United States of America ..	182	150	87	87	3	4
Other Foreign Countries	70	33	19	30	1	3
POLYNESIA—						
British	30	27	21	22	1	..
Foreign	39	55	13	40	6	6
Indefinite	159	25	102	16	33	13
Total	113,939	121,098	113,939	121,098	7,018	5,871

10. Occupations of Fathers.—A summary of the main groups of occupations of the fathers of all nuptial children whose births were registered in 1911, 1921, and 1930 and the percentage of each class on the total are given in the following table:—

OCCUPATIONS OF FATHERS OF NUPTIAL CHILDREN.—AUSTRALIA, 1911, 1921 and 1930.

Occupations.	Number of Fathers.			Percentage on Total.		
	1911.	1921.	1930.	1911.	1921.	1930.
Professional Class	5,292	6,204	6,277	4.64	4.84	5.18
Domestic Class	2,418	2,319	2,355	2.12	1.81	1.95
Commercial Class	15,345	18,298	17,717	13.47	14.26	14.63
Transport and Communication Class	12,360	15,351	14,449	10.85	11.96	11.93
Industrial	45,149	53,567	53,606	39.63	41.74	44.27
Agricultural, Pastoral, Mining, &c., Class	33,229	32,405	26,291	29.16	25.25	21.71
Indefinite Class	146	182	403	0.13	0.14	0.33
Total	113,939	128,326	121,098	100.00	100.00	100.00

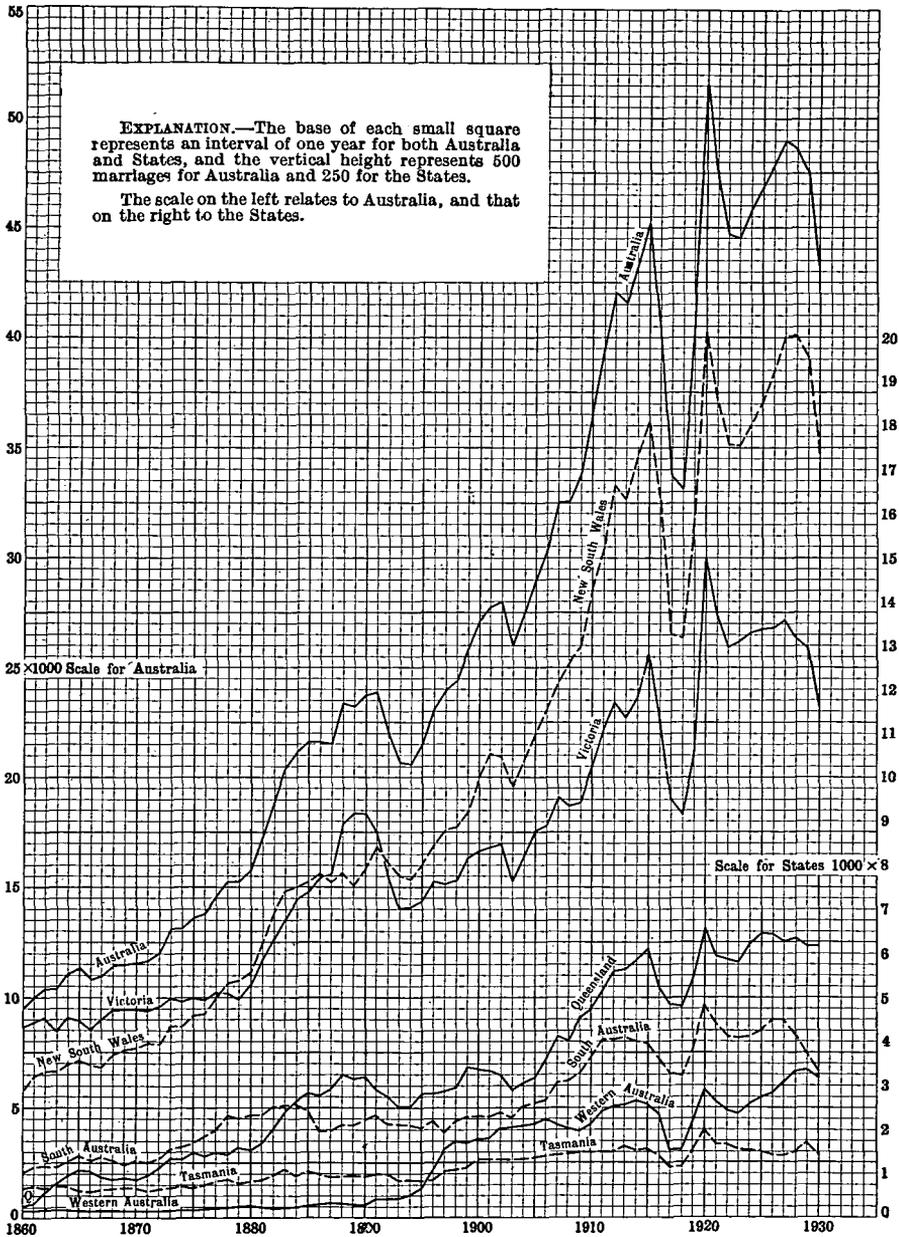
BIRTHS—1860 TO 1930.



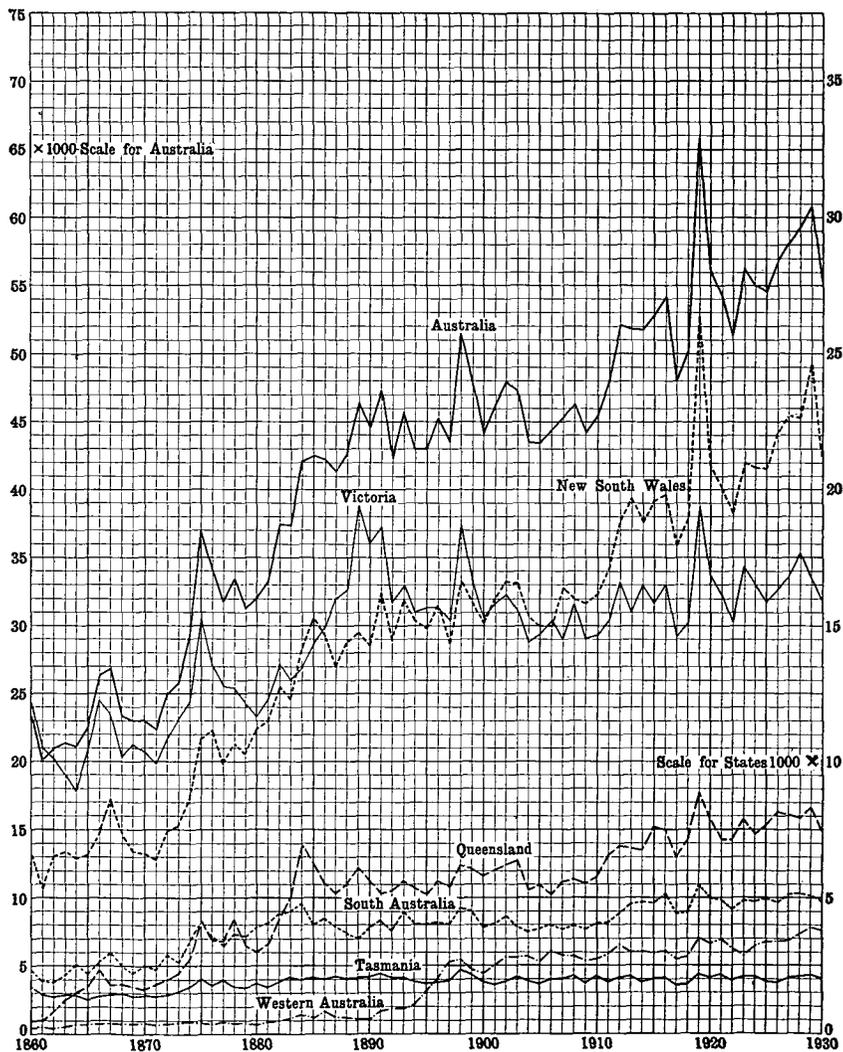
EXPLANATION.—The base of each small square represents an interval of one year for both Australia and States, and the vertical height represents 2,000 persons for Australia and 1,000 for the States.

The scale on the left relates to Australia, and that on the right to the States.

MARRIAGES, 1860 TO 1930.



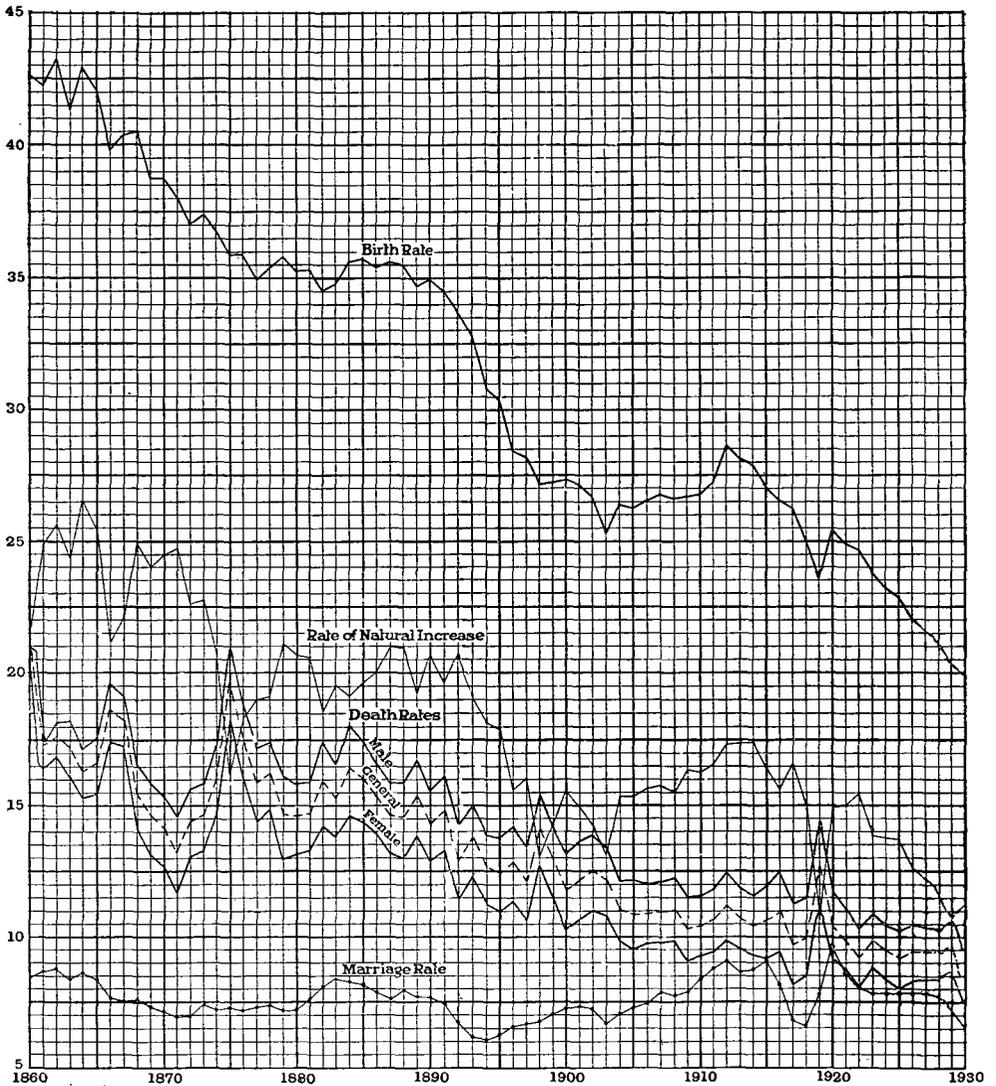
DEATHS, 1860 TO 1930.



EXPLANATION.—The base of each small square represents an interval of one year for both Australia and States, and the vertical height represents 1,000 persons for Australia and 500 for the States.

The scale on the left relates to Australia, and that on the right to the States.

RATES—BIRTH, NATURAL INCREASE, DEATH (MALE, GENERAL AND FEMALE) AND MARRIAGE—
AUSTRALIA, 1860 TO 1930.



EXPLANATION.—The base of each small square represents one year's interval, and the vertical height one half per thousand of the population—the basic line being five per thousand of the population.

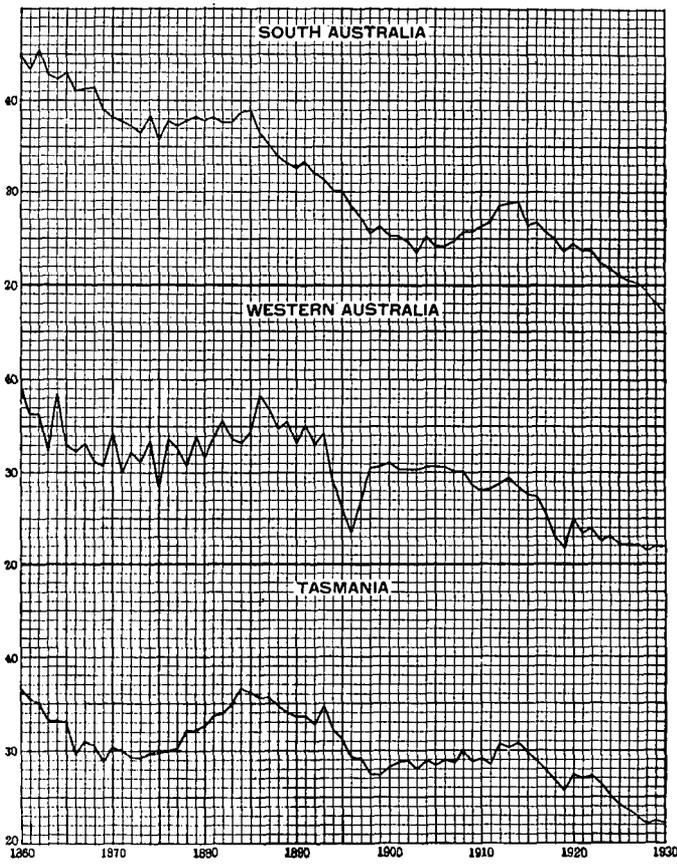
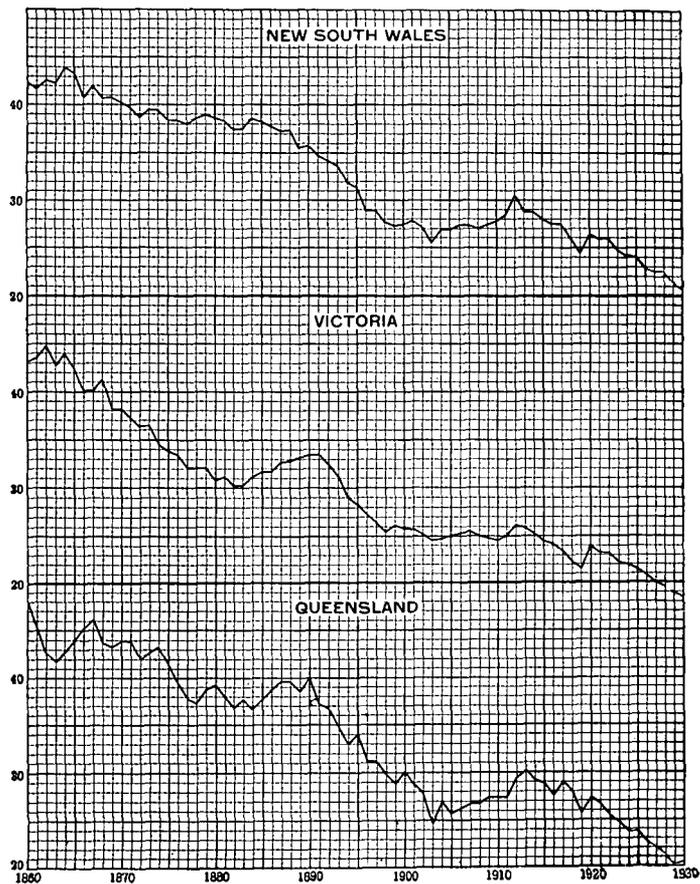
STATE BIRTH-RATE GRAPHS. (See page 693.)

EXPLANATION.—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.

STATE DEATH-RATE GRAPHS. (See page 694.)

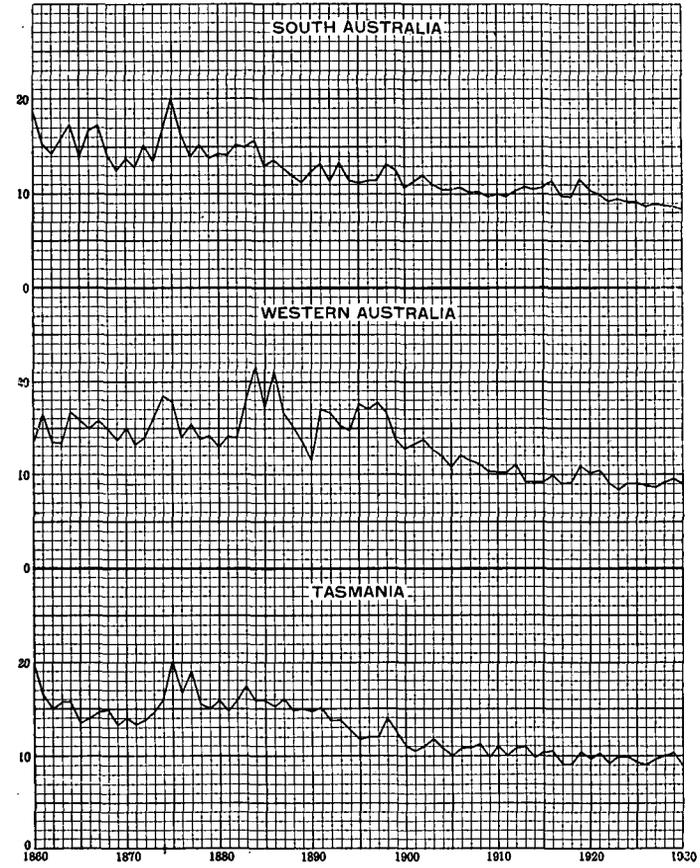
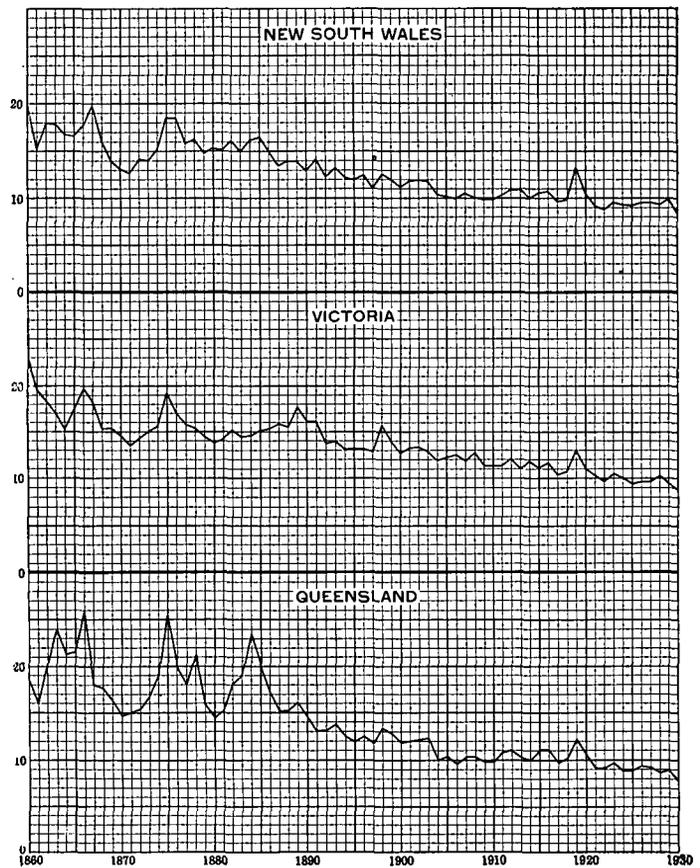
EXPLANATION.—The base of each small square represents one year's interval, and the vertical height one death per thousand of the population. The zero for each State is shown by a thickened line.

BIRTH RATES—STATES, 1860-1930.



For explanation of above graph see page 692.

DEATH RATES—STATES, 1860-1930.



For explanation of above graph see page 692.

The outstanding feature of the above table is the rapid decline of the agricultural, etc., class as disclosed in both sections of the table. The domestic class also shows a smaller percentage in 1930 than in 1911.

On the other hand the industrial class has increased rapidly while the remaining groups have also grown but at a slower rate.

It should be mentioned that the classification of occupations employed in this table differs somewhat from that used in the table of occupations on pp. (379 and 599) and is not comparable with that used for statistics of industry or manufactures.

11. *Mother's Age, Duration of Marriage, and Issue.*—(i) *General.* The total number of nuptial confinements in 1930 was 121,098, viz., 119,724 single births, 1,366 cases of twins, 7 cases of triplets and one case of quadruplets, but in 15 cases the necessary information was lacking, and the following series of tables refers therefore, to 121,083 nuptial confinements. Ex-nuptial children—previous issue by the same father—are included as previous issue, but children by former marriages, and stillborn children are excluded. The tables cannot be given *in extenso*, but the following are their most salient features. More complete tabulations are shown in "Australian Demography," No. 48.

(ii) *Duration of Marriage and Issue of Mothers.* The following table shows that the duration of marriage of mothers of nuptial children ranged from less than one year up to between 33 and 34 years, and that the average family increased fairly regularly with the duration of marriage. The average number of children of all marriages was 2.92, the corresponding figures for 1929 being 2.96; 1928, 2.99; for 1927, 3.03; and for 1926, 3.06.

DURATION OF MARRIAGE AND ISSUE OF MOTHERS.—AUSTRALIA, 1930.

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 ..	20,095	20,387	1.02	18-19 ..	1,244	8,976	7.22
1-2 ..	13,338	17,012	1.28	19-20 ..	963	7,416	7.70
2-3 ..	12,343	21,887	1.77	20-21 ..	798	6,354	7.96
3-4 ..	10,665	22,520	2.11	21-22 ..	609	5,301	8.70
4-5 ..	8,849	20,917	2.36	22-23 ..	444	3,973	8.95
5-6 ..	7,747	21,732	2.81	23-24 ..	309	2,866	9.30
6-7 ..	6,621	20,415	3.08	24-25 ..	199	1,951	9.80
7-8 ..	5,886	20,261	3.44	25-26 ..	139	1,363	9.81
8-9 ..	5,239	19,753	3.77	26-27 ..	72	736	10.22
9-10 ..	5,154	21,011	4.08	27-28 ..	48	497	10.35
10-11 ..	4,526	19,873	4.39	28-29 ..	25	269	10.76
11-12 ..	3,318	15,757	4.75	29-30 ..	16	176	11.00
12-13 ..	2,550	12,929	5.07	30-31 ..	8	91	11.38
13-14 ..	2,317	12,497	5.39	31-32 ..	8	39	4.88
14-15 ..	2,205	12,499	5.67	33-34 ..	1	7	7.00
15-16 ..	2,058	12,473	6.06				
16-17 ..	1,823	11,828	6.49	Total ..	121,083	353,868	2.92
17-18 ..	1,466	10,102	6.89				

(iii) *Ages of Mothers and Issue.* The ages of mothers and average family are given in the following table, which shows that the average family increased fairly regularly to a maximum in the age-group 45 years and over.

It will be noted that the average number of children for the two youngest age groups has remained fairly constant over the period. In all the other groups, however, there has been a substantial decrease in the average, ranging from 0.22 in mothers 25 to 29 years to 1.02 in mothers 45 years and over. The average for all ages shows a decline of 0.42 children since 1911.

AGES AND ISSUE OF MOTHERS.—AUSTRALIA, 1930.

Ages of Mothers.	Average Number of Children.			Ages of Mothers.	Average Number of Children.		
	1911.	1921.	1930.		1911.	1921.	1930.
Under 20 years ..	1.18	1.16	1.22	40-44 years ..	6.97	6.27	6.11
20-24 years ..	1.77	1.64	1.69	45 years and over ..	8.52	8.04	7.50
25-29 „ ..	2.64	2.44	2.44				
30-34 „ ..	3.82	3.57	3.39				
35-39 „ ..	5.28	4.95	4.64	All ages ..	3.34	3.08	2.92

(iv) *Previous Issue of Mothers, Various Ages.* The previous issue, according to the age of the mother, is given in the following table.

PREVIOUS ISSUE OF MOTHERS OF VARIOUS AGES.—AUSTRALIA, 1930.

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	5,519	15,452	10,566	4,316	1,718	407	22	38,000
1	1,210	10,146	9,946	5,723	2,364	475	34	29,898
2	127	2,789	6,538	5,300	2,649	642	32	18,077
3	11	1,166	3,818	3,903	2,565	704	35	12,202
4	1	260	1,954	2,892	2,185	713	52	8,057
5	..	49	865	1,850	1,835	685	34	5,318
6	..	11	319	1,091	1,405	664	55	3,545
7	..	2	74	513	1,063	606	61	2,319
8	..	2	15	233	718	484	55	1,507
9	..	..	7	76	427	415	51	976
10	..	..	2	29	217	279	26	553
11	..	..	2	13	100	191	36	342
12	..	..	..	2	47	88	24	161
13	..	..	..	2	25	39	13	79
14	..	..	..	..	9	15	7	31
15	..	..	..	..	2	9	1	12
16	..	..	..	..	..	2	2	4
18	..	..	..	..	..	1	..	1
19	..	..	..	..	..	..	1	1
Total Mothers	6,868	29,877	34,106	25,943	17,329	6,419	541	121,083

(v) *Previous Issue of Mothers of Twins and Triplets.* Figures regarding the previous issue of mothers of twins and triplets show that 336 mothers had twins at their first confinement; 290 at their second; 238 at their third; 174 at their fourth; 107 at their fifth; 78 at their sixth; 52 at their seventh; 40 at their eighth; 24 at their ninth; 14 at their tenth; 4 at their eleventh; 4 at their twelfth; 4 at their thirteenth; and 1 at her fifteenth.

Of the 7 cases of triplets registered during 1930, 4 were first confinements, 1 was a second and 2 were fourth. The case of quadruplets occurred at a first confinement.

12. Interval between Marriage and First Birth.—(i) *Interval.* The following table shows the interval between marriage and first birth. Twins, triplets and quadruplets are included, the eldest born only being enumerated :—

INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH.—AUSTRALIA,
1911, 1921 and 1930.

Interval.	Number of First Children.			Percentage on Total.		
	1911.	1921.	1930.	1911.	1921.	1930.
Under 1 month	562	437	380	1.81	1.07	1.00
1 month	608	538	515	1.96	1.31	1.35
2 months	817	735	777	2.63	1.79	2.04
3	1,125	1,017	1,120	3.63	2.48	2.95
4	1,299	1,336	1,456	4.19	3.26	3.83
5	1,651	1,781	2,053	5.33	4.34	5.40
6	2,089	2,420	2,713	6.74	5.90	7.14
7	1,602	2,231	2,117	5.17	5.44	5.57
8	1,529	1,950	1,443	4.93	4.75	3.80
9	3,361	4,222	2,914	10.84	10.29	7.67
10	2,623	3,630	2,438	8.46	8.85	6.42
11	1,893	2,645	1,919	6.11	6.45	5.05
Total under 1 year	19,159	22,942	19,845	61.80	55.93	52.22
1-2 years	7,400	11,149	9,800	23.87	27.18	25.79
2-3	2,101	2,923	3,655	6.78	7.13	9.62
3-4	908	1,413	1,894	2.93	3.45	4.98
4-5	471	837	956	1.52	2.04	2.52
5-9	762	1,473	1,540	2.46	3.59	4.05
10-14	159	223	252	0.51	0.54	0.66
15-19	31	54	52	0.10	0.13	0.14
20 and over	9	4	6	0.03	0.01	0.02
Total	31,000	41,018	38,000	100.00	100.00	100.00

The masculinity of first births was 2.54 as compared with 2.62 for total births.

(ii) *Ages of Mothers and Interval.* 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 shows in a condensed form the ages of mothers in the cases of ex-nuptial first births, of nuptial first births occurring less than nine months after marriage, and of nuptial first 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 shows that for all ages the ratio was more than 2 to 3. 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 is necessarily included among the births which occurred less than nine months after marriage, but information in connexion therewith is not available and the figures in the table must be accepted with this reservation. The tabulation in single ages of mothers appears in Demography Bulletin No. 48 published by this Bureau.

The last three columns show the percentage of births following ante-nuptial conception on the total nuptial first births and ex-nuptial births. These columns disclose the remarkable fact that the percentage of births due to ante-nuptial conception diminishes rapidly from 80 per cent. among mothers under 20 years of age to a minimum among mothers 30 to 34 years and then rises rapidly to mothers 45 years and over.

AGES OF MOTHERS AND INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH, ETC.—AUSTRALIA, 1911, 1920, AND 1930.

Age of Mother at Birth of Child.	1930.				Percentage Column III. on Column IV.		
	Ex-nuptial Births. I.	Nuptial Births less than nine months after Marriage. II.	Total of two preceding columns. III.	Nuptial First Births and Ex-nuptial Births. IV.	1911.	1921.	1930.
Under 20 years	1,898	4,099	5,997	7,417	83.12	79.23	80.85
20 to 24 years	1,934	6,055	7,989	17,386	53.91	45.82	45.95
25 to 29 "	876	1,654	2,530	11,442	32.50	25.60	22.11
30 to 34 "	552	506	1,058	4,868	28.06	23.05	21.73
35 to 39 "	420	205	625	2,138	32.64	29.43	29.23
40 to 44 "	167	52	219	574	36.56	35.31	38.15
45 and over	18	3	21	40	60.47	54.84	52.50
Total ..	5,865	12,574	18,439	43,865	48.14	39.74	42.04

13. *Interval between Birth and Registration of Birth.*—Information was obtained for the years 1911 to 1921 regarding the period which elapsed between birth and registration. A detailed table giving the results for 1921 is contained in Demography Bulletin No. 39, issued by this Bureau. The law relating to maternity allowances has tended to accelerate the registration of births; and during the year under review it was found that approximately 35 per cent. were registered in the first week.

Since the granting of the maternity allowance the weighted average interval between the dates of birth and registration has been found to be about 13 days for all children.

§ 2. Marriages.

1. *Marriages, 1930.*—The number of marriages registered in Australia during 1930 was 43,255, giving a rate of 6.71 per 1,000 of the mean population for the year. The number of marriages in each State, together with the corresponding crude marriage rate for 1930 and several previous years are given hereunder:—

MARRIAGES, 1901 to 1930.

—	N.S.W.	Victoria	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Fed. Cap. Terr.	Australia.
No. 1930..	17,383	11,641	6,199	3,312	3,205	1,450	31	34	43,255
Crude Rate—(a)									
1901 ..	7.73	6.99	6.66	6.45	9.68	7.76	1.05	..	7.32
1911 ..	9.19	8.40	8.41	9.80	8.44	7.77	3.02	2.81	8.79
1921 ..	8.78	8.90	7.82	8.82	7.96	7.82	3.84	0.81	8.59
1926 ..	8.28	7.90	7.34	8.06	7.58	6.79	3.72	2.78	7.92
1927 ..	8.45	7.88	7.04	7.88	8.07	6.82	6.14	3.95	7.95
1928 ..	8.28	7.52	6.95	7.18	8.39	7.09	5.47	3.60	7.73
1929 ..	7.93	7.31	6.67	6.42	8.18	8.01	4.79	5.13	6.71
1930 ..	6.99	6.52	6.59	5.70	7.66	6.70	6.67	3.87	6.71

(a) Number of marriages (not persons married) per 1,000 of mean annual population.

As in some international tabulations the marriage rates are calculated per 1,000 of the unmarried population of 15 years and over, the corresponding rates have been worked out for Australia for the last four Census periods for which the particulars are available. The figures comprise in each case the Census year with the year immediately preceding and the year immediately following, and are as follow:—Years 1880–82, 48.98; years 1890–92, 45.74; years 1900–02, 42.14; years 1910–12, 50.44; and years 1920–22, 56.02. For years 1928–30 the figure is estimated at 54.48. These rates refer, of course, to persons married and not to marriages, as is the case in the preceding table.

2. Marriage Rates in Various Countries.—The following table shows the marriage rate for Australia in comparison with various other countries:—

CRUDE MARRIAGE RATES (a).—VARIOUS COUNTRIES.

