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SECTION V.
VITAL STATISTICS.

§ 1. Births.

1. **Male and Female Births, 1901 to 1909.**—The total number of male and female births registered in the Commonwealth during the years 1901 to 1909 is as shown in the two tables hereunder :—

TOTAL MALE BIRTHS, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust. ¹	W. Aust.	Tasmania.	C'wealth.
1901	19,149	15,876	7,281	4,687	2,946	2,570	52,509
1902	19,322	15,583	7,279	4,587	3,241	2,604	52,616
1903	18,377	15,115	6,427	4,484	3,433	2,570	50,406
1904	19,857	15,313	7,134	4,686	3,666	2,702	53,358
1905	20,206	15,523	6,978	4,514	3,862	2,812	53,895
1906	21,066	15,716	7,280	4,617	4,043	2,792	55,514
1907	21,604	15,936	7,451	4,689	3,962	2,797	56,489
1908	21,605	16,071	7,677	4,949	3,993	2,818	57,113
1909	22,464	16,096	7,954	5,235	3,884	2,849	58,482

1. Including Northern Territory.

TOTAL FEMALE BIRTHS, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust. ¹	W. Aust.	Tasmania.	C'wealth.
1901	18,726	15,132	7,022	4,424	2,772	2,360	50,436
1902	18,513	14,878	6,937	4,360	2,991	2,481	50,160
1903	17,589	14,454	6,194	4,024	3,266	2,510	48,037
1904	18,810	14,450	6,948	4,447	3,510	2,590	50,755
1905	19,295	14,534	6,648	4,354	3,720	2,445	51,046
1906	19,882	15,128	6,739	4,329	3,757	2,541	52,376
1907	20,597	15,379	7,089	4,549	3,750	2,494	53,858
1908	20,853	15,026	7,153	4,841	3,762	2,797	54,482
1909	21,318	15,448	7,592	4,856	3,718	2,651	55,589

1. Including Northern Territory.

2. **Total Births, 1901 to 1909.**—While the total number of births for the Commonwealth was higher in 1909 than in any of the preceding eight years, the following table of particulars discloses also the fact that apart from New South Wales and Western Australia, the excess of births in 1909 over those in 1901 was very small :—

TOTAL BIRTHS, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust. ¹	W. Aust.	Tas.	C'wealth.
1901	37,875	31,008	14,303	9,111	5,718	4,930	102,945
1902	37,835	30,461	14,216	8,947	6,232	5,085	102,776
1903	35,966	29,569	12,621	8,508	6,699	5,080	98,443
1904	38,667	29,763	14,082	9,133	7,176	5,292	104,113
1905	39,501	30,107	13,626	8,868	7,582	5,257	104,941
1906	40,948	30,844	14,019	8,946	7,800	5,333	107,890
1907	42,201	31,365	14,540	9,238	7,712	5,291	110,347
1908	42,458	31,097	14,830	9,790	7,755	5,615	111,545
1909	43,782	31,544	15,552	10,091	7,602	5,500	114,071

1. Including Northern Territory.

3. **Birth Rates, 1901 to 1909.**—(i.) *Crude Birth Rate.* The birth rate for the whole Commonwealth was lower in 1909 than in 1901, and Tasmania is the only State in which a slight increase in the rate took place, as will be seen from the following table, which gives also the number of persons per square mile in each State:—

CRUDE BIRTH RATE,¹ COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Vic.	Qld.	S.A. ³	W.A.	Tas.	Cwlt.
1901	27.78	25.75	28.53	25.11	30.34	28.60	27.14
1902	27.20	25.16	27.89	24.54	30.27	29.23	26.66
1903	25.41	24.46	24.62	23.25	30.26	28.62	25.23
1904	26.81	24.65	27.13	24.71	30.33	29.60	26.33
1905	26.79	24.83	25.92	23.67	30.29	29.33	26.12
1906	27.12	25.20	26.31	23.55	30.01	29.82	26.41
1907	27.22	25.32	26.98	23.96	29.40	29.50	26.55
1908	26.86	24.71	26.99	24.59	29.26	30.90	26.35
1909	27.26	24.55	27.52	24.57	28.06	29.86	26.40
Density ² (No. per square mile)	5.22	14.83	0.85	0.46	0.28	7.13	1.47

1. Number of Births per 1000 of the mean annual population.

2. On 31st December, 1909.

3. Including Northern Territory.

The population density of each State and of the Commonwealth has been given for the purpose of considering the influence, if any, of concentration of population on birth-rate, in connection with the disparities of the rate in different parts of Australia.

(ii.) *Objections to Crude Birth Rate.* The figures just given represent the "crude birth rate," i.e., the number of births per thousand of mean annual population. The number of births per thousand of the female population of child-bearing ages, i.e., from 15 to 45, would furnish a more significant rate. To calculate this, would, of course, involve assumptions concerning the variations of the age and sex constitution of the population since the last Census. Calculations of this nature at the present time would be subject to so large an uncertainty that it has been decided to defer computing the rates of fecundity and fertility on other and better bases until after the next Census. The calculation has, however, been made for the last three Census periods, and covers in each case the Census year together with the year immediately preceding and the year immediately following. The following results have been obtained:—Total births per 1000 women (married and unmarried) of ages 15 to 45:—Years 1880-82, 169.69; years 1890-92, 158.81; years 1900-02, 117.26. Nuptial births per 1000 married women of ages 15 to 45:—Years 1880-82, 320.96; 1890-92, 332.03; years 1900-02, 235.84.

4. **Birth Rates of Various Countries.**—A comparison with other countries shows that the Australian States occupy a very low position, which is, however, fortunately counterbalanced by a still lower position in regard to their death rates, as will be seen from the table on page 187.

CRUDE BIRTH RATE¹ OF VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
Russia, European ...	1903	48.1	Western Australia ...	1909	28.1
Bulgaria ...	1907	43.6	Queensland ...	1909	27.5
Rumania ...	1908	40.8	New South Wales ...	1909	27.3
Ceylon ...	1908	40.1	New Zealand ...	1909	27.3
Chile ...	1908	39.3	Scotland ...	1908	27.2
Jamaica ...	1908	37.6	Switzerland ...	1907	26.8
Servia ...	1908	36.8	England and Wales ...	1908	26.5
Hungary ...	1908	36.3	Commonwealth ...	1909	26.4
Austria ...	1907	33.8	United Kingdom ...	1908	26.3
Italy ...	1908	33.4	Norway ...	1908	26.2
Spain ...	1908	33.2	Sweden ...	1908	25.7
Japan ...	1907	33.0	Belgium ...	1907	25.3
Prussia ...	1908	32.8	South Australia ...	1909	24.6
German Empire ...	1907	32.3	Victoria ...	1909	24.6
Finland ...	1907	31.3	Ireland ...	1908	23.3
Tasmania ...	1909	29.9	Canada (Ontario) ...	1906	23.3
Netherlands ...	1908	29.7	France ...	1908	20.2
Denmark ...	1908	28.3			

1. Number of births per 1000 of the mean population.

5. **Masculinity at Birth.**—The masculinity of births, *i.e.*, the number of males per 100 females, registered during the last nine years in the several States of the Commonwealth has varied from 100.75 in Tasmania in 1908 to 115.01 in Tasmania in 1905. The following table, which gives the values for the States and Commonwealth for 1901 to 1909, shews the remarkable fact that for the Commonwealth there was a steady increase of masculinity from 1901 to 1906, with a sharp decrease in 1907 and a further increase in 1908 and 1909:—

MASCULINITY¹ OF BIRTHS REGISTERED, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
1901 ...	102.26	104.92	103.69	105.94	106.28	108.90	104.11
1902 ...	104.37	104.74	104.93	105.21	108.36	104.96	104.90
1903 ...	104.48	104.57	103.76	111.43	105.11	102.39	104.93
1904 ...	105.57	105.97	102.68	105.37	104.44	104.32	105.13
1905 ...	104.72	106.44	104.96	103.67	103.82	115.01	105.58
1906 ...	105.96	103.89	108.03	106.65	107.61	109.88	105.99
1907 ...	104.89	103.95	105.11	103.08	105.65	112.15	104.89
1908 ...	103.61	106.95	107.33	102.23	106.14	100.75	104.93
1909 ...	105.38	104.19	104.69	107.80	104.46	107.47	105.20

1. Number of males to each 100 females.

There is ordinarily a very small difference between the masculinity of nuptial and ex-nuptial births. Thus, according to Bodio, whose figures are quoted in the following

table, for the period about 1887-1891, the masculinity ranged from 108.3 to 108.6, and from 107.9 to 101.6 for total and ex-nuptial births respectively.

MASCULINITY OF BIRTHS IN VARIOUS COUNTRIES.

Country.	Masculinity of Births. ¹		Country.	Masculinity of Births. ¹	
	All Live Births.	Ex-nuptial Live Births.		All Live Births.	Ex-nuptial Live Births.
Spain	108.3	107.9	German Empire ...	105.2	104.7
Rumania	107.7	103.4	Finland	105.0	105.2
Portugal	107.5	106.4	Hungary	105.0	102.9
Austria	105.8	105.5	Sweden	105.0	104.3
Italy	105.8	104.4	Denmark	104.8	105.0
Norway	105.8	105.9	Servia	104.7	103.5
Ireland	105.5	104.8	France	104.6	102.9
Netherlands ...	105.5	104.7	Belgium	104.5	102.2
Scotland	105.5	105.9	Switzerland ...	104.5	101.6
Russia, European ...	105.4	104.5	England	103.6	104.4

1. Number of males to each 100 females.

The masculinity of ex-nuptial births in the Commonwealth was as follows:—

MASCULINITY¹ OF EX-NUPTIAL BIRTHS REGISTERED, COMMONWEALTH,

1901 TO 1909.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
1901	108.46	102.22	107.84	100.56	100.00	102.07	105.50
1902	103.67	106.78	100.23	106.91	111.11	93.17	103.96
1903	97.79	114.83	95.22	100.00	114.29	122.66	104.10
1904	100.80	108.68	95.77	83.50	107.28	93.71	100.98
1905	102.50	102.52	105.63	96.94	98.75	102.80	102.44
1906	103.10	102.23	104.17	116.97	118.13	124.92	105.44
1907	104.91	105.59	100.90	113.56	115.94	100.00	105.11
1908	108.60	105.38	96.83	97.30	89.33	108.51	104.00
1909	105.46	102.16	103.90	104.81	129.14	129.01	106.25

1. Number of males to each 100 females.

It is curious to note that while, so far as the total births are concerned, there has always been an excess of male births over female births, this has not been the case in regard to ex-nuptial births, where in South Australia in 1904 the masculinity was only 83.50. On the other hand it rose as high as 129.14 in Western Australia in 1909. Little weight, however, can be attached to these results on account of the small totals on which they are based.

6. **Ex-nuptiality of Births.**—The total ex-nuptial births fell from 1901 to 1903, then rose rapidly to 1908 and remained almost stationary till 1909. See the table on the following page.

It is, of course, possible that the number of ex-nuptial births is somewhat understated, owing to diffidence in proclaiming the fact of ex-nuptiality, and it is not unlikely that the majority of unregistered births are ex-nuptial.

**TOTAL EX-NUPTIAL BIRTHS REGISTERED IN THE COMMONWEALTH,
1901 TO 1909.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
1901 ...	2,712	1,729	848	361	222	293	6,165
1902 ...	2,497	1,677	859	389	247	311	5,980
1903 ...	2,413	1,695	857	354	315	285	5,919
1904 ...	2,755	1,707	971	367	313	308	6,421
1905 ...	2,912	1,689	950	386	318	290	6,545
1906 ...	2,882	1,721	1,076	358	373	308	6,718
1907 ...	2,920	1,764	1,117	378	298	306	6,783
1908 ...	2,887	1,793	1,118	438	337	294	6,867
1909 ...	2,821	1,870	1,097	426	346	300	6,860

(i). *Rate of Ex-nuptiality, 1901 to 1909.* The rate of ex-nuptiality, i.e., the percentage of ex-nuptial to total births, shows on the whole a slight increase from 1901 to 1905, with a decrease during the last four years, as the subjoined table shews:—

**PERCENTAGE OF EX-NUPTIAL ON TOTAL BIRTHS, COMMONWEALTH,
1901 TO 1909.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth
	%	%	%	%	%	%	%
1901 ...	7.16	5.58	5.93	3.96	3.88	5.94	5.99
1902 ...	6.60	5.51	6.04	4.35	3.96	6.12	5.82
1903 ...	6.71	5.73	6.79	4.16	4.70	5.61	6.01
1904 ...	7.12	5.74	5.90	4.02	4.36	5.82	6.17
1905 ...	7.37	5.61	6.97	4.35	4.19	5.52	6.24
1906 ...	7.04	5.58	7.68	4.00	4.78	5.78	6.23
1907 ...	6.92	5.62	7.68	4.09	3.86	5.79	6.15
1908 ...	6.80	5.77	7.54	4.47	4.35	5.24	6.16
1909 ...	6.44	5.94	7.05	4.22	3.95	5.45	6.01

A comparison of greater significance would be 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, but until the next Census has once more shewn the composition of the population, such a calculation would be liable to considerable error, and will, therefore, be deferred. The calculation has, however, been made for the three last Census periods, and covers in each case the Census year, together with the year immediately preceding and the year immediately following. The number of ex-nuptial births per 1000 unmarried women of ages 15 to 45 has been found to be as follows:—Years 1880-82, 14.49; years 1890-92, 15.93; years 1900-02, 13.30.

(ii). *Causes of Increase.* Since the rate of ex-nuptiality might appear to increase by the mere decrease in the general birth rate, the following table has been prepared:—

**CRUDE EX-NUPTIAL, NUPTIAL, AND TOTAL BIRTH RATES,¹ COMMONWEALTH,
1901 to 1909.**

Births.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Ex-nuptial ...	1.62	1.56	1.52	1.62	1.63	1.65	1.63	1.62	1.59
Nuptial ...	25.52	25.10	23.71	24.71	24.50	24.76	24.92	24.73	24.81
Total ...	27.14	26.66	25.23	26.33	26.13	26.41	26.55	26.35	26.40

¹ Number of births per 1000 of mean population.

(iii). *Ex-nuptiality—Rates of Various Countries.* The rate for the Commonwealth is higher than that for England and Wales, slightly lower than that for Scotland, and considerably below the rates for many of the countries for which returns are available, as the table hereunder shews. The rates shewn below refer to three triennial periods, 1880-2, 1890-2, and 1900-2, and are given per thousand of the unmarried and widowed female population:—

**EX-NUPTIAL BIRTHS PER THOUSAND OF UNMARRIED AND WIDOWED FEMALE
POPULATION IN VARIOUS COUNTRIES.**

Country.	Rate.			Country.	Rate.		
	1880-2.	1890-2.	1900-2.		1880-2.	1890-2.	1900-2.
	%	%	%		%	%	%
Ireland ...	4.4	3.9	3.8	Belgium ...	20.0	20.6	17.8
Netherlands ...	9.7	9.0	6.8	France ...	17.6	17.7	19.1
England and Wales ...	14.1	10.5	8.5	Italy ...	25.4	...	19.4
New Zealand ...	13.4	9.0	8.9	Russia ...	25.8	25.1	23.7
Switzerland ...	10.8	10.0	9.8	Denmark ...	26.9	24.5	24.2
Commonwealth ...	14.5	15.9	13.3	Sweden ...	22.6	22.9	24.3
Scotland ...	21.4	17.1	13.4	German Empire ...	29.6	28.7	27.4
Spain ...	16.0	17.5	15.5	Austria ...	43.4	42.7	40.1
Norway ...	19.7	16.9	17.2				

It may be added that the general circumstances in Australia with regard to opportunity for marriage are probably relatively easy as compared with those in older established countries.

7. Multiple Births.—Among the total number of 114,071 births registered in the Commonwealth in 1909 there were 111,779 single births, 2251 twins, and 41 triplets. The number of cases of twins was 1128, five children being still-born, and the number of cases of triplets 14, one child being still-born. The total number of mothers was, therefore, 112,921, the proportion of mothers of twins being one in every 100, and of mothers of triplets one in every 8066 of total mothers. The proportion of multiple births is a fairly constant one. In 1907 they numbered 1043 out of a total of 109,306, or one in 105; in 1908, 1065, or one in 104; and in 1909, 1142, or one in 99. The number of cases of triplets is so small that a slight alteration in the total will completely change the proportion. Thus, there were 14 cases in 1907, or one in 7872 of total mothers, as compared with one in 18,415 in 1908, and one in 8066 in 1909.

8. Ages of Parents.—The relative ages of the parents of children registered in 1909 have been tabulated, twins and triplets being distinguished from single births, and are shewn for single ages and for every State in "Bulletin of Population and Vital Statistics, No. 20; Vital Statistics of the Commonwealth for the Year 1909." In the present work the exigencies of space allow only the insertion of corresponding tables shewing the relative ages of parents in groups of five years. It will be seen from the tables that the largest number both of single and of twin births occurred where the ages of both father and mother were between 25 and 29. The largest number of mothers of single children was found at ages 25 to 29, and that of mothers of twins at ages 30 to 34.

(a) AGES OF PARENTS IN CASES OF SINGLE BIRTHS, COMMONWEALTH, 1909.

Age.	Total Fathers.	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 Upwds.	Not Stated.	
Ages of Fathers.	Under 20 ...	323	1	222	89	10	1	...	...	...	...
	20 to 24 ...	10,163	2	1,977	6,641	1,373	142	25	2	...	1
	25 to 29 ...	24,879	...	1,064	10,372	11,191	1,967	246	27	2	10
	30 to 34 ...	21,607	...	305	4,389	10,311	8,169	1,308	114	1	10
	35 to 39 ...	21,024	...	118	1,616	5,149	7,686	5,794	638	17	6
	40 to 44 ...	13,796	...	32	540	1,673	3,690	5,351	2,444	62	4
	45 to 49 ...	7,098	...	15	159	576	1,250	2,585	2,196	315	2
	50 to 54 ...	2,248	...	2	55	160	375	656	809	191	...
	55 to 59 ...	568	...	2	13	47	95	173	176	62	...
	60 to 64 ...	179	...	2	6	14	30	59	52	16	...
	65 & upwards	108	...	...	4	14	19	28	38	5	...
Not stated ...	30	...	1	7	6	2	5	4	...	5	
Mothers of nuptial children ...	105,023	3	3,740	23,891	30,524	23,426	16,230	6,500	671	38	
Mothers of ex-nuptial children ...	6,756	11	1,768	2,745	1,140	589	347	124	17	15	
Total mothers	111,779	14	5,508	26,636	31,664	24,015	16,577	6,624	688	53	

(b) AGES OF PARENTS OF TWINS, COMMONWEALTH, 1909.

Age.	Total Fathers.	Ages of Mothers.								
		Under 20.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 & upwds.	Not Stated.	
Ages of Fathers.	20 to 24 ...	66	10	44	8	3	1	...	...	...
	25 to 29 ...	217	4	69	113	22	6	2	...	1
	30 to 34 ...	269	...	40	94	111	20	4	...	...
	35 to 39 ...	225	...	1	48	94	76	6	...	...
	40 to 44 ...	163	...	3	11	56	66	27	...	...
	45 to 49 ...	105	...	2	6	18	48	24	6	1
	50 to 54 ...	20	...	...	1	5	11	3	...	...
	55 to 59 ...	6	...	...	...	1	1	4	...	...
	60 to 64 ...	3	...	...	2	...	...	1	...	...
	65 and upwards	2	...	...	1	1	...	...	...	...
	Mothers of nuptial twins	1,076	14	159	284	311	229	71	6	2
Mothers of ex-nuptial ..	52	5	20	10	7	8	2	...	...
Total mothers	1,128	19	179	294	318	237	73	6	2	

(c) AGES OF PARENTS OF TRIPLETS, COMMONWEALTH, 1909.

Age.	Total Fathers.	Ages of Mothers.			
		20 to 24.	25 to 29.	30 to 34.	35 to 39.
Ages of Fathers.	20 to 24 ...	2	...	...	...
	25 to 29 ...	1	1	...	...
	30 to 34 ...	5	...	2	3
	35 to 39 ...	1	...	...	1
	40 to 44 ...	3	...	2	1
	45 to 49 ...	1	...	...	1
50 to 54 ...	1	...	...	1	
Mothers of nuptial triplets	14	2	1	4	7
Mothers of ex-nuptial triplets	...	...	...	...	...
Total mothers	14	2	1	4	7

BIRTHPLACES OF PARENTS OF CHILDREN—Continued.

Birthplace.	Fathers.			Mothers of Nuptial Children.			Mothers of Ex-nuptial Children.		
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.
Aden	1	...	...	...	...	...	...	...	...
Afghanistan	4	...	...	...	...	...	...	...	...
Arabia	2	...	...	...	...	...	...	...	...
Armenia	1	...	...	...	...	...	...	...	...
Asia Minor	1	...	...	...	...	...	...	...	...
Burmah	2	...	...	1	...	...	...	...	...
Ceylon	16	...	...	7	...	...	...	...	...
China	167	2	...	63	...	...	3	...	...
Cyprus	3	...	...	...	...	...	...	...	...
Dutch East Indies	4	...	...	2	...	...	...	...	...
India	151	2	...	70	1	...	6	...	...
Japan	14	...	...	15	...	...	1	...	...
Malay Straits	4	...	...	1	...	...	...	...	...
Persia	1	...	...	...	...	...	...	...	...
Philippine Islands	12	...	...	...	...	...	...	...	...
Siam	2	...	...	...	...	...	...	...	...
Straits Settlements	6	...	...	2	...	...	1	...	...
Syria	96	2	...	81	...	...	...	...	...
Abyssinia	1	...	...	...	...	...	...	...	...
Africa, so described	4	...	...	...	...	...	...	...	...
Algeria	2	...	...	1	...	...	...	...	...
Ascension Island ... ..	...	...	...	1	...	...	...	...	...
Azores ... ..	...	...	...	1	...	...	...	...	...
Cape of Good Hope	8	...	...	16	...	...	...	...	...
Cape Verde Islands	1	...	...	...	...	...	...	...	...
E. Africa, so described ... ..	...	...	...	1	...	...	...	...	...
Egypt	2	...	...	7	...	...	...	...	...
Madeira	2	...	...	...	...	...	...	...	...
Mauritius	26	...	...	16	...	...	...	...	...
Natal ... ..	...	...	...	2	...	...	...	...	...
St. Helena ... ..	...	...	...	...	...	...	1	...	...
Seychelles Islands*	1	...	...	1	...	...	...	...	...
S. Africa, so described	51	2	...	71	...	...	4	...	...
Fiji	25	...	...	23	1	...	2	...	...
Friendly Islands	3	...	...	2	...	...	...	...	...
Hawaii	1	...	...	...	...	...	...	...	...
Neu Pommern	1	...	...	...	...	...	...	...	...
New Caledonia	7	...	...	14	...	...	1	...	...
New Guinea ... ..	...	...	...	1	...	...	...	...	...
New Hebrides	6	...	...	...	...	...	...	...	...
Norfolk Island	1	...	...	...	...	...	1	...	...
Samoa	3	...	...	1	...	...	...	...	...
South Sea Islands, so described	20	...	...	4	...	...	2	...	...
Born at sea	144	1	...	81	...	...	10	...	...
Birthplace not stated	27	...	...	34	...	...	17	...	...
Total	105,023	1,076	14	105,023	1,076	14	6,756	52	...

10. Occupations of Fathers.—A summary of the occupations of the fathers of all nuptial children, whose births were registered in 1909, will be found in the following table. The figures include all the States of the Commonwealth:—

OCCUPATIONS OF FATHERS OF ALL NUPTIAL CHILDREN, COMMONWEALTH, 1909.

Occupations.	Number of Fathers	Occupations.	Number of Fathers.
CLASS I.—PROFESSIONAL.			
General Government	564	Wool and Tallow	79
Local Government	75	Hay, Corn, etc.	232
Defence	123	Other Vegetable Matter	121
Law and Order	1,131	Wood and Coal	224
Religion	326	Glass and Earthenware	25
Charities	2	Gold, Silver, and Precious Stones	12
Health	788	Ironmongery	235
Literature	164	Merchants, etc.	273
Science	108	Shopkeepers and Assistants	1,065
Engineering, Architecture, and		Dealers and Hawkers	406
Surveying	455	Agents and Brokers	482
Education	796	Clerks, Bookkeepers, etc.	2,587
Fine Arts	139	Commercial Travellers, Salesmen	1,186
Music	121	Others engaged in Commercial	
Amusements	235	Pursuits	673
		Speculators on Chance Events	36
		Storage	7
Total Professional	5,027	Total Commercial	14,151
CLASS II.—DOMESTIC.			
Hotelkeepers and Assistants	890	CLASS IV.—TRANSPORT AND COMMUNICATION.	
Others engaged in providing board and lodging	169	Railway Traffic	3,111
House Servants	183	Tramway Traffic	849
Coachmen and Grooms... ..	317	Road Traffic	3,969
Hairdressers	565	Sea and River Traffic	1,581
Laundrymen	61	Postal Service	437
Others engaged domestic occupat'ns	176	Telegraph and Telephone Service	347
		Messengers, etc.	15
Total Domestic	2,361	Total Transport & Communication	10,309
CLASS III.—COMMERCIAL.			
Banking and Finance	415	CLASS V.—INDUSTRIAL.	
Insurance and Valuation	419	Books and Publications	824
Land and Household Property	118	Musical Instruments	67
Property Rights not otherwise clsd.	4	Prints and Pictures	76
Books, Publications, Advertising	118	Ornaments and Small Wares	89
Musical Instruments	20	Equipment for Sports and Games	4
Prints and Pictures	7	Designs, Medals, Type	30
Ornaments and Small Wares	10	Watches and Clocks	128
Watches, Clocks, Jewellery	8	Surgical Instruments	3
Surgical Instruments	1	Arms and Ammunition	6
Arms and Ammunition... ..	1	Engines and Machinery	951
Machinery	48	Carriages and Vehicles	760
Carriages and Vehicles	31	Harness and Saddlery	479
Harness and Saddlery	4	Ships and Boats	123
Ships, Boats, Marine Stores	9	Furniture	461
Building Materials	15	Building Materials	586
Furniture	51	Chemicals	41
Chemicals	6	Textile Fabrics	45
Paper and Stationery	62	Dress	1,899
Textile Fabrics	815	Fibrous Materials	40
Dress	142	Animal Food	347
Fibrous Materials	4	Vegetable Food	1,530
Animal Food	2,080	Groceries, Drinks, Narcotics, and	
Vegetable Food	631	Stimulants	470
Groceries, Drinks, Narcotics, and		Animal Matter	472
Stimulants... ..	1,197	Workers in wood not elsewhere clsd.	60
Living Animals	312	Fodder	7
Manures	1	Paper	12
Leather	29	Stone, Clay, Glass	565

OCCUPATIONS OF FATHERS OF ALL NUPTIAL CHILDREN—Continued.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.		
Jewellery and Precious Stones ...	193	CLASS VI.—AGRICULTURAL, PASTORAL, MINING, ETC.	18,375		
Metals, other than Gold & Silver	3,027			Agricultural ...	3,544
Gas, Electric Lighting ...	354			Pastoral ...	1,236
Buildings—				Dairying ...	326
Builders ...	374			Fisheries, Capture and Destruction of Wild Animals, or acquisition of Products yielded thereby	623
Stonemasons ...	256			Forestry ...	96
Bricklayers ...	454			Water Conservation and Supply	8,178
Carpenters ...	2,427			Mines and Quarries ...	32,378
Slaters ...	13			Total Primary Producers ...	123
Plasterers ...	229			CLASS VII.—INDEFINITE.	5
Painters ...	1,146	Independent Means ...	1		
Plumbers ...	676	Students ...	38		
Others ...	92	Dependent on State ...	167		
Roads, Railways, Earthworks ...	257	Occupation not stated ...	106,113		
Disposal of the Dead ...	43	Total Indefinite ...			
Disposal of Refuse ...	178	Total all Occupations ...			
Other Industrial Workers—					
Manufacturers ...	270				
Engineers, Firemen ...	2,541				
Contractors ...	1,119				
Labourers ...	17,813				
Others ...	183				
Total Industrial ...	41,720				

11. Mothers' Age, Duration of Marriage, and Issue.—A tabulation has been made shewing, in age-groups, the duration of marriage and issue of mothers. The total number of nuptial confinements in 1909 was 106,113, viz., 105,023 single births, 1076 cases of twins, and 14 cases of triplets. From this number 1214 mothers must be deducted, viz., 1026 in Tasmania and 188 in other States, in whose case the necessary particulars either as to date of marriage or as to previous issue were not stated, while 157 registrations of births under the New South Wales Legitimation Act are also excluded. The tables refer, therefore, to a total of 104,742 mothers. They exclude children by former marriages and still-born children, but include ex-nuptial children, previous issue by the same father. The tables cannot be given *in extenso*, but the following are their most salient features. The complete tabulations are shewn in "Commonwealth Bulletin of Population and Vital Statistics, No. 20; Vital Statistics of the Commonwealth for the Year 1909."

