

## SECTION V.

## VITAL STATISTICS.

**NOTE.**—The rates quoted throughout this Section for the years 1907 to 1917 have been calculated in accordance with the corrected populations as determined by the results of the Census of 1911.

## § 1. Births.

**1. Male and Female Births, 1907 to 1917.**—The total number of male and female births registered in the Commonwealth during the years 1907 to 1917 is shewn in the two tables hereunder:—

## TOTAL MALE BIRTHS, COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Federal Territory.	C'wealth.
1907 ...	21,604	15,986	7,451	4,675	3,962	2,797	14	...	56,489
1908 ...	21,605	16,071	7,677	4,924	3,993	2,818	25	...	57,113
1909 ...	22,464	16,096	7,954	5,224	3,884	2,849	11	...	58,482
1910 ...	23,368	16,412	8,260	5,395	3,855	2,888	28	...	60,206
1911 ...	24,383	16,934	8,703	5,615	4,124	2,716	16	(a) 17	62,508
1912 ...	26,524	18,226	9,576	6,168	4,469	3,016	23	20	68,022
1913 ...	26,624	18,434	10,041	6,505	4,710	3,071	27	22	69,434
1914 ...	27,452	18,545	10,120	6,668	4,663	3,094	31	31	70,604
1915 ...	27,085	17,820	10,444	6,076	4,578	2,991	33	22	69,049
1916 ...	26,615	17,623	9,673	6,200	4,439	2,873	44	38	67,505
1917 ...	27,002	17,220	10,058	5,762	4,058	2,720	42	21	66,883

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

## TOTAL FEMALE BIRTHS, COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Federal Territory.	C'wealth.
1907 ...	20,597	15,379	7,089	4,536	3,750	2,494	13	...	53,858
1908 ...	20,853	15,026	7,153	4,832	3,762	2,797	9	...	54,432
1909 ...	21,318	15,448	7,598	4,840	3,718	2,651	16	...	55,589
1910 ...	22,076	15,025	7,909	5,145	3,730	2,698	12	...	56,595
1911 ...	23,154	16,092	8,281	5,442	3,967	2,721	15	(a) 13	59,685
1912 ...	25,337	17,570	9,162	5,911	4,220	2,837	10	19	65,066
1913 ...	25,562	17,536	9,690	6,122	4,508	2,815	25	22	66,280
1914 ...	26,189	17,677	9,762	6,236	4,541	2,923	27	24	67,379
1915 ...	25,846	17,189	9,719	5,722	4,439	2,854	28	25	65,822
1916 ...	25,465	16,612	9,239	5,657	4,124	2,769	30	25	63,921
1917 ...	25,446	15,813	9,729	5,564	3,824	2,656	27	23	63,082

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

**2. Total Births, 1907 to 1917.**—The total number of births for the Commonwealth was higher in 1914 than in any of the preceding years, but the figures for the last three years shew a falling off for the Commonwealth as compared with those for 1913 and

1914, the only States in which births were slightly more numerous in 1917 than in 1913 being New South Wales and Queensland, while every State receded from the 1914 numbers.

### TOTAL BIRTHS, COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed'l Terr.	C'wealth.
1907 ...	42,201	31,365	14,540	9,211	7,712	5,291	27	...	110,347
1908 ...	42,458	31,097	14,830	9,756	7,755	5,615	34	...	111,545
1909 ...	43,782	31,544	15,552	10,064	7,602	5,500	27	...	114,071
1910 ...	45,444	31,437	16,169	10,540	7,585	5,586	40	...	116,801
1911 ...	47,537	33,026	16,984	11,057	8,091	5,437	31	(a) 30	122,193
1912 ...	51,861	35,796	18,738	12,079	8,689	5,853	33	39	133,088
1913 ...	52,186	35,970	19,731	12,627	9,218	5,886	52	44	135,714
1914 ...	53,641	36,222	19,882	12,904	9,204	6,017	58	55	137,983
1915 ...	52,931	35,009	20,163	11,798	9,017	5,845	61	47	134,871
1916 ...	52,080	34,235	18,912	11,857	8,563	5,642	74	63	131,426
1917 ...	52,448	33,033	19,787	11,326	7,882	5,376	69	44	129,965

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

3. Birth Rates, 1907 to 1917.—(i.) *Crude Birth Rate.* The law relating to Maternity Allowances, which came into force on 10th October, 1912, had the effect of materially diminishing the period between the dates of birth and the date of registration, so that probably 6000 births were registered during the last three months of the year which, under ordinary circumstances, would not have been registered before the beginning of 1913. The increase shewn by the 1912 birth rate over the rate for 1911 is, therefore, to some extent fictitious, and the true birth rate for the whole Commonwealth in 1912 was more probably about 27.42 per thousand than 28.65 as shewn in the subjoined table. If due allowance be made for this fact, it may be stated that the birth rate for the Commonwealth was not only higher in 1913 than in any of the preceding nine years, but that the increase which began with the year 1909, was maintained to the end of 1913, while the years 1914, 1915, 1916 and 1917 shew decreases in the rate, that for 1917 having practically receded to the 1908 level. The very high masculinity of the population accounts for the low birth rate experienced in the Northern Territory:—