Country.	1908 to 1913.	1930.	Country.	1908 to 1913.	1930.
Soviet Republics ..	8.6	10.6(f)	Great Britain and		
United States (b) ..	(e)	10.1(f)	Ireland ..	7.3	7.5(f)
Poland ..	7.0	9.7	Finland ..	6.1	7.5(f)
Union of South Africa (c)	(e)	9.4(c)	Argentina ..	6.8	7.3
Czechoslovakia ..	7.7	9.3	Portugal ..	6.9	7.2(f)
Rumania ..	9.5	9.1(f)	Italy ..	7.7	7.1
Belgium ..	7.9	8.9(f)	New South Wales ..	8.8	7.0
Germany ..	7.8	8.7	Scotland ..	6.7	6.8
Spain ..	7.0	8.4(f)	Sweden ..	6.0	6.8(f)
France ..	7.9	8.3	Australia ..	8.4	6.7
Netherlands ..	7.5	8.0(f)	Tasmania ..	7.9	6.7
England and Wales ..	7.6	7.9	Queensland ..	8.2	6.6
Japan ..	9.3	7.9(f)	Victoria ..	8.0	6.5
Canada ..	(e)	7.9(f)	Norway ..	6.2	6.4
Denmark ..	7.3	7.9(f)	Northern Ireland ..	5.2	5.9(f)
Switzerland ..	7.3	7.9	South Australia ..	9.1	5.7
New Zealand ..	8.5	7.8	Ceylon ..	5.2	5.7(f)
Western Australia ..	8.1	7.7	Irish Free State ..	5.2	4.6(f)

(a) Number of marriages per 1,000 of mean population. (b) Registration area. (c) White population only. (e) Not available. (f) For 1929.

3. Ages and Conjugal Condition at Marriage.—(i) *General.* The ages at marriage of bridegrooms and brides will be found in "Australian Demography," Bulletin No. 48. A summary in age groups is given in the table hereunder, which also shows the previous conjugal condition of the contracting parties. There were 2,680 males who were less than twenty-one years of age married during 1930, while the corresponding number of females was 10,950. At the other extreme there were 74 men of sixty-five years and upwards, who described themselves as bachelors, and 19 spinsters of corresponding age.

The information regarding the percentage distribution of bridegrooms and brides is shown in the last three lines of the table in respect of 1911 and 1921 as well as of 1930.

AGES AND CONJUGAL CONDITION OF PERSONS MARRIED.—AUSTRALIA, 1930.

Ages at Marriage.	Bridegrooms.				Brides.			
	Bachelors.	Widowers.	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
Under 20	1,360	1	..	1,361	7,742	4	1	7,747
20-24 years	14,240	23	10	14,273	18,772	43	48	18,863
25-29 "	14,026	130	69	14,225	8,848	165	214	9,227
30-34 "	5,653	248	169	6,070	2,814	233	234	3,281
35-39 "	2,376	412	206	2,994	1,244	359	197	1,800
40-44 "	1,121	366	156	1,643	549	330	114	993
45-49 "	538	353	104	995	276	266	59	601
50-54 "	259	312	67	638	96	183	24	303
55-59 "	129	261	29	419	51	138	13	202
60-64 "	68	200	11	279	33	107	2	142
65 years and over ..	74	268	15	357	19	73	3	95
Unspecified	..	1	..	1	1	..	..	1
Total ..	39,844	2,575	836	43,255	40,445	1,901	909	43,255
Percentage on Total								
1911 ..	93.70	5.84	0.46	100.00	94.60	4.68	0.72	100.00
1921 ..	92.43	6.37	1.20	100.00	92.85	5.91	1.24	100.00
1930 ..	92.12	5.95	1.93	100.00	93.50	4.40	2.10	100.00

(ii) *Relative Ages, Bridegrooms and Brides.* The relative ages of bridegrooms and brides are shown for single years in "Australian Demography," Bulletin No. 48; a condensation into age-groups of five years is given below:—

RELATIVE AGES OF PERSONS MARRIED.—AUSTRALIA, 1930.

Ages.	Total Bride- grooms.	Ages of Brides.									
		Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and upwards.	Not stated.	
Ages of Brides.	Under 20 years..	1,361	5	1,018	326	9	2	1	..	..	..
	20 to 24 ..	14,273	6	4,470	8,346	1,291	122	25	7	6	..
	25 to 29 ..	14,225	7	1,710	7,227	4,418	682	148	26	7	..
	30 to 34 ..	6,070	1	373	2,053	2,120	1,119	315	71	18	..
	35 to 39 ..	2,994	..	95	622	860	718	483	160	56	..
	40 to 44 ..	1,643	..	27	182	332	334	395	253	120	..
	45 to 49 ..	995	..	20	71	116	174	216	199	199	..
	50 to 54 ..	638	..	9	22	48	72	120	125	242	..
	55 to 59 ..	419	..	3	8	20	40	49	71	228	..
	60 to 64 ..	279	..	2	4	8	13	32	40	180	..
	65 years and over	357	..	1	2	5	5	16	41	287	..
	Not stated ..	1	..	..	..	..	..	..	..	..	1
Total Brides ..	43,255	19	7,728	18,863	9,227	3,281	1,800	993	1,343	1	

(iii) *Average Ages, Bridegrooms and Brides.* The age at marriage of brides has declined slightly during recent years to an average of about 25 years. The figures for the five years are:—1926, 25.84; 1927, 25.72; 1928, 25.67; 1929, 25.62; and 1930, 25.49. For the five years 1907–11 the average age was 25.70 years, compared with 25.92 years for the five years 1912–16, 26.07 years for the five years 1917–21, and 25.76 years for the five years 1925–29. The average age of bridegrooms in 1926 was 29.32 years; in 1927, 29.19; in 1928, 29.18; in 1929, 29.18; and in 1930, 29.20 years. It follows, therefore, that brides are, generally speaking, three and one-half years younger than the bridegrooms.

4. *Previous Conjugal Condition.*—The number of bachelors and spinsters, widowed and divorced persons, who were married during the year 1930 has already been given. The following table shows the conjugal condition of the contracting parties:—

PREVIOUS CONJUGAL CONDITION OF PERSONS MARRIED.—AUSTRALIA, 1930.

Conjugal Condition.	Total Bridegrooms.	Brides.			
		Spinsters.	Widows.	Divorced.	
Bridegrooms	{ Bachelors ..	39,844	38,174	1,049	621
	{ Widowers ..	2,575	1,658	731	186
	{ Divorced ..	836	613	121	102
Total Brides ..	..	43,255	40,445	1,901	909

5. Birthplaces of Persons Married.—The following table shows the birthplaces of persons who were married in 1911, 1921 and 1930. In "Australian Demography," Bulletin No. 48, the relative birthplaces of bridegrooms and brides married in 1930 will be found tabulated in full detail.

BIRTHPLACES OF PERSONS MARRIED.—AUSTRALIA, 1911, 1921 and 1930.

	Bridegrooms.			Brides.		
	1911.	1921.	1930.	1911.	1921.	1930.
AUSTRALASIA—						
Australia	31,298	37,925	35,198	33,922	40,137	37,501
New Zealand	450	405	419	303	280	366
EUROPE—						
England and Wales	3,023	3,590	4,587	1,675	2,488	3,401
Scotland	739	867	1,321	460	656	1,021
Ireland	494	470	489	363	281	275
Other British Possessions	16	30	64	9	14	31
Western Europe	205	175	143	45	45	49
Central Europe	311	149	202	92	61	97
Southern Europe	62	139	342	21	56	188
Eastern Europe	47	83	76	18	21	46
ASIA—						
British Possessions	59	59	55	27	24	30
Foreign Countries	83	57	70	16	12	49
AFRICA—						
British Possessions	42	58	116	20	39	85
Foreign Countries	1	3	10	2	5	7
AMERICA—						
Canada	44	45	39	6	11	24
Other British Possessions	6	8	3	..	5	1
United States of America	58	90	70	16	25	34
Other Foreign Countries ..	44	11	19	15	10	11
POLYNESIA—						
British	13	9	7	7	11	8
Foreign	25	18	12	7	13	12
Indefinite	41	22	13	37	19	19
Total	37,061	44,213	43,255	37,061	44,213	43,255

6. Occupations and Ages of Bridegrooms.—A tabulation has been made of the occupations and ages of all males married in Australia during 1930, an abridgment of which is given in the following table. The average ages of the persons falling under the twenty-eight 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 income from investments, and who may be expected to have reached a comparatively high age before attaining a position of financial independence, the average age for 1930 ranges from 27.30 years for those engaged in the manufacture of food and drinks, to 32.59 years in the class engaged in providing board and lodging. A line showing the corresponding average ages for 1921 has been added to the table. On the experience of 1930 the average ages at marriage of bridegrooms in the larger classes of occupations were as follows:—Professional, 30.12 years; Domestic, 30.81 years; Commercial, 29.47 years; Transport, 28.63 years; Industrial, 28.39 years; and Primary Producer, 30.76 years.

OCCUPATIONS AND AGES OF BRIDEGROOMS.—AUSTRALIA, 1930.

Ages at Marriage.	Professional.		Domestic.		Commercial.							Transport and Communication.			
	Government, Defence, and Law.	Others.	Board and Lodging.	Others.	Property and Finance.	Art, Mechanic, and Textile Products.	Food and Drinks.	Animal and Vegetable Substances.	Fuel, Light and Metals.	Merchants and Dealers.	Others.	Railways.	Roads and Trams.	Sea and Rivers.	Others.
Under 20..	6	18	3	23	2	7	72	3	2	27	86	32	78	14	17
20 to 24 ..	283	504	114	186	130	88	663	33	30	267	1,215	405	913	190	220
25 " 29 ..	484	763	148	108	280	123	498	57	34	314	1,627	179	747	220	200
30 " 34 ..	229	321	98	57	128	55	187	18	17	160	687	347	323	98	104
35 " 39 ..	75	135	61	40	53	23	93	15	2	78	306	88	143	56	42
40 " 44 ..	42	67	28	25	32	18	44	13	4	40	156	44	70	32	11
45 " 49 ..	19	51	19	14	18	11	29	4	6	26	84	30	33	17	8
50 and over	56	75	39	16	43	20	36	1	3	53	122	42	44	25	18
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	1,194	1,934	510	474	686	345	1,622	153	98	965	4,283	1,167	2,356	652	620
Average age—															
year 1930	30.29	30.01	32.50	28.89	31.53	31.00	27.71	31.97	29.82	30.55	29.35	29.34	27.94	30.01	28.45
1921	29.93	31.02	32.48	30.14	30.94	31.21	28.84	32.25	32.00	32.19	29.45	29.12	28.19	31.27	28.47

Ages at Marriage.	Manufacturing.								Primary Producers.					Indefinite.
	Arts and Mechanic Productions.	Textiles and Fibrous Materials.	Food and Drinks.	Animal and Vegetable Substances.	Metals and Minerals.	Fuel, Light, and Electricity.	Building and Construction.	Others.	Agri-cultural.	Pastoral.	Mining and Quarrying.	Others.		
Under 20..	92	34	51	16	52	17	90	470	91	23	16	11	3	
20 to 24 ..	1,025	266	326	78	382	193	836	3,723	1,444	365	267	112	15	
25 " 29 ..	884	237	257	56	266	235	614	3,097	1,803	480	236	95	15	
30 " 34 ..	273	73	72	34	85	82	258	1,254	911	232	88	34	8	
35 " 39 ..	145	40	39	9	35	37	152	594	522	139	42	18	12	
40 " 44 ..	66	19	24	6	23	12	91	377	251	93	33	13	9	
45 " 49 ..	48	14	9	1	19	6	69	201	162	54	30	9	6	
50 and over	76	27	20	3	33	5	96	353	250	105	44	17	62	
Not stated	..	..	..	..	..	..	..	..	1	..	..	..	..
Total ..	2,607	710	798	203	895	587	2,206	10,069	5,435	1,491	756	309	130	
Average age—														
year 1930	27.97	28.29	27.30	27.39	27.75	27.79	29.16	28.54	30.64	31.84	29.96	29.63	44.93	
1921	28.58	28.81	28.56	28.19	27.96	27.54	29.63	29.20	30.49	32.66	30.42	29.35	41.63	

7. Fertility of Marriages.—The quotient obtained by division of the nuptial births registered, e.g., during the five years 1926 to 1930, by the number of marriages registered during the five years 1921 to 1925, i.e., the period antecedent by five years to the period of the births, has been called the "fertility of marriages." The quotient for this period is 2.88—in other words, the number of children to be expected from every marriage in Australia is about three. This method, while not absolutely accurate, generally furnishes results which agree fairly well with those found by more elaborate and careful investigation. For the following five-yearly periods the results were:—1922–26, 3.14; 1923–27, 2.79; 1924–28, 2.81; 1925–29, 2.84; and 1926–30, 2.88.

8. Registration of Marriages.—In all the States 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. Most of the marriages are celebrated by ministers of religion. The proportions so celebrated in 1930 were:—New South Wales, 91.39 per cent.; Victoria, 89.51 per cent.; Queensland,

95.92 per cent. ; South Australia, 90.37 per cent. ; Western Australia, 82.41 per cent. ; and Tasmania, 90.90 per cent., the percentage for Australia being 90.77. The registered ministers in 1930 belong 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 Christian." The figures for 1930 are shown in the following table :—

MARRIAGES IN EACH DENOMINATION.—AUSTRALIA, 1930.

Denomination.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Nor. Terr.	Fed. Cap. Terr.	Australia.	
									No.	Per. Cent.
Church of England	7,122	3,225	1,902	764	1,173	510	9	18	14,723	34.04
Roman Catholic ..	3,616	2,239	1,404	394	541	239	3	7	8,443	19.52
Methodist ..	1,995	1,581	907	1,054	411	264	1	2	6,215	14.37
Presbyterian ..	2,199	1,971	978	124	259	112	2	5	5,650	13.06
Congregational ..	365	311	109	178	88	53	..	..	1,104	2.55
Baptist ..	249	559	149	151	42	58	..	..	1,208	2.79
Church of Christ	96	257	43	114	50	53	7	..	620	1.43
Lutheran ..	39	74	174	155	7	..	..	..	449	1.04
Greek Catholic ..	23	12	10	3	12	..	1	..	61	0.14
Unitarian ..	1	4	..	8	..	..	..	..	13	0.03
Salvation Army..	62	62	45	26	19	5	..	..	219	0.51
Seventh-Day Adventist ..	23	14	18	4	8	2	..	..	69	0.16
Other Christian ..	58	67	195	18	15	22	1	..	376	0.87
Hebrew ..	39	44	12	..	16	..	..	..	111	0.26
Registrar's Office	1,496	1,221	253	319	564	132	7	2	3,994	9.23
Total ..	17,383	11,641	6,199	3,312	3,205	1,450	31	34	43,255	100.00

§ 3. Deaths.

1. Deaths, 1930.—The following table shows the number of deaths, male and female, registered in each State during the year 1930 :—

DEATHS, 1930.

Sex.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Cap. Terr.	Australia.
Males ..	12,130	8,467	4,478	2,609	2,348	1,028	66	22	31,148
Females	9,105	7,492	2,977	2,242	1,426	920	11	10	24,183
Total ..	21,235	15,959	7,455	4,851	3,774	1,948	77	32	55,331

2. **Crude Death Rates, 1901 to 1930.**—The crude death rates for the period 1901 to 1930 show a gratifying decrease in the later years.

CRUDE DEATH RATES (a), 1901 to 1930.

Year and Sex.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Cap. Terr.	Aus- tralia.
1901 ..	11.75	13.22	11.98	11.12	13.39	10.51	19.10	(a)	12.22
1911 ..	10.31	11.52	10.65	9.81	10.19	10.14	19.63	5.61	10.66
1921 ..	9.50	10.52	9.36	10.02	10.43	10.30	20.48	1.61	9.91
1926 ..	9.55	9.63	9.39	8.73	8.93	9.05	17.00	6.71	9.42
1927 ..	9.59	9.71	9.06	8.98	8.81	9.68	17.95	7.08	9.45
1928 ..	9.34	10.11	8.77	8.92	9.11	10.06	16.88	5.84	9.45
1929 ..	9.98	9.45	8.98	8.70	9.55	10.18	15.56	4.65	9.55
1930—									
Males ..	9.59	9.58	8.98	8.70	10.37	9.56	21.72	4.54	9.47
Females	7.45	8.32	6.74	7.98	7.42	8.44	6.83	2.54	7.67
Total ..	8.53	8.94	7.93	8.35	9.02	9.00	16.56	3.64	8.59

(a) Number of deaths per 1,000 of annual mean population.

3. **Index of Mortality.**—(i) *General.* The death rates quoted above are crude rates, i.e., they simply show the number of deaths per thousand of mean population without taking the age constitution into consideration. Other conditions being equal, however, the death rate of a country will be lower if it contains a large percentage of young people (not infants). In order to obtain a comparison of the mortality of various countries on a uniform basis so far as sex and age constitution is concerned, the standard population compiled by the International Institute of Statistics, according to age distribution (eleven age-groups) of the population of nineteen European countries at their censuses nearest to the year 1900 is used in the computation of the "Index of Mortality" as distinguished from the crude death rate. Full details of the "Standard Population" will be found in Year Book No. 22, page 962.

(ii) *Comparison of Rates.* For the year 1930 on the basis of the crude rates there is a range of 1.09 per 1,000 persons between the lowest rate in Queensland (7.93) and the highest rate in Western Australia (9.02), whereas the standardized rates increase the range to 2.47 per 1,000, i.e., between 8.69 in South Australia and 11.16 in Western Australia. In its application to the figures for 1930 the process of adjustment slightly altered the relative positions of all States with the exception of Western Australia and Tasmania from those determined by the crude rates. The principal changes were that Queensland and South Australia which were first and second respectively in the crude rates have changed places, as have also New South Wales and Victoria which occupied third and fourth positions respectively. The index of mortality for each state for 1930 and previous years is shown in the following table:—

INDEX OF MORTALITY, 1921 to 1930.

Year.	States.						Territories.		Aus- tralia.
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern.	Federal Capital.	
1921	10.36	10.79	10.23	10.38	11.89	10.84	13.74	1.89	10.58
1926	10.62	9.91	10.47	9.02	10.63	9.70	14.81	7.83	10.20
1927	10.64	10.02	10.20	9.30	10.71	10.43	12.58	8.45	10.43
1928	10.40	10.46	9.92	9.21	11.14	10.76	11.15	6.06	10.44
1929	11.14	9.78	10.21	8.97	11.69	10.98	14.78	5.37	10.39
1930	9.54	9.31	9.03	8.69	11.16	9.66	14.10	4.52	9.38

4. **Crude Death Rates of Various Countries.**—The following table gives particulars of the crude death rates of various countries for a pre-war period and the latest available year :—

CRUDE DEATH RATES (a).—VARIOUS COUNTRIES.

Country.	1908-13.	1930.	Country.	1908-13.	1930.
Queensland	10.3	7.9	United States (b) ..	(c)	11.9(e)
South Australia ..	10.1	8.4	Switzerland	15.2	12.2
New South Wales ..	10.3	8.5	Sweden	14.0	12.2(e)
Australia	10.7	8.6	Scotland	15.5	13.2
New Zealand	9.3	8.6	Argentina	17.5	13.6
Victoria	11.7	9.8	Italy	20.4	13.7
Western Australia ..	10.3	9.0	Northern Ireland ..	16.9	13.8
Tasmania	10.7	9.0	Irish Free State ..	16.9	14.1
Netherlands	13.9	9.1	Czechoslovakia ..	21.0	14.2
Union of South Africa (Whites)	(c)	9.1	Belgium	15.7	15.0(d)
Norway	13.6	10.4	France	18.6	15.7
Germany	16.5	11.1	Poland	21.0	15.8
England and Wales ..	14.1	11.4	Finland	16.4	16.2(e)
Denmark	13.2	11.2(e)	Spain	22.8	17.3
Canada (including Quebec)	(c)	11.6(e)	Soviet Republics ..	28.9	18.8
Great Britain and Ireland	14.5	11.8	Japan	20.5	20.0(e)
			Rumania	24.7	21.6(e)
			Ceylon	31.4	24.9(e)
			Egypt	25.8	27.3(e)

(a) Number of deaths per 1,000 of mean population.

(c) Not available.

(d) For year 1928.

(b) Registration area.

(e) For year 1929.

5. **Infantile Deaths and Death Rate.**—(i) *Australia, 1926 to 1930.* The universal experience that during the first few years of life the higher death rate of male infants tends to counteract the excess of male births is confirmed by the fact that out of 338,960 male infants born from 1926 to 1930, 19,546 (56.7 per 1,000) died during their first year of life, while of 319,857 female infants only 14,709 (45.6 per 1,000) died during the first year.

INFANTILE DEATHS AND DEATH RATES.—AUSTRALIA, 1901 TO 1930.

Year	Registered deaths under one year.			Rate of Infantile Mortality.(a)		
	Males.	Females.	Total.	Males.	Females.	Total.
1901	5,888	4,778	10,666	112.13	94.73	103.61
1911	4,745	3,624	8,369	75.91	60.72	68.49
1921	5,111	3,841	8,952	72.97	58.06	65.73
1926	4,149	3,041	7,190	60.64	46.97	53.99
1927	4,102	3,181	7,283	59.55	49.08	54.47
1928	4,003	3,098	7,101	57.89	47.72	52.96
1929	3,873	2,743	6,616	58.13	43.64	51.10
1930	3,419	2,646	6,065	51.90	42.33	47.24

(a) Number of deaths under 1 year per 1,000 live births registered.

(ii) *States, 1901 to 1930.* For the States and Territories the rates of infantile mortality during the period 1901-30 were as follow:—

INFANTILE MORTALITY RATES (a). 1901 TO 1930.

Year	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Cap. Terr.	Australia.
1901-05 ..	97.02	95.91	94.35	86.60	124.79	90.00	149.35	(c)	96.91
1906-10 ..	77.30	79.90	71.27	68.38	89.80	83.18	143.79	(c)	77.61
1911-15 ..	71.05	72.23	65.68	67.26	72.43	70.91	85.11	32.56	70.32
1916-20 ..	64.82	67.18	63.04	61.93	61.73	63.84	67.15	40.40	64.67
1921-25 ..	58.11	61.93	50.99	54.19	59.14	60.44	40.82	60.24	57.88
1926 ..	57.61	55.68	50.65	44.33	49.27	47.61	68.49	53.33	53.99
1927 ..	54.94	56.05	54.45	53.43	45.86	52.97	102.94	142.85 ^b	54.47
1928 ..	54.77	55.63	45.54	47.51	48.14	63.95	60.24	83.33 ^b	52.96
1929 ..	56.44	47.23	46.03	40.88	56.13	53.16	18.87	19.61 ^b	51.10
1930 ..	49.84	46.61	39.97	48.38	46.74	50.56	70.42	24.39 ^b	47.24

(a) Number of deaths under 1 year per 1,000 live births registered. (b) Based on deaths of infants born in the Federal Capital Territory. (c) Part of New South Wales prior to 1911.

INFANTILE MORTALITY RATES—UNDER ONE MONTH AND UNDER ONE YEAR, 1911-15 TO 1930.

State.	Under one month.			One month and under one year.		
	1911-15.	1921-25.	1930.	1911-15.	1921-25.	1930.
New South Wales ..	31.75	29.97	28.41	39.30	28.14	21.43
Victoria ..	33.07	32.19	27.86	39.16	29.74	18.75
Queensland ..	30.73	27.44	28.20	34.95	23.55	11.77
South Australia ..	29.07	27.83	26.34	38.19	26.36	22.04
Western Australia ..	30.87	27.56	24.13	41.56	31.58	22.61
Tasmania ..	32.68	31.73	34.47	38.23	28.71	16.09
Australia..	31.69	29.91	28.00	38.63	27.97	19.24

Examination of these tables discloses the striking decrease in infantile mortality, the rate for 1930 being less than half that of 1901-05. The second table reveals the fact that relatively little improvement has taken place in the first month of life; but that the great decrease has occurred among the older children and has been due to the decline in preventible diseases.

The deaths of infants under one year of age during 1930 numbered 6,065, the mortality rate being 47.24, which is the lowest recorded in Australia. Among the States in 1930 Queensland had the lowest and Tasmania the highest rate.

(iii) *Districts.* The total number of births and of deaths of children under one year of age for 1930 are shown in Australian Demography Bulletin, No. 48, Tables 24 and 76, for each of the sixty-four districts for which the vital statistics have been tabulated.

(iv) *Various Countries and Cities.* Compared with other countries, the States of Australia occupy a very favourable position, being surpassed by New Zealand, Norway, and Netherlands only. Among cities, however, the best of the Australian cities, Brisbane, has the fourth place only, whereas New Zealand has two cities amongst the first five on the list presented on the next page. A study of the respective rates shows that a high birth rate is often, though not invariably, accompanied by a high infantile death rate.

INFANTILE MORTALITY RATES (a).—VARIOUS COUNTRIES.

Country.	Infantile Mortality Rate.(a)		Crude Birth Rate.(b) 1930.	Country.	Infantile Mortality Rate.(a)		Crude Birth Rate.(b) 1930.
	1906-15.	1930.			1906-15.	1930.	
New Zealand ..	61	34	18.8	Great Britain and Ireland ..	..	76(e)	16.8
Queensland ..	68	40	20.1	France ..	122	79	17.7
Victoria ..	76	47	18.6	Denmark ..	103	83(e)	19.6
Australia ..	74	47	19.9	Scotland ..	113	83	19.3
Western Australia	81	47	22.0	Germany ..	168	84	17.5
South Australia	68	48	17.2	Canada (including Quebec) ..	(c)	92(e)	24.0
Norway ..	68	49	17.5	Belgium ..	139	104(e)	18.4
New South Wales	74	50	21.0	Spain ..	156	117	29.0
Tasmania ..	77	51	22.1	Italy ..	144	120(d)	26.2
Netherlands ..	115	51	23.1	Czechoslovakia (c)	137	137	23.3
Switzerland ..	108	51	17.3	Japan ..	151	142(e)	33.0
England and Wales ..	113	60	16.3	Hungary ..	205	154	24.7
Sweden ..	74	60(e)	15.2	Egypt ..	(c)	159(e)	42.2
Irish Free State ..	92	67	19.8	Ceylon ..	(c)	187(e)	36.5
Northern Ireland	92	67	20.3	Rumania ..	(c)	197(e)	34.7
United States (Registration Area)	(c)	68(e)	18.9				
Union of South Africa (Whites)	(c)	70	26.6				

(a) Number of deaths under 1 year per 1,000 births registered. (b) Number of births per 1,000 of mean population. (c) Not available. (d) For year 1928. (e) For year 1929.

INFANTILE MORTALITY RATES (a).—VARIOUS CITIES.

City.	Rate of Infantile Mortality.(a)		City.	Rate of Infantile Mortality.(a)	
	1921.	1930.		1921.	1930.
Oslo ..	54	35	Cape Town ..	82	68
Auckland ..	54	35	Washington ..	83	70
Amsterdam ..	54	37	Toronto ..	91	72(b)
Brisbane ..	62	39	Hamburg ..	95	72
Wellington ..	61	40	Antwerp ..	98	73(c)
San Francisco ..	50	40	Berlin ..	135	73
Christchurch ..	54	41	Newcastle, N.S.W. ..	70	76(c)
Stockholm ..	61	46	Manchester ..	94	78
Sydney ..	62	50	Munich ..	126	78
Melbourne ..	74	51	Aberdeen ..	108	80
Perth ..	81	51	Cologne ..	140	80
Chicago ..	84	53	Liverpool ..	105	81
Adelaide ..	74	55	Edinburgh ..	96	81
New York City ..	72	57	Leipzig ..	136	83
London ..	80	59	Belfast ..	115	85
Copenhagen ..	67	60	Johannesburg ..	101	92
Hobart ..	75	61	Breslau ..	170	93
Los Angeles ..	68	61	Dublin ..	123	97
Philadelphia ..	78	63	Paris ..	95	99(c)
Birmingham ..	82	62	Glasgow ..	106	101
Detroit ..	83	64	Montreal ..	158	128
Dresden ..	115	65	Madras ..	281	254(c)
Sheffield ..	99	66	Bombay ..	402	299(c)
Leeds ..	98	66			

(a) Number of deaths under 1 year per 1,000 births registered. (b) For year 1928. (c) For year 1929.

(v) *Causes of Deaths of Children under one Year.* The following table gives for twenty-six causes the ages of all children who died under one year of age during 1930. The infantile mortality rates for 1911, 1921 and 1930 have been added for all births, and for 1925 and 1930 for ex-nuptial births. Particulars for males and females may be found in Bulletin No. 48 of "Australian Demography."

CAUSES OF DEATHS OF CHILDREN UNDER ONE YEAR.—AUSTRALIA, 1930.

Age at Death.	Measles.	Whooping Cough.	Diphtheria.	Erysipelas.	Meningococcal Meningitis.	Pulmonary Tuberculosis.	Tubercular Meningitis.	Tuberculosis, other forms.	Syphilis.	Meningitis.	Convulsions.	Acute Bronchitis.	Broncho-Pneumonia.
Under 1 week .. .. .	..	..	..	..	..	..	..	..	8	..	21	2	23
1 week and under 2 weeks ..	..	..	..	1	1	..	..	..	3	1	4	8	9
2 weeks .. .. .	..	3	..	5	..	..	..	..	1	..	2	4	18
3 .. .. .	..	6	..	4	..	..	..	..	1	..	3	3	13
1 month	2	28	2	9	1	1	..	..	5	4	4	13	49
2 months .. .. .	..	28	..	3	..	..	..	..	1	..	5	2	32
3	1	20	..	3	1	..	..	..	2	..	5	3	34
4 .. .. .	..	16	1	3	1	1	..	..	2	4	4	1	30
5 .. .. .	..	18	..	..	..	..	..	..	2	4	4	1	23
6	1	12	1	..	3	3	..	..	3	3	2	2	20
7	1	11	3	1	1	2	..	..	1	1	4	4	20
8	3	16	4	..	1	..	..	..	2	6	..	5	25
9	6	15	2	..	..	3	..	..	4	2	5	1	16
10	3	14	5	1	1	..	..	..	1	1	1	1	11
11	7	7	6	1	1	..	..	..	..	2	1	1	18
Total under 1 year ..	24	199	24	29	11	4	21	14	41	39	52	62	341
Infantile Mortality (a)—													
1911	0.34	1.57	0.25	0.16	..	0.08	0.31	0.22	0.85	1.83	2.55	2.34	2.86
1921	0.15	1.97	0.59	0.24	0.03	0.07	0.18	0.08	0.56	1.10	1.45	1.50	3.08
1930	0.18	1.55	0.18	0.23	0.09	0.03	0.16	0.11	0.32	0.30	0.41	0.48	2.66
Ex-nuptial deaths under 1 year included in above ..	2	6	1	1	1	..	1	..	9	3	4	3	32
Infantile Mortality (b)—													
1925	0.16	2.06	0.32	0.16	0.48	..	0.32	..	1.27	0.32	2.38	0.48	3.09
1930	0.34	1.01	0.17	0.17	0.17	..	0.17	..	1.52	0.51	0.67	0.51	15.39

Age at Death.	Pneumonia.	Pleurisy.	Other Diseases of Stomach.	Diarrhoea and Enteritis.	Hernia.	Intestinal Obstruction.	Malformation.	Congenital Dehility, Lacerus and Scleroma.	Premature Birth.	Injury at Birth.	Other Diseases peculiar to Early Infancy.	Lack of Care.	Other Causes.	Total.
Under 1 week	12	..	1	5	..	2	285	274	1,557	304	286	6	75	2,861
1 week and under 2 weeks ..	6	..	..	5	..	2	48	56	134	18	28	..	35	359
2 weeks	5	1	..	9	..	2	23	28	62	7	12	..	11	195
3	8	..	..	10	..	2	31	25	50	..	..	..	12	180
1 month	14	2	0	41	..	1	42	38	49	3	3	..	32	357
2 months	15	..	2	59	..	1	30	42	15	1	..	..	31	286
3	24	..	2	73	..	1	26	28	7	..	..	..	31	278
4	16	..	3	73	..	3	22	18	4	..	..	..	16	224
5	15	1	3	82	..	6	11	13	2	..	..	..	23	210
6	22	..	3	78	..	5	7	11	1	1	..	..	28	209
7	15	..	3	91	..	7	2	0	1	..	..	..	24	204
8	10	..	2	84	..	6	3	7	..	..	..	..	19	208
9	15	1	2	63	..	3	5	2	..	..	..	..	27	172
10	11	..	2	60	..	1	4	1	..	..	..	..	21	143
11	22	..	1	64	..	1	4	4	1	..	..	1	30	181
Total under 1 year ..	219	5	34	797	5	41	548	556	1,883	336	353	7	420	6,065
Infantile Mortality (a)—														
1911	1.90	0.07	0.47	16.99	..	0.72	2.99	..	22.41	..	4.07	0.11	5.40	68.49
1921	2.08	0.12	0.71	15.01	..	0.57	3.74	7.64	15.29	..	5.53	0.83	3.96	65.73
1930	1.71	0.04	0.26	6.21	..	0.04	4.27	4.33	14.67	2.62	2.75	0.05	3.27	47.24
Ex-nuptial deaths under 1 year included in above ..	15	..	4	106	..	2	26	43	128	18	25	5	41	476
Infantile Mortality (b)—														
1925	2.38	..	1.11	19.18	..	0.47	3.64	9.51	20.93	1.90	2.69	1.11	5.87	84.83
1930	2.52	..	0.67	17.86	..	0.34	4.38	7.24	21.57	3.03	4.21	0.84	6.91	80.21

(a) Rate per 1,000 total births. (b) Rate per 1,000 ex-nuptial births.