**DURATION OF MARRIAGE AND ISSUE OF MOTHERS, OF ALL AGES,
COMMONWEALTH, 1909.**

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 ...	16,853	17,077	1.01	18-19 ...	1,603	12,223	7.62
1-2 ...	7,706	8,607	1.12	19-20 ...	1,314	10,449	7.95
2-3 ...	7,857	14,295	1.82	20-21 ...	1,101	9,068	8.23
3-4 ...	9,266	19,608	2.11	21-22 ...	925	8,054	8.49
4-5 ...	7,474	18,900	2.53	22-23 ...	677	6,236	9.21
5-6 ...	6,872	20,034	2.91	23-24 ...	513	4,988	9.72
6-7 ...	5,770	18,840	3.26	24-25 ...	405	4,057	10.01
7-8 ...	5,541	20,205	3.64	25-26 ...	269	2,829	10.51
8-9 ...	5,042	20,413	4.04	26-27 ...	151	1,639	10.85
9-10 ...	4,535	19,819	4.37	27-28 ...	110	1,221	11.10
10-11 ...	3,899	18,595	4.77	28-29 ...	57	661	11.59
11-12 ...	3,358	16,954	5.04	29-30 ...	28	342	12.21
12-13 ...	3,014	16,415	5.44	30-31 ...	10	126	12.60
13-14 ...	2,722	15,811	5.81	31-32 ...	5	61	12.20
14-15 ...	2,161	13,315	6.16	32-33 ...	2	27	13.50
15-16 ...	2,021	13,177	6.52				
16-17 ...	1,806	12,448	6.89	Total	104,742	358,559	3.42
17-18 ...	1,675	12,065	7.20				

AGES AND ISSUES OF MOTHERS, COMMONWEALTH, 1909.

Ages of Mothers.	Total Mothers.	Total Issue.	Average Number of Children.	Ages of Mothers.	Total Mothers.	Total Issue.	Average Number of Children.
Under 20 years	3,664	4,366	1.19	40-44 years ...	6,474	46,067	7.12
20-24 years ...	23,785	42,288	1.77	45 yrs. and over	668	5,842	8.75
25-29 " ...	30,435	81,396	2.67				
30-34 " ...	23,459	90,382	3.85				
35-39 " ...	16,257	88,218	5.43	All ages ...	104,742	358,559	3.42

PREVIOUS ISSUE OF MOTHERS OF VARIOUS AGES, COMMONWEALTH, 1909.

Previous Issue.	Mothers' Ages.							Total.
	Under 20 Years.	20-24 Years.	25-29 Years.	30-34 Years.	35-39 Years.	40-44 Years.	45 Years and Over.	
0	3,041	11,720	8,127	3,127	1,124	244	24	27,407
1	562	7,459	7,779	3,859	1,353	285	21	21,318
2	57	3,323	6,507	4,287	1,838	398	20	16,430
3	4	975	4,278	3,987	2,131	555	29	11,959
4	...	248	2,322	3,280	2,229	603	23	8,705
5	...	44	965	2,363	2,092	694	48	6,211
6	...	12	322	1,364	1,812	708	64	4,282
7	...	3	91	657	1,466	765	70	3,082
8	...	...	28	327	1,067	706	68	2,196
9	...	1	12	113	600	543	63	1,332
10	...	...	3	43	300	440	92	878
11	...	...	1	11	145	270	61	488
12	...	...	...	4	61	126	34	225
13	...	...	...	1	25	72	28	126
14	...	...	...	1	10	45	14	70
15	...	...	...	...	4	12	5	21
16	...	...	...	...	...	5	2	7
17	...	...	...	...	...	3	...	3
18	...	...	...	...	...	...	1	1
19	...	...	...	...	...	...	1	1
Total Mothers	3,664	23,785	30,435	23,459	16,257	6,474	668	104,742

The tables shew a fairly regular increase in the number of children up to the period where the marriage has lasted twenty-one years, and it appears that the average interval between successive confinements up to that period was rather less than two and a half years. One mother of the age-group 40 to 44 years, had her twentieth child in the twenty-ninth year of her marriage. The average number of children of all marriages was 3.42, the corresponding figure for 1908 having been 3.44.

A similar table has been prepared shewing the previous issue of mothers of twins and triplets, from which it appears that 231 mothers had twins at their first confinement; 175 at their second; 163 at their third; 127 at their fourth; 103 at their fifth; 79 at their sixth; 65 at their seventh; 47 at their eighth; 28 at their ninth; 11 at their tenth; 12 at their eleventh; 11 at their twelfth; 4 at their thirteenth; and 1 at her fourteenth.

Of the fourteen cases of triplets 2 occurred at the first confinement; 2 at the second; 2 at the third; 2 at the fourth; 2 at the fifth; 3 at the seventh; and 1 at the eighth.

12. Interval between Marriage and First Birth.—The following table shows the interval between marriage and first birth. Twins and triplets are included, the elder born only being enumerated.

INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH, COMMONWEALTH, 1909.

Interval.	Number of First Children.	Interval.	Number of First Children.	Interval.	Number of First Children.
Under 1 month	482	1 year	6,973	13 years	15
1 month	509	2 years	1,823	14 "	6
2 months	808	3 "	745	15 "	2
3 "	1,001	4 "	386	16 "	3
4 "	1,179	5 "	201	17 "	4
5 "	1,376	6 "	162	18 "	7
6 "	1,604	7 "	99	19 "	3
7 "	1,338	8 "	64		
8 "	1,197	9 "	35		
9 "	3,364	10 "	35		
10 "	2,220	11 "	22	Total	27,407
11 "	1,723	12 "	21		

Of these 27,407 children 14,042 were males and 13,365 were females; the masculinity of first births was therefore only 105.07 as compared with 105.20 for total births.

The previous issue of mothers of ex-nuptial children is not recorded, but for the purposes of the following table all ex-nuptial births have been assumed to be first births, and the table shews, together with the ages of mothers, the first births which occurred within less than nine months of the date of marriage, and those which occurred at a later date, as well as the ex-nuptial births. A comparison of the column shewing the total of nuptial births within less than nine months of marriage and of ex-nuptial births with the next column, shewing the nuptial births which occurred not less than nine months after marriage, reveals the fact that for all ages the proportion of the two was as 9 to 10, while at ages up to and including 21 there was a great preponderance of nuptial births following on antenuptial conception and of ex-nuptial births. It must, of course, be understood that a certain number of premature births are necessarily included amongst the births which occurred within less than nine months of marriage, but there is no means of arriving at the proportion of those births.

AGES OF MOTHERS AND INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH, etc.,
COMMONWEALTH, 1909.

Age of Mother at Birth of Child.	Ex-nuptial Births.	Nuptial Births less than nine months after Marriage.	Total of two preceding columns.	Nuptial Births nine months after Marriage and later.	Total Nuptial First Births.	Nuptial First Births and Ex-nuptial Births.
Years.						
12 ...	2	...	2	...	...	2
14 ...	9	3	12	...	3	12
15 ...	61	15	76	...	15	76
16 ...	184	99	283	12	111	295
17 ...	369	324	693	77	401	770
18 ...	528	726	1,254	234	960	1,488
19 ...	631	1,035	1,666	516	1,551	2,182
20 ...	671	1,015	1,686	793	1,808	2,479
21 ...	596	1,211	1,807	1,187	2,398	2,994
22 ...	571	1,060	1,631	1,545	2,605	3,176
23 ...	526	839	1,365	1,638	2,477	3,003

AGES OF MOTHERS AND INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH—Cont.

Age of Mother at Birth of Child.	Ex-nuptial Births.	Nuptial Births less than nine months after Marriage.	Total of two preceding columns.	Nuptial Births nine months after Marriage and later.	Total Nuptial First Births.	Nuptial First Births and Ex-nuptial Births.
Years.						
24 ...	401	706	1,107	1,726	2,432	2,833
25 ...	302	530	832	1,601	2,131	2,433
26 ...	264	444	708	1,431	1,875	2,199
27 ...	200	325	525	1,265	1,590	1,790
28 ...	209	266	475	1,150	1,416	1,625
29 ...	175	208	383	907	1,115	1,290
30 ...	180	130	310	821	951	1,131
31 ...	100	124	224	560	684	784
32 ...	109	105	214	495	600	709
33 ...	102	86	188	418	504	606
34 ...	105	54	159	334	388	493
35 ...	87	60	147	291	351	438
36 ...	79	39	118	234	273	352
37 ...	63	21	84	190	211	274
38 ...	67	16	83	154	170	237
39 ...	59	15	74	104	119	178
40 ...	41	16	57	79	95	136
41 ...	32	3	35	46	49	81
42 ...	26	6	32	46	52	78
43 ...	20	5	25	29	34	54
44 ...	7	5	12	9	14	21
45 ...	9	1	10	10	11	20
46 ...	6	...	6	8	8	14
47 ...	1	1	2	2	3	4
48 ...	1	...	1	1	1	2
49 ...	...	1	1	...	1	1
Not stated	15	...	15	...	...	15
Total ...	6,808	9,494	16,302	17,913	27,407	34,215

§ 2. Marriages.

1. Marriages, 1901 to 1909.—The number of marriages registered in the Commonwealth in 1909 was 33,775, the highest number ever recorded. There has been a steady increase in the annual number of marriages in each State since 1903, and the crude marriage-rate increased similarly in all the States until 1907, with the exception of Western Australia, where a further diminution may reasonably be expected until the composition of the population as to sexes and ages approaches more closely to that of the other States. In 1908 all the States, with the exception of New South Wales and Tasmania, had a lower marriage rate than in 1907, but the rate recovered in 1909, and was higher in that year than in 1907 in all the States with the exception of Victoria and Western Australia. The number of marriages in each State since 1901 is shown below:—

TOTAL MARRIAGES, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
1901 ...	10,538	8,406	3,341	2,309	1,821	1,338	27,753
1902 ...	10,486	8,477	3,243	2,383	2,024	1,313	27,926
1903 ...	9,759	7,605	2,933	2,272	2,064	1,344	25,977
1904 ...	10,424	8,210	3,078	2,534	2,088	1,350	27,684
1905 ...	10,970	8,774	3,173	2,599	2,123	1,365	29,004
1906 ...	11,551	8,930	3,588	2,681	2,261	1,399	30,410
1907 ...	12,187	9,575	4,105	3,079	2,114	1,410	32,470
1908 ...	12,641	9,335	4,009	3,122	2,012	1,432	32,551
1909 ...	13,025	9,431	4,543	3,285	1,997	1,494	33,775

2. **Marriage Rates, 1901 to 1909.**—The number of marriages registered per thousand of mean population is shewn in the following table for the same period :—

CRUDE MARRIAGE RATE¹, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
1901 ...	7.73	6.98	6.66	6.36	9.66	7.76	7.32
1902 ...	7.54	7.00	6.36	6.54	9.83	7.55	7.24
1903 ...	6.89	6.29	5.72	6.21	9.32	7.57	6.66
1904 ...	7.23	6.80	5.93	6.86	8.83	7.55	7.00
1905 ...	7.44	7.24	6.03	6.94	8.48	7.62	7.22
1906 ...	7.65	7.30	6.73	7.06	8.70	7.82	7.44
1907 ...	7.86	7.73	7.62	7.98	8.06	7.86	7.81
1908 ...	8.00	7.42	7.30	7.84	7.59	7.88	7.69
1909 ...	8.11	7.34	8.04	8.00	7.37	8.11	7.82

1. Number of marriages (not persons married) per 1000 of mean annual population.

As in some international tabulations the marriage rates are calculated per 1000 of the unmarried population of 15 years and over, the corresponding rates have been worked out for the Commonwealth for the three last Census periods. The figures comprise in each case the Census year with the year immediately preceding, and the year immediately following, and are as follows:—Years 1880-82, 48.98; years 1890-92, 45.74; years 1900-02, 42.14. These rates refer, of course, to persons married and not to marriages, as do the rates in the preceding table.

3. **Marriage Rates in Various Countries.**—A comparison of the Australian marriage rate with that of European countries shews it to be considerably below the rates prevailing in the East of Europe, almost identical with those of Central and Western Europe, and higher than those of the North of Europe:—

CRUDE MARRIAGE RATE.—VARIOUS COUNTRIES.

Country.	Year.	Crude Marriage Rate.	Country.	Year.	Crude Marriage Rate.
Bulgaria ...	1907	9.90	Switzerland ...	1907	7.80
Rumania ...	1908	9.20	Austria ...	1907	7.50
Servia ...	1908	9.20	England and Wales ...	1908	7.45
Hungary ...	1908	9.10	Denmark ...	1908	7.40
Canada (Ontario) ...	1906	9.0	Netherlands ...	1908	7.20
Russia ...	1903	8.90	Spain ...	1908	7.15
New Zealand... ..	1909	8.33	Finland ...	1907	6.85
Italy ...	1908	8.30	Scotland ...	1908	6.55
German Empire ...	1907	8.15	Norway ...	1908	6.10
France ...	1908	8.05	Sweden ...	1908	6.10
Belgium ...	1907	8.0	Ireland ...	1908	5.20
Commonwealth ...	1909	7.82			

4. **Age at Marriage.**—(a) The age at marriage of bridegrooms and brides will be found in the following table, the previous conjugal condition of the contracting parties being distinguished. It will be seen that no less than 1219 males were married during 1909 who were less than twenty-one years of age. The corresponding number of females was 6911, of whom four were widows and one was divorced. At the other end of the scale there were twenty-four men of sixty-five years and upwards, who described themselves as bachelors, and seven spinsters of corresponding ages.

AGES AND CONJUGAL CONDITION OF PERSONS MARRIED, 1909.
COMMONWEALTH.

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors	Widowers	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
13 years	...	...	...	...	1	...	...	1
14 "	...	...	...	...	12	...	...	12
15 "	1	...	...	1	54	...	...	54
16 "	5	...	...	5	267	...	...	267
17 "	17	...	...	17	774	...	...	774
18 "	141	...	...	141	1,484	...	...	1,484
19 "	343	...	...	343	2,037	2	1	2,040
20 "	712	...	...	712	2,277	2	...	2,279
21 "	1,947	1	...	1,948	3,711	8	3	3,722
22 "	2,307	...	...	2,307	3,107	12	5	3,124
23 "	2,573	10	1	2,584	2,869	18	7	2,894
24 "	2,755	8	...	2,763	2,646	26	6	2,678
25 "	2,671	10	...	2,681	2,213	35	12	2,260
26 "	2,485	17	3	2,505	1,856	35	9	1,900
27 "	2,106	23	2	2,131	1,524	43	11	1,578
28 "	2,114	26	5	2,145	1,927	50	4	1,981
29 "	1,863	50	6	1,919	1,117	59	10	1,186
30 "	1,381	33	5	1,419	897	57	11	965
31 "	1,113	43	2	1,158	582	61	7	650
32 "	1,030	58	3	1,091	512	63	16	591
33 "	829	42	5	876	400	65	6	471
34 "	727	49	7	783	381	75	12	468
35 "	631	53	8	692	306	66	21	393
36 "	573	83	6	662	261	68	8	337
37 "	437	55	8	500	206	70	5	281
38 "	452	86	6	544	211	76	8	295
39 "	388	97	5	490	136	85	4	225
40 "	314	95	7	416	118	81	6	205
41 "	234	75	1	310	76	53	1	130
42 "	230	85	11	326	82	52	7	141
43 "	143	69	3	215	68	65	10	143
44 "	140	69	7	216	52	49	3	104
45 "	151	87	8	246	35	57	2	94
46 "	92	83	6	181	29	43	4	76
47 "	91	71	9	171	31	54	2	87
48 "	82	83	4	169	24	49	3	76
49 "	69	63	5	137	13	29	3	45
50 "	58	63	1	122	23	42	...	65
51 "	24	42	3	69	10	19	...	29
52 "	38	54	3	95	11	28	...	39
53 "	20	52	2	74	5	21	1	27
54 "	21	45	2	68	7	17	...	24
55 "	20	43	...	63	1	12	1	14
56 "	11	31	1	43	4	15	1	20
57 "	15	31	1	47	4	8	1	13
58 "	11	36	...	47	1	16	...	17
59 "	6	27	2	35	2	8	...	10
60 "	7	38	...	45	2	16	...	18
61 "	9	19	...	28	...	4	...	4
62 "	6	13	...	19	1	9	...	10
63 "	3	25	...	28	1	7	...	8
64 "	1	23	1	25	...	5	...	5
65 "	4	23	1	28	3	10	...	13
66 "	2	12	...	14	1	8	...	9
67 "	1	18	...	19	...	2	...	2
68 "	1	11	...	12	2	4	...	6
69 "	1	13	...	14	1	1	...	2
70 "	4	14	...	18	...	3	...	3

AGES AND CONJUGAL CONDITION OF PERSONS MARRIED, 1909—Continued.
COMMONWEALTH.

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors	Widowers	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
71 years ...	3	4	...	7	...	4	...	4
72 " ...	2	5	...	7	...	6	...	6
73 " ...	1	6	...	7	...	1	...	1
74 " ...	...	5	...	5	...	...	...	...
75 " ...	1	7	...	8	...	1	...	1
76 " ...	...	2	...	2	...	...	...	...
77 " ...	...	3	...	3	...	2	...	2
78 " ...	...	1	...	1	...	...	...	...
79 " ...	...	1	...	1	...	...	...	...
80 " ...	2	4	...	6	...	...	...	...
81 " ...	...	1	...	1	...	...	...	...
84 " ...	1	1	...	2	...	...	...	...
87 " ...	1	1	...	2	...	...	...	...
89 " ...	...	1	...	1	...	...	...	...
Not stated ...	5	...	...	5	11	1	...	12
Total ...	31,426	2,199	150	33,775	31,786	1,778	211	33,775

(b) The relative ages of bridegrooms and brides are shown for single years in "Bulletin of Population and Vital Statistics, No. 20"; a condensation is here given into age-groups of five years:—

RELATIVE AGES OF PERSONS MARRIED, COMMONWEALTH, 1909.

Ages.	Total Bridegrooms.	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 Upwds.	Not Stated.
Under 20 ...	507	2	343	147	14	1	...	...	...	...
20 to 24 ...	10,314	9	2,600	6,314	1,183	160	35	7	4	2
25 to 29 ...	11,381	1	1,192	5,547	3,737	725	134	26	16	3
30 to 34 ...	5,327	...	313	1,743	1,972	961	273	46	17	2
35 to 39 ...	2,888	...	126	620	842	674	453	126	46	1
40 to 44 ...	1,483	1	24	203	341	356	304	180	73	1
45 to 49 ...	904	...	12	78	147	162	188	185	132	...
50 to 54 ...	428	...	7	26	42	66	87	73	127	...
55 to 59 ...	235	...	1	8	16	23	30	41	116	...
60 to 64 ...	145	...	1	3	7	9	14	21	90	...
65 and upwards ...	158	...	...	6	4	8	13	18	109	...
Not stated ...	5	...	...	2	...	...	...	...	...	3
Total Brides ...	33,775	13	4,619	14,697	8,305	3,145	1,531	723	730	12

5. **Previous Conjugal Condition.**—In a previous table the total number of bachelors and spinsters, widowed and divorced persons, who were married during the year 1909, was shown. In the following table the relative conjugal conditions of the contracting parties are given:—

RELATIVE CONJUGAL CONDITION OF PERSONS MARRIED, COMMONWEALTH, 1909.

Conjugal Condition.	Total Bridegrooms.	Brides.			
		Spinsters.	Widows.	Divorced.	
Bridegrooms {	Bachelors ...	31,426	30,137	1,124	165
	Widowers ...	2,199	1,524	636	39
	Divorced ...	150	125	18	7
Total Brides ...	...	33,775	31,786	1,778	211

6. **Birthplaces of Persons Married.**—Information as to the birthplaces of persons who were married in 1909 was not obtained in the State of Western Australia; the following figures refer, therefore, only to New South Wales, Victoria, Queensland, South Australia and Tasmania. As might be expected, there were more brides than bridegrooms who were born in one of the Commonwealth States, and more bridegrooms than brides who were born elsewhere. In "Bulletin No. 20 of Population and Vital Statistics" the relative birthplaces of bridegrooms and brides will be found tabulated.

BIRTHPLACES OF PERSONS MARRIED, 1909.
COMMONWEALTH.¹

Birthplaces.	Bridegrooms.	Brides.	Birthplaces.	Bridegrooms.	Brides.
New South Wales ...	10,411	11,313	Argentina ...	1	...
Victoria ...	3,678	9,047	Chile ...	2	...
Queensland ...	3,011	3,829	Peru ...	1	...
South Australia ...	3,328	3,440	S. America, so described	2	2
Western Australia ...	29	13	Arabia ...	1	...
Tasmania ...	1,442	1,567	Asia Minor ...	1	...
New Zealand ...	374	302	Baluchistan ...	...	1
Austria-Hungary ...	18	8	Burmah ...	1	1
Belgium ...	3	1	Ceylon ...	9	2
Bulgaria ...	1	...	China ...	54	5
Channel Islands ...	3	2	Cyprus ...	1	...
Denmark ...	45	12	Dutch East Indies ...	4	...
England ...	2,412	1,275	India ...	46	16
Finland ...	6	1	Japan ...	8	5
France ...	23	10	Malay States ...	1	1
Germany ...	223	83	Straits Settlements ...	2	3
Greece ...	10	2	Syria ...	10	7
Iceland ...	1	...	Africa (so described) ...	...	1
Ireland ...	516	348	Cape of Good Hope ...	3	4
Isle of Man ...	1	2	Cape Verde Islands ...	1	...
Italy ...	50	17	Egypt ...	5	2
Malta ...	2	...	Madagascar ...	1	...
Netherlands ...	5	...	Mauritius ...	6	2
Norway ...	28	6	S. Africa (so described)	23	12
Portugal ...	4	...	W. Africa "	1	...
Rumania ...	1	2	Fiji ...	11	5
Russia ...	33	12	Neu Pommern ...	...	1
Scotland ...	622	299	New Caledonia ...	3	3
Spain ...	3	2	New Guinea ...	...	1
Sweden ...	44	9	New Hebrides ...	4	...
Switzerland ...	10	3	Samoa ...	3	...
Turkey ...	4	4	Solomon Islands ...	3	...
Wales ...	63	17	S. Sea Is. (so describ'd)	13	2
Canada ...	29	18	Born at sea ...	38	20
Newfoundland ...	1	...	Birthplace not stated	8	9
United States ...	71	28	Total ...	31,778	31,778
West Indies ...	6	1			

1. Exclusive of Western Australia.

7. **Occupations and Ages of Bridegrooms.**—A tabulation has been made of the occupations and ages of all males married in the Commonwealth in the years 1907, 1908 and 1909. In "Bulletin No. 20" the 1909 tabulation is shown for orders of occupations: here it is repeated for classes only, with a subdivision of the Industrial class and of the class of Primary Producers. The average ages of the persons falling under those twelve subdivisions were determined, and it appears that, apart from the Indefinite class, which consists chiefly of persons who have retired from business and

who are living on their own means, and where a high average age may naturally be expected, the average age ranges from 28.40 in the Manufacturing class to 33.10 years in the Pastoral class. The averages, calculated on the basis of the 1907 and 1908 figures, have been added for the purposes of comparison. The figures for three years are, however, rather small to allow of definite conclusions being drawn. The results obtained are shewn in the following table:—

OCCUPATIONS AND AGES OF BRIDEGROOMS, COMMONWEALTH, 1909.

Ages at Marriage.	Professional.	Domestic.	Mercantile.	Transport and Communication.	Industrial.			Primary Producers.				Indefinite.	
					Manu- facturing.	Building and Construction.	Indefinite Industrial Workers.	Agricultural.	Pastoral.	Mines and Quarries.	Other Primary Producers.		
15 years	1	...	...	...	...	...	...
16 "	2	...	...	...	2	...	...	...	...	...	...
17 "	1	...	5	1	...	...	...	...	...	...	...
18 "	14	19	21	10	48	...	...	...	...	...	...
19 "	37	40	67	22	111	...	...	...	...	...	...
20 "	82	70	149	53	180	59	...	...	...	...	...
21 "	213	352	352	147	509	167	25	141	...	...	...
22 "	323	247	375	161	565	244	41	167	...	...	...
23 "	373	312	401	191	587	328	35	147	...	...	...
24 "	418	371	443	190	630	366	45	177	...	...	...
25 "	460	345	385	182	575	365	49	151	...	...	...
26 "	417	244	379	157	504	385	43	116	...	...	...
27 "	376	176	285	113	470	323	67	114	...	...	...
28 "	404	170	270	113	459	298	68	134	...	...	...
29 "	328	169	218	103	387	365	59	101	...	...	...
30 "	258	112	154	73	274	258	59	93	...	...	...
31 "	227	94	136	48	308	211	43	62	...	...	...
32 "	199	90	101	53	223	189	59	62	...	...	...
33 "	141	77	109	35	157	171	42	52	...	...	...
34 "	119	60	76	35	146	159	37	58	...	...	...
35 to 39 years	471	207	289	139	539	578	160	160	...	...	...
40 " 44 "	252	110	142	88	272	295	85	62	...	...	...
45 " 49 "	120	73	112	52	183	156	54	48	...	...	...
50 years and upwards	140	56	114	75	167	187	40	34	...	...	...
Not stated	1	2	1	...	...	...	...	...
Total	1,912	797	5,425	3,056	4,583	2,042	7,206	5,142	1,019	1,973	477	143	...
Average age—years (1909)	31.25	30.09	29.80	28.61	28.40	29.12	28.86	31.07	33.10	28.78	28.89	39.88	...
" " (1908)	31.01	30.62	29.77	28.83	28.46	29.02	28.89	30.96	32.63	29.00	29.33	41.12	...
" " (1907)	31.26	30.12	29.74	28.90	28.01	29.71	28.76	30.93	32.55	29.03	29.19	38.86	...