### CRUDE BIRTH RATE (a), COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	North. Terr.	Federal Territory.	Cwlth.
1907 ...	27.34	25.59	26.79	25.05	30.18	28.63	7.06	...	26.76
1908 ...	26.99	25.07	26.79	25.81	30.08	29.95	9.30	...	26.59
1909 ...	27.40	25.01	27.29	25.91	28.87	28.91	7.63	...	26.69
1910 ...	27.83	24.51	27.33	26.50	27.99	29.25	11.75	...	26.73
1911 ...	28.60	25.01	27.65	26.89	28.21	28.57	9.34	(c) 16.85	27.21
1912 ...	29.86	26.39	29.67	28.65	28.83	30.53	9.82	19.15	28.65
1913 ...	28.86	25.82	30.24	29.12	29.36	30.03	14.21	17.97	28.25
1914 ...	28.96	25.45	29.46	29.33	28.45	30.33	15.46	20.79	28.05
1915 ...	28.33	24.55	29.35	26.84	27.97	29.32	13.85	19.05	27.25
1916 ...	27.89	24.29	27.91	27.39	27.21	28.47	15.26	24.11	26.78
1917 ...	28.06	23.50	29.09	26.21	25.54	27.03	13.92	17.65	26.51
Density (b) (No. per square mile) ...	6.07	16.06	1.03	1.15	0.31	7.75	0.009	2.31	1.66

(a) Number of births per 1,000 of the mean annual population. (b) On 31st December, 1917.  
(c) Part of New South Wales prior to 1911

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

(ii.) *Objections to Crude Birth Rate.* The figures just given represent the "crude birth rate," i.e., the number of births per thousand of mean annual population. The number of births per thousand of the female population of child-bearing ages, i.e., from 15 to 45, furnishes a more significant rate. This calculation has been made for the four last Census periods, and covers in each case the Census year together with the year immediately preceding and the year immediately following. The following results have been obtained for the four Census periods:—Total births per 1000 women (married and unmarried) of ages 15 to 45:—Years 1880-82, 169.69; years 1890-92, 158.81; years 1900-02, 117.26; years 1910-12, 117.22. Nuptial births per 1000 married women of ages 15 to 45:—Years 1880-82, 320.96; years 1890-92, 332.03; years 1900-02, 235.84; years 1910-12, 236.06.

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

#### CRUDE BIRTH RATE (a) OF VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
Russia, European ...	1909	44.0	Commonwealth ...	1917	26.5.
Rumania ...	1914	42.5	South Australia ...	1917	26.2
Bulgaria ...	1911	40.2	Netherlands... ..	1915	26.2
Serbia ...	1912	38.0	New Zealand ...	1917	25.6.
Ceylon ...	1915	37.0	Western Australia ...	1917	25.5
Chile ...	1914	37.0	Denmark ...	1915	24.2.
Hungary ...	1912	36.3	Ontario (Canada) ...	1915	24.2
Jamaica ...	1915	34.6	Norway ...	1915	23.8
Japan ...	1913	33.3	Victoria ...	1917	23.5.
Austria ...	1912	31.3	Scotland ...	1916	22.8
Italy ...	1914	31.1	Belgium ...	1912	22.6.
Spain ...	1914	29.8	Sweden ...	1915	21.6.
Queensland ...	1917	29.1	United Kingdom ...	1916	21.1
Prussia ...	1913	28.2	Ireland ...	1916	21.1
New South Wales ...	1917	28.1	England and Wales ...	1916	20.9.
German Empire ...	1913	27.5	Switzerland... ..	1915	19.5.
Tasmania ...	1917	27.0	France ...	1913	19.0
Finland ...	1914	26.9			

(a) Number of births per 1000 of the mean population.

The wide discrepancies among the crude birth rates of the various countries are, to some extent, due to differences in sex and age constitution and of conjugal condition. If the birth rates be calculated per 1000 women of child-bearing ages, the comparison shews widely different results. The report for 1908 of the Registrar-General for England and Wales contains a table shewing the nuptial births per 1000 married women of ages 15 to 45, in a number of countries, and the information here given in regard to the period 1900-1902 is taken therefrom.