Pre-natal influences, such as malformation, congenital debility, and premature birth, together with injuries at birth, accounted for 3,323, or 54 per cent., of all deaths under one year; and of these 3,323 deaths, 2,420, or 73 per cent., occurred within a week of birth. Among the survivors of the first week, diarrhosa and enteritis had the most fatal effects. These diseases were responsible for 797 deaths, representing 13 per cent. of all deaths under one year, or 6.21 per 1,000 births.

(vi) *Deaths of Ex-nuptial Children under one Year.* The deaths of ex-nuptial children were tabulated by this Bureau for the first time in 1925. The causes of death of these children in 1930 and the rates in respect of 1925 and 1930 are shown as an addendum to the preceding table.

Pre-natal influences such as malformation, congenital debility, premature birth, and injuries at birth accounted for 215, or 45 per cent., and diarrhœa and enteritis for 106, or 22 per cent., of the total deaths.

6. *Deaths in Age-Groups, 1926 to 1930.*—A distribution into age-groups has been made of the 290,800 deaths which occurred in Australia from 1926 to 1930, and the results have been tabulated for each State. It is, however, sufficient to show here the results for Australia as a whole, which are as follow.

A table giving the corresponding percentages for earlier periods has been added to show the movement over a long term. The most striking change is the substantial decrease in the group "under 1 year". At the other end of the table the group "65 years and over" has increased by an almost similar amount.

DEATHS IN AGE GROUPS.—AUSTRALIA, 1926 TO 1930.

Age-Group.	Males.	Females.	Total.	Percentage on Total Males.	Percentage on Total Females.	Percentage on Total.
Under 1 year ..	19,546	14,709	34,255	11.90	11.62	11.78
1 year and under 5 ..	6,682	5,571	12,253	4.07	4.40	4.21
5 years and under 20 ..	7,785	5,793	13,578	4.74	4.58	4.67
20 years and under 40..	17,571	16,523	34,094	10.70	13.06	11.73
40 years and under 60..	35,594	24,255	59,849	21.67	19.17	20.58
60 years and under 65..	14,662	9,406	24,068	8.92	7.43	8.28
65 years and over ..	62,249	50,268	112,517	37.90	39.72	38.69
Age unspecified ..	167	19	186	0.10	0.02	0.06
Total ..	164,256	126,544	290,800	100.00	100.00	100.00

DEATHS IN AGE GROUPS.—AUSTRALIA, 1901 TO 1920.

Age-Group.	1901-1910.			1916-1920.		
	Percentage on Total Males.	Percentage on Total Females.	Percentage on Total.	Percentage on Total Males.	Percentage on Total Females.	Percentage on Total.
Under 1 year ..	19.80	21.47	20.51	15.16	15.27	15.20
1 year and under 5 ..	5.84	7.28	6.45	5.61	6.58	6.03
5 years and under 20 ..	5.84	7.08	6.37	5.18	5.73	5.42
20 years and under 40 ..	13.85	16.54	14.99	13.57	16.34	14.76
40 years and under 60 ..	19.70	15.67	17.99	22.55	18.41	20.77
60 years and under 65 ..	5.71	4.77	5.31	7.58	5.86	6.84
65 years and over ..	29.08	27.15	28.26	30.18	31.77	30.86
Age unspecified ..	0.18	0.04	0.12	0.17	0.04	0.12
Total ..	100.00	100.00	100.00	100.00	100.00	100.00

7. Deaths at Single Ages and in Age-Groups, 1930.—(i) *General.* The 55,331 deaths registered in Australia in the year 1930 will be found tabulated in groups of five years for each State and Territory, in Bulletin No. 48 "Australian Demography, 1930." The deaths during the first two years of life have been tabulated in shorter periods. A summary for Australia is given in the following table:—

DEATHS AT SINGLE AGES AND IN AGE-GROUPS.—AUSTRALIA, 1930.

Ages.	Males.	Fe-males.	Total.	Ages.	Males.	Fe-males.	Total.
Total under 1 month ..	2,059	1,536	3,595	Total 20-24 years ..	713	649	1,362
" 1 month and under 3 ..	376	267	643	" 25-29 ..	756	738	1,494
" 3 months and under 6 ..	402	310	712	" 30-34 ..	801	725	1,526
" 6 months and under 12 ..	582	533	1,115	" 35-39 ..	977	865	1,842
				" 40-44 ..	1,228	957	2,185
Total under 1 year ..	3,419	2,646	6,065	" 45-49 ..	1,433	1,103	2,536
				" 50-54 ..	1,792	1,160	2,952
1 year and under 2 ..	613	546	1,159	" 55-59 ..	2,197	1,398	3,595
2 years ..	290	218	508	" 60-64 ..	2,759	1,818	4,577
3 ..	199	139	338	" 65-69 ..	3,405	2,254	5,659
4 ..	130	123	253	" 70-74 ..	3,366	2,507	5,873
				" 75-79 ..	2,604	2,208	4,812
Total under 5 years ..	4,651	3,872	8,323	" 80-84 ..	1,663	1,580	3,243
				" 85-89 ..	935	1,020	1,955
5-9 years ..	493	363	856	" 90-94 ..	302	382	684
" 10-14 ..	360	247	607	" 95-99 ..	77	102	179
" 15-19 ..	590	420	1,010	" 100 and over ..	15	13	28
				Age Unspecified ..	31	2	33
				Total All Ages ..	31,148	24,183	55,331

(ii) *Rates.* The death rate per 1,000 living at each age in each State for the three years 1920, 1921, and 1922, i.e., the Census year 1921, and the years immediately preceding and following may be found in Official Year Book No. 22, page 975.

8. Deaths of Centenarians, 1930.—Particulars concerning the twenty-eight persons—fifteen males and thirteen females—who died in 1930 aged 100 years and upwards, are given in the following table. While the Registrars-General of the various States verify the figures as far as possible, absolute reliance cannot be placed on their accuracy, owing to the well-known tendency of very old people to overstate their ages. In connexion with this question it may be noted that while parish registers in the United Kingdom often date very far back, compulsory registration of births dates practically from 1874 only, the Act of 1836 having left many loopholes for those unwilling to register the births of their children.

DEATHS OF CENTENARIANS.—AUSTRALIA, 1930.

Age.	Locality where Death occurred.	State.	Cause of Death.	Occupation.	Birthplace.	Length of Residence in Australia.	Conjugal Condition.
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MALES.

108	Kew ..	Victoria ..	Chronic cystitis	Not stated	England ..	Not stated	Married
106	Lake Macquarie	N.S.W. ..	Valvular Heart disease	Cobbler ..	China ..	40 years ..	Single
105	Canterbury	" ..	Senility ..	Tinsmith ..	England ..	66 years ..	Married
104	Wudinna ..	Sth. Aust.	" ..	Farmer ..	Scotland ..	74 years ..	"
103	Tallaganda	N.S.W. ..	" ..	" ..	Ireland ..	77 years ..	"
103	Murrumbidgeena	Victoria ..	Bronchitis ..	" ..	Tasmania	Native ..	"
102	Randwick	N.S.W. ..	" ..	Teacher ..	France ..	78 years ..	"
102	Longwood ..	Victoria ..	Senility ..	Grazier ..	Ireland ..	72 years ..	"
101	Cheltenham	" ..	" ..	Salesman ..	" ..	68 years ..	"
101	Carlton ..	" ..	General atrophy	Wine Merchant	France ..	77 years ..	"
100	Ryde ..	N.S.W. ..	Uraemia ..	Journalist	England ..	22 years ..	"
100	Hawthorn	Victoria ..	Pulmonary congestion	Butcher ..	Scotland ..	65 years ..	Single
100	Brighton ..	" ..	Retention of urine	Independent Miner	England ..	86 years ..	Married
100	Geelong ..	" ..	Heart Failure	Miner ..	Sweden ..	74 years ..	"
100	Adelaide ..	Sth. Aust.	Accidental fall	Hawker ..	Scotland ..	70 years ..	Single

FEMALES.

105	Manning ..	N.S.W. ..	Senility ..	" ..	N.S.W. ..	Native ..	Single
105	Woollahra ..	" ..	Atheroma ..	" ..	Ireland ..	Not stated	Married
103	Bowral ..	" ..	Strangulated hernia	" ..	" ..	75 years ..	"
103	Malvern ..	Sth. Aust.	Senility ..	" ..	England ..	93 years ..	"
103	Salter's Spring	" ..	" ..	" ..	Scotland ..	80 years ..	"
101	Newcastle	N.S.W. ..	Gangrene ..	" ..	England ..	50 years ..	"
101	Sutherland	" ..	Hypostatic pneumonia	" ..	Ireland ..	93 years ..	"
101	Bendigo ..	Victoria ..	Myocardial degeneration	" ..	N.S.W. ..	Native ..	"
100	Woollahra ..	N.S.W. ..	Chronic myocarditis	" ..	England ..	80 years ..	"
100	Newtown ..	Victoria ..	Senility ..	" ..	" ..	65 years ..	"
100	Geelong ..	" ..	" ..	" ..	" ..	78 years ..	"
100	Glanville ..	Sth. Aust.	Mitral stenosis	" ..	" ..	73 years ..	"
100	Hobart ..	Tasmania	Senility ..	" ..	N.S.W. ..	Native ..	"

NOTE.—The particulars shown in this table are those given in the death certificates, and no attempt has been made by the Commonwealth Bureau of Census and Statistics to verify them.

9. Length of Residence in Australia of Persons who Died in 1930.—The length of residence in Australia of all persons whose deaths were registered in the year 1930 is shown in the following table:—

LENGTH OF RESIDENCE IN AUSTRALIA OF PERSONS WHO DIED IN 1930.

Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.	Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.
Born in Australia ..	20,667	17,527	38,194	Resident 25 to 29 years	206	87	293
Resident under 1 year ..	62	19	81	" 30 to 34 ..	391	155	546
" 1 year ..	43	21	64	" 35 to 39 ..	385	184	569
" 2 years ..	89	51	140	" 40 to 44 ..	1,143	595	1,738
" 3 ..	96	57	153	" 45 to 49 ..	1,151	683	1,834
" 4 ..	82	59	141	" 50 to 54 ..	1,058	590	1,648
" 5 ..	87	43	130	" 55 to 59 ..	486	326	812
" 6 ..	71	63	134	" 60 to 64 ..	514	450	964
" 7 ..	60	43	103	" 65 yrs. and over	1,489	1,786	3,275
" 8 ..	67	65	132	Length of residence not stated ..	1,588	464	2,052
" 9 ..	65	39	104				
" 10 to 14 years	164	152	316				
" 15 to 19 ..	725	484	1,209				
" 20 to 24 ..	459	240	699				
				Total ..	31,148	24,183	55,331

10. Birthplaces of Persons who Died in 1911 and 1930.—The following table provides a summary of birthplaces of persons whose deaths were registered in 1911 and 1930. More detailed information in respect of 1911 and 1930 will be found in "Australian Demography," Bulletin No. 48.

BIRTHPLACES OF PERSONS WHO DIED IN 1911 AND 1930.—AUSTRALIA.

Birthplace.	1911.			1930.		
	Males.	Females.	Total.	Males.	Females.	Total.
Australasia—						
Australia	14,476	12,279	26,755	20,667	17,527	38,194
New Zealand ..	126	79	205	225	146	371
Europe—						
England and Wales ..	5,639	3,541	9,180	4,996	3,410	8,406
Scotland	1,666	1,112	2,778	1,331	894	2,225
Ireland	2,837	2,528	5,365	1,534	1,420	2,954
Other British Possessions ..	40	26	66	39	14	53
Western Europe	365	62	427	322	86	408
Central Europe	678	292	970	434	258	692
Southern Europe	122	15	137	200	42	242
Eastern Europe	71	6	77	76	21	97
Asia—						
British Possessions	102	28	130	105	21	126
Foreign Countries	470	8	478	322	23	345
Africa—						
British Possessions	29	18	47	29	33	62
Foreign Countries	2	1	3	7	1	8
America—						
Canada	73	15	88	49	17	66
Other British Possessions ..	5	6	11	21	4	25
United States of America ..	72	18	90	84	31	115
Other Foreign Countries ..	35	12	47	11	7	18
Polynesia—						
British	47	4	51	3	5	8
Foreign	44	10	54	47	7	54
Indefinite	692	218	910	646	216	862
Total	27,591	20,278	47,869	31,148	24,183	55,331

11. Occupations of Males who Died in 1911, 1921 and 1930.—Information as to the main groups of the occupations of the 31,148 males who died in Australia in 1930 is contained in the following table. Corresponding data for 1911 and 1921 have been added for purposes of comparison.

OCCUPATIONS OF MALES WHO DIED IN 1911, 1921 AND 1930.—AUSTRALIA.

Occupations in Classes.	Number of Male Deaths.			Percentage on Total.		
	1911.	1921.	1930.	1911.	1921.	1930.
Professional	1,028	1,307	1,507	3.73	4.26	4.84
Domestic	757	830	830	2.74	2.71	2.66
Commercial	2,120	2,739	3,457	7.68	8.94	11.10
Transport and Communica- tion	1,614	1,841	2,060	5.85	6.01	6.61
Industrial	7,379	8,613	9,791	26.74	28.10	31.44
Agricultural, Pastoral, and Mining, &c.	5,587	5,711	5,844	20.25	18.63	18.76
Indefinite	1,649	1,436	1,835	5.98	4.68	5.89
Dependent	7,457	8,175	5,824	27.03	26.67	18.70
Total Male Deaths ..	27,591	30,652	31,148	100.00	100.00	100.00

12. Causes of Death.—(i) *General*. The classification adopted by the Commonwealth Bureau of Census and Statistics is that of the International Institute of Statistics, as amended by the Committees of Revision which met in Paris in 1909 and 1920. The Committee of Revision met again in October, 1929. The revised classification will be used in the Vital Statistics for 1931.

(ii) *Mortality Statistics for 1907 and Subsequent Years*. The statistics relating to causes of death in Australia from the year 1907 onward have been tabulated in the Commonwealth Bureau of Census and Statistics in accordance with the above-mentioned classification, and the system is being employed also in the various State statistical offices.

(iii) *Classification of Causes of Death, 1926 to 1930, 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 countries and American States, and a table has been prepared showing 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 1926 to 1930 will be found in full in Bulletins Nos. 44 to 48 of "Australian Demography." In the following tables showing deaths of males, females, and persons for the year 1930 the abridged classification has been employed.

CAUSES OF DEATH.—MALES, 1930.

Cause.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
1 Typhoid Fever ..	34	9	10	4	12	..	..	..	69
2 Typhus Fever ..	..	..	..	..	1	..	..	..	1
3 Malaria ..	2	..	9	..	..	..	7	..	18
4 Small-pox ..	..	..	..	..	1	..	..	..	1
5 Measles ..	60	17	3	2	1	..	..	..	83
6 Scarlet Fever ..	29	4	..	..	1	6	..	..	40
7 Whooping Cough ..	69	27	14	23	6	4	..	..	143
8 Diphtheria ..	90	46	28	..	17	11	..	..	192
9a Influenza—Pneumonic	31	23	12	2	9	1	..	..	78
9b Influenza—other ..	31	18	17	4	..	2	1	..	73
10 Asiatic Cholera ..	..	..	..	..	..	..	..	..	..
11 Cholera Nostras ..	2	..	..	..	..	..	..	..	2
12 Other Epidemic Diseases	57	40	31	14	11	4	..	..	157
13 Tuberculosis of the Respiratory System	614	482	231	136	147	51	4	..	1,665
14 Tuberculosis of the Men- inges ..	24	28	10	12	9	2	1	..	86
15 Other forms of Tuber- culosis ..	44	71	6	10	11	2	..	..	144
16 Cancer and other Malign- ant Tumours ..	1,212	918	419	297	234	86	5	1	3,172
17 Meningitis ..	40	36	16	9	13	4	..	..	118
18 Hæmorrhage, Embolism, and Softening of Brain	685	441	214	170	80	50	1	2	1,643
19 Diseases of the Heart	1,933	1,373	737	307	282	155	6	..	4,793
20 Acute Bronchitis ..	54	22	22	7	3	3	..	..	111
21 Chronic Bronchitis ..	143	112	46	38	21	9	1	..	370
22 Pneumonia ..	426	299	139	104	86	64	..	2	1,120
23 Other Diseases of the Respiratory System (Tuberculosis exceptd.)	453	446	200	146	106	39	1	..	1,391
24 Diseases of the Stomach (Cancer excepted) ..	112	68	40	28	30	11	..	1	290
25a Diarrhœa and Enteritis (children under 2 years of age) ..	319	129	38	30	70	15	..	..	601
25b Diarrhœa and Enteritis (2 years and over) ..	103	65	31	28	24	3	..	..	254
26 Appendicitis & Typhlitis	138	86	42	20	19	8	..	..	313
27 Hernia, Intestinal Ob- struction ..	111	72	44	31	24	13	..	..	295
28 Cirrhosis of the Liver	72	43	32	11	20	1	..	..	179
29 Acute and Chronic Nephritis ..	746	445	278	165	126	30	3	3	1,796
30 Non-cancerous Tumours and other Diseases of Female Genital Organs	..	..	..	..	..	..	..	..	..
31 Puerperal Septicæmia (Puerperal Fever) ..	..	..	..	..	..	..	..	..	..
32 Other Puerperal Acci- dents of Pregnancy and Confinement ..	..	..	..	..	..	..	..	..	..
33 Congenital Debility and Malformation ..	806	519	260	143	120	84	2	1	1,935
34 Senility ..	486	441	282	154	119	89	14	..	1,585
35a Homicide ..	28	13	11	7	3	2	..	..	64
35b Other Accidental Deaths	981	654	411	211	268	90	4	5	2,624
36 Suicide ..	298	170	163	55	83	16	5	1	791
37 Other Diseases	1,836	1,302	658	365	325	156	7	6	4,655
38 Unspecified or Ill-defined Diseases ..	61	48	24	76	66	17	4	..	296
Total—Males ..	12,130	8,467	4,478	2,609	2,348	1,028	66	22	31,148

CAUSES OF DEATH.—FEMALES, 1930.

Cause.	N.S.W.	Vic.	Q'land	S. Aus.	W. Aus.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Aus- traalia.
1 Typhoid Fever ..	14	8	10	3	7	2	..	..	44
2 Typhus Fever ..	..	..	..	..	1	..	..	..	1
3 Malaria ..	..	..	3	..	..	..	1	..	4
4 Small-pox ..	..	..	..	..	1	..	..	..	1
5 Measles ..	40	17	..	5	..	..	..	1	63
6 Scarlet Fever ..	25	7	3	..	1	2	..	1	39
7 Whooping Cough ..	95	44	24	15	5	2	2	..	187
8 Diphtheria ..	86	40	32	2	26	9	..	..	195
9aInfluenza—Pneumonic	34	6	11	..	7	1	..	..	59
9bInfluenza—other ..	33	13	14	3	4	1	..	..	68
10 Asiatic Cholera ..	..	..	..	..	..	..	..	..	..
11 Cholera Nostras ..	..	..	..	..	..	..	..	..	..
12 Other Epidemic Diseases	60	31	13	29	10	11	..	..	154
13 Tuberculosis of the Respiratory System	408	405	117	122	71	60	1	1	1,185
14 Tuberculosis of the Men- inges ..	19	28	5	5	3	7	..	..	67
15 Other forms of Tuber- culosis ..	34	47	7	7	9	7	..	..	111
16 Cancer and other Malign- ant Tumours ..	1,078	941	329	297	183	120	..	..	2,948
17 Meningitis ..	14	29	9	3	7	6	..	..	68
18 Hæmorrhage, Embolism, and Softening of Brain	693	641	169	202	78	76	..	1	1,860
19 Diseases of the Heart	1,487	1,230	495	293	182	144	1	1	3,833
20 Acute Bronchitis ..	61	21	7	6	2	7	..	..	104
21 Chronic Bronchitis ..	105	81	26	30	7	6	..	..	255
22 Pneumonia ..	345	242	92	70	49	41	..	..	839
23 Other Diseases of the Respiratory System (Tuberculosis exceptd.)	324	296	129	109	47	28	1	..	934
24 Diseases of the Stomach (Cancer excepted) ..	40	40	15	10	12	5	..	..	122
25aDiarrhœa and Enteritis (children under 2 years of age) ..	238	100	35	38	56	10	..	..	477
25bDiarrhœa and Enteritis (2 years and over) ..	57	56	43	23	27	2	..	..	208
26 Appendicitis & Typhlitis	73	67	30	14	8	3	..	..	195
27 Hernia, Intestinal Ob- struction ..	88	83	36	25	23	10	..	..	265
28 Cirrhosis of the Liver	36	35	8	9	6	2	..	1	97
29 Acute and Chronic Nephritis ..	553	420	216	107	65	22	1	2	1,386
30 Non-cancerous Tumours and other Diseases of Female Genital Organs	86	52	31	14	20	5	..	..	208
31 Puerperal Septicæmia (Puerperal Fever) ..	116	69	22	15	12	8	..	..	242
32 Other Puerperal Acci- dents of Pregnancy and Confinement ..	186	121	62	35	24	10	..	..	438
33 Congenital Debility and Malformation ..	555	392	214	119	103	71	..	..	1,454
34 Senility ..	408	559	183	193	67	76	..	..	1,486
35aHomicide ..	15	7	6	4	7	..	..	..	39
35bOther Accidental Deaths	266	202	96	82	56	22	1	..	725
36 Suicide ..	63	37	15	10	21	5	1	..	152
37 Other Diseases	1,359	1,104	457	309	200	132	2	2	3,565
38 Unspecified or Ill-defined Diseases ..	11	21	13	34	19	7	..	..	105
Total—Females ..	9,105	7,492	2,977	2,242	1,426	920	11	10	24,183

CAUSES OF DEATH.—PERSONS, 1930.

Cause.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
1 Typhoid Fever ..	48	17	20	7	19	2	..	..	113
2 Typhus Fever ..	..	..	..	..	2	..	..	..	2
3 Malaria ..	2	..	12	..	..	..	8	..	22
4 Small-pox ..	..	..	..	..	2	..	..	..	2
5 Measles ..	100	34	3	7	1	..	..	1	146
6 Scarlet Fever ..	54	11	3	..	2	8	..	1	79
7 Whooping Cough ..	164	71	38	38	11	6	2	..	330
8 Diphtheria ..	176	86	60	2	43	20	..	..	387
9aInfluenza—Pneumonic	65	29	23	2	16	2	..	..	137
9bInfluenza—other ..	64	31	31	7	4	3	1	..	141
10 Asiatic Cholera ..	..	..	..	..	..	..	..	..	..
11 Cholera Nostras ..	2	..	..	..	..	..	..	..	2
12 Other Epidemic Diseases	117	71	44	43	21	15	..	..	311
13 Tuberculosis of the Respiratory System	1,022	887	348	258	218	111	5	1	2,850
14 Tuberculosis of the Meninges ..	43	56	15	17	12	9	1	..	153
15 Other forms of Tuberculosis ..	78	118	13	17	20	9	..	..	255
16 Cancer and other Malignant Tumours ..	2,290	1,859	748	594	417	206	5	1	6,120
17 Meningitis ..	54	65	25	12	20	10	..	..	186
18 Hæmorrhage, Embolism, and Softening of Brain	1,378	1,082	383	372	158	126	1	3	3,503
19 Diseases of the Heart	3,420	2,603	1,232	600	464	299	7	1	8,626
20 Acute Bronchitis ..	115	43	29	13	5	10	..	..	215
21 Chronic Bronchitis ..	248	193	72	68	28	15	1	..	625
22 Pneumonia ..	771	541	231	174	135	105	..	2	1,959
23 Other Diseases of the Respiratory System (Tuberculosis exceptd.)	777	742	329	255	153	67	2	..	2,325
24 Diseases of the Stomach (Cancer excepted) ..	152	108	55	38	42	16	..	1	412
25aDiarrhœa and Enteritis (children under 2 years of age) ..	557	229	73	68	126	25	..	..	1,078
25bDiarrhœa and Enteritis (2 years and over) ..	160	121	74	51	51	5	..	..	462
26 Appendicitis & Typhlitis	211	153	72	34	27	11	..	..	508
27 Hernia, Intestinal Obstruction ..	199	155	80	56	47	23	..	..	560
28 Cirrhosis of the Liver	108	78	40	20	26	3	..	1	276
29 Acute and Chronic Nephritis ..	1,299	865	494	272	191	52	4	5	3,182
30 Non-cancerous Tumours and other Diseases of Female Genital Organs	86	52	31	14	20	5	..	..	208
31 Puerperal Septicæmia (Puerperal Fever) ..	116	69	22	15	12	8	..	..	242
32 Other Puerperal Accidents of Pregnancy and Confinement ..	186	121	62	35	24	10	..	..	438
33 Congenital Debility and Malformation ..	1,361	911	474	262	223	155	2	1	3,389
34 Senility ..	894	1,000	465	347	186	165	14	..	3,071
35aHomicide ..	43	20	17	11	10	2	..	..	103
35bOther Accidental Deaths	1,247	856	507	293	324	112	5	5	3,349
36 Suicide ..	361	207	178	65	104	21	6	1	943
37 Other Diseases ..	3,195	2,406	1,115	674	525	288	9	8	8,220
38 Unspecified or Ill-defined Diseases ..	72	69	37	110	85	24	4	..	401
Total—Persons ..	21,235	15,959	7,455	4,851	3,774	1,948	77	32	55,331

The next table shows the total deaths in Australia during the last five years in accordance with the abridged classification alluded to previously. The last column shows the number of deaths from each cause per one million of the mean population.

CAUSES OF DEATH.—AUSTRALIA, 1926 TO 1930.

PERSONS.

Cause.	1926.	1927.	1928.	1929.	1930.	1930 Rate per 1,000,000 Population.
1. Typhoid Fever	183	161	169	106	113	18
2. Typhus Fever	2	2	5	..	2	..
3. Malaria	25	29	15	17	22	3
4. Small-pox	1	..	..	..	2	..
5. Measles	108	113	201	143	146	23
6. Scarlet Fever	81	159	131	101	79	12
7. Whooping Cough	340	377	237	345	330	51
8. Diphtheria	322	388	433	460	387	60
9. <i>a</i> Influenza—Pneumonic	470	238	547	646	137	21
9. <i>b</i> Influenza—Other	285	189	252	373	141	22
10. Asiatic Cholera .. .. .	..	..	..	..	..	..
11. Cholera Nostras	2	..	1	..	2	..
12. Other Epidemic Diseases	526	321	350	382	311	48
13. Tuberculosis of the Respiratory System	3,142	3,030	3,202	3,002	2,850	442
14. Tuberculosis of the Meninges	166	179	184	185	153	24
15. Other forms of Tuberculosis	237	232	277	277	255	40
16. Cancer and other Malignant Tumours	5,700	5,758	6,010	6,256	6,120	950
17. Meningitis	276	273	261	264	186	29
18. Hæmorrhage, Embolism, and Softening of the Brain	3,149	3,257	3,361	3,551	3,503	544
19. Diseases of the Heart	7,692	8,393	8,737	9,231	8,628	1,339
20. Acute Bronchitis	248	344	260	307	215	33
21. Chronic Bronchitis	766	790	753	821	625	97
22. Pneumonia	2,469	2,779	2,953	2,982	1,959	304
23. Other Diseases of the Respiratory System (Tuberculosis excepted)	2,534	2,767	2,762	3,039	2,325	361
24. Diseases of the Stomach (Cancer excepted)	529	534	495	452	412	64
25. <i>a</i> Diarrhœa and Enteritis (children under two years only)	1,614	1,330	1,616	963	1,078	167
25. <i>b</i> Diarrhœa and Enteritis (two years and over)	549	513	519	442	462	72
26. Appendicitis and Typhlitis	476	483	470	481	508	79
27. Hernia, Intestinal Obstruction	578	517	539	583	560	87
28. Cirrhosis of the Liver	312	321	339	301	276	43
29. Acute and Chronic Nephritis	2,939	3,008	3,189	3,406	3,182	494
30. Non-cancerous Tumours and other Diseases of the Female Genital Organs	166	179	196	218	208	32
31. Puerperal Septicæmia (Puerperal Fever, Peritonitis)	218	288	275	222	242	38
32. Other Puerperal Accidents of Pregnancy and Confinement	488	504	527	436	438	68
33. Congenital Debility and Malformation	3,717	3,784	3,686	3,538	3,389	526
34. Senility	3,562	3,623	3,196	3,532	3,071	477
35. Violent Deaths— (<i>a</i>) Homicide	103	110	111	118	103	16
(<i>b</i>) Other Accidental Deaths	3,393	3,520	3,373	3,544	3,349	520
36. Suicide	711	740	777	785	943	146
37. Other Diseases	8,133	8,389	8,386	8,782	8,220	1,276
38. Unspecified or Ill-defined Diseases	690	570	603	536	401	62
Total	56,952	58,282	59,378	60,857	55,331	8,588

NOTE.—In consequence of changes made in the classification of the causes of death the figures given in the table above are not on identical lines throughout the period covered.

Since death rates are subject to continual fluctuation, it is unsafe to base deductions on the figures relating to a single year. In order therefore, to furnish a valid basis for comparison, the following table giving the number of deaths and the rates per 1,000,000 persons for 38 causes or groups of causes for three quinquennial periods has been prepared. While the absolute number of deaths has increased, the death rate has shown a very satisfactory decrease, which is reflected in the great majority of the causes specified in the table.

CAUSES OF DEATH.—AUSTRALIA, NUMBER AND RATES, 1911-15 TO 1926-30.

PERSONS.

Cause.	Number of Deaths.			Rate per 1,000,000 of Population.		
	1911-1915.	1921-1925.	1926-1930.	1911-1915.	1921-1925.	1926-1930.
1. Typhoid Fever	2,848	1,209	732	119	43	23
2. Typhus Fever .. ..	..	4	11	..	..	..
3. Malaria	112	150	108	5	5	3
4. Small-pox	6	4	3	..	..	..
5. Measles	1,505	582	711	63	20	23
6. Scarlet Fever	237	235	551	10	8	18
7. Whooping Cough	1,657	1,612	1,629	69	57	52
8. Diphtheria	3,677	2,565	1,990	154	90	64
9a. Influenza—Pneumonic	1,894	1,808	2,038	79	63	65
9b. Influenza—Other .. ..	..	1,344	1,240	..	47	40
10. Asiatic Cholera .. ..	..	..	..	..	..	..
11. Cholera Nostras	18	8	5	1	..	..
12. Other Epidemic Diseases	1,085	1,697	1,870	45	60	60
13. Tuberculosis of the Respiratory System	15,737	15,321	15,226	658	538	486
14. Tuberculosis of the Meninges	1,156	876	847	48	30	27
15. Other forms of Tuberculosis	1,460	1,404	1,278	61	49	41
16. Cancer and other Malignant Tumours	17,838	25,794	29,844	746	907	953
17. Meningitis	4,159	2,045	1,260	174	72	40
18. Hæmorrhage, Embolism, and Softening of the Brain	10,957	13,637	16,821	458	479	537
19. Diseases of the Heart	24,358	31,588	42,729	1,019	1,110	1,304
20. Acute Bronchitis	2,250	1,530	1,374	94	56	44
21. Chronic Bronchitis	4,062	4,053	3,755	208	142	120
22. Pneumonia	10,159	11,535	13,142	425	405	420
23. Other Diseases of the Respiratory System (Tuberculosis excepted)	9,625	12,677	13,427	403	446	429
24. Diseases of the Stomach (Cancer excepted)	1,993	2,262	2,422	83	80	77
25a. Diarrhœa and Enteritis (under two years)	15,207	9,866	6,601	636	347	211
25b. Diarrhœa and Enteritis (two years and over)	4,027	3,144	2,485	169	111	79
26. Appendicitis and Typhlitis	1,761	2,035	2,418	74	72	77
27. Hernia, Intestinal Obstruction	2,336	2,648	2,777	93	93	89
28. Cirrhosis of the Liver	1,932	1,531	1,549	81	54	50
29. Acute and Chronic Nephritis	10,751	12,803	15,864	450	450	507
30. Non-cancerous Tumours and other Diseases of the Female Genital Organs	695	873	967	29	31	31
31. Puerperal Septicæmia (Puerperal Fever, Peritonitis)	1,072	1,138	1,245	45	40	40
32. Other Puerperal Accidents of Pregnancy	2,060	2,321	2,393	86	82	76
33. Congenital Debility and Malformation	18,429	18,851	18,114	771	663	578
34. Senility	20,905	20,429	16,984	875	718	542
35. Violent Deaths— (a) Homicide	446	430	545	19	15	17
(b) Other Accidental Deaths	14,949	13,875	17,179	626	488	549
36. Suicide	3,123	3,106	3,956	131	109	126
37. Other Diseases	37,926	40,662	41,910	1,587	1,429	1,338
38. Unspecified or Ill-defined Diseases	3,025	3,460	2,800	127	122	89
Total	256,337	271,171	290,800	10,726	9,531	9,285

13. Deaths from Specific Causes.—The above table furnishes particulars for the last five years only, and comparisons will, therefore, generally be restricted to that period.