8. **Fertility of Marriages.**—The quotient obtained by division of the nuptial births registered, say during the five years 1905 to 1909, by the number of marriages registered during the five years 1900 to 1904, *i.e.*, the period antecedent by five years to the period of the births, has been called the "fertility of marriages." This works out at 3.77, or in other words, the number of children to be expected from every four marriages in the Commonwealth is fifteen. This method, while not professing any claim to accuracy, furnishes results which agree fairly well with those found by more elaborate and careful investigation.

9. **Registration of Marriages.**—In all the States of the Commonwealth marriages may be celebrated either by ministers of religion, whose names are registered for that purpose with the Registrar-General, or by certain civil officers, in most cases district registrars. The percentage of marriages celebrated by ministers of religion has increased from 96.25 per cent. in 1901 to 97.55 per cent. in 1909. The figures for the individual States in 1909 were: New South Wales, 98.30 per cent.; Victoria, 99.16 per cent.; Queensland, 95.62 per cent.; South Australia, 95.68 per cent.; Western Australia, 92.24 per cent.; and Tasmania, 99.20 per cent. The registered ministers in 1909 belonged to forty-four different denominations, some of which, however, can hardly be regarded as having any valid existence. The extraordinary number of marriages credited to some

denominations, the number of whose adherents, according to the Census returns, was very small indeed, is not inconsistent with the supposition that some of these denominations have been created for the purpose of obtaining the registration necessary to conduct marriages, or to be connected with a so-called "Matrimonial Agency." The figures for 1909 are shewn in the following table:—

MARRIAGES IN EACH DENOMINATION, COMMONWEALTH, 1909.

Denomination.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'with.
Church of England	5,304	1,968	1,145	736	792	487	10,432
Roman Catholic Church	2,335	1,629	918	321	360	196	5,759
Presbyterian Church of Australia	1,693	1,565	617	139	173	178	4,365
Free Presbyterian Church ... ..	...	...	...	6	...	...	6
Independent Presbyterian Church	...	551	...	...	...	28	579
Welsh Presbyterian Church ... ..	...	6	...	...	...	...	6
Methodist Church	1,506	1,412	724	1,033	350	295	5,370
Independent Methodist Church...	...	...	2	...	...	...	2
Congregational Church	1,447	1,355	142	160	64	156	3,324
Baptist Church	193	331	242	210	49	124	1,149
German Baptist Church ... ..	...	...	4	...	...	...	4
Particular Baptist Church	2	...	...	...	...	...	2
Church of Christ	165	181	18	162	24	5	555
Christian Brethren	9	...	...	26	...	...	35
Lutheran Church	18	72	136	211	9	...	446
Evangelical Lutheran Church	10	...	5	...	...	...	15
German Lutheran Church	1	...	11	...	...	...	12
Scandinavian Lutheran Church...	...	...	1	...	...	...	1
Greek Orthodox Church	6	1	...	...	1	...	8
Australian Church ... ..	...	16	...	...	...	...	16
Unitarian Church	7	...	...	4	...	...	11
Moravian Church ... ..	...	...	1	...	...	...	1
Apostolic Church	1	...	14	...	...	...	15
Catholic Apostolic Church ... ..	...	3	2	...	...	...	5
Christadelphians	5	...	...	...	...	...	5
Welsh Protestant Church ... ..	...	...	10	...	...	...	10
Plymouth Brethren	1	...	...	...	...	...	1
Salvation Army	40	35	36	31	13	5	160
Seventh-Day Adventists	5	4	3	5	...	...	17
Latter-Day Saints	7	4	...	2	...	...	13
Church of the Resurrection	1	...	...	...	...	...	1
New Church	1	1	...	...	...	...	2
Free Church	5	...	...	...	...	...	5
Free Christian Church... ..	...	87	...	...	...	...	87
United Christian Church ... ..	...	2	...	...	...	...	2
Christian Assembly ... ..	...	...	12	...	...	...	12
Christian, Unattached, Unsectar'n	...	1	...	...	...	...	1
City Mission ... ..	...	...	...	42	...	...	42
Ballarat Town Mission ... ..	...	70	...	...	...	...	70
Joyful News Mission ... ..	...	...	293	...	...	...	293
Helping Hand Mission ... ..	...	...	...	...	...	2	2
Aboriginal Mission	3	...	...	...	...	...	3
West End Mission ... ..	...	...	2	...	...	...	2
Jewish	39	44	...	5	3	...	91
Registrar's Office	221	93	199	142	159	12	826
Not stated ... ..	...	...	6	...	...	6	12
Total	13,025	9,431	4,543	3,285	1,997	1,494	33,775

10. **Mark Signatures.**—The marriage registers afford some clue, even if an imperfect one, to the illiteracy of the adult population, since a small and constantly diminishing percentage of bridegrooms and brides sign the registers with marks.

(i.) *Males and Females, 1901 to 1909.* For a number of years, with the exception of 1908, mark signatures by males have been slightly more numerous than those by females, the percentages for the Commonwealth during the past nine years having been as follows :—

PERCENTAGE OF MARK SIGNATURES AT MARRIAGE, COMMONWEALTH, 1901 to 1909.

Year. ...	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Male...	1.85	1.21	1.17	0.95	0.91	0.92	0.81	0.71	0.65
Female	1.29	1.11	1.02	0.91	0.93	0.86	0.70	0.73	0.62

(ii.) *Mark Signatures in Commonwealth States, 1901 to 1909.* The following table shews that while the Tasmanian percentage has been the highest, and the Victorian the lowest, in each of the nine years under review, there has been a marked decrease in every State :—

PERCENTAGE OF MARK SIGNATURES AT MARRIAGE, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
1901 ...	1.84	0.53	2.56	0.95	0.99	4.11	1.32
1902 ...	1.22	0.61	1.93	1.15	0.69	3.12	1.16
1903 ...	1.10	0.60	1.86	1.32	0.75	2.38	1.10
1904 ...	0.90	0.54	1.72	0.65	0.53	2.85	0.93
1905 ...	1.12	0.44	1.39	0.83	0.57	2.12	0.92
1906 ...	0.94	0.43	1.67	0.67	0.66	2.18	0.89
1907 ...	0.87	0.36	1.14	0.55	0.64	2.02	0.76
1908 ...	0.79	0.33	1.20	0.56	0.82	1.57	0.72
1909 ...	0.60	0.22	1.16	0.64	0.68	2.07	0.64

A complete disappearance of mark signatures is hardly to be expected, for the available information tends to shew that two-thirds of those who sign with marks are natives of their respective States, who apparently have not made use of the advantages offered to them by the State schools.

§ 3. Deaths.

1. **Male and Female Deaths, 1901 to 1909.**—The total number of deaths registered in the Commonwealth from 1901 to 1909 inclusive, gives an annual average of 26,216 males and 19,231 females, the details being as follows :—

MALE DEATHS, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
1901 ...	9,327	9,035	3,838	2,289	1,653	1,001	27,143
1902 ...	9,535	9,152	3,924	2,389	1,832	1,044	27,876
1903 ...	9,428	8,626	3,951	2,242	1,829	1,136	27,212
1904 ...	8,733	7,992	3,259	2,071	1,823	1,061	24,939
1905 ...	8,709	8,273	3,499	2,041	1,728	1,061	25,311
1906 ...	8,715	8,342	3,212	2,109	1,878	1,118	25,374
1907 ...	9,444	7,977	3,482	2,087	1,866	1,083	25,939
1908 ...	9,298	8,816	3,500	2,106	1,800	1,112	26,632
1909 ...	9,184	8,070	3,419	2,140	1,671	1,030	25,514
Rate,* 1909	10.74	12.54	11.11	9.76	10.66	10.89	11.20

* Number of deaths per 1000 of mean population.

FEMALE DEATHS, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
1901	6,694	6,869	2,169	1,776	866	813	19,187
1902	7,111	7,025	2,280	1,925	991	870	20,202
1903	7,069	6,969	2,395	1,709	959	980	20,081
1904	6,627	6,401	1,991	1,707	994	913	18,633
1905	6,269	6,403	2,004	1,763	981	783	18,203
1906	6,260	6,895	1,883	1,822	1,206	893	18,959
1907	6,967	6,562	2,116	1,741	1,065	915	19,366
1908	6,757	6,950	2,180	1,811	1,079	1,017	19,794
1909	6,626	6,366	2,111	1,710	1,033	812	18,658
Rate,* 1909 ...	8.82	9.93	8.20	8.94	9.04	9.06	9.13

* Number of deaths per 1000 of mean population.

2. **Male and Female Death Rates, 1909.**—The crude male and female death rates for 1909 only are given, viz., in the last line of the preceding tables: both are highest for Victoria and Tasmania, while the Queensland rate is lowest for females, and the South Australian for males.

Owing to differences in the age constitution of the six States, the crude rates are not, however, strictly comparable, but as has been pointed out in the case of the births, the available data, at a period so remote from the Census, are insufficient for a satisfactory distribution of the population according to ages. For the purposes of calculating the "Index of Mortality" (see page 196) a distribution into five age-groups has, however, been made.

3. **Death Rates of Various Countries.**—A comparison with foreign States is, for the same reason, apt to show the Commonwealth in too favourable a light, but even if an allowance for the different age constitution were made, it would still be found occupying a very enviable position. The following table gives particulars of the death rates of various countries for the latest available years:—

DEATH RATES* OF VARIOUS COUNTRIES.

Country.	Year.	Crude Death Rate.	Country.	Year.	Crude Death Rate.
New Zealand ...	1909	9.2	German Empire ...	1907	18.0
Commonwealth ...	1909	10.2	France ...	1908	19.0
Norway ...	1908	14.5	Japan ...	1907	20.9
Denmark ...	1908	14.3	Bulgaria ...	1907	22.3
England and Wales ...	1908	14.7	Jamaica ...	1908	22.4
Canada (Ontario) ...	1906	14.8	Austria ...	1907	22.6
Sweden ...	1908	14.9	Italy ...	1908	22.6
United Kingdom ...	1908	15.1	Spain ...	1908	23.3
Netherlands ...	1908	15.3	Servia ...	1908	23.7
Belgium ...	1907	15.7	Hungary ...	1908	24.8
Scotland ...	1908	16.1	Rumania ...	1908	27.7
Switzerland ...	1907	16.8	Ceylon ...	1908	29.4
Ireland ...	1908	17.6	Russia, European ...	1903	30.0
Finland ...	1907	17.9	Chile ...	1908	31.6

* Number of deaths per 1000 of mean population.

4. **Total Deaths, 1901 to 1909.**—The total number of deaths in each of the Commonwealth States during the nine years 1901 to 1909, is shewn below:—

TOTAL DEATHS, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
1901 ...	16,021	15,904	6,007	4,065	2,519	1,814	46,330
1902 ...	16,646	16,177	6,204	4,314	2,823	1,914	48,078
1903 ...	16,497	15,595	6,346	3,951	2,788	2,116	47,293
1904 ...	15,360	14,393	5,250	3,778	2,817	1,974	43,572
1905 ...	14,978	14,676	5,503	3,804	2,709	1,844	43,514
1906 ...	14,975	15,237	5,095	3,931	3,084	2,011	44,333
1907 ...	16,411	14,539	5,598	3,828	2,931	1,998	45,305
1908 ...	16,055	15,766	5,680	3,917	2,879	2,129	46,426
1909 ...	15,810	14,436	5,530	3,850	2,704	1,842	44,172

5. **Crude Death Rates, 1901 to 1909.**—The death rate for 1909 was the lowest experienced during the nine years under review in every State with the exception of Queensland, where the rate in 1906 was even lower than that of 1909. The Commonwealth rate for 1909 was considerably lower than in any of the other years of the period under review.

CRUDE DEATH RATES,* COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
1901 ...	11.75	13.21	11.98	11.20	13.37	10.52	12.22
1902 ...	11.97	13.36	12.17	11.83	13.71	11.00	12.47
1903 ...	11.65	12.90	12.38	10.80	12.60	11.92	12.12
1904 ...	10.65	11.92	10.11	10.22	11.91	11.04	11.02
1905 ...	10.16	12.10	10.47	10.15	10.82	10.29	10.83
1906 ...	9.92	12.45	9.56	10.35	11.87	11.24	10.85
1907 ...	10.58	11.74	10.39	9.93	11.17	11.14	10.90
1908 ...	10.16	12.53	10.34	9.84	10.86	11.71	10.97
1909 ...	9.84	11.24	9.79	9.37	9.98	10.00	10.22

* Number of deaths per thousand of mean population for year.

6. **Male and Female Death Rates, 1901 to 1909.**—The rise in the Commonwealth rate from 1905 to 1907 was due to an increase in the female death rate, while the increase in 1908 was practically limited to the male death rate, as the subjoined table shews. The decrease from 1908 to 1909 was fairly equal for the male and female rates:—

MALE AND FEMALE DEATH RATES,* COMMONWEALTH, 1901 to 1909.

Year.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Male rate ...	13.65	13.78	13.30	12.02	11.98	11.78	11.84	11.94	11.20
Female rate ...	10.64	11.02	10.82	9.92	9.56	9.81	9.86	9.88	9.13
Crude total rate* ...	12.22	12.47	12.12	11.02	10.83	10.85	10.90	10.97	10.22

* Number of deaths per thousand of mean population.

7. **Infantile Death Rate.**—(i.) *Deaths and Death Rates of Male and Female Infants 1901 to 1909.* A marked improvement has taken place in the infantile death rate since:

1901, in which year it stood at 103.61 per thousand births registered, while in 1909 it had fallen to 71.56 per thousand, a rate lower than that experienced in any previous year. In the following table, which shows both the total number of deaths of children under one year and the rate per thousand births since 1901, males and females are distinguished. The universal experience that during the first few years of life the excess of male births disappears as a consequence of the higher death rate of male infants is shewn by the fact that out of 490,382 male infants born from 1901 to 1909, 46,981 died during their first year of life, while of 466,689 female infants the number who died was only 37,520:—

**NUMBER OF INFANTILE DEATHS AND RATE OF INFANTILE MORTALITY,
COMMONWEALTH, 1901 to 1909.**

Year.	Registered Deaths under one year.			Rate of Infantile Mortality.*		
	Males.	Females.	Total.	Males.	Females.	Total.
1901	5,888	4,778	10,666	112.13	94.73	103.61
1902	6,008	5,004	11,012	114.19	99.76	107.15
1903	6,003	4,960	10,963	119.09	103.25	111.36
1904	4,713	3,800	8,513	88.33	74.87	81.77
1905	4,884	3,696	8,580	90.62	72.41	81.76
1906	5,002	3,981	8,983	90.10	76.01	83.26
1907	4,993	3,952	8,945	88.39	73.38	81.06
1908	4,885	3,791	8,676	85.53	69.65	77.78
1909	4,604	3,559	8,163	78.73	64.02	71.56

*Number of deaths under 1 year per 1000 births registered.

(ii.) *Infantile Mortality, 1901 to 1909.* Divided among the six States, the rate of infantile mortality during the last nine years was as follows:—

RATE* OF INFANTILE MORTALITY, COMMONWEALTH, 1901 to 1909.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
1901	103.74	102.94	101.94	99.99	128.89	89.05	103.61
1902	109.74	108.60	100.17	94.00	142.01	79.06	107.15
1903	110.35	106.40	119.88	97.09	141.22	110.83	111.36
1904	82.42	77.92	76.13	70.51	113.02	90.70	81.77
1905	80.55	83.30	75.52	72.96	104.19	80.65	81.76
1906	74.53	92.92	74.68	75.90	110.00	90.19	83.26
1907	88.46	72.60	77.65	66.57	97.51	82.97	81.06
1908	75.20	86.05	70.67	69.46	84.72	75.16	77.78
1909	73.87	71.36	71.50	61.04	78.01	64.91	71.56

* Number of deaths under 1 year per 1000 births registered.

The movement has been a fairly regular one, shewing an increase in the rate during 1902 and 1903, and a fall since the latter year, so that the 1907 rate was lower than that for 1901 in every State. The regrettable increase in the Victorian rate for 1908 over that of 1907 was wholly due to the large mortality caused by the phenomenal heat of January, 1908. With the exception of Queensland, where the 1908 rate was exceptionally low, the 1909 rate was the lowest ever experienced in any of the States.

(iii.) *Infantile Mortality in Various Countries.* Compared with European countries the States of the Commonwealth occupy a very enviable position, and it may be pointed out that experience has shewn that a high birth rate is often, though not invariably,

accompanied by a high infantile death rate. The figures in the subjoined table relate to the latest years for which returns are available:—

RATE* OF INFANTILE MORTALITY IN VARIOUS COUNTRIES.

Country.	Year.	Rate of Infantile Mortality.*	Crude Birth Rate. †	Country.	Year.	Rate of Infantile Mortality.*	Crude Birth Rate. †
New Zealand ...	1909	62	27.3	Japan	1907	151	33.0
Norway	1907	67	26.3	Bulgaria	1906	154	44.0
Commonwealth ...	1909	72	26.4	Italy	1907	155	31.5
Sweden	1907	77	25.5	Servia	1908	158	36.8
Ireland	1908	97	23.3	Canada (Ontario)...	1906	162	23.3
Denmark	1907	106	28.3	Spain	1906	173	33.4
Scotland	1907	110	27.0	Jamaica	1908	175	37.6
Finland	1907	112	31.3	German Empire ...	1907	176	32.3
United Kingdom ...	1907	114	26.0	Ceylon	1908	183	40.1
England and Wales	1908	120	26.5	Rumania	1899	198	42.0
Switzerland	1907	121	26.8	Hungary	1908	199	36.3
Netherlands	1908	125	29.7	Austria	1905	216	33.7
Belgium	1907	132	25.3	Russia, European	1903	256	48.1
France	1906	143	20.6	Chile	1908	320	39.3

* No. of deaths under 1 year per 1000 births registered. † No. of births per 1000 of mean population.

(iv.) *The Effect of Infantile Mortality on Birth Rate.* It has been contended by certain investigators that the birth-rate question is intimately related to that of infantile mortality, and that in many cases a declining birth rate may be to a large extent accounted for by a decline in the infantile death rate, since, in the case in which an infant has survived, the period elapsing before the birth of the next child is likely to be longer than in the case in which the infant has died. It may indeed be readily admitted that in any community the birth rate may be affected in a definite way by variations of infantile mortality, but careful investigation of the question serves to shew that, whether considered from the theoretical aspect with a view to determining the *maximum* and the *probable* effects which a given change in the rate of infantile mortality would produce in the birth rate, or from the practical point of view by observing the fluctuations in the birth rates of various countries which have been collateral with changes in their rates of infantile mortality, there is little ground for the contention that the rate of infantile mortality is an important factor in determining the variations in the birth rate. One calculation which has been made on the basis of normal Australian conditions indicates that the *maximum* effect of increasing the rate of infantile mortality 100 per cent. would, in the absence of other disturbing causes, be to increase the birth rate by only 3½ per cent., whilst the *probable* effect would be considerably less than this. In other words, the *maximum* effect of an increase in the rate of infantile mortality from 100 to 200 per 1000 births would be to increase the birth rate from say 30 to 31 per 1000 of population. It may be noted too, that although in some countries an increase in birth-rate accompanies an increase in the rate of infantile mortality, in others the birth rate would appear to be quite unaffected by such an increase, while in the case of England and Wales, Scotland, and Ireland, the tendency apparently exhibited is for an increase in the rate of infantile mortality to be associated with a decrease in the birth rate. The conclusion which these results appear to warrant is that although infantile mortality undoubtedly tends on the whole to increase the birth rate, the practical effect produced is so slight that the existence of such a relation may in any instance be quite masked by more important causes of variation.

8. *Deaths in Age-Groups, 1901 to 1909.*—A distribution into age-groups has been made of the 409,023 deaths which occurred in the Commonwealth from 1901 to 1909, and the results are tabulated for each State. It is, however, sufficient here to shew the results for the Commonwealth as a whole, which are as follows:—

DEATHS IN AGE-GROUPS. COMMONWEALTH, 1901 to 1909.

Ages.	Males.	Females.	Total.	Percentage of Total Males.	Percentage of Total Females.	Percentage of Total.
Under 1 year ...	46,981	37,520	84,501	19.91	21.68	20.66
1 year and under 5 ...	13,814	12,716	26,530	5.85	7.35	6.49
5 years and under 20 ...	13,911	12,419	26,330	5.90	7.18	6.44
20 years and under 40 ...	33,027	28,783	61,810	14.00	16.63	15.11
40 years and under 60 ...	46,026	26,928	72,954	19.51	15.56	17.84
60 years and under 65 ...	13,539	8,332	21,871	5.74	4.81	5.35
65 years and over ...	68,236	46,315	114,551	28.92	26.75	28.00
Age not stated ...	406	70	476	0.17	0.04	0.11
Total ...	235,940	173,083	409,023	100.00	100.00	100.00

9. Deaths at Single Ages and in Age-Groups, 1909.—The 44,172 deaths which were registered in the Commonwealth in the year 1909 will be found tabulated under single years (in weeks up to one month, and in months up to one year), and in groups of five years in the following table:—

DEATHS AT SINGLE AGES AND IN AGE-GROUPS, 1909.
COMMONWEALTH.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
Under 1 week ...	1,354	971	2,325	15 years ...	96	84	180
1 week and under 2 ...	273	199	472	16 " ...	110	95	205
2 weeks " " 3 ...	191	149	340	17 " ...	113	96	209
3 " " " 4 ...	170	103	273	18 " ...	126	111	237
				19 " ...	167	124	291
Total under one month ...	1,988	1,422	3,410	Total 15 years and under 20 ...	612	510	1,122
1 month and under 2 ...	467	320	787	20 years ...	142	155	297
2 months " " 3 ...	349	260	609	21 " ...	139	135	274
3 " " " 4 ...	295	273	568	22 " ...	168	131	299
4 " " " 5 ...	275	250	525	23 " ...	146	152	298
5 " " " 6 ...	222	206	428	24 " ...	134	154	288
6 " " " 7 ...	226	184	410	Total 20 years and under 25 ...	729	727	1,456
7 " " " 8 ...	194	163	357	25 years ...	156	131	287
8 " " " 9 ...	161	135	296	26 " ...	153	143	296
9 " " " 10 ...	186	124	310	27 " ...	165	162	327
10 " " " 11 ...	123	112	235	28 " ...	162	185	347
11 " " " 12 ...	118	110	228	29 " ...	148	164	312
Total under 1 year ...	4,604	3,559	8,163	Total 25 years and under 30 ...	784	785	1,569
1 year ...	754	626	1,380	30 years ...	159	157	316
2 years ...	273	293	566	31 " ...	126	113	239
3 " ...	176	170	346	32 " ...	149	167	316
4 " ...	120	138	258	33 " ...	164	136	300
Total under 5 years ...	5,927	4,786	10,713	34 " ...	149	155	304
5 years ...	109	110	219	Total 30 years and under 35 ...	747	728	1,475
6 " ...	95	80	175	35 years ...	181	160	341
7 " ...	68	67	135	36 " ...	169	160	329
8 " ...	95	69	164	37 " ...	161	156	317
9 " ...	81	65	146	38 " ...	206	202	408
Total 5 years and under 10 ...	448	391	839	39 " ...	195	181	376
10 years ...	86	58	144	Total 35 years and under 40 ...	912	859	1,771
11 " ...	57	44	101				
12 " ...	71	54	125				
13 " ...	78	66	144				
14 " ...	81	64	145				
Total 10 years and under 15 ...	373	296	669				

DEATHS AT SINGLE AGES AND IN AGE-GROUPS, 1909—Continued.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
40 years	289	161	450	75 years	465	360	825
41 "	183	131	314	76 "	395	316	711
42 "	250	183	433	77 "	377	270	647
43 "	205	156	361	78 "	421	269	690
44 "	247	157	404	79 "	400	248	648
Total 40 years and under 45	1,174	788	1,962	Total 75 years and under 80	2,058	1,463	3,521
45 years	329	179	508	80 years	320	235	555
46 "	245	172	417	81 "	235	156	391
47 "	288	143	431	82 "	276	151	427
48 "	320	152	472	83 "	233	154	387
49 "	288	181	469	84 "	233	167	400
Total 45 years and under 50	1,470	827	2,297	Total 80 years and under 85	1,297	863	2,160
50 years	375	174	549	85 years	186	139	325
51 "	220	110	330	86 "	129	112	241
52 "	316	164	480	87 "	124	85	209
53 "	276	147	423	88 "	105	97	202
54 "	304	132	436	89 "	89	68	157
Total 50 years and under 55	1,491	727	2,218	Total 85 years and under 90	633	501	1,134
55 years	278	138	416	90 years	75	71	146
56 "	292	130	422	91 "	43	37	80
57 "	247	135	382	92 "	24	27	51
58 "	280	164	444	93 "	31	21	52
59 "	263	150	413	94 "	23	20	43
Total 55 years and under 60	1,360	717	2,077	Total 90 years and under 95	196	176	372
60 years	322	195	517	95 years	14	7	21
61 "	197	140	337	96 "	7	6	13
62 "	274	180	454	97 "	10	2	12
63 "	294	192	486	98 "	6	10	16
64 "	313	183	496	99 "	2	5	7
Total 60 years and under 65	1,400	890	2,290	Total 95 yrs. and under 100	39	30	69
65 years	426	252	678	100 years	3	6	9
66 "	329	228	557	101 "	1	2	3
67 "	330	236	566	102 "	1	3	4
68 "	381	272	653	106 "	1	...	1
69 "	333	244	577	109 "	1	1	2
Total 65 years and under 70	1,799	1,232	3,031	110 "	1	...	1
70 years	424	281	705	Total 100 years and over...	8	12	20
71 "	336	197	533	Age not stated	57	11	68
72 "	407	276	683	Total all ages	25,514	18,658	44,172
73 "	440	309	749				
74 "	393	286	679				
Total 70 years and under 75	2,000	1,349	3,349				

10. Deaths of Centenarians, 1909.—Particulars as to the twenty persons who died in 1909, aged 100 years and upwards, are given in the following table. It must, of course, be understood that while the Registrars-General of the various States take the greatest care to have statements as to abnormally high ages verified as far as possible, no absolute reliance can be placed on the accuracy of the ages shown, owing to the well-known tendency of very old people to overstate their ages. The fact must not be lost sight of in connection with this question, that while parish registers in the United Kingdom often date very far back, compulsory registration of births dates practically only from 1874, the Act passed in 1836 having left many loop-holes open for those unwilling to register the births of their children.

DEATHS OF CENTENARIANS, 1909.

COMMONWEALTH.

Age	Locality where Death occurred.	State.	Cause of Death.	Occupation.	Birth Place.	Length of Residence in Commonwealth.
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MALES.

