

SECTION V.

VITAL STATISTICS.

§ 1. Births.

1. **Male and Female Births, 1901 to 1908.**—The total number of male and female births registered in the Commonwealth during the years 1901 to 1908 is as shewn in the two tables hereunder :—

TOTAL MALE BIRTHS, COMMONWEALTH, 1901 to 1908.

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	15,986	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

1. Including Northern Territory.

TOTAL FEMALE BIRTHS, COMMONWEALTH, 1901 to 1908.

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	14,584	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	54,432

1. Including Northern Territory.

2. **Total Births, 1901 to 1908.**—While the total number of births for the Commonwealth was higher in 1908 than in any of the preceding seven years, the following table particulars discloses also the fact that in Victoria, Queensland and South Australia the excess of births in 1908 over those in 1901 was very small :—

TOTAL BIRTHS, COMMONWEALTH, 1901 to 1908.

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
1802 ...	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

1. Including Northern Territory.

3. **Birth Rates, 1901 to 1908.**—(i.) *Crude Birth Rate.* The birth rate for the whole Commonwealth was lower in 1908 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 1908.

Year.	N.S.W.	Vic.	Qld.	S.A. ³	W.A.	Tas.	Cwlth.
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
Density ² (No. per square mile)	5.13	14.46	0.82	0.45	0.27	7.09	1.44

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

2. On 31st December, 1908.

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. Legitimate 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 shews that the Australian States occupy a very low position, which is, however, fortunately counterbalanced by a still lower position in regard to their death rates, as will be seen from the table on page 198.

CRUDE BIRTH RATE¹ OF VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
Russia, European ...	1902	49.1	Denmark ...	1907	28.3
Bulgaria ...	1906	44.3	New Zealand ...	1908	27.5
Rumania ...	1907	41.7	Switzerland ...	1906	27.4
Servia ...	1906	41.3	Queensland ...	1908	27.0
Hungary ...	1907	36.0	Scotland ...	1907	27.0
Chile ...	1905	35.1	New South Wales ...	1908	26.7
Jamaica ...	1907	35.0	Commonwealth ...	1908	26.4
Austria ...	1906	34.8	England and Wales ...	1907	26.3
German Empire ...	1906	33.1	Norway ...	1907	26.3
Prussia ...	1907	33.0	United Kingdom ...	1907	26.0
Spain ...	1907	32.9	Belgium ...	1906	25.7
Ceylon ...	1907	32.8	Sweden ...	1907	25.5
Finland ...	1906	31.4	Victoria ...	1908	24.7
Italy ...	1907	31.4	South Australia ...	1908	24.6
Tasmania ...	1908	30.9	Canada (Ontario) ...	1906	23.3
Japan ...	1905	30.6	Ireland ...	1907	23.2
Netherlands ...	1907	30.0	France ...	1907	19.7
Western Australia ...	1908	29.3			

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 eight years in the several States of the Commonwealth has varied from 102.23 in South Australia in 1908 to 115.01 in Tasmania in 1905. The following table, which gives the values for the States and Commonwealth for 1901 to 1908, shews the remarkable fact that for the Commonwealth there was a steady increase of masculinity from 1901 to 1906, with a decrease to the 1902-03 level in 1907 and 1908.

MASCULINITY¹ OF BIRTHS REGISTERED IN AUSTRALIA, 1901 to 1908.

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

1. Number of males to each 100 females.

There is ordinarily a very small difference between the masculinity of legitimate and illegitimate 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 103.6, and from 107.9 to 101.6 for total and illegitimate births respectively.

MASCULINITY OF BIRTHS IN VARIOUS COUNTRIES.

Country.	Masculinity of Births. ¹		Country.	Masculinity of Births. ¹	
	All Live Births.	Illegitimate Live Births.		All Live Births.	Illegitimate 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 illegitimate births in Australia was as follows:—

MASCULINITY¹ OF ILLEGITIMATE BIRTHS REGISTERED IN AUSTRALIA, 1901 TO 1908.

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

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 illegitimate births, where in South Australia in 1904 the masculinity was only 83.50. On the other hand it rose as high as 124.82 in Tasmania in 1906. Little weight, however, can be attached to the two last figures on account of the small totals on which they are based.

6. **Illegitimacy.**—The total illegitimates fell from 1901 to 1903, then rose rapidly to 1908. See the table on page 181.

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

**TOTAL ILLEGITIMATE BIRTHS REGISTERED IN THE COMMONWEALTH,
1901 TO 1908.**

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

(i). *Rate of Illegitimacy, 1901 to 1908.* The rate of illegitimacy, *i.e.*, the percentage of illegitimate to total births, shews on the whole a slight increase, from 1901 to 1905, with a decrease during the last three years, as the subjoined table shews :—

**PERCENTAGE OF ILLEGITIMATE ON TOTAL BIRTHS, COMMONWEALTH.
1901 TO 1908.**

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	5.78	6.15
1908	6.80	5.77	7.54	4.47	4.35	5.24	6.16

A comparison of greater significance would be obtained by calculating the number of illegitimate 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 illegitimate 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 illegitimacy might appear to increase by the mere decrease in the general birth rate, the following table has been prepared :—

**CRUDE ILLEGITIMATE, LEGITIMATE AND TOTAL BIRTH RATES,¹ AUSTRALIA,
1901 to 1908.**

Births.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.
Illegitimate	1.62	1.56	1.52	1.62	1.63	1.65	1.63	1.62
Legitimate ...	25.52	25.10	23.71	24.71	24.50	24.76	24.92	24.73
Total ...	27.14	26.66	25.23	26.33	26.13	26.41	26.55	26.35

1. Number of births per 1000 of mean population.

(iii). *Illegitimacy—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 for the States, Commonwealth, and New Zealand are for 1908, while those for other countries are for 1906 or 1907, generally:—

PERCENTAGE OF ILLEGITIMATE ON TOTAL BIRTHS IN VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
		%			%.
Netherlands ...	1907	2.2	Scotland ...	1907	6.5
Ireland ...	1907	2.5	New South Wales ...	1908	6.8
England and Wales ...	1907	3.9	Norway ...	1906	6.8
New Zealand ...	1908	4.3	Queensland ...	1908	7.5
Switzerland...	1906	4.4	Germany ...	1907	8.7
Western Australia ...	1908	4.4	France ...	1906	8.9
South Australia ...	1908	4.5	Hungary ...	1907	9.6
Tasmania ...	1908	5.2	Rumania ...	1906	10.0
Italy ...	1907	5.5	Denmark ...	1907	10.1
Victoria ...	1908	5.8	Portugal ...	1905	11.4
Commonwealth ...	1908	6.2	Sweden ...	1905	12.3
Belgium ...	1906	6.4	Austria ...	1905	12.6

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 111,545 births registered in the Commonwealth in 1908 there were 109,426 single births, 2101 twins, and 18 triplets. The number of cases of twins was 1059, seventeen children being still-born, and the number of cases of triplets six. The total number of mothers was, therefore, 110,491, the proportion of mothers of twins being one in every 105, and of mothers of triplets one in every 18,415 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; and in 1908, 1065, or one in 104. 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 the figures shewn above for 1908.

8. Ages of Parents.—The relative ages of the parents of children registered in 1908 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. 14; Vital Statistics of the Commonwealth for the Year 1908." 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 while the largest number of single births occurred where the ages of both father and mother were between 25 and 29, the largest number of twin births took place in the age group where the father was between 30 and 34 and the mother was between 35 and 39. 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, AUSTRALIA, 1908.

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 ...	310	...	214	94	2	...	...	...	...	...
20 to 24 ...	9,831	...	1,827	6,698	1,127	151	24	2	...	2
25 to 29 ...	24,196	1	1,058	10,255	10,791	1,812	935	27	1	16
30 to 34 ...	23,928	...	305	4,281	10,045	7,901	1,276	107	2	9
35 to 39 ...	20,820	...	119	1,505	5,043	7,651	5,869	602	19	12
40 to 44 ...	13,743	...	33	499	1,701	3,618	5,356	2,468	59	9
45 to 49 ...	6,720	...	13	147	529	1,203	2,388	2,146	290	4
50 to 54 ...	2,132	...	5	44	148	320	618	793	200	4
55 to 59 ...	543	...	1	10	41	87	155	187	60	2
60 to 64 ...	175	...	...	4	15	35	51	61	8	1
65 & upwards ...	98	...	...	4	5	16	37	26	10	...
Not stated ...	63	...	2	9	5	6	3	...	1	37
Mothers of legitimate children...	102,657	1	3,577	23,550	29,552	22,800	16,012	6,419	650	96
Mothers of illegitimate children...	6,769	15	1,803	2,640	1,211	582	373	119	12	14
Total mothers	109,426	16	5,380	26,190	30,763	23,382	16,385	6,538	662	110

(b) AGES OF PARENTS OF TWINS, AUSTRALIA, 1908.

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.
Ages of Fathers.								
Under 20 ...	2	1	1	...	...	...	...	...
20 to 24 ...	63	11	38	8	6	...	...	...
25 to 29 ...	182	...	70	86	23	2	1	...
30 to 34 ...	222	...	28	75	91	23	2	...
35 to 39 ...	255	...	10	54	100	86	5	...
40 to 44 ...	171	1	3	15	42	83	27	...
45 to 49 ...	82	...	1	5	14	31	31	...
50 to 54 ...	27	...	...	1	4	11	10	1
55 to 59 ...	1	...	...	...	...	...	1	...
60 to 64 ...	1	...	...	...	...	...	1	...
65 and upwards ...	4	...	...	...	2	1	1	...
Not stated ...	1	...	...	...	...	1	...	...
Mothers of legitimate twins ...	1,011	13	151	247	282	238	79	1
Mothers of illegitimate twins ...	48	11	10	14	5	8	...	...
Total mothers	1,059	24	161	261	287	246	79	1

(c) AGES OF PARENTS OF TRIPLETS, AUSTRALIA, 1908.

Age.	Total Fathers.	Ages of Mothers.			
		20 to 24.	25 to 29.	30 to 34.	35 to 39.
Ages of Fathers.					
20 to 24 ...	1	1	...	...	...
25 to 29 ...	1	...	...	1	...
30 to 34 ...	...	...	...	...	...
35 to 39 ...	2	...	1	...	1
40 to 44 ...	1	...	...	...	1
Mothers of legitimate triplets ...	5	1	1	1	2
Mothers of illegitimate triplets ...	1	...	1	...	...
Total mothers	6	1	2	1	2

9. Birthplaces of Parents.—The relative birthplaces of the parents of children whose births were registered during the year 1908 will be found tabulated in the Bulletin before-mentioned. A summary of the results of the tabulation is here given:—

BIRTHPLACES OF PARENTS OF CHILDREN, AUSTRALIA, 1908.

Birthplaces.	Fathers.			Mothers of Legitimate Children.			Mothers of Illegitimate Children.		
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.
New South Wales ...	30,438	292	...	33,494	325	...	2,612	18	...
Victoria ...	28,620	293	2	29,632	308	3	1,793	9	...
Queensland ...	7,643	67	...	9,827	77	...	974	8	1
South Australia ...	10,860	108	2	11,449	124	2	521	6	...
Western Australia ...	1,186	15	...	1,631	19	...	109	...	...
Tasmania ...	4,983	34	...	5,174	37	...	354	1	...
Australia, so described	1	...	...	1	...	...	...	...	...
New Zealand ...	1,222	12	...	1,115	5	...	78	1	...
Austria-Hungary ...	75	1	...	18	...	...	...	...	...
Belgium ...	7	...	...	4	...	...	...	...	...
Bulgaria ...	2	...	...	...	...	...	...	...	...
Channel Islands ...	27	...	...	8	...	...	1	...	...
Denmark ...	234	1	...	91	2	...	4	...	...
England ...	9,078	104	1	5,407	67	...	170	1	...
Finland ...	32	...	...	8	...	...	...	...	...
France ...	61	...	...	25	...	...	1	...	...
Germany ...	1,090	11	...	567	4	...	13	...	...
Gibraltar ...	3	...	...	1	...	...	...	...	...
Greece ...	23	...	...	5	...	...	...	...	...
Iceland ...	2	...	...	...	...	...	...	...	...
Ireland ...	2,613	33	...	1,743	19	...	63	2	...
Isle of Man ...	23	1	...	17	...	...	...	...	...
Italy ...	248	2	...	132	1	...	1	1	...
Malta ...	4	...	...	2	...	...	...	...	...
Netherlands ...	15	...	...	4	...	...	...	...	...
Norway ...	122	3	...	29	...	...	...	...	...
Portugal ...	6	...	...	...	...	...	...	...	...
Rumania ...	6	...	...	3	...	...	...	...	...
Russia ...	99	1	...	53	1	...	...	...	...
Scotland ...	2,111	14	...	1,273	11	...	23	...	...
Spain ...	15	...	...	8	...	...	1	...	...
Sweden ...	228	7	...	21	1	...	1	...	...
Switzerland ...	45	1	...	14	...	...	...	...	...
Turkey ...	10	1	...	7	1	...	...	...	...
Wales ...	326	2	...	182	3	...	5	...	...
Canada ...	76	...	...	31	...	...	1	...	...
Newfoundland ...	1	...	...	...	...	...	...	...	...
Mexico ...	1	...	...	2	...	...	...	...	...
United States ...	216	1	...	105	1	...	5	...	...
Bermudas ...	2	...	...	1	...	...	...	...	...
British West Indies ...	16	...	...	3	...	...	...	...	...
British Honduras ...	1	...	...	...	...	...	...	...	...
Jamaica ...	...	1	...	...	...	...	...	...	...
Central America, so described	...	...	...	2	...	...	...	...	...
Argentine Republic ...	1	...	...	...	...	...	...	...	...
Brazil ...	3	...	...	1	...	...	...	...	...
S. America, so describ'd	11	...	...	7	...	...	...	1	...

BIRTHPLACES OF PARENTS OF CHILDREN—Continued.

Birthplace.	Fathers.			Mothers of Legitimate Children.			Mothers of Illegitimate Children.		
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.
Afghanistan ...	4	...	...	...	...	...	...	...	...
Arabia ...	1	...	...	...	...	...	...	...	...
Asia Minor ...	...	...	...	1	...	...	...	...	...
Ceylon ...	18	...	...	12	...	...	1	...	...
China ...	170	...	...	63	...	...	2	...	...
Cyprus ...	2	...	...	...	...	...	...	...	...
Dutch East Indies ...	5	...	...	4	...	...	...	...	...
India ...	162	3	...	75	...	...	4	...	...
Japan ...	12	...	...	6	...	...	2	...	...
Persia ...	1	...	...	...	...	...	...	...	...
Philippine Islands ...	8	...	...	2	...	...	...	...	...
Siam ...	1	...	...	...	...	...	...	...	...
Straits Settlements ...	9	...	...	2	...	...	...	...	...
Syria ...	115	...	...	100	...	...	1	...	...
Africa, so described ...	2	...	...	2	...	...	...	...	...
Algiers ...	1	...	...	1	...	...	...	...	...
Azores ...	...	...	...	1	...	...	...	...	...
Cape of Good Hope ...	2	...	...	17	...	...	...	...	...
Cape Verde Islands ...	3	...	...	...	...	...	...	...	...
Egypt ...	6	...	...	3	...	...	...	...	...
Madeira ...	1	...	...	...	...	...	...	...	...
Mauritius ...	18	1	...	8	...	...	...	...	...
Natal ...	1	...	...	3	...	...	...	...	...
Réunion ...	1	...	...	1	...	...	...	...	...
Seychelles Islands ...	1	...	...	...	...	...	...	...	...
S. Africa, so described ...	49	...	...	58	2	...	4	...	...
Fanning Island ...	...	...	...	1	...	...	...	...	...
Fiji ...	20	...	...	23	1	...	...	...	...
Friendly Islands ...	3	...	...	1	...	...	...	...	...
Hawaii ...	...	...	...	1	...	...	...	...	...
Loyalty Islands ...	1	...	...	1	...	...	...	...	...
New Caledonia ...	6	...	...	8	...	...	1	...	...
New Hebrides ...	3	...	...	1	...	...	1	...	...
Norfolk Island ...	...	...	...	1	...	...	...	...	...
Samoa ...	2	1	...	...	1	...	...	...	...
Solomon Islands ...	1	...	...	...	...	...	...	...	...
South Sea Islands, so described ...	24	...	...	2	...	...	2	...	...
Born at sea ...	147	1	...	97	1	...	6	...	...
Birthplace not stated ...	71	...	...	65	...	...	15	...	...
Total ...	102,657	1,011	5	102,657	1,011	5	6,769	48	1

10. Occupations of Fathers.—A summary of the occupations of the fathers of all legitimate children, whose births were registered in 1908, will be found in the following table. The figures include all the States of the Commonwealth:—

OCCUPATIONS OF FATHERS OF ALL LEGITIMATE CHILDREN, 1908.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
CLASS I.—PROFESSIONAL.			
General Government ...	575	Wool and Tallow ...	96
Local Government ...	117	Flowers and Seeds ...	246
Defence ...	110	Other Vegetable Matter ...	150
Law and Order ...	1,190	Wood and Coal ...	310
Religion ...	338	Glass and Earthenware ...	17
Charities ...	5	Gold, Silver, and Precious Stones ...	10
Health ...	714	Ironmongery ...	221
Literature ...	186	Merchants, etc. ...	277
Science ...	117	Shopkeepers and Assistants ...	1,041
Engineering, Architecture, and		Dealers and Hawkers ...	407
Surveying ...	386	Agents and Brokers ...	432
Education ...	716	Clerks, Bookkeepers, etc. ...	2,560
Fine Arts ...	129	Commercial Travellers, Salesmen ...	1,099
Music ...	122	Others engaged in Commercial	
Amusements ...	218	Pursuits ...	653
		Speculators on Chance Events ...	31
		Storage ...	8
Total Professional ...	4,923	Total Commercial ...	13,967
CLASS II.—DOMESTIC.			
Hotelkeepers and Assistants ...	898	CLASS IV.—TRANSPORT AND COMMUNICATION.	
Others engaged in providing board		Railway Traffic ...	3,001
and lodging ...	162	Tramway Traffic ...	776
House Servants ...	183	Road Traffic ...	3,713
Coachmen and Grooms ...	323	Sea and River Traffic ...	1,599
Hairdressers ...	561	Postal Service ...	419
Laundrymen ...	38	Telegraph and Telephone Service	359
Others engaged in domestic occupa-		Messengers, etc. ...	24
tions ...	151	Total Transport & Communication	9,891
Total Domestic ...	2,316	CLASS V.—INDUSTRIAL.	
CLASS III.—COMMERCIAL.			
Banking and Finance ...	423	Books and Publications ...	832
Insurance and Valuation ...	412	Musical Instruments ...	52
Land and Household Property ...	126	Prints and Pictures ...	57
Property Rights not otherwise clsd.	3	Ornaments and Small Wares ...	147
Books, Publications, Advertising	111	Equipment for Sports and Games	7
Musical Instruments ...	18	Designs, Medals, Type ...	35
Prints and Pictures ...	7	Watches and Clocks ...	122
Ornaments and Small Wares ...	7	Surgical Instruments ...	5
Equipment for Sports and Games	1	Arms and Ammunition ...	6
Watches, Clocks, Jewellery ...	11	Engines and Machinery ...	878
Machinery ...	45	Carriages and Vehicles ...	733
Carriages and Vehicles ...	57	Harness and Saddlery ...	490
Harness and Saddlery ...	11	Ships and Boats ...	126
Ships, Boats, Marine Stores	8	Furniture ...	374
Building Materials ...	3	Building Materials ...	473
Furniture ...	59	Chemicals ...	66
Chemicals ...	3	Textile Fabrics ...	98
Paper and Stationery ...	80	Dress ...	1,918
Textile Fabrics ...	831	Fibrous Materials ...	32
Dress ...	121	Animal Food ...	324
Fibrous Materials ...	15	Vegetable Food ...	1,465
Animal Food ...	1,949	Groceries, Drinks, Narcotics, and	
Vegetable Food ...	625	Stimulants ...	468
Groceries, Drinks, Narcotics, and		Animal Matter ...	424
Stimulants ...	1,184	Workers in wood not elsewhere clsd.	54
Living Animals ...	276	Fodder ...	12
Manures ...	4	Paper ...	23
Leather ...	19	Stone, Clay, Glass ...	573

OCCUPATIONS OF FATHERS OF ALL LEGITIMATE CHILDREN—Continued.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
Jewellery and Precious Stones ...	198	CLASS VI.—AGRICULTURAL, PASTORAL, MINING, ETC.	
Metals, other than Gold & Silver ...	2,950	Agricultural ...	17,473
Gas, Electric Lighting ...	333	Pastoral ...	3,542
Buildings—		Dairying ...	1,229
Builders ...	324	Fisheries, Capture and Destruction of Wild Animals, or acquisition of Products yielded thereby	381
Stonemasons ...	246	Forestry ...	516
Bricklayers ...	466	Water Conservation and Supply	91
Carpenters ...	2,415	Mines and Quarries ...	9,032
Slaters ...	22		
Plasterers ...	240	Total Primary Producers ...	32,264
Painters ...	1,013		
Plumbers ...	638	CLASS VII.—INDEFINITE.	140
Others ...	90	Independent Means ...	4
Roads, Railways, Earthworks ...	202	University Student ...	1
Disposal of the Dead ...	46	Dependent on State ...	54
Disposal of Refuse ...	127	Occupation not stated ...	199
Other Industrial Workers—		Total Indefinite ...	
Manufacturers ...	221		
Engineers, Firemen ...	2,511	Total all Occupations ...	103,673
Contractors ...	1,058		
Labourers ...	17,046		
Others ...	173		
Total Industrial ...	40,113		

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 legitimate confinements in 1908 was 98,393, viz., 97,418 single births, 970 cases of twins, and 5 cases of triplets, exclusive of Tasmania, for which State particulars are not available. From this number 191 mothers in other States must be deducted in whose case the necessary particulars either as to date of marriage or as to previous issue were not stated. The tables refer, therefore, to a total of 98,202 mothers. They exclude children by former marriages and still-born children, but include illegitimate 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. 14; Vital Statistics of the Commonwealth for the Year 1908."