(i) *Typhoid Fever.* The number of deaths from typhoid fever declined from 183 in 1926 to 113 in 1930, the rate for the latter year being eighteen per 1,000,000 living, and much lower than the average of 23 for the last five years. Of the 113 who died, 69 were males and 44 females. During the quinquennium 1911 to 1915 the death rate from typhoid fever was 119 per 1,000,000.

(ii) *Typhus*. Deaths from typhus have been rare in Australia, and only two deaths were recorded during 1930, both of which occurred in Western Australia. During 1928, five deaths were recorded from this cause, three of which occurred in Queensland and two in Western Australia. In 1927, one death occurred in South Australia and one in Western Australia. In 1926, one death occurred in Victoria and one in South Australia. In 1925 there were two deaths in Queensland and one in South Australia.

(iii) *Malaria*. Deaths from malarial diseases are mainly confined to the tropical districts of Northern Queensland and Western Australia, and to the Northern Territory; 12 out of the 22 deaths registered in 1930 occurred in Queensland, 2 in New South Wales and 8 in the Northern Territory. The death rate was 3 per 1,000,000 for the quinquennium 1926-30, as compared with a rate of 5 for 1911 to 1915, and 1921 to 1925.

(iv) *Small-pox*. The number of deaths from small-pox in Australia is very small and during the five years under review only three deaths occurred from this cause, of which two occurred in 1930 in Western Australia.

(v) *Measles*. Of the deaths from measles the greatest number occurred during 1928, when 201 were registered, while the minimum was in 1926 with a total of 108 deaths. Of the 146 deaths during 1930, 83 were males and 63 females. The death rate for the last five years, viz., 23 per 1,000,000 was slightly greater than for the years 1921 to 1925, viz., twenty per 1,000,000, but much less than the 63 per 1,000,000 recorded in 1911 to 1915.

(vi) *Scarlet Fever*. The number of deaths has decreased each year since 1927. During 1930, there were 79 deaths, of which 40 were males and 39 females. Of these deaths 54 occurred in New South Wales. The rate per 1,000,000, viz., 18, was the highest for the three periods reviewed on the previous page.

(vii) *Whooping Cough*. During 1930, deaths from whooping cough numbered 330 (143 males and 187 females) representing a death rate of 51 per 1,000,000 persons. The death rate for this disease is almost invariably heavier for females than for males. For both sexes combined it has declined from 69 in 1911 to 1915, to 52 per 1,000,000 in 1926 to 1930.

(viii) *Diphtheria*. The number of deaths due to diphtheria was 387 in 1930. Of these deaths (representing a death rate of 60 per 1,000,000 persons) 192 were males and 195 females. The death rate is now less than half of that experienced during the five years ended 1915.

(ix) *Influenza*. The deaths from influenza during 1930 were very much lower than in the previous four years. Of the 278 deaths during 1930 from this disease, 137 were ascribed to pneumonic influenza and 141 to ordinary influenza.

(x) *Asiatic Cholera*. No deaths from Asiatic cholera have been recorded in Australia.

(xi) *Cholera Nostras*. For the five years under review only 5 deaths have been due to this cause.

(xii) *Other Epidemic Diseases*. The deaths registered under this heading numbered 311 in 1930, including 94 from dysentery, erysipelas 76, lethargic encephalitis 47, acute poliomyelitis 37, meningococcal meningitis 27, mumps 7, leprosy 16, and other epidemic diseases 7. During the period 1926-30, there were no deaths from plague.

(xiii) *Tuberculosis of the Respiratory System*. Of the various forms of tuberculosis prevalent in Australia, phthisis, or tuberculosis of the lungs, has attracted the most attention. The intimate relation, however, between tuberculosis of the lungs and 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 investigations concerning the age incidence and duration of this disease.

The decline in the toll levied by this disease on the community is plainly disclosed by the table on page (718), which shows how both the number of deaths and the death rate have declined since the period 1911 to 1915.

During 1930 there were 2,850 deaths from tuberculosis of the respiratory system, which compares favourably with the average of 3,094 for the preceding four years. The 2,850 deaths in 1930 represented a rate of 44 per 100,000 persons. Of these deaths, 1,665 were males and 1,185 females.

(xiv) *Tuberculosis of the Meninges*. The number of deaths ascribed to this cause in 1930 was 153, which is below the average number for the preceding four years.

(xv) *Other Forms of Tuberculosis.* The deaths in 1930 include the following :—Tuberculosis of the intestines and peritoneum, 56 ; spinal column, 42 ; joints, 11 ; skin, &c., 2 ; bones, 6 ; lymphatic system, 4 ; genito-urinary system, 29 ; other organs, 3 ; acute disseminated tuberculosis, 71 ; and chronic disseminated tuberculosis, 31.

(xva) *All Forms of Tuberculosis.*—(a) *General.* The total number of deaths in 1930 was 3,258, viz., 1,895 males and 1,363 females.

(b) *Ages at Death.* The following table shows the ages of these 3,258 persons. Corresponding figures for 1911 have been added :—

TUBERCULAR DISEASES.—DEATHS IN AGE-GROUPS, AUSTRALIA, 1911 AND 1930.

Ages.	1911.			1930.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 5 years	124	114	238	74	51	125
5 years and under 10 ..	30	31	61	18	15	33
10 " " 15 ..	44	42	86	19	19	38
15 " " 20 ..	70	148	218	56	121	177
20 " " 25 ..	168	260	428	95	203	298
25 " " 30 ..	219	255	474	179	207	386
30 " " 35 ..	220	206	426	178	165	343
35 " " 40 ..	187	176	363	205	119	324
40 " " 45 ..	246	140	386	204	128	332
45 " " 50 ..	223	100	323	200	87	287
50 " " 55 ..	164	49	213	175	76	251
55 " " 60 ..	140	49	189	159	46	205
60 " " 65 ..	89	43	132	138	47	185
65 " " 70 ..	64	37	101	110	37	147
70 " " 75 ..	42	19	61	59	26	85
75 " " 80 ..	15	6	21	18	13	31
80 " over	7	6	13	7	3	10
Age unspecified	3	..	3	1	..	1
Total	2,055	1,681	3,736	1,895	1,363	3,258

(c) *Occupations at Death, Males.* A tabulation of occupations of the males who died from tubercular diseases and the percentage that each class bears on the total male deaths from these diseases in 1911, 1921 and 1930 is given hereunder :—

**OCCUPATIONS OF MALES WHO DIED FROM TUBERCULAR DISEASES—
AUSTRALIA, 1911, 1921 AND 1930.**

Occupation.	Number of Male Deaths.			Percentage on Total.		
	1911.	1921.	1930.	1911.	1921.	1930.
Professional Class	112	167	108	5.45	7.69	5.70
Domestic Class	87	95	71	4.23	4.38	3.75
Commercial Class	280	292	283	13.63	13.45	14.93
Transport and Communication	160	165	175	7.79	7.60	9.23
Industrial Class	695	784	702	33.82	36.11	37.05
Agricultural, Pastoral, Mining, etc.	400	404	313	19.46	18.61	16.52
Indefinite Class	62	80	98	3.02	3.68	5.17
Dependent Class	259	184	145	12.60	8.48	7.65
Total Male Deaths	2,055	2,171	1,895	100.00	100.00	100.00

(d) *Length of Residence in Australia.* The length of residence in Australia of persons who died from tubercular diseases in 1930 is given in the next table.

LENGTH OF RESIDENCE IN AUSTRALIA OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1930.

Length of Residence in Australia.	Male.	Fem.	Total.	Length of Residence in Australia.	Male.	Fem.	Total.
Born in Australia ..	1,418	1,177	2,595	Resident 10 years & under 15	29	12	41
Resident under 1 year ..	10	1	11	" 15 " " 20	66	41	107
" 1 year ..	3	..	3	" 20 " over ..	235	66	301
" 2 years ..	10	6	16	Length of residence not stated	67	20	87
" 3 " ..	16	5	21				
" 4 " ..	9	6	15				
" 5 " and under 10	32	29	61	Total Deaths ..	1,895	1,363	3,258

(e) *Death Rates.* The preceding table and the table on page (712) show that among persons who have lived less than five years in Australia, 579 deaths occurred, and of these 66, or 12.5 per cent., were due to tubercular diseases.

In order to show the prevalence of tuberculosis in the several States and the change in the incidence in recent years, the death rates from tubercular diseases in respect of the years 1911 and 1930, are given in the following table, together with the proportion which deaths from tuberculosis bear to 10,000 deaths from all causes :—

TUBERCULOSIS (ALL FORMS).—DEATH RATES (a) AND PROPORTION OF TOTAL DEATHS, 1911 AND 1930.

State or Territory.	Death Rate per 100,000 of Mean Population.					
	1911.			1930.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
New South Wales ..	85	67	76	54	38	46
Victoria ..	101	97	99	66	53	59
Queensland ..	74	58	67	50	29	40
South Australia ..	81	91	86	53	48	50
Western Australia ..	84	71	78	74	43	60
Tasmania ..	90	82	86	51	68	60
Northern Territory ..	293	..	241	165	62	129
Federal Capital Territory ..	..	131	56	..	25	11
Australia ..	88	78	83	58	43	51

State or Territory.	Proportion per 1,000 Deaths from all Causes.					
	1911.			1930.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
New South Wales ..	737	737	737	562	506	538
Victoria ..	801	936	862	686	641	665
Queensland ..	613	648	626	552	433	504
South Australia ..	775	995	877	606	598	602
Western Australia ..	718	870	770	711	582	662
Tasmania ..	839	854	846	535	804	662
Northern Territory ..	1,356	..	1,231	758	909	779
Federal Capital Territory ..	..	2,000	1,000	..	1,000	313
Australia ..	745	829	780	608	564	589

(a) Number of deaths from tuberculosis per 100,000 of mean population.

(f) *Death Rates, Various Countries.* The following comparative table for various countries shows that Australia occupies a very favourable position as regards the death rate from this disease.

TUBERCULOSIS.—DEATHS PER 100,000 PERSONS LIVING, VARIOUS COUNTRIES.

Country.	Year.	Respiratory System.	All Forms.	Country.	Year.	Respiratory System.	All Forms.
Queensland ..	1930	37	40	Scotland ..	1930	62	88
Union of South Africa (Whites)	1929	(a)	45	England and Wales ..	1928	76	93
New South Wales	1930	41	46	Great Britain and Northern Ireland ..	1928	75	95
New Zealand ..	1930	37	46	Belgium ..	1927	68	97
South Australia	1930	44	50	Rumania ..	1926	(a)	99
Australia ..	1930	44	51	Italy ..	1928	92	125
Victoria ..	1930	50	59	Sweden ..	1928	(a)	126
Tasmania ..	1930	51	60	Irish Free State	1929	102	127
Western Australia	1930	52	60	Switzerland ..	1929	100	132
Ceylon ..	1929	(a)	60	Greece ..	1924	120	138
Denmark ..	1927	61	78	Northern Ireland	1928	103	140
Germany ..	1930	(a)	78	Spain ..	1927	123	153
Canada (including Quebec) ..	1929	66	80	Norway ..	1927	125	160
United States (Registration Area)	1927	71	81	France ..	1928	140	165
Egypt ..	1927	66	85	Czechoslovakia	1927	174	195
Netherlands ..	1929	64	86	Japan ..	1929	140	196

(a) Not available.

(xvi) *Cancer and other Malignant Tumours.—(a) General.* The number of deaths from cancer increased continuously to 6,256 in 1929, but declined slightly to 6,120 in 1930. Of the deaths registered, 3,172 were of males, viz., 1,212 in New South Wales, 918 in Victoria, 419 in Queensland, 297 in South Australia, 234 in Western Australia, 86 in Tasmania, 5 in the Northern Territory, and 1 in Federal Capital Territory, while 2,948 were of females, viz., 1,078 in New South Wales, 941 in Victoria, 329 in Queensland, 297 in South Australia, 183 in Western Australia, and 120 in Tasmania.

(b) *Type and Seat of Disease.* Tables showing the type and seat of disease, in conjunction with age, and with conjugal condition, of the persons dying from cancer in 1930 will be found in Bulletin No. 48 of "Australian Demography." A summary regarding type and seat of disease for the year 1930 is given hereunder:—

DEATHS FROM CANCER.—TYPE AND SEAT OF DISEASE, AUSTRALIA, 1930.

Type of Disease.	Males.	Females	Persons.	Seat of Disease.	Males.	Females	Persons.
Carcinoma ..	2,163	2,210	4,373	Stomach and liver ..	1,322	822	2,144
Cancer ..	440	306	746	Peritoneum, intestines and rectum	537	533	1,070
Malignant disease ..	167	158	325	Female genital organs ..	..	565	565
Sarcoma ..	164	142	306	Breast ..	5	520	525
Epithelioma ..	152	64	216	Buccal cavity ..	269	32	301
Malignant tumour	13	12	25	Skin ..	130	65	195
Rodent ulcer ..	46	18	64	Other organs ..	909	411	1,320
Scirrhus ..	3	24	27				
Neoplasm ..	7	6	13				
Hypernephroma ..	17	8	25				
Total Deaths ..	3,172	2,948	6,120	Total Deaths ..	3,172	2,948	6,120

(c) *Ages at Death.* The ages of the persons who died from cancer in 1911 and 1930 are given in the following table, which shows that while the ages below 35 are not 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. The table also reveals the very great increase in numbers dying from cancer. The increase in the rate is shown in a succeeding table.

DEATHS FROM CANCER.—AGES, AUSTRALIA, 1911 and 1930.

Ages.	1911.			1930.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 15 years	21	8	29	25	25	50
15 years and under 20 ..	10	6	16	11	8	19
20 " " 25 ..	10	7	17	13	11	24
25 " " 30 ..	12	17	29	14	33	47
30 " " 35 ..	25	35	60	30	39	69
35 " " 40 ..	29	59	88	38	99	137
40 " " 45 ..	81	100	181	89	162	251
45 " " 50 ..	132	173	305	136	242	378
50 " " 55 ..	208	203	411	222	307	529
55 " " 60 ..	203	179	382	345	323	668
60 " " 65 ..	243	177	420	495	382	877
65 " " 70 ..	306	194	500	630	425	1,055
70 " " 75 ..	203	160	363	550	389	939
75 " " 80 ..	150	136	286	336	280	616
80 " " 85 ..	83	67	150	153	139	292
85 years and over	44	39	83	85	84	169
Unspecified	1	..	1	..	..	..
Total Deaths	1,761	1,560	3,321	3,172	2,948	6,120

(d) *Occupations.* A tabulation in summarized form of occupations of the males who died from cancer in 1911, 1921 and 1930 together with the percentage of each class on the total male deaths from this disease is given hereunder:—

OCCUPATION OF MALES WHO DIED FROM CANCER.—AUSTRALIA, 1911, 1921 AND 1930.

Occupations.	Number of Male Deaths.			Percentage on Total.		
	1911.	1921.	1930.	1911.	1921.	1930.
Professional Class	92	133	176	5.23	5.45	5.55
Domestic Class	62	76	100	3.52	3.11	3.15
Commercial Class	179	275	427	10.17	11.27	13.46
Transport and Communication Class	121	212	280	6.87	8.69	8.83
Industrial Class	622	940	1,189	35.32	38.52	37.48
Agricultural, Pastoral, Mining, etc., Class	512	639	761	29.07	26.19	23.99
Indefinite Class	124	129	194	7.04	5.29	6.12
Dependent Class	49	36	45	2.78	1.48	1.42
Total Male Deaths	1,761	2,440	3,172	100.00	100.00	100.00

(e) *Death Rates.* The following table shows the death rates per 100,000 of mean population from cancer in each State for the years 1911 and 1930.

The substantial increase in the death rate since 1911 is reflected in both sexes and in all States.

DEATHS FROM CANCER.—RATES(a) 1911 AND 1930.

State or Territory.	1911.			1930.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	77	71	74	96	88	92
Victoria	80	85	82	104	105	104
Queensland	71	56	64	84	74	80
South Australia	70	76	73	99	106	102
Western Australia	65	57	62	103	95	100
Tasmania	77	60	69	80	110	95
Northern Territory	37	..	30	165	..	108
Federal Capital Territory	99	..	56	21	..	11
Australia	75	72	74	96	93	95

(a) Number of deaths from cancer per 100,000 of mean population.

(f) *Proportion on Total Deaths.* While the death rate from all causes has diminished substantially in recent years, the rate from cancer has risen almost continuously, the result being that out of 10,000 deaths from all causes, 1,106 were due to cancer in 1930, as against 693 per 10,000 total deaths in 1911.

DEATHS FROM CANCER—PROPORTIONS ON 10,000 DEATHS, 1911 AND 1930.

State or Territory.	1911.			1930.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	662	783	713	999	1,184	1,078
Victoria	637	819	719	1,084	1,256	1,165
Queensland	586	628	602	936	1,105	1,003
South Australia	675	828	745	1,138	1,325	1,224
Western Australia	557	700	605	997	1,283	1,105
Tasmania	723	629	680	837	1,304	1,057
Northern Territory	170	..	154	758	..	649
Federal Capital Territory	2,000	..	1,000	455	..	313
Australia	638	769	693	1,018	1,219	1,106

(g) *Comparison with Tuberculosis.* In recent years the death rate from tuberculosis has shown a tendency to decrease, while that from cancer has displayed an almost continuous increase. The table hereunder shows that for each of the periods under review the decline in the death rate from tuberculosis has been accompanied by an almost equal increase in the rate for cancer. Thus the death rate for tuberculosis declined by 32 per 100,000 population while the rate for cancer increased by the same amount. This equal but opposite tendency may be demonstrated by stating that the death rate from tuberculosis and cancer combined remains almost constant from period to period, the figures being:—1901-05, 152 per 100,000; 1906-10, 145; 1911-1915, 152; 1916-20, 154; 1921-25, 153; and 1926-30, 152.

TUBERCULOSIS AND CANCER.—DEATH RATES(a) AUSTRALIA, 1901 TO 1930.

Period.	Death Rate (a) from Tuberculosis.			Death Rate (a) from Cancer.		
	Males.	Females.	Total.	Males.	Females.	Total.
1901-05 ..	100	77	89	64	61	63
1906-10 ..	81	69	75	71	70	70
1911-15 ..	84	69	77	75	74	75
1916-20 ..	84	59	71	86	80	83
1921-25 ..	71	52	62	93	88	91
1926-30 ..	64	49	57	97	94	95

(a) Number of deaths per 100,000 of mean population.

(h) *Death Rates, Various Countries.* The following table shows the Australian death rate from cancer in comparison with that for other countries:—

CANCER.—DEATHS PER 100,000 PERSONS LIVING, VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
Greece	1924	19	Irish Free State ..	1929	101
Egypt	1927	20	New Zealand	1930	102
Rumania	1926	30	Czechoslovakia ..	1927	109
Italy	1928	63	Northern Ireland ..	1928	117
Japan	1929	69	Norway	1927	117
Spain	1927	70	Netherlands	1929	121
Union of South Africa			Germany	1930	131
(Whites)	1929	77	Sweden	1925	130
Belgium	1927	87	Switzerland	1929	141
Canada (including			Great Britain and		
Quebec)	1929	90	Northern Ireland	1928	142
Australia	1930	95	Denmark	1928	143
France	1928	95	England and Wales	1928	143
United States (Regis-			Scotland	1930	146
tration Area) ..	1927	96			

(xvii) *Meningitis.* The deaths during 1930 from meningitis numbered 186, representing a rate of 29 deaths per million of population. Of the deaths 118 were males and 68 females.

(xviii) *Cerebral Hæmorrhage, Embolism and Softening of the Brain.* The deaths under this heading have increased in number during the period under review. The figures for 1930 are made up as follows:—Cerebral hæmorrhage and apoplexy (including cerebral hæmorrhage, etc., associated with arterio-sclerosis), 1,407 males, 1,562 females; cerebral embolism, 25 males, 35 females; cerebral thrombosis, 181 males, 229 females; and softening of the brain, 30 males, 34 females.

The total of the class, viz., 3,503 ranks fifth in magnitude of the causes shown on p. 716 and corresponds to a death rate of 544 per million.

(xix) *Diseases of the Heart.* The number of deaths in 1930 was 8,626, viz., 4,793 males and 3,833 females. Of these deaths, 45 were attributed to pericarditis, 329 to acute endocarditis and myocarditis, 553 to angina pectoris, and 276 to aortic valve disease, 573 to mitral valve disease, 46 to aortic and mitral valve disease, 852 to other and unspecified valve disease, 122 to fatty heart, 95 to cardiac dilatation, 4,506 to other unspecified myocardial diseases, 276 to disordered action of the heart and 953 to heart

disease undefined. The sex and territorial distribution of the deaths will be found in the tables on pages 714 to 716. This class is the largest among causes of death, the death rate having grown from 1,019 per million in 1911-15 to 1,364 in 1926-30. The death rates and proportions per 10,000 deaths in 1930 were as follow :—

DEATH RATES(*a*) FROM DISEASES OF THE HEART AND PROPORTION OF 10,000 TOTAL DEATHS, AUSTRALIA, 1930.

State or Territory	Death Rates (<i>a</i>) from Diseases of the Heart.			Proportion of 10,000 Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	153	122	137	1,594	1,633	1,611
Victoria	155	137	146	1,622	1,642	1,631
Queensland	148	112	131	1,646	1,663	1,653
South Australia	102	104	103	1,177	1,307	1,237
Western Australia	125	95	111	1,201	1,276	1,229
Tasmania	144	132	138	1,508	1,565	1,535
Northern Territory	197	62	151	909	909	909
Federal Capital Territory .. ..	..	25	11	..	1,000	313
Australia	146	122	134	1,539	1,585	1,559

(*a*) Number of deaths from diseases of the heart per 100,000 of mean population.

(xx) *Acute Bronchitis*. Deaths from bronchitis are classified under the following headings :—(*a*) Acute, (*b*) chronic, (*c*) unspecified, under five years of age, and (*d*) unspecified, five years and over. For the purpose of the abridged classification, (*a*) and (*c*) are treated as "acute," and (*b*) and (*d*) as "chronic" bronchitis. Acute bronchitis caused 215 deaths in 1930, viz., 111 males and 104 females.

(xxi) *Chronic Bronchitis*. The deaths from this cause in 1930 numbered 625, viz., 370 males and 255 females, which was below the average for the previous four years, and much lower than the average for previous periods.

(xxii) *Pneumonia*. The deaths from pneumonia during 1930 were 1,959—1,120 males and 839 females—which is 30 per cent. lower than the average, 2,796, for the previous four years.

(xxiii) *Other Diseases of the Respiratory System*. Deaths under this heading in 1926 numbered, 2,534; in 1927, 2,767; in 1928, 2,762; in 1929, 3039; and in 1930, 2,325. The total for 1930 is made up as follows, viz. :—Diseases of the nasal fossæ, 30; diseases of the larynx, 32; broncho-pneumonia, 1,354; capillary bronchitis, 15; pleurisy, 191; pulmonary congestion and apoplexy, 298; gangrene of the lungs, 11; asthma, 118; pulmonary emphysema, 14; chronic interstitial pneumonia, 207; and other diseases of the respiratory system (tuberculosis excepted), 55.

The experience of deaths from diseases of the respiratory system in 1930 was exceptionally favourable, the number being 23 per cent. below the average of the previous four years. The death rate of 795 per million shows a gratifying decrease on that of 1,130 and 1,049 for the respective periods 1911-15 and 1921-25.

(xxiv) *Diseases of the Stomach (Cancer excepted)*. In 1930 this heading includes ulcer of the stomach, 145 males, 46 females; ulcer of the duodenum, 88 males, 18 females; and other diseases of the stomach (cancer excepted), 57 males, 58 females; a total of 412.

(xxva) *Diarrhoea and Enteritis (Children under two years only)*. The number of deaths due to these causes was 1,078 in 1930, and with the exception of 1929 was the lowest number recorded for many years. During 1930, 7,224 children died before reaching their second birthday, and of these 1,078, or 14.9 per cent., died from diarrhoea and enteritis. The ages of children dying from these diseases during the first year of life will be found on page 708.

The number of deaths (under 2 years of age), the death rates, and proportions of 10,000 deaths due to diarrhoea and enteritis for 1911-15, 1921-25 and 1930 are given below. Reference to the last three lines of the table will reveal the very satisfactory improvement in deaths due to these diseases.

DEATHS, DEATH RATES(a), ETC., DIARRHŒA AND ENTERITIS (UNDER 2 YEARS OF AGE).—AUSTRALIA, 1930.

State.	Number of Deaths from Diarrhoea and Enteritis. (Under 2 years of age.)			Death Rates (a) from Diarrhoea and Enteritis. (Under 2 years of age.)			Proportion of 10,000 Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	319	238	557	25	19	22	263	261	262
Victoria ..	129	100	229	15	11	13	152	133	143
Queensland ..	38	35	73	8	8	8	85	118	98
South Australia ..	30	38	68	10	14	12	115	169	140
Western Australia	70	56	126	31	29	30	298	393	334
Tasmania ..	15	10	25	14	9	12	146	109	128
Federal Capital Territory ..	..	..	..	..	..	..	..	..	..
Australia, 1930 ..	601	477	1,078	18	15	17	193	197	195
Annual Average—									
1911-15 ..	1,687	1,354	3,041	68	59	64	569	627	593
1921-25 ..	1,114	859	1,973	38	31	35	362	366	364

(a) Number of deaths from these diseases per 100,000 of mean population.

(xxvb) *Diarrhoea and Enteritis (2 years and over)*. The number of deaths from the same causes in older ages, viz., 462, compared favourably with the average of 506 for the period 1926 to 1929.

(xxvi) *Appendicitis and Typhlitis*. Deaths under this heading numbered 508 in 1930 including 313 males and 195 females. The death rate has remained fairly constant during the periods under review, being 74 per million in 1911-15 and 79 in 1930.

(xxvii) *Hernia, Intestinal Obstruction*. The deaths under this heading have not varied greatly from year to year, the number registered in 1930 being 560, viz., hernia, 164, and intestinal obstruction, 396.

(xxviii) *Cirrhosis of the Liver*. The deaths from this cause during 1930 numbered 276, and include 31 deaths from alcoholic cirrhosis.

(xxix) *Acute and Chronic Nephritis*. The number of deaths attributable to these diseases shows a considerable decrease on the number for the previous year. Of the 3,182 deaths registered in 1930, 166 were ascribed to acute nephritis, and 3,016 to chronic nephritis. Nephritis is amongst the most prolific causes of deaths and accounts in 1930 for a death rate of 494 per million persons. The death rate for the period 1926-30, viz., 507 per million shows a considerable increase on the rates of 450 per million for the periods 1911-15 and 1921-25.

(xxx) *Non-Cancerous Tumours and other Diseases of the Female Genital Organs.* Deaths in 1930 numbered 208. Included in the 208 deaths in 1930 were the following:—Cysts, etc., of the ovary, 30; salpingitis and pelvic abscess, 75; benign tumours of the uterus, 72; uterine hæmorrhage (non-puerperal), 3; and other diseases of the female genital organs, 28.

(xxxii) *Puerperal Septicæmia (Puerperal Fever).* The 242 deaths from puerperal septicæmia during 1930 showed a decrease from the average of the previous four years, but owing to the smaller number of births recorded the rate rose to 1.88 per 1,000 live births. The corresponding rates during the preceding five years were:—1925, 1.74; 1926, 1.64; 1927, 2.15; 1928, 2.05; and 1929, 1.71. The following table shows the death rate per 1,000 live births from puerperal causes in various countries.

CHILDBIRTH.—DEATHS PER 1,000 LIVE BIRTHS, VARIOUS COUNTRIES.

Country.	Year.	Rates per 1,000 Live Births from—		
		Puerperal Sepsis.	Other Puerperal Causes.	All Puerperal Causes.
Norway	1927	1.02	1.45	2.47
Sweden	1928	1.42	1.17	2.59
Italy	1928	0.94	1.85	2.79
Japan	1929	0.85	1.97	2.82
France	1928	1.11	1.82	2.93
Denmark	1927	1.04	2.01	3.05
Netherlands	1928	1.31	2.04	3.35
Hungary	1929	1.68	1.69	3.37
Czechoslovakia	1927	1.97	1.60	3.57
Switzerland	1927	1.62	2.03	3.65
Tasmania	1930	1.67	2.09	3.76
Egypt	1927	1.52	2.28	3.80
Spain	1927	2.23	1.63	3.86
Western Australia	1930	1.30	2.61	3.91
England and Wales	1928	1.79	2.63	4.42
Queensland	1930	1.16	3.27	4.43
Great Britain and Northern Ireland	1928	1.86	2.91	4.77
Irish Free State	1928	1.74	3.19	4.93
Union of South Africa (Whites)	1928	2.28	2.70	4.98
South Australia	1930	1.50	3.51	5.01
New Zealand	1930	(a)	(a)	5.08
Northern Ireland	1928	1.50	3.74	5.24
Australia	1930	1.88	3.41	5.29
Germany	1928	2.79	2.56	5.35
Canada (including Quebec)	1929	1.96	3.73	5.69
Belgium	1927	3.08	2.63	5.71
Victoria	1930	2.08	3.65	5.73
New South Wales	1930	2.23	3.57	5.80
Scotland	1930	2.34	4.65	6.99
United States (Registration Area)	1929	2.60	4.40	7.00
Greece	1924	4.61	4.22	8.83
Ceylon	1927	6.48	11.02	17.50

(a) Not available.

(xxxiii) *Other Puerperal Accidents of Pregnancy and Confinement.* The deaths under this heading numbered 488 in 1926; 504 in 1927; 527 in 1928; 436 in 1929; and 438 in 1930. Included in the 438 deaths in 1930 were the following:—Accidents of pregnancy, 87; puerperal hæmorrhage, 87; other accidents of childbirth, 87; puerperal phlegmasia alba dolens, embolus, sudden death, 52; puerperal albuminuria and convulsions, 120; 4 deaths following childbirth, and 1 puerperal disease of the breast.

(xxxii*b*) *All Puerperal Causes.* The 680 deaths in 1930 under the two preceding headings correspond to a death rate of 22 per 100,000 females. It may be expressed in other terms by stating that 1 of every 187 women confined in 1930 died from puerperal causes. The corresponding ratios for married women were 1 of every 192, and for single women 1 of every 120. More detailed information will be found in a series of tables in Bulletin No. 48 "Australian Demography."

A tabulation of these ages for married and single women separately will be found in the Bulletin referred to.

The total number of children left by the married mothers was 1,681, an average of 2.7 children per mother.

Forty-one of the mothers who died had been married less than one year, 81 between one and two years, and 48 between two and three years. The duration of marriage ranged up to 28 years, apart from 5 cases in which the date of marriage was not stated. A tabulation, distinguishing the ages at marriage, will be found in Bulletin No. 48 "Australian Demography," which also includes a table showing in combination the duration of marriage and previous issue.

(xxxiii) *Congenital Malformation, Debility, and Premature Birth.* The deaths under this heading in 1930 numbered 3,389, of which 3,323 were of children under one year of age. Of the deaths of children under one year of age 54 per cent. were due to those causes. The number of deaths for 1930 is given in the following table:—

DEATHS FROM CONGENITAL DEBILITY, ETC., AND MALFORMATION, 1930.

State or Territory.	Congenital Malformation.			Congenital Debility, Icterus, Sclerema.			Premature Birth, and Injury at Birth.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	133	82	215	113	64	177	560	409	969
Victoria ..	98	74	172	100	72	172	321	246	567
Queensland ..	50	49	99	35	30	65	175	135	310
South Australia	33	25	58	27	22	49	83	72	155
Western Australia	19	20	39	39	28	67	62	55	117
Tasmania ..	18	12	30	14	11	25	52	48	100
Northern Territory	1	..	1	1	..	1	..	..	..
Fed. Cap. Territory	..	..	..	..	..	..	1	..	1
Australia ..	352	262	614	329	227	556	1,254	965	2,219
Number of deaths under one year per 1,000 births	5.34	4.19	4.78	4.99	3.63	4.33	19.03	15.44	17.28

(xxxiv) *Senility.* In 1930, 3,071 deaths were attributed to this cause, as follows:—1,585 males and 1,486 females.

Of the deaths described as due to senility, 5 males and 6 females were stated to be aged 100 years or over.

The death rate from senility in 1930 was 477 per million. For the three quinquennia tabulated on page 718 the rate has declined from 875 per million in 1911-15 to 718 in 1921-25 and to 542 in 1926-30.

(xxxv*a*) *Violent Deaths, Homicides.* Deaths from homicide in 1930 numbered 103, this figure being slightly lower than the average for the previous four years.