Yrs						
110	Warrnambool ...	Victoria ...	Senile decay ...	Labourer ...	Ireland ...	53 years
109	Cobar ...	N.S.W. ...	" ...	Painter ...	Canada ...	80 "
106	Scone ...	" ...	Heart disease ...	Labourer ...	Ireland ...	54 "
102	Sorell ...	Tasmania ...	Senile decay ...	" ...	England ...	Not stated
101	Bendigo ...	Victoria ...	Intestinal obstruction	Not stated	China ...	57 years
100	Burwood ...	N.S.W. ...	Senile decay ...	Labourer ...	Ireland ...	55 "
100	Oakleigh ...	Victoria ...	" ...	Not stated	" ...	73 "
100	Claremont ...	W. Aust. ...	" ...	Sawyer ...	England ...	54 "

FEMALES.

109	Randwick ...	N.S.W. ...	Chronic bronchitis ...	...	Ireland ...	53 years
102	Stanley ...	Queensland	Fractured femur and shock ...	...	England ...	60 "
102	Mosman ...	N.S.W. ...	Senile decay ...	...	" ...	95 "
101	Woolona ...	" ...	" ...	...	Ireland ...	90 "
101	Timor ...	Victoria ...	" ...	...	Ireland ...	69 "
101	Bendigo ...	" ...	" ...	...	England ...	71 "
100	Brewarrina ...	N.S.W. ...	" ...	...	Ireland ...	71 "
100	Macleay ...	" ...	" ...	...	N.S.W. ...	Native
100	Cargo ...	" ...	" ...	...	Scotland ...	72 years
100	Richmond ...	Victoria ...	" ...	...	Ireland ...	56 "
100	Bellarine ...	" ...	" ...	...	England ...	53 "
100	Maryborough ...	" ...	" ...	...	Scotland ...	60 "
					Ireland ...	Not stated

11. Length of Residence in the Commonwealth of Persons who Died in 1909.—The length of residence in the Commonwealth of all persons whose deaths were registered in the year 1909 has been tabulated for all the States, and a summary of the results is shown below:—

**LENGTH OF RESIDENCE IN COMMONWEALTH OF PERSONS WHO DIED
IN 1909.**

Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.	Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.
Born in the C'wealth...	13,350	11,538	24,888	Resident 25 to 29 years	920	465	1,385
Resident under 1 year	221	46	267	" 30 to 34 "	816	375	1,191
" 1 year ...	81	35	116	" 35 to 39 "	511	298	809
" 2 years ...	46	22	68	" 40 to 44 "	958	539	1,497
" 3 " ...	50	6	56	" 45 to 49 "	908	694	1,602
" 4 " ...	37	8	45	" 50 to 54 "	1,817	1,383	3,200
" 5 " ...	35	16	51	" 55 to 59 "	1,487	1,132	2,619
" 6 " ...	20	10	30	" 60 to 64 "	485	429	914
" 7 " ...	38	19	57	" 65 yrs. & over	376	344	720
" 8 " ...	32	19	51	Length of residence			
" 9 " ...	33	13	46	not stated...	2,031	681	2,712
" 10 to 14 years...	226	71	297				
" 15 to 19 " ...	274	141	415				
" 20 to 24 " ...	762	374	1,136				
				Total ...	25,514	18,658	44,172

12. Birthplaces of Persons who Died in 1909.—In the following table are shewn the birthplaces of persons whose deaths were registered in 1909:—

BIRTHPLACES OF PERSONS WHO DIED IN 1909.

COMMONWEALTH.

Birthplaces.	Males.	Females.	Total.	Birthplaces.	Males.	Females.	Total.
New South Wales ...	5,085	4,474	9,559	Afghanistan ...	2	...	2
Victoria ...	4,206	3,530	7,736	Arabia ...	1	1	2
Queensland ...	1,366	1,165	2,531	Asia Minor ...	...	1	1
South Australia ...	1,269	1,125	2,394	Burmah ...	1	1	2
Western Australia ...	571	497	1,068	Ceylon ...	6	1	7
Tasmania ...	853	747	1,600	China ...	348	4	352
				Dutch East Indies ...	20	...	20
				India ...	100	22	122
				Japan ...	48	1	49
New Zealand ...	85	68	153	Malay States ...	7	...	7
				Persia ...	1	...	1
				Philippine Islands ...	12	...	12
Austria-Hungary ...	47	3	50	Straits Settlements ...	10	...	10
Belgium ...	6	1	7	Syria ...	5	1	6
Channel Islands ...	22	12	34				
Denmark ...	86	19	105	Africa (so described)	1	...	1
England ...	5,115	3,069	8,184	Ascension Island ...	...	1	1
Finland ...	20	2	22	Azores ...	3	...	3
France ...	71	15	86	Cape of Good Hope ...	3	1	4
Germany ...	574	243	817	Cape Verde Islands ...	1	...	1
Gibraltar ...	6	...	6	Mauritius ...	5	2	7
Greece ...	9	2	11	Natal ...	1	...	1
Ireland ...	2,654	2,334	4,988	Seychelles ...	1	...	1
Isle of Man ...	6	4	10	S. Africa (so described)	14	10	24
Italy ...	64	14	78	St. Helena ...	2	...	2
Malta ...	7	1	8	W. Africa (so desc'bd)	2	...	2
Netherlands ...	19	...	19	Zanzibar ...	1	...	1
Norway ...	60	3	63				
Portugal ...	7	1	8	Fiji ...	3	3	6
Rumania ...	2	...	2	Hawaii ...	2	...	2
Russia ...	30	8	38	New Caledonia ...	4	...	4
Scotland ...	1,475	940	2,415	New Guinea ...	13	...	13
Spain ...	7	1	8	New Hebrides ...	2	1	3
Sweden ...	97	9	106	Norfolk Island ...	2	2	4
Switzerland ...	51	7	58	Samoa ...	1	...	1
Turkey ...	1	...	1	Society Islands ...	1	1	2
Wales ...	128	47	175	Solomon Islands ...	2	...	2
				S. Sea Is. (so described)	39	1	40
Bermudas ...	...	1	1				
Canada ...	50	13	63	At Sea ...	49	30	79
Newfoundland ...	4	...	4				
United States ...	102	19	121	Not stated...	620	187	807
West Indies ...	19	10	29				
Argentina ...	...	1	1				
Brazil ...	2	...	2				
British Guiana ...	1	...	1				
Peru ...	...	1	1				
S. America (so desc'bd)	4	1	5	Total Deaths ...	25,514	18,658	44,172

13. Occupations of Male Persons who Died in 1909.—Information as to the occupations of the 25,514 males who died in the Commonwealth in 1909, is contained in the following statement:—

OCCUPATIONS OF DECEASED MALES, 1909.

COMMONWEALTH.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
CLASS I.—PROFESSIONAL.			
General Government	109	Living animals... ..	48
Local Government	40	Leather, hides, etc.	3
Defence	62	Wool and tallow	14
Law and order	190	Hay, corn, etc.	34
Religion	86	Timber	14
Charity	1	Wood and coal... ..	28
Health	124	Glass and earthenware	6
Literature	37	Gold, silver, and precious stones	1
Science	11	Ironmongery	25
Civil and mechanical engineering, architecture and surveying	84	Merchants, etc.	224
Education	110	Dealers and hawkers	87
Fine arts	36	Agents and brokers	91
Music	31	Clerks, bookkeepers, etc.	438
Amusements	62	Commercial travellers and salesmen	161
		Others engaged in commercial pur- suits	62
		Speculators on chance events	12
		Storage	2
Total Professional	983		
		Total Commercial	2,026
CLASS II.—DOMESTIC.			
Hotelkeepers and assistants	260	CLASS IV.—TRANSPORT AND COMMUNICATION.	
Others engaged in providing board and lodging... ..	32	Railway traffic	326
House servants	134	Tramway traffic	41
Coachmen and grooms	74	Road traffic	371
Hairdressers	47	Sea and river traffic	526
Laundrymen	6	Postal service	52
Others engaged in domestic occu- pations	76	Telegraph and telephone service	28
		Messengers, etc.	10
Total Domestic	629		
		Total Transport & Communication	1,354
CLASS III.—COMMERCIAL.			
Banking and finance	77	CLASS V.—INDUSTRIAL.	
Insurance and valuation	54	Books and publications	108
Land and household property	31	Musical instruments	9
Property rights not elsewhere classed	1	Prints, pictures, and art materials	15
Books, publications and advertising	27	Ornaments and small wares	22
Prints, pictures, etc.	1	Designs, medals and type	5
Machines, tools, and implements	1	Watches and clocks	27
Carriages and vehicles	1	Surgical instruments	1
Furniture	4	Arms and ammunition	4
Paper and stationery	10	Engines, machines, tools, etc.	86
Textile fabrics	126	Carriages and vehicles	90
Dress	13	Harness, saddlery, and leatherware	74
Animal food	233	Ships, boats, and equipment	52
Vegetable food	55	Furniture	93
Groceries, drinks, narcotics, and stimulants	142	Building material	58
		Chemicals	4

OCCUPATIONS OF DECEASED MALES, 1909—Continued.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.						
Textile fabrics	14	CLASS VI.—AGRICULTURAL, PASTORAL, MINING PURSUITS, ETC.	2,583						
Dress	339			Agricultural	648				
Fibrous materials	13			Pastoral	94				
Animal food	17			Dairying	143				
Vegetable food	178			Fisheries, capture or destruction of wild animals, or acquisition of products yielded thereby ...	70				
Groceries, drinks, narcotics, and stimulants	56			Forestry	17				
Wool-scouring, soap, and candles	52			Water conservation and supply ...	1,706				
Workers in wood not elsewhere classed	6			Mines and quarries					
Paper	2			Total Primary Producers	5,261				
Stone, clay, glass	70			CLASS VII.—INDEFINITE.	800				
Jewellery and precious stones ...	31					Independent means, etc.	560		
Metals, other than gold and silver	313					Undefined or unknown			
Gas, electric lighting	28					Total Indefinite	1,360		
Buildings—						CLASS VIII.—DEPENDENTS.	6,965		
Builders	78							Dependent relatives (including persons under 20 years of age with no specified occupation) ...	169
Stonemasons... ..	76							Dependent upon the State or upon public or private support	
Bricklayers	75							Total Dependents	7,134
Carpenters	457								
Slaters, shinglers	3								
Plasterers	49								
Painters and glaziers	155								
Plumbers	77								
Others	12								
Roads, railways, and earthworks ...	36								
Disposal of the dead	15								
Disposal of refuse	23								
Other industrial workers—									
Manufacturers	17								
Engineers, firemen	328								
Machinists	5								
Contractors	163								
Labourers, undefined	3,437								
Total Industrial	6,767	Total Male Deaths	25,514						

14. **Index of Mortality.**—The death rates so far shewn are crude rates, *i.e.*, they simply shew the number of deaths per thousand of mean population, without taking the age constitution of that population into consideration. It is, however, a well-known fact that the death rate and age constitution of a people are intimately related, thus, other conditions being equal, the death rate of a country will be lower if it contain a large percentage of young people (not infants). In order to have a comparison of the mortality of various countries on a uniform basis, so far as age constitution is concerned, the International Statistical Institute in its 1895 session recommended the universal adoption of the population of Sweden in five age-groups, as ascertained at the Census of 1890, as the standard population by which this "Index of Mortality," as distinguished from the crude death rate, should be ascertained. The calculation for 1909 is shewn below for each of the six States and for the Commonwealth, but it will be understood that the distribution of the mean population of 1909 into age-groups according to the distribution as found at the Census of 1901 must be taken as the best approximation which the data will admit of, not as absolutely correct:—

(a) INDEX OF MORTALITY, 1909.—(STATES AND COMMONWEALTH.)

Age-Group.	Mean Population, 1909, distributed according to Results of Census of 1901.	Number of Deaths, 1909.	No. of Deaths per 1000 of Mean Population, 1909, in each Age-Group.	Age Distribution per 1000 of Standard Population.	Index of Mortality.
NEW SOUTH WALES.					
Under 1 year	40,484	3,234	79.88	25.5	2.04
1 year and under 20	704,050	1,960	2.78	398.0	1.11
20 years " 40	514,932	2,251	4.37	269.6	1.18
40 " " 60	256,586	2,965	11.56	192.3	2.22
60 " and upwards	89,811	5,400	60.13	114.6	6.89
Total	1,605,863	15,810	9.85	1,000.0	13.44
VICTORIA.					
Under 1 year	30,296	2,251	74.30	25.5	1.90
1 year and under 20	534,424	1,460	2.77	398.0	1.10
20 years " 40	420,706	1,779	4.23	269.6	1.14
40 " " 60	196,798	2,701	13.72	192.3	2.64
60 " and upwards	102,482	6,225	60.74	114.6	6.96
Total	1,284,708	14,436	11.24	1,000.0	13.74
QUEENSLAND.					
Under 1 year	14,597	1,112	76.18	25.5	1.94
1 year and under 20	245,108	725	2.96	398.0	1.18
20 years " 40	187,170	855	4.57	269.6	1.23
40 " " 60	90,937	1,178	12.95	192.3	2.49
60 " and upwards	27,338	1,660	60.72	114.6	6.96
Total	565,150	5,530	9.79	1,000.0	13.80
SOUTH AUSTRALIA.					
Under 1 year	9,268	616	66.47	25.5	1.70
1 year and under 20	182,307	363	1.99	398.0	0.79
20 years " 40	125,594	595	4.74	269.6	1.28
40 " " 60	67,463	780	11.56	192.3	2.22
60 " and upwards	26,050	1,496	57.43	114.6	6.58
Total	410,682	3,850	9.37	1,000.0	12.57
WESTERN AUSTRALIA.					
Under 1 year	7,398	593	80.16	25.5	2.04
1 year and under 20	90,029	399	4.43	398.0	1.76
20 years " 40	123,211	526	4.27	269.6	1.15
40 " " 60	41,456	631	15.22	192.3	2.93
60 " and upwards	8,851	555	62.70	114.6	7.19
Total	270,945	2,704	9.98	1,000.0	15.07
TASMANIA.					
Under 1 year	4,919	357	72.58	25.5	1.85
1 year and under 20	83,147	243	2.92	398.0	1.16
20 years " 40	57,455	280	4.87	269.6	1.31
40 " " 60	27,433	319	11.63	192.3	2.24
60 " and upwards	11,209	643	57.36	114.6	6.58
Total	184,163	1,842	10.00	1,000.0	13.14
COMMONWEALTH.					
Under 1 year	106,964	8,163	76.32	25.5	1.94
1 year and under 20	1,839,065	5,170	2.81	398.0	1.12
20 years " 40	1,429,068	6,286	4.40	269.6	1.19
40 " " 60	650,673	8,574	12.60	192.3	2.42
60 " and upwards	265,741	15,979	60.13	114.6	6.89
Total	4,321,511	44,172	10.22	1,000.0	13.56

NOTE.—The small number of persons whose ages were not ascertained at the 1901 Census have been proportionately distributed among the various age-groups, and the same plan has been followed in regard to the 63 persons who died in 1909, and whose ages were not stated in the certificates of death.

It will be seen that the States and the Commonwealth remain in the same order with one exception—while the crude death rate was third highest in Western Australia, and highest in Victoria, the index of mortality was highest in Western Australia and

third highest in Victoria. Tasmania has the second highest crude rate and the second lowest index, while Queensland has the second lowest crude rate and the second highest index. South Australia has both the lowest crude rate and the lowest index, and New South Wales the third lowest crude rate and the third lowest index. The range of the indexes is generally rather wider than that of the crude death rates, thus, while the latter in 1909 rose from 9.37 per thousand in South Australia to 11.24 per thousand in Victoria, a range of 1.87 per thousand, the indexes varied from 12.57 per thousand in South Australia to 15.07 per thousand in Western Australia, a range of 2.50 per thousand. In 1907 the range of the crude rates was only 1.81 per thousand as compared with a range of 2.33 per thousand for the indexes, while in 1908 the range of the crude rates was 2.69, and that of the indexes only 2.65 per thousand.

For the purpose of comparison with previous years the index of mortality is shewn in the following table for each of the Commonwealth States for the years 1902 to 1909:—

(b) INDEX OF MORTALITY, 1902 to 1909.—(STATES.)

Year.	N.S.W.	Victoria.	Q'land.	S. Aust	W. Aust.	Tasmania.
1902 ...	15.45	15.89	15.85	15.12	17.66	14.26
1903 ...	15.06	15.25	16.22	13.89	15.75	14.86
1904 ...	14.10	14.29	13.23	13.32	15.60	14.36
1905 ...	13.53	14.55	14.53	13.52	14.41	13.36
1906 ...	13.44	15.05	13.20	13.94	16.51	14.87
1907 ...	14.31	14.40	14.60	13.33	15.66	14.87
1908 ...	13.88	15.24	14.56	13.15	15.80	15.34
1909 ...	13.44	13.74	13.80	12.57	15.07	13.14

A comparison of the above figures with the crude death rates given on a previous page shews that while the crude death rate was highest in Victoria for seven out of the eight years, and in Western Australia in one year, and lowest five times in South Australia, twice in Queensland, and once in Tasmania, the index of mortality was highest in Western Australia six times, in Victoria once, and in Queensland once, and lowest four times in South Australia, twice in Queensland, and twice in Tasmania. The crude death rates shew the following ranges:—In New South Wales, 2.13; in Victoria, 2.12; in Queensland, 2.82; in South Australia, 2.46; in Western Australia, 3.73; and in Tasmania, 1.92 per thousand; while the fluctuations in the indexes amounted to 2.01 per thousand in New South Wales; to 2.15 in Victoria; to 3.02 in Queensland; to 2.55 in South Australia; to 3.25 in Western Australia; and to 2.20 in Tasmania.

15. **Causes of Death.**—(i.) *Changes in Classification from 1903 to 1906.* The causes of death were classified in all the States of the Commonwealth to the end of 1903 according to the system originally devised by Dr. William Farr, and modified in 1886 by Dr. William Ogle. A conference of the State Statisticians, held at Hobart in January, 1902, decided to substitute for that system the classification adopted since 1901 by the Registrar-General of England. While New South Wales, Queensland, and Tasmania remodelled their vital statistics on that plan, Victoria, South Australia, and Western Australia continued to tabulate according to the Farr-Ogle system, and a comparison of the causes of death in the six States during the years 1903, 1904, 1905, and 1906 is, therefore, a matter of extreme difficulty. The differences in tabulation will be seen in the following statement:—

TABULATION OF CAUSES OF DEATH.

State.	1902.	1903.	1904.	1905.	1906.	State.	1902.	1903.	1904.	1905.	1906.
N.S.W.	Old	Old	Old	New	International	S. Australia	Old	Old	Old	Old	Old
Victoria	Old	Old	Old	Old	Old	W. Australia	Old	Old	Old	Old	Old
Queensland	Old	New	New	New	New	Tasmania	Old	New	New	New	New

Old = Farr-Ogle classification. New = New classification by Registrar-General of England. International—See next paragraph.

(ii.) *The Classification of the International Institute of Statistics.* At a conference held in Melbourne in November and December, 1906, the Commonwealth Statistician recommended the adoption of the classification of the International Institute of Statistics, generally known as the Bertillon Index, and after some discussion that recommendation was accepted, a course which has met with wide approval in medical circles. This index, as the one used by the Registrar-General of England, is based on the original Farr-Ogle classification, but approximates more closely to the present English system than to the older one. The chief advantage possessed by the international classification is that it presents a very extensive field for comparison, the countries which have adopted it representing a population which is probably not less than 150,000,000. Provision is made for a decennial revision of the classification, as it has been recognised that finality is impossible in the present state of medical science. The committee charged with the first revision met in Paris in July, 1909, and a number of recommendations were, in accordance with a resolution of the Australasian Medical Congress, held in Melbourne in October, 1908, made to it, dealing particularly with tropical diseases occurring in the northern parts of Australia. Most of these recommendations, together with many others, have been adopted. A full statement of what has been done must be deferred until the next issue of this Year Book, when the Vital Statistics of the Commonwealth for the year 1910 will be shewn in accordance with the revised classification.

The detailed classification groups causes of death under 179 (increased to 189 by the revised classification) different headings in fourteen categories, as follows:—

- | | |
|---|---|
| i. General Diseases. | viii. Diseases of the Skin and Cellular Tissue. |
| ii. Diseases of the Nervous System and Organs of Special Sense. | ix. Diseases of the Organs of Locomotion. |
| iii. Diseases of the Circulatory System. | x. Malformations. |
| iv. Diseases of the Respiratory System. | xi. Infancy. |
| v. Diseases of the Digestive System. | xii. Old Age. |
| vi. Diseases of the Genito-urinary System and Adnexa. | xiii. Violence. |
| vii. Puerperal Condition. | xiv. Ill-defined Diseases. |

(iii.) *Compilation of Vital Statistics for 1907, 1908, and 1909 in Commonwealth Bureau.* The vital statistics of the six Commonwealth States for 1907, 1908, and 1909 have been tabulated according to this classification in the Commonwealth Bureau, and the system is being employed in the majority of the State offices in the preparation of their monthly and quarterly bulletins of vital statistics.

(iv.) *Classification of Causes of Death, 1905 to 1909, according to Abridged Bertillon Index.* An abridged classification, which enumerates thirty-five diseases and groups of diseases (increased to thirty-eight by the revised classification) is in use in many European and American States, and while the Commonwealth Statistics for 1907, 1908, and 1909 have been compiled on the detailed classification of 179 headings, it was at least possible to group the causes of death experienced in 1905 and 1906 under the 35 headings of the abridged classification. Two slight modifications had to be made in the tabulation of those two years, viz., in No. 31, Congenital Debility and Malformations, only children under three months, who died of congenital debility, should have been included. The age limit had here to be extended to 12 months, as in the majority of States the causes of death were only tabulated for the group "under one year." For the same reason, the very few cases of "Insufficient Nourishment of Infants," No. 153 of detailed, and No. 34 of abridged classification, had to be included with No. 173, "Inanition," of detailed, and No. 33 of abridged classification. Apart from the two cases mentioned, and certain minor difficulties mentioned in paragraph 16 hereinafter,

it is believed that all the causes of death enumerated either under the Farr-Ogle, or under the Registrar-General's classification, have been grouped under the correct headings of the abridged Bertillon Index. The compilations for 1907, 1908, and 1909 do not labour under those defects. They will be found in full in "Bulletins Nos. 8, 14, and 20 of Population and Vital Statistics"; here it will suffice to give the abridged classification under thirty-five headings for the year 1909:—

CAUSES OF DEATH.—COMMONWEALTH, 1909.

(a) MALES.

Cause.	N.S.W.	Vic.	Q'land.	S.Aust.	W.Aus.	Tas.	C'wlth.
1 Typhoid Fever ...	167	76	68	23	48	24	406
2 Typhus ...	—	—	—	—	—	—	—
3 Intermittent Fever and Malarial Cachexia ...	3	1	24	19	2	—	49
4 Small-pox ...	—	—	—	—	1	—	1
5 Measles ...	7	1	1	1	3	2	15
6 Scarlet Fever ...	9	18	—	—	—	—	27
7 Whooping Cough ...	7	76	17	10	2	1	113
8 Diphtheria and Croup ...	96	54	28	6	37	4	225
9 Influenza ...	53	53	39	15	11	8	179
10 Asiatic Cholera ...	—	—	—	—	—	—	—
11 Cholera Nostras ...	—	—	—	—	—	—	—
12 Other Epidemic Diseases ...	45	22	31	14	40	2	154
13 Tuberculosis of the Lungs ...	582	595	210	166	123	64	1,740
14 Tuberculosis of the Meninges ...	32	48	5	9	8	10	112
15 Other forms of Tuberculosis ...	83	63	29	21	11	6	213
16 Cancer and other Malignant Tumours ...	600	529	191	156	97	53	1,626
17 Simple Meningitis ...	118	108	45	36	13	14	334
18 Congestion, Hæmorrhage, and Softening of the Brain ...	344	283	87	86	40	29	869
19 Organic Diseases of the Heart ...	775	801	282	198	130	71	2,257
20 Acute Bronchitis ...	113	51	30	27	10	7	238
21 Chronic Bronchitis ...	186	224	53	42	29	15	549
22 Pneumonia ...	377	357	144	77	62	89	1,106
23 Diseases of the Stomach (Cancer excepted) ...	50	53	13	15	9	3	143
24 Diarrhœa and Enteritis (children under two years only) ...	666	417	205	91	137	28	1,544
25 Hernia, Intestinal Obstructions ...	73	78	28	17	13	6	215
26 Cirrhosis of the Liver ...	75	70	31	21	9	5	211
27 Nephritis and Bright's Disease ...	376	358	144	113	60	25	1,076
28 Non-cancerous Tumours and other Diseases of the Female Genital Organs ...	—	—	—	—	—	—	—
29 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis) ...	—	—	—	—	—	—	—
30 Other Puerperal Accidents of Pregnancy and Confinement ...	—	—	—	—	—	—	—
31 Congenital Debility and Malformations ...	616	480	228	149	106	95	1,674
32 Senile Debility... ..	554	751	153	159	68	144	1,829
33 Violence	757	489	365	181	183	75	2,050
33A Suicide	146	97	85	31	32	7	398
34 Other Diseases... ..	1,960	1,795	835	390	327	173	5,480
35 Unspecified or Ill-defined Diseases	314	122	48	67	60	70	681
Total—Males	9,184	8,070	3,419	2,140	1,671	1,030	25,514

CAUSES OF DEATH—COMMONWEALTH, 1909.

(b) FEMALES.

Cause.	N.S.W.	Vic.	and.	S. Aus.	W. Aus.	Tas.	C'wth.
1 Typhoid Fever	118	55	21	14	33	14	258
2 Typhus	—	—	—	—	—	—	—
3 Intermitent Fever and Malarial Cachexia	1	—	5	3	—	—	10
4 Small-pox	—	—	—	—	—	—	—
5 Measles	3	3	5	1	4	—	16
6 Scarlet Fever	21	24	1	—	—	1	47
7 Whooping Cough	9	97	28	8	2	—	144
8 Diphtheria and Croup	89	36	25	10	45	5	210
9 Influenza	54	51	24	6	8	4	147
10 Asiatic Cholera	—	—	—	—	—	—	—
11 Cholera Nostras	—	—	—	1	—	—	1
12 Other Epidemic Diseases	17	19	13	6	—	2	57
13 Tuberculosis of the Lungs	449	498	119	176	75	62	1,379
14 Tuberculosis of the Meninges	30	50	8	7	5	8	108
15 Other forms of Tuberculosis	66	58	11	16	10	8	169
16 Cancer and other Malignant Tumours	547	493	146	154	85	61	1,486
17 Simple Meningitis	91	84	32	47	11	17	282
18 Congestion, Hæmorrhage, and Softening of the Brain	306	272	86	73	25	34	796
19 Organic Diseases of the Heart	510	695	158	202	65	53	1,683
20 Acute Bronchitis	95	42	23	12	4	8	184
21 Chronic Bronchitis	117	144	31	35	7	14	348
22 Pneumonia	242	210	93	40	31	30	646
23 Diseases of the Stomach (Cancer excepted)	38	54	20	6	6	5	129
24 Diarrhœa and Enteritis (children under two years only)	534	299	187	81	127	31	1,259
25 Hernia, Intestinal Obstructions	57	68	21	18	10	7	181
26 Cirrhosis of the Liver	41	46	16	11	5	1	120
27 Nephritis and Bright's Disease	236	285	86	70	23	23	723
28 Non-cancerous Tumours and other Diseases of the Female Genital Organs	48	34	19	11	11	7	130
29 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	86	46	31	19	10	9	201
30 Other Puerperal Accidents of Pregnancy and Confinement	129	103	57	37	36	14	376
31 Congenital Debility and Malformations	477	345	156	102	92	59	1,231
32 Senile Debility	428	537	89	161	43	107	1,365
33 Violence	254	184	76	43	29	28	614
33A Suicide	45	27	8	10	4	3	97
34 Other Diseases	1,316	1,415	486	292	192	157	3,858
35 Non-specified or Ill-defined Diseases	172	92	30	38	34	40	406
Total—Females	6,626	6,366	2,111	1,710	1,033	812	18,658

CAUSES OF DEATH—COMMONWEALTH, 1909.