**DURATION OF MARRIAGE AND ISSUE OF MOTHERS OF ALL AGES,
COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1908.**

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 ...	15,740	15,923	1.01	18-19 ...	1,551	11,886	7.66
1-2 ...	7,005	7,836	1.11	19-20 ...	1,159	9,251	7.98
2-3 ...	7,490	13,416	1.79	20-21 ...	1,082	9,162	8.46
3-4 ...	8,281	17,438	2.11	21-22 ...	830	7,371	8.88
4-5 ...	7,020	17,552	2.50	22-23 ...	673	6,405	9.51
5-6 ...	6,127	17,590	2.87	23-24 ...	497	4,676	9.40
6-7 ...	5,753	18,710	3.25	24-25 ...	351	3,486	10.95
7-8 ...	5,306	19,202	3.61	25-26 ...	264	2,802	10.61
8-9 ...	4,891	19,511	3.98	26-27 ...	193	2,095	10.85
9-10 ...	4,026	17,862	4.43	27-28 ...	89	1,004	11.28
10-11 ...	3,646	17,404	4.77	28-29 ...	42	477	11.35
11-12 ...	3,230	16,514	5.11	29-30 ...	31	348	11.29
12-13 ...	2,921	15,809	5.41	30-31 ...	8	94	11.75
13-14 ...	2,343	13,725	5.85	31-32 ...	14	174	12.43
14-15 ...	2,114	13,164	6.22	32-33 ...	1	14	14.00
15-16 ...	1,949	12,545	6.43	33-34 ...	2	31	15.50
16-17 ...	1,833	12,595	6.87				
17-18 ...	1,740	12,543	7.20	Total	98,202	338,615	3.44

**AGES AND ISSUE OF MOTHERS,
COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1908.**

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	3,380	4,047	1.19	40-44 years ...	6,169	44,863	7.27
20-24 years ...	22,392	39,187	1.75	45 yrs. and over	611	5,420	8.87
25-29 " ...	28,194	75,337	2.67				
30-34 " ...	21,951	85,495	3.89				
35-39 " ...	15,505	84,266	5.43	All ages ...	98,202	338,615	3.44

**PREVIOUS ISSUE OF MOTHERS OF VARIOUS AGES,
COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1908.**

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	2,784	11,336	7,538	2,800	1,014	219	17	25,708
1	541	6,856	7,127	3,593	1,322	246	17	19,702
2	52	3,079	6,052	3,947	1,688	324	11	15,153
3	3	893	4,087	3,796	2,131	471	27	11,408
4	...	185	2,110	3,095	2,114	572	31	8,107
5	...	35	879	2,204	2,021	664	47	5,850
6	...	7	277	1,346	1,725	715	43	4,113
7	...	...	87	702	1,382	738	65	2,974
8	...	...	26	297	983	668	72	2,046
9	...	1	9	104	626	604	74	1,418
10	...	...	1	44	278	434	78	835
11	...	...	1	15	124	262	47	449
12	...	...	...	5	64	128	29	226
13	...	...	...	2	21	67	30	120
14	...	...	...	1	7	33	14	55
15	...	...	...	...	3	15	4	22
16	...	...	...	...	2	7	2	11
17	...	...	...	...	...	1	3	4
25	...	...	...	...	...	1	...	1
Total Mothers	3,380	22,392	28,194	21,951	15,505	6,169	611	98,202

The tables shew a fairly regular increase in the number of children up to the period where the marriage has lasted twenty-three 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 twenty-sixth child in the twenty-third year of her marriage. The average number of children of all marriages was 3.44.

A similar table has been prepared shewing the previous issue of mothers of twins and triplets, from which it appears that 211 mothers had twins at their first confinement; 152 at their second; 138 at their third; 143 at their fourth; 102 at their fifth; 67 at their sixth; 58 at their seventh; 42 at their eighth; 23 at their ninth; 17 at their tenth; 10 at their eleventh; 3 at their twelfth; 1 at her thirteenth; and 3 at their fourteenth.

Of the five cases of triplets 2 occurred at the first confinement; 1 at the second; 1 at the sixth; and 1 at the eighth.

12. **Interval between Marriage and First Birth.**—The following table shews the interval between marriage and first birth, the figures being again exclusive of those for Tasmania. Twins and triplets are included, the elder born only being enumerated.

**INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH,
COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1908.**

Interval.	Number of First Children.	Interval.	Number of First Children.	Interval.	Number of First Children.
Under 1 month	427	1 year	6,298	13 years	5
1 month	454	2 years	1,911	14 "	2
2 months	652	3 "	724	15 "	9
3 "	812	4 "	390	16 "	5
4 "	1,065	5 "	234	17 "	6
5 "	1,275	6 "	142	18 "	2
6 "	1,493	7 "	99	21 "	2
7 "	1,353	8 "	71	22 "	1
8 "	1,160	9 "	44	23 "	2
9 "	2,859	10 "	28		
10 "	2,288	11 "	19	Total	25,708
11 "	1,860	12 "	16		

Of these 25,708 children 13,098 were males and 12,610 were females; the masculinity of first births was therefore only 103.87 as compared with 104.93 for total births.

The previous issue of mothers of illegitimate children is not recorded, but for the purposes of the following table all illegitimate 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 illegitimate births. A comparison of the column shewing the total of legitimate births within less than nine months of marriage and of illegitimate births with the next column, shewing the legitimate births which occurred not less than nine months after marriage, reveals the fact that for all ages the proportion of the two was as 15 to 17, while at ages up to and including 21 there was a great preponderance of legitimate births following on antenuptial conception and of illegitimate 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. The figures, which are exclusive of those for Tasmania, look therefore their worst:—

**AGES OF MOTHERS AND INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH, etc.,
COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1908.**

Age of Mother at Birth of Child.	Illegitimate Births.	Legitimate Births less than nine months after Marriage.	Total of two preceding columns.	Legitimate Births nine months after Marriage and later.	Total Legitimate First Births.	Legitimate First Births and Illegitimate Births.
Years.						
13	2	...	2	...	...	2
14	13	2	15	...	2	15
15	70	12	82	5	17	87
16	162	86	248	15	101	263
17	358	270	628	86	356	714
18	505	625	1,130	256	881	1,386
19	612	910	1,522	517	1,427	2,039
20	611	996	1,607	856	1,852	2,463
21	604	1,164	1,768	1,146	2,310	2,914
22	489	975	1,464	1,511	2,486	2,975
23	458	833	1,291	1,610	2,443	2,901

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

Age of Mother at Birth of Child.	Illegitimate Births,	Legitimate Births less than nine months after Marriage,	Total of two preceding columns,	Legitimate Births nine months after Marriage and later.	Total Legitimate First Births.	Legitimate First Births and Illegitimate Births,
Years,						
24 ...	365	620	985	1,625	2,245	2,610
25 ...	327	511	838	1,455	1,966	2,293
26 ...	236	358	594	1,323	1,681	1,917
27 ...	224	308	532	1,246	1,554	1,778
28 ...	208	258	466	1,057	1,315	1,523
29 ...	170	155	325	867	1,022	1,192
30 ...	171	138	299	675	813	984
31 ...	92	104	196	522	626	718
32 ...	122	82	204	459	541	663
33 ...	87	55	142	386	441	528
34 ...	88	55	143	324	379	467
35 ...	94	41	135	233	274	368
36 ...	91	31	122	212	243	334
37 ...	68	32	100	166	198	266
38 ...	50	23	83	147	170	220
39 ...	59	21	80	108	129	188
40 ...	46	8	54	84	92	138
41 ...	25	8	33	40	48	73
42 ...	18	8	26	42	50	68
43 ...	17	...	17	18	18	35
44 ...	11	...	11	11	11	22
45 ...	2	2	4	8	10	12
46 ...	3	...	3	4	4	7
47 ...	2	...	2	1	1	3
48 ...	4	...	4	1	1	5
50 ...	...	...	...	1	1	1
Not stated	12	...	12	...	...	12
Total ...	6,476	8,691	15,167	17,017	25,708	32,184

§ 2. Marriages.

1. **Marriages, 1901 to 1908.**—The number of marriages registered in the Commonwealth in 1908 was 32,551, 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. The number of marriages in each State since 1901 is shewn below:—

TOTAL MARRIAGES, COMMONWEALTH, 1901 to 1908.

Year.	N.S.W.	Victoria.	Q'ld.	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

2. **Marriage Rates, 1901 to 1908.**—The number of marriages registered per thousand of mean population is shewn in the following table for the same period :—

CRUDE MARRIAGE RATE,¹ 1901 to 1908.

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

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.
Rumania ...	1907	10.7	Switzerland ...	1906	7.8
Servia ...	1906	10.2	Commonwealth ...	1908	7.7
Hungary ...	1907	9.8	Denmark ...	1907	7.7
Bulgaria ...	1906	9.6	Italy ...	1907	7.7
Canada (Ontario) ...	1906	9.0	Netherlands ...	1907	7.5
New Zealand ...	1908	8.8	Scotland ...	1907	7.0
Russia ...	1902	8.6	Spain ...	1907	7.0
Belgium ...	1906	8.2	Finland ...	1906	6.8
German Empire ...	1906	8.2	Sweden ...	1907	6.2
France ...	1907	8.0	Norway ...	1907	6.1
Austria ...	1906	7.9	Ireland ...	1907	5.2
England and Wales ...	1907	7.9			

4. **Age at Marriage.**—(a) The age at marriage of bridegrooms and brides will be found in the following table, the previous conjugal condition of the contracting parties being distinguished. It will be seen that no less than 1108 males were married during 1908 who were less than twenty-one years of age. The corresponding number of females was 6700, of whom five were widows. At the other end of the scale there were twenty-three men of sixty-five years and upwards, who described themselves as bachelors, and six spinsters of corresponding ages.

AGES AND CONJUGAL CONDITION OF PERSONS MARRIED, 1908.

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors	Widowers	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
14 years	...	...	...	...	5	...	...	5
15 "	...	...	...	...	44	...	...	44
16 "	5	...	...	5	263	...	...	263
17 "	29	...	...	29	745	...	...	745
18 "	116	...	...	116	1,484	...	...	1,484
19 "	355	...	...	355	1,956	...	...	1,956
20 "	601	2	...	603	2,198	5	...	2,203
21 "	1,944	...	...	1,944	3,675	7	...	3,682
22 "	2,113	3	...	2,116	2,909	14	2	2,925
23 "	2,452	5	...	2,457	2,834	17	3	2,854
24 "	2,554	9	2	2,565	2,664	26	2	2,692
25 "	2,497	7	1	2,505	2,119	30	4	2,153
26 "	2,408	23	2	2,433	1,789	34	6	1,829
27 "	2,232	30	3	2,265	1,491	54	3	1,548
28 "	2,168	25	5	2,198	1,244	50	17	1,311
29 "	1,702	39	5	1,746	1,005	55	4	1,064
30 "	1,396	49	2	1,447	819	67	12	898
31 "	1,048	46	4	1,098	551	29	7	587
32 "	1,024	44	6	1,074	542	65	9	616
33 "	798	49	5	852	387	56	15	458
34 "	687	59	7	753	336	63	16	415
35 "	625	57	9	691	310	68	6	384
36 "	540	79	6	625	237	76	8	321
37 "	459	66	6	531	198	72	8	278
38 "	449	76	8	533	167	87	7	261
39 "	324	73	8	405	141	59	8	208
40 "	317	74	4	395	103	81	3	187
41 "	194	66	5	265	70	44	5	119
42 "	207	74	4	285	79	50	7	136
43 "	167	74	7	248	42	51	4	97
44 "	144	78	5	227	45	55	3	103
45 "	153	82	6	241	52	52	5	109
46 "	102	77	5	184	28	41	1	70
47 "	69	66	5	140	19	45	3	67
48 "	84	84	4	172	25	40	...	65
49 "	64	69	2	135	22	31	2	55
50 "	45	55	9	109	12	36	...	48
51 "	15	54	2	71	14	19	3	36
52 "	21	55	3	79	10	19	1	30
53 "	27	33	4	64	8	16	1	25
54 "	22	37	4	63	5	26	...	31
55 "	19	29	...	48	5	14	...	19
56 "	10	35	1	46	3	14	...	17
57 "	11	33	1	45	2	19	...	21
58 "	13	25	1	39	3	16	...	19
59 "	4	25	...	29	4	12	...	16
60 "	6	28	...	34	3	9	...	12
61 "	4	17	...	21	...	2	...	2
62 "	4	25	...	29	3	10	...	13
63 "	7	20	1	28	2	2	...	4
64 "	3	21	...	24	...	7	1	8
65 "	4	22	...	26	1	5	...	6
66 "	1	14	...	15	...	6	...	6
67 "	1	20	...	21	4	2	...	6
68 "	...	20	1	21	...	7	...	7
69 "	2	12	...	14	1	4	...	5
70 "	2	18	...	15	...	5	...	5

AGES AND CONJUGAL CONDITIONS OF PERSONS MARRIED, 1908—Continued.

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors.	Widowers.	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
71 years ...	...	5	...	5	...	1	...	1
72 " ...	3	8	...	11	...	...	...	...
73 " ...	1	9	...	10	...	4	...	4
74 " ...	1	8	...	9	...	...	...	...
75 " ...	2	1	...	3	...	...	...	...
76 " ...	4	3	...	7	...	...	...	...
77 " ...	1	6	...	7	...	1	...	1
78 " ...	...	2	...	2	...	1	...	1
79 " ...	1	3	...	4	...	...	...	...
80 " ...	...	2	1	3	...	...	...	...
81 " ...	...	2	...	2	...	...	...	...
82 " ...	...	2	...	2	...	...	...	...
85 " ...	...	1	...	1	...	...	...	...
Not stated ...	4	2	...	6	13	3	...	16
Total ...	30,265	2,132	154	32,551	30,691	1,684	176	32,551

(b) The relative ages of bridegrooms and brides are shewn for single years in "Bulletin of Population and Vital Statistics, No. 14"; a condensation is here given into age-groups of five years:—

RELATIVE AGES OF PERSONS MARRIED, 1908.

Ages.	Total Bride- grooms.	Ages of Brides.								Not Stated.
		Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and Upwds.	
Ages of Bridegrooms.										
Under 20 ...	505	...	348	143	11	3	...	...	...	...
20 to 24 ...	9,685	1	2,447	5,925	1,131	139	34	5	2	1
25 to 29 ...	11,147	...	1,193	5,552	3,560	697	105	32	6	2
30 to 34 ...	5,224	...	332	1,787	1,871	892	266	49	24	3
35 to 39 ...	2,785	...	112	646	823	628	428	106	41	1
40 to 44 ...	1,420	...	37	196	298	329	302	180	76	2
45 to 49 ...	573	...	18	74	136	177	198	139	128	2
50 to 54 ...	366	...	3	18	38	62	63	73	129	...
55 to 59 ...	207	...	3	6	13	23	30	27	105	...
60 to 64 ...	136	...	2	3	8	14	13	14	82	...
65 and upwards	178	...	1	6	14	10	13	17	116	1
Not stated ...	6	...	...	...	2	...	...	...	...	4
Total Brides ...	32,551	1	4,496	14,356	7,905	2,974	1,452	642	709	16

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 1908, was shewn. In the following table the relative conjugal conditions of the contracting parties are given:—

RELATIVE CONJUGAL CONDITIONS OF PERSONS MARRIED, 1908.

Conjugal Condition.		Total Bridegrooms.	Brides.		
			Spinsters.	Widows.	Divorced.
Bridegrooms	Bachelors ...	30,265	29,076	1,056	133
	Widowers ...	2,132	1,505	597	30
	Divorced ...	154	110	31	13
Total Brides ...		32,551	30,691	1,684	176

6. **Birthplaces of Persons Married.**—Information as to the birthplaces of persons who were married in 1908 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. 14 of Population and Vital Statistics" the relative birthplaces of bridegrooms and brides will be found tabulated:—

BIRTHPLACES OF PERSONS MARRIED, 1908.

Birthplaces.	Bridegrooms.	Brides.	Birthplaces.	Bridegrooms.	Brides.
New South Wales ...	9,982	11,077	Argentina ...	1	...
Victoria ...	8,296	8,732	Brazil ...	...	1
Queensland ...	2,638	3,324	Chili ...	1	...
South Australia ...	3,279	3,416	South America (so described) ...	5	1
Western Australia ...	26	15			
Tasmania ...	1,383	1,523	Arabia ...	2	...
New Zealand ...	403	257	Ceylon ...	5	3
			China ...	46	2
Austria-Hungary ...	16	4	Cyprus ...	1	...
Belgium ...	4	2	Dutch East Indies ...	2	...
Bulgaria ...	1	...	India ...	51	15
Channel Islands ...	7	2	Japan ...	11	7
Denmark ...	59	13	Malay States ...	5	...
England ...	2,399	1,212	Philippine Islands ...	1	...
Finland ...	12	1	Straits Settlements ...	2	1
France ...	22	8	Syria ...	13	9
Germany ...	265	83			
Gibraltar ...	...	1	Africa (so described) ...	1	...
Greece ...	5	...	Cape of Good Hope ...	1	...
Ireland ...	512	366	Egypt ...	...	1
Isle of Man ...	7	2	Madagascar... ..	1	...
Italy ...	42	18	Madeira ...	1	...
Malta ...	2	1	Mauritius ...	8	2
Monaco ...	1	...	South Africa (so described) ...	30	15
Netherlands ...	5	2			
Norway ...	27	4	Chatham Island ...	1	...
Portugal ...	2	...	Fiji ...	8	3
Rumania ...	2	...	Loyalty Islands ...	1	...
Russia ...	19	10	New Caledonia ...	5	5
Scotland ...	590	275	New Hebrides ...	6	2
Spain ...	3	...	Samoa ...	...	1
Sweden ...	49	9	Solomon Islands ...	1	...
Switzerland ...	16	3	S. Sea Is. (so describ'd)	18	6
Turkey ...	4	...			
Wales ...	73	33	Born at sea ...	45	29
Canada ...	22	11			
Mexico ...	1	...	Birthplace not stated	9	14
United States... ..	77	16			
British West Indies ...	6	2	Total ...	30,539	30,539

7. **Occupations and Ages of Bridegrooms.**—The question has been asked whether persons in some walks of life marry earlier than in others, and a tabulation has therefore been made of the occupations and ages of all males who were married in the Commonwealth in the years 1907 and 1908. In "Bulletin No. 14" the 1908 tabulation is shewn for orders of occupations, while 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 28.46 in the Manufacturing class to 32.63 years in the Pastoral class. The averages, calculated on the basis of the 1907 figures, have been added for the purposes of comparison. The figures for two 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, 1908.