(xxxv*b*) *Other Accidental Deaths.* Deaths from accidents in 1930 numbered 3,349, compared with an average of 3,457 for the previous four years. Of the deaths in 1930, 1,247 occurred in New South Wales; 856 in Victoria; 507 in Queensland; 293 in South Australia; 324 in Western Australia; 112 in Tasmania; 5 in Northern Territory; and 5 in the Federal Capital Territory.

The following table shows the various kinds of violent deaths, including homicides, but excluding suicides, recorded in Australia for the year 1930, to which the death rate per million has been added in respect of the periods 1911-15, 1921-25 as well as 1930. These latter figures reveal a decrease to 1921-25 but an increase in the rates for 1930, to which the growth of automobile accidents has contributed very largely :—

DEATHS FROM EXTERNAL VIOLENCE.—AUSTRALIA, 1930.

Cause of Death.	Males.	Females.	Persons.
Poisoning by food	13	8	21
Poisoning by venomous animals—			
(a) Snakebite	7	5	12
(b) Other	4	1	5
Other acute accidental poisonings (gas excepted) ..	47	16	63
Conflagration	11	9	20
Accidental burns (conflagration excepted) ..	125	105	230
Accidental mechanical suffocation	32	16	48
Accidental absorption of irrespirable or poisonous gas	17	8	25
Accidental drowning	427	98	525
Accidental injury by firearms	126	14	140
Accidental injury by cutting or piercing instruments	9	..	9
Accidental injury by fall	292	98	390
Accidental injury in mining or quarrying ..	58	..	58
Accidental injury by machinery	26	1	27
Accidental injury by other crushing—			
Railway accidents	140	15	155
Tramway accidents	37	7	44
Automobile accidents	764	202	966
Injuries by other vehicles	89	17	106
Aeroplane accidents	16	2	18
Other crushings	81	4	85
Injuries by animals (not poisoning)	24	5	29
Wounds of war	4	..	4
Starvation, thirst, fatigue	25	5	30
Excessive cold	1	..	1
Excessive heat	31	24	55
Lightning	6	..	6
Other accidental electric shocks	27	2	29
Homicide by firearms	23	21	44
Homicide by cutting or piercing instruments ..	4	2	6
Homicide by other means	32	16	48
Infanticide (murder of children under 1 year) ..	5	..	5
Fractures (cause not specified)	80	32	112
Other external violence (cause specified) ..	58	18	76
Other external violence (cause unspecified) ..	47	13	60
Total Deaths	2,688	764	3,452
Death Rate per 1,000,000 of mean population—			
1930	817	242	536
1921-25	771	225	503
1911-15	973	288	645

(xxxvi) *Suicide.*—(a) *General.* Deaths by suicide have showed an increase each year since 1922, the number in 1926 being 711, viz., 583 males and 128 females; in 1927, 740, viz., 598 males and 142 females; in 1928, 777, viz., 635 males and 142 females; in 1929, 785, viz., 644 males and 141 females; and in 1930, 943, viz., 791 males and 152 females.

(b) *Modes Adopted.* The modes adopted by persons who committed suicide in the years 1926 to 1930 were as follow:—

SUICIDES, MODES ADOPTED.—AUSTRALIA, 1926 TO 1930.

Mode of Death.	Males		Females.		Persons.	
	Average of 4 years, 1926-29.	1930.	Average of 4 years, 1926-29.	1930.	Average of 4 years, 1926-29.	1930.
Poisoning	146	197	59	73	205	270
Poisonous gas	19	49	9	9	28	58
Hanging or Strangulation	91	99	23	16	114	115
Drowning	40	48	17	19	57	67
Firearms	186	239	8	7	194	246
Cutting or piercing instruments	102	115	11	17	113	132
Jumping from a high place	8	12	4	5	12	17
Crushing	14	16	4	3	18	19
Other Modes	9	16	3	3	12	19
Total	615	791	138	152	753	943

(c) *Death Rates.* The death rates from suicide and the proportion per 10,000 of total deaths are given in the following table, corresponding rates for the periods 1911-15 and 1921-25 having been added at the foot of the table:—

SUICIDE.—DEATHS, DEATH RATES(a), AND PROPORTION OF TOTAL DEATHS, 1930.

State or Territory.	Number of Deaths.			Death Rates (a) from Suicide.			Proportion of 10,000 Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	298	63	361	25	5	15	246	69	170
Victoria	170	37	207	19	4	12	201	49	130
Queensland	163	15	178	33	3	19	364	50	239
South Australia	55	10	65	18	4	11	211	45	134
Western Australia	83	21	104	37	11	25	353	147	276
Tasmania	16	5	21	15	5	10	156	54	108
Northern Territory	5	1	6	165	62	129	758	909	779
Fed. Cap. Territory	1	..	1	21	..	11	455	..	313
Australia—1930	791	152	943	24	5	15	254	63	170
Average—1921-25	509	112	621	18	4	11	166	48	114
„ 1911-15	509	115	624	21	5	13	172	53	122

(a) Number of deaths from suicide per 100,000 of mean population.

These results disclose that the annual deaths which had shown a tendency to decrease displayed a strong increase in 1930, as regards the absolute numbers registered, the death rate, and the proportion on total deaths.

(d) *Ages.* From the following table, which shows the ages of the persons who committed suicide in 1930, it will be seen that both extreme youth and extreme old age are represented:—

AGES OF PERSONS WHO COMMITTED SUICIDE.—AUSTRALIA, 1930.

Ages.	M.	F.	Total.	Ages.	M.	F.	Total.
15 years and under 20	20	17	37	60 years and under 65	76	13	89
20 „ „ 25	38	14	52	65 „ „ 70	43	4	47
25 „ „ 30	64	9	73	70 „ „ 75	34	3	37
30 „ „ 35	73	12	85	75 „ „ 80	14	1	15
35 „ „ 40	78	21	99	80 „ „ 85	4	..	4
40 „ „ 45	83	16	99	85 „ „ 90	1	..	1
45 „ „ 50	87	17	104	90 „ „ 95	1	..	1
50 „ „ 55	88	11	99	Not stated	..	..	..
55 „ „ 60	80	14	94				
				Total Deaths ..	791	152	943

(e) *Occupations of Males.* The next table gives the occupations of the males who committed suicide in 1911, 1921 and 1930 :—

OCCUPATIONS OF MALES WHO COMMITTED SUICIDE.—AUSTRALIA, 1930.

Occupations.	Number of Male Deaths.			Percentage on Total.		
	1911.	1921.	1930.	1911.	1921.	1930.
Professional Class	34	32	36	7.62	6.27	4.55
Domestic Class	16	20	22	3.59	3.92	2.78
Commercial Class	63	81	147	14.13	15.88	18.58
Transport and Communication Class	34	42	55	7.62	8.24	6.95
Industrial Class	172	180	294	38.56	35.29	37.17
Agricultural, Pastoral, Mining, &c., Class	100	131	186	22.42	25.69	23.52
Indefinite Class	23	21	47	5.16	4.12	5.94
Dependent Class	4	3	4	0.90	0.59	0.51
Total Male Deaths	446	510	791	100.00	100.00	100.00

(f) *Death Rates, Various Countries.* The following comparative table for various countries shows that Australia occupies a fairly favourable position as regards the death rate from suicide.

SUICIDE.—DEATHS PER 100,000 PERSONS LIVING, VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
Greece	1924	1.7	England and Wales	1928	12.4
Egypt	1927	3.2	Sweden	1928	13.1
Irish Free State	1928	3.3	United States	1927	13.3
Spain	1927	4.2	New Zealand	1930	13.5
Northern Ireland	1928	5.1	New South Wales	1930	14.5
Norway	1927	5.6	Australia	1930	14.6
Netherlands	1929	6.5	Belgium	1927	15.5
Rumania	1926	7.8	Denmark	1928	17.5
Canada	1929	8.5	Queensland	1930	18.9
Italy	1928	9.4	France	1928	18.9
Tasmania	1930	9.7	Japan	1929	20.2
Scotland	1930	10.1	Switzerland	1929	24.2
South Australia	1930	11.2	Western Australia	1930	24.9
Union of South Africa (a)	1928	11.2	Czecho-slovakia	1927	25.6
Victoria	1930	11.6	Germany	1930	30.0
Great Britain and Nor- thern Ireland	1928	11.9			

(a) White population only.

(xxxvii) *Other Diseases.* The number of causes included under this heading is very large, amounting to no less than 90 of the items shown in the detailed classification, and deaths were recorded under each of these with the exception of the following five causes :—Glanders, rabies, other chronic mineral poisoning, chronic organic poisonings and chyluria. The total number of deaths under "other diseases" in 1926 was 8,133, viz., 4,643 males and 3,490 females; in 1927, 8,389, viz., 4,657 males and 3,732 females; in 1928, 8,386, viz., 4,740 males and 3,646 females; in 1929, 8,782, viz., 5,033 males and

3,749 females; and in 1930, 8,220, viz., 4,655 males and 3,565 females. Some of the diseases included here account for very considerable numbers of deaths. Particulars for 1930 are shown in the following table:—

DEATHS FROM "OTHER DISEASES."—AUSTRALIA, 1930.

Causes.	M.	F.	Total.	Causes.	M.	F.	Total.
Tetanus	57	16	73	Diseases of the Eye	2	3	5
Mycoses	5	6	11	Diseases of the Ear	49	45	94
Syphilis	111	55	166	Aneurism	143	44	187
Soft Chancre	1	..	1	Arterio-sclerosis	591	352	943
Gonococcus Infection	4	2	6	Other Diseases of the			
Purulent Infection and Septi-				Arteries	58	21	79
cæmia	58	42	100	Embolism and Thrombosis			
Other Infectious Diseases	2	1	3	(not cerebral)	180	118	298
Other Tumours (Tumours of				Diseases of the Veins	8	14	22
the female genital organs				Diseases of the Lymphatic			
excepted)	34	31	65	System	7	5	12
Acute Rheumatic Fever	97	90	187	Hæmorrhage (without speci-			
Chronic Rheumatism and				fied cause)	4	5	9
Arthritis	14	14	28	Other Diseases of the Circu-			
Rheumatoid and Osteo-				latory System	18	25	43
arthritis	40	69	109	Diseases of the Mouth and			
Gout	2	..	2	Its Associated Organs	19	14	33
Scurvy	2	..	2	Diseases of the Pharynx	57	51	108
Pellagra	2	1	3	Diseases of the Oesophagus	8	3	11
Beri-beri	2	..	2	Ankylostomiasis	1	5	6
Ricketts	12	10	22	Intestinal Parasites	9	4	13
Diabetes	287	435	722	Other Diseases of the In-			
Pernicious Anæmia	94	141	235	testines	43	37	80
Other Anæmias and				Acute Yellow Atrophy of the			
Chlorosis	21	29	50	Liver	5	11	16
Diseases of the Pituitary				Hydatid Tumours of the			
Gland	7	4	11	Liver	20	18	38
Exophthalmic Goitre	16	112	128	Biliary Calculi	62	131	193
Other Diseases of the Thyroid				Other Diseases of the Liver	121	142	263
Glands	12	40	52	Diseases of the Pancreas	40	30	70
Diseases of the Parathyroid				Peritonitis (without specified			
Glands	7	..	7	cause)	35	41	76
Diseases of the Thymus				Other Diseases of the Digest-			
Gland	23	17	40	ive system (Cancer and			
Addison's Disease	6	17	23	Tuberculosis excepted)	1	..	1
Diseases of the Spleen	4	..	4	Other Diseases of the Kid-			
Leucæmia	65	52	117	neys and their Annexa	142	110	252
Hodgkin's Disease	46	33	79	Calculi of Urinary Passages	43	17	60
Acute and Chronic Alco-				Diseases of the Bladder	82	24	106
holism	62	12	74	Other Diseases of the Urethra,			
Chronic Lead Poisoning	11	3	14	Urinary Abscesses, etc.	32	1	33
Other General Diseases	67	51	118	Diseases of the Prostate	418	..	418
Encephalitis—Cerebral				Non-venereal Diseases of the			
Abscess	36	19	55	Male Genital Organs	5	..	5
Encephalitis—Other Diseases				Non-puerperal Diseases of			
Locomotor Ataxia	32	29	61	the Breast .. .. .	..	1	1
Other Diseases of the Spinal				Gangrene	51	39	90
Cord	99	84	183	Furuncle	30	23	53
Paralysis without specified				Phlegmon, Acute Abscess	69	57	126
cause	142	128	270	Other Diseases of the Skin			
General Paralysis of the In-				and Annexa	20	22	42
sane	58	14	72	Non-tuberculous Diseases of			
Other Forms of Mental Alien-				the Bones	65	49	114
ation	21	49	70	Other Diseases of the Joints			
Epilepsy	93	77	170	(Tuberculosis and Rheu-			
Convulsions (non-puerperal)				matism excepted)	13	11	24
Convulsions of Children under				Amputation .. .. .	..	1	1
5 years of age	43	26	69	Other Diseases of the Organs			
Chorea .. .. .	..	2	2	of Locomotion	3	1	4
Neuralgia and Neuritis	5	12	17	Diseases of the Umbilicus	12	11	23
Idiocy, Imbecility	10	11	21	Atelectasis	138	101	239
Cerebral Tumour	128	84	212	Other Diseases peculiar to			
Disseminated Sclerosis	20	26	46	Infancy	45	46	91
Paralysis Agitans	63	37	100	Lack of Care (Infants)	2	5	7
Other Diseases of the Ner-				Total Deaths	4,655	3,565	8,220
vous System	31	35	66				

(xxxviii) *Unspecified or Ill-defined Diseases.* The number of deaths included under this heading was 690 in 1926, 570 in 1927, 603 in 1928, 536 in 1929, and 401 in 1930, of which 296 were males and 105 females. The detailed classification shows these ill-defined diseases under two headings—sudden death, including syncope; and unspecified or ill-defined causes, of which the following are specimens:—Heart failure, asthenia, anasarca, atrophy, exhaustion, dropsy, ascites, and general œdema, etc. In 1930, the number of deaths which came under the first of these categories was 43, and under the

second, 358. It is inevitable that cases will occur regarding which the available information is insufficient to permit of a clear definition of the fatal disease in the certificate of death. In the majority of cases, however, there is little doubt that more satisfactory certificates might have been given.

14. Causes of Deaths in Classes.—The figures in the preceding sub-sections relate to specific causes of death, and are of greater value in medical statistics than a mere grouping under general headings. The classification under fifteen general headings adopted by the compilers of the International Nomenclature is, however, shown in the following table, together with the death rates and proportions on total deaths pertaining to those classes. A further table furnishes the death rates for the quinquennia 1911-15 and 1921-25 :—

DEATHS, DEATH RATES(a), ETC., IN CLASSES.—AUSTRALIA, 1930.

Class.	Total Deaths.			Death Rates.(a)			Proportion of 10,000 Deaths.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1. Epidemic, Endemic, and Infectious Diseases	2,990	2,300	5,290	91	73	82	960	951	956
2. General diseases not included above	4,104	4,109	8,213	125	130	127	1,318	1,699	1,484
3. Diseases of the Nervous System and of the Organs of Sense	2,180	2,133	4,313	66	68	67	700	882	779
4. Diseases of the Circulatory System	6,278	4,904	11,182	191	156	173	2,015	2,029	2,021
5. Diseases of the Respiratory System	2,992	2,132	5,124	91	68	80	961	882	926
6. Diseases of the Digestive Organs	2,343	1,851	4,194	71	59	65	752	765	758
7. Diseases of the Genito-Urinary System and Annexa	2,518	1,747	4,265	77	55	66	808	722	771
8. Puerperal Condition	..	680	680	..	22	11	..	281	123
9. Diseases of the Skin and of the Cellular Tissue	170	141	311	5	4	5	55	58	56
10. Diseases of the Bones and Organs of Locomotion	81	62	143	2	2	2	26	26	26
11. Malformations	352	262	614	11	8	10	113	108	111
12. Early Infancy	1,780	1,355	3,135	54	43	49	571	560	567
13. Old Age	1,585	1,486	3,071	48	47	48	509	615	556
14. External Causes	3,479	916	4,395	106	29	68	1,117	379	794
15. Ill-defined Diseases	296	105	401	9	3	6	95	43	72
Total	31,148	24,183	55,331	947	767	859	10,000	10,000	10,000

(a) Number of deaths per 100,000 of mean population.

DEATH RATES IN CLASSES—AUSTRALIA, 1911 TO 1915 AND 1921 TO 1925.

Class.	Number of Deaths per 100,000 of Mean Population.					
	1911 to 1915.			1921 to 1925.		
	Males.	Females.	Total.	Males.	Females.	Total.
1. Epidemic, Endemic and Infectious Diseases	261	236	249	120	95	108
2. General Diseases, not included above				128	127	128
3. Diseases of Nervous System and of Organs of Sense				93	83	88
4. Diseases of Circulatory System	112	93	103	93	83	88
5. Diseases of Respiratory System	147	116	132	150	118	134
6. Diseases of Digestive System	132	93	113	121	88	105
7. Non-venereal Diseases of the Genito-Urinary System and Annexa	135	123	130	97	81	89
8. Puerperal Condition	72	46	50	72	49	61
9. Diseases of Skin and Cellular Tissue	..	27	13	..	25	12
10. Diseases of Organs of Locomotion	6	5	6	6	4	5
11. Malformations	2	1	1	3	2	2
12. Early Infancy	12	9	10	12	10	11
13. Old-age	87	71	79	73	56	65
14. External Causes	94	80	88	76	68	72
15. Ill-defined Diseases	117	33	77	95	26	61
Total	16	9	13	15	9	12
Total	1,193	942	1,073	1,061	841	953

15. Ages at Death of Married Males and Females, and Issue.—Bulletin No. 48 "Australian Demography" contains a number of tables showing the age at marriage, age at death, birthplaces, and occupations, in combination with the issue of married persons who died in Australia in 1930. A summary of those tables is given hereunder. Deaths of married males in 1930 numbered 18,172, and of married females, 16,402. The tabulations which follow deal, however, with only 17,774 males and 16,202 females, the information in the remaining 598 cases being incomplete. The total number of children in the families of the 19,245 males was 87,967, and of the 17,247 females, 83,558. The average number of children is shown for various age-groups in the following table:—

**AGES AT DEATH OF MARRIED MALES AND FEMALES, AND AVERAGE ISSUE.—
AUSTRALIA, 1930.**

Age at Death.	Average Family.					
	Males.			Females.		
	1911.	1921.	1930.	1911.	1921.	1930.
Under 20 years	0.33	..	0.80	0.94	0.77	0.50
20 to 24 "	0.77	0.84	0.78	1.27	1.22	1.18
25 " 29 "	1.25	1.29	1.43	1.82	1.86	1.68
30 " 34 "	2.05	2.06	1.98	2.74	2.45	2.39
35 " 39 "	2.80	2.58	2.25	3.64	3.29	2.96
40 " 44 "	3.47	3.23	2.91	4.09	3.66	3.48
45 " 49 "	4.09	3.48	3.13	4.54	3.76	3.43
50 " 54 "	4.75	3.76	3.55	5.35	4.23	3.60
55 " 59 "	5.44	4.41	3.75	5.86	4.69	3.98
60 " 64 "	5.95	4.98	4.18	5.99	5.39	4.44
65 " 69 "	6.23	5.50	4.60	6.50	5.86	4.98
70 " 74 "	6.41	6.06	5.08	6.38	6.30	5.41
75 " 79 "	6.75	6.66	5.81	6.72	6.56	5.95
80 " 84 "	6.68	6.89	6.30	6.22	6.76	6.36
85 " 89 "	6.67	7.18	6.54	5.97	6.93	6.64
90 " 94 "	6.03	7.21	6.98	5.69	6.53	6.51
95 " 99 "	7.30	6.97	7.29	5.05	6.05	6.14
100 years and upwards ..	9.33	9.20	5.65	5.17	5.11	5.45
Age not stated	4.33	5.36	3.71	4.60	5.80	5.50
All ages	5.42	4.97	4.49	5.35	5.05	4.70

The figures in the preceding table include the issue both living and dead, the proportion between them, taking the issue of deceased males and females together, being about 1,000 to 260. The totals are shown in the following table:—

ISSUE OF MARRIED MALES AND FEMALES.—AUSTRALIA, 1930.

Issue of Married Males.	Males.	Females.	Total.	Issue of Married Females.	Males.	Females.	Total.
Dead ..	8,563	6,600	15,163	Dead ..	9,620	7,442	17,062
Total ..	41,124	38,718	79,842	Total ..	39,114	37,116	76,230

16. Ages at Marriage of Deceased Males and Females, and Issue.—While the table giving the average families of married males and females naturally shows 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:—

AGES AT MARRIAGE OF DECEASED MALES AND FEMALES, AND AVERAGE ISSUE.—AUSTRALIA, 1911, 1921 AND 1930.

Age at Marriage.	Average Family.					
	Males.			Females.		
	1911.	1921.	1930.	1911.	1921.	1930.
Under 15 years .. ..	..	..	..	9.71	7.60	9.87
15 to 19 "	6.97	6.32	6.14	7.10	6.97	6.60
20 " 24 "	6.34	6.05	5.65	5.77	5.50	5.26
25 " 29 "	5.70	5.17	4.72	4.27	4.09	3.82
30 " 34 "	4.92	4.45	3.91	3.04	2.66	2.51
35 " 39 "	4.05	3.90	3.22	1.68	1.61	1.46
40 " 44 "	3.43	2.67	2.44	0.72	0.62	0.56
45 " 49 "	2.59	2.20	1.82	0.26	0.03	0.09
50 " 54 "	2.45	1.70	1.21	..	..	..
55 " 59 "	1.66	1.30	1.00	..	..	..
60 " 64 "	2.00	0.33	0.79	..	..	..
65 years and upwards ..	1.00	0.25	1.00	..	..	..
Age unspecified	5.40	4.93	3.54	5.23	5.41	4.04
All Ages	5.42	4.97	4.49	5.35	5.05	4.70

17. Birthplaces of Deceased Married Males and Females, and Issue.—The following table shows the birthplaces of married males and females who died in 1911 and 1930, together with their average issue. No generalizations can, of course, be made in those cases in which the number of deaths was small, but where the figures are comparatively large, as in the case of natives of Australia and the British Isles, differences occur between the averages of these individual countries, which appear inexplicable on any other ground than that of different age constitution of the locally born population. It will be noted that the differences occur both in the male and female averages.

BIRTHPLACES OF DECEASED MARRIED MALES AND FEMALES, AND AVERAGE ISSUE.—AUSTRALIA, 1911 AND 1930.

Birthplace.	Married Males.				Married Females.			
	1911.		1930.		1911.		1930.	
	Deaths.	Average Family.	Deaths.	Average Family.	Deaths.	Average Family.	Deaths.	Average Family.
Australasia—								
Australia	4,074	4.71	10,569	4.36	4,566	4.57	10,428	4.49
New Zealand	64	3.89	155	3.34	56	3.84	105	3.00
Europe—								
England and Wales ..	4,079	5.87	3,925	4.68	3,152	5.86	3,067	4.95
Scotland	1,133	5.89	975	4.65	1,002	6.09	798	5.32
Ireland	1,766	6.12	1,016	5.31	2,118	5.83	1,189	5.36
Other British Possessions								
Western	23	6.52	27	4.11	24	5.75	13	5.54
Central	199	4.33	208	4.63	55	5.07	74	4.99
Southern	484	5.81	331	5.71	270	6.56	242	6.74
Eastern	58	5.09	106	3.00	12	4.92	38	3.82
Asia—								
British Possessions ..	32	3.87	59	2.81	17	6.41	19	5.47
Foreign Countries ..	74	2.46	96	3.13	5	2.60	17	6.12
Africa—								
British Possessions ..	16	3.56	20	5.00	15	4.80	26	3.42
Foreign Countries ..	..	..	4	1.00	..	..	1	..
America—								
British Possessions ..	42	5.55	42	4.17	17	6.47	16	6.38
United States	40	3.78	60	3.10	17	4.94	29	3.86
Other Foreign Countries								
Polynesia	17	4.53	7	4.14	10	4.50	6	2.67
Indefinite	5	4.00	14	6.14	9	3.33	8	4.62
Indefinite	72	4.28	113	4.04	72	4.85	106	4.46
Total	12,213	5.42	17,774	4.49	11,423	5.35	16,202	4.70

18. Occupations of Deceased Married Males, and Issue.—The following tabulation shows the average issue in combination with the occupation of deceased males.

**OCCUPATIONS OF DECEASED MARRIED MALES AND AVERAGE ISSUE—
AUSTRALIA, 1911, 1921 AND 1930.**

Occupation.	Deaths of Married Males.			Average Family.		
	1911.	1921.	1930.	1911.	1921.	1930.
Professional Class	681	926	1,196	4.55	4.04	3.10
Domestic Class	452	552	576	3.92	3.55	3.54
Commercial Class	1,407	1,977	2,683	4.70	4.18	3.61
Transport and Communica- tion Class	1,001	1,254	1,594	4.56	4.63	4.02
Industrial Class	3,981	5,086	6,501	5.38	4.95	4.55
Agricultural, Pastoral, Mining, &c., Class	3,610	3,983	4,187	6.25	5.83	5.46
Indefinite Class	1,037	759	1,005	5.81	5.49	4.83
Dependents	44	15	32	4.30	4.00	3.25
Total	12,213	14,552	17,774	5.42	4.97	4.49

§ 4. Australian Life Tables.

Official Year Book, No. 20, pp. 962 and 969 to 973, contained a synopsis of the various Australian Life Tables, also comparisons with other countries of the expectation of life at various ages. Considerations of space, however, do not permit of their repetition herein.

**§ 5. Registration of Births, Deaths and Marriages in the Territory
for the Seat of Government.**

Up to the end of 1929 the provisions of the Registration of Births, Deaths and Marriages Act of 1899 and the Marriage Act of 1899 of New South Wales applied to the Territory for the Seat of Government. Births, deaths and marriages occurring within the Territory were registered by the District Registrars, Queanbeyan and Nowra, and were incorporated in the New South Wales records.

Towards the end of 1929, however, the Registration of Births, Deaths and Marriages Ordinances were made, providing for the assumption by the Commonwealth Government of the function of registration within the Territory as from 1st January, 1930. The system has been successfully inaugurated and has functioned satisfactorily since that date. The Commonwealth Statistician is the Principal Registrar, and all registrations are made at Canberra.

Marriages within the Territory are celebrated according to the conditions prescribed by the Marriage Ordinance, 1929. This Ordinance, which closely follows the provisions of the Marriage Act of New South Wales, which it supersedes as regards the Territory for the Seat of Government, came into operation on 1st January, 1930.

§ 6. Graphical Representation of Vital Statistics.

(See Graphs pp. 689 to 694.)

1. General.—The progressive fluctuations of the number of births, marriages, and deaths are important indexes of the economic conditions and social ideals of a community. Graphs have accordingly been prepared which show these fluctuations. It should be remembered, however, that, normally, the increase of births and marriages should be proportional to the growth of population.

2. **Graphs of Annual Births, Marriages, and Deaths.**—The outstanding features of the graph representing births are :—An almost continuous rise in the numbers from 1860 to 1891 ; a decline till 1893, associated with the commercial crisis of 1891-93 ; a sharp fall in 1903 which accompanied a severe drought ; an uninterrupted increase from 1903 to 1914, the total for 1914 being the highest recorded ; a rapid decline until 1920, the result of war conditions. The figures for the last ten years show a tendency to greater stability, though with a general downward tendency.

The graph for marriages up to 1914 discloses approximately the same features as that for births—financial crises and droughts having a similar effect. The numbers for 1914 and 1915 showed a considerable increase over previous years. From 1916 to 1918 there was a rapid fall, the numbers being much below those of pre-war years. During 1919 and 1920 the recovery was very rapid, the total for the latter year being the highest ever recorded. The totals for 1923 to 1930 were not so favourable.

The characteristic feature of the graph of deaths is its irregular nature. On the whole, however, there is an increase which is due to the growth of population.

3. **Graphs of Annual Birth, Marriage, and Death Rates, and Rate of Natural Increase.**—The graph of the birth rate indicates a well-marked decline throughout the whole period. This reduction of rate has been subject to fluctuations, there being two periods of arrested decline, viz., from 1877 to 1890, and from 1903 to 1912.

The variations in the marriage rates, though less abrupt than those in the birth and death rates, have ranged from a minimum of 6.08 per 1,000 which marked the culmination of a commercial depression in 1894 to a maximum of 9.62 per 1,000 in 1920.

On the whole, the graph for the death rate furnishes clear evidence of a satisfactory decline during the period. The graph brings into prominence six years in which the rates were very high when compared with adjacent years, viz., 1860, 1866, 1875, 1884, 1898, and 1919. Epidemics of measles were largely responsible for the high rates in the first five years, while influenza caused the increase during 1919.

The graph of natural increase shows roughly the same variations as that for the birth rate, but the influence of the death rate is indicated by the very low rates of natural increase for 1875, 1898, and 1919, which resulted from the exceptionally high death rates of those years.

**CHAPTER XXVI.
MISCELLANEOUS.**

§ 1. Patents, Trade Marks, and Designs.

1. **Patents.**—(i) *General.* The granting of patents is regulated by the Commonwealth Patents Act 1903–1930, which, in regard to principle and practice, has the same general foundation as the Imperial Statutes, modified to suit Australian conditions. The Act is administered by a Commissioner of Patents. Fees totalling £10 are sufficient to obtain letters patent for Australia, Papua and the Territory of New Guinea. A renewal fee of £5 is payable before the expiration of the seventh year of the patent on all patents granted on applications lodged prior to 2nd February, 1931. On patents granted on applications made on or after the 2nd February, 1931, renewal fees are payable as follows :—£1 before the expiration of the fifth year and an amount progressively increasing by ten shillings before the expiration of each subsequent year up to the fifteenth, when the fee becomes £6. If a renewal fee is not paid when it becomes due an extension of time up to twelve months may be granted on grounds specified in the Act, and subject to the payment of prescribed fees.

(ii) *Summary.* The number of separate inventions in respect of which applications were filed during the years 1926 to 1930 is given in the following table, which also shows the number of letters patent sealed in respect of applications made in each year :—

PATENTS, AUSTRALIA.—SUMMARY, 1926 TO 1930.

Particulars.	1926.	1927.	1928.	1929.	1930.
No. of applications	5,391	5,683	6,530	6,806	6,524
No. of applications accompanied by provisional specifications	3,515	3,627	3,993	4,021	4,062
Letters patent sealed during each year	2,706	2,638	2,615	2,881	3,330

(iii) *Revenue.* The revenue of the Commonwealth Patents Office during the years 1926 to 1930 is shown hereunder :—

PATENTS, AUSTRALIA.—REVENUE, 1926 TO 1930.

Particulars.	1926.	1927.	1928.	1929.	1930.
	£	£	£	£	£
Fees collected under Patents Acts 1903–21	30,967	30,602	32,573	36,686	38,045
Receipts from publications	733	1,101	1,331	1,405	1,486
Total	31,700	31,703	33,904	38,091	39,531

2. **Trade Marks and Designs.**—(i) *Trade Marks.* Under the Trade Marks Act 1905, the Commissioner of Patents is also Registrar of Trade Marks. This Act has been amended from time to time, the last amendment having been made in 1922. 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 the conditions as to remuneration of labour in connexion with the manufacture of such goods are fair and reasonable.

(ii) *Designs.* The Designs Act 1906, as amended by the Patents, Designs and Trade Marks Act 1910, and the Designs Act 1912, is now cited as the Designs Act 1906–1912. Under this Act a Commonwealth Designs Office has been established, and the Commissioner of Patents appointed “Registrar of Designs.”

(iii) *Summary.* The following table shows the applications for trade marks and designs received and registered during the years 1926 to 1930:—

TRADE MARKS AND DESIGNS, AUSTRALIA.—SUMMARY, 1926 TO 1930.

Applications.	1926.	1927.	1928.	1929.	1930.
RECEIVED.					
Trade Marks	2,821	2,960	2,882	2,904	2,362
Designs	329	580	574	568	736
REGISTERED.					
Trade Marks	1,971	2,177	2,175	2,337	1,940
Designs	537	546	694	547	648

(iv) *Revenue.* The revenue of the Trade Marks and Designs Office during the years 1926 to 1930 is given hereunder:—

TRADE MARKS AND DESIGNS, AUSTRALIA.—REVENUE, 1926 TO 1930.

Particulars.	1926.			1927.			1928.			1929.			1930.		
	Trade Marks.	Designs.	Publications.												
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Fees collected under Commonwealth Acts	9,246	407	210	9,709	722	198	9,420	795	264	12,702	718	259	15,056	903	199

No fees in respect of Trade Marks have been collected under State Acts since the year 1922.

§ 2. Copyright.

1. *Legislation.*—Copyright is regulated by the Commonwealth Copyright Act of 1912, details of which will be found in earlier issues of the Official Year Book (see No. 8, p. 1066), while, subject to modifications relating to procedure and remedies, the British Copyright Act of 1911 has been adopted and scheduled to the Australian law.