(c) TOTAL, MALES AND FEMALES.

Cause.	N.S.W.	Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	C'wlth.
1 Typhoid Fever	285	181	89	37	81	38	661
2 Typhus	—	—	—	—	—	—	—
3 Intermittent Fever and Malarial Cachexia	4	1	29	22	3	—	59
4 Small-pox	—	—	—	—	1	—	1
5 Measles	10	4	6	2	7	2	31
6 Scarlet Fever	30	42	1	—	—	1	74
7 Whooping Cough	16	173	45	18	4	1	257
8 Diphtheria and Croup	185	90	53	16	82	9	435
9 Influenza	107	104	63	21	19	12	326
10 Asiatic Cholera	—	—	—	—	—	—	—
11 Cholera Nostras	—	—	—	1	—	—	1
12 Other Epidemic Diseases	62	41	44	20	40	4	211
13 Tuberculosis of the Lungs	1,031	1,093	329	342	198	126	3,119
14 Tuberculosis of the Meninges	62	98	13	16	13	18	220
15 Other forms of Tuberculosis	149	121	40	37	21	14	382
16 Cancer and other Malignant Tumours	1,147	1,022	337	310	182	114	3,112
17 Simple Meningitis	209	192	77	83	24	31	616
18 Congestion, Hæmorrhage, and Softening of the Brain	650	555	173	159	65	63	1,665
19 Organic Diseases of the Heart	1,285	1,496	440	400	195	124	3,940
20 Acute Bronchitis	208	93	53	39	14	15	422
21 Chronic Bronchitis... ..	303	368	84	77	36	29	897
22 Pneumonia	619	567	237	117	93	119	1,752
23 Diseases of the Stomach (Cancer excepted)	88	107	33	21	15	8	272
24 Diarrhoea and Enteritis (children under two years only)	1,200	716	392	172	264	59	2,803
25 Hernia, Intestinal Obstructions	130	146	49	35	23	13	396
26 Cirrhosis of the Liver	116	116	47	32	14	6	331
27 Nephritis and Bright's Disease	612	643	230	183	83	48	1,799
28 Non-cancerous Tumours and other Diseases of the Female Genital Organs	48	34	19	11	11	7	130
29 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	86	46	31	19	10	9	201
30 Other Puerperal Accidents of Pregnancy and Confinement	129	103	57	37	36	14	376
31 Congenital Debility and Malformations	1,093	825	384	251	198	154	2,905
32 Senile Debility	982	1,288	242	320	111	251	3,194
33 Violence	1,011	673	441	224	212	103	2,664
33A Suicide	191	124	93	41	36	10	495
34 Other Diseases	3,276	3,210	1,321	682	519	330	9,338
35 Non-specified or Ill-defined Diseases	486	214	78	105	94	110	1,087
Total—Males and Females...	15,810	14,436	5,530	3,850	2,704	1,842	44,172

(d) The classification for the years 1905, 1906, 1907, and 1908 is shewn for the Commonwealth in the following table, and for purposes of comparison the figures for the year 1909 have been repeated from the preceding table. Male and female deaths for 1905, 1906, and 1907 are shewn separately on page 237 of the second issue and those for 1908 on pages 211 and 212 of the third issue of this Year Book, while the figures for 1909 are given on the two preceding pages:—

CAUSES OF DEATH.—COMMONWEALTH, 1905 to 1909.

MALES AND FEMALES.

Cause.	1905.	1906.	1907.	1908.	1909.
1 Typhoid Fever	630	738	564	736	661
2 Typhus ... ..	...	1	...	...	...
3 Intermitent Fever & Malarial Cachexia	55	38	42	52	59
4 Small-pox ... ..	...	...	...	...	1
5 Measles	113	39	147	125	31
6 Scarlet Fever	44	61	37	63	74
7 Whooping Cough	42	293	1,070	249	257
8 Diphtheria and Croup	314	280	403	421	435
9 Influenza... ..	428	539	902	588	326
10 Asiatic Cholera ... ..	...	...	...	...	...
11 Cholera Nostras	5	209	5	4	1
12 Other Epidemic Diseases	597	354	268	258	211
13 Tuberculosis of the Lungs	3,244	3,222	3,166	3,367	3,119
14 Tuberculosis of the Meninges	290	273	237	205	220
15 Other forms of Tuberculosis	498	547	455	394	382
16 Cancer and other Malignant Tumours	2,742	2,772	2,940	2,921	3,112
17 Simple Meningitis... ..	461	250	648	676	616
18 Congestion, Hæmorrhage, and Softening of the Brain... ..	1,611	1,685	1,901	1,867	1,665
19 Organic Diseases of the Heart	1,449	2,502	3,801	4,066	3,940
20 Acute Bronchitis	478	421	514	412	422
21 Chronic Bronchitis	1,023	984	844	818	897
22 Pneumonia	2,362	2,289	1,788	1,871	1,752
23 Diseases of the Stomach (Cancer excepted)... ..	442	467	334	303	272
24 Diarrhœa & Enteritis (Children under two years only)	2,593	2,881	2,738	3,236	2,803
25 Hernia, Intestinal Obstructions	432	399	411	389	396
26 Cirrhosis of the Liver	290	267	325	362	331
27 Nephritis and Bright's Disease	1,773	1,792	1,760	1,864	1,799
28 Non-cancerous Tumours and other Diseases of the Female Genital Organs... ..	134	153	128	159	130
29 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	205	168	179	202	201
30 Other Puerperal Accidents of Pregnancy and Confinement	411	458	435	404	376
31 Congenital Debility and Malformations	3,200	2,960	3,038	2,973	2,905
32 Senile Debility	3,160	3,031	3,136	3,466	3,194
33 Violence	2,663	2,617	2,679	2,922	2,664
33A Suicide	520	499	461	497	495
34 Other Diseases	10,263	9,976	8,679	9,289	9,338
35 Unspecified or Ill-defined Diseases	1,042	1,168	1,275	1,262	1,087
Total	43,514	44,333	45,305	46,426	44,172

16. **Certification of Deaths.**—Information was obtained in 1909 as to the persons by whom the 44,172 deaths which occurred in the Commonwealth were certified. The result of the enquiry shows that approximately 87.7 per cent. (in 1908, 87.3 per cent.) were certified by medical practitioners, and 11.5 per cent. (in 1908, 11.5 per cent.) by coroners after inquests, or magisterial enquiries, while in 0.8 per cent. (in 1908, 1.2 per cent.) of the cases there was either no certificate given, or particulars were not forthcoming. The results are shewn in detail in Bulletin No. 20; a short summary will therefore suffice here:—

CERTIFICATION OF DEATHS, COMMONWEALTH, 1909.

Death Certified by—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Cwlth.
Medical practitioner ...	13,751	12,591	4,940	3,402	2,373	1,663	38,720
Coroner	2,025	1,834	354	418	293	164	5,088
Not certified or not stated ...	34	11	236	30	38	15	364
Total Deaths	15,810	14,436	5,530	3,850	2,704	1,842	44,172

Of the cases certified by coroners, violent deaths numbered 2415, ill-defined causes 365, organic heart disease 406, senile decay 343, congenital debility 175, diarrhœa and enteritis 96, Bright's disease 89, congestion and hæmorrhage of brain 123, tuberculosis of lungs 113, pneumonia 104, infantile convulsions 72, broncho-pneumonia 48, diseases of arteries, aneurisms, etc. 47, and acute and chronic alcoholism 36; a total of 4432 out of 5088.

Of uncertified causes of death, violent deaths numbered 41, senile debility 41, ill-defined causes 50, infantile convulsions 42, congenital debility 43, diarrhœa and enteritis 8, tuberculosis of the lungs 7, organic heart disease 12, and pneumonia 13; a total of 257 out of 364.

17. Deaths from Special Causes.—The table on p. 203 furnishes comparisons for the last five years only, and comparisons will, therefore, be restricted to that period.

(i.) *Typhoid Fever.* Deaths from typhoid fever were more numerous in 1908 than in either 1905 or 1907, and about the same as in 1906, numbering 736, against 630 in 1905, 738 in 1906, and 564 in 1907. In 1909 the number fell to 661, of which 285 occurred in New South Wales, 131 in Victoria, 89 in Queensland, 37 in South Australia, 81 in Western Australia, and 38 in Tasmania.

(ii.) *Typhus.* The death of one woman was registered in 1906 in Victoria as being due to typhus, but this registration may have been due to an error in the death certificate, and the death may possibly have been one of typhoid (enteric) fever.

(iii.) *Intermittent Fever and Malarial Cachexia.* Deaths from malarial diseases are practically confined to the tropical districts of Northern Queensland and Western Australia, and to the Northern Territory, 29 out of 59 deaths registered in 1909 having occurred in Queensland, and 22 in the Northern Territory.

(iv.) *Small-pox.* No deaths from small-pox occurred during the four years 1905 to 1908, but in 1909 one death was registered in Western Australia, the patient having developed the disease on board ship during the journey from India.

(v.) *Measles.* No serious epidemic of measles has occurred for several years; the deaths in 1908 were, however, slightly more numerous than in 1905 and 1906, but less numerous than in 1907, numbering 125, against 113, 39 and 147 respectively. In 1909 the deaths numbered 81, and were distributed among all the six States.

(vi.) *Scarlet Fever.* 74 deaths were registered in 1909, 30 of which occurred in New South Wales, and 42 in Victoria.

(vii.) *Whooping Cough.* A rather severe epidemic of whooping cough visited New South Wales in the early part of 1907, causing 592 deaths out of a total of 1070 registered in the Commonwealth. The number of deaths in Victoria was 130; in Queensland, 127;

in South Australia, 76; in Western Australia, 97; and in Tasmania, 48. The deaths in 1905 numbered only 42, in 1906, 293, and in 1908 fell to 249, with a slight increase to 257 in 1909.

(viii.) *Diphtheria and Croup.* Deaths in 1905 numbered 314; in 1906, 280; in 1907, 403; in 1908, 421, and in 1909, 435, of which 185 occurred in New South Wales, 90 in Victoria, and 82 in Western Australia.

(ix.) *Influenza.* This disease was rather more prevalent in 1907 than in the two previous years, the deaths numbering 902, against 428 and 539. Of the deaths occurring in 1907, 309 were registered in New South Wales, 275 in Victoria, and 209 in Queensland. The deaths in 1908 were 588, and in 1909, 326, of which 107 occurred in New South Wales, 104 in Victoria, and 63 in Queensland.

(x.) *Asiatic Cholera.* No cases of Asiatic cholera have ever occurred in the Commonwealth.

(xi.) *Cholera Nostras.* Isolated cases only of choleric form diarrhœa occurred in each of the five years with the exception of 1906, when the deaths recorded amounted to 209.

(xii.) *Other Epidemic Diseases.* The number of deaths registered under this heading was 597 in 1905, 354 in 1906, 268 in 1907, 258 in 1908, and 211 in 1909. The list in 1909 includes the following diseases:—Dysentery, 85; plague, 13 (of which 7 in New South Wales, 1 in Queensland, 4 in South Australia, and 1 in Western Australia); erysipelas, 52; miliary fever, 1, other epidemic diseases, 60.

(xiii.) *Tuberculosis of the Lungs.* The deaths in 1909 numbered 3119, viz., 1740 males and 1379 females. The figures for 1905, 1906, 1907, and 1908 were 3244, 3222, 3166, and 3367 respectively. Of the deaths in 1909, 1031 occurred in New South Wales, 1093 in Victoria, 329 in Queensland, 342 in South Australia, 198 in Western Australia, and 126 in Tasmania.

(xiii.a) *Tuberculosis of the Respiratory System.* Of the various forms of tuberculosis prevalent in the Commonwealth, that which has probably attracted the most attention and has been the subject of the widest comment is phthisis, or tuberculosis of the lungs. The intimate relation, however, between tuberculosis of the lungs and that of other parts of the respiratory system renders it desirable that all forms of tuberculosis of the respiratory system should be brought under one head for various investigations concerning the age incidence and duration of this disease. A preliminary investigation of these two phases has been made by the Commonwealth Statistical Bureau, but owing to the paucity of the data and their incompleteness in certain particulars the results obtained, so far as duration is concerned, can be considered as tentative only, and cannot be regarded as sufficiently reliable to warrant their inclusion in an official Year Book.

In the matter of the age incidence of death from tuberculosis of the respiratory system, more satisfactory data are obtainable, and the diagrams given hereunder furnish graphic representation of the frequency of deaths at successive ages in England and Wales during 1906 (Fig. 1), and in the Commonwealth during 1907 (Fig. 2). The figures for the Commonwealth being insufficient in extent to admit of an exact determination of the age incidence of death for the first five years, the English results have been made use of in deciding the form of this portion of the curve.

The figures shewn at the foot of each graph denote the respective ages at death, while the figures shewn in the margin denote the number of deaths corresponding to each year of age. In each of the graphs various rectangles are shewn, through the upper parts of which smooth curves have been drawn. The areas of these rectangles represent the number of deaths which occurred between the ages indicated at the extremities of their respective bases, the scale being 100 persons for each small square in the case of graphs for England and Wales and 10 for each small square in the case of the Common-

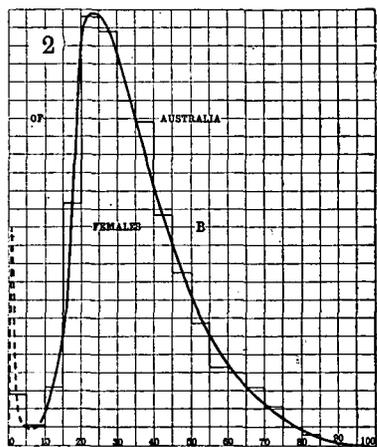
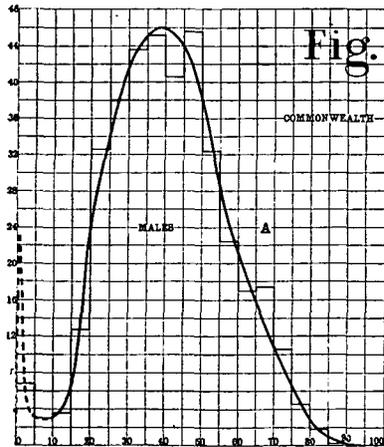
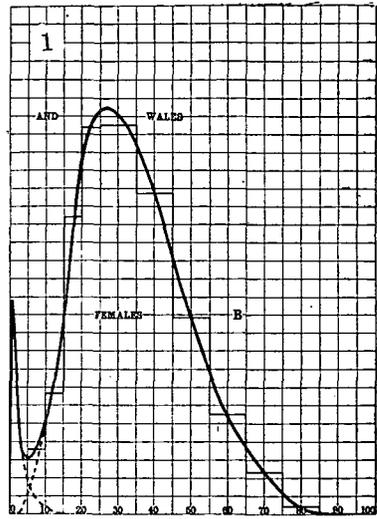
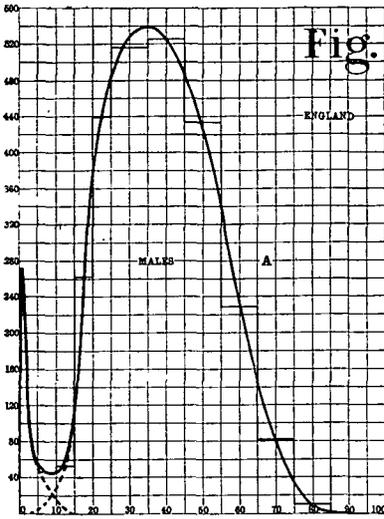
wealth graphs. The smooth curve may be said to represent the form of the results which would have been obtained under the existing circumstances if the number of cases observed had been indefinitely large and the age intervals had been made indefinitely small.

If a point be taken on the base-line corresponding to any given age, the vertical height of the curve above that point represents the rate per annum at which deaths are occurring at the given age.

ENGLAND AND WALES.

MALES.

FEMALES.



MALES.

FEMALES.

AUSTRALIAN COMMONWEALTH.

It will be seen that in both instances the curve for males differs considerably from that for females, and that there is a general though not a close resemblance between the two curves for males, and also between the two curves for females. It will also be

noticed that in both cases the curve for females rises much more abruptly than that for males, owing to the fact that the age of maximum frequency is less in the case of females than in the case of males.

The figures dealt with furnish the following death-rates from tuberculosis of the respiratory system for the years specified:—

Particulars.	Males.	Females.	Total.
ENGLAND AND WALES, 1906—			
Population	16,689,707	17,857,309	34,547,016
Deaths from tuberculosis of the respiratory system	22,645	17,101	39,746
Death-rate per 100,000 of population	135.68	95.76	115.05
COMMONWEALTH OF AUSTRALIA, 1907—			
Population	2,191,472	1,964,201	4,155,673
Deaths from tuberculosis of the respiratory system	1,891	1,477	3,368
Death-rate per 100,000 of population	86.29	75.20	81.05

(xiv.) *Tuberculosis of the Meninges.* The number of deaths registered in 1905 was 290; in 1906, 273; in 1907, 237; in 1908, 205, and in 1909, 220. Not much reliance can, however, be placed on the figures for 1905 and 1906, as the tabulation in some of the States appears to have included cases of simple meningitis in those years.

(xv.) *Other Forms of Tuberculosis.* Deaths in 1905 numbered 498; in 1906, 547; in 1907, 455; in 1908, 394, and in 1909, 382. The deaths in 1909 include the following forms of tuberculosis:—Tuberculosis of the larynx, 50; tuberculosis of the peritoneum, 147; Pott's disease, 43; tuberculosis of other organs, 75; and general tuberculosis, 67.

(xv.a) *All Forms of Tuberculosis.* A complete tabulation of all the different tubercular diseases from which deaths occurred in 1909, will be found in Bulletin No. 20 of Population and Vital Statistics. Here it will suffice to show a few of the features of the tabulation mentioned. The total number of deaths due to tubercular diseases was 3721, viz., 2065 males and 1656 females. The following table shews the ages of these 3721 persons:—

AGES OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1909.
COMMONWEALTH.

Ages.	Male.	Female	Total.	Ages.	Male.	Female	Total.
Under 5 years ...	131	108	239	55 years and under 60	135	37	172
5 years and under 10	34	31	65	60 " " 65	108	49	157
10 " " 15	34	40	74	65 " " 70	71	36	107
15 " " 20	94	156	250	70 " " 75	46	19	65
20 " " 25	155	246	401	75 " " 80	18	8	26
25 " " 30	218	253	471	80 " " 85	3	4	7
30 " " 35	185	196	381	Age not stated ...	4	1	5
35 " " 40	223	188	411				
40 " " 45	222	122	344				
45 " " 50	225	103	328				
50 " " 55	159	59	218				
				Total Deaths ...	2,065	1,656	3,721

The length of residence in the Commonwealth of persons who died from tubercular diseases has been tabulated for the year 1909 for all the Commonwealth States, with the following results:—

LENGTH OF RESIDENCE IN COMMONWEALTH
OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1909.

Length of Residence in Commonwealth.	Male.	Fem.	Total.	Length of Residence in Commonwealth.	Male.	Fem.	Total.
Born in Commonwealth ...	1,295	1,376	2,671	Resident 10 yrs. & under 15	30	14	44
Resident under 1 year ...	20	10	30	.. 15 .. " 20	37	20	57
.. 1 year ...	22	7	29	.. " 20 .. over ...	483	175	658
.. 2 years ...	15	4	19	Length of resid'ce not stated	120	37	157
.. 3 ..	11	3	14				
.. 4 ..	6	...	6				
.. 5 .. & under 10	26	10	36	Total Deaths ...	2,065	1,656	3,721

There would not appear, therefore, to be much ground for the statement sometimes heard that many persons arrive in Australia in the last stages of consumption.

In order to shew the prevalence of tuberculosis in the several States, the death rates from tubercular diseases are shewn in the following table, together with the percentage which deaths from tuberculosis bear on the total number of deaths registered:—

DEATH RATES FROM TUBERCULOSIS AND PERCENTAGE ON TOTAL DEATHS, 1909.
COMMONWEALTH.

State.	Death Rates* from Tuberculosis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.81	0.72	0.77	7.59	8.22	7.86
Victoria ...	1.09	0.94	1.02	8.75	9.52	9.09
Queensland ...	0.79	0.53	0.67	7.14	6.54	6.91
South Australia ...	0.89	1.04	0.96	9.16	11.64	10.26
Western Australia	0.90	0.78	0.85	8.50	8.71	8.58
Tasmania ...	0.84	0.87	0.85	7.77	9.61	8.58
Commonwealth	0.90	0.81	0.86	8.09	8.88	8.42

* Number of deaths from tuberculosis per 1000 of mean population.

In the first issue of this book a series of figures was given shewing the rates of mortality from phthisis in various countries, and it was shewn that these ranged from 570 per million in New Zealand to 4415 per million in Hungary, with a rate of 808 for the Commonwealth. It is not considered necessary to repeat those figures here in detail, and it may suffice to state that while deaths from all tubercular diseases in the Commonwealth were 0.86 per thousand in 1909, they were 1.40 per thousand in Belgium in 1904; 1.65 per thousand in England and Wales in 1906; 1.80 per thousand in the Netherlands in 1906; 2.04 per thousand in the German Empire in 1905; and 2.72 per thousand in Switzerland in 1905. The Commonwealth occupies, therefore, a very enviable position in regard to tubercular diseases, when compared with European countries.

(xvi.) *Cancer and other Malignant Tumours.* Deaths from cancer shew a tendency to increase, the figures for 1905 being 2742 deaths; for 1906, 2772 deaths; for 1907, 2940 deaths; for 1908, 2921 deaths, and for 1909, 3112 deaths. Of the deaths registered in 1909, 1626 were those of males, viz., 600 in New South Wales, 529 in Victoria, 191 in Queensland, 156 in South Australia, 97 in Western Australia, and 53 in Tasmania;

while 1486 were those of females; viz., 547 in New South Wales, 493 in Victoria, 146 in Queensland, 154 in South Australia, 85 in Western Australia, and 61 in Tasmania. Bulletin No. 20 contains a complete tabulation of the various types of cancer and of the seat of the disease, of which the following is a summary:—

DEATHS FROM CANCER, COMMONWEALTH, 1909.

Seat of Disease.	Male.	Female	Total.
Cancer, etc., of the mouth	296	27	323
" " the stomach and liver	705	459	1,164
" " the peritonæum, the intestines, and the rectum	194	173	367
" " the female genital organs ... ..	...	336	336
" " the breast ... ..	...	201	201
" " the skin	58	23	81
" " other organs	373	267	640
Total Deaths	1,626	1,486	3,112

Of these deaths 1035 were described as cancer, 1253 as carcinoma, 129 as epithelioma, 387 as "malignant disease," 62 as "malignant tumour," 9 as neoplasm, 35 as "rodent ulcer," 188 as sarcoma, and 14 as scirrhus.

The ages of the 3112 persons who died from cancer in 1909, are shewn in the following table, from which it will be seen that while the ages below 35 are not by any means immune from the disease, the great majority of deaths occurred at ages from 35 upwards, the maximum being found in the age group 65 to 70.

AGES OF PERSONS WHO DIED FROM CANCER, 1909.

COMMONWEALTH.

Ages.	Males.	Female	Total.	Ages.	Males.	Female	Total.
Under 15 years ...	20	14	34	65 years and under 70	252	183	435
15 years and under 20	8	7	15	70 " " 75	214	174	388
20 " " 25	9	8	17	75 " " 80	164	133	297
25 " " 30	12	20	32	80 " " 85	46	50	96
30 " " 35	14	28	42	85 years and over ...	31	23	54
35 " " 40	40	87	127	Age not stated ...	4	...	4
40 " " 45	85	122	207				
45 " " 50	144	155	299				
50 " " 55	187	154	341	Total Deaths ...	1,626	1,486	3,112
55 " " 60	189	165	354				
60 " " 65	207	163	370				

A tabulation has been made of the occupations of the males who died from cancer, of which the following is a summary:—

OCCUPATION OF MALES WHO DIED FROM CANCER, 1909.

COMMONWEALTH.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
Professional class	71	Pastoral class	72
Domestic class	46	Working in mines and quarries ...	125
Mercantile class	169	Other primary producers	16
Engaged in transport and communication	108	Independent means	66
Manufacturing class	165	Dependents	50
Engaged in building and construction	103	Occupation not stated	43
Indefinite industrial workers ...	330		
Agricultural class	262	Total Male Deaths	1,626

As the following tables shew, the death rates from cancer are below those for tubercular diseases in all the States (with the exception, however, of the female death rates in New South Wales and Queensland), but while the latter have a general tendency to decrease the former have, on the contrary, shewn an increase in nearly every recent year.

DEATH RATES* FROM CANCER AND PERCENTAGE ON TOTAL DEATHS, 1909.

COMMONWEALTH.

State.	Death Rates* from Cancer.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.70	0.73	0.71	6.53	8.25	7.26
Victoria ...	0.82	0.77	0.79	6.55	7.74	7.08
Queensland ...	0.62	0.56	0.59	5.69	6.92	6.10
South Australia ...	0.71	0.80	0.75	7.29	9.01	8.05
Western Australia	0.62	0.74	0.67	5.80	8.23	6.73
Tasmania ...	0.56	0.68	0.62	5.15	7.51	6.19
Commonwealth	0.71	0.73	0.72	6.37	7.96	7.04

* Number of deaths from Cancer per 1000 of mean population.

The table shewing the death rates from cancer in various countries, which was given in the first issue of this work, is not here repeated. It may, however, be stated that while the death rate of the Commonwealth from cancer in 1909 was 0.71 per thousand, that of Belgium in 1904 was 0.56; that of the German Empire in 1905, 0.80; that of England and Wales in 1905, 0.92; that of the Netherlands in 1906, 1.01; and that of Switzerland in 1905, 1.32 per thousand.

(xvii.) *Simple Meningitis.* The table shews 461 deaths in 1905, 250 deaths in 1906, 648 deaths in 1907, 676 deaths in 1908, and 616 deaths in 1909. The last three figures are the only ones that can be taken as correct, the returns for some of the States having in 1905 and 1906 included this disease with tuberculosis of the meninges, as has already been stated in paragraph xiv.

(xviii.) *Congestion, Hæmorrhage, and Softening of the Brain.* The deaths registered under this heading in 1905 numbered 1611, viz., 865 males and 746 females; in 1906, they were 1685, viz., 904 males and 781 females; in 1907, 1901, viz., 1038 males and 863 females; in 1908, 1867, viz., 991 males and 876 females, and in 1909, 1665, viz., 869 males and 796 females. The 1909 figures are made up of congestion and hæmorrhage of the brain—822 males, 751 females, total 1573; and softening of the brain—47 males, 45 females, total 92.