Ages at Marriage.	Professional	Domestic.	Mercantile.	Transport and Communication.	Industrial.			Primary Producers.				Indefinite.
					Manufacturing.	Building and Construction.	Indefinite Industrial Workers.	Agricultural.	Pastoral.	Mines and Quarries.	Other Primary Producers.	
16 years ...	1	...	...	...	1	...	2	...	...	1	...	...
17 " ...	1	...	...	7	8	...	6	...	1	3	...	...
18 " ...	3	2	14	5	23	1	33	16	1	10	...	1
19 " ...	6	8	37	46	71	17	101	27	6	29	6	1
20 " ...	10	10	72	55	98	51	166	60	9	59	11	2
21 " ...	56	49	279	196	354	139	476	158	20	176	32	9
22 " ...	73	50	292	213	336	154	539	200	33	195	25	6
23 " ...	100	64	397	218	392	141	560	268	44	232	37	4
24 " ...	117	67	412	255	403	160	542	315	65	184	39	6
25 " ...	160	61	434	213	373	118	531	341	56	186	28	4
26 " ...	165	42	425	191	375	132	509	331	60	163	33	7
27 " ...	152	45	381	201	297	111	489	337	63	141	44	4
28 " ...	146	63	395	194	279	104	443	329	71	146	23	5
29 " ...	121	41	316	151	195	66	363	299	64	105	20	5
30 " ...	106	38	239	125	156	61	271	258	69	94	28	2
31 " ...	80	29	200	89	115	44	213	200	44	70	12	2
32 " ...	93	24	187	79	116	49	191	193	57	71	9	5
33 " ...	73	18	139	63	96	29	132	169	46	70	16	1
34 " ...	62	16	136	63	78	22	132	134	47	49	12	2
35 to 39 years ...	203	72	448	193	279	139	519	535	152	188	42	15
40 " 44 " ...	87	40	217	120	138	82	261	263	79	102	17	14
45 " 49 " ...	66	38	127	69	95	39	168	144	50	54	12	10
50 years and upwards ...	60	33	147	48	108	51	151	142	45	59	10	53
Not stated ...	...	1	2	...	1	...	...	2	...	...	...	...
Total ...	1,941	811	5,297	2,794	4,387	1,716	6,798	4,722	1,082	2,387	458	158
Average age—years (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	38.26

8. **Fertility of Marriages.**—The quotient obtained by division of the legitimate births registered, say during the five years 1904 to 1908, by the number of marriages registered during the five years 1899 to 1903, 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 3.75, 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 97.39 per cent. in 1908. The figures for the individual States were in 1908: New South Wales, 98.32 per cent.; Victoria, 98.84 per cent.; Queensland, 95.29 per cent.; South Australia, 95.93 per cent.; Western Australia, 90.66 per cent.; and Tasmania, 99.09 per cent. The registered ministers in 1908 belonged to forty-seven 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 denomina-

tions 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 1908 are shewn in the following table:—

MARRIAGES IN EACH DENOMINATION, 1908.

Denomination.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
Church of England ...	4,952	2,069	1,016	701	760	510	10,008
Roman Catholic Church ...	2,240	1,366	791	288	325	191	5,201
Presbyterian Church of Australia	1,658	1,516	554	198	177	164	4,267
Free Presbyterian Church ...	...	1	...	4	...	...	5
Independent Presbyterian Church	...	623	...	...	...	...	623
Welsh Presbyterian Church ...	...	6	...	...	...	...	6
Methodist Church ...	1,557	1,408	707	1,002	374	266	5,314
Independent Methodist Church...	...	...	2	...	...	...	2
Lay Methodist Church ...	20	...	...	...	...	...	20
Primitive Methodist Church ...	...	...	4	...	...	...	4
United Methodist Church ...	...	...	2	...	...	...	2
Congregational Church ...	1,457	1,387	125	159	73	153	3,354
Baptist Church ...	211	272	194	212	56	107	1,052
German Baptist Church ...	...	...	6	...	...	...	6
Particular Baptist Church ...	1	...	...	...	...	...	1
Church of Christ ...	156	135	10	139	17	4	461
Christian Brethren ...	1	...	...	20	...	...	21
Lutheran Church ...	30	65	140	195	12	...	442
Evangelical Lutheran Church ...	1	...	1	...	...	...	2
German Lutheran Church ...	2	...	...	...	...	...	2
Scandinavian Lutheran Church...	...	1	...	...	...	...	1
Greek Orthodox Church ...	3	...	...	...	...	...	3
Australian Church ...	...	13	...	...	...	...	13
Unitarian Church ...	10	...	...	1	...	...	11
Moravian Church ...	...	1	2	...	...	...	3
New Jerusalem Church ...	...	...	3	...	...	...	3
Apostolic Church ...	...	...	11	...	...	...	11
Catholic Apostolic Church ...	...	6	...	...	...	...	6
Society of Friends ...	...	1	...	...	...	...	1
Christadelphians ...	4	...	...	...	...	...	4
Welsh Protestant Church ...	...	1	...	...	...	...	1
Plymouth Brethren ...	2	...	...	...	...	...	2
Salvation Army ...	48	38	35	26	14	7	168
Seventh-Day Adventists ...	5	8	1	4	5	...	23
Latter-Day Saints ...	12	4	...	1	...	...	17
Free Church ...	5	...	...	...	...	...	5
Free Christian Church...	...	182	...	...	...	...	182
United Christian Church ...	...	1	...	...	...	...	1
Memorial Church ...	...	...	...	...	...	5	5
Christian Assembly ...	...	...	8	...	...	...	8
Evangelist ...	...	...	...	...	...	1	1
City Mission ...	...	...	...	39	...	...	39
Ballarat Town Mission ...	...	89	...	...	...	...	89
Joyful News Mission ...	...	...	194	...	...	...	194
Helping Hand Mission ...	...	...	...	...	...	3	3
Aboriginal Mission ...	12	...	...	...	...	...	12
Jewish ...	30	34	2	6	11	...	83
Registrar's Office ...	224	108	189	127	188	13	849
Not stated ...	...	...	12	...	...	8	20
Total ...	12,641	9,335	4,009	3,122	2,012	1,432	32,551

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 1908.* 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 eight years having been as follows :—

PERCENTAGE OF MARK SIGNATURES AT MARRIAGE, AUSTRALIA, 1901 to 1908.

Year.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.
Male ...	1.35	1.21	1.17	0.95	0.91	0.92	0.81	0.71
Female ...	1.29	1.11	1.02	0.91	0.93	0.86	0.70	0.73

(ii.) *Mark Signatures in Commonwealth States, 1901 to 1908.* The following table shews that while the Tasmanian percentage has been the highest, and the Victorian the lowest, in each of the eight years under review, there has been a marked decrease in every State :—

PERCENTAGE OF MARK SIGNATURES AT MARRIAGE IN AUSTRALIA, 1901 to 1908.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
1901 ...	1.34	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

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 1908.*—The total number of deaths registered in the Commonwealth from 1901 to 1908 inclusive, gives an annual average of 26,308 males and 19,303 females, the details being as follows :—

MALE DEATHS, AUSTRALIA, 1901 to 1908.

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
Rate, 1908 ...	11.01	14.04	11.69	9.96	11.69	11.90	11.94

FEMALE DEATHS, AUSTRALIA, 1901 to 1908.

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
Rate, 1908 ...	9.18	11.03	8.72	9.71	9.71	11.51	9.88

2. **Male and Female Death Rates, 1908.**—The crude male and female death rates for 1908 only are given, viz., in the last line of the preceding tables: both are high 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 208) 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 :—

DEATH RATES OF VARIOUS COUNTRIES.

Country.	Year.	Crude Death Rate.	Country.	Year.	Crude Death Rate.
New Zealand ...	1908	9.6	German Empire ...	1906	18.2
Commonwealth ...	1908	11.0	France ...	1907	20.2
Denmark ...	1907	14.2	Italy ...	1907	20.8
Norway ...	1907	14.2	Japan ...	1905	22.0
Netherlands ...	1907	14.6	Austria ...	1906	22.5
Sweden ...	1907	14.6	Bulgaria ...	1906	22.5
Canada (Ontario) ...	1906	14.8	Servia ...	1906	24.0
England and Wales ...	1907	15.0	Spain ...	1907	24.0
United Kingdom ...	1907	15.4	Hungary ...	1907	25.2
Scotland ...	1907	16.2	Rumania ...	1907	26.7
Belgium ...	1906	16.4	Jamaica ...	1907	26.3
Switzerland ...	1906	17.0	Ceylon ...	1907	30.1
Finland ...	1906	17.5	Russia, European ...	1902	31.5
Ireland ...	1907	17.7	Chile ...	1905	32.3

4. **Total Deaths, 1901 to 1908.**—The total number of deaths in each of the Commonwealth States during the eight years 1901 to 1908, is shewn below :—

TOTAL DEATHS, AUSTRALIA, 1901 to 1908.

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 ...	15,860	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

5. **Crude Death Rates, 1901 to 1908.**—The death rate for 1908 was the lowest experienced during the eight years under review in the State of South Australia. In New South Wales, Victoria, Queensland, and Western Australia there were lower rates in some of the intermediate years, though a satisfactory decrease on the 1901 rate is shewn. In Tasmania, however, the rate for 1908 was higher than that for 1901, and was only surpassed in 1903. The Commonwealth rate for 1905 and 1906 was a little lower than that for 1907 and 1908, but the difference is trifling.

CRUDE DEATH RATES, AUSTRALIA, 1901 to 1908.

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

6. **Male and Female Death Rates, 1901 to 1908.**—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:—

MALE AND FEMALE DEATH RATES, AUSTRALIA, 1901 to 1908.

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

7. **Infantile Death Rate.**—(i.) *Deaths and Death Rates of Male and Female Infants, 1901 to 1908.* 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 1908 it had fallen to 77.78 per thousand, a rate lower than that experienced in any previous year. In the following table, which shews 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 431,900 male infants born from 1901 to 1908, 42,376 died during their first year of life, while of 411,100 female infants the number who died was only 33,962 :—

**NUMBER OF INFANTILE DEATHS AND RATE OF INFANTILE MORTALITY, AUSTRALIA,
1901 TO 1908.**

Year.	Registered Deaths under one year.			Rate of Infantile Mortality. ¹		
	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

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

(ii.) *Infantile Mortality, 1901 to 1908.* Divided among the six States, the rate of infantile mortality during the last eight years was as follows :—

RATE OF INFANTILE MORTALITY, AUSTRALIA, 1901 to 1908.

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

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.

(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 ...	1908	68	27.5	Japan ...	1905	151	30.6
Norway ...	1906	69	26.7	Belgium ...	1906	153	25.7
Commonwealth ...	1908	78	26.4	Italy ...	1906	161	31.9
Sweden ...	1905	88	25.7	Canada (Ontario)...	1906	162	23.3
Ireland ...	1907	92	23.2	Spain ...	1906	173	33.4
Denmark ...	1906	109	28.3	German Empire ...	1906	185	33.1
Netherlands ...	1907	112	30.0	Ceylon ...	1907	186	32.8
Scotland ...	1906	115	27.9	Rumania ...	1899	198	42.0
England and Wales	1907	118	26.3	Hungary ...	1907	208	36.0
Finland ...	1906	119	31.4	Austria ...	1904	219	35.5
Switzerland ...	1906	127	27.4	Jamaica ...	1907	223	35.0
Bulgaria ...	1904	142	42.7	Russia, European	1902	260	49.1
France ...	1906	143	20.6	Chile ...	1903	263	34.0
Servia ...	1906	144	41.3				

(iv.) *The Effect of Infantile Mortality on Birth Rate.* It has been contended by certain investigators that the birth-rate question is intimately related to that of infantile mortality, and that in many cases a declining birth rate may be to a large extent accounted for by a decline in the infantile death rate, since, in the case in which an infant has survived, the period elapsing before the birth of the next child is likely to be longer than in the case in which the infant has died. It may indeed be readily admitted that in any community the birth rate may be affected in a definite way by variations of infantile mortality, but careful investigation of the question serves to shew that, whether considered from the theoretical aspect with a view to determining the *maximum* and the *probable* effects which a given change in the rate of infantile mortality would produce in the birth rate, or from the practical point of view by observing the fluctuations in the birth rates of various countries which have been collateral with changes in their rates of infantile mortality, there is little ground for the contention that the rate of infantile mortality is an important factor in determining the variations in the birth rate. One calculation which has been made on the basis of normal Australian conditions indicates that the *maximum* effect of increasing the rate of infantile mortality 100 per cent. would, in the absence of other disturbing causes, be to increase the birth rate by only $3\frac{1}{2}$ 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 1908.*—A distribution of the 364,851 deaths which occurred in the Commonwealth from 1901 to 1908 into age-groups has been made, 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, AUSTRALIA, 1901 to 1908.

Ages.	Males.	Females.	Total.	Percentage of Total Males.	Percentage of Total Females.	Percentage of Total.
Under 1 year ...	42,379	33,959	76,338	20.14	21.99	20.92
1 year and under 5 ...	12,496	11,484	23,980	5.94	7.44	6.57
5 years and under 20 ...	12,478	11,233	23,711	5.93	7.27	6.50
20 years and under 40 ...	29,848	25,690	55,538	14.18	16.63	15.22
40 years and under 60 ...	40,528	23,871	64,399	19.26	15.46	17.65
60 years and under 65 ...	12,141	7,442	19,583	5.77	4.82	5.37
65 years and over ...	60,207	40,687	100,894	28.61	26.35	27.65
Age not stated ...	349	59	408	0.17	0.04	0.12
Total ...	210,426	154,425	364,851	100.00	100.00	100.00

9. Deaths at Single Ages and in Age-Groups, 1908.—The 46,426 deaths which were registered in the Commonwealth in the year 1908 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, 1908.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
Under 1 week ...	1,354	979	2,333	15 years ...	101	89	190
1 week and under 2 ...	264	220	484	16 " ...	120	114	234
2 weeks " " 3 ...	209	153	362	17 " ...	130	117	247
3 " " " 4 ...	179	111	290	18 " ...	148	158	306
				19 " ...	164	142	306
Total under one month ...	2,006	1,463	3,469	Total 15 years and under 20 ...	663	620	1,283
1 month and under 2 ...	409	326	735	20 years ...	157	143	300
2 months " " 3 ...	359	285	644	21 " ...	155	134	289
3 " " " 4 ...	345	307	652	22 " ...	167	169	336
4 " " " 5 ...	315	278	593	23 " ...	180	176	356
5 " " " 6 ...	294	228	522	24 " ...	148	165	313
6 " " " 7 ...	267	212	479	Total 20 years and under 25 ...	807	787	1,594
7 " " " 8 ...	213	162	375	25 years ...	150	146	296
8 " " " 9 ...	182	146	328	26 " ...	185	160	345
9 " " " 10 ...	186	153	339	27 " ...	141	158	299
10 " " " 11 ...	155	125	280	28 " ...	184	190	374
11 " " " 12 ...	154	106	260	29 " ...	148	165	313
Total under 1 year ...	4,885	3,791	8,676	Total 25 years and under 30 ...	808	819	1,627
1 year ...	796	696	1,492	30 years ...	178	142	320
2 years ...	316	258	574	31 " ...	167	161	328
3 " ...	208	157	365	32 " ...	166	158	324
4 " ...	134	127	261	33 " ...	166	153	319
Total under 5 years ...	6,339	5,029	11,368	34 " ...	147	142	289
5 years ...	125	114	239	Total 30 years and under 35 ...	824	756	1,580
6 " ...	97	97	194	35 years ...	209	160	369
7 " ...	88	99	187	36 " ...	193	161	354
8 " ...	98	66	164	37 " ...	195	146	341
9 " ...	72	73	145	38 " ...	202	169	371
Total 5 years and under 10 ...	480	449	929	39 " ...	182	182	364
10 years ...	74	59	133	Total 35 years and under 40 ...	981	818	1,799
11 " ...	77	73	150				
12 " ...	71	62	133				
13 " ...	77	59	136				
14 " ...	85	82	167				
Total 10 years and under 15 ...	384	335	719				

DEATHS AT SINGLE AGES AND IN AGE-GROUPS, 1908—Continued.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
40 years	256	200	456	75 years	448	311	759
41 "	195	154	349	76 "	448	327	775
42 "	277	176	453	77 "	384	267	651
43 "	242	152	394	78 "	453	276	729
44 "	269	176	445	79 "	361	216	577
Total 40 years and under 45	1,239	858	2,097	Total 75 years and under 80	2,094	1,397	3,491
45 years	341	193	534	80 years	393	246	639
46 "	248	159	407	81 "	243	165	408
47 "	284	180	464	82 "	254	170	424
48 "	288	186	474	83 "	211	183	394
49 "	285	208	493	84 "	254	164	418
Total 45 years and under 50	1,446	926	2,372	Total 80 years and under 85	1,355	928	2,283
50 years	403	212	615	85 years	179	145	324
51 "	223	122	345	86 "	161	128	289
52 "	302	176	478	87 "	147	100	247
53 "	258	154	412	88 "	121	107	228
54 "	310	158	468	89 "	101	90	191
Total 50 years and under 55	1,496	822	2,318	Total 85 years and under 90	709	570	1,279
55 years	258	138	396	90 years	67	69	136
56 "	291	174	465	91 "	38	35	73
57 "	222	158	380	92 "	35	28	63
58 "	280	171	451	93 "	29	21	50
59 "	242	133	375	94 "	22	17	39
Total 55 years and under 60	1,293	774	2,067	Total 90 years and under 95	191	170	361
60 years	361	190	551	95 years	9	12	21
61 "	217	144	361	96 "	14	20	34
62 "	286	195	481	97 "	10	7	17
63 "	317	227	544	98 "	11	6	17
64 "	324	235	559	99 "	4	6	10
Total 60 years and under 65	1,505	991	2,496	Total 95 yrs. and under 100	48	51	99
65 years	415	274	689	100 years	4	...	4
66 "	347	201	548	101 " ... ..	...	1	1
67 "	360	282	642	102 " ... ..	...	2	2
68 "	417	293	710	103 "	1	...	1
69 "	323	202	525	104 "	3	1	4
Total 65 years and under 70	1,862	1,252	3,114	108 "	1	...	1
70 years	448	293	741	109 "	1	1	2
71 "	338	233	571	110 "	1	...	1
72 "	419	280	699	111 "	1	...	1
73 "	407	305	712	Total 100 years and over...	12	5	17
74 "	404	316	720	Age not stated	80	10	90
Total 70 years and under 75	2,016	1,427	3,443	Total all ages	26,632	19,794	46,426

10. Deaths of Centenarians, 1908.—Particulars as to the seventeen persons who died in 1908, 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 in the accuracy of the ages shewn, owing to the well-known tendency of very old people to overstate their ages. The fact must not be lost sight of in connection with this question, that while parish registers in the United Kingdom often date very far back, compulsory registration of births dates practically only from 1874, the Act passed in 1836 having left many loop-holes open for those unwilling to register the births of their children :—

DEATHS OF CENTENARIANS, 1908.

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

MALES.

Yrs	Goulburn ...	N.S.W. ...	Senile decay ...	Shepherd ...	Ireland ...	73 years
111	Bombala ...	" ...	Accidentally burnt ...	Labourer ...	England ...	80 "
109	Roma ...	Queensland ...	Senile decay ...	Farmer ...	Ireland ...	60 "
108	Cairns ...	" ...	Senile decay and retention of urine ...	Miner ...	" ...	50 "
104	Rookwood Asyl'm ...	N.S.W. ...	Senile decay ...	Seaman ...	" ...	85 "
104	Wellington ...	" ...	" ...	Miner ...	England ...	70 "
104	Nowra ...	" ...	" ...	Not stated ...	" ...	69 "
103	Glebe ...	" ...	Pneumonia ...	Painter ...	" ...	Not stated
100	Glen Innes ...	" ...	Senile decay ...	Labourer ...	Ireland ...	64 years
100	Victoria Homes, Brunswick ...	Victoria ...	" ...	Seaman ...	England ...	40 "
100	Terang ...	" ...	" ...	Old-age pensioner ...	" ...	51 "
100	Hamilton ...	Tasmania ...	" ...	Farmer ...	Tasmania ...	Native

FEMALES.