Reciprocal protection of unpublished works was extended in 1918 to citizens of Australia and of the United States under which copyright may be secured in the latter country by registration at the Library of Congress, Washington. The Commonwealth Government promulgated a further Order in Council which came into operation on the 1st February, 1923, and extended the provisions of the Copyright Act to the foreign countries of the Copyright Union, subject to the observance of the conditions therein contained.

2. *Applications and Registrations.*—The following table shows under the various headings the number of applications for copyright received and registered, and the total revenue obtained for the years 1926 to 1930:—

COPYRIGHT, AUSTRALIA.—SUMMARY, 1926 TO 1930.

Particulars.	1926.	1927.	1928.	1929.	1930.
Applications received—					
Literary	No. 1,166	1,256	1,241	1,142	1,334
Artistic	No. 115	176	160	141	176
International	No. 23	13	4	17	16
Applications registered—					
Literary	No. 1,105	1,180	1,176	1,101	1,267
Artistic	No. 105	171	152	127	165
International	No. 19	10	3	5	16
Revenue	£ 340	376	366	356	406

§ 3. Local Option, and Reduction of Licences.

Local option concerning the sale of fermented and spirituous liquors is in force in all the States, the States being divided into areas generally conterminous with electoral districts, and a poll of the electors taken from time to time in each district regarding the continuance of the existing number of licensed premises, the reduction in number, or the closing of all such premises. Provision is made for giving effect to the results of the poll in each district in which the vote is in favour of a change.

In earlier issues of the Year Book (see No. 22, p.p. 1005-1008), details, by States, of polls taken and the operations of Licences Reduction Boards were published, but, owing to considerations of space, cannot be inserted in this issue.

§ 4. Lord Howe Island.

1. *Area, Location, etc.*—Between Norfolk Island and the Australian coast is Lord Howe Island, in latitude 31° 30' south, longitude 159° 5' east. It was discovered in 1788. The total area is 3,220 acres, the island being 7 miles in length and from $\frac{1}{2}$ to $\frac{1}{4}$ miles in width. It is distant 436 miles from Sydney, and in communication therewith by monthly steam service. The flora is varied and the vegetation luxuriant, with shady forests, principally of palms and banyans. The highest point is Mount Gower, 2,840 feet. The climate is mild and the rainfall abundant, but on account of the rocky formation only about a tenth of the surface is suitable for cultivation.

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 it is included in King, one of the electorates of Sydney. A Board of Control at Sydney manages the affairs of the island and supervises the palm seed industry referred to hereunder.

3. *Population.*—The population at the Census of 3rd April, 1921, was 65 males, 46 females—total 111.

4. *Production, Trade, etc.*—The principal product is the seed of the native or Kentia palm. The lands belong to the Crown. The occupants pay no rent, and are tenants on sufferance.

§ 5. Commonwealth Council for Scientific and Industrial Research.

1. *General.*—By the Science and Industry Research Act 1926, the previously existing Commonwealth Institute of Science and Industry was reorganized under the title of the Council for Scientific and Industrial Research. An account of the organization and work of the former Institute was given in earlier issues of the Official Year Book. (See No. 18, p. 1062.)

2. *Science and Industry Research Act 1926.*—This Act provides for a Council, consisting of—

- (a) Three members nominated by the Commonwealth Government.
- (b) The Chairman of each State Committee constituted under the Act.
- (c) Such other members as the Council, with the consent of the Minister, co-opts by reason of their scientific knowledge.

The three Commonwealth nominees form an Executive Committee which may exercise, between meetings of the Council, all the powers and functions of the Council, of which the principal are as follow:—(a) The initiation and carrying out of scientific researches in connexion with primary or secondary industries in the Commonwealth; (b) the training of research workers and the establishing of industrial research studentships and fellowships; (c) the making of grants in aid of pure scientific research; (d) the establishment of industrial research associations in any industries; (e) the testing and standardization of scientific apparatus and instruments; (f) the establishment of a Bureau of information; and (g) the function of acting as a means of liaison between the Commonwealth and other countries in matters of scientific research.

State Committees have been constituted in accordance with regulations that have been prescribed, and their main function is to advise the Council as to matters that may affect their respective States. A sum of £250,000 was appropriated under the terms of the Act for the purpose of scientific and industrial investigations. Subsequently an additional sum of £250,000 was appropriated for a similar purpose.

3. **Science and Industry Endowment Act 1926.**—Under this Act the Government has established a fund of £100,000, the income from which is to be used to provide assistance (a) to persons engaged in scientific research, and (b) in the training of students in scientific research. Provision is made for gifts or bequests to be made to the fund, which is controlled by a trust consisting of the three Commonwealth nominees on the Council. In accordance with the Act arrangements have been made to send a number of qualified graduates abroad for training in special fields of work.

4. **Work of the Council.**—The full Council held its first meeting in June, 1926, since which time it has held meetings at about half-yearly intervals. It has adopted a policy of placing each of its major fields of related researches under the direction of an officer having a standing at least as high as, if not higher than, that of a University Professor.

The main branches of work of the Council are (i) plant problems; (ii) soil problems; (iii) entomological problems; (iv) animal nutrition; (v) animal diseases; and (vi) forests products. Successful results have now been obtained in a number of directions but more particularly in regard to bitter pit in apples, spotted wilt in tomatoes, water blister of pineapples, the feeding of sheep for increased wool production, black disease of sheep, caseous lymphadenitis of sheep, internal parasites, soil surveys, timber seasoning and timber preservation. More detailed information concerning the work of the Council may be found in Year Book No. 22, pp. 1009 and 1010, but considerations of space preclude its insertion herein.

§ 6. The Commonwealth Solar Observatory.

1. **Reasons for Foundation.**—The Commonwealth Solar Observatory was established for the study of solar phenomena, for allied stellar and spectroscopic research, and for the investigation of associated terrestrial phenomena. Its situation is such that it will fill a gap in the chain of existing astrophysical observatories; with its completion there will be stations separated by 90 degrees of longitude round the globe. In addition to advancing the knowledge of the universe and the mode of its development, it is hoped that the eventual discovery of the true relation between solar and terrestrial phenomena may lead to results which will prove of direct value to the country.

2. **History of Inauguration.**—A short account of the steps leading up to the establishment of the Observatory will be found in Official Year Book No. 19, p. 979. Limits of space preclude its repetition in this issue.

3. **Site of the Observatory.**—The site selected for the Observatory is on Mount Stromlo, a ridge of hills about 7 miles west of Canberra. The highest point is 2,560 feet above sea level, or about 700 feet above the general level of the Federal Capital City.

4. **Equipment.**—The bulk of the telescopic equipment is due to the generosity of supporters of the movement in England and Australia. The gifts include a 6-in. Grubb refracting telescope, presented by the late W. E. Wilson, F.R.S., and Sir Howard Grubb F.R.S., trustees of the late Lord Farnham; a 9-in. Grubb refractor with a 6-in. Dallmeyer lens, both presented by the late Mr. James Oddie, of Ballarat; while Mr. J. H. Reynolds of Birmingham, presented a large reflecting telescope with a mirror 30 inches in diameter. A sun telescope including an 18-in. cœlostat has been installed. The equipment also includes spectroscopes for the examination of spectra in the infra-red, violet and ultra-violet regions. Donations amounting to over £2,500 have been received, and form the nucleus of a Foundation and Endowment Fund.

5. **Observational Work.**—The observational work embraces the following:—(a) solar research, (b) stellar research, (c) spectroscopic researches, (d) atmospheric electricity, (e) ozone content of the atmosphere, (f) luminosity of the night sky, and (g) meteorological observations. A more detailed account of the observational work cannot, owing to limits of space, be published in this issue, but may be found in earlier issues (see No. 22, p. 1011).

§ 7. Department of Chemistry, South Australia.

This Department, formed in 1915, is principally engaged in general routine chemical examinations and analyses in pursuance of various Acts of Parliament and for Government Departments, but the chemical investigation of local products and industries forms an important branch of its work. The Department administers the Gas Act 1924, the Inflammable Oils Acts, and the provisions of the Marine Board and Navigation Act relating to explosives. Researches have been carried out for the Wheat Weevil Committee, and investigations have been made into the lignites at Moorlands, the conditions of safe storage of petrol in tanks, the utilization of grapes and surplus lemons, cold-water paints, calorific values of South Australian firewoods, charcoal and coke, kernel oil from peaches and apricots, and a survey of the tannin resources of South Australia.

§ 8. State Advisory Council of Science and Industry of South Australia.

The Advisory Council of Science and Industry of South Australia is the result of the fusion of the members of the Committee of Scientific Research and the Committee on post-war problems. The members of the Council, who all act in an honorary capacity, are the nominees of the different public bodies in the State, such as the Chamber of Commerce, the Chamber of Manufactures, Associated Banks, United Trades and Labour Council, Employers' Federation, etc., and include a number of Government technical officials and University professors.

For the purposes of investigation, the Council is divided into Committees, under the headings Agriculture, Pastoral, Mineral, Manufacture, Trade, Commerce, and Transport. These Committees consider and take evidence on subjects proper to their provinces, and report to the Government.

The office of the Council is attached to the Department of Chemistry, where research work is carried out at the instance of the Council, the Director of Chemistry being Vice-Chairman of the Council. Twelve reports have been issued during the years 1919 to 1930 which contain a summary of the work done, together with reports of investigations, including the "Wheat Pests Problem;" "Utilization of Surplus Lemons;" "Cold Water Paint;" "Calorific Values of Different Firewoods;" "Peach and Apricot Kernel Oil;" "Tannin Resources of South Australia;" "Brown Coal Experiments;" "A Gauge for Petrol Tanks;" "The Safe Storage of Petrol in Bulk;" "A Process for Preventing Infestation of Insect Pests in Dried Fruits;" and "The Use of Aluminium Vessels for Cooking Foods," etc. The Council also distributes information forwarded by the Commonwealth Department of Markets.

§ 9. Standards Association of Australia.

This Association was established under the aegis of the Commonwealth and State Governments for the promotion of standardization and simplified practice.

In addition to the Council and Standing and Organization Committees, the following Sectional Committees have been appointed to formulate Australian standard specifications, codes and simplified practice recommendations:—A.—*Safety Codes Group*.—(1) Boiler Regulations (including Gas Cylinders); (2) Concrete and Reinforced Concrete Structures; (3) Cranes and Hoists; (4) Electrical Wiring Rules; (5) Lift Installations; (6) Pump Tests; (7) Refrigeration; (8) Steel Frame Structures; (9) Welding. B.—*General*.—(1) Bore Casing; (2) Building Materials; (3) Calcium Carbide; (4) Cement; (5) Coal—Purchase, Sampling and Analysis; (6) Colliery Equipment; (7) Containers for Inflammable Liquids; (8) Electrical; (9) Firebricks; (10) Locomotive; (11) Lubricants; (12) Machine Belting; (13) Machine Parts; (14) Non-ferrous Metals; (15) Paint and Varnish; (16) Pipes and Plumbing; (17) Railway Permanent Way Materials; (18) Roadmaking Materials; (19) Structural Steel; (20) Testing, Weighing and Gauging; (21) Timber; (22) Tramway Rails; (23) Typography. C.—*Co-ordinating Committees*.—(1) Concrete Products; (2) Ferrous Metals; (3) Non-Ferrous Metals; (4) Methods of Physical Testing, Sampling and Chemical Analysis, Co-ordination of. D.—*Simplified Practice Division Committees*.—(1) Building Materials

Classification ; (2) Three-Ply Wood Panels for Use in Stock Door Manufacture ; (3) Institutional Supplies and Co-ordinated Purchasing (Hospitals, Asylums and other Public Institutions) ; (4) General Conditions of Contract ; (5) Bank Cheques and Drafts ; (6) Commercial Paper Sizes ; (7) Road Gully Gratings ; (8) Shovels ; (9) Sheet Metal Guttering, Ridging and Downpiping ; (10) Laminated Steel Springs for Motor Cars.

A Power Survey Committee to deal with the collection of data and the framing of recommendations for assistance in the development and co-ordination of power schemes has also been appointed.

The objects of the Association include the following :—To prepare and promote the general adoption of standards in connexion with structures, materials, etc. ; to co-ordinate the efforts of producers and users for the improvement of materials, processes, and methods ; and to procure the recognition of the Association in any foreign country.

The sole executive authority of the Association is vested in the Council, which undertakes the whole of the organization of the movement, the raising of the necessary funds, the controlling of the expenditure, the arranging of the subjects to be dealt with by the various sectional and sub-committees, and the authority of the issue of all the reports and specifications.

The Association was established in July, 1929, by amalgamation of the Australian Commonwealth Engineering Standards Association and the Australian Commonwealth Association of Simplified Practice.

§ 10. Valuation of Australian Production.

1. Value of 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 be regarded as the roughest approximation. Still more important are the qualifications briefly summarized below as to values in the more important classes of production.

The values given in the table hereunder, are, with the exception of manufacturing, the old gross values. It is hoped that net values on a comparable basis for all States in accordance with the resolutions of the Statistical Conference of 1924 and subsequent years, will be obtained shortly.

The values for agricultural production are the gross values in the metropolitan markets at port of export. No deductions have been made for freight, seed, fertilizers or material of any kind used in production. Further the total is exaggerated by the inclusion therein of the value of hay and other forage which is used on the farm in the production of grain, milk, meat, &c.

The values for pastoral production also are gross, but the exaggeration is not so great and on the other hand, there are substantial omissions. In the case of rabbits (meat and skins) and a number of pastoral by-products the value of exports only is included.

No costs are deducted from dairy production. One large item included, moreover, has of necessity a somewhat artificial value, viz., milk consumed on the farm.

The values shown for mining are unsatisfactory because in some cases they are the gross values of the metal content of ores where the cost of treatment is substantial. There is accordingly some duplication with metal refining and ore-reduction in manufacturing production.

The values in manufacturing are obtained in accordance with the resolutions of the Conference of Statisticians by deducting from the value of the output the cost of all materials used, and of fuel, power, light, oil, water, &c. Most of the principal costs have, therefore, been allowed for except depreciation. The value of manufacturing production is, consequently, much nearer a net value than the value of any primary production.

The values of different kinds of production are not strictly comparable with one another, and may be added together, only with considerable reserve, to make a rough index of change in the value of total material production.

Butter, bacon, and condensed milk factories, and sawmills for native timber, are included in the tables relating to manufacture shown in Chapter XXII., but are here excluded and added to dairying and forest production, respectively.

The table hereunder shows the approximate value of the production from all industries during the years specified subject to the above reservation :—

ESTIMATED VALUE OF PRODUCTION.—AUSTRALIA, 1917 TO 1929-30.

Year.	Agriculture.	Pastoral.	Dairy, Poultry, and Bee-farming.	Forestry and Fisheries.	Mining.	Manufacturing. (a)	Total.
	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.
1917 ..	59,641	91,979	31,326	6,147	24,998	65,327	279,418
1918 ..	59,036	96,662	33,738	6,890	25,462	70,087	291,875
1919-20 ..	72,202	111,683	38,830	9,670	18,982	92,330	343,697
1920-21 ..	112,801	90,641	52,613	11,136	21,613	101,778	390,582
1921-22 ..	81,890	75,054	44,417	10,519	19,977	112,517	344,374
1922-23 ..	84,183	97,127	43,542	11,124	20,316	123,188	379,480
1923-24 ..	81,166	110,216	42,112	11,866	22,232	132,732	400,324
1924-25 ..	107,163	127,301	45,190	12,357	24,646	137,977	454,634
1925-26 ..	89,267	113,556	48,278	12,784	24,592	143,256	431,733
1926-27 ..	98,295	111,716	46,980	12,790	24,007	153,634	447,422
1927-28 ..	84,328	124,554	50,261	12,181	22,983	158,562	452,869
1928-29 ..	89,440	116,733	50,717	11,617	19,597	159,759	447,863
1929-30 ..	77,109	84,563	49,398	11,371	17,945	149,184	389,570

(a) These amounts differ from those given in Chapter XXII., Manufacturing Industry, which include certain products included under Dairy Farming and Forestry in this table.

2. Productive Activity.—In previous issues an attempt has been made to measure the quantity of material production by means of production price index-numbers. These index-numbers have never been regarded as satisfactory over a long period and there is a danger in continuing them further in respect to manufacturing production. (See Production Bulletin No. 24, page 112.)

In the absence of a satisfactory measure of the quantity of production, all that is offered here is a measure of "real" production, i.e., the value of production measured in retail purchasing power. Two tables are given. The first shows "real" production per head of population. This table must be used with caution for the following reasons. The production considered is material production only, and takes no account of services. As civilization advances, material production becomes less important relative to services, and a smaller proportion of the population is engaged in material production. For example, the present use of the motor car, the cinema, and wireless is comparatively recent and these employ a much larger number of people in services than in material production, particularly when the material instruments are largely imported. It follows that material production per head of population will not measure accurately the progress of productive efficiency, but will tend to give too low a value. Unemployment, of course, will also depress it.

A better measure is given by "real" production per person engaged in material production. The second table attempts to give this. The result will afford a better measure of individual productive efficiency, but will not take into account the effect of unemployment, though the index may be somewhat depressed by short time and rationing.

The two tables tell a different story. Before unemployment became severe in 1930 "real" production per head, as shown in the last column of the first table, had remained substantially steady with minor fluctuations ever since 1906. Whatever gain had been made in individual productive efficiency had been off-set by the gradual swing-over from production of goods to production of services. With unemployment becoming intense in the last two years the index fell from its normal figure of about 100 to 83 in 1929-30. The corresponding index for 1930-31 will probably be as low as 75. This would imply a fall in average real income of about 25 per cent. from the normal level, taking unemployment into account.

The index of "real" production per person engaged, as given in the last column of the second table, shows, on the other hand, an appreciable upward tendency. It rose steeply during the war, as might have been expected; fell somewhat after the war, and recovered again. For 1929-30 it fell to 105 owing to the lag in the fall of retail prices, but for 1930-31 the index will be probably up to about 115, as contrasted with about 75 for real production per head. This high figure for real production per person engaged implies a high real wage for those in employment, and is consistent with our information about the rates of real wages which in the 2nd quarter of 1931 had maintained the high level reached in the years 1927-29. (See Appendix VIII.—Wages and Prices—Labour Report No. 21-1931.)

The data for the second table are not complete. The numbers engaged in timber-getting are not accurately known, so that the value of production on this account and the corresponding persons engaged are both left out of account. Further, the information concerning women engaged in primary production is unsatisfactory, so that males alone are counted in primary industries. In manufacturing the numbers are converted into equivalent male workers on the basis of relation of wages for male and female workers. The column headed "numbers engaged" is, therefore, rather an index than the absolute number of individuals occupied in material production, but as an index, it should be accurate enough to give a satisfactory measure of production per person engaged.

PRODUCTION PER HEAD OF POPULATION—AUSTRALIA, 1901 TO 1929-30.

Year.	Value of Material Production.				Retail Prices Index Number. (a) 1911 = 1,000.	Real produc- tion per head of population (measured in retail purchas- ing power). 1911=100.
	Total.	Per head of population.				
		Actual.	Index Number, 1911=100.			
	£1,000.	£				
1901 ..	114,585	30.0	73	880	83	
1906 ..	147,043	35.9	87	902	97	
1907 ..	166,948	40.1	97	897	109	
1908 ..	162,861	38.5	93	951	98	
1909 ..	174,273	40.3	98	948	103	
1910 ..	185,399	41.9	102	970	105	
1911 ..	188,359	41.2	100	1,000	100	
1912 ..	209,236	44.1	107	1,101	97	
1913 ..	220,884	45.1	110	1,104	99	
1914 ..	213,552	43.0	104	1,140	92	
1915 ..	255,571	51.4	125	1,278	98	
1916 ..	261,996	53.3	129	1,324	98	
1917 ..	279,418	56.1	136	1,318	103	
1918 ..	291,875	57.5	140	1,362	102	
1919-20 ..	343,697	64.8	157	1,624	97	
1920-21 ..	390,582	72.2	175	1,821	96	
1921-22 ..	344,374	62.5	152	1,600	95	
1922-23 ..	379,480	67.4	164	1,642	100	
1923-24 ..	400,324	69.6	169	1,714	99	
1924-25 ..	454,634	77.4	188	1,690	111	
1925-26 ..	431,733	72.1	175	1,766	99	
1926-27 ..	447,422	73.2	178	1,763	101	
1927-28 ..	452,869	72.6	176	1,776	99	
1928-29 ..	447,863	70.7	172	1,785	96	
1929-30 ..	389,570	60.7	148	1,783	83	

(a) Retail prices of Food, Groceries, and Houses (all Houses) for six capital cities.

PRODUCTION PER PERSON ENGAGED—AUSTRALIA, 1906 TO 1929-30.

Year.	Number engaged in Material Production. (a)	Value of Material Production per person engaged in production. (a)		Real production per person engaged (measured in retail purchasing power). 1911 = 100.
		Actual.	Index Number. 1911=100.	
	(1,000.)	£		
1906	659	223	87	96
1907	678	244	95	106
1908	677	239	93	98
1909	684	252	98	104
1910	704	262	102	105
1911	728	257	100	100
1912	744	279	109	99
1913	756	290	113	102
1914	733	289	113	99
1915	704	361	141	110
1916	685	381	148	112
1917	683	408	159	120
1918	685	424	165	121
1919-20 ..	743	460	179	110
1920-21 ..	760	510	199	109
1921-22 ..	775	441	172	107
1922-23 ..	793	475	185	113
1923-24 ..	810	491	191	111
1924-25 ..	826	547	213	126
1925-26 ..	831	515	201	114
1926-27 ..	841	527	205	116
1927-28 ..	838	536	209	118
1928-29 ..	830	536	209	117
1929-30 ..	803	482	187	105

(a) See explanatory remarks above.

§ 11. Film Censorship.

1. Legislation. The censorship of imported films derives its authority from section 52 (g) of the Customs Act, which gives power to prohibit the importation of goods. Under this section proclamations have been issued prohibiting the importation of films and relative advertising matter except under certain conditions and with the consent of the Minister. The conditions governing importation are contained in regulations issued under the Act and provide, *inter alia*, that no film shall be registered which in the opinion of the censor is (a) blasphemous, indecent or obscene; (b) likely to be injurious to morality, or to encourage or incite crime; (c) likely to be offensive to the people of any friendly nation; (d) likely to be offensive to the people of the British Empire; or (e) depicts any matter the exhibition of which is undesirable in the public interests.

The regulations governing the exportation of Australian-made films are similar, with the addition that no film may be exported which in the opinion of the Censor is likely to prove detrimental or prejudicial to the Commonwealth of Australia.

The Censorship consists of a Censorship Board of three persons and an Appeal Board of the same number, the headquarters of both Boards being in Sydney. Importers have the right of appeal to the Minister.

In addition to the censorship of moving pictures, the Censorship may refuse to admit into Australia any advertising matter proposed to be used in connexion with the exhibition of any film. Such control, does not, however, extend to locally-produced publicity.

2. **Imports of Films.** Imported films dealt with by the Censorship for the year 1930 were as follows :—1,647 films of 3,618,011 feet passed without eliminations, 380 films of 1,798,872 feet passed after eliminations, and 121 films of 541,006 feet rejected in first instance, making a total of 2,148 films of 5,957,889 feet (one copy). The countries of origin were as follows :—United States of America, 1,859 films of 5,173,593 feet; United Kingdom, 175 films of 588,530 feet; and 114 films of 195,766 feet from other countries.

3. **Export of Films.** The regulations governing the export of films came into force on the 16th September, 1926. The number of films exported for the year 1930 was 798 of 594,772 feet (one copy).

§ 12. Marketing of Australian Commodities.

Particulars in respect of the various Commonwealth Acts and Regulations, together with the operations of the Boards or Councils appointed to assist or control the marketing of Australian commodities, were published in earlier issues of the Year Book, but, owing to considerations of space, cannot be inserted herein.

§ 13. The National Safety Council of Australia.

The National Safety Council of Australia was founded in Melbourne in 1927 for the purpose of developing, mainly by means of education, safety on the road, at work and in the home, and its activities have developed in other directions, wherever the need for reducing the toll of accidents has been shown.

In the States of New South Wales, Victoria, Queensland and South Australia it issues, by courtesy of the Chief Commissioners of Police, a thirty-two page booklet *Road Sense* with every motor driver's licence and conducts continuous propaganda through the press and other sources.

It also forms Junior Safety Councils in the schools for developing a safety conscience among children. The children themselves are officers of these Councils and patrol the roads in the neighborhood of the schools and conduct the scholars across in safety.

Small films specially taken are available for children's and home safety.

A "Freedom from Accidents" competition is also conducted among employee drivers, those completing a year free from any accident for which they are responsible being given a certificate to that effect.

A Factories Service of four posters per month together with slips for pay envelopes constitutes a regular service and was supplied to over 40,000 workers in factories last year.

The Council is supported by public subscription and sales of service.

Numerous lectures are given throughout the year on the work of the Council, and various aspects of safety, and lecturers are always available for any organization which makes application to the Secretary.

CHAPTER XXVII.

STATISTICAL ORGANIZATION AND SOURCES OF INFORMATION.

§ 1. General.

Development of Australian Statistics.—(i) *General.* An outline of the history and development of statistics in Australia was published in Year Book No. 19 (see p. 988) and previous issues, particular reference being made to the Crown Colony Blue Books, Statistical Registers, Prominent State Statisticians, Statistical Conferences, the Foundation of the Federal Bureau, and Uniformity of Control. It is not proposed to repeat this information in this issue.

(ii) *Present Organization.* The organization in respect of the collection, tabulation, etc., of statistical data as between the State and Federal Statistical Bureaux, and State and Federal Government Departments was described in Official Year Book No. 19, p. 990. Limits of space preclude its repetition in this issue.

§ 2. Statistical Publications of Australia.

1. General.—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 many other reports, etc., issued regularly, which though not wholly statistical, necessarily contain a considerable amount of statistical information.

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

(i) *Publications issued by the Commonwealth Statistician.* The following is a list of the principal statistical publications issued from the Commonwealth Bureau of Census and Statistics since its inauguration up to December, 1931 :—

Australian Life Tables, 1901–1910. Australian Joint Life Tables, 1901–1910.

Census (1911) Bulletins.

Census (1911) Results.—Vols. I., II., and III., with Appendix “Mathematical Theory of Population.”

Census (1921) Results.—Bulletins, Nos. 1 to 26. Parts I. to XVI., forming Vol. I., and Parts XVII. to XXIX., forming, with the Statistician’s Report, Vol. II.

NOTE.—Part XXVII., Life Tables.

Finance—Bulletins, 1907 to 1916–17 annually; 1917–18 and 1918–19 (one vol.); 1919–20 and 1920–21 (one vol.); 1921–22 to 1929–30 annually.

Labour and Industrial Statistics.—Memoranda and Reports, various, to 1913.

Labour Report, annually, 1913 to 1930.

Local Government in Australia—July, 1919.

Official Year Book of the Commonwealth of Australia—Annually, 1907 to present issue (1931).

Oversea Trade, annually, 1906 to 1929–30.

Pocket Compendium of Australian Statistics (formerly *Statistical Digest*), 1913, 1914, 1916, and 1918 to 1931 annually.

Population and Vital Statistics Bulletins—Reports, various. Commonwealth Demography, 1911 to 1930 annually.

Production—Bulletins, annually, 1906 to 1929–30.

Professional Papers—Various. A full list will be found in Official Year Book No. 13, p. 3.

Quarterly Summary of Australian Statistics—first issue, No. 70, December, 1917, replacing *Monthly Summary of Australian Statistics* (Bulletins 1 to 69).

Social Insurance—Report to the Hon. the Minister of Trade and Customs, 1910.

Social Statistics—Bulletins, 1907 to 1915 annually, and 1918.

Superannuation for the Commonwealth Public Service—Report to the Hon. the Minister for Home Affairs, 1910.

Transport and Communication—Bulletins, 1906, 1908 to 1916 annually; 1919 to 1930 annually.

Wealth—The Private Wealth of Australia and its Growth as ascertained by various methods, together with a Report of the War Census in 1915.

(ii) *Commonwealth Parliamentary and Departmental Reports and Papers.* Lists of the principal official reports and other documents containing statistical information issued from the inauguration of the Commonwealth were given in Year Books up to No. 15, but limits of space preclude the incorporation of this information in the present volume.

3. *State Publications.*—The chief statistical publications of each State are set out hereunder. Limits of space preclude a further enumeration of the various Departmental Reports, statements of accounts, etc., issued by officials, boards, local government bodies, etc., in each State.

(a) New South Wales—Statistical Register (annual); Official Year Book of New South Wales (annual); Statesman's Year Book (annual); Vital Statistics (monthly and annual); Statistical Bulletin (monthly to December, 1919, thereafter quarterly).

(b) Victoria—Statistical Register (annual to 1916, then discontinued); Victorian Year Book (annual); Statistical Abstracts (quarterly to 1917).

(c) Queensland—Statistical Register (annual); Official Year Book, 1901; A.B.C. of Queensland Statistics (annual); Vital Statistics (annual and monthly).

(d) South Australia—Statistical Register (annual); Official Year Book, 1912 and 1913; Statesman's Pocket Year Book (annual).

(e) Western Australia—Statistical Register (annual); Statistical Abstracts (quarterly, previously issued monthly to July, 1917); Pocket Year Book of Western Australia (annual); Circular (monthly), containing Principal Statistics.

(f) Tasmania—Statistical Register (annual); Statesman's Pocket Year Book (annual); Statistical Summaries (annual); Vital Statistics (monthly).

§ 3. Selected List of One Hundred Representative Works Dealing with Australia.*

It is not claimed that this list is completely representative, as it has been restricted chiefly to recent publications or to publications still in print.

Much important literature necessary to the study of many aspects of Australia is contained in official publications or in Parliamentary Papers, which have not been included in this list.

GENERAL AND DESCRIPTIVE.

BROWNE, G. S. *Australia: a General Account; History, Resources, Production, Social Conditions.* London, 1929.

FOX, Sir F. *Australia.* 2nd edition. London, 1927.

GRONONA, L. St. C. *The Kangaroo Keeps on Talking; or, The All-British Continent.* London, 1925.

HANCOCK, W. K. *Australia.* London, 1930.

JOSE, A. W., CARTER, H. J., and TUCKER, T. G., editors. *The Illustrated Australian Encyclopaedia.* 3rd edition. 2 vols. Sydney, 1926-27.

TERRY, M. *Hidden Wealth and Hiding People.* London, 1930.

* This list has been compiled by the Librarian of the Commonwealth Parliament Library. A copy of each of the works mentioned is preserved in the Library and access thereto may be had by any Commonwealth official or other authorized person.

DISCOVERY AND EARLY VOYAGES AND EXPLORATION.

- MARRIOTT, *Mrs.* C. B. Early Explorers in Australia. London, 1925.
 SCOTT, E. Australian Discovery. 2 vols. London, 1929.
 WOOD, G. A. The Discovery of Australia. London, 1922.

HISTORY AND BIOGRAPHY.

- BEAN, C. E. W., *editor*. Official History of Australia in the War of 1914-1918 (in progress), Sydney, 1921 to date.
 BUNBURY, H. W. St. P. Early Days in Western Australia: the Letters and Journals of Lieutenant Bunbury. London, 1930.
 JOHNS, F. Who's Who in Australia, 1927-28. Adelaide, 1927.
 JOSE, A. W. A History of Australia from the Earliest Times to the Present Day. 10th edition, Sydney, 1924.
 MACKANESS, G. The Life of Vice-Admiral William Bligh. 2 vols. Sydney, 1931.
 PALMER, *Mrs.* V. Henry Bourne Higgins: a Memoir. London, 1931.
 PRICE, A. G. The History and Problems of the Northern Territory, Australia. Adelaide, 1930.
 SCOTT, E. Short History of Australia. 5th edition. Oxford, 1928.
 SYDNEY MORNING HERALD, *newspaper*. A Century of Journalism: the Sydney Morning Herald and its Record of Australian Life, 1831-1931. Sydney, 1931.
 WATSON, J. F., *editor*. Historical Records of Australia (in progress). Sydney, 1914-1925.

CONSTITUTION AND ADMINISTRATION.

- CRAMP, K. R. State and Federal Constitutions of Australia. 2nd edition. Sydney, 1914.
 KERR, D. The Law of the Australian Constitution. Sydney, 1925.
 MOORE, Sir W. H. The Constitution of the Commonwealth of Australia. 2nd edition. Melbourne, 1910.
 QUICK, Sir J., and GARRAN, Sir R. R. The Annotated Constitution of the Australian Commonwealth, 2nd edition. Sydney, 1901.
 QUICK, Sir J., and GROOM, Sir L. E. The Judicial Power of the Commonwealth: with the Practice and Procedure of the High Court. Melbourne, 1904.
 QUICK, Sir J. The Legislative Powers of the Commonwealth and the States of Australia. Melbourne, 1919.
 SWEETMAN, E. Australian Constitutional Development. Melbourne, 1925.