(xix.) *Organic Diseases of the Heart.* Owing to the changes in tabulation it is impossible to say whether the figures for the five years are strictly comparable. The number of deaths registered in 1909 was 3940, viz., 2257 males and 1683 females. Of these deaths, New South Wales was responsible for 775 males and 510 females; Victoria for 801 males and 695 females; Queensland for 282 males and 158 females; South Australia for 198 males and 202 females; Western Australia for 130 males and 65 females; and Tasmania for 71 males and 53 females. To the figures for 1909 correspond the following death rates and percentages to total deaths:—

DEATH RATES* FROM ORGANIC HEART DISEASE AND PERCENTAGE ON TOTAL DEATHS, COMMONWEALTH, 1909.

State.	Death Rates* from Organic Heart Disease.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.90	0.68	0.80	8.44	7.70	8.13
Victoria	1.24	1.08	1.16	9.93	10.92	10.36
Queensland	0.91	0.61	0.78	8.25	7.48	7.96
South Australia	0.90	1.05	0.97	9.25	11.81	10.39
Western Australia	0.83	0.57	0.72	7.78	6.29	7.21
Tasmania	0.75	0.59	0.67	6.89	6.53	6.73
Commonwealth	0.99	0.82	0.91	8.85	9.02	8.92

* Number of deaths from Organic Heart Disease per 1000 of mean population.

(xx.) *Acute Bronchitis.* The classification of causes of deaths requires deaths of persons under five years of age, which are merely ascribed to "bronchitis," to be classified under "acute bronchitis," and similarly certified deaths of older persons under "chronic bronchitis." This rule has been followed in adjusting the tabulation of 1905 and 1906, and followed throughout in compiling the tables for 1907, 1908, and 1909, with the result that acute bronchitis is credited with 478 deaths in 1905, 421 deaths in 1906, 514 deaths in 1907, 412 deaths in 1908, and 422 deaths in 1909, viz., 238 males and 184 females.

(xxi.) *Chronic Bronchitis.* The adjustment mentioned in the preceding paragraph gives a total of 1023 deaths due to chronic bronchitis in 1905, 934 deaths in 1906, 844 deaths in 1907, 818 deaths in 1908, and 897 deaths, viz., 549 males and 348 females, in 1909.

(xxii.) *Pneumonia.* The figures for 1905 and 1906 are unduly swelled by the inclusion of broncho-pneumonia, etc., which in 1907, 1908, and 1909 is classified under "Other Diseases." The 1909 figures were 1106 males and 646 females, a total of 1752 deaths.

(xxiii.) *Diseases of the Stomach (Cancer excepted).* In 1909 this heading includes: Ulcer of the stomach, 44 males, 45 females; and other diseases of the stomach (cancer excepted), 99 males, 84 females; a total of 272 deaths. The corresponding figures for 1905 and 1906, which are fairly comparable, were 442 and 467 respectively, and those for

1907 and 1908, which were compiled on the same basis as those for 1909, 334 and 308 respectively.

(xxiv.) *Diarrhœa and Enteritis (Children under two years only)*. In 1905 the deaths numbered 2593, viz., 1421 boys and 1172 girls; in 1906 they were 2881, viz., 1624 boys and 1257 girls; in 1907, 2733, viz., 1513 boys and 1220 girls; in 1908, 3236, viz., 1814 boys and 1422 girls; and in 1909, 2803, viz., 1544 boys and 1259 girls. The 1909 deaths were distributed amongst the six States as follows:—New South Wales, 666 males, 534 females, total 1200; Victoria, 417 males, 299 females, total 716; Queensland, 205 males, 187 females, total 392; South Australia, 91 males, 81 females, total 172; Western Australia, 137 males, 127 females, total 264; and Tasmania, 28 males, 31 females, total 59.

The following are the death rates and percentages on total deaths due to infantile diarrhœa and enteritis in the six States for the year 1909:—

DEATH RATES FROM INFANTILE DIARRHŒA AND ENTERITIS, AND PERCENTAGE ON TOTAL DEATHS, COMMONWEALTH, 1909.

State.	Death Rate* from Infantile Diarrhœa and Enteritis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.78	0.71	0.74	7.25	8.06	7.59
Victoria ...	0.64	0.46	0.55	5.17	4.70	4.96
Queensland ...	0.66	0.72	0.69	6.00	8.86	7.09
South Australia ...	0.41	0.42	0.42	4.25	4.74	4.47
Western Australia	0.87	1.11	0.97	8.20	12.29	9.76
Tasmania ...	0.29	0.34	0.32	2.72	3.82	3.20
Commonwealth	0.68	0.61	0.65	6.05	6.75	6.35

* Number of deaths from these diseases per 1000 of mean population.

As a large number of these deaths is directly due to improper feeding, it would be interesting to know the percentages of infants who were bottle-fed, but, unfortunately, no provision exists for the registration of that fact. The number of deaths was larger than usual in 1908 particularly in Victoria, and to a lesser degree in South Australia and in Tasmania, owing to the phenomenal heat experienced in the early part of that year. The death rates for the three States named were only 0.82, 0.59, and 0.74 per 1000 respectively in 1908, compared with 0.54, 0.44 and 0.49 in 1907, and with 0.55, 0.42 and 0.32 in 1909.

(xxv.) *Hernia, Intestinal Obstructions*. The number of deaths has not varied much from year to year, the number registered in 1905 being 432; in 1906, 399; in 1907, 411; in 1908, 389; and in 1909, 396, viz., 215 males and 181 females.

(xxvi.) *Cirrhosis of the Liver*. The deaths in 1905 numbered 290; in 1906, 267; in 1907, 325; in 1908, 362; and in 1909, 331, viz., 211 males and 120 females.

(xxvii.) *Nephritis and Bright's Disease*. The number of deaths attributable to these diseases is a very large one from year to year. In 1905 there were registered the deaths of 1083 males and 690 females; in 1906, those of 1114 males and 678 females; in 1907, those of 1065 males and 695 females; in 1908, those of 1140 males and 724 females; and in 1909, those of 1076 males and 723 females. Of the deaths registered in 1909, those of 71 males and 81 females were ascribed to acute nephritis, and those of

1005 males and 642 females to Bright's disease. New South Wales was responsible for 612 deaths; Victoria for 643; Queensland for 230; South Australia for 183; Western Australia for 83; and Tasmania for 48; making a total of 1799.

(xxviii.) *Non-cancerous Tumours and other Diseases of the Female Genital Organs.* Deaths in 1905 numbered 134; in 1906, 153; in 1907, 128; in 1908, 159; and in 1909, 130. Included in the 130 deaths registered in 1909 were the following:—Metritis, 4; non-puerperal uterine hæmorrhage, 4; non-cancerous uterine tumours, 32; other diseases of the uterus, 15; cysts and other ovarian tumours, 37; other diseases of the female genital organs, 38.

(xxix.) *Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis).* Deaths in 1905 were 205; in 1906, 168; in 1907, 179; in 1908, 202; and in 1909, 201.

(xxx.) *Other Puerperal Accidents of Pregnancy and Confinement.* The deaths in 1905 numbered 411; in 1906, 453; in 1907, 435; in 1908, 404; and in 1909, 376. Included in the 376 deaths registered in 1909 were the following:—Accidents of pregnancy, 70; puerperal hæmorrhage, 46; other accidents of childbirth, 118; puerperal albuminuria and eclampsia, 91; other puerperal accidents (including "sudden death"), 50; puerperal diseases of the breast, 1.

(xxx. a) *All Puerperal Diseases.* The 577 deaths registered in 1909 under the two preceding headings will be found tabulated in "Bulletin No. 20 of Population and Vital Statistics" under various aspects. It will suffice to repeat here the following facts:—

Of the 577 mothers who died in childbirth during the year 1909, 513 were married and 64 were single. As the total number of nuptial confinements was 106,113, and of ex-nuptial confinements 6808, it follows that one in 207 of married mothers, and one in 106 of single mothers, died of puerperal disease, the general proportion being one in 195, as against one in 181 in 1908, and one in 178 in 1907.

The ages of the mothers who died varied from 15 to 48 years, and are shewn in the following table:—

AGES OF MOTHERS WHO DIED IN CHILDBIRTH, COMMONWEALTH, 1909.

Age at Death.	Married Women.	Single Women.	Total.	Age at Death.	Married Women.	Single Women.	Total.
15 years ...	...	1	1	33 years ...	24	...	24
17 " ...	2	6	8	34 " ...	29	...	29
18 " ...	1	3	4	35 " ...	23	1	24
19 " ...	5	7	12	36 " ...	28	1	29
20 " ...	12	8	20	37 " ...	20	1	21
21 " ...	12	3	15	38 " ...	20	1	21
22 " ...	10	3	13	39 " ...	16	...	16
23 " ...	13	3	16	40 " ...	22	...	22
24 " ...	20	1	21	41 " ...	13	...	13
25 " ...	24	4	28	42 " ...	18	...	18
26 " ...	19	1	20	43 " ...	10	...	10
27 " ...	32	6	38	44 " ...	3	...	3
28 " ...	26	3	29	45 " ...	4	...	4
29 " ...	27	6	33	46 " ...	3	...	3
30 " ...	22	...	22	48 " ...	2	...	2
31 " ...	26	3	29				
32 " ...	27	2	29	T't'l Deaths	513	64	577

Of the 513 married women shewn in the above table, 19 died in Tasmania; in regard to these no information is available as to previous issue and as to duration of marriage.

Of the remaining 494 women, 151 died at their first-confinement, 73 at their second, 70 at their third, 44 at their fourth, 45 at their fifth, 37 at their sixth, 26 at their seventh, 22 at their eighth, 13 at their ninth, 3 at their tenth, 4 at their eleventh, 4 at their twelfth, 1 at her thirteenth, and 1 at her fourteenth confinement. The total number of children of the 494 mothers was 1548.

Twenty-five of the mothers who died had been married less than one year; 65 between one and two years; 41 between two and three years; the duration of marriage ranging up to 27 years. This tabulation will be found in detail, and distinguishing the ages at marriage, in "Bulletin No. 20 of Population and Vital Statistics," as will a further tabulation showing the duration of marriage and previous issue in combination. The tables shew, for instance, that one mother, who had been married at the age of 19 years, died at the age of 42, in the 23rd year of her marriage, at her thirteenth confinement. The mother who died at her fourteenth confinement had been married for 24 years, and was at the time of her death 43 years old.

(xxxii.) *Congenital Debility and Malformations.* As has been pointed out on a previous page, the figures set down under this heading, viz., 3200 for 1905, 2960 for 1906, 3038 for 1907, 2973 for 1908, and 2905 for 1909 are not strictly comparable, owing to the impossibility of distinguishing in every case for 1905 and 1906 between children under three months of age and those from three to twelve months. The 1909 figures include:—Malformations, 174 males, 130 females, total 304; and congenital debility, icterus, and scleroma of children under three months of age, 1500 males and 1101 females, total 2601; or a grand total of 2905. Of these deaths, 1093 were registered in New South Wales, viz., 616 males and 477 females; 825 in Victoria, viz., 480 males and 345 females; 384 in Queensland, viz., 228 males and 156 females; 251 in South Australia, viz., 149 males and 102 females; 198 in Western Australia, viz., 106 males and 92 females; and 154 in Tasmania, viz., 95 males and 59 females.

(xxxiii.) *Senile Debility.* The deaths ascribed to "old age" form a large group, and are slightly in excess of those due to infantile debility. In 1905 they numbered 3160, viz., 1807 males and 1353 females; in 1906, 3031, viz., 1712 males and 1319 females; in 1907, 3136, viz., 1721 males and 1415 females; in 1908, 3466, viz., 2027 males and 1439 females; and in 1909, 3194, viz., 1829 males and 1365 females. Of the deaths registered in 1909, 982 occurred in New South Wales, viz., 554 males and 428 females; 1288 in Victoria, viz., 751 males and 537 females; 242 in Queensland, viz., 153 males and 89 females; 320 in South Australia, viz., 169 males and 161 females; 111 in Western Australia, viz., 68 males and 43 females; and 251 in Tasmania, viz., 144 males and 107 females.

Of the males whose death was described as due to senility, 5 were between 55 and 59; 31 between 60 and 64; 108 between 65 and 69; 261 between 70 and 74; 486 between 75 and 79; 486 between 80 and 84; 294 between 85 and 89; 124 between 90 and 94; 27 between 95 and 99; while 6 were 100 years old and upwards; and of one the age was not stated.

Of the females, one was between 45 and 49; 1 between 50 and 54; 2 between 55 and 59; 21 between 60 and 64; 88 between 65 and 69; 186 between 70 and 74; 334 between 75 and 79; 338 between 80 and 84; 261 between 85 and 89; 107 between 90 and 94; 16 between 95 and 99; while 9 were 100 years old and upwards; and of one the age was not stated.

(xxxiii.) *Violence.* A very large number of deaths is every year due to external violence, and, as might be expected from the fact that their occupations expose them much more to accidents, males largely predominate. The figures quoted are exclusive of suicides, which have been treated as a separate group. Deaths ascribed to violence numbered, in 1905, 2663, viz., 2014 males and 649 females; in 1906, 2617, viz., 2024 males and 593 females; in 1907, 2679, viz., 2038 males and 641 females; in 1908, 2922, viz., 2187 males and 735 females; and in 1909, 2664, viz., 2050 males and 614 females. Of the deaths registered in 1909, those of 757 males and 254 females occurred in New South Wales; those of 489 males and 184 females in Victoria; those of 365

males and 76 females in Queensland; those of 181 males and 43 females in South Australia; those of 183 males and 29 females in Western Australia; and those of 75 males and 28 females in Tasmania.

The following table shews the various kinds of accidental deaths which occurred in 1909, distinguishing males and females:—

DEATHS FROM VIOLENCE, COMMONWEALTH, 1909.

Cause of Death.	Males.	Females.	Total.
Fractures	97	28	125
Other accidental injuries	1,029	137	1,166
Burning by fire	119	188	307
Burning by corrosive substances ... ..	..	1	1
Insolation	50	29	79
Freezing ... ..	..	..	..
Electric shock	11	1	12
Accidental drowning	441	81	522
Inanition	42	2	44
Inhalation of noxious gases	35	18	53
Other accidental poisoning	49	32	81
Other external violence	177	97	274
Total Deaths	2,050	614	2,664

In every kind of accidental death there was, therefore, a large excess of males, with the exception of burning accidents, in which female deaths largely predominated.

The excessive heat of January, 1908, was responsible for an increase in the number of deaths caused by insolation, i.e., sunstroke and heat apoplexy, from 64 in 1907 to 246 in 1908, distributed as follows:—New South Wales, 46; Victoria, 130; Queensland, 14; South Australia, 39; Western Australia, 15; Tasmania, 2. In 1909, as the preceding table shews, the deaths fell to 79.

(xxxiii.a) *Suicide.* Although their number in 1908 and 1909 was greater than it was in 1907, it may be said that suicides have shewn a tendency to decrease during recent years, the number in 1905 having been 520, viz., 431 males and 89 females; while in 1906 it was 499, viz., 403 males and 96 females; in 1907, 461, viz., 385 males and 76 females; in 1908, 497, viz., 413 males and 84 females; and in 1909, 495, viz., 398 males and 97 females. Of the last named, those of 146 males and 45 females happened in New South Wales; those of 97 males and 27 females in Victoria; those of 85 males and 8 females in Queensland; those of 31 males and 10 females in South Australia; those of 32 males and 4 females in Western Australia; and those of 7 males and 3 females in Tasmania.

The modes adopted by persons who committed suicide in 1909 were as follows:—

SUICIDES, COMMONWEALTH, 1909.

Mode of Death.	Males.	Females.	Total.
Poison	70	54	124
Asphyxia	2	..	2
Hanging or strangulation	67	9	76
Drowning	24	19	43
Firearms	138	6	144
Cutting instruments	74	5	79
Precipitation from a height	7	..	7
Crushing	5	1	6
Other modes	11	8	14
Total Suicides	398	97	495

The death rates from suicides and the percentage on total deaths borne by suicides are shewn in the following table :—

DEATH RATES* FROM SUICIDES AND PERCENTAGE ON TOTAL DEATHS, 1909.
COMMONWEALTH.

State.	Death Rates* from Suicides.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.17	0.06	0.12	1.59	0.68	1.23
Victoria ...	0.15	0.04	0.09	1.20	0.42	0.86
Queensland	0.27	0.03	0.16	2.48	0.38	1.68
South Australia ...	0.14	0.05	0.10	1.45	1.00	1.06
Western Australia	0.20	0.03	0.13	1.91	0.39	1.33
Tasmania ...	0.07	0.03	0.05	0.68	0.37	0.54
Commonwealth	0.17	0.05	0.11	1.56	0.52	1.12

* Number of deaths from suicide per 1000 of mean population.

From the following table, which shews the ages of the persons who committed suicide in 1909, it will be seen that both extreme youth and extreme old age are represented :—

AGES OF PERSONS WHO COMMITTED SUICIDE, COMMONWEALTH, 1909.

Ages.	M.	F.	Total.	Ages.	M.	F.	Total.
10 years and under 15	3	...	3	60 years and under 65	24	3	27
15 " " 20	10	12	22	65 " " 70	26	...	26
20 " " 25	24	12	36	70 " " 75	12	2	14
25 " " 30	32	11	43	75 " " 80	4	...	4
30 " " 35	46	12	58	80 " " 85	6	...	6
35 " " 40	36	16	52	85 " " 90	2	...	2
40 " " 45	51	9	60	Age not stated	3	...	3
45 " " 50	50	14	64				
50 " " 55	34	6	40				
55 " " 60	35	...	35	Total Deaths ...	398	97	495

The birthplaces of persons who committed suicide are shewn in the following table :—

BIRTHPLACES OF PERSONS WHO COMMITTED SUICIDE, COMMONWEALTH, 1909.

Birthplaces.	M.	F.	Total.	Birthplaces.	M.	F.	Total.
New South Wales ...	79	28	107	Sweden ...	5	...	5
Victoria ...	66	30	96	Switzerland ...	2	...	2
Queensland ...	21	6	27	Wales ...	3	1	4
South Australia ...	21	11	32	Canada ...	1	...	1
Western Australia ...	2	...	2	United States ...	3	...	3
Tasmania ...	10	5	15	West Indies ...	1	...	1
New Zealand ...	2	...	2	South America ...	1	...	1
Denmark ...	4	...	4	China ...	6	1	7
England ...	71	9	80	India ...	1	...	1
Germany ...	16	...	16	Fiji ...	1	...	1
Ireland ...	20	3	23	Birthplace not stated	35	2	37
Italy ...	3	...	3				
Norway ...	2	...	2				
Russia ...	1	...	1	Total Deaths ...	398	97	495
Scotland ...	21	1	22				

The following table shews the occupations of the 398 males who committed suicide:—

OCCUPATIONS OF MALE PERSONS WHO COMMITTED SUICIDE, 1909.
COMMONWEALTH.

Occupations.	Deaths.	Occupations.	Deaths.
Professional class	21	Pastoral class	26
Domestic class	13	Working in mines and quarries ...	34
Mercantile class	59	Other primary producers	6
Engaged in transport and communication	31	Independent means	4
Manufacturing class	39	Dependents	2
Engaged in building and construction	16	Occupation not stated	16
Indefinite industrial workers	90		
Agricultural class	41	Total Deaths	398

The assertion has been made that suicide has become more frequent during recent years, but an examination of the figures from the year 1871 onwards hardly bears this out. The absolute figures have certainly increased, but proportionately to the population the figures for 1906-09 are practically the same as those for 1886-90. No particulars are available for Western Australia prior to 1886, and from 1886 to 1895 the sexes are not distinguished. All figures for the first five periods are, therefore, exclusive of Western Australia:—

SUICIDES, COMMONWEALTH, 1871-75 to 1906-9.

Period.	Number of Suicides.			Suicides per One Million.			Suicides of Females to 100 Suicides of Males. Based on	
	Males.	Females.	Total.	Males.	Females.	Total.	Absolute Figures.	Rates.
1871-75	715	150	865	150.94	37.56	99.07	20.98	24.88
1876-80	878	145	1,023	159.69	31.06	100.62	16.51	19.45
1881-85	999	183	1,182	152.58	32.90	97.61	18.32	21.56
1886-90	1,394	292	¹ 1,686	179.20	43.97	³ 116.92	20.95	24.54
1891-95	1,574	337	² 1,911	181.34	44.09	⁴ 117.07	21.41	24.31
1896-1900	1,838	410	2,248	191.11	47.88	123.65	22.31	25.05
1901-05	2,054	380	2,434	200.51	40.96	124.69	18.50	20.43
1906-09	1,599	353	1,952	180.63	44.44	116.22	22.08	24.60

1. 1705 inclusive of Western Australian figures. 2. 1384 inclusive of Western Australian figures.
3. 116.49 inclusive of Western Australian figures. 4. 119.11 inclusive of Western Australian figures.

(xxxiv.) *Other Diseases.* The number of causes included under this heading is a very large one, amounting to no less than 89 of the items shewn in the detailed classification, and deaths were recorded under every one of these with the exception of the following six:—Glanders and farcy, rabies, pellagra, gonococcal diseases of children under five years of age, other general diseases, other poisonings due to occupation. The total number of deaths under "other diseases" in 1905 was 10,263, viz., 6137 males and 4126 females; in 1906 it was 9976, viz., 5880 males and 4096 females; in 1907, 8679, viz., 5102 males and 3577 females; in 1908, 9289, viz., 5473 males and 3816 females; and in 1909, 9338, viz., 5480 males and 3858 females. Some of the diseases included here account for very considerable numbers of deaths. Thus there were 791 deaths ascribed to broncho-pneumonia; 864 to diarrhoea and enteritis of children over two years of age and of adults, 523 to convulsions of children under five years of age; 381 to diabetes; 319 to paralysis without indicated cause; and 344 to appendicitis and abscess of the iliac fossa. Particulars of the deaths included in 1909 are shewn in the following table:—

CAUSES OF DEATH INCLUDED UNDER "OTHER DISEASES," COMMONWEALTH, 1909.

Causes.	M.	F.	T'tal.	Causes.	M.	F.	T'tal.
Leprosy	10	...	10	Broncho-Pneumonia	434	357	791
Purulent Infection and Septicæmia	68	54	122	Pleurisy	100	54	154
Malignant Pustule and "Charbon"	2	...	2	Congestion of the Lungs and Pulmonary Apoplexy	94	70	164
Trichinosis, etc.	3	2	5	Gangrene of the Lungs	22	7	29
Scrofula	3	1	4	Asthma	111	49	160
Syphilis	110	61	171	Pulmonary Emphysema	13	7	20
Blennorrhagia of Adults	1	...	1	Other Diseases of the Respiratory System (Consumption excepted)	90	31	121
Other Tumours (Tumours of the female genital organs excepted)	23	33	56	Diseases of the Mouth and its Associated Organs	8	6	14
Acute Articular Rheumatism	60	49	109	Diseases of the Pharynx	18	23	41
Chronic Rheumatism & Gout	76	57	133	Diseases of the Oesophagus	13	3	16
Scurvy	3	4	7	Diarrhœa and Enteritis of Children over two years of age and Adults	447	417	864
Diabetes	186	195	381	Intestinal Parasites	6	1	7
Exophthalmic Goitre	3	41	44	Other Diseases of the Intestine's Icterus Gravis	31	28	59
Addison's Disease	10	12	22	Hydatid Tumours of the Liver	33	29	62
Leucæmia	44	27	71	Biliary Calculi	39	81	120
Anæmia, Chlorosis	125	131	256	Other Diseases of the Liver	121	89	210
Acute and Chronic Alcoholism	118	35	153	Diseases of the Spleen	8	1	9
Lead Poisoning	8	1	9	Simple Peritonitis (non-puerperal)	103	95	198
Other Chronic Poisonings	9	2	11	Other Diseases of the Digestive System (Cancer and Tuberculosis excepted)	11	5	16
Encephalitis	10	11	21	Appendicitis and Abscess of the Iliac Fossa	198	146	344
Progressive Locomotor Ataxia	31	10	41	Other Diseases of the Kidneys and their Adnexa	52	43	95
Other Diseases of the Spinal Cord	173	97	270	Calculi of Urinary System	24	7	31
Paralysis without indicated cause	173	146	319	Diseases of the Bladder	132	25	157
General Paralysis	111	22	133	Other Diseases of the Urethra, Urinary Abscess, etc.	37	...	37
Other Forms of Mental Alienation	35	36	71	Diseases of the Prostate	164	...	164
Epilepsy	80	63	143	Non-venereal Diseases of the Male Genital Organs	3	...	3
Eclampsia (non-puerperal)	27	36	63	Non-puerperal Diseases of the Breast (cancer excepted) ... ..	...	1	1
Convulsions of Children under five years of age	286	237	523	Gangrene	72	47	119
Tetanus	70	31	101	Carbuncle	12	9	21
Chorea	2	3	5	Phlegmon, Acute Abscess	32	21	53
Other Diseases of the Nervous System	218	117	335	Other Diseases of the Skin and Adnexa	56	46	102
Diseases of the Eyes and their Appendages ... ..	...	1	1	Non-tubercular Diseases of the Bones	40	19	59
Diseases of the Ear ... ..	...	1	1	Arthritis and other Diseases of the Joints (Tuberculosis & Rheumatism excepted)	8	5	13
Pericarditis	17	21	38	Amputation	1	...	1
Acute Endocarditis	196	160	356	Other Diseases of the Organs of Locomotion	1	...	1
Angina Pectoris	60	32	92	Other Diseases peculiar to Infancy	59	48	107
Diseases of the Arteries, Atheroma, Aneurism	343	92	435	Want of Care (Infants)	8	10	18
Embolism and Thrombosis	98	152	250				
Diseases of the Veins (Varices, Varicose Ulcers, Hæmorrhoids)	5	10	15	Total Deaths	5,480	3,858	9,338
Diseases of the Lymphatic System ... ..	...	4	4				
Hæmorrhages	16	24	40				
Other Diseases of Circulatory System	2	1	3				
Diseases of the Nasal Fossæ	8	2	10				
Diseases of the Larynx	55	41	96				
Diseases of the Thyroid Body	1	19	20				

(xxxv.) *Unspecified or Ill-defined Diseases.* The number of cases which has to be included here is a considerable one from year to year, having numbered 1042 in 1905, 1168 in 1906; 1275 in 1907; 1262 in 1908; and 1087, viz., 681 males and 406 females, in 1909. The detailed classification distinguishes these ill-defined diseases under three headings:—Dropsy, including such definitions as anasarca, ascites, general œdema, etc.; sudden death, including syncope; and unspecified or ill-defined causes, of which the following are specimens:—Asthenia, coma, dentition, exhaustion, heart failure, etc. In 1909 the number of cases of death which would have to be classed under the first of these categories was 28; those belonging to the second, 65; and those belonging to the third, 994. It is, of course, true that there must always occur some cases where the disease is not well characterised, or where sufficient information is not procurable to allow of a clear definition being given in the certificate of death, but in the majority of cases included under this heading a more complete diagnosis and consequently a more satisfactory certificate would no doubt have been possible.