109	Woolahra ...	N.S.W. ...	Senile decay ...	...	Ireland ...	101 years
104	Goulburn ...	" ...	" ...	...	N.S.W. ...	Native
102	North Carlton ...	Victoria ...	Acute bronchitis ...	...	Scotland ...	40 years
102	Invalid Depôt, Launceston ...	Tasmania ...	Senile decay ...	...	Ireland ...	60 "
101	Canterbury ...	N.S.W. ...	Heart disease ...	...	" ...	68 "

11. Length of Residence in the Commonwealth of Persons who Died in 1908.—The length of residence in the Commonwealth of all persons whose deaths were registered in the year 1908 has been tabulated for all the States, and a summary of the results is shewn below :—

**LENGTH OF RESIDENCE IN COMMONWEALTH OF PERSONS WHO DIED
IN 1908.**

Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.	Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.
Born in the C'wealth...	13,867	12,141	26,008	Resident 25 to 29 years	826	438	1,264
Resident under 1 year	174	38	212	" 30 to 34 "	835	412	1,247
" 1 year ...	72	28	100	" 35 to 39 "	509	303	812
" 2 years ...	50	14	64	" 40 to 44 "	1,110	707	1,817
" 3 " ...	31	8	39	" 45 to 49 "	973	739	1,712
" 4 " ...	32	12	44	" 50 to 54 "	2,192	1,719	3,911
" 5 " ...	34	18	52	" 55 to 59 "	1,319	995	2,314
" 6 " ...	41	9	50	" 60 to 64 "	447	333	780
" 7 " ...	37	19	56	" 65 yrs. & over	428	399	827
" 8 " ...	37	15	52	Length of residence not stated...	2,154	693	2,847
" 9 " ...	28	18	46				
" 10 to 14 years...	224	77	301				
" 15 to 19 " ...	319	201	520				
" 20 to 24 " ...	893	458	1,351				
				Total ...	26,632	19,794	46,426

12. Birthplaces of Persons who Died in 1908.—In the following table are shewn the birthplaces of persons whose deaths were registered in 1908:—

BIRTHPLACES OF PERSONS WHO DIED IN 1908.

Birthplaces.	Males.	Females.	Total.	Birthplaces.	Males.	Females.	Total.
New South Wales ...	5,091	4,469	9,560	Argentina ...	1	...	1
Victoria ...	4,571	3,871	8,442	British Guiana ...	2	...	2
Queensland ...	1,383	1,173	2,556	Chile ...	2	...	2
South Australia ...	1,235	1,159	2,394	S. America (sod'sc'bd)	6	...	6
Western Australia ...	675	555	1,230				
Tasmania ...	912	914	1,826	Aden ...	1	...	1
				Afghanistan ...	1	...	1
New Zealand ...	102	91	193	Arabia ...	1	...	1
				Beloochistan ...	1	...	1
				Burmah ...	...	1	1
Austria-Hungary ...	36	3	39	Ceylon ...	11	...	11
Belgium ...	5	3	8	China ...	408	4	412
Channel Islands ...	20	11	31	Dutch East Indies ...	15	1	16
Denmark ...	92	27	119	India ...	43	14	57
England ...	5,395	3,294	8,689	Japan ...	61	1	62
Finland ...	17	...	17	Malay States ...	2	...	2
France ...	64	11	75	Philippine Islands ...	8	...	8
Germany ...	594	272	866	Straits Settlements ...	16	1	17
Gibraltar ...	1	1	2	Syria ...	3	4	7
Greece ...	6	1	7				
Ireland ...	2,690	2,473	5,163	Abyssinia ...	1	...	1
Isle of Man ...	12	3	15	Africa (so described)	...	2	2
Italy ...	68	8	76	Cape of Good Hope ...	3	2	5
Malta ...	7	...	7	E. Africa (so d'scrib'd)	1	...	1
Netherlands ...	8	2	10	Egypt ...	1	...	1
Norway ...	60	3	63	Madeira ...	1	...	1
Portugal ...	10	...	10	Mauritius ...	13	2	15
Rumania ...	3	...	3	S. Africa (so described)	16	10	26
Russia ...	37	8	45	St. Helena ...	5	2	7
Scotland ...	1,546	1,005	2,551				
Spain ...	15	3	18	Fiji ...	6	...	6
Sweden ...	90	9	99	Hawaii ...	2	...	2
Switzerland ...	66	10	76	New Caledonia ...	2	...	2
Turkey ...	2	...	2	New Guinea ...	30	...	30
Wales ...	109	62	171	New Hebrides ...	1	...	1
				Norfolk Island ...	1	...	1
Bermudas ...	2	...	2	Solomon Islands ...	4	1	5
Canada ...	50	13	63	S. Sea Is. (sodescribed)	42	3	45
Greenland ...	1	...	1				
Newfoundland ...	7	...	7	At Sea ...	61	45	106
United States ...	108	29	137				
C. America (sod'scribd)	3	...	3	Not stated...	743	208	951
Mexico ...	1	...	1				
British West Indies ...	20	10	30				
Jamaica ...	3	...	3	Total Deaths ...	26,632	19,794	46,426

13. **Occupations of Male Persons who Died in 1908.**—Information as to the occupations of the 26,632 males who died in the Commonwealth in 1908, is contained in the following statement :—

OCCUPATIONS OF DECEASED MALES, 1908.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
CLASS I.—PROFESSIONAL.		Groceries, drinks, narcotics, and stimulants ...	
General Government ...	118	... ..	143
Local Government ...	24	Living animals... ..	58
Defence ...	48	Leather	2
Law and order ...	183	Wool and tallow	17
Religion ...	106	Flowers and seeds	28
Health ...	140	Other vegetable matter	16
Literature ...	38	Wood and coal... ..	38
Science ...	5	Glass and earthenware	5
Civil and mechanical engineering, architecture and surveying ...	84	Gold, silver, and precious stones ...	3
Education ...	113	Ironmongery	40
Fine arts ...	23	Merchants, etc.	225
Music ...	25	Dealers and hawkers	110
Amusements ...	73	Agents and brokers	100
		Clerks, bookkeepers, etc.	454
		Commercial travellers and salesmen	116
		Others engaged in commercial pursuits	66
Total Professional ...	980	Speculators on chance events ...	5
CLASS II.—DOMESTIC.		Total Commercial ...	
Hotelkeepers and assistants ...	311	... ..	2,111
Others engaged in providing board and lodging... ..	48		
House servants ...	138	CLASS IV.—TRANSPORT AND COMMUNICATION.	
Coachmen and grooms ...	97	Railway traffic	325
Hairdressers ...	55	Tramway traffic	25
Laundrymen ...	9	Road traffic	408
Others engaged in domestic occupations ...	74	Sea and river traffic	525
		Postal service	48
Total Domestic ...	732	Telegraph and telephone service ...	20
		Messengers, etc.	7
		Total Transport & Communic't'n	
		... ..	1,358
CLASS III.—COMMERCIAL.		CLASS V.—INDUSTRIAL.	
Banking and finance ...	91	Books and publications	104
Insurance and valuation ...	56	Musical instruments	7
Land and household property ...	35	Prints and pictures	6
Books, publications and advertising	21	Ornaments and small wares	12
Musical instruments ...	1	Equipment for sports and games... ..	1
Ornaments and small wares ...	1	Designs, medals and type	6
Arms and ammunition ...	3	Watches and clocks	25
Machinery ...	4	Arms and ammunition	3
Ships, boats, and marine stores ...	2	Engines and machines	100
Building materials ...	1	Carriages and vehicles	101
Furniture ...	13	Harness and saddlery	77
Chemicals ...	1	Ships and boats	43
Paper and stationery ...	19	Furniture	84
Textile fabrics ...	130	Building material	74
Dress ...	21	Chemicals	2
Animal food ...	222		
Vegetable food ...	64		

OCCUPATIONS OF DECEASED MALES, 1908—Continued.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
Textile fabrics	19	CLASS VI.—AGRICULTURAL, PASTORAL, MINING PURSUITS, ETC.	
Dress	383	Agricultural	2,618
Fibrous materials	6	Pastoral	716
Animal food	16	Dairying	101
Vegetable food	173	Fisheries, capture or destruction of wild animals, or acquisition of products yielded thereby ...	154
Groceries, drinks, narcotics, and stimulants	68	Forestry	63
Wool-scouring, soap, and candles	57	Water conservation and supply ...	16
Workers in wood not elsewhere classed	6	Mines and quarries	1,845
Fodder	1		
Paper	4	Total Primary Producers	5,513
Stone, clay, glass	58		
Jewellery and precious stones ...	24	CLASS VII.—INDEFINITE.	
Metals, other than gold and silver	347	Independent means, etc.	877
Gas, electric lighting	31	Undefined or unknown	569
Buildings—			
Builders	102	Total Indefinite	1,446
Stonemasons	94		
Bricklayers	76	CLASS VIII.—DEPENDENTS.	
Carpenters	456	Dependent relatives (including persons under 20 years of age with no specified occupation) ...	7,419
Slaters	7	Dependent upon the State or upon public or private support ...	168
Plasterers	54		
Painters	171	Total Dependents	7,587
Plumbers	64		
Others	9		
Roads, railways, and earthworks ...	22		
Disposal of the dead	14		
Disposal of refuse	19		
Other industrial workers—			
Manufacturers	10		
Engineers, firemen	340		
Machinists	10		
Contractors	138		
Labourers	3,481		
Total Industrial	6,905	Total Male Deaths	26,632

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 1908 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 1908 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, 1908.—(STATES AND COMMONWEALTH.))

Age-Group.	Mean Popu- lation, 1908, distributed according to Results of Census of 1901.	Number of Deaths, 1908.	No. of Deaths per 1000 of Mean Population, 1908, in each Age-Group.	Age Distribution per 1000 of Standard Population.	Index of Mortality.
NEW SOUTH WALES.					
Under 1 year	39,856	3,193	80.11	25.5	2.04
1 year and under 20	633,135	1,992	2.87	398.0	1.14
20 years " 40	506,950	2,314	4.56	269.6	1.23
40 " " 60	252,608	3,024	11.97	192.3	2.30
60 " and upwards	88,419	5,532	62.57	114.6	7.17
Total	1,580,968	16,055	10.16	1,000.0	13.88
VICTORIA.					
Under 1 year	29,678	2,676	90.17	25.5	2.30
1 year and under 20	523,482	1,675	3.20	398.0	1.27
20 years " 40	412,092	1,939	4.71	269.6	1.27
40 " " 60	192,769	2,851	14.79	192.3	2.84
60 " and upwards	100,384	6,625	66.00	114.6	7.56
Total	1,258,405	15,766	12.53	1,000.0	15.24
QUEENSLAND.					
Under 1 year	14,190	1,048	73.85	25.5	1.88
1 year and under 20	238,267	747	3.14	398.0	1.25
20 years " 40	181,946	932	5.12	269.6	1.38
40 " " 60	88,399	1,256	14.21	192.3	2.73
60 " and upwards	26,575	1,697	63.86	114.6	7.32
Total	549,377	5,680	10.34	1,000.0	14.56
SOUTH AUSTRALIA.					
Under 1 year	8,984	680	75.69	25.5	1.93
1 year and under 20	176,719	415	2.35	398.0	0.94
20 years " 40	121,744	569	4.67	269.6	1.26
40 " " 60	65,395	752	11.50	192.3	2.21
60 " and upwards	25,251	1,501	59.44	114.6	6.81
Total	398,093	3,917	9.84	1,000.0	13.15
WESTERN AUSTRALIA.					
Under 1 year	7,237	657	90.78	25.5	2.31
1 year and under 20	88,073	498	5.65	398.0	2.25
20 years " 40	120,535	571	4.74	269.6	1.28
40 " " 60	40,565	623	15.36	192.3	2.95
60 " and upwards	8,659	530	61.21	114.6	7.01
Total	265,059	2,879	10.86	1,000.0	15.80
TASMANIA.					
Under 1 year	4,854	422	86.94	25.5	2.22
1 year and under 20	82,054	311	3.79	398.0	1.51
20 years " 40	56,700	291	5.13	269.6	1.38
40 " " 60	27,073	371	13.70	192.3	2.63
60 " and upwards	11,062	734	66.35	114.6	7.60
Total	181,743	2,129	11.71	1,000.0	15.34
COMMONWEALTH.					
Under 1 year	104,799	8,676	82.79	25.5	2.11
1 year and under 20	1,801,730	5,638	3.13	398.0	1.25
20 years " 40	1,399,967	6,616	4.73	269.6	1.28
40 " " 60	666,739	8,877	13.31	192.3	2.56
60 " and upwards	260,350	16,619	63.83	114.6	7.31
Total	4,233,645	46,426	10.97	1,000.0	14.51

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 90 persons who died in 1908, 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 both the second highest crude rate and the second highest index, while Queensland, New South Wales, and South Australia occupy fourth, fifth, and sixth places respectively both for crude rate and index. The range of the indexes is generally rather wider than that of the crude death rates, but while the latter in 1908 rose from 9.84 per thousand in South Australia to 12.53 per thousand in Victoria, a range of 2.69 per thousand, the indexes varied from 13.15 per thousand in South Australia to 15.80 per thousand in Western Australia, a range of 2.65 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.

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 1908:—

(b) INDEX OF MORTALITY, 1902 to 1908.

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

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 six out of the seven years, and in Western Australia in one year, and lowest four times in South Australia, twice in Queensland, and once in Tasmania, the index of mortality was highest in Western Australia five times, in Victoria once, and in Queensland once, and lowest three times in South Australia, twice in Queensland, and twice in Tasmania. The crude death rates shew the following ranges:—In New South Wales, 2.05; in Victoria, 1.62; in Queensland, 2.82; in South Australia, 1.99; in Western Australia, 2.89; and in Tasmania, 1.63 per thousand; while the fluctuations in the indexes amounted to 2.01 per thousand in New South Wales; to 1.60 in Victoria; to 3.02 in Queensland; to 1.97 in South Australia; to 3.25 in Western Australia; and to 1.98 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. It is understood that most of these recommendations have been adopted, but a full statement of what has been done must be deferred until the next issue of this Year Book.

The detailed classification groups causes of death under 179 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 and 1908 in Commonwealth Bureau.* The vital statistics of the six Commonwealth States for 1907 and 1908 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, New South Wales being the only State to publish its Annual Vital Statistics for the year 1906 on the International classification.

(iv.) *Classification of Causes of Death, 1905 to 1908, according to Abridged Bertillon Index.* An abridged classification, which enumerates thirty-five diseases and groups of diseases, is in use in many European and American States, and while the Commonwealth Statistics for 1907 and 1908 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 and 1908 do not labour under those defects. They will be found in full in "Bulletins Nos. 8 and 14 of Population and Vital Statistics"; here it will suffice to give the abridged classification under thirty-five headings for the year 1908:—

CAUSES OF DEATH.—AUSTRALIA, 1908.

(a) MALES.

Cause.	N.S.W.	Vict.	Q'land.	S.Aust.	W.Aus.	Tas.	C'w'ith.
1 Typhoid Fever	195	97	71	24	55	24	466
2 Typhus	—	—	—	—	—	—	—
3 Intermittent Fever and Malarial Cachexia	2	—	21	15	6	—	44
4 Small-pox	—	—	—	—	—	—	—
5 Measles	13	9	22	7	13	2	66
6 Scarlet Fever	19	11	—	—	1	—	31
7 Whooping Cough	27	34	23	8	6	12	110
8 Diphtheria and Croup	81	54	18	7	56	6	222
9 Influenza	81	89	85	19	16	8	298
10 Asiatic Cholera	—	—	—	—	—	—	—
11 Cholera Nostras	—	2	—	—	1	—	3
12 Other Epidemic Diseases	48	11	58	24	38	1	180
13 Tuberculosis of the Lungs	580	662	212	189	136	64	1,843
14 Tuberculosis of the Meninges	33	48	10	7	5	8	111
15 Other forms of Tuberculosis	77	79	23	20	18	6	223
16 Cancer and other Malignant Tumours	538	494	188	139	78	60	1,497
17 Simple Meningitis	120	118	41	44	20	30	373
18 Congestion, Hæmorrhage and Softening of the Brain	349	344	100	104	50	44	991
19 Organic Diseases of the Heart	827	810	352	160	114	75	2,338
20 Acute Bronchitis	104	66	19	26	13	4	232
21 Chronic Bronchitis	143	205	34	38	16	11	447
22 Pneumonia	365	412	135	56	79	71	1,118
23 Diseases of the Stomach (Cancer excepted)	39	59	24	11	7	3	143
24 Diarrhœa and Enteritis (children under two years only)	646	580	215	131	174	68	1,814
25 Hernia, Intestinal Obstructions	79	65	22	28	12	12	218
26 Cirrhosis of the Liver	81	82	35	8	20	6	232
27 Nephritis and Bright's Disease	385	427	170	83	48	27	1,140
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	646	500	196	135	121	78	1,676
32 Senile Debility	632	859	161	172	60	143	2,027
33 Violence	772	620	354	150	210	81	2,187
33A Suicide	156	85	82	35	47	8	413
34 Other Diseases	1,956	1,855	781	368	323	190	5,473
35 Unspecified or Ill-defined Diseases	304	139	48	98	57	70	716
Total—Males	9,298	8,816	3,500	2,106	1,800	1,112	26,632

CAUSES OF DEATH—AUSTRALIA, 1908.

(b) FEMALES.

Cause.	N.S.W.	Vic.	Q'land.	S. Aus.	W.Aus.	Tas.	C'wlth.
1 Typhoid Fever	111	76	34	15	21	13	270
2 Typhus	—	—	—	—	—	—	—
3 Intermittent Fever and Malarial Cachexia	1	1	5	1	—	—	8
4 Small-pox	—	—	—	—	—	—	—
5 Measles	11	12	13	9	13	1	59
6 Scarlet Fever	20	11	—	—	1	—	32
7 Whooping Cough	41	42	21	11	14	10	139
8 Diphtheria and Croup	61	58	9	5	60	6	199
9 Influenza	75	76	80	16	19	24	290
10 Asiatic Cholera	—	—	—	—	—	—	—
11 Cholera Nostras	—	—	—	—	1	—	1
12 Other Epidemic Diseases	31	12	18	4	11	2	78
13 Tuberculosis of the Lungs	503	545	131	186	78	81	1,524
14 Tuberculosis of the Meninges	27	37	5	13	3	9	94
15 Other forms of Tuberculosis	58	69	18	8	12	6	171
16 Cancer and other Malignant Tumours	518	505	148	130	63	60	1,424
17 Simple Meningitis	108	97	28	36	14	20	303
18 Congestion, Hemorrhage, and Softening of the Brain	276	337	92	94	25	52	876
19 Organic Diseases of the Heart	538	653	205	187	56	89	1,728
20 Acute Bronchitis	82	41	21	23	6	7	180
21 Chronic Bronchitis	113	166	29	40	7	16	371
22 Pneumonia	242	315	72	43	38	43	753
23 Diseases of the Stomach (Cancer excepted)	57	60	20	13	7	8	165
24 Diarrhoea and Enteritis (children under two years only)	489	452	193	102	120	66	1,422
25 Hernia, Intestinal Obstructions	58	55	11	26	8	13	171
26 Cirrhosis of the Liver	45	55	19	6	3	2	130
27 Nephritis and Bright's Disease	225	317	85	53	26	18	724
28 Non-cancerous Tumours and other Diseases of the Female Genital Organs	60	49	19	10	16	5	159
29 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	89	49	20	18	14	12	202
30 Other Puerperal Accidents of Pregnancy and Confinement	157	98	62	29	36	22	404
31 Congenital Debility and Malformations	500	404	143	103	91	56	1,297
32 Senile Debility	421	611	87	165	31	124	1,439
33 Violence	265	236	85	71	43	35	735
33A Suicide	25	31	10	9	7	2	84
34 Other Diseases	1,332	1,350	469	315	186	164	3,816
35 Non-specified or Ill-defined Diseases	218	130	28	70	49	51	546
Total—Females	6,757	6,950	2,180	1,811	1,079	1,017	19,794

CAUSES OF DEATH—AUSTRALIA, 1908.