POLITICS.

- BROWN, J. M. Peoples and Problems of the Pacific. 2 vols. London, 1927.
 CAMPBELL, P. C., MILLS, R. C., and PORTUS, *Rev.* G. V. Studies in Australian Affairs. Melbourne, 1928.
 CANAWAY, A. P. The Failure of Federalism in Australia. London, 1930.
 HUGHES, W. M. The Splendid Adventure: a Review of Empire Relations within and without the Commonwealth of Britannic Nations. London, 1929.
 LATHAM, J. G. Australia and the British Commonwealth. London, 1929.
 PHILLIPS, P. D., and WOOD, G. L., *editors*. The Peopling of Australia. Melbourne, 1928.
 ROBERTS, S. H. History of Australian Land Settlement (1788-1920). Melbourne, 1924.
 ROYAL COMMISSION on the Constitution. Report. Canberra, 1929.
 TURNER, H. G. First Decade of the Australian Commonwealth: a Chronicle of Contemporary Politics, 1901-1910. Melbourne, 1911.
 WILKINSON, H. L. The World's Population Problems and a White Australia. London, 1930.
 WILLARD, M. History of the White Australia Policy. Melbourne, 1923.

INDUSTRIES AND RESOURCES.

- BILLS, R. V., and KENYON, A. S. Pastures New: an Account of the Pastoral Occupation of Port Phillip. Melbourne, 1930.
 GREGORY, C. D. Australian Steamships past and present. London, 1928.
 HARDING, R. Cotton in Australia: the Possibilities and Limitations of Australia as a Cotton-growing Country. London, 1924.
 HAWKESWORTH, A. Australasian Sheep and Wool. 6th edition. Sydney, 1930.
 HOLMES, J. M. An Atlas of Population and Production for New South Wales. Sydney, 1931.
 HUTCHINS, Sir D. E. Discussion of Australian Forestry. Perth, 1916.
 MAULDON, F. R. E. The Economics of Australian Coal. Melbourne, 1929.
 TAYLOR, T. G. Australia in its Physiographic and Economic Aspects. 5th edition. Oxford, 1928.

INDUSTRIAL CONDITIONS.

- ANDERSON, G. Fixation of Wages in Australia. Melbourne, 1929.
 COGHAN, Sir T. H. Labour and Industry in Australia: from the First Settlement in 1788 to the Establishment of the Commonwealth in 1901. Oxford, 1918.
 HIGGINS, H. B. A New Province for Law and Order: being a review by its late president for fourteen years of the Australian Court of Conciliation and Arbitration. Sydney, 1922.
 MURPHY, H. M. Wages and Prices in Australia: Our Labour Laws and their Effect: also a Report on How to prevent Strikes. Melbourne, 1917.
 SUTCLIFFE, J. T. History of Trade Unionism in Australia. Melbourne, 1921.

ECONOMIC CONDITIONS.

- AUSTRALIAN QUARTERLY. Sydney, 1929 to date.
 BRIGDEN, J. B. *Escape to Prosperity*. Melbourne, 1930.
 BRIGDEN, J. B. P.P.: on Purchasing Power and the Pound, Australian. Brisbane, 1931.
 BRIGDEN, J. B., and others. *The Australian Tariff: an Economic Inquiry*. Melbourne, 1929.
 COPLAND, D. B. *Credit and Currency Control*, with special reference to Australia. Melbourne, 1930.
 ECONOMIC RECORD. *The Journal of the Economic Society of Australia and New Zealand*. Melbourne, 1925 to date.
 GREAT BRITAIN. *Department of Overseas Trade*. Report on the Economic and Commercial Situation of Australia. London, to date.
 MACKAY, A. I. G. *The Australian Banking and Credit System*. London, 1931.
 MILLS, R. C., and BENHAM, F. C. *Lectures on the Principles of Money, Banking, and Foreign Exchange, and their application to Australia*. 2nd edition. Sydney, 1925.
 MILLS, S. *Taxation in Australia*. London, 1925.
 SHANN, E. O. G. *An Economic History of Australia*. Cambridge, 1930.
 SHANN, E. O. G. and COPLAND, D. B. *The Crisis in Australian Finance, 1929-1931: Documents in Budgetary and Economic Policy*. Sydney, 1931.
 SHANN, E. O. G. and COPLAND, D. B. *The Battle of the Plans: Documents relating to the Premiers' Conference, May 25th to June 11th, 1931*. Sydney, 1931.
 SMITH, N. S. *Economic Control: Australian Experiments in "Rationalisation" and "Safeguarding."* London, 1929.
 SMITH, N. S. *The Structure and Working of the Australian Tariff: with Special Reference to Empire Marketing*. London, 1929.
 WOOD, G. L. *Business and Borrowing in Australia*. London, 1930.

SCIENCE.

- BASEDOW, H. *The Australian Aboriginal*. Adelaide, 1925.
 EWART, A. J. *Flora of Victoria*. Melbourne, 1930.
 HOWGHIN, W. *Geology of South Australia: with Notes on the Chief Geological Systems and Occurrences in the other Australian States*. 2nd edition. Adelaide, 1929.
 LEACH, J. A. *An Australian Bird Book*. 5th edition. Melbourne, 1923.
 LE SOUEF, A. S., and BURRELL, H. *Wild Animals of Australasia*. London, 1926.
 LUCAS, A. H. S., and LE SOUEF, W. H. D. *Birds of Australia*. Melbourne, 1911.
 MAIDEN, J. H. *Useful Native Plants of Australia, including Tasmania*. Sydney, 1889.
 ROBERTSON, H. B. *The Spirit of Research*. Adelaide, 1931.
 SMITH, W. R. *Myths and Legends of the Australian Aborigines*. London, 1930.
 SPENCE, Sir W. B. *Wanderings in Wild Australia*. 2 vols. London, 1923.
 SPENCE, Sir W. B., and GILLEN, F. J. *The Arunta*. 2 vols. London, 1927.
 TAYLOR, T. G. *Geography of Australasia*. 4th edition, revised. Oxford, 1920.
 YONGE, C. M. *A Year on the Great Barrier Reef: the Story of Corals and of the Greatest of their Creations*. London, 1930.

LITERATURE AND ART.

- ART IN AUSTRALIA. *A Quarterly Magazine*. Sydney, 1916 to date.
 BARNARD, M. F., and ELDERSHAW, F. S. P. *A House is Built*. (An historical novel). London, 1930.
 BARNARD, M. F. and ELDERSHAW, F. S. P. *Green Memory*. London, 1931.
 GILMORE, M. *Wild Swan*. Melbourne, 1930.
 GILMORE, M. *The Rue Tree*. Melbourne, 1931.
 GREEN, H. M. *An Outline of Australian Literature*. Sydney, 1930.
 KELLOW, H. A. *Queensland Poets*. London, 1930.
 MACKANESS, G., compiler. *Australian Short Stories*. London, 1928.
 MURDOCH, W., editor. *A Book of Australasian Verse*. 2nd edition. London, 1924.
 MURDOCH, W., editor. *An Australian Story Book*. Sydney, 1928.
 MURDOCH, W. *Speaking Personally*. Sydney, 1930.
 PALMER, V. *The Passage*. London, 1930.
 PRICHARD, K. *Coonardoo: the Well in the Shadow*. London, 1929.
 RICHARDSON, H. H. *The Fortunes of Richard Mahony*. London, 1930.
 SERLE, P., compiler. *Bibliography of Australasian Poetry and Verse: Australia and New Zealand*. Melbourne, 1925.
 SERLE, P., and others, compilers. *An Australasian Anthology (Australian and New Zealand poems)*. London, 1927.
 STEVENS, B., editor. *Golden Treasury of Australian Verse*. New edition. London, 1913.
 VERSE. Vol. 1, No. 1, September, 1929 to date. Melbourne (bi-monthly).

EDUCATION.

- BROWNE, G. S., editor. *Education in Australia: a Comparative Study of the Educational Systems of the Six Australian States*. London, 1927.
 SMITH, S. H. *Brief History of Education in Australia, 1788-1848*. Sydney, 1917.
 SWEETMAN, E., LONG, C. R., and SMITH, J. *History of State Education in Victoria*. Melbourne, 1922.

(See also Annual Reports of various State departments of Education.)

APPENDIX.

[Recent information and returns which have come to hand since the various chapters were sent to press are given hereunder.]

CHAPTER III.

GENERAL GOVERNMENT.

§ 1. Scheme of Parliamentary Government.

3. Governor-General and State Governors, p. 28.—

Victoria The Hon. SIR WILLIAM HILL IRVINE, K.C.M.G. (Lieutenant Governor).

Western Australia.. The Hon. JOHN ALFRED NORTHMORE (Administrator).

§ 2. Parliaments and Elections.

3. Federal Elections, p. 31.—The twelfth Parliament was dissolved 27th November, 1931, and the elections for the thirteenth Parliament were held on the 19th December, 1931.

6. The Parliament of Victoria, p. 33.—Particulars of the Legislative Council elections held on the 6th June, 1931, are as follows :—Electors enrolled, 470,349 ; electors enrolled in contested electorates, 239,975 ; electors who voted, 93,244 ; percentage of electors who voted in contested electorates, 38.86.

10. The Parliament of Tasmania, p. 36.—Particulars of the House of Assembly election held on the 9th May, 1931, are as follows :—Electors enrolled—males 59,024, females 59,706, total 118,730 ; electors who voted—males 56,674, females 56,105, total 112,779 ; percentage of electors who voted—males 96.02, females 93.97, total 94.99.

§ 3. Administration and Legislation.

2. (c) Scullin Government, p. 38.—From the 26th June, 1931, Senator the Hon. John Joseph Daly, and the Hon. Lucien Lawrence Cunningham succeeded, as Assistant Ministers, the Hon. Edward James Holloway and the Hon. Charles Ernest Culley, whose appointments terminated on the 12th and 24th June, 1931, respectively.

CHAPTER VI.

TRADE.

§ 2. Commonwealth Legislation Affecting Oversea Trade, p. 104.

Primage Duty.—From the 10th July, 1930, a primage duty of 2½ per cent. *ad valorem* was imposed on all goods, whether dutiable or not dutiable, in addition to the duties collected in accordance with the Customs Tariff 1921–30, excepting bullion, specie, radium and certain special Governmental and other imports.

The rate of primage duty was subsequently increased to 4 per cent. as from the 6th November, 1930.

On the 11th July, 1931, a further amendment came into operation (a) exempting certain aids to primary production and minor imports from primage duty, (b) providing for a rate of 4 per cent. *ad valorem* on a few other items, mainly aids to production, and (c) increasing the *ad valorem* rate of primage duty to 10 per cent. on all other articles imported.

§ 4. Oversea Trade.

2. Balance of Trade, p. 114.—The following table shows the commodity balance of trade for each year of the period from 1910 to 1930–31 inclusive. The export totals for the years 1924–25 to 1928–29 inclusive have been reduced in accordance with the amended basis adopted for the valuation of exports of sugar and butter. Gold and silver production have also been brought into account, being included in merchandise when exported in an unrefined state and shown as a separate trade item when produced and refined in Australia.

With the exception of the above-mentioned amendments for the years 1924–25 to 1928–29, the total balance of trade is the same as that previously published as being the recorded excess of exports in each year.

BALANCE OF TRADE.—IMPORTS AND EXPORTS OF MERCHANDISE. NET EXPORTS OF BULLION AND SPECIE, AND PRODUCTION OF GOLD AND SILVER, AUSTRALIA, 1910 to 1930-31.

Year.	Imports of Merchandise.	Exports of Merchandise.	Gold and Silver produced and refined in Australia.	Total Exports of Merchandise and Gold and Silver Production.	Commodity Balance of Trade.	Net Exports of Bullion and Specie above Production.	Total Balance.
	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000
1910 ..	58.7	69.9	12.0	81.9	23.2	-8.7	14.5
1911 ..	65.0	67.4	11.1	78.5	13.5	-1.0	12.5
1912 ..	76.4	66.6	10.4	77.0	0.6	0.4	1.0
1913 ..	78.2	74.8	9.9	84.7	6.5	-7.7	-1.2
1914 (a) ..	38.9	36.3	4.6	40.9	2.0	-3.8	-1.8
1914-15 ..	63.6	57.7	9.0	66.7	3.1	-6.9	-3.8
1915-16 ..	76.9	64.0	8.3	72.3	-4.6	1.7	-2.9
1916-17 ..	75.9	85.9	7.5	93.4	17.5	4.2	21.7
1917-18 ..	60.7	74.0	7.3	81.3	20.6	-1.5	19.1
1918-19 ..	95.3	104.8	7.1	111.9	16.6	-5.0	11.6
1919-20 ..	98.9	143.2	6.2	149.4	50.5	0.4	50.9
1920-21 ..	163.8	126.7	5.1	131.8	-32.0	0.3	-31.7
1921-22 ..	103.0	123.5	4.7	128.2	25.2	-0.4	24.8
1922-23 ..	131.7	114.6	4.4	119.0	-12.7	-1.2	-13.9
1923-24 ..	140.6	115.7	4.2	119.9	-20.7	-0.4	-21.1
1924-25 ..	146.6	159.3	3.8	163.1	16.5	-12.3	4.2
1925-26 ..	151.2	140.7	3.4	144.1	-7.1	1.7	-5.4
1926-27 ..	164.1	131.8	3.2	135.0	-29.1	8.5	-20.6
1927-28 ..	146.9	137.4	3.0	140.4	-6.5	-0.2	-6.7
1928-29 ..	143.3	137.7	2.8	140.5	-2.8	0.8	-2.0
1929-30 ..	130.8	97.4	2.7	100.1	-30.7	24.7	-6.0
1930-31 (b)	60.2	(c) 75.8	2.6	78.4	18.2	10.1	28.3

(a) First six months only.

(b) Preliminary figures.

(c) Estimated British currency values.

Balance of International Payments, p. 115.—The following table gives a statement of the balance of visible trade for the last three years, together with the oversea payments and receipts on public account. For this period it has been possible to obtain more complete information than that which has been previously published in the Year Book.

The table does not purport to give a complete statement of the balance of international payments. Private investments, dividends, private payments for services, tourist expenditure, and remittances to friends, are some important items not taken into account.

BALANCE OF PAYMENTS, AUSTRALIA, 1928-29 TO 1930-31.

Particulars.	1928-29.	1929-30.	1930-31.
	£'000,000 sterling	£'000,000 sterling	£'000,000 sterling
Current Items—			
Credits—			
(a) Net export of goods	-2.8	-30.7	18.2
(b) Net export of gold and silver	0.8	24.7	10.1
Total credits	-2.0	-6.0	28.3
Debits—			
(c) Interest payable abroad	28.8	29.0	29.1
(d) Balance of other Government payments	4.1	3.4	1.5
Total debits	32.9	32.4	30.6
Credit balance on year	-34.9	-38.4	-2.3
Capital Movement—			
(e) By long term loans	2.1	-3.7	-2.6
(f) By net increase in short term debt .. ..	..	5.0	28.1
(g) By balance, not here accounted for	32.8	37.1	-23.2
Credit balance on year	34.9	38.4	2.3

(a) Includes the value of gold and silver production for the year. The values as recorded of sugar and butter exports for 1928-29 have been reduced to actual values received.

(b) Excluding the gold and silver production of the year.

(c) Commonwealth, State, and Local Government (including Boards of Works, Harbour and Tramway Trusts, &c.). Interest as at the beginning of the year specified. The local Government interest was roughly £1.5m. yearly.

(d) This item includes Government debits and credits abroad, which have not been taken into account in the previous columns. Debits for material imported by Governments, particularly by the Post Office, the Defence Department, and the Railways Departments, have been included in the commodity balance of trade (a), except in the case of complete warships. The sub-items are given in the table below. The values are rough in some cases, and probably a number of small payments are omitted, but the total is sufficiently accurate for "balance of payments" purposes.

(e) Commonwealth, State and Local Government.

(f) Commonwealth and State; not including bank overdraft.

(g) The balance, here ascribed to capital movements, includes the balance (probably small) on current items which have not been taken into account. The movement in bank overdraft is a prominent feature in these years. Overdrafts in London were £29.1 m. at 30th June, 1930, and £5,000,000 at 30th June, 1931, so that there was a decrease of overdraft by £24.1 m. in the year, which corresponds very closely to the debit balance of £23.2 m. set down in the table. Similar information for the preceding years is at present incomplete, but the increase in overdraft in those years could have accounted for less than half of the capital balance. There was, however, probably a considerable credit balance in London at June, 1928, on account of loans of £54,000,000 raised abroad in 1927-28.

BALANCE OF OTHER GOVERNMENT PAYMENTS.

Particulars.	1928-29.	1929-30.	1930-31.
	£'000 sterling	£'000 sterling	£'000 sterling
Dr.—			
Sinking Fund payments	1,972	2,074	992
Repayment of principal of debt to British Government	1,425	1,496	1,570
Money Orders—balance	240	270	148
Oversea mails	130	130	130
Australia House and Agents—General ..	164	164	140
Department of Defence	1,386	453	132
Total "Other" Debits ..	5,317	4,587	3,112
Cr.—			
Reparations	876	878	1,265
Sales of Steamers—Interest and part of Principal	250	256	247
War Pensions—Credit balance	39	84	73
Total "Other" Credits ..	1,165	1,218	1,585
Net Debit	4,152	3,369	1,527

The balance of money orders above what is accounted for in the balance of visible trade is estimated on the lines adopted by Dr. Roland Wilson (Economic Record, May, 1931, pp. 51-2).

CHAPTER VII.

TRANSPORT AND COMMUNICATION.

E. MOTOR VEHICLES.

5. Motor Vehicles Registered, p. 215.—Motor Vehicles registered at 30th June, 1931, were as follows :—

MOTOR VEHICLES REGISTERED AT 30th JUNE, 1931.

State or Territory.	Motor Cars.	Commercial Vehicles.	Motor Cycles.	All Vehicles.	
				No.	Per 1,000 of Population.
New South Wales	154,096	43,454	25,453	223,003	89
Victoria	116,568	28,028	23,635	168,231	94
Queensland	(a) 80,185	(b) 2,102	8,544	90,831	95
South Australia	37,541	10,532	8,152	56,225	96
Western Australia(c)	13,221	3,725	4,129	21,075	(e)
Tasmania	12,020	2,169	4,289	18,478	84
Northern and Central Aus- tralia	307	205	32	544	117
Federal Capital Territory	1,096	215	84	1,395	165
Australia(d)	415,034	90,430	74,318	579,782	(e)

(a) Pneumatic tyred vehicles.

(b) Solid tyred vehicles.

(c) Metropolitan Area only.

(d) Incomplete.

(e) Not yet available.

CHAPTER VIII.

FINANCE.

THE FINANCIAL CRISIS.

1. **General.**—It is not within the functions of the Year Book to attempt a full record of the financial and economic crisis which began to develop in Australia towards the end of 1929, and space does not permit even a collection into one place of the statistical and financial data relevant to the subject. The principal documents relating to the crisis, however, up to June, 1931, have been conveniently put together, with some brief comment, by Professors E. G. Shann and D. B. Copland in the two handy volumes, entitled "The Crisis in Australian Finance", and "The Battle of the Plans". These may be supplemented by the official reports of the "Premiers' Conference", Parliamentary Papers, No. 236, reporting the Conference of 25th May to 11th June, 1931, and No. 269, reporting the Conference of 14th August to 12th September, 1931. Particular reference may be made to the Treasury Officers' Report on the Budgets of 1931-32 in the latter paper. Discussions of the economic and financial issues will be found in Nos. 11, 12, and 13, of the *Economic Record* (Melbourne); in the "Economic Survey of Australia" published in the Annals of the American Academy of Political and Social Science (Philadelphia) for November, 1931, and the Circulars of the Bank of New South Wales (Sydney).

2. **Elements of the Situation.**—The elements of the situation before the depression began, were :—

- (1) A national income of about £100 per head in 1928-29.
- (2) Oversea interest obligations, fixed for the most part in sterling of about £5 per head.
- (3) Imports of about £27 per head in 1926-27, falling to £23 per head in 1928-29.
- (4) Exports of commodities, which for some years had failed to pay for imports, and in 1928-29 were £21 per head.
- (5) A standing net debit of interest obligations and balance of visible trade, which had been met by oversea long-term loans averaging about £5 per head for some years, helped by some investment of private capital from oversea.
- (6) Deficits in Government finance for the Commonwealth and all States which for 1929-30 totalled about £1 15s. per head.

On this situation impinged :—

- (1) A world fall in commodity prices, with consequent general depression and increase in the burden of fixed money claims which were estimated for Australia at about £20 per head in 1928-29.
- (2) A fall in Australian export prices, which, in gold, have now (October, 1931) sunk to about 30 per cent. of the 1927-28 level, and to 50 per cent. even in the depreciated Australian £, while, at the same time, interest obligations remained fixed in sterling for the most part, and import prices fell very much less than export prices, probably only to 70 per cent. in gold.
- (3) A total cessation of oversea long-term loans, which had hitherto balanced interest obligations overseas.
- (4) Government deficits, which had been about £1 15s. per head in 1929-30 rose to nearly £5 per head in 1930-31, and threatened to be £7 per head in 1931-32, with consequent further loss of business confidence and intensification of the depression.

3. Attempts to meet the Situation.—A brief diary of the attempts to meet this situation may be set out as follows:—

July-August, 1930. Sir Otto Niemeyer, representing the Bank of England, visited Australia at the invitation of the Commonwealth Government, and made a statement on severely deflationary lines to a Conference of Premiers in Melbourne. (See "The Crisis in Australian Finance", p. 18.) The Premiers resolved to balance budgets in 1930-31.

22nd January, 1931. The Commonwealth Court of Arbitration after a protracted hearing made a comprehensive survey of the economic position (See "The Crisis" pp. 102-145), and awarded a 10 per cent. reduction in all railway wages which were the subject of the case, operative from the 1st February, 1931. This judgment was followed by others making the same reduction in practically all wages and salaries, which were determined by Federal award. This reduction of 10 per cent. was in addition to the "automatic" adjustment to falling prices and made the total reduction over 20 per cent. on the wage ratio of 1929. Wages under State jurisdiction were gradually brought into line, except in New South Wales where no adjustment was made in State awards.

*January-February, 1931. The Canberra Conference (Loan Council and Premiers).—*A committee of Treasury officers presented a report analysing the financial and economic position. The report preserved much of the deflationary tone of Sir Otto Niemeyer's statement, and commented adversely on the high exchange rate. Curtailment of Government expenditure was strongly urged, but no definite reductions were proposed. This report was signed by four of the State Under-Treasurers only.

Mr. Lang (Premier of New South Wales) proposed as an alternative the reduction of internal interest on Government bonds to 3 per cent., the stoppage of oversea interest payments pending agreement for a similar reduction, and the substitution for the gold standard of "currency based on the wealth of Australia".

The Conference rejected Mr. Lang's motion and resolved to aim at budget equilibrium in three years, reducing salaries and wages on a cost of living basis, taxing interest on Government bonds at the source and putting on the banks the responsibility reducing of interest rates.

January.—The Unpegging of the Exchange.—Exchange on London had been held by the banks at £8 10s. per cent. discount since 9th October, 1930. On 5th January, 1931, on the initiative of the Bank of New South Wales, the rate was allowed to move up until it reached 30 per cent. on 29th January, 1931. At this figure it was held, in spite of some "outside" competition at higher rates.

2nd April.—Letter from the Commonwealth Bank to the Chairman of the Loan Council, stating that it was unable to finance Governments further than the outstanding £25,000,000 in London, and a limit of £25,000,000 in Australia. This limit in Australia was bound to be, and was, in fact, reached within three months.

25th May to 11th June. Premiers' Conference, Melbourne. The Conference had before it a report of a Committee of economists and Treasury officers, of which Professor D. B. Copeland was Chairman. This report proposed a definite scheme of reduction of expenditure of all kinds, including wages, salaries, pensions, and interest. The reduction aimed at was from 20 to 25 per cent. below the 1928-29 level, based on the actual reduction in wage rates in Federal awards of something over 20 per cent. The aim of the proposals was to reduce total Government deficits in 1931-32 from a prospective £40,000,000, to some figure not much above £10,000,000. This report which is printed in full at the end of this section, formed the basis of the "Premiers' Plan," adopted on the 10th June, 1931, referred to hereinafter.

19th June.—Gold Position. The minimum proportion of gold to be held against notes was reduced from 25 per cent. to 15 per cent. with provision for gradual restoration over a term not exceeding five years to 25 per cent. This amendment of the Commonwealth Bank Act was put through by general consent to permit further shipments of

gold to meet short-term debt in London. The gold movements since June, 1929, have been roughly :—

30th June, 1929—		£ m.
Gold held by Note Issue Department .. .. .	.. .. .	22.6
Gold held by Trading Banks .. .. .	.. .. .	22.6
Other (say) .. .. .	.. .. .	0.8
Add Production to 30th September, 1931 .. .. .	.. .. .	4.6
		<hr/>
Total .. .. .	.. .. .	50.6
		<hr/>
Net Exports of Gold 1st July, 1929 to 30th September, 1931 .. .. .	.. .. .	39.8
30th September, 1931—		
Gold held by Note Issue Department .. .. .	.. .. .	10.5
Gold held by Trading Banks (about) .. .. .	.. .. .	0.3
		<hr/>
Total .. .. .	.. .. .	50.6
		<hr/>

The reserve ratio at 30th June, 1929, was 53.4 per cent. ; at 30th September, 1931, it was 20.2 per cent.

26th June.—*Reduction of Bank Deposit and Advance Rates.* The Commonwealth Bank and the trading banks reduced by 1 per cent. the rates on new fixed deposits or renewals. This was followed by a further reduction on 27th November, of one-half and one-quarter of 1 per cent. on short and long term deposits respectively.

1st July. The Commonwealth Bank reduced rates for advances by 1 per cent. The other trading banks by successive small steps fell into line.

The Commonwealth and State Savings Banks reduced interest rates by 1 per cent., except in Victoria where successive reductions of one-half and one-quarter of 1 per cent. were made by the State Savings Bank.

July–August.—*Conversion Loan.* Conversion Loan, by which the rate of interest on all internal Government debt was reduced by approximately 2½ per cent.

The results of the conversion plan will be best understood by the consideration of the following figures :—

		£
Total internal public debt at 31st July, 1931 .. .. .	.. .. .	557,998,904
		<hr/>
Conversion applications notified .. .. .	.. .. .	510,331,153
Dissents notified .. .. .	.. .. .	16,655,769
Conversion effected automatically (in absence of notification of either conversion or dissent) .. .. .	.. .. .	31,011,982
		<hr/>
		557,998,904

The amount held by dissentients was thus a little less than 3 per cent. of the total outstanding public debt.

The annual savings in interest to all the Governments for a full year in consequence of the conversions effected will be about £6,500,000, but some part of this relief is being passed on to settlers and other debtors to the State Governments.

14th August to 12th September.—Resumption of Premiers' Conference in Melbourne. The various Governments reported the adjustments of their budgets to the Premiers' Plan. After some allowance had been made for unforeseen contingencies, the new budgets appeared on the whole to be in fair conformity with the Premiers' Plan, though for some of the State Governments there was an appreciable gap. Measures were agreed upon for applying compulsion to the small amount of Government Debt which had not been converted, with provision for the redemption from the National Debt Sinking Fund of securities held by persons in necessitous circumstances.

21st September. Great Britain ceased payment in gold, and sterling depreciated something over 20 per cent. in terms of gold, thus making a corresponding reduction in the real burden of interest payments by Australian Governments, which are for the most part fixed in sterling. Australian exchange was kept for the time at the old discount of 30 per cent. with sterling, so that no direct relief to Australian budgets ensued.

3rd December.—Exchange. Commonwealth Bank Board resolved to take responsibility for the regulation of sterling exchange and to announce rates for the coming week every Friday. The rate was fixed at £125 for £100 sterling, in place of £130 which had been the official bank rate since 29th January. It may be noted that sterling in the preceding week had depreciated from about 20 per cent. discount on gold to about 30 per cent.

4. Position of Government Finance, 31st October, 1931.—The position of Government finance at the 31st October, 1931, the latest date for which complete figures are available, is outlined in the summarized statements hereunder.

RECEIPTS, EXPENDITURES AND DEFICITS, COMMONWEALTH AND STATES, FOR FOUR MONTHS ENDED 31ST OCTOBER, 1930, AND 1931.

Commonwealth or States.	Four Months ended—					
	31st October, 1930.			31st October, 1931.		
	Receipts.	Expenditure.	Deficit.	Receipts.	Expenditure.	Deficit.
	£'000.	£'000	£'000.	£'000.	£'000.	£'000.
Commonwealth ..	19,546	25,446	5,900	21,506	22,223	717
New South Wales ..	12,059	17,365	5,306	11,097	(a)18,879	7,782
Victoria ..	5,554	9,335	3,781	5,290	8,745	3,455
Queensland ..	4,165	4,844	679	3,765	4,619	854
South Australia ..	2,361	3,856	1,495	2,541	3,925	1,384
Western Australia ..	2,366	3,114	748	2,224	3,118	894
Tasmania ..	746	956	210	670	888	218
Total States ..	27,251	39,470	12,219	25,587	40,174	14,587
Net Total (b) ..	43,243	61,362	18,119	44,048	59,352	15,304

(a) Includes interest £711,000 and exchange £322,000 (Total, £1,033,000) attributable to the year 1930-31.

(b) Exclusive of amounts received by States from Commonwealth on account of interest on States debts and special "disabilities" grants.

In the above table there is a certain unavoidable duplication of receipts and expenditure as between Commonwealth and States, e.g., interest paid by the States to the Commonwealth on account of advances for soldier land settlement appears as expenditure by States and as revenue of the Commonwealth.

As compared with the corresponding four months of 1930-31, the first four months of 1931-32 show that the net total receipts have improved by £800,000, and expenditures have declined by £2,000,000, the consequent improvement in regard to deficits being £2.8 million.

Although increased taxation revenue of £2.2 million was responsible for the improved receipts, this was largely offset by a reduction of railway revenue of £1,000,000. The taxation revenue of the Commonwealth increased by £2.4 million, that of Victoria, by £250,000; and of South Australia by £140,000, while New South Wales, Queensland and Tasmania, showed decreases of approximately £440,000, £130,000, and £40,000 respectively. There was practically no change in the amount of taxation collections in Western Australia during the two periods under review.

The reduction of interest on loans by Governments arising from the Premiers' Conference was another factor offsetting the increase in taxation.

Notwithstanding substantial increases in expenditure on account of exchange and unemployment relief, the aggregate net total expenditure decreased by £2,000,000. This decrease would, however, have been £3,000,000, had it not been for the fact that the figures for New South Wales for 1931-32 include £1,033,000 on account of interest and exchange attributable to the year 1930-31.

On the other hand, the suspension by the British Government of payments under the *Funding Arrangements Act 1921*, has contributed to the satisfactory budgetary position of the Commonwealth Government, as the deficit would otherwise have been increased by roughly £2,000,000 ordinarily due on 30th September, 1931, plus exchange thereon.

Railway expenditure has decreased by approximately £1.3 million, and, although complete details for other business undertakings are not available for all States, the information given definitely indicates a reduction of expenditure on these services of at least £300,000. Similarly, expenditure on account of ordinary services shows a distinct downward trend as compared with the previous year.

The statement below shows for the Commonwealth and each State the deficit position at 31st October, 1930, in comparison with the actual deficit for 1930-31, and the deficit for the four months of 1931-32, with the estimates of the deficit for that year.

Column four of the table shows an estimate of the financial position prior to the May-June 1931 Conference, when proposals for the restoration of budgetary equilibrium were formulated. The position after making the necessary adjustments consequent upon the adoption of the "Conference Plan" is as stated in column five, while the deficits budgeted for are given in column six.

DEFICITS, COMMONWEALTH AND STATES, FOR FOUR MONTHS TO 31ST OCTOBER, 1930 AND 1931.

Government.	1930-31.		1931-32.			Deficit for Four Months.
	Deficit.		Estimated Deficit for Year.			
	For Year.	For Four Months.	Prior to Melbourne Conference.	After Conference Adjustments.	Budget.	
1.	2.	3.	4.	5.	6.	7.
Commonwealth ..	£'000. 10,760	£'000. 5,900	£'000. 20,400	£'000. 4,380	£'000. 5,170	£'000. 717
New South Wales ..	7,850	5,306	11,510	5,410	(b) 6,700	7,782
Victoria ..	2,450	3,781	3,060	1,310	820	3,455
Queensland ..	840	679	1,630	760	1,870	854
South Australia ..	1,810	1,495	2,400	1,500	(c) 1,600	1,384
Western Australia ..	1,420	748	1,860	1,200	1,230	894
Tasmania ..	240	210	220	90	180	218
Total States ..	14,610	12,219	20,680	10,270	12,300	14,587
Grand Total ..	(a)25,370	18,119	41,080	14,650	17,470	15,304

(a) Excluding interest, &c., £3,834,149 paid by the Commonwealth on behalf of New South Wales and not recovered at 30th June, 1931. Of this amount £1,672,722 would normally have been brought to account as expenditure by New South Wales during 1930-31 and the remainder in 1931-32.