18. **Causes of Death in Classes.**—The figures presented in the preceding paragraphs relate to certain definite causes of death. It is almost generally acknowledged that figures of this kind are of greater value in medical statistics than is a classification under general headings. The classification under fourteen general headings adopted by the compiler of The International Nomenclature is, however, shewn in the following table, together with the death rates and percentages on total deaths pertaining to those classes: **DEATHS, DEATH RATES*, AND PERCENTAGES ON TOTAL DEATHS IN CLASSES, 1909, COMMONWEALTH.**

Class.	Total Deaths.			Death Rate.*			Percentage on Total Deaths.		
	M.	F.	Total.	M.	F.	Total	M.	F.	Total.
1. General diseases	5,722	4,734	10,456	2.51	2.31	2.42	22.44	25.36	23.67
2. Diseases of the Nervous System & of the Organs of Special Sense...	2,419	1,889	4,308	1.06	0.92	0.99	9.48	10.13	9.75
3. Diseases of the Circulatory System	2,994	2,179	5,173	1.31	1.06	1.19	11.74	11.68	11.72
4. Diseases of the Respiratory System	2,821	1,815	4,636	1.24	0.88	1.07	11.06	9.73	10.50
5. Diseases of the Digestive Organs...	3,149	2,617	5,766	1.38	1.28	1.33	12.34	14.03	13.05
6. Diseases of the Genito-Urinary System and Adnexa	1,488	929	2,417	0.65	0.45	0.56	5.83	4.98	5.47
7. Puerperal Condition	...	577	577	...	0.28	0.13	...	3.09	1.31
8. Diseases of the Skin and of the Cellular Tissue...	172	123	295	0.07	0.06	0.07	0.67	0.66	0.67
9. Diseases of the Organs of Locomotion	50	24	74	0.02	0.01	0.02	0.19	0.13	0.16
10. Malformations	174	130	304	0.07	0.06	0.07	0.68	0.70	0.69
11. Infancy	1,567	1,159	2,726	0.69	0.56	0.63	6.14	6.21	6.17
12. Old Age	1,829	1,365	3,194	0.80	0.66	0.74	7.17	7.32	7.23
13. Violence	2,448	711	3,159	1.07	0.34	0.73	9.59	3.81	7.15
14. Ill-defined Diseases	691	406	1,087	0.30	0.20	0.25	2.67	2.17	2.46
Total	25,514	18,658	44,172	11.20	9.13	10.22	100.00	100.00	100.00

* Number of deaths per 1000 of mean population.

19. **Age at Death of Married Males and Females, and Issue.**—"Bulletin No. 20 of Population and Vital Statistics" contains a number of tables, compiled for the first time for the year 1908 for the Commonwealth, exclusive of Tasmania, shewing the age at marriage, age at death, duration of life after marriage, birthplaces, and occupations, in combination with the issue, of married persons who died in 1909. A short summary of the tables mentioned is given hereunder. Deaths of married males in 1909 numbered 10,751, and of married females, 9891. The ages at death of the males ranged from 20 to 109 years, and those of the females, from 17 to 109 years. The total number of children in the families of the 10,751 males was 57,889, the maximum in one family being 25; and of the 9891 females, 51,474, with a maximum of 21. The average number of children is shewn for various age-groups in the following table:—

AGE AT DEATH OF MARRIED MALES AND FEMALES, AND AVERAGE ISSUE, COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1909.

Age at Death.	Average Family of Males.	Average Family of Females.	Age at Death.	Average Family of Males.	Average Family of Females.
Under 20 years	...	0.73	70 to 74 years	6.35	6.45
20 to 24 years	0.79	1.31	75 " 79 "	6.42	6.43
25 " 29 "	1.49	1.93	80 " 84 "	6.35	5.92
30 " 34 "	1.95	2.59	85 " 89 "	6.28	5.84
35 " 39 "	2.65	3.53	90 " 94 "	7.32	5.60
40 " 44 "	3.45	4.24	95 " 99 "	6.86	5.14
45 " 49 "	4.37	4.79	100 years and upwards	3.25	6.70
50 " 54 "	4.96	5.35	Age not stated	5.57	3.75
55 " 59 "	5.41	5.83			
60 " 64 "	5.95	6.00			
65 " 69 "	6.14	6.10	All ages	5.38	5.20

The figures shewn in the preceding table include the issue both living and dead; the proportion between the two, taking deceased males and females together, was about as 758 to 242, or, roughly speaking, as three to one. The totals are shewn in the following table:—

ISSUE OF MARRIED MALES AND FEMALES,

COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1909.

Issue of Married Males.	Males.	Females.	Total.	Issue of Married Females.	Males.	Females.	Total.
Living ...	22,565	22,282	44,847	Living ...	19,121	18,966	38,087
Dead ...	7,000	6,042	13,042	Dead ...	7,120	6,267	13,387
Total ...	29,565	28,324	57,889	Total ...	26,241	25,233	51,474

These figures shew a masculinity in the births of 104.20, which agrees fairly well with the experience of the birth statistics, the masculinity of the births in the Commonwealth from 1901 to 1909 having ranged from 104.11 to 105.99.

As a matter of curiosity it may be mentioned that the family of twenty-five belonged to a father who died at the age of 81, and that it had originally comprised fifteen sons and ten daughters, of whom fourteen sons and eight daughters survived their father.

20. Age at Marriage of 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, shews a corresponding decrease in the averages as the age at marriage advances:—

AGE AT MARRIAGE OF MALES AND FEMALES, AND AVERAGE ISSUE,

COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1909.

Age at Marriage.	Average Family of Males.	Average Family of Females.	Age at Marriage.	Average Family of Males.	Average Family of Females.
Under 20 years ...	6.91	6.96	55 to 59 years ...	1.54	...
20 to 24 years ...	6.36	5.63	60 „ 64 „ ...	0.75	...
25 „ 29 „ ...	5.66	4.22	65 years and upwards ...	0.10	...
30 „ 34 „ ...	4.82	3.00	Age not stated ...	5.31	4.67
35 „ 39 „ ...	3.99	1.60			
40 „ 44 „ ...	3.26	0.57			
45 „ 49 „ ...	2.51	0.08			
50 „ 54 „ ...	1.84	...	All ages ...	5.38	5.20

It will be seen that of women who were married at ages from 40 to 44 years, one in every two gave birth to a child, while in the case of women who were married at ages from 45 to 49 years, the proportion fell to one in every twelve.

21. Duration of Life after Marriage of Males and Females.—The duration of life after marriage has been tabulated for males and females both in combination with the age at marriage, and with the total and average issue. The tables shewing the result do

not, however, lend themselves to condensation, and are, therefore, omitted here. They will be found in "Bulletin No. 20 of Population and Vital Statistics," pages 134 to 139.

22. **Birthplaces of Married Males and Females, and Issue.**—In the following table, which shews the birthplaces of married males and females whose deaths were registered in 1909, together with their average issue, the total numbers of males and females have been inserted under each birthplace. No generalisations can, of course, be made in those cases where the number of deaths is small, and where the average family had to be worked out on small figures. But where the figures are comparatively large, as in the case of natives of the Commonwealth, differences occur between the averages of the individual States which appear inexplicable on any other ground than that of inefficient registration in some of the States. It will be noted that the differences occur both in the male and female averages. Although the figures apply to the Commonwealth as a whole, with the exception of Tasmania, it must be borne in mind that the vast majority of deaths of natives of any one State are registered in that particular State. For the whole Commonwealth the average family of deceased males was 4.65, and of deceased females, 4.36.

**BIRTHPLACES OF MARRIED MALES AND FEMALES, AND AVERAGE ISSUE,
COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1909.**

Birthplaces.	Married Males.		Married Females.		Birthplaces.	Married Males.		Married Females.	
	Deaths.	Average Family.	Deaths.	Average Family.		Deaths.	Average Family.	Deaths.	Average Family.
New South Wales	1,287	5.25	1,617	4.94	Brazil	2	2.00	...	...
Victoria	1,136	4.02	1,319	3.57	West Indies	9	3.66	5	4.80
Queensland	145	3.13	252	3.57	British Guiana	1	11.00	...	...
South Australia	445	4.79	509	4.30	Argentine Republic	...	...	1	6.00
Western Australia	46	5.24	57	4.84	St. America (so descd.)	2	7.00	...	...
Tasmania	129	5.20	136	4.93	Arabia	1	2.00	1	8.00
New Zealand	39	3.30	44	2.89	Asia Minor	...	...	...	6.00
Austria-Hungary	23	3.70	3	3.00	Ceylon	...	...	...	7.00
Belgium	4	4.25	...	...	China	56	2.35	3	4.66
Channel Islands	4	5.93	11	4.81	Dutch East Indies	1	9.00	...	...
Denmark	15	4.72	18	5.66	India	51	3.37	17	6.11
England	54	5.87	2,682	5.74	Japan	2	3.50	...	...
Finland	3,671	3.87	1	...	Persia	1	4.00	...	...
France	39	4.82	13	6.46	Philippine Islands	2	3.00	...	...
Germany	412	6.15	216	6.59	Straits Settlements	1	9.00	...	...
Gibraltar	3	8.00	...	...	Syria	3	2.66	1	1.00
Greece	4	3.00	2	1.50	Ascension Island	...	...	1	6.00
Ireland	1,668	5.85	1,949	5.81	Azores	3	5.66	...	...
Isle of Man	4	6.75	4	3.00	Cape of Good Hope	...	...	1	13.00
Italy	33	4.57	10	3.50	Cape Verde Islands	1	10.00	...	...
Malta	4	4.75	1	3.00	Mauritius	1	16.00	2	3.50
Netherlands	13	4.53	...	...	Seychelles	1	7.00	...	...
Norway	28	3.61	2	3.50	South Africa (so descd.)	7	3.71	9	5.55
Portugal	5	4.12	1	5.00	West Africa (so descd.)	2	2.50	...	...
Rumania	2	4.50	...	...	Fiji	1	...	2	1.00
Russia	20	4.60	7	4.14	New Caledonia	1	9.00	...	...
Scotland	1,023	5.55	832	5.77	Norfolk Island	1	2.00	2	10.00
Spain	4	3.50	1	7.00	Samoa	1	2.00	...	...
Sweden	48	3.62	8	2.50	Society Islands	1	1.00	1	7.00
Switzerland	25	5.96	7	5.14	S. Sea Islands (so descd.)	1	2.00	...	...
Wales	94	6.02	39	5.25	At Sea	29	5.79	27	7.26
Canada	29	4.72	12	5.00	Not stated	46	3.82	48	4.16
Newfoundland	1	12.00	...	...			
United States	62	4.76	13	4.92					
Bermudas	...	...	1	12.00					
					Total	10,751	5.38	9,891	5.20

23. **Occupations of Married Males, and Issue.**—A final tabulation shews the average issue in combination with the occupation of deceased males. When these figures will be available for a number of years they will afford some clue to the much

debated question as to the decrease in the birth rate among various classes of the population.

OCCUPATIONS OF MARRIED MALES, AND AVERAGE ISSUE,

COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1909.

Occupations.	Deaths of Married Males.	Average Family.
Professional class	668	4.71
Domestic class	359	3.95
Mercantile class	1,319	4.68
Engaged in transport and communication	843	4.82
Manufacturing class	1,155	5.05
Engaged in building and construction	738	5.32
Indefinite industrial workers	1,683	5.18
Agricultural class	1,779	6.65
Pastoral class	420	6.27
Working in mines and quarries	920	5.43
Other primary producers	72	5.01
Independent means	548	5.58
Dependents	14	5.21
Occupation not stated	233	5.14
Total	10,751	5.38

§ 4. Graphical Representation of Vital Statistics.

1. **General.**—The progressive fluctuations of the numbers representing the total births and marriages are important indexes of the economic conditions and social ideals of a community. For this reason graphs have been prepared (see pages 227 and 228), shewing these fluctuations from 1860 to 1909, both for the States and the Commonwealth. The facts are very significant from the national point of view and call for serious consideration. To properly appreciate the situation it should be remembered that, normally, the increases of births and also of marriages will be similar to the increase of population. Although the marriage curve shews a falling off in marriages after 1891 (see page 228), it shews a recovery in 1894, and, with the exception of a small fall for 1903, it has continually advanced. The same characteristic is not seen in the curve of births, which discloses a recovering tendency only in 1904.

The table on the following page shews the number of births, marriages and deaths which would have been experienced had the rate for 1890 continued, and reveals the significance of the facts disclosed by the curves. It may be remarked that the death rate has greatly improved, and among other countries, Australia stands in a very favourable position in this respect. At the same time the decline in the marriage rate, overtaken once more in 1907, and the still more serious decline in the birth rate, in a country but sparsely populated, have an obvious and most important bearing on the national future, and on questions concerning the extent to which it is desirable to promote immigration.

ACTUAL BIRTHS, DEATHS, AND MARRIAGES,
 EXPERIENCED IN THE COMMONWEALTH DURING THE YEARS 1890 TO 1909,
 COMPARED WITH THE NUMBER THAT WOULD HAVE OCCURRED IF THE
 RATES OF 1890 HAD REMAINED IN OPERATION.

Year.	BIRTHS.		DEATHS.		MARRIAGES.	
	Actual.	Number of Births that would have been experienced if the 1890 birth rate had been in operation.	Actual.	Number of Deaths that would have been experienced if the 1890 death rate had been in operation.	Actual.	Number of Marriages that would have been experienced if the 1890 marriage rate had been in operation.
1890	108,683		44,449		23,725	
1891	110,187	111,802	47,430	45,737	23,862	24,419
1892	110,158	114,502	42,268	46,842	22,049	25,009
1893	109,322	116,617	45,801	47,707	20,631	25,470
1894	104,660	118,734	42,958	48,573	20,625	25,933
1895	105,084	121,002	43,080	49,501	21,564	26,428
1896	100,134	123,212	45,202	50,405	23,068	26,911
1897	101,137	125,419	43,447	51,308	23,939	27,393
1898	98,845	127,371	51,406	52,106	24,472	27,819
1899	100,638	129,088	47,629	52,809	25,953	28,194
1900	102,221	130,848	44,060	53,529	27,101	28,579
1901	102,945	132,662	46,330	54,271	27,753	28,975
1902	102,776	134,878	48,078	55,175	27,926	29,458
1903	98,443	136,478	47,293	55,832	25,977	29,808
1904	104,113	138,305	43,572	56,579	27,682	30,207
1905	104,941	140,511	43,514	57,432	29,004	30,689
1906	107,890	142,908	44,333	58,462	30,410	31,213
1907	110,347	145,365	45,305	59,468	32,470	31,749
1908	111,545	148,093	46,426	60,533	32,551	32,345
1909	114,071	151,166	44,172	61,841	33,775	33,016

2. **Graphs of Annual Births, Commonwealth and States** (page 227).—A striking feature of the graphs of births is the practically continuous increase in the number of births exhibited in the graph for the Commonwealth from 1860 to 1891, and the marked variations of subsequent years. As the curve clearly shews, a turning point in the number of births occurred in 1891, whilst, as regards the separate States, New South Wales and Tasmania date their decline in number from 1893, Victoria from 1891, and Queensland from 1890. In South Australia the corresponding decline took place as early as 1885, while in Western Australia the increase in number of births has been practically continuous throughout.

It is of special interest to note the decline in births associated with the commercial crisis of 1891-3, and also the decline occurring in 1903, an accompaniment of the severe drought of that period.

In the case of New South Wales the graph crosses that of Victoria in 1879, *i.e.*, the births for that year were sensibly identical in the two States. A fairly continuous increase was experienced in the former State from 1860 to 1893, the only marked fluctuation being a sudden decline in 1889 and an equally rapid recovery in 1890. From 1893 to 1898 a somewhat rapid decline again took place, succeeded by a rise, the continuity of which was broken only by a sharp decline in 1903 and recovery in 1904.

In the case of Victoria the graph shews the increase between 1860 and 1880 to have been comparatively slight, the curve being a gradual rise, with fluctuations more or less marked to 1873, with a subsequent decline. From 1880 to 1891 the increase in the number of births is seen to be very rapid and practically continuous, while from 1891 to 1898 an equally sharp and continuous decline was experienced. A further rise and fall

took place between 1898 and 1903, succeeded by a continuous rise from the last-mentioned year to 1907, and a slight fall in 1908, followed by a recovery in 1909.

Starting in 1860 with a lower number of births than any State except Western Australia, the Queensland graph shows that the births increased somewhat rapidly until 1867. The equality in the number of births in Queensland and Tasmania in 1864 is shewn by the Queensland curve crossing the Tasmanian curve at the line for that year. From 1867 to 1882 a continuous though somewhat less rapid increase was experienced, followed by a very rapid rise to 1890, in which year Queensland's maximum number of births was recorded. The South Australian graph is crossed by that of Queensland at the year 1885. From 1890 onwards the number of births has fluctuated somewhat, but has, on the whole, retained a practically stationary position at a height rather less than that of 1890. The most serious variation was a sudden fall in 1903, the drought year, and rapid recovery in 1904, with a further fall in 1905 and a continuous rise since 1906.

The South Australian graph, a slow but practically continuous rise from 1860 to 1885, exhibits the steady increase in the total number of births. This rise is followed by a slow but fluctuating decline to 1903, and a slight recovery to 1909.

The Tasmanian curve may be regarded as made up of five portions, of which the first, from 1860 to 1877, represents a period of very slight variation, with, on the whole an increase; the second, from 1877 to 1884, a period of continuous and moderately rapid increase; the third, from 1884 to 1893, a period of rapid increase; the fourth, from 1893 to 1898, a period of continuous but slow decrease; and the fifth, from 1898 onwards, a period of steady recovery.

The Western Australian curve indicates that an increase, which was practically continuous but very slow, took place from 1860 to 1884, and that a somewhat quicker rate of increase, experienced from 1884 to 1896, was succeeded by a still more rapid and very satisfactory rate of increase from 1896 onwards.

It will be seen that the years in which the highest points were reached by the several curves are as follows:—

State	... N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
Year	... 1909	1891	1909	1885	1906	1908	1909

3. Graphs of Annual Marriages, Commonwealth and States (page 228).—The Commonwealth marriage graph from 1860 to 1885 reveals a moderate but somewhat fluctuating increase in the annual number of marriages between 1860 and 1871, a more rapid increase between 1871 and 1879, and a still more rapid increase between 1879 and 1885. From 1885 to 1891 the numbers continued to increase, but with marked fluctuations in rate. The financial crisis associated with the period subsequent to the latter year was accompanied by a strongly-marked decline in the number of marriages, which reached its lowest point in 1894. From that year onwards a fairly rapid recovery was effected, the record for 1891 being exceeded by that of 1897. This progress was maintained until 1902, when the severe drought of that and the succeeding year were collateral with a rapid fall in the number of marriages. An equally rapid recovery, however, has since taken place, and the number of marriages in the Commonwealth during 1909 was greater than in any preceding year.

4. Graphs of Annual Deaths, Commonwealth and States (page 229).—The curves, shewing the progression of the annual number of deaths, indicate clearly that the periods for which exceptionally large numbers of deaths occurred were:—(a) 1866-7, (b) 1875-6, (c) 1884-5, (d) 1889-1891, (e) 1893, (f) 1898, and (g) 1902-3. It is remarkable that in each of the periods specified the phenomenon of a relatively high number of deaths was experienced in a majority of the States. Thus, as regards 1866-7, all the States except Western Australia and Tasmania were so affected; in 1875-6 all except Western Australia; in 1884-5 all were affected; in 1889 all except Western Australia and South Australia; in 1891 all except Queensland; whilst in 1893 and 1898, and in 1902-3, all were affected. The fact that the periods of high death rates have been practically identi-

cal in the several States furnishes an indication that the excessive mortality has been due to a considerable extent to some common cause operating throughout the Commonwealth.

It may be noted as curious that periods of heavy mortality have occurred at intervals of approximately nine years, viz.:—1866-7, 1875-6, 1884-5, 1893, and 1902-3. There are, however, two marked increases between the third and fourth dates, and one between the fourth and fifth. Thus there is no real indication of the periodicity in the death rate.

Periods in which the number of deaths was exceptionally low are far less clearly defined than those in which the number was high, and the agreement amongst the States is also less complete. The principal periods of low mortality may be said to be 1861, 1869-71, 1879, 1892, 1897, 1900, 1904-5, 1909.

5. Graphs of Annual Birth, Death, and Marriage Rates and of Rate of Natural Increase—Commonwealth (page 230).—(i.) General. These graphs represent the number of births, deaths, and marriages, and the excess of births over deaths (natural increase) per 1000 of the population of the Commonwealth, for each of the years 1860 to 1909.

(ii.) *Births.* In the case of births, the graph indicates a well marked decline in rate during the period, and represents a fall from 42.56 per 1000 of population in 1860 to 26.40 per 1000 in 1909. This enormous reduction has been subject to small fluctuations during the period under review, but may, on the whole, be said to have been in evidence throughout. There are, however, two periods of arrested decline noticeable, one from 1877 to 1890, and the other from 1898 to the present time. The course of the graph thus indicates a rapid fall from 42.56 in 1860 to 34.99 in 1877, succeeded by a fluctuating but, on the whole, fairly stationary, period to 34.98 in 1890, then a fall even more rapid to 27.15 in 1898, and a further comparatively stationary period to 26.40 in 1909. The lowest point reached, viz., 25.23, was attained in 1903, the year in which the Commonwealth suffered severely from the worst drought it has ever experienced. Since then a small but well defined advance in the birth rate has been in evidence. A declining birth rate is usually due to complex causes, amongst which the variations in the age constitution of the population, and the adoption of preventive measures, are generally considered the most potent.

(iii.) *Deaths.* The three graphs relating to deaths furnish particulars concerning the rates experienced during the period amongst males and females separately, and in the population as a whole, the latter occupying naturally a position between the other two. Throughout the period the rate for males has largely exceeded that for females, but the fluctuations in the two rates have synchronised remarkably, indicating that the conditions which have been responsible for the marked variations which have occurred from time to time have affected males and females alike. On the whole, the graphs furnish clear evidence of a satisfactory decline in the death rate of the Commonwealth, a fall having taken place from 20.86 in 1860 to 10.22 in 1909. The graphical representation of the death rates brings into prominence five years in which the rates were exceptionally high when compared with those of adjacent years. These years are 1860, 1866, 1875, 1884, and 1898. The principal cause of the excessive rate of 1860 was the prevalence in that year of measles, scarlatina, and diphtheria, while the high rates of 1866, 1875, and 1898 were also largely due to epidemics of measles. Prior to 1892, when a rate of 12.91 was experienced, the lowest general death rate for the Commonwealth was that of 1871, viz., 13.24. The highest male death rate for the period was 20.97 in 1860, and the lowest 11.20 in 1909. For females the highest was 20.71 in 1860, and the lowest 9.13 in 1909. The difference between the male and female rates has, since 1869, been fairly constant, and has ranged between 1.97 and 3.44, with a mean value of about 2.7.

(iv.) *Marriages.* In the case of the graph representing marriage rates, the fluctuations are less abrupt than in the case of the birth-rate and death-rate graphs, and the rate for 1909, the final year of the period, viz., 7.82, does not differ very considerably

from that of 1860, which was 8.42. The lowest marriage rate for the period was that of 1894, viz., 6.08, marking the culmination of the commercial and financial depression indicated by the declining rates from 1888 onwards. From 1894 to the present time a satisfactory increase has been in evidence, disturbed only by the sharp decline which, in 1903, accompanied the severe drought experienced in the Commonwealth in that year.

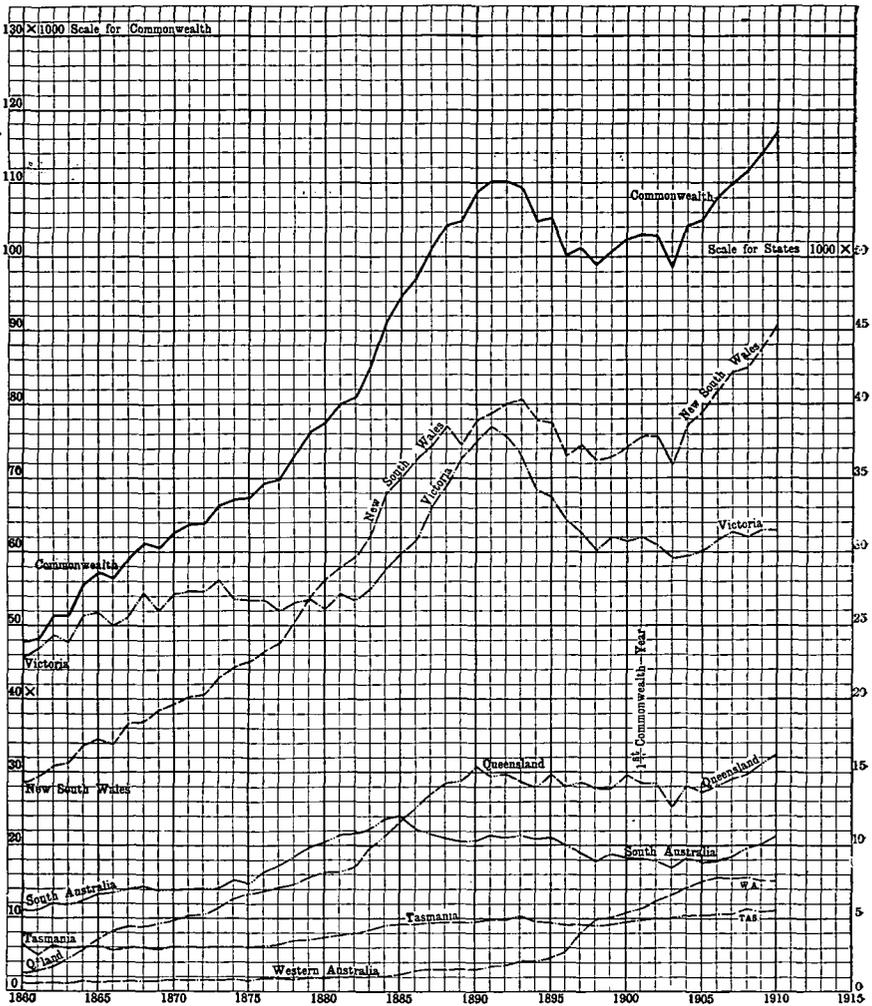
(v.) *Natural Increase.* This graph, which represents the excess of births over deaths per 1000 of population, exhibits marked fluctuations arising from the combined fluctuations in birth and death rates. Thus, corresponding to the high death rates of 1860, 1866, 1875, and 1898, there are exceptionally low rates of natural increase, accentuated in the last-mentioned year by a comparatively low birth rate. A combination of low birth rate and comparatively high death rate was also responsible for a very low rate of natural increase in 1903. The highest rate of natural increase for the period was 26.58 in 1864, and the lowest 13.03 in 1898.

6. Graphs of Annual Birth Rates—States (pages 231 and 232).—These graphs furnish for the several States information similar to that supplied in the graph on page 230 for the Commonwealth as a whole. It will be seen that in every case the total effect has been an extensive decline in rate, subject to very marked fluctuations. In all the States the period from 1875 to 1885 was one of arrested decline, if not of actual advance, in the birth rate. With the exception of the very low rate accompanying the drought in 1903, the variations in any of the States since 1901 have not been very marked, and in some cases a slight tendency to increase is in evidence.