(c) TOTAL, MALES AND FEMALES.

Cause.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wlth.
1 Typhoid Fever ...	306	173	105	39	76	37	736
2 Typhus ...	—	—	—	—	—	—	—
3 Intermittent Fever and Malarial Cachexia ...	3	1	26	16	6	—	52
4 Small-pox ...	—	—	—	—	—	—	—
5 Measles ...	24	21	35	16	26	3	125
6 Scarlet Fever ...	39	22	—	—	2	—	63
7 Whooping Cough ...	68	76	44	19	20	22	249
8 Diphtheria and Croup ...	142	112	27	12	116	12	421
9 Influenza ...	156	165	165	35	35	32	588
10 Asiatic Cholera ...	—	—	—	—	—	—	—
11 Cholera Nostras ...	—	2	—	—	2	—	4
12 Other Epidemic Diseases ...	79	23	76	28	49	3	258
13 Tuberculosis of the Lungs	1,083	1,207	343	375	214	145	3,367
14 Tuberculosis of the Meninges	60	85	15	20	8	17	205
15 Other forms of Tuberculosis	135	148	41	28	30	12	394
16 Cancer and other Malignant Tumours ...	1,056	999	336	269	141	120	2,921
17 Simple Meningitis ...	228	215	69	80	34	50	676
18 Congestion, Hæmorrhage, and Softening of the Brain ...	625	681	192	198	75	96	1,867
19 Organic Diseases of the Heart	1,365	1,463	557	347	170	164	4,066
20 Acute Bronchitis ...	186	107	40	49	19	11	412
21 Chronic Bronchitis...	256	371	63	78	23	27	818
22 Pneumonia ...	607	727	207	99	117	114	1,871
23 Diseases of the Stomach (Cancer excepted) ...	96	119	44	24	14	11	308
24 Diarrhoea and Enteritis (children under two years only)	1,135	1,032	408	233	294	134	3,236
25 Hernia, Intestinal Obstructions	137	120	33	54	20	25	389
26 Cirrhosis of the Liver ...	126	137	54	14	23	8	362
27 Nephritis and Bright's Disease	610	744	255	136	74	45	1,864
28 Non-cancerous Tumours and other Diseases of the Female Genital Organs ...	60	49	19	10	16	5	159
29 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	89	49	20	18	14	12	202
30 Other Puerperal Accidents of Pregnancy and Confinement	157	98	62	29	36	22	404
31 Congenital Debility and Malformations ...	1,146	904	339	238	212	134	2,973
32 Senile Debility ...	1,053	1,470	248	337	91	267	3,466
33 Violence ...	1,037	856	439	221	253	116	2,922
33A Suicide ...	181	116	92	44	54	10	497
34 Other Diseases ...	3,288	3,205	1,250	683	509	354	9,289
35 Non-specified or Ill-defined Diseases ...	522	269	76	168	106	121	1,262
Total—Males and Females...	16,055	15,766	5,680	3,917	2,879	2,129	46,426

(d) The classification for the years 1905, 1906, and 1907 is shewn for the Commonwealth in the following table, and for purposes of comparison the figures for the year 1908 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 of this Year Book, while the figures for 1908 are given on the two preceding pages:—

CAUSES OF DEATH.—AUSTRALIA, 1905 to 1908.

MALES AND FEMALES.

Cause.	1905.	1906.	1907.	1908.
1 Typhoid Fever	630	738	564	736
2 Typhus ... ..	...	1	...	...
3 Intermittent Fever & Malarial Cachexia	55	38	42	52
4 Small-pox ... ..	...	...	...	...
5 Measles	113	39	147	125
6 Scarlet Fever	44	61	37	63
7 Whooping Cough	42	293	1,070	249
8 Diphtheria and Croup	314	280	403	421
9 Influenza	428	539	902	588
10 Asiatic Cholera ... ..	...	...	...	...
11 Cholera Nostras	5	209	5	4
12 Other Epidemic Diseases	597	354	268	258
13 Tuberculosis of the Lungs	3,244	3,222	3,166	3,367
14 Tuberculosis of the Meninges	290	273	237	205
15 Other forms of Tuberculosis	498	547	455	394
16 Cancer and other Malignant Tumours	2,742	2,772	2,940	2,921
17 Simple Meningitis	461	250	648	676
18 Congestion, Hæmorrhage, and Softening of the Brain	1,611	1,685	1,901	1,867
19 Organic Diseases of the Heart	1,449	2,502	3,801	4,066
20 Acute Bronchitis	478	421	514	412
21 Chronic Bronchitis	1,023	984	844	818
22 Pneumonia	2,362	2,289	1,788	1,871
23 Diseases of the Stomach (Cancer excepted)	442	467	334	308
24 Diarrhoea & Enteritis (Children under two years only)	2,593	2,881	2,733	3,236
25 Hernia, Intestinal Obstructions	432	399	411	389
26 Cirrhosis of the Liver	290	267	325	362
27 Nephritis and Bright's Disease	1,773	1,792	1,760	1,864
28 Non-cancerous Tumours and other Diseases of the Female Genital Organs	134	153	128	159
29 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	205	168	179	202
30 Other Puerperal Accidents of Pregnancy and Confinement	411	458	435	404
31 Congenital Debility and Malformations	3,200	2,960	3,038	2,973
32 Senile Debility	3,160	3,031	3,136	3,466
33 Violence	2,663	2,617	2,679	2,922
33A Suicide	520	499	461	497
34 Other Diseases	10,263	9,976	8,679	9,289
35 Unspecified or Ill-defined Diseases	1,042	1,168	1,275	1,262
Total	43,514	44,333	45,305	46,426

16. **Certification of Deaths.**—Information was obtained in 1908 as to the persons by whom the 46,426 deaths which occurred in the Commonwealth were certified. The result of the enquiry shews that approximately 87.3 per cent. were certified by medical practitioners, and 11.5 per cent. by coroners after inquests, or magisterial enquiries, while in 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. 14; a short summary will therefore suffice here:—

CERTIFICATION OF DEATHS, 1908.

Death Certified by—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Cwilt.
Medical practitioner ...	13,908	13,735	5,020	3,448	2,466	1,944	40,521
Coroner ...	2,083	1,992	327	436	356	160	5,354
Not certified or not stated ...	64	39	333	33	57	25	551
Total Deaths ...	16,055	15,766	5,680	3,917	2,879	2,129	46,426

Of the cases certified by coroners, violent deaths numbered 2462, ill-defined causes 468, organic heart disease 386, senile decay 366, congenital debility 190, diarrhoea and enteritis 128, Bright's disease 115, congestion and hæmorrhage of brain 110, tuberculosis of lungs 100, pneumonia 99, infantile convulsions 88, broncho-pneumonia 51, diseases of arteries, aneurisms, etc. 40, and acute and chronic alcoholism 38; a total of 4639 out of 5354.

Of uncertified causes of death, violent deaths numbered 95, senile debility 78, ill-defined causes 56, infantile convulsions 52, congenital debility 52, diarrhoea and enteritis 23, and tuberculosis of the lungs 20; a total of 376 out of 551.

17. Deaths from Special Causes.—The foregoing table furnishes comparisons for the last four 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. Of the deaths registered in 1908, 306 occurred in New South Wales, 173 in Victoria, and 105 in Queensland, the numbers in the three remaining States being below 100.

(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 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, 26 out of 52 deaths registered in 1908 having occurred in Queensland, 16 in the Northern Territory, and 6 in Western Australia.

(iv.) *Small-pox.* No deaths from small-pox occurred during the last four years.

(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. Of the 125 deaths in 1908, 24 were registered in New South Wales, 21 in Victoria, 35 in Queensland, 16 in South Australia, 26 in Western Australia, and 3 in Tasmania.

(vi.) *Scarlet Fever.* Only 63 deaths were registered in 1908, 39 of which occurred in New South Wales, and 22 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, 43. The deaths in 1905 numbered only 42, in 1906, 293, and in 1908 fell to 249.

(viii.) *Diphtheria and Croup*. Deaths in 1905 numbered 314; in 1906, 280; in 1907, 403; and in 1908, 421, of which 142 occurred in New South Wales, 112 in Victoria, and 116 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, of which 156 occurred in New South Wales, 165 in Victoria, and 165 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 diarrhoea occurred in each of the four years.

(xii.) *Other Epidemic Diseases*. The number of deaths registered under this heading was 597 in 1905, 354 in 1906, 263 in 1907 and 258 in 1908. The list in 1908 includes the following diseases:—Dysentery, 130; plague, 14 (of which 3 in New South Wales, and 11 in Queensland); erysipelas, 40; other epidemic diseases, 74.

(xiii.) *Tuberculosis of the Lungs*. The deaths in 1908 numbered 3367, viz., 1843 males and 1524 females. This was an increase on the figures for 1905, 1906, and 1907, which were 3244, 3222, and 3166 respectively. Of the deaths in 1908, 1083 occurred in New South Wales, 1207 in Victoria, 343 in Queensland, 375 in South Australia, 214 in Western Australia, and 145 in Tasmania.

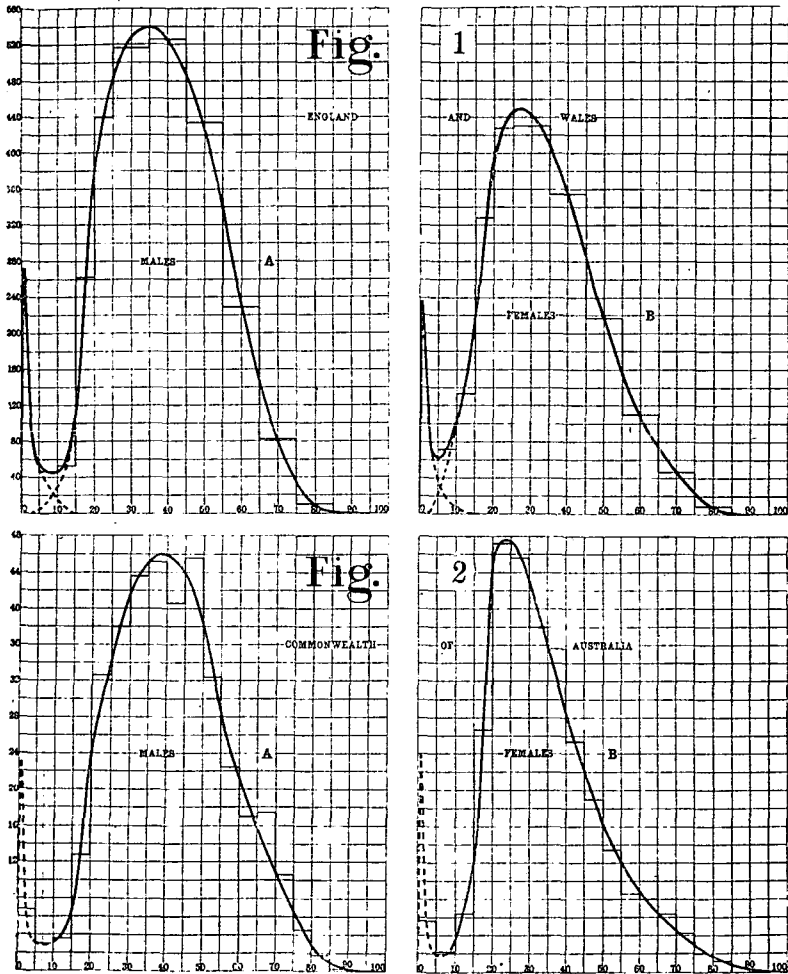
(xiii.a) *Tuberculosis of the Respiratory System*. Of the various forms of tuberculosis prevalent in the Commonwealth, that which has probably attracted the most attention and has been the subject of the widest comment is phthisis, or tuberculosis of the lungs. The intimate relation, however, between 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.



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, and in 1908, 205. 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, and in 1908, 394. The deaths in 1908 include the following forms of tuberculosis:—Tuberculosis of the larynx, 42; tuberculosis of the peritonæum, 175; Pott's disease, 27; tuberculosis of other organs, 70; and general tuberculosis, 80.

(xv.a) *All Forms of Tuberculosis.* A complete tabulation of all the different tubercular diseases from which deaths occurred in 1908, will be found in Bulletin No. 14 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 3966, viz., 2177 males and 1789 females. The following table shews the ages of these 3966 persons:—

AGES OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1908.

Ages.	Male.	Female	Total.	Ages.	Male.	Female	Total.
Under 5 years ...	145	105	250	55 years and under 60	132	43	175
5 years and under 10	31	34	65	60 " " 65	95	39	134
10 " " 15	35	49	84	65 " " 70	88	35	123
15 " " 20	98	186	278	70 " " 75	42	21	63
20 " " 25	195	272	467	75 " " 80	24	12	36
25 " " 30	211	271	482	80 " " 85	10	2	12
30 " " 35	206	208	414	Age not stated ...	3	...	3
35 " " 40	233	165	398				
40 " " 45	239	147	386				
45 " " 50	204	136	340				
50 " " 55	186	70	256	Total Deaths ...	2,177	1,789	3,966

The length of residence in the Commonwealth of persons who died from tubercular diseases has been tabulated for the year 1908 for all the Commonwealth States with the following results:—

LENGTH OF RESIDENCE IN COMMONWEALTH
OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1908.

Length of Residence in Commonwealth.	Male.	Fem.	Total.	Length of Residence in Commonwealth.	Male.	Fem.	Total.
Born in Commonwealth ...	1,340	1,465	2,805	Resident 10 yrs. & under 15	31	17	48
Resident under 1 year ...	23	5	28	" 15 " " 20	51	20	71
" 1 year ...	24	5	29	" 20 " over ...	506	217	723
" 2 years ...	11	3	14	Length of resid'ce not stated	142	44	186
" 3 " 	7	...	7				
" 4 " 	8	1	9				
" 5 " & under 10	34	12	46	Total Deaths ...	2,177	1,789	3,966

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, 1908.

State.	Death Rates (per 1000) from Tuberculosis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.82	0.80	0.81	7.42	8.70	7.96
Victoria ...	1.26	1.03	1.14	8.95	9.37	9.13
Queensland ...	0.82	0.62	0.73	7.00	7.06	7.02
South Australia ...	1.02	1.11	1.06	10.26	11.43	10.80
Western Australia	1.03	0.84	0.95	8.83	8.62	8.75
Tasmania ...	0.84	1.09	0.96	7.01	9.44	8.17
Commonwealth	0.98	0.89	0.94	8.17	9.04	8.54

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 0.94 per thousand in 1908, 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; and for 1908, 2921 deaths. Of the deaths registered in 1908, 1497 were those of males, viz., 538 in New South Wales, 494 in Victoria, 188 in Queensland, 139 in South Australia, 78 in Western Australia, and 60 in Tasmania; while 1424 were those of females; viz., 518 in New South Wales, 505 in Victoria, 148 in Queensland, 130 in South Australia, 63 in Western Australia, and 60 in Tasmania. Bulletin No. 14 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, 1908.

Seat of Disease.						Male.	Female	Total.
Cancer, etc., of the mouth	...	...	...	...	...	268	23	291
" " the stomach and liver	...	...	...	...	...	641	480	1,121
" " the peritonæum, the intestines, and the rectum	...	...	...	...	...	145	185	330
" " the female genital organs	...	...	...	...	...	...	309	309
" " the breast	...	...	...	...	...	...	205	205
" " the skin	...	...	...	...	...	69	20	89
" " other organs	...	...	...	...	...	374	202	576
Total Deaths						1,497	1,424	2,921

Of these deaths 1031 were described as cancer, 1039 as carcinoma, 148 as epithelioma, 359 as "malignant disease," 36 as "malignant tumour," 8 as neoplasm, 32 as "rodent ulcer," 201 as sarcoma, and 17 as scirrhus.

The ages of the 2921 persons who died from cancer in 1908, are shewn in the following table:—

AGES OF PERSONS WHO DIED FROM CANCER, 1908.

Ages.	Males.	Female	Total.	Ages.	Males.	Female	Total.
Under 15 years	19	21	40	65 years and under 70	242	172	414
15 years and under 20	5	9	14	70 " " 75	212	137	349
20 " " 25	12	9	21	75 " " 80	145	110	255
25 " " 30	15	10	25	80 " " 85	71	51	122
30 " " 35	15	31	46	85 years and over	37	33	70
35 " " 40	36	62	98	Age not stated	1	1	2
40 " " 45	79	127	206				
45 " " 50	130	161	291				
50 " " 55	153	163	316				
55 " " 60	152	157	309				
60 " " 65	173	170	343				
				Total Deaths	1,497	1,424	2,921

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

OCCUPATIONS OF MALES WHO DIED FROM CANCER, 1908.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
Professional class	73	Pastoral class	55
Domestic class	57	Working in mines and quarries	122
Mercantile class	157	Other primary producers	4
Engaged in transport and communication	104	Independent means	61
Manufacturing class	140	Dependents	34
Engaged in building and construction	90	Occupation not stated	49
Indefinite industrial workers	293		
Agricultural class	258	Total Male Deaths	1,497

As the following tables shew, the death rates from cancer are below those for tubercular diseases in all the States, 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, 1908.

State.	Death Rates (per 1000) from Cancer.			Percentage of Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.64	0.70	0.67	5.79	7.67	6.58
Victoria ...	0.79	0.80	0.79	5.60	7.27	6.34
Queensland ...	0.63	0.59	0.61	5.37	6.79	5.92
South Australia ...	0.66	0.70	0.68	6.60	7.18	6.87
Western Australia	0.51	0.57	0.53	4.33	5.84	4.90
Tasmania ...	0.64	0.68	0.66	5.40	5.90	5.64
Commonwealth	0.67	0.71	0.69	5.62	7.19	6.29

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 1908 was 0.69 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 shows 461 deaths in 1905, 250 deaths in 1906, 648 deaths in 1907, and 676 deaths in 1908. The last two 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, and in 1908, 1867, viz., 991 males and 876 females. The 1903 figures are made up of congestion and hæmorrhage of the brain—910 males, 811 females, total 1721; and softening of the brain—81 males, 65 females, total 146.

(xix.) *Organic Diseases of the Heart.* Owing to the changes in tabulation it is impossible to say whether the figures for the four years are strictly comparable. The number of deaths registered in 1908 was 4066, viz., 2338 males and 1728 females. Of these deaths, New South Wales was responsible for 827 males and 538 females; Victoria for 810 males and 653 females; Queensland for 352 males and 205 females; South Australia for 160 males and 187 females; Western Australia for 114 males and 56 females; and Tasmania for 75 males and 89 females. To the figures for 1908 correspond the following death rates and percentages to total deaths:—

DEATH RATES FROM ORGANIC HEART DISEASE AND PERCENTAGE ON TOTAL DEATHS, 1908.

State.	Death Rates (per 1000) from Organic Heart Disease.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.98	0.73	0.86	8.89	7.96	8.50
Victoria ...	1.29	1.04	1.16	9.19	9.40	9.28
Queensland ...	1.18	0.82	1.01	10.06	9.40	9.81
South Australia ...	0.76	1.00	0.87	7.60	10.33	8.86
Western Australia	0.74	0.50	0.64	6.33	5.19	5.90
Tasmania ...	0.80	1.01	0.90	6.74	8.75	7.70
Commonwealth ...	1.05	0.86	0.96	8.78	8.73	8.76

(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 and 1908, with the result that acute bronchitis is credited with 478 deaths in 1905, 421 deaths in 1906, 514 deaths in 1907, and 412 deaths in 1908, viz., 232 males and 180 females.

(xxi.) *Chronic Bronchitis.* The adjustment mentioned in the preceding paragraph gives a total of 1023 deaths due to chronic bronchitis in 1905, 984 deaths in 1906, 844 deaths in 1907, and 818 deaths, viz., 447 males and 371 females, in 1908.