## NUPTIAL BIRTHS PER 1000 MARRIED WOMEN, AGED 15-45 YEARS, 1900-1902.

Country.	Rate.	Country.	Rate.
Netherlands ... ..	314.6	Switzerland ... ..	265.9
Norway ... ..	302.8	Denmark ... ..	259.1
Prussia ... ..	290.4	Spain ... ..	258.7
Ireland ... ..	289.4	Belgium ... ..	250.7
German Empire ... ..	284.2	New Zealand ... ..	243.2
Austria ... ..	283.7	Commonwealth ... ..	235.8
Scotland ... ..	271.8	England and Wales ... ..	235.5
Italy ... ..	269.4	France ... ..	157.5
Sweden ... ..	269.0		

5. **Masculinity at Birth.**—The masculinity of births, i.e., the number of males per 100 females, registered during the last eleven years in the several States of the Commonwealth has, apart from the Northern Territory and the Federal Territory, the figures for which are useless for comparative purposes on account of the smallness of the returns on which they are based, varied from 99.82 in Tasmania in 1911 to 112.15 in Tasmania in 1907. The following table, which gives the values for the States and Commonwealth for 1907 to 1917, shews the remarkable fact that for the Commonwealth there was a steady increase of masculinity from 1907 to 1910, with a sharp decrease in 1911 and 1912, and slight increases in every year from 1913 to 1917.

## MASCULINITY (a) OF BIRTHS REGISTERED, COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Territory.	C'wealth.
1907 ...	104.89	103.95	105.11	103.06	105.65	112.15	107.69	...	104.89
1908 ...	103.61	106.95	107.33	101.90	106.14	100.75	277.78	...	104.93
1909 ...	105.38	104.19	104.69	107.93	104.46	107.47	68.75	...	105.20
1910 ...	105.85	109.23	104.44	104.86	103.35	107.04	233.33	...	106.38
1911 ...	105.31	105.23	105.10	103.18	103.96	99.82	106.67	(b) 130.77	104.73
1912 ...	104.68	103.73	104.52	104.35	105.90	106.31	230.00	105.26	104.54
1913 ...	104.15	105.12	103.62	106.26	104.48	109.09	108.00	100.00	104.76
1914 ...	104.82	104.91	103.67	106.93	102.69	105.85	114.81	129.17	104.79
1915 ...	104.79	103.67	107.46	106.18	103.13	104.80	117.86	88.00	104.90
1916 ...	104.52	106.09	104.70	109.60	107.64	103.76	146.67	152.00	105.61
1917 ...	106.11	103.90	103.38	103.56	106.12	102.41	155.55	91.30	106.02

(a) Number of males to each 100 females.

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

There is ordinarily a very small difference between the masculinity of nuptial and ex-nuptial births. Thus, according to Bodio, whose figures are quoted in the following table, for the period about 1887-1891, the masculinity ranged from 108.3 to 103.6, and from 107.9 to 101.6 for total and ex-nuptial births respectively.

## MASCULINITY OF BIRTHS IN VARIOUS COUNTRIES.

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

(a) Number of males to each 100 females.

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

MASCULINITY (a) OF EX-NUPTIAL BIRTHS REGISTERED, COMMONWEALTH,  
1907 TO 1917.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North-Territ'y.	Federal Territ'y.	C'with.
1907 ...	104.91	105.59	100.90	113.56	115.94	100.00	...	...	105.11
1908 ...	108.60	105.38	96.83	96.82	89.33	108.51	150.00	...	104.00
1909 ...	105.46	102.16	103.90	105.37	129.14	129.01	66.67	...	106.25
1910 ...	104.96	103.59	100.39	101.33	89.70	106.94	200.00	...	103.05
1911 ...	101.73	106.61	97.94	106.19	108.05	105.67	28.57	(b) ...	103.10
1912 ...	109.83	95.98	97.30	120.85	124.40	82.69	200.00	...	104.05
1913 ...	101.52	105.79	106.39	110.36	110.36	145.97	133.33	100.00	106.21
1914 ...	109.30	108.16	104.63	110.97	107.49	101.70	133.33	...	107.75
1915 ...	98.42	103.21	99.26	101.71	100.52	100.64	70.00	...	100.00
1916 ...	103.39	109.88	114.67	112.04	100.63	90.00	87.50	200.00	106.66
1917 ...	104.53	107.50	107.10	100.00	85.80	111.94	166.67	...	104.78

(a) Number of males to each 100 females. (b) Part of New South Wales prior to 1911.

It is curious to note that while, so far as the total births are concerned, there has always been an excess of male births over female births (excepting Tasmania in 1911), this has not been the case in regard to ex-nuptial births, since in Tasmania in 1912 the masculinity was only 82.69, while on the other hand it rose as high as 145.97 in the following year. Little weight, however, can be attached to those results on account of the small totals on which they are based, and for the same reason the figures for the Northern Territory are not taken into consideration.

6. **Ex-nuptiality of Births.**—The total ex-nuptial births rose rapidly from 1905 to 1908 and remained almost stationary till 1909, when the number again decreased, so that the year 1910 shewed the lowest number recorded since 