(b) Excluding £1,672,000 interest and exchange in respect of 1930-31.

(c) Excluding certain sinking fund and depreciation charges.

While it is rather too early in the current financial year to draw reliable inferences from the position as disclosed in the foregoing table, it would appear that unless unforeseen developments arise there is good reason to anticipate that the aggregate deficits of all Governments will not exceed the amounts provided for in the several budgets.

5. **The Adopted Plan.**—The full text of the Report prepared by the representatives of the various Australian Governments in connexion with the national financial position is as follows :—

CONFERENCE REPORT.

The Governments of Australia have met in Conference to consider what measures are possible to restore solvency and avoid default. The national income was £650,000,000 in 1927–28. It fell to £564,000,000 in 1929–30, and a further fall to £450,000,000 in 1931–32 is estimated.

This has reacted on Government finance.

The total deficit of the seven Australian Governments will be £31,000,000 for the present financial year. The Governments are now going behind at the rate of £40,000,000 a year, in spite of reduction of expenditure amounting to £11,000,000 per annum since 1929–30. The deficits have been met hitherto by bank overdraft. The Commonwealth Bank has notified the Governments that the limit to that process has been reached. Early in July, Governments will have insufficient means to meet their obligations. Unless the drift be stopped, Public Service salaries and wages, pensions, and interest could not be paid in full. Public default would be followed by a partial breakdown in public utilities such as railways, and in private industry and trade. Revenue would come toppling down, and even half-payment might become impossible. With this prospect, everything that can be got from Government economy, from taxation, and from reduction of interest, must be called on to bring the debit balance within manageable limits that can safely and practicably be covered for a time by borrowing.

THE PLAN.

The Conference has, therefore, adopted a plan which combines all possible remedies in such a way that the burden falls as equally as possible on every one, and no considerable section of the people is left in a privileged position. This sharing of the burden is necessary to make the load more tolerable ; it is still more necessary, because only on this condition will it be possible to get the combined effort required.

The plan has been adopted by the Conference as a whole, each part of which is accepted on the understanding that all the other parts are equally and simultaneously put into operation. It embraces the following measures :—

- (a) A reduction of 20 per cent. in all adjustable Government expenditure, as compared with the year ending 30th June, 1930, including all emoluments, wages, salaries, and pensions paid by the Governments, whether fixed by statute or otherwise, such reduction to be equitably effected ;
- (b) Conversion of the internal debts of the Governments on the basis of a 22½ per cent. reduction of interest ;
- (c) The securing of additional revenue by taxation, both Commonwealth and State ;
- (d) A reduction of bank and Savings Bank rates of interest on deposits and advances ;
- (e) Relief in respect of private mortgages.

These proposals require the greatest effort in economy and taxation which the Conference considers it safe to attempt. The effect will be still to have a gap of from £13,000,000 to £15,000,000 to be covered for a time by borrowing.

REDUCTION OF EXPENDITURE.

The plan provides for Government economy on the basis of an immediate cut, averaging 20 per cent. for all Government wages and salaries below the level of 1929–30. To this will be added all saving that can be made from a strict scrutiny into the necessity of every item of Government expenditure.

The same general principle is extended to all pensions provided out of Government funds—old-age and invalid pensions, war pensions, superannuation pensions, and the maternity allowance. Over the whole field of this expenditure, the cut will amount to 16 per cent. The result will be, for each Government, savings as shown in the following table :—

FURTHER REDUCTIONS IN EXPENDITURE BEYOND THOSE PROVIDED FOR IN THE PRESENT ESTIMATES FOR 1931-32.—ADMINISTRATION AND PENSIONS.

	£
Commonwealth	6,050,000
New South Wales	3,300,000
Victoria	880,000
Queensland.. .. .	620,000
South Australia	400,000
Western Australia	560,000
Tasmania	110,000
	11,920,000

The further savings to be made in accordance with the plan are, therefore, £11.92 millions for all Governments. The total reduction of expenditure (excluding Commonwealth pensions) compared with 1929-30 will be £21.4 millions.

TAXATION.

Taxation equally must make a maximum contribution. Ordinary direct taxation has nearly reached the limit in some States. The Commonwealth will raise an additional £1.5 millions by income tax, and what capacity for direct taxation remains will be left for a last reserve as the option of the several State Governments. The only possible substantial contribution must, therefore, be by taxes on consumption so designed as to add as little as possible to the costs of industry. It has been agreed that the sales tax and primage should be increased to give £6.4 millions of additional revenue. By the agreed economies and taxation, the position estimated for 1931-32 will be improved by £20,000,000, exclusive of savings on interest and additional State taxation.

REDUCTION OF INTEREST.

The reduction in the rate of interest is of urgent importance, for two reasons :—

1. With the fall in prices since 1929, interest payments have become an intolerable load on all industry, and immediate relief is necessary for the restoration of industry and employment. Government budgets are subject to the same strain, because revenue falls with falling prices, and thus interest relatively becomes a heavier burden. A reduction of interest will substantially reduce the deficit which remains when economy and taxation have made their maximum contribution.

2. Income from interest, particularly from Government bonds and bank interest, has hitherto suffered little loss. A reduction of interest will ensure that it will contribute equitably to the common effort to restore solvency. Unless the contribution is made, it is not to be expected that the wage-earner and the pensioner will acquiesce in the very real hardships imposed on them by this plan.

The second of these objects could be obtained by taxation, but taxation would give no relief to industry and no stimulus to employment. The Conference has, therefore, resolved on an appeal to all bond-holders to accept a reduction of 22½ per cent. in the effective rate of interest. This is to be done by a conversion loan, and the new securities will be exempt from the present super-tax of 7½ per cent. and from any additional taxation imposed on income from interest, in order to spread as evenly as possible the sacrifices required to restore solvency.

Concurrently with the reduction of bond interest must go a reduction in private interest. This is mainly a matter for the banks, who are co-operating to that end. Reductions of interest are being arranged between the Commonwealth Bank, the trading banks, and the Savings Banks which will result in the rapid reduction in the interest on money required for trade and industry. This reduction of interest will be supplemented by legislation giving relief to mortgagors. This legislation forms part of the plan.

The lower rates of interest will greatly stimulate the general demand for credit, and the conference has the assurance of the Commonwealth Bank and the trading banks that, as a result of the operation of the plan, money will be readily available. With falling costs and ample supplies of credit, industry should then recover. This recovery will be stimulated by the maintenance of a free external exchange rate and the avoidance of any measures that will cause a sudden further fall in prices. A reduction of existing exchange rates will best be achieved on rising markets for Australian exports. If premature attempts are made to force the rates down earlier, they may bring about a further crisis by reducing export values once more.

SUMMARY.

The total effects of the plan on the budgets of 1931-32 may now be summarized. The total deficit as estimated for 1931-32 was £39,000,000. The extra economies agreed upon take £12,000,000 off this total. New Federal taxation embodied in the plan will contribute a net £7.5 millions, in addition to any increases which may be obtained by the States. The saving of interest by conversion will reduce the internal interest burden by £6.5 millions. As Governments will pass on this relief to their own borrowers—public bodies, public utilities, and private individuals—the net benefit to the budgets will be £5.5 millions. The combined effect will be a reduction of the deficit from £40,000,000 to £15,000,000. A further reduction of the deficit by £2,000,000 could be secured by levelling up the income tax in at least two States.

These very substantial reductions will go far to restore confidence both at home and abroad. This restoration of confidence, with the indirect effects of the fall in interest, may be expected to restore revenue, even to some extent in 1931-32, and substantially in the years following. A rise in world's price for our exports would accelerate the upward movement, and this rise may reasonably be expected within the next two years. With any improvement in industry, the expenditure on unemployment sustenance will decline, with further relief to budgets.

With this prospect, and confidence restored, there would be no difficulty in borrowing temporarily to meet the deficits as substantially reduced.

The deficit includes £10.6 millions additional charge on overseas interest and external payments on account of exchange. If the exchange rate falls, there will be a corresponding decline in the deficit. On the other hand, if the present exchange rate is maintained, its full effect in keeping up local prices and incomes will have a beneficial effect on Government revenues.

A UNITED EFFORT.

Before the details of the plan were settled, and in order to make it effective, the Leaders of the Opposition in the Commonwealth Parliament were invited to attend the Conference. After full discussion of the whole plan, the following resolution was passed :—

“ The Conference, including the Leaders of the Opposition in the Federal Parliament, having most carefully considered the financial position of the Commonwealth and the States, and recognizing the national inability to meet existing Government charges, is unanimously of the opinion that to prevent national default in the immediate future, and a general failure to meet Government payments, all expenditure, including interest on Government securities and other interest, and expenditure upon governmental salaries and wages, pensions, and other social services must be substantially reduced.

These measures, drastic as they may appear, are the first essentials to the restoration of prosperity and the re-employment of our workless people.

The necessary sacrifice is due to national inability to pay, and it must, therefore, be shared by all.

The Conference has accordingly provided a conversion plan under which bond-holders may make their contribution to the general sacrifice by themselves accepting the lower rate of interest which the existing position makes unavoidable.

The Conference therefore appeals to all sections of the people to recognize the position, and, in the interests of the nation to accept the sacrifices which are involved.

A National Appeal Executive, consisting of the Prime Minister, the Leader of the Opposition, and the Chairman of the Commonwealth Bank Board, is appointed by this Conference to direct the conversion campaign."

CONCLUSION.

1. The plan agreed upon is an indivisible whole, and the carrying out of any one part is dependent upon the carrying out of all parts.

2. It involves sacrifices by every member of the community, and the Conference appeals to all sections of the people to recognize the position, and to accept these sacrifices as a national duty.

3. To the bond-holder the plan involves a reduction of interest by 22½ per cent., but it safeguards the capital of the investor.

4. To the Government employee the plan involves a reduction which, with reductions already effected, represent an average of 20 per cent., but it makes his position, and future emoluments, much more secure.

5. To the war pensioner, the plan involves a reduction of 20 per cent. (in some cases less), but it removes the danger of any sudden stoppage, and provides security for future payments.

6. To the invalid and old-age pensioner the plan involves a reduction in most cases of 12½ per cent., but it removes the danger of any sudden stoppage, and provides security for future payments.

7. To all of these a large part of the reduction is counterbalanced by the fall in prices, and in the cost of living.

8. To the unemployed, the plan provides for a restoration of employment, and in the meantime makes more secure the continuation of sustenance relief.

9. With the sacrifice distributed over the whole community in this manner, with the lead of Governments followed by all citizens, with the revival of business confidence and activity, a sure foundation will have been laid for the restoration of general prosperity in Australia.

EFFECT OF THE PLAN ON DEFICITS.

	1929-30 Actual.	1930-31 Estimate.	1931-32.	
			Original Estimate.	After making the Agreed Adjustments.
	£ millions.	£ millions.	£ millions.	£ millions.
Commonwealth ..	1.50	13.40	20.40	4.38
New South Wales ..	5.57	10.48	11.51	5.41
Victoria ..	1.17	2.60	3.06	1.31
Queensland ..	.72	.74	1.63	.76
South Australia ..	1.63	2.20	2.40	1.50
Western Australia ..	.52	1.52	1.86	1.20
Tasmania ..	.02	.21	.22	.09
Total States ..	9.63	17.75	20.68	10.27
Total ..	11.13	31.15	41.08	14.65

FINAL RESOLUTION.

Just prior to concluding its business, the Conference unanimously passed the following resolution, on the motion of Mr. Hill (Premier of South Australia):—

"The representatives of each Government present at this Conference bind themselves to give effect promptly to the whole of the resolutions agreed to at this Conference."

CHAPTER VIII.

Finance—continued.

A. COMMONWEALTH FINANCE.

COMMONWEALTH FINANCE, 1930-31.

Particulars.	See page—	Amount.	Per Head of Population.
Consolidated Revenue Fund—(a)		£	£ s. d.
Revenue	239	69,566,920	10 14 10
Expenditure	240	80,324,539	12 8 1
Loan Fund—			
Works Expenditure, 1930-31	255	1,991,026	0 6 2
Aggregate expenditure to 30th June, 1931 ..	„	85,023,904	..
Public Debt, 30th June, 1931—			
Commonwealth—			
War	283	277,780,226	42 14 8
Works	„	110,938,319	17 1 3
Total	„	388,718,545	59 15 11
States	„	767,317,573	118 5 7
Grand Total	„	1,156,036,118	177 16 9
Place of Maturity—			
Australia	„	556,901,206	85 13 5
Overseas	„	599,134,912	92 3 4
Total	„	1,156,036,118	177 16 9

(a) Excludes interest received from States on account of States' Debts, recoverable from States.

E. PRIVATE FINANCE.

§ 2. Cheque-paying Banks, p. 287.

Suspension of Payments.—(a) *Primary Producers' Bank of Australia Ltd.* On 24th August, 1931, the Primary Producers' Bank of Australia Ltd. was forced to close its doors owing to the depletion of its liquid assets. Before closing, unsuccessful attempts had been made to amalgamate with some other financial house and at the end of September, 1931, steps were taken for the winding up of the bank's business.

(b) *Federal Deposit Bank.* Following on the closure of the Primary Producers' Bank, which had its origin in Queensland, considerable uneasiness developed amongst depositors in the small banks, and the stream of withdrawals seriously embarrassed the managements of these institutions. The Brisbane Permanent Building and Banking Co. Ltd., and the Queensland Deposit Bank received the support of some of the stronger trading banks, and were able to withstand the demands on their resources. The directors of the Federal Deposit Bank decided to suspend payment as from 5th September, 1931, and court orders were subsequently issued for placing the affairs of the bank in the hands of a liquidator. At the end of October 1931, a scheme of settlement was placed before depositors providing for the immediate payment of small current accounts and extended payment of higher amounts. A proposal for the reconstruction of the bank on building society lines is also under consideration.

Amalgamations.—Negotiations for the amalgamation of the Australian Bank of Commerce Ltd. with the Bank of New South Wales were completed and became effective from 17th November, 1931.

On 12th November, 1931, an agreement was completed for the amalgamation of the Brisbane Permanent Building and Banking Co. Ltd., and the Queensland Deposit Bank.

§ 3. Savings Banks, p. 296.

Government Savings Bank of New South Wales.—Owing to the continuous demands of depositors depleting the liquid assets of the bank, the Commissioners decided, after abortive negotiations for its absorption by the Commonwealth Savings Bank, to suspend payments to depositors from 22nd April, 1931, until further notice.

On 7th September, 1931, the Government appointed new Commissioners and the Savings Bank re-opened, accepting deposits repayable on demand in what were termed "new business" accounts. No arrangements had then been completed to enable depositors in the "old business" division to withdraw deposits, although transfers from one account to another in that division were permitted.

Negotiations for the absorption of the Government Saving Bank by the Commonwealth Savings Bank were re-opened by the new Commissioners, and early in December, 1931, agreement was reached upon all contentious aspects of the transfer. While full details of the terms of the agreement are not yet available, it has been announced that the Commonwealth Savings Bank will on and from the 15th December, provide relief to depositors in the "old business" division to the extent of up to £10 or 10 per cent. of their deposits, whichever is the greater.

State Savings Bank of Western Australia.—During August 1931, consistently increasing withdrawals induced the Government of Western Australia to negotiate for the amalgamation of the State Savings Bank with the Commonwealth Savings Bank. Satisfactory arrangements were completed and the transfer was effected during October, 1931.

Latest Statistics.—The following statement shows the amount on deposit and the average deposits per Savings Bank account at 30th June, and 30th September, 1931:—

SAVINGS BANKS—DEPOSITS AND AVERAGE PER ACCOUNT, 1931.

State or Territory.	At 30th June, 1931.		At 30th September, 1931.	
	Amount on Deposit.	Average per Account.	Amount on Deposit.	Average per Account.
	£'000	£ s. d.	£'000	£ s. d.
New South Wales	69,811	36 19 10	71,448	36 6 9
Victoria	63,243	39 0 6	62,602	38 13 6
Queensland	22,354	43 15 3	22,412	43 12 3
South Australia	21,422	37 14 3	20,957	37 0 7
Western Australia	10,867	29 4 10	10,366	27 19 4
Tasmania	5,366	29 11 10	5,472	30 3 10
Federal Capital Territory	269	27 18 9	280	27 16 11
Northern Territory	43	31 14 9	44	31 18 2
Total	193,375	37 10 10	193,581	37 0 6

While deposits declined sharply from £226,000,000 at the peak in September, 1929 to £192,400,000 in July 1931, there are signs that the consistently heavy excess of withdrawals has been temporarily arrested, although it is by no means certain that the lowest point has been reached.

CHAPTER XIII. LABOUR, WAGES, AND PRICES.

A—PRICES.

§ 2. Retail Prices and House Rents, p. 364.

Retail Price Index Numbers—Food, Groceries and Rent (all Houses) 1911 Base.—The index numbers in the following table are computed for the Commonwealth Court of Conciliation and Arbitration on a different basis to those given in § 2. The rent constituent is based upon the weighted average of all houses. The index numbers are directly comparable with those published in Labour Report, No. 15, and in Quarterly Summaries of Australian Statistics previous to No. 99.

RETAIL PRICE INDEX NUMBERS—FOOD, GROCERIES AND RENT—ALL HOUSES.

Weighted Average—Six Capitals in 1911 = 1,000.

Town.	1926.				1927.				1928.				1929.				1930.			
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
NEW SOUTH WALES.																				
Sydney	1,828	1,868	1,841	1,842	1,828	1,803	1,819	1,872	1,840	1,853	1,825	1,830	1,916	1,905	1,914	1,929	1,851	1,836	1,770	1,704
Newcastle .. .	1,701	1,729	1,699	1,703	1,713	1,683	1,701	1,763	1,726	1,722	1,716	1,712	1,777	1,758	1,761	1,769	1,713	1,692	1,641	1,572
Broken Hill .. .	1,626	1,700	1,620	1,610	1,638	1,661	1,704	1,720	1,711	1,685	1,666	1,667	1,753	1,761	1,768	1,793	1,719	1,710	1,634	1,581
Goulburn .. .	1,785	1,798	1,794	1,804	1,803	1,784	1,820	1,851	1,836	1,840	1,827	1,828	1,897	1,891	1,901	1,926	1,852	1,813	1,750	1,617
Bathurst .. .	1,555	1,593	1,506	1,555	1,577	1,552	1,553	1,575	1,555	1,569	1,562	1,549	1,647	1,618	1,620	1,642	1,593	1,584	1,543	1,402
Weighted Average— New South Wales ..	1,809	1,849	1,821	1,821	1,811	1,787	1,804	1,850	1,830	1,835	1,810	1,814	1,898	1,887	1,895	1,910	1,884	1,819	1,759	1,687
VICTORIA.																				
Melbourne .. .	1,779	1,854	1,794	1,777	1,757	1,754	1,812	1,800	1,768	1,761	1,729	1,726	1,801	1,816	1,816	1,815	1,733	1,723	1,667	1,565
Ballarat .. .	1,545	1,584	1,565	1,543	1,532	1,525	1,565	1,554	1,553	1,549	1,548	1,540	1,604	1,610	1,636	1,655	1,579	1,570	1,542	1,455
Bendigo .. .	1,544	1,603	1,557	1,562	1,564	1,551	1,600	1,588	1,584	1,583	1,575	1,556	1,629	1,621	1,655	1,659	1,577	1,570	1,525	1,428
Geelong .. .	1,708	1,747	1,709	1,689	1,697	1,702	1,727	1,728	1,712	1,693	1,672	1,681	1,731	1,717	1,729	1,734	1,635	1,624	1,577	1,505
Warrnambool .. .	1,548	1,608	1,570	1,549	1,547	1,548	1,584	1,599	1,585	1,575	1,549	1,556	1,594	1,600	1,654	1,688	1,618	1,623	1,588	1,547
Weighted Average— Victoria .. .	1,756	1,828	1,771	1,754	1,737	1,733	1,789	1,778	1,749	1,742	1,713	1,709	1,782	1,795	1,798	1,799	1,717	1,707	1,653	1,554
QUEENSLAND.																				
Brisbane .. .	1,643	1,646	1,658	1,663	1,614	1,570	1,598	1,610	1,596	1,593	1,584	1,608	1,633	1,610	1,615	1,624	1,554	1,461	1,400	1,342
Toowoomba .. .	1,563	1,602	1,599	1,595	1,545	1,472	1,473	1,494	1,449	1,454	1,468	1,470	1,499	1,477	1,488	1,503	1,453	1,427	1,398	1,337
Rockhampton .. .	1,580	1,611	1,615	1,626	1,641	1,581	1,582	1,571	1,516	1,520	1,505	1,539	1,579	1,545	1,551	1,559	1,536	1,484	1,455	1,397
Charters Towers .. .	1,489	1,524	1,539	1,566	1,580	1,516	1,511	1,520	1,505	1,497	1,490	1,541	1,580	1,547	1,565	1,539	1,485	1,465	1,362	1,321
Warwick .. .	1,510	1,560	1,559	1,578	1,520	1,476	1,490	1,498	1,425	1,430	1,431	1,454	1,496	1,468	1,476	1,495	1,431	1,400	1,375	1,314
Weighted Average— Queensland .. .	1,623	1,634	1,643	1,649	1,608	1,560	1,581	1,592	1,570	1,569	1,561	1,536	1,613	1,589	1,595	1,608	1,539	1,459	1,407	1,345

RETAIL PRICE INDEX NUMBERS—FOOD, GROCERIES AND RENT—ALL HOUSES—continued.

Weighted Average—Six Capitals in 1911 = 1,000.

Town.	1926.				1927.				1928.				1929.				1930.			
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
SOUTH AUSTRALIA.																				
Adelaide	1,736	1,798	1,720	1,701	1,727	1,725	1,771	1,747	1,758	1,760	1,713	1,689	1,766	1,784	1,781	1,755	1,689	1,655	1,563	1,466
Kadina, &c. .. .	1,421	1,470	1,455	1,452	1,471	1,471	1,465	1,476	1,404	1,445	1,424	1,434	1,489	1,471	1,497	1,500	1,423	1,406	1,350	1,261
Port Pirie .. .	1,015	1,054	1,004	1,581	1,573	1,560	1,577	1,569	1,564	1,565	1,532	1,528	1,600	1,595	1,618	1,621	1,559	1,559	1,494	1,429
Mount Gambler ..	1,382	1,445	1,427	1,400	1,397	1,387	1,410	1,419	1,420	1,416	1,411	1,389	1,439	1,445	1,463	1,466	1,401	1,353	1,333	1,274
Peterborough .. .	1,589	1,661	1,660	1,653	1,651	1,649	1,656	1,679	1,682	1,672	1,655	1,673	1,741	1,724	1,758	1,749	1,668	1,660	1,608	1,501
Weighted Average— South Australia ..	1,712	1,773	1,700	1,681	1,706	1,703	1,745	1,724	1,733	1,734	1,689	1,668	1,743	1,759	1,759	1,736	1,669	1,637	1,549	1,453
WESTERN AUSTRALIA.																				
Perth, &c.	1,631	1,685	1,638	1,604	1,604	1,612	1,595	1,608	1,607	1,689	1,706	1,705	1,724	1,742	1,716	1,678	1,660	1,651	1,581	1,470
Kalgoorlie, &c. ..	1,566	1,597	1,568	1,522	1,515	1,532	1,512	1,487	1,480	1,515	1,577	1,583	1,626	1,667	1,659	1,579	1,525	1,554	1,530	1,391
Northam	1,061	1,062	1,020	1,007	1,595	1,621	1,618	1,627	1,571	1,610	1,637	1,639	1,664	1,697	1,672	1,633	1,599	1,609	1,557	1,446
Bunbury	1,506	1,587	1,572	1,549	1,556	1,543	1,525	1,533	1,525	1,559	1,593	1,572	1,578	1,613	1,616	1,586	1,575	1,574	1,510	1,384
Geraldton	1,592	1,629	1,605	1,587	1,586	1,577	1,565	1,573	1,565	1,570	1,571	1,596	1,627	1,650	1,661	1,629	1,621	1,630	1,615	1,488
Weighted Average— Western Australia ..	1,620	1,672	1,623	1,594	1,594	1,602	1,585	1,593	1,590	1,664	1,685	1,686	1,707	1,728	1,706	1,663	1,642	1,638	1,575	1,460
TASMANIA.																				
Hobart	1,789	1,795	1,777	1,753	1,737	1,715	1,711	1,686	1,658	1,665	1,653	1,666	1,730	1,721	1,725	1,740	1,687	1,685	1,651	1,564
Launceston .. .	1,640	1,680	1,659	1,609	1,611	1,591	1,587	1,580	1,594	1,597	1,580	1,569	1,618	1,611	1,628	1,668	1,602	1,590	1,558	1,495
Burnie	1,683	1,709	1,684	1,617	1,580	1,576	1,577	1,562	1,500	1,688	1,562	1,576	1,640	1,623	1,663	1,669	1,589	1,606	1,563	1,466
Devonport .. .	1,652	1,667	1,646	1,625	1,624	1,582	1,594	1,557	1,559	1,583	1,540	1,532	1,609	1,605	1,634	1,635	1,539	1,535	1,519	1,441
Queenstown .. .	1,453	1,474	1,444	1,408	1,384	1,357	1,395	1,401	1,389	1,406	1,416	1,418	1,494	1,487	1,492	1,520	1,464	1,469	1,458	1,405
Weighted Average— Tasmania	1,725	1,742	1,722	1,689	1,678	1,656	1,655	1,635	1,622	1,630	1,615	1,620	1,681	1,673	1,683	1,704	1,644	1,640	1,608	1,529
Weighted Average— Thirty Towns.. .	1,748	1,797	1,758	1,749	1,737	1,722	1,751	1,766	1,745	1,750	1,727	1,728	1,797	1,797	1,800	1,803	1,731	1,711	1,651	1,566
Weighted Average— Six Capital Cities ..	1,771	1,822	1,781	1,771	1,758	1,743	1,774	1,789	1,768	1,774	1,748	1,749	1,820	1,821	1,823	1,825	1,752	1,730	1,668	1,582

CHAPTER XVII. AGRICULTURAL PRODUCTION.

§ 4. Wheat.

7. Voluntary Wheat Pools, p. 498—(i) *General.* Voluntary wheat pools operated in the States of New South Wales, Victoria, South Australia, and Western Australia during the season 1930-31. The New South Wales pool had been inactive during 1928-29 and 1929-30. The system adopted in these States is somewhat similar, and is a co-operative one controlled by trustees, or committees appointed by the growers, the whole of the proceeds, less administrative expenses, being distributed amongst contributors of wheat to the pool. The trading names of these organizations in the various States are as follow :—

New South Wales.—The Wheat Growers' Pooling and Marketing Co. Ltd.

Victoria.—Victorian Wheat-growers' Corporation Ltd.

South Australia.—South Australian Co-operative Wheat Pools Ltd.

Western Australia.—The Co-operative Wheat Pool of Western Australia.

The marketing of wheat in Queensland was conducted on the compulsory basis by the State Wheat Board, consisting of five elected representatives and the Director of Marketing who represents the Queensland Government.

(ii) *Delivery of Wheat to Pools, Costs etc.* The quantities of wheat received and the estimated average costs per bushel of rail freight and of administrative and other expenses are given hereunder. As the season's operations are not yet complete, the costs shown are subject to revision.

WHEAT RECEIVED BY VOLUNTARY POOLS, 1930-31.

Particulars.	Unit.	New South Wales.	Victoria.	South Australia.	Western Australia.
Wheat received ..	Bushel	15,312,000	31,000,000	17,889,409	24,146,000
Percentage on Total Marketable Wheat	%	26	..	60	48
Estimated average cost of rail freight to seaboard, per bushel	d.	5.68	4.50	4.125	4.435
Estimated average cost per bushel of Administration and other expenses ..	d.	3.00	..	3.50	2.77

(iii) *Finance.* The requisite financial accommodation in New South Wales, Victoria and South Australia was furnished by the Commonwealth Bank. In Western Australia funds were made available by the Co-operative Wholesale Society Ltd., of Great Britain. Initial advances made available to growers on the delivery of their wheat at country stations are shown, together with subsequent payments, in the following table :—

WHEAT POOLS ADVANCES(a) PER BUSHEL MADE TO OCTOBER, 1931.

Particulars.	New South Wales.	Victoria.	South Australia.	Western Australia.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
1st Payment	1 4	1 6	1 10	1 4
2nd Payment	0 7	0 7	0 1	0 3
3rd Payment .. ..	..	0 1½	..	0 6½
Estimated Final Payment ..	(b)	(b)	0 1½	0 1½

(a) Less Rail Freight.

(b) Not available.

In Queensland the Commonwealth Bank provides the financial assistance necessary to make advances on wheat delivered, the State Government guaranteeing the Wheat Board's accounts with the bank. All wheat not required for consumption on the farm is delivered to the Board, which is the sole marketing agency. The crop in 1930-31 amounted to 5,101,000 bushels, of which 4,550,000 bushels, or 89 per cent., was delivered into the pool. Advances have been made on milling wheat as follows, viz.:—No. 1 quality, 3s. 7d. per bushel, No. 2, 3s. 5d. and 3s. 6d. per bushel according to quality and No. 3, 3s. 3d. and 3s. 4d. per bushel according to quality, while advances on feed wheat ranged from 1s. 7d. to 1s. 10d. per bushel according to quality. A further advance will be made when the season's operations have been finally dealt with.

CHAPTER XXI. MINERAL INDUSTRY.

§ 1. The Mineral Wealth of Australia.

3. Value of Production, p. 567.—The following table gives the value of Australian mineral production for the year 1930 :—

MINERAL PRODUCTION.—VALUE, 1930.

Mineral.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
	£	£	£	£	£	£	£	£
Gold ..	53,066	102,456	33,224	5,569	1,768,623	18,976	57	1,981,971
Silver and Lead ..	2,088,790	65	9,690	90	9,330	133,658	1,684	2,243,313
Copper ..	8,347	..	174,075	6,966	102	620,578	589	810,657
Iron ..	2,600	..	2,233	1,067,651	..	..	..	1,072,484
Tin ..	84,800	..	49,708	..	10,608	69,592	3,345	218,053
Zinc ..	986,087	..	..	..	19,322	..	..	1,005,409
Coal (Black) ..	5,193,032	802,677	952,856	..	394,758	110,253	..	7,453,576
Other ..	20,743	178,087	41,444	207,962	8,136	130,778	10,982	698,132
Total ..	8,437,405	1,083,285	1,263,236	1,288,238	2,101,557	1,103,157	16,657	15,383,695

CHAPTER XXIV. POPULATION.

§ 5. Distribution and Fluctuation of Population.

1. Present Number, p. 656.—The estimated population at the 30th June, 1931, was 6,500,536, distributed as follows :—

AUSTRALIA.—ESTIMATED POPULATION, 30th JUNE, 1931.

States and Territories.	Males.	Females.	Persons.
New South Wales	1,272,612	1,234,443	2,507,055
Victoria	888,548	908,911	1,797,459
Queensland	509,093	450,479	959,572
South Australia	301,158	282,430	583,588
Western Australia	225,625	194,991	420,616
Tasmania	108,614	110,519	219,133
Northern Territory	2,937	1,717	4,654
Federal Capital Territory	4,578	3,881	8,459
Total, Australia	3,313,165	3,187,371	6,500,536

The corresponding figures for Australia at the 30th June, 1930, were 3,287,994 males and 3,151,004 females, or a total of 6,438,998. There was thus an increase during the year ended 30th June, 1931, of 61,538, made up of 25,171 males and 36,367 females.

The rate of increase for the year was 0.9 per cent.

CHAPTER XXVII.**STATISTICAL ORGANIZATION AND SOURCES OF INFORMATION.****§3. Selected List of One Hundred Representative Works Dealing with Australia, p. 750.**

To the economic works listed may be added the following recent publications:—

An Economic Survey of Australia. Annals of the American Academy of Political and Social Science, Philadelphia, November, 1931.

Wilson, Roland. Capital Imports and the Terms of Trade, Melbourne, 1931.

Brigden, J. B. Railway Economics, Brisbane, 1931.

GENERAL INDEX.*

[NOTE.—This index is followed by a list of maps, graphs, and diagrams, also a list of special articles, etc., in previous issues of the Official Year Book.]

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This list refers to the special articles and other more or less important miscellaneous matters which appeared in previous issues of the Official Year Book, but which, owing to exigencies of space, are either not included, or included in abbreviated form only, in the present issue. The list has been restricted to articles, etc., to which references are not given in the various chapters of this issue.

The Roman figures indicate the number of the Year Book to which reference is made. In cases where matter was published in more than one previous issue, the volume and page for the last issue containing such matter are given.

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Publications.	Price.	Price, Post Free.††		Last Issue (and Date Issued).
		Australia.	All other Places.	
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	3 6	3 8	3 9	1929-30. (5/1931)
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