(xxii.) *Pneumonia.* The figures for 1905 and 1906 are unduly swelled by the inclusion of broncho-pneumonia, etc., which in 1907 and 1908 is classified under "Other Diseases." The 1908 figures were 1118 males and 753 females, a total of 1871 deaths.

(xxiii.) *Diseases of the Stomach (Cancer excepted).* In 1908 this heading includes : Ulcer of the stomach, 43 males, 57 females; and other diseases of the stomach (cancer excepted), 100 males, 108 females; a total of 308 deaths. The corresponding figures for 1905 and 1906, which are fairly comparable, were 442 and 467 respectively, and those for 1907, which were compiled on the same basis as those for 1908, 334.

(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; and in 1908, 3236, viz., 1814 boys and 1422 girls. The 1908 deaths were distributed amongst the six States as follows:—New South Wales, 646 males, 489 females, total 1135; Victoria, 580 males, 452 females, total 1032; Queensland, 215 males, 193 females, total 408; South Australia, 131 males, 102 females, total 233; Western Australia, 174 males, 120 females, total 294; and Tasmania, 68 males, 66 females, total 134.

The following are the death rates and percentages on total deaths due to infantile diarrhœa and enteritis in the six States for the year 1908:—

DEATH RATES FROM INFANTILE DIARRHŒA AND ENTERITIS, AND PERCENTAGE ON TOTAL DEATHS, 1908.

State.	Death Rate (per 1000) from Infantile Diarrhœa and Enteritis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.76	0.66	0.72	6.95	7.24	7.07
Victoria ...	0.92	0.72	0.82	6.58	6.50	6.55
Queensland ...	0.72	0.77	0.74	6.14	8.85	7.18
South Australia ...	0.62	0.55	0.59	6.22	5.63	5.95
Western Australia	1.13	1.08	1.11	9.67	11.12	10.21
Tasmania ...	0.73	0.75	0.74	6.12	6.49	6.29
Commonwealth	0.81	0.71	0.76	6.81	7.18	6.97

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 the year. The death rates for the three States named were only 0.54, 0.44, and 0.49 per 1000 respectively in 1907.

(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; and in 1908, 389, viz., 218 males and 171 females.

(xxvi.) *Cirrhosis of the Liver.* The deaths in 1905 numbered 290; in 1906, 267; in 1907, 325; and in 1908, 362, viz., 232 males and 130 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; and in 1908, those of 1140 males and 724 females. Of the deaths registered in 1908, those of 68 males and 87 females were ascribed to acute nephritis, and those of 1072 males and 637 females to Bright's disease. New South Wales was responsible for 610 deaths; Victoria for 744; Queensland for 255; South Australia for 136; Western Australia for 74; and Tasmania for 45; making a total of 1864.

(xxviii.) *Non-cancerous Tumours and other Diseases of the Female Genital Organs.* Deaths in 1905 numbered 184; in 1906, 153; in 1907, 128; and in 1908, 159. Included in the 159 deaths registered in 1908 were the following:—Metritis, 7; non-puerperal uterine hæmorrhage, 5; non-cancerous uterine tumours, 40; other diseases of the uterus, 33; cysts and other ovarian tumours, 38; other diseases of the female genital organs, 36.

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

(xxx.) *Other Puerperal Accidents of Pregnancy and Confinement.* The deaths in 1905 numbered 411; in 1906, 458; in 1907, 435; and in 1908, 404. Included in the 404 deaths registered in 1908 were the following:—Accidents of pregnancy, 110; puerperal hæmorrhage, 31; other accidents of childbirth, 98; puerperal albuminuria and eclampsia, 95; puerperal phlegmasia alba dolens, 4; other puerperal accidents (including "sudden death"), 65; puerperal diseases of the breast, 1.

(xxx. a) *All Puerperal Diseases.* The 606 deaths registered in 1908 under the two preceding headings will be found tabulated in "Bulletin No. 14 of Population and Vital Statistics" under various aspects. It will suffice to repeat here the following facts:—

Of the 606 mothers who died in childbirth during the year 1908, 552 were married and 54 were single. As the total number of legitimate confinements was 103,673, and of illegitimate confinements 6818, it follows that one in 188 of married mothers, and one in 126 of single mothers, died of puerperal disease, the general proportion being one in 181, as against one in 178 in 1907.

The ages of the mothers who died varied from 16 to 48 years, and are shewn in the following table:—

AGES OF MOTHERS WHO DIED IN CHILDBIRTH, 1908.

Age at Death.	Married Women.	Single Women.	Total.	Age at Death.	Married Women.	Single Women.	Total.
16 years ...	...	4	4	33 years ...	29	2	31
17 " ...	2	2	4	34 " ...	16	...	16
18 " ...	7	4	11	35 " ...	26	1	27
19 " ...	11	6	17	36 " ...	25	...	25
20 " ...	10	3	13	37 " ...	15	...	15
21 " ...	20	7	27	38 " ...	26	...	26
22 " ...	21	2	23	39 " ...	34	...	34
23 " ...	19	2	21	40 " ...	15	...	15
24 " ...	18	4	22	41 " ...	9	1	10
25 " ...	21	1	22	42 " ...	14	...	14
26 " ...	26	3	29	43 " ...	11	1	12
27 " ...	29	2	31	44 " ...	8	...	8
28 " ...	26	4	30	45 " ...	4	1	5
29 " ...	20	1	21	46 " ...	2	...	2
30 " ...	24	1	25	48 " ...	2	...	2
31 " ...	38	2	40				
32 " ...	24	...	24	T't'l Deaths	552	54	606

Of the 552 married women shewn in the above table, 31 died in Tasmania; in regard to these no information is available as to previous issue and as to duration of marriage. Of the remaining 521 women, 174 died at their first confinement, 60 at their second, 64 at their third, 59 at their fourth, 52 at their fifth, 33 at their sixth, 20 at their seventh, 23 at their eighth, 13 at their ninth, 10 at their tenth, 4 at their eleventh, 5 at their twelfth, and 4 at their thirteenth confinement. The total number of children of the 521 mothers was 1838.

Thirty of the mothers who died had been married less than one year; 85 between one and two years; 32 between two and three years; the duration of marriage ranging up to 29 years. This tabulation will be found in detail, and distinguishing the ages at marriage, in "Bulletin No. 14 of Population and Vital Statistics," as will a further tabulation shewing 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 16 years, died at the age of 45, in the 29th year of her marriage, at her twelfth confinement. The four mothers who died at their thirteenth confinement had been married respectively for 20, 20, 21, and 23 years, and were at the time of their death 39, 41, 44, and 44 years old respectively. One woman who died at the age of 35 had had eleven children prior to the fatal twelfth confinement.

(xxx.) *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, and 2973 for 1908, 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 1908 figures include:—Malformations, 200 males, 181 females, total 381; and congenital debility, icterus, and scleroma of children under three months of age, 1476 males and 1116 females, total 2592; or a grand total of 2973. Of these deaths, 1146 were registered in New South Wales, viz., 646 males and 500 females; 904 in Victoria, viz., 500 males and 404 females; 339 in Queensland, viz., 196 males and 143 females; 238 in South Australia, viz., 135 males and 103 females; 212 in Western Australia, viz., 121 males and 91 females; and 134 in Tasmania, viz., 78 males and 56 females.

(xxxii.) *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; and in 1908, 3466, viz., 2027 males and 1439 females. Of the deaths registered in 1908, 1053 occurred in New South Wales, viz., 632 males and 421 females; 1470 in Victoria, viz., 859 males and 611 females; 248 in Queensland, viz., 161 males and 87 females; 337 in South Australia, viz., 172 males and 165 females; 91 in Western Australia, viz., 60 males and 31 females; and 267 in Tasmania, viz., 143 males and 124 females.

Of the males whose death was described as due to senility, 1 was between 40 and 44 years old; 1 was between 45 and 49; 4 were between 50 and 54; 13 between 55 and 59; 39 between 60 and 64; 94 between 65 and 69; 319 between 70 and 74; 510 between 75 and 79; 534 between 80 and 84; 352 between 85 and 89; 115 between 90 and 94; 31 between 95 and 99; while 10 were 100 years old and upwards; and of 4 the age was not stated.

Of the females, 1 was between 50 and 54; 2 between 55 and 59; 23 between 60 and 64; 86 between 65 and 69; 211 between 70 and 74; 336 between 75 and 79; 354 between 80 and 84; 293 between 85 and 89; 100 between 90 and 94; 30 between 95 and 99; while 3 were 100 years old and upwards.

(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; and in 1908,

2922, viz., 2187 males and 735 females. Of the deaths registered in 1908, those of 772 males and 265 females occurred in New South Wales; those of 620 males and 236 females in Victoria; those of 354 males and 85 females in Queensland; those of 150 males and 71 females in South Australia; those of 210 males and 43 females in Western Australia; and those of 81 males and 35 females in Tasmania.

The following table shews the various kinds of accidental deaths which occurred in 1908, distinguishing males and females:—

DEATHS FROM VIOLENCE, 1908.

Cause of Death.	Males.	Females.	Total.
Fractures	145	42	187
Other accidental injuries	999	163	1,162
Burning by fire	138	214	352
Burning by corrosive substances	1	...	1
Insolation	159	87	246
Freezing	1	...	1
Electric shock	20	...	20
Accidental drowning	434	67	501
Inanition	38	4	42
Inhalation of noxious gases	23	18	41
Other accidental poisoning	78	36	114
Other external violence	151	104	255
Total Deaths	2,187	735	2,922

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.

(xxxiii.a) *Suicide*. Although their number in 1908 was greater than it had been 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; and in 1908, 497, viz., 413 males and 84 females. Of the last named, those of 156 males and 25 females happened in New South Wales; those of 85 males and 31 females in Victoria; those of 82 males and 10 females in Queensland; those of 35 males and 9 females in South Australia; those of 47 males and 7 females in Western Australia; and those of 8 males and 2 females in Tasmania.

The modes adopted by persons who committed suicide in 1908 were as follows:—

SUICIDES, 1908.

Mode of Death.	Males.	Females.	Total.
Poison	88	35	123
Asphyxia	1	...	1
Hanging or strangulation	68	15	83
Drowning	31	14	45
Firearms	146	7	153
Cutting instruments	54	6	60
Precipitation from a height	4	2	6
Crushing	6	2	8
Other modes	15	3	18
Total Suicides	413	84	497

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

DEATH RATE FROM SUICIDES AND PERCENTAGE ON TOTAL DEATHS, 1908.

State.	Death Rates (per 1000) from Suicides.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.18	0.03	0.11	1.68	0.37	1.13
Victoria ...	0.14	0.05	0.09	0.96	0.45	0.74
Queensland ...	0.27	0.04	0.17	2.34	0.46	1.62
South Australia ...	0.17	0.05	0.11	1.66	0.50	1.12
Western Australia	0.31	0.06	0.20	2.61	0.65	1.88
Tasmania ...	0.09	0.02	0.06	0.72	0.20	0.47
Commonwealth	0.19	0.04	0.12	1.55	0.42	1.07

From the following table, which shews the ages of the persons who committed suicide in 1908, it will be seen that both extreme youth and extreme old age are represented :—

AGES OF PERSONS WHO COMMITTED SUICIDE, 1908.

Ages.	M.	F.	Total.	Ages.	M.	F.	Total.
15 years and under 20	8	10	18	60 years and under 65	29	1	30
20 " " 25	29	14	43	65 " " 70	24	1	25
25 " " 30	26	11	37	70 " " 75	13	...	13
30 " " 35	37	6	43	75 " " 80	5	...	5
35 " " 40	43	11	54	80 " " 85	2	...	2
40 " " 45	58	12	70	Age not stated	7	...	7
45 " " 50	50	7	57				
50 " " 55	55	6	50				
55 " " 60	38	5	43				
				Total Deaths ...	413	84	497

The birthplaces of suicides are shewn in the following table :—

BIRTHPLACES OF PERSONS WHO COMMITTED SUICIDE, 1908.

Birthplaces.	M.	F.	Total.	Birthplaces.	M.	F.	Total.
New South Wales ...	80	25	105	Scotland ...	23	1	24
Victoria ...	56	26	82	Spain ...	1	...	1
Queensland ...	22	1	23	Sweden ...	2	...	2
South Australia ...	21	6	27	Switzerland ...	2	...	2
Western Australia ...	2	...	2	Wales ...	1	...	1
Tasmania ...	5	4	9	Canada ...	1	...	1
New Zealand ...	6	1	7	United States ...	3	...	3
Austria-Hungary ...	1	...	1	Argentina ...	1	...	1
Channel Islands ...	1	...	1	Ceylon ...	1	...	1
Denmark ...	2	...	2	China ...	6	...	6
England ...	91	11	102	Japan ...	2	...	2
France ...	2	...	2	Philippine Islands ...	1	...	1
Germany ...	11	...	11	South Africa ...	1	...	1
Greece ...	1	...	1	Fiji ...	1	...	1
Ireland ...	26	7	33	Birthplace not stated	34	2	36
Italy ...	3	...	3				
Norway ...	1	...	1				
Rumania ...	1	...	1				
Russia ...	1	...	1				
				Total Deaths ...	413	84	497

The following table shews the occupations of the 413 males who committed suicide:—

OCCUPATIONS OF MALE PERSONS WHO COMMITTED SUICIDE, 1908.

Occupations.	Deaths.	Occupations.	Deaths.
Professional class	34	Pastoral class	23
Domestic class	17	Working in mines and quarries ...	36
Mercantile class	59	Other primary producers	7
Engaged in transport and communication	28	Independent means	4
Manufacturing class	31	Dependents	3
Engaged in building and construction	24	Occupation not stated	13
Indefinite industrial workers ...	88		
Agricultural class	46	Total Deaths	413

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 1906-08 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 1906-08.

Period.	Total Suicides.			Suicides per One Million of Population.			Suicides of Females to 100 Suicides of Males.	
	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
1906-08	1,201	256	1,457	182.65	43.40	116.80	21.32	23.76

1. 1705 inclusive of Western Australian figures. 2. 1984 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 eight:—Glanders and farcy, rabies, pellagra, scrofula, gonococcal diseases of children under five years of age, other poisonings due to occupation, other diseases of the circulatory system, amputation. 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; and in 1908, 9289, viz., 5473 males and 3816 females. Some of the diseases included here account for very considerable numbers of deaths. Thus there were 762 deaths ascribed to broncho-pneumonia; 883 to diarrhoea and enteritis of children over two years of age and of adults, 561 to convulsions of children under five years of age; 355 to diabetes; 338 to paralysis without indicated cause; and 293 to appendicitis and abscess of the iliac fossa. Particulars of the deaths included in 1908 are shewn in the following table:—

CAUSES OF DEATH INCLUDED UNDER "OTHER DISEASES," 1908.

Causes.	M.	F.	T'tal.	Causes.	M.	F.	T'tal.
Leprosy ...	8	2	10	Pleurisy ...	74	65	139
Purulent Infection and Septicæmia ...	52	67	119	Congestion of the Lungs and Pulmonary Apoplexy ...	104	72	176
Malignant Pustule and "Charbon" ...	3	...	3	Gangrene of the Lungs ...	26	8	34
Trichinosis, etc. ...	6	1	7	Asthma ...	114	65	179
Syphilis ...	108	66	174	Pulmonary Emphysema ...	12	3	15
Blennorrhagia of Adults ...	1	...	1	Other Diseases of the Respiratory System (Consumption excepted) ...	107	38	145
Other Tumours (Tumours of the female genital organs excepted) ...	28	25	53	Diseases of the Mouth and its Associated Organs ...	13	11	24
Acute Articular Rheumatism ...	68	86	154	Diseases of the Pharynx ...	24	28	52
Chronic Rheumatism & Gout ...	44	45	89	Diseases of the Oesophagus ...	17	7	24
Scurvy ...	5	2	7	Diarrhoea and Enteritis of Children over two years of age and Adults ...	472	411	883
Diabetes ...	164	191	355	Intestinal Parasites ...	1	3	4
Exophthalmic Goitre ...	7	40	47	Other Diseases of the Intestine's Icterus Gravis ...	32	20	52
Addison's Disease ...	12	10	22	Hydatid Tumours of the Liver ...	1	4	5
Leucaemia ...	36	16	52	Biliary Calculi ...	20	34	54
Anæmia, Chlorosis ...	134	146	280	Other Diseases of the Liver ...	22	57	79
Other General Diseases ...	1	...	1	Diseases of the Spleen ...	106	98	204
Acute and Chronic Alcoholism ...	133	35	168	Simple Peritonitis (non-puerperal) ...	5	1	6
Lead Poisoning ...	10	3	13	Other Diseases of the Digestive System (Cancer and Tuberculosis excepted) ...	116	113	229
Other Chronic Poisonings ...	8	4	12	Appendicitis and Abscess of the Iliac Fossa ...	8	4	12
Encephalitis ...	15	9	24	Other Diseases of the Kidneys and their Adnexa ...	187	106	293
Progressive Locomotor Ataxia ...	53	5	58	Calculi of Urinary System ...	73	52	125
Other Diseases of the Spinal Cord ...	159	87	246	Diseases of the Bladder ...	20	3	23
Paralysis without indicated cause ...	166	172	338	Other Diseases of the Urethra, Urinary Abscess, etc. ...	159	27	186
General Paralysis ...	131	22	153	Diseases of the Prostate ...	43	3	46
Other Forms of Mental Alienation ...	30	46	76	Non-venereal Diseases of the Male Genital Organs ...	163	...	163
Epilepsy ...	97	75	172	Non-puerperal Diseases of the Breast (cancer excepted) ...	1	...	1
Eclampsia (non-puerperal) ...	28	23	51	Gangrene ...	...	3	3
Convulsions of Children under five years of age ...	327	234	561	Carbuncle ...	57	53	110
Tetanus ...	86	31	117	Phlegmon, Acute Abscess ...	12	9	21
Chorea ...	4	8	12	Other Diseases of the Skin and Adnexa ...	25	14	39
Other Diseases of the Nervous System ...	194	121	315	Non-tubercular Diseases of the Bones ...	36	47	83
Diseases of the Eyes and their Appendages ...	3	4	7	Arthritis and other Diseases of the Joints (Tuberculosis & Rheumatism excepted) ...	42	19	61
Diseases of the Ear ...	5	3	8	Other Diseases of the Organs of Locomotion ...	7	5	12
Pericarditis ...	32	14	46	Other Diseases peculiar to Infancy ...	8	2	10
Acute Endocarditis ...	210	173	383	Want of Care (Infants) ...	68	56	124
Angina Pectoris ...	63	29	92		18	16	34
Diseases of the Arteries, Atheroma, Aneurism ...	277	93	370				
Embolism and Thrombosis ...	39	40	79				
Diseases of the Veins (Varices Varicose Ulcers, Hæmorrhoids) ...	6	8	14				
Diseases of the Lymphatic System ...	1	...	1				
Hæmorrhages ...	36	32	68				
Diseases of the Nasal Fossæ ...	7	9	16				
Diseases of the Larynx ...	45	40	85				
Diseases of the Thyroid Body ...	5	13	18				
Broncho-Pneumonia ...	433	329	762				
				Total Deaths ...	5,473	3,816	9,289

(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; and 1262, viz., 716 males and 546 females, in 1908. 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 1908 the number of cases of death which would have to be classed under the first of these categories was 39; those belonging to the second, 74; and those belonging to the third, 1149. 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 the percentages on the total deaths pertaining to those classes:—

DEATHS, DEATH RATES, AND PERCENTAGES ON TOTAL DEATHS IN CLASSES, 1908.