The highest birth rates during the period were as follows:—New South Wales (1864), 44.00; Victoria (1862), 44.71; Queensland (1860), 47.93; South Australia (1862), 45.44; Western Australia (1860), 38.96; and Tasmania (1884), 36.63. The following were the lowest rates for the period:—New South Wales (1903), 25.41; Victoria (1903), 24.46; Queensland (1903), 24.62; South Australia (1903), 23.25; Western Australia (1896), 23.44; Tasmania (1899), 27.43.

7. Graphs of Annual Death Rates—States (pages 233 and 234).—These graphs furnish for the several States similar information to that given for the Commonwealth as a whole in the diagram on page 230, and indicate in each case a satisfactory decline in death rate. It may be noted that an exceptionally high death rate was experienced in all the States in 1875, and that a similar uniformity, though on a smaller scale, is observable for the year 1898, the principal cause in each case having been an epidemic of measles. The highest death rates experienced during the period were as follows:—New South Wales (1867), 19.79; Victoria (1860), 22.77; Queensland (1866), 25.96; South Australia (1875), 19.97; Western Australia (1884), 21.54; and Tasmania (1875), 19.99. The following were the lowest death rates for the period:—New South Wales (1909), 9.84; Victoria (1909), 11.24; Queensland (1906), 9.56; South Australia (1909), 9.37; Western Australia (1909), 9.98; and Tasmania (1909), 10.00.

GRAPHS SHEWING TOTAL ANNUAL BIRTHS IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1910.



(See Table page 167.)

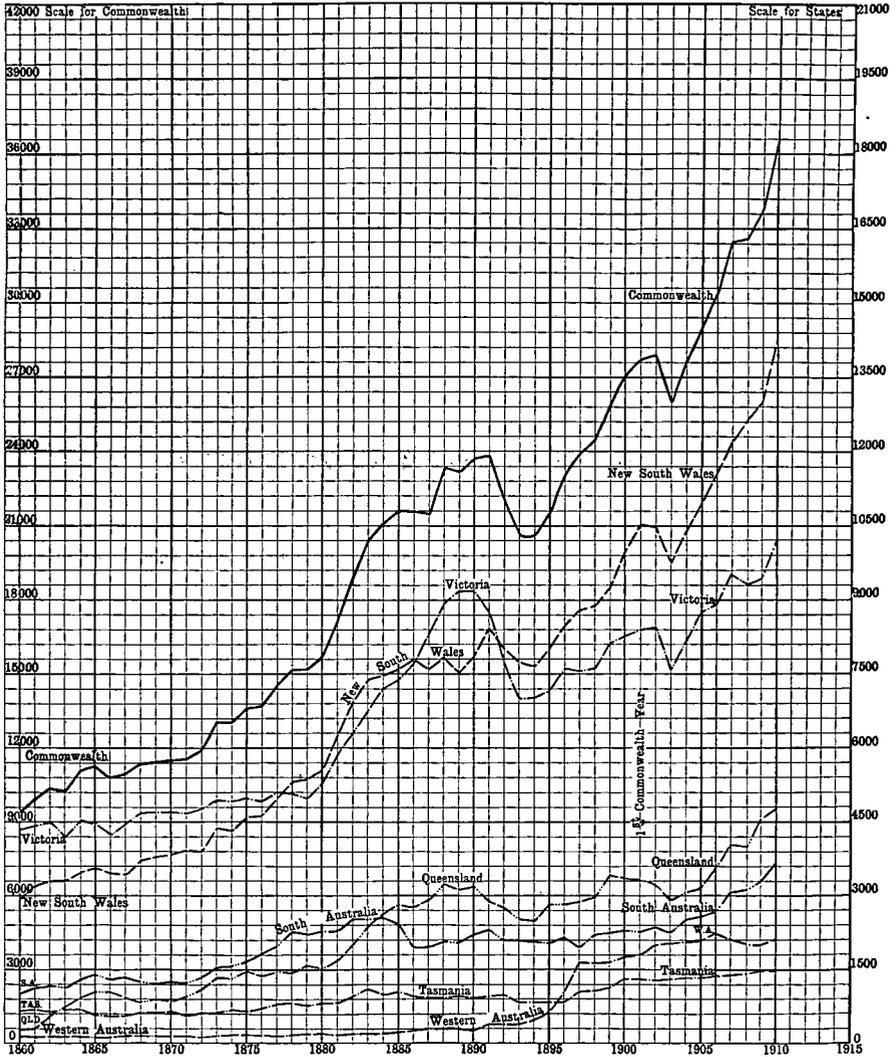
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 2000 persons for the Commonwealth, and 1000 for the States.

The scale on the left relates to the Commonwealth, and that on the right to the States.

The distances upwards from the common zero lines of the States and Commonwealth, marked 0, denote the total annual number of births in the States and Commonwealth, the scale of the latter being reduced one-half.

The names of the States to which the graphs refer are written thereon, and the characters of the lines used are as follows:—Commonwealth, —————; New South Wales, ————; Victoria, ————; Queensland, - - - - -; South Australia, - - - - -; Western Australia, - - - - -; Tasmania, - - - - -.

GRAPHS SHEWING TOTAL ANNUAL MARRIAGES IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1910.



(See Table page 179.)

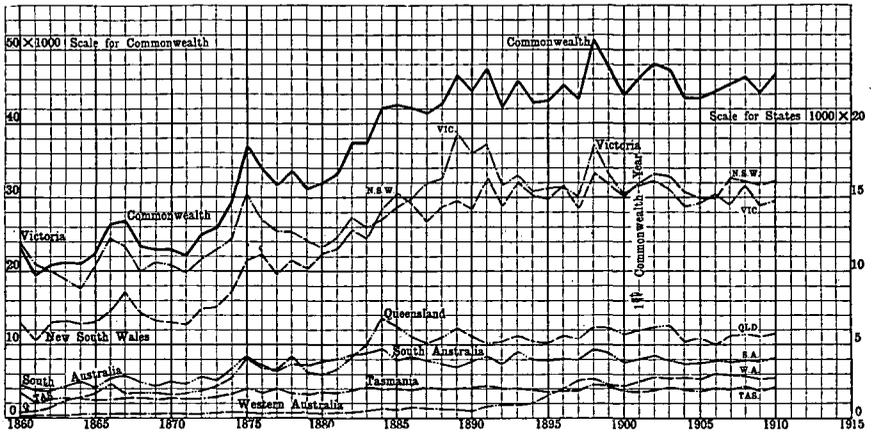
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 600 marriages for the Commonwealth and 300 for the States.

The scale on the left relates to the Commonwealth, and that on the right relates to the States.

The distances upwards from the zero line, marked 0, denote the total annual number of marriages in the States and Commonwealth, the scale of the latter being reduced one-half.

The names of the States to which the graphs refer are written thereon, and the lines used are similar to those for births on page 227.

GRAPHS SHEWING TOTAL ANNUAL DEATHS IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1910.



(See Table page 188.)

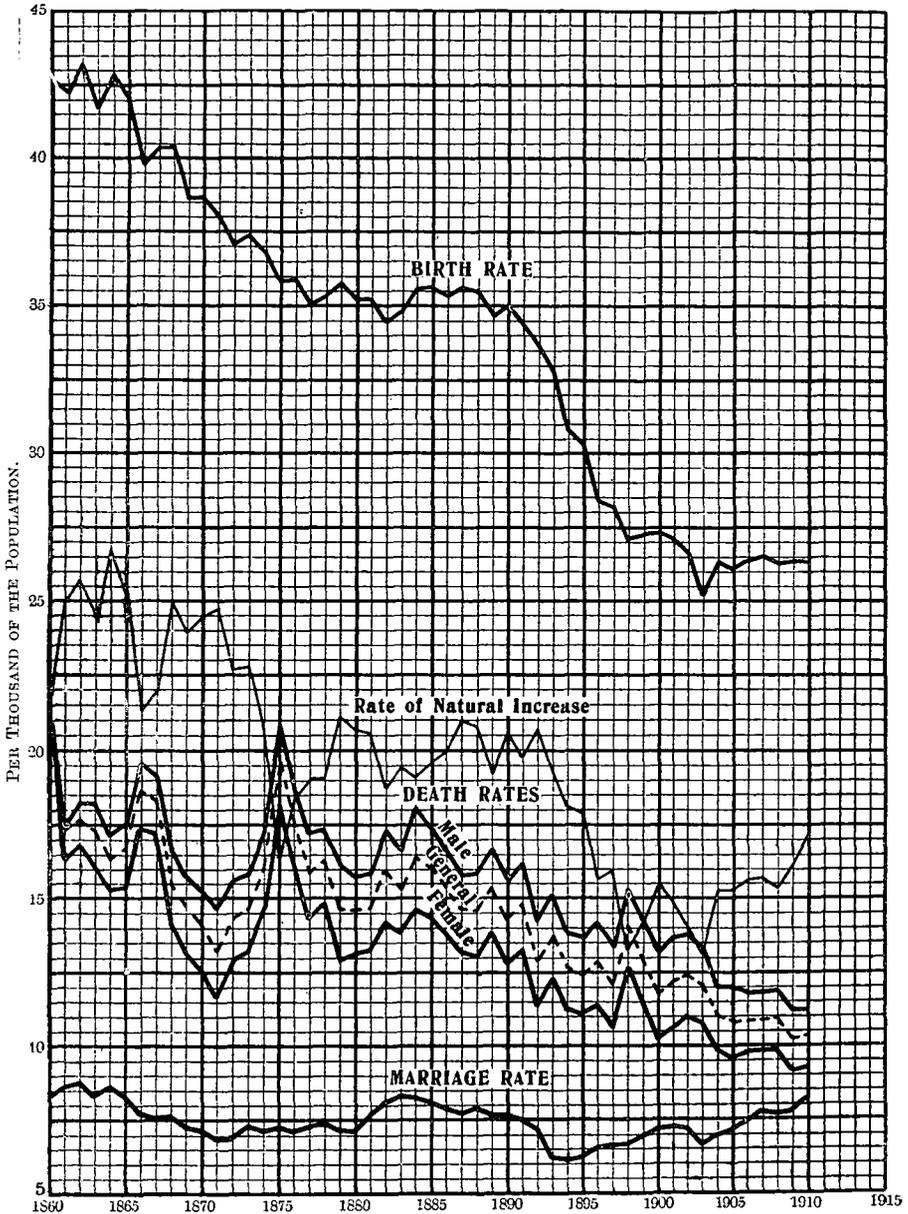
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 2000 persons for the Commonwealth and 1000 for the States.

The scale on the left relates to the Commonwealth, and that on the right relates to the States.

The distances upwards from the common zero line for States and Commonwealth, marked 0, denote the total annual number of deaths in the States and Commonwealth, the scale of the latter being reduced one-half.

The names of the States to which the curves refer are written thereon, and the lines used are similar to those for births on page 227.

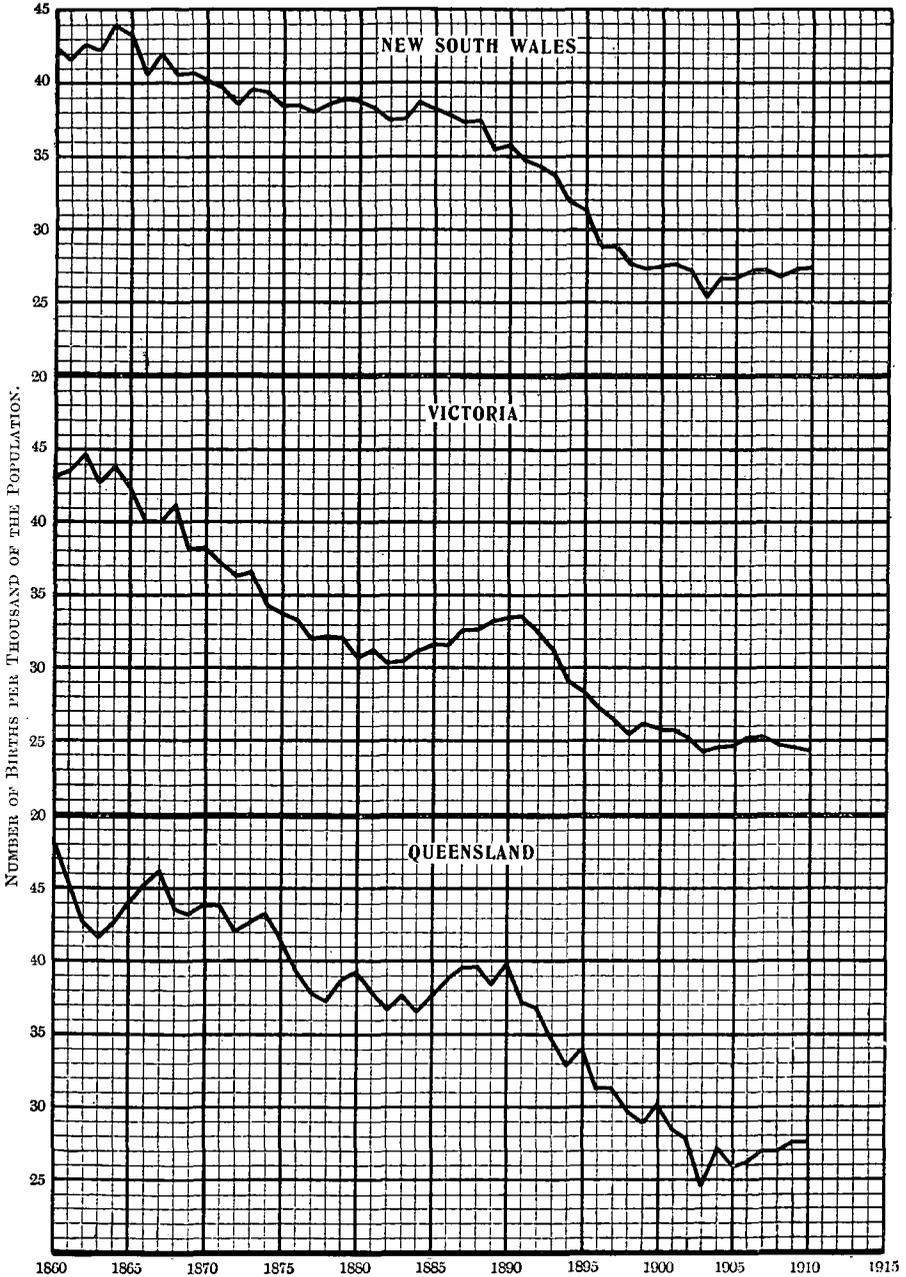
GRAPHS SHEWING GENERAL BIRTH, NATURAL INCREASE, DEATH (MALE, GENERAL AND FEMALE), AND MARRIAGE RATES IN THE COMMONWEALTH OF AUSTRALIA, 1860-1910.



(See pages 167, 180, 188 and 226.)

EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height, according to the character of the curve, one half per thousand of the population—the basic line being five per thousand of the population.

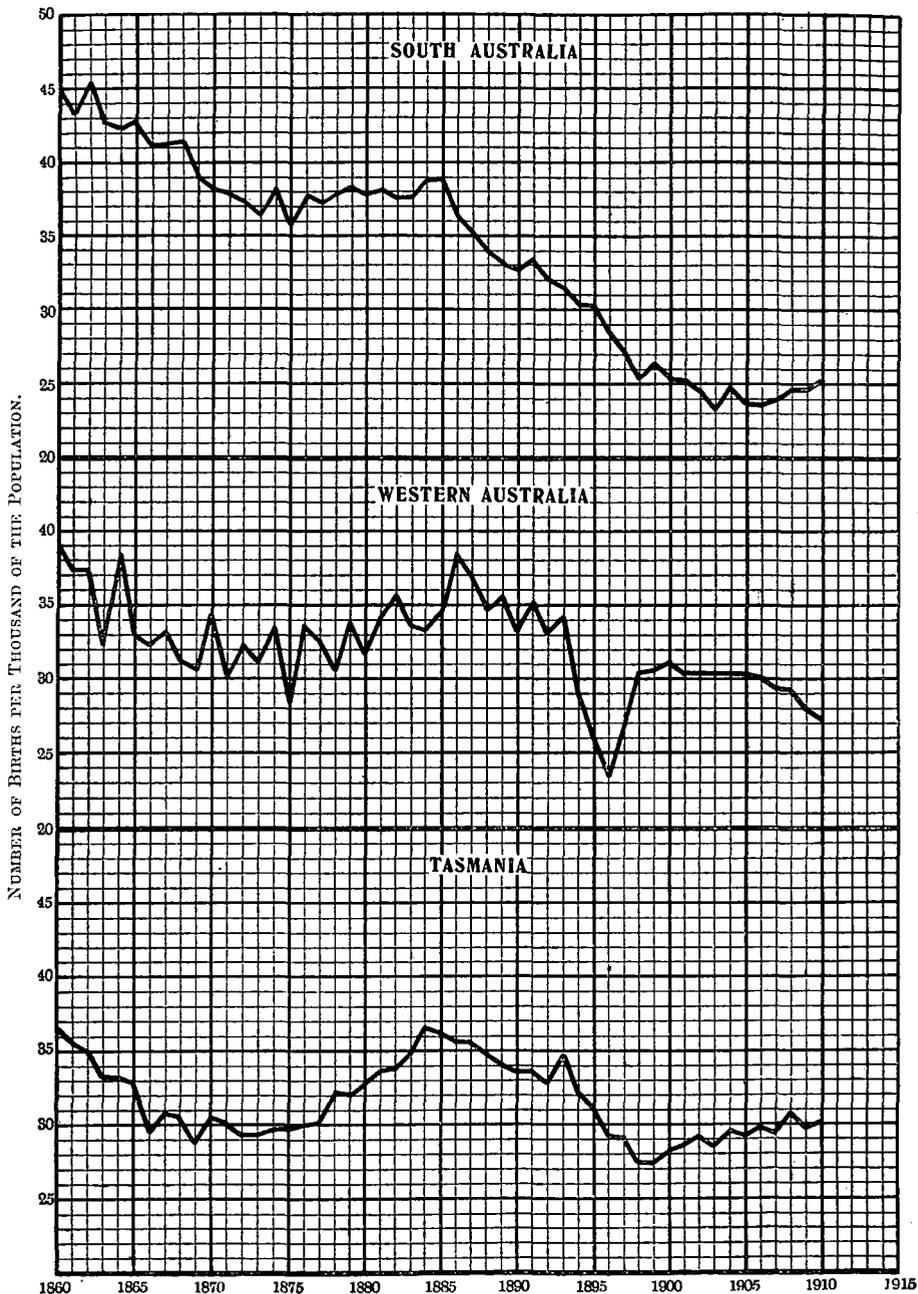
GRAPHS SHEWING BIRTH RATES IN THE STATES OF NEW SOUTH WALES,
VICTORIA, AND QUEENSLAND, 1860-1910.



(See Table page 167.)

EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height one birth per thousand of the population—the basic line for each State being twenty per thousand of the population.

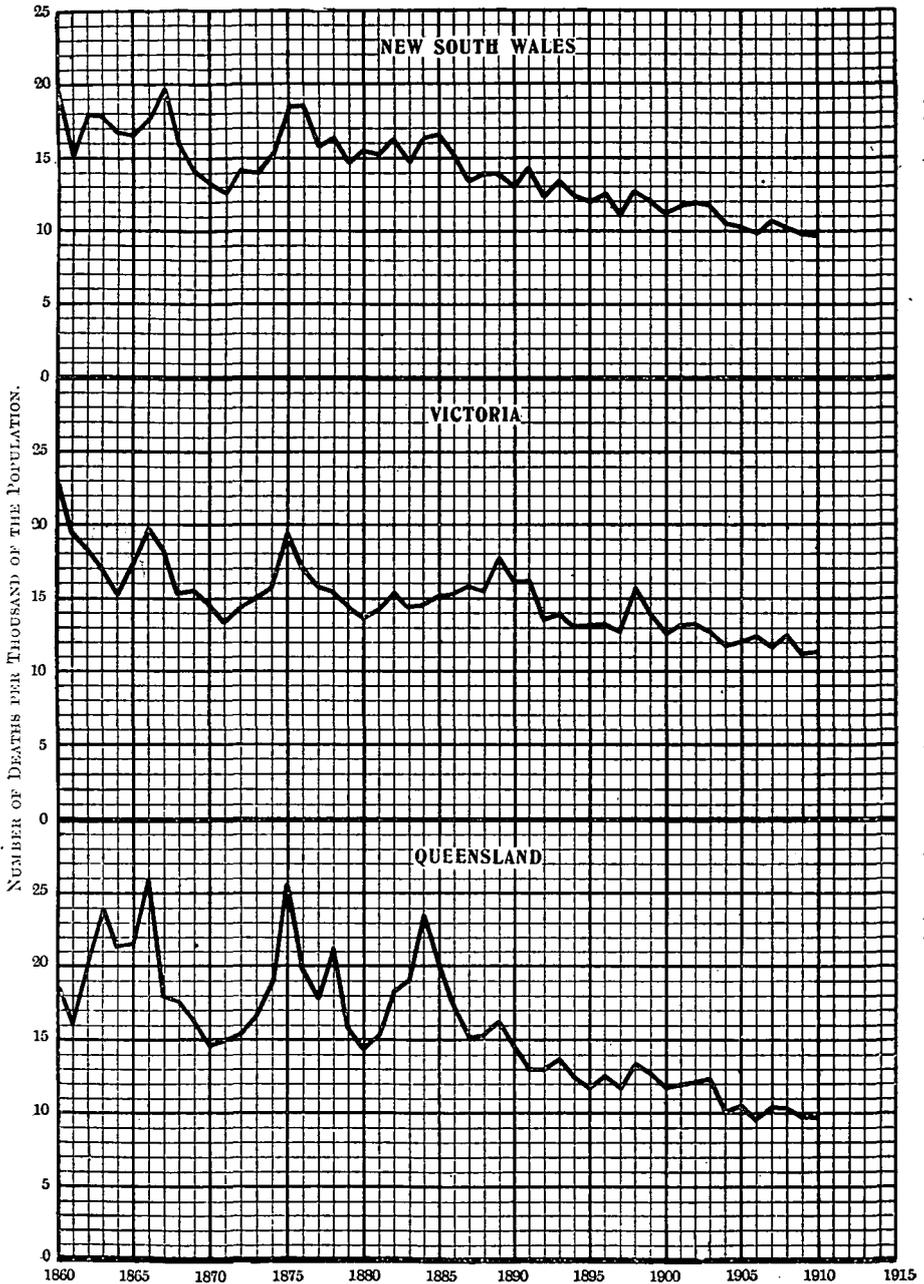
GRAPHS SHEWING BIRTH RATES IN THE STATES OF SOUTH AUSTRALIA,
WESTERN AUSTRALIA, AND TASMANIA, 1860-1910.



(See Table page 167.)

EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height one birth per thousand of the population—the basic line for each State being twenty per thousand of the population.

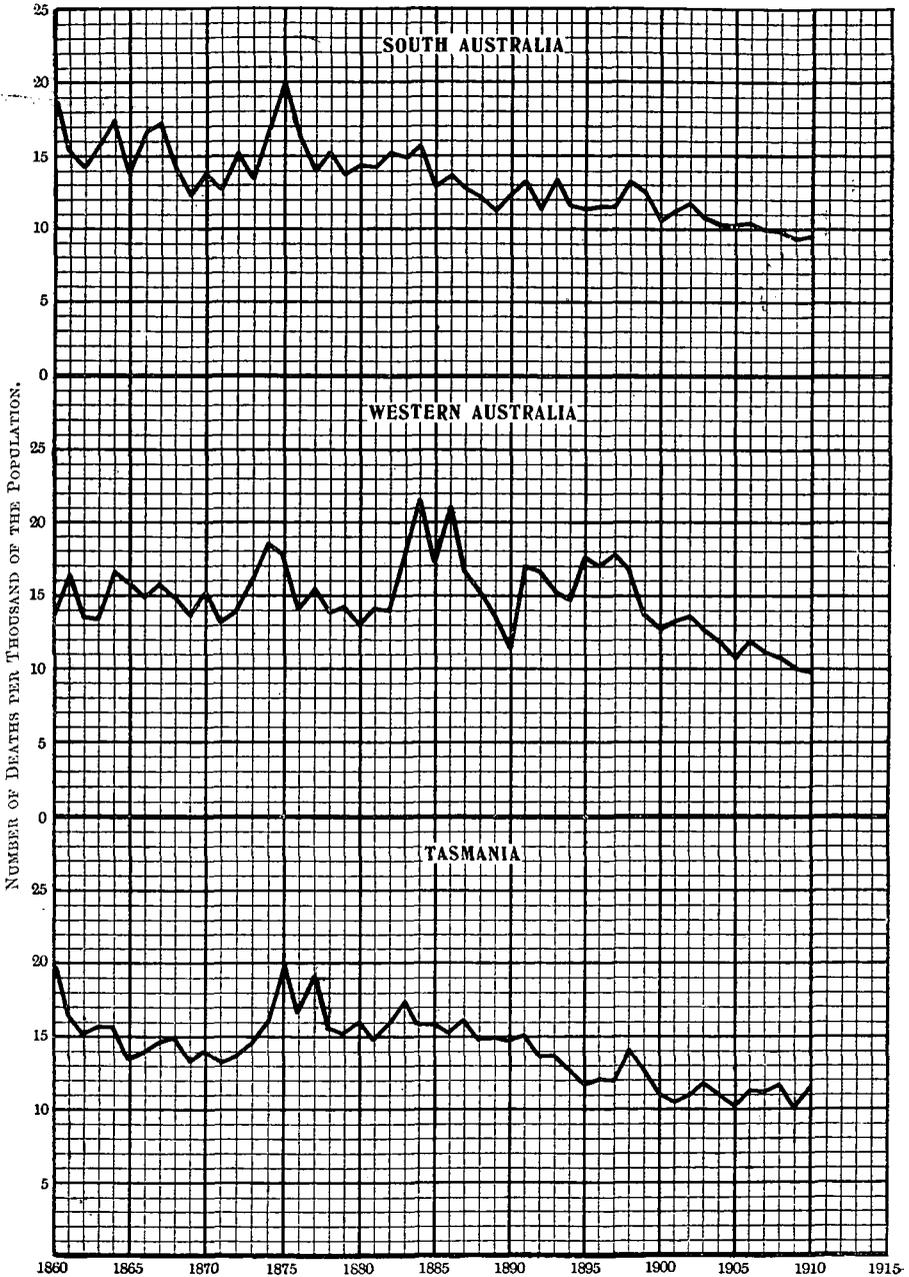
GRAPHS SHEWING DEATH RATES IN THE STATES OF NEW SOUTH WALES,
VICTORIA, AND QUEENSLAND, 1860-1910.



(See Table page 188.)

EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height one death per thousand of the population. The zero for each State is shewn by a thickened line.

GRAPHS SHEWING DEATH RATES IN THE STATES OF SOUTH AUSTRALIA,
WESTERN AUSTRALIA, AND TASMANIA, 1860-1910.



(See Table page 18.)

EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height one death per thousand of the population. The zero for each State is shown by a thickened line.