Class.	Total Deaths.			Death Rate (per 1000).			Percentage on Total Deaths.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1. General diseases ...	5,922	5,028	10,950	2.64	2.52	2.58	22.24	25.40	23.58
2. Diseases of the Nervous System & of the Organs of Special Sense...	2,662	2,019	4,681	1.19	1.01	1.11	10.00	10.20	10.08
3. Diseases of the Circulatory System	3,002	2,117	5,119	1.35	1.06	1.21	11.27	10.70	11.03
4. Diseases of the Respiratory System	2,724	1,946	4,670	1.22	0.97	1.10	10.23	9.83	10.06
5. Diseases of the Digestive Organs...	3,431	2,785	6,216	1.54	1.39	1.47	12.88	14.07	13.39
6. Diseases of the Genito-Urinary System and Adnexa ...	1,599	971	2,570	0.72	0.48	0.61	6.00	4.91	5.54
7. Puerperal Condition ...	...	606	606	...	0.30	0.14	...	3.06	1.31
8. Diseases of the Skin and of the Cellular Tissue...	130	123	253	0.06	0.06	0.06	0.49	0.62	0.54
9. Diseases of the Organs of Locomotion ...	57	26	83	0.03	0.01	0.02	0.21	0.13	0.18
10. Malformations ...	200	181	381	0.09	0.09	0.09	0.75	0.91	0.83
11. Infancy ...	1,562	1,188	2,750	0.70	0.59	0.65	5.87	6.00	5.92
12. Old Age ...	2,027	1,439	3,466	0.91	0.72	0.82	7.61	7.27	7.47
13. Violence ...	2,600	819	3,419	1.17	0.41	0.81	9.76	4.14	7.36
14. Ill-defined Diseases ...	716	546	1,262	0.32	0.27	0.30	2.69	2.76	2.72
Total ...	26,632	19,794	46,426	11.94	9.88	10.97	100.00	100.00	100.00

19. Age at Death of Married Males and Females, and Issue.—"Bulletin No. 14 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 1908. A short summary of the tables mentioned is given hereunder. Deaths of married males in 1908 numbered 10,941, and of married females, 10,264. The ages at death of the males ranged from 19 to 111 years, and those of the females, from 16 to 109 years. The total number of children in the families of the 10,941 males was 59,312, the maximum in one family being 23; and of the 10,264 females, 53,780, with a maximum of 20. 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), 1908.

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 ...	...	0.80	70 to 74 years ...	6.35	6.45
20 to 24 years ...	1.01	1.19	75 " 79 " ...	6.68	6.41
25 " 29 " ...	1.41	1.87	80 " 84 " ...	6.36	5.83
30 " 34 " ...	1.89	2.60	85 " 89 " ...	6.23	5.93
35 " 39 " ...	2.73	3.66	90 " 94 " ...	6.67	5.77
40 " 44 " ...	3.49	4.49	95 " 99 " ...	6.65	5.97
45 " 49 " ...	4.15	4.93	100 years and upwards	6.50	5.00
50 " 54 " ...	4.96	5.31	Age not stated ...	5.09	3.60
55 " 59 " ...	5.50	5.87			
60 " 64 " ...	6.03	5.88			
65 " 69 " ...	6.34	6.29	All ages ...	5.42	5.23

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 755 to 245, 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), 1908.**

Issue of Married Males.				Issue of Married Females.			
	Males.	Females.	Total.		Males.	Females.	Total.
Living ...	23,160	22,469	45,629	Living ...	20,071	19,695	39,766
Dead ...	7,354	6,329	13,683	Dead ...	7,468	6,546	14,014
Total ...	30,514	28,798	59,312	Total ...	27,539	26,241	53,780

These figures shew a masculinity in the births of 105.47, which agrees fairly well with the experience of the birth statistics, the masculinity of the births in the Commonwealth from 1901 to 1908 having ranged from 104.11 to 105.99.

As a matter of curiosity it may be mentioned that the family of twenty-three belonged to a father who died at the age of 74, and that it had originally comprised eight sons and fifteen daughters, of whom six sons and ten 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 shews an increase in the averages with advancing ages at death, the following table, which gives the average families of males and females according to the age at marriage of the deceased parents, 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), 1908.**

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 ...	6.44	7.00	55 to 59 years ...	1.58	...
20 to 24 years ...	6.43	5.56	60 „ 64 „ ...	1.26	...
25 „ 29 „ ...	5.73	4.33	65 „ 69 „ ...	0.33	...
30 „ 34 „ ...	4.65	2.91	70 years and upwards ...	...	...
35 „ 39 „ ...	4.32	1.77	Age not stated ...	5.08	4.53
40 „ 44 „ ...	3.38	0.36			
45 „ 49 „ ...	2.48	0.04			
50 „ 54 „ ...	1.67	...	All ages ...	5.42	5.23

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

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. 14 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 1908, 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 4.56, and of deceased females, 4.38.

**BIRTHPLACES OF MARRIED MALES AND FEMALES, AND AVERAGE ISSUE,
COMMONWEALTH (EXCLUSIVE OF TASMANIA), 1908.**

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	1,334	5.17	1,660	4.87	Bermudas	2	4.50	...	...
Victoria	1,130	3.90	1,301	3.81	Cent. America (so desc'd.)	2	1.50	...	...
Queensland	147	3.34	255	3.60	Mexico	1	1.00	...	...
South Australia	372	4.25	490	4.38	British West Indies	15	5.53	7	7.00
Western Australia	48	5.56	69	5.43	Jamaica	1	7.00	...	...
Tasmania	127	6.00	163	4.69	British Guiana	1	...	...	...
New Zealand	57	2.73	57	2.84	Sth. America (so desc'd.)	3	2.33	...	...
Austria-Hungary	23	4.26	2	1.00	Afghanistan	1	8.00	...	...
Belgium	3	4.00	3	4.33	Beloochistan	1	2.00	...	...
Channel Islands	16	5.18	10	4.90	Burmah	...	...	1	4.00
Denmark	52	4.92	24	5.25	Ceylon	4	4.50	...	...
England	3,858	5.79	2,819	5.76	China	71	2.17	3	3.00
Finland	4	2.75	...	...	Dutch East Indies	...	...	1	5.00
France	37	5.08	9	4.55	India	17	4.00	10	4.10
Germany	416	6.42	248	6.46	Japan	6	1.66	...	...
Gibraltar	...	...	1	5.00	Straits Settlements	...	...	1	3.00
Greece	3	4.33	1	10.00	Syria	2	5.50	4	6.25
Ireland	1,654	6.07	2,058	5.90	Africa (so described)	...	...	1	1.00
Isle of Man	7	6.28	3	10.33	Cape of Good Hope	...	...	2	4.00
Italy	35	4.25	7	4.28	Madeira	1	...	...	...
Malta	4	1.50	...	...	Mauritius	1	7.00	2	11.00
Netherlands	4	9.00	1	9.00	South Africa (so desc'd.)	8	5.37	6	7.66
Norway	28	5.46	3	6.66	St. Helena	...	...	2	4.50
Portugal	8	3.87	...	...	Fiji	4	4.00	...	...
Rumania	1	6.00	...	...	Hawaii	1	5.00	...	...
Russia	19	4.78	7	5.28	New Hebrides	1	9.00	...	...
Scotland	1,064	5.86	845	5.70	Norfolk Island	1	...	...	...
Spain	4	4.50	3	3.66	S. Sea Islands (so desc'd.)	5	1.00	2	5.00
Sweden	45	4.75	5	3.89	At Sea	45	6.31	41	5.36
Switzerland	28	5.28	10	4.60	Not stated	49	4.67	43	3.39
Wales	77	5.06	50	5.98					
Canada	29	5.34	10	8.80					
Newfoundland	3	6.68	...	...			
United States	61	5.03	24	4.37					
					Total	10,941	5.42	10,264	5.23

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), 1908.**

Occupations.					Deaths of Married Males.	Average Family.
Professional class	...	...	...	...	702	4.80
Domestic class	...	...	...	...	395	4.43
Mercantile class	...	...	...	...	1,296	4.69
Engaged in transport and communication	...	...	...	...	822	4.71
Manufacturing class	...	...	...	...	1,201	5.18
Engaged in building and construction	...	...	...	...	719	5.35
Indefinite industrial workers	...	...	...	...	1,635	5.38
Agricultural class	...	...	...	...	1,838	6.67
Pastoral class	...	...	...	...	481	5.91
Working in mines and quarries	...	...	...	...	911	5.40
Other primary producers	...	...	...	...	99	5.63
Independent means	...	...	...	...	580	5.58
Dependents	...	...	...	...	26	4.30
Occupation not stated	...	...	...	...	236	5.87
Total					10,941	5.42

§ 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 235 and 236), shewing these fluctuations from 1860 to 1908, 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 236), 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 1908,
COMPARED WITH THE NUMBER THAT WOULD HAVE OCCURRED IF THE
RATES OF 1890 HAD REMAINED IN OPERATION.

Year.	BIRTHS.		DEATHS.		MARRIAGES.	
	Actual.	Number of Births that would have been experienced if the 1890 birth rate had been in operation.	Actual.	Number of Deaths that would have been experienced if the 1890 death rate had been in operation.	Actual.	Number of Marriages that would have been experienced if the 1890 marriage rate had been in operation.
1890	108,683		44,449		23,725	
1891	110,187	111,802	47,430	45,737	23,862	24,419
1892	110,158	114,502	42,268	46,842	22,049	25,009
1893	109,322	116,617	45,801	47,707	20,631	25,470
1894	104,660	118,734	42,958	48,573	20,625	25,933
1895	105,084	121,002	43,080	49,501	21,564	26,428
1896	100,134	123,212	45,202	50,405	23,068	26,911
1897	101,137	125,419	43,447	51,308	23,939	27,393
1898	98,845	127,371	51,406	52,106	24,472	27,819
1899	100,638	129,088	47,629	52,809	25,958	28,194
1900	102,221	130,848	44,060	53,529	27,101	28,579
1901	102,945	132,662	46,330	54,271	27,753	28,975
1902	102,776	134,873	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	57,482	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	60,583	32,551	32,345

2. *Graphs of Annual Births, Commonwealth and States* (page 235).—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.

Starting in 1860 with a lower number of births than any State except Western Australia, the Queensland graph shews that the births increased somewhat rapidly until 1867. The equality in the number of births in Queensland and Tasmania in 1864 is shewn by the Queensland curve crossing the Tasmanian curve at the line for that year. From 1867 to 1882 a continuous though somewhat less rapid increase was experienced, followed by a very rapid rise to 1890, in which year Queensland's maximum number of births 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.

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 1908.

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.

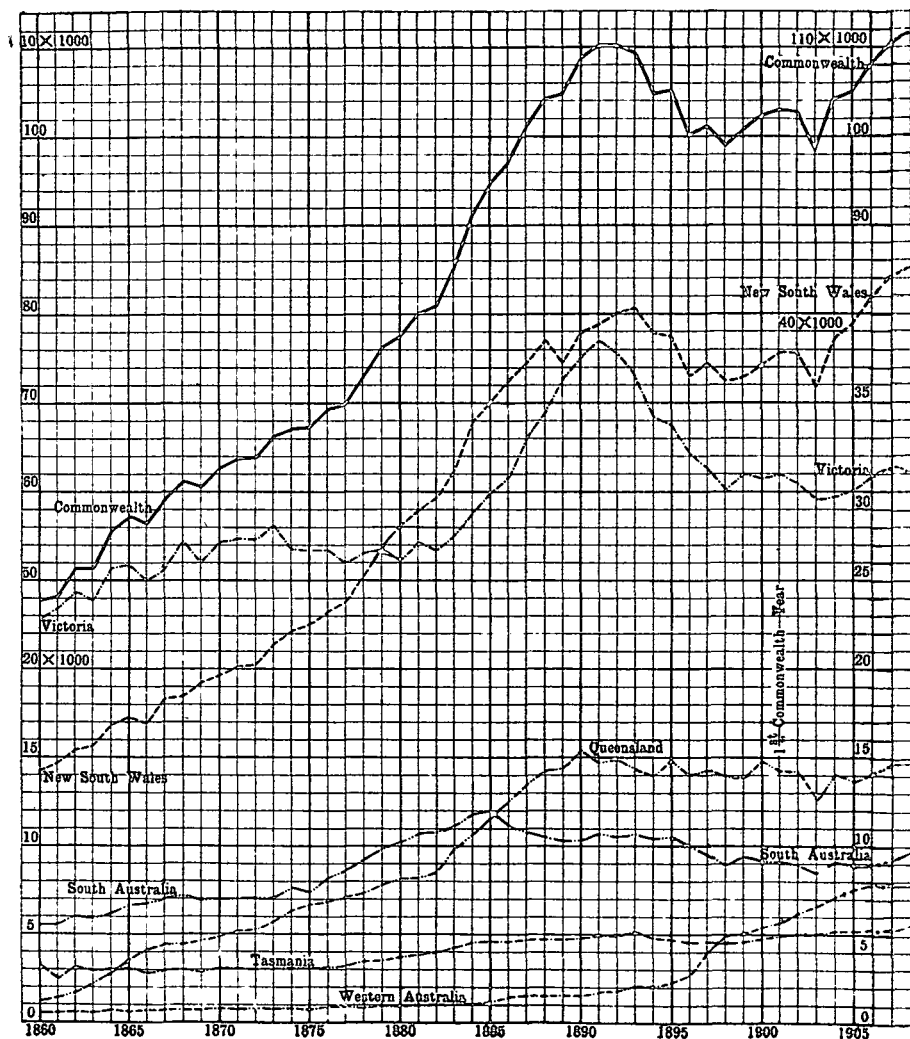
It will be seen that the years in which the highest points were reached by the several curves are as follows:—

State	... N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
Year	... 1908	1891	1890	1885	1906	1908	1908

3. Graphs of Annual Marriages, Commonwealth and States (page 236).—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 1908 was greater than in any preceding year.

4. Graphs of Annual Deaths, Commonwealth and States (page 237).—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:—(1) 1866-7, (2) 1875-6, (3) 1884-5, (4) 1889-1891, (5) 1893, (6) 1898, and (7) 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-

GRAPHS SHEWING TOTAL ANNUAL BIRTHS IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1908.



(See Table page 178.)

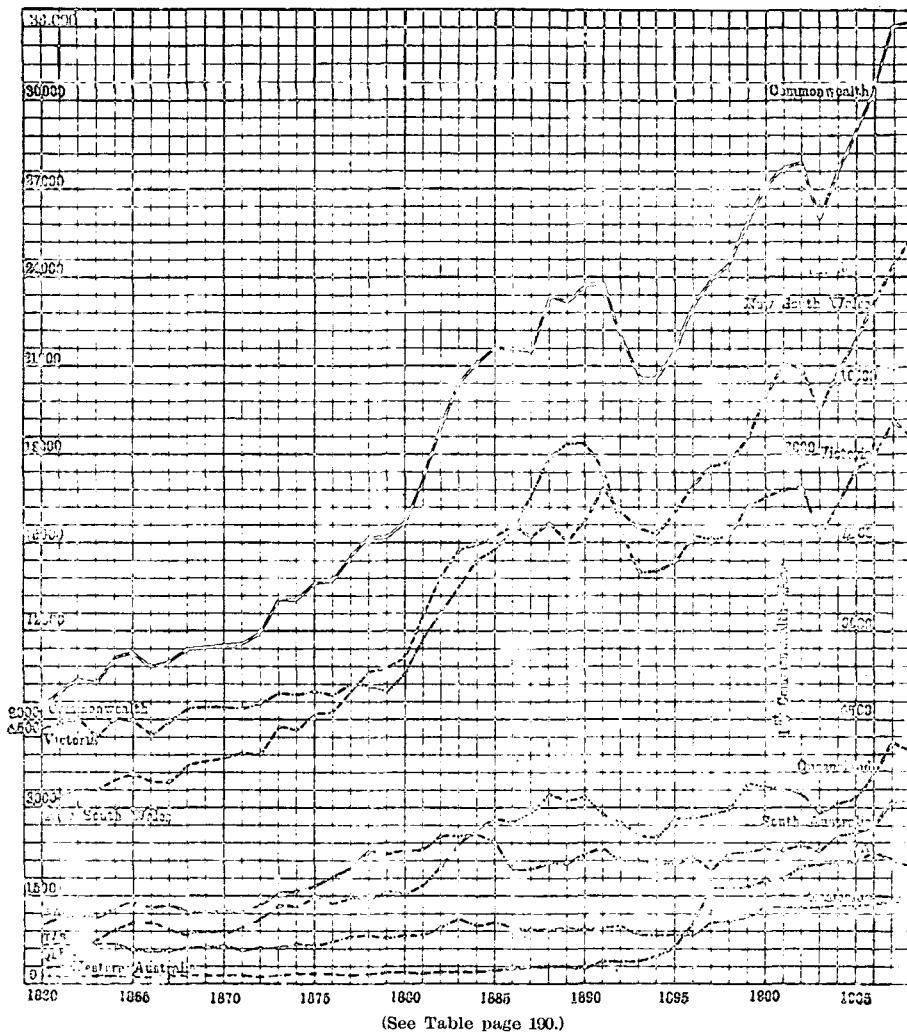
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 2000 persons for the Commonwealth, and 1000 for the States.

The scale running from 0 to 20 on the left and that from 0 to 40 on the right relate to the States, while those from 50 to 110 on the left and from 90 to 110 on the right refer to the Commonwealth.

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, an unbroken line; New South Wales, — — — — —; Victoria,; Queensland, — — — — —; South Australia, — — — — —; Western Australia, — — — — —; Tasmania, — — — — —.

GRAPHS SHEWING TOTAL ANNUAL MARRIAGES IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1908.



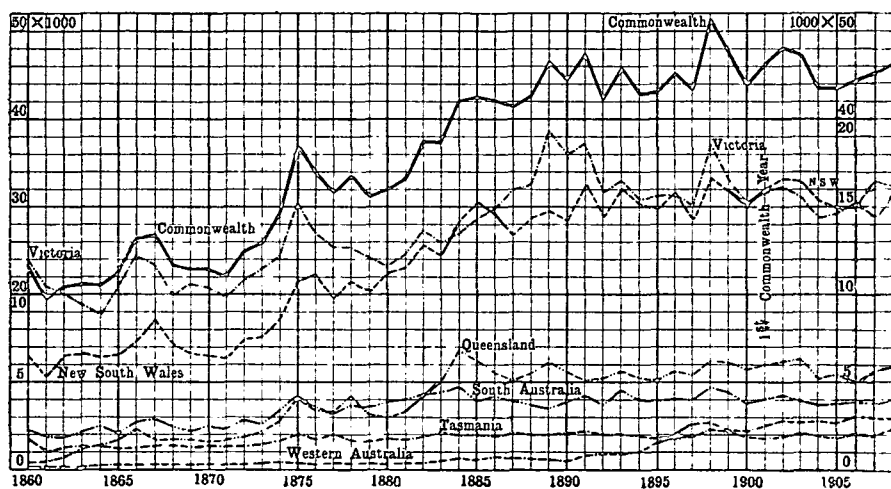
EXPLANATION OF GRAPHS—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 600 marriages for the Commonwealth and 300 for the States.

The scale running from 0 to 4500 on the left and that from 0 to 12,000 on the right relate to the States, while that from 9000 to 33,000 on the left refers to the Commonwealth.

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 235.

GRAPHS SHEWING TOTAL ANNUAL DEATHS IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1908.



(See Table page 199.)

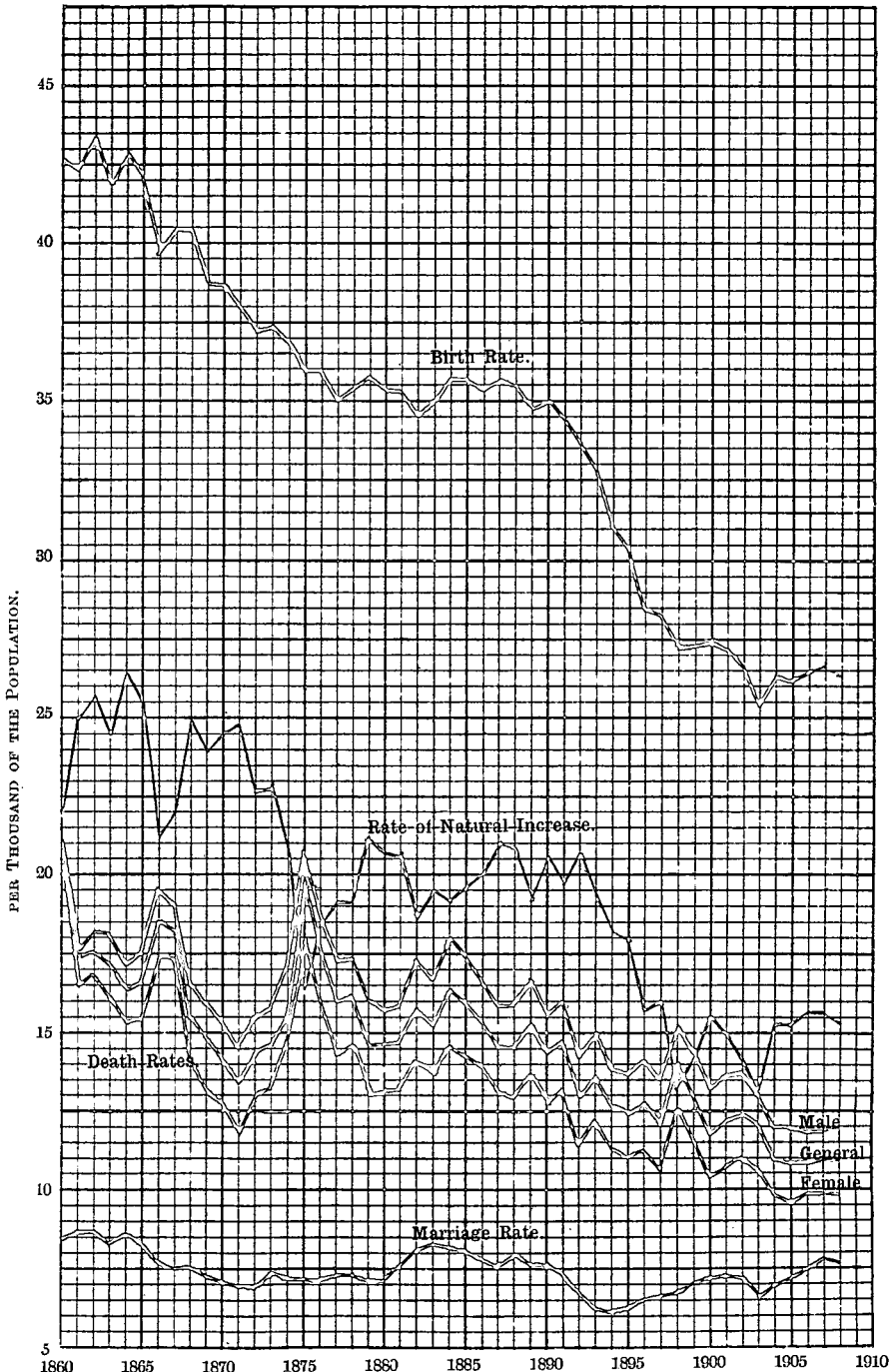
EXPLANATION OF GRAPH.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 2000 persons for the Commonwealth and 1000 for the States.

The scale running from 0 to 10 on the left of the diagram and that from 0 to 20 on the right relate to the States, while those from 20 to 50 on the left and 40 to 50 on the right refer to the Commonwealth.

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 235.

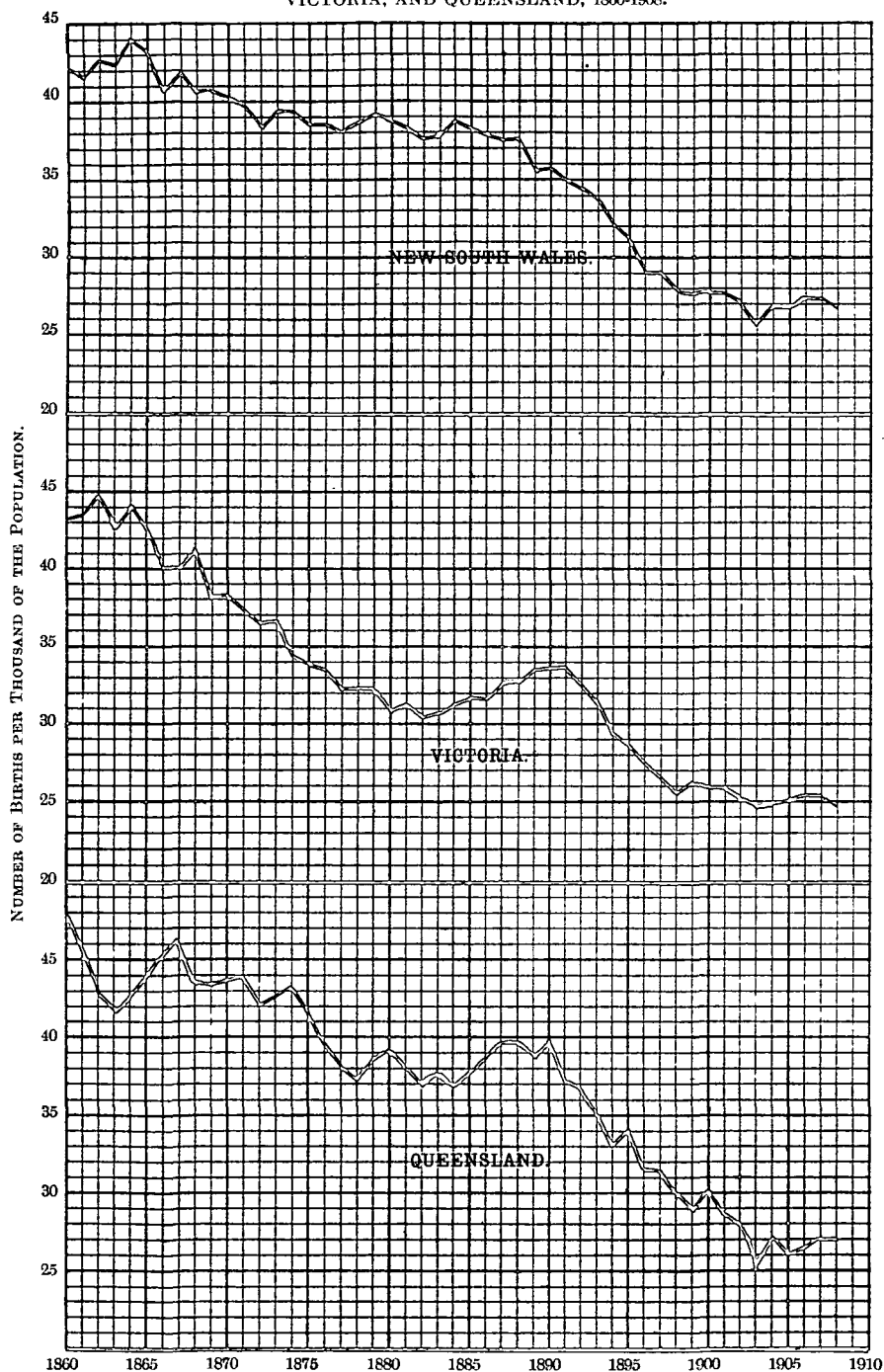
GRAPHS SHEWING GENERAL BIRTH, DEATH, MARRIAGE, AND NATURAL INCREASE RATES, AND MALE AND FEMALE DEATH RATES IN THE COMMONWEALTH OF AUSTRALIA, 1860-1908.



(See pages 178, 191, 199 and 244.)

EXPLANATION OF GRAPHS.—The base of each small square represents a 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.

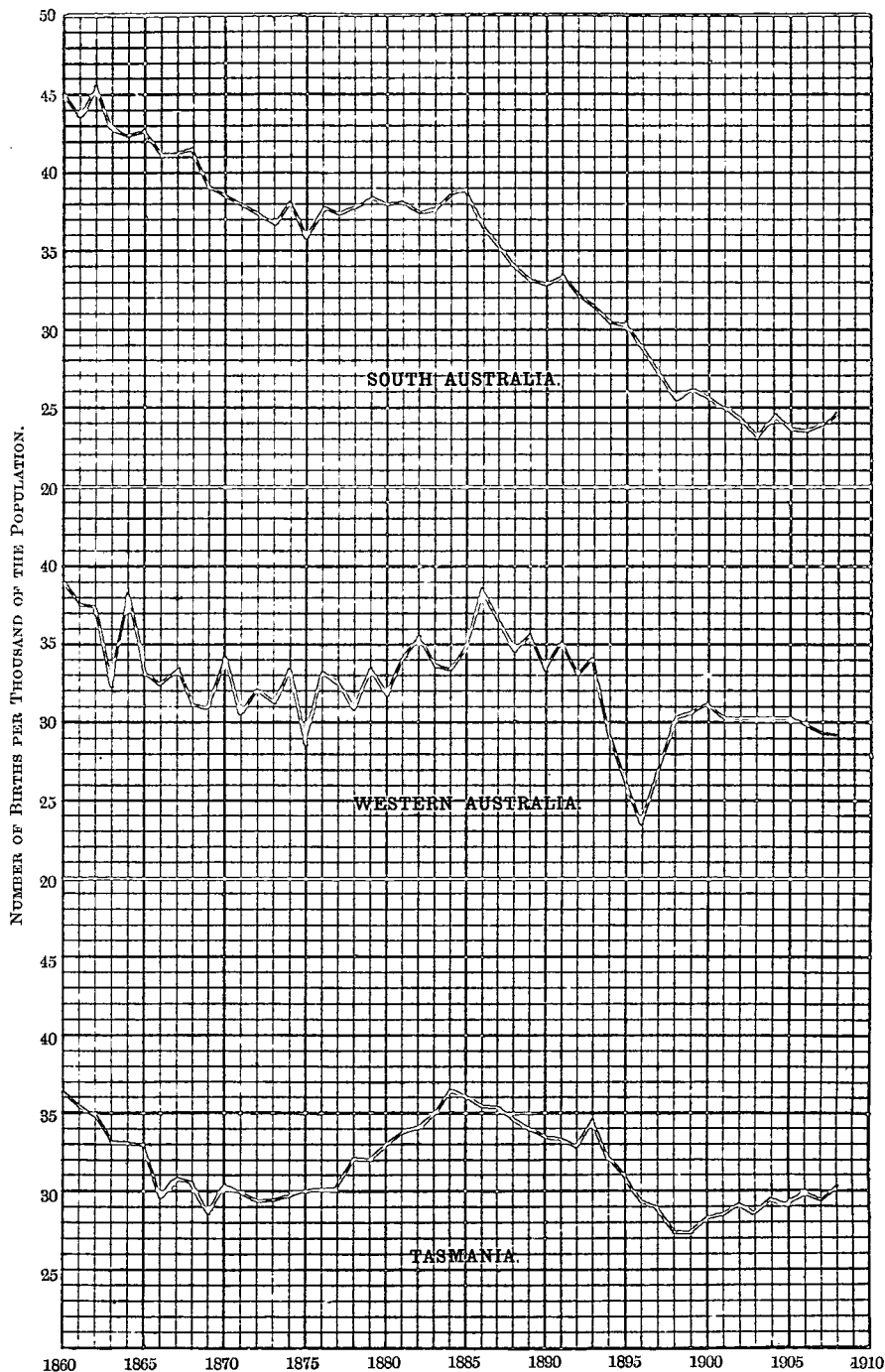
GRAPHS SHEWING BIRTH RATES IN THE STATES OF NEW SOUTH WALES,
VICTORIA, AND QUEENSLAND, 1860-1908.



(See Table page 178.)

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.

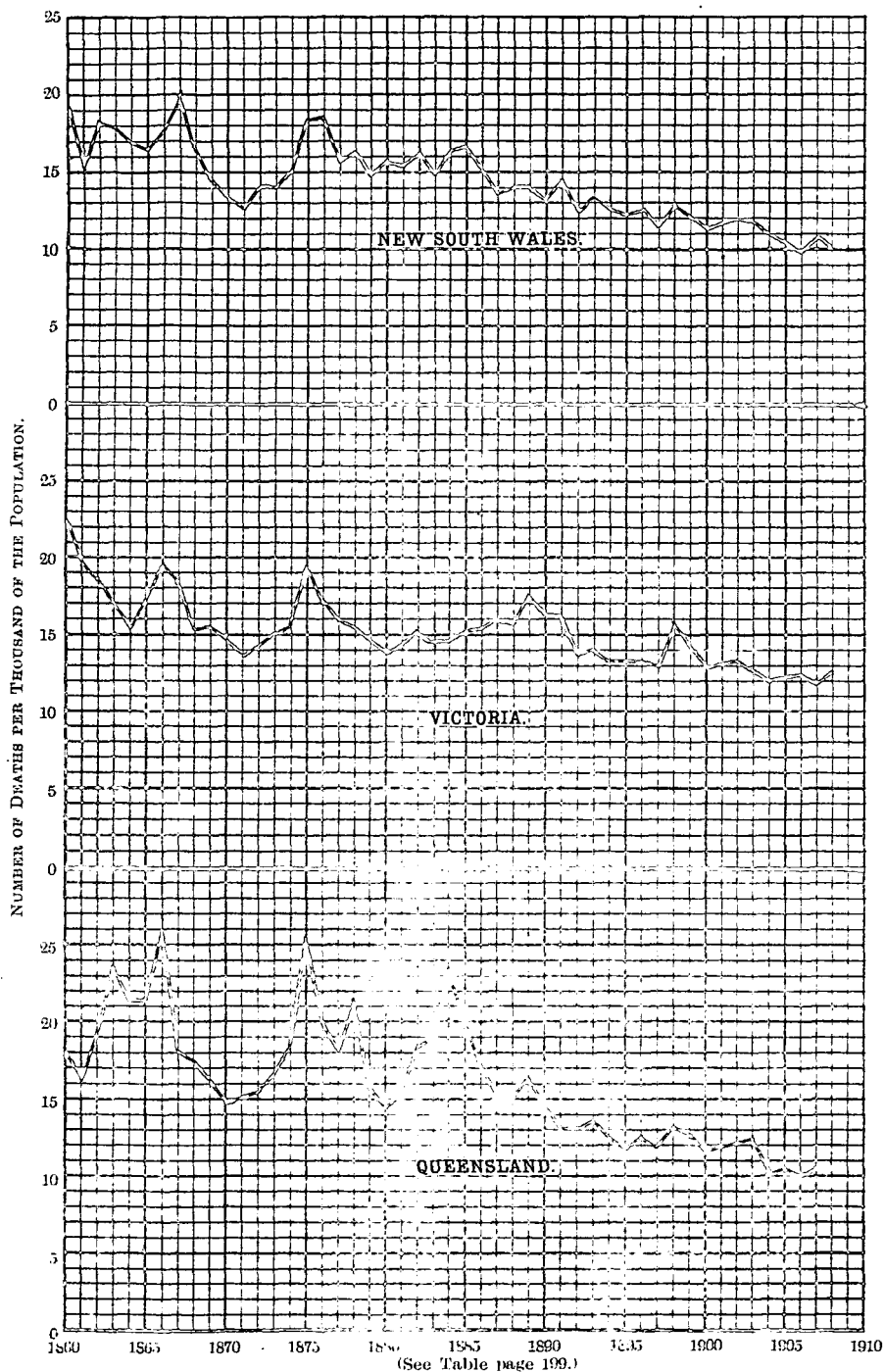
GRAPHS SHEWING BIRTH RATES IN THE STATES OF SOUTH AUSTRALIA,
WESTERN AUSTRALIA, AND TASMANIA, 1860-1908.



(See Table page 178.)

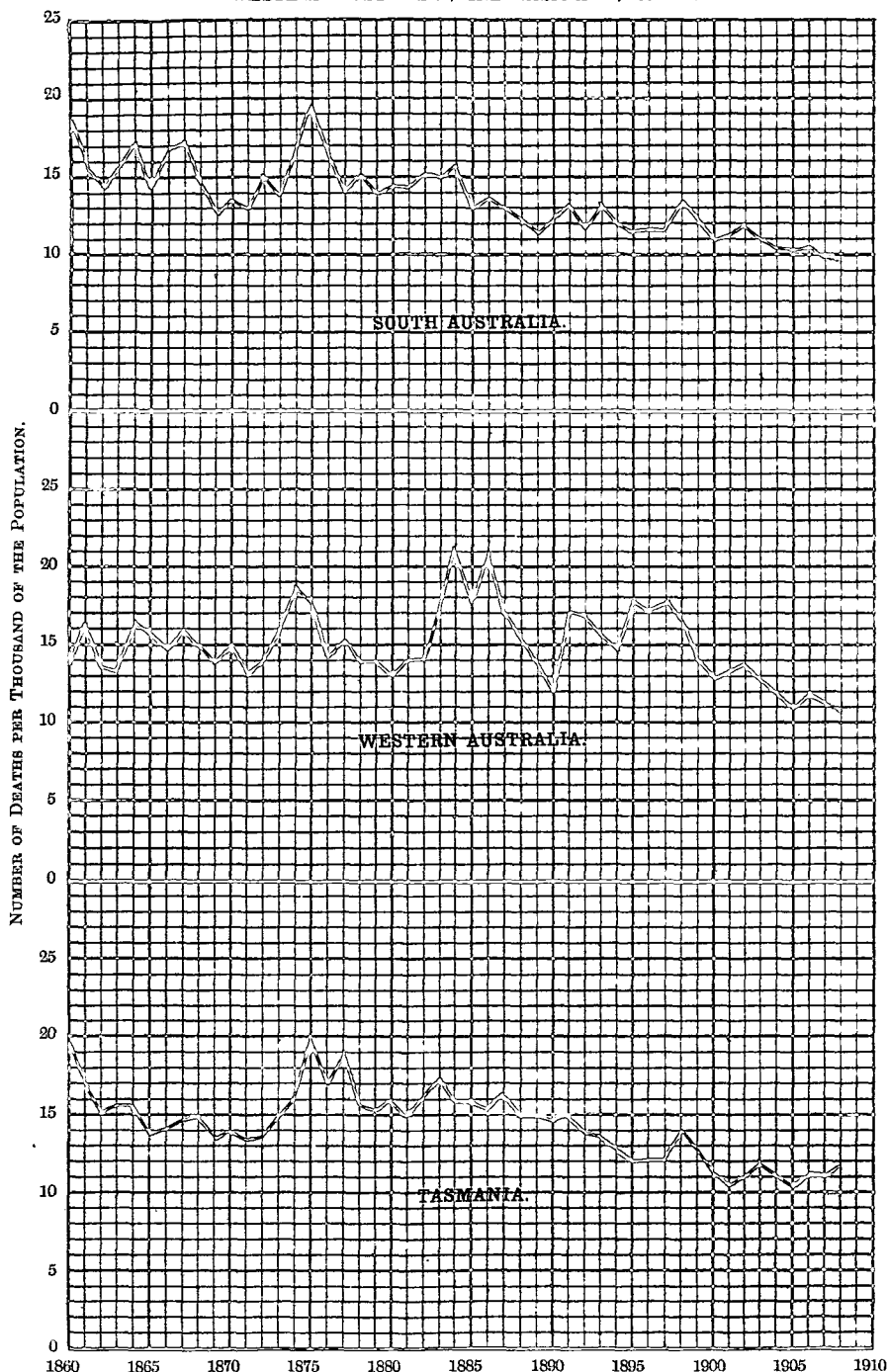
EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height one birth per thousand of the population—the basic line for each State being twenty per thousand of the population.

GRAPHS SHEWING DEATH RATES IN THE STATES OF NEW SOUTH WALES,
VICTORIA, AND QUEENSLAND, 1860-1908.



EXPLANATION OF GRAPHS.—The base of each small square represents a 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, 1860-1908.



(See Table page 199.)

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.

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.

5. Graphs of Annual Birth, Death, and Marriage Rates and of Rate of Natural Increase—Commonwealth (page 238).—(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 1908.

(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 26.35 per 1000 in 1908. 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 26.35 in 1908. 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 10.97 in 1908. 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 11.78 in 1906. For females the highest was 20.71 in 1860, and the lowest 9.56 in 1905. 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 1908, the final year of the period, viz., 7.69, 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 239 and 240).—These graphs furnish for the several States information similar to that supplied in the graph on page 238 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 241 and 242).—These graphs furnish for the several States similar information to that given for the Commonwealth as a whole in the diagram on page 238, 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 (1906), 9.92; Victoria (1907), 11.74; Queensland (1906), 9.56; South Australia (1908), 9.84; Western Australia (1905), 10.82; and Tasmania (1905), 10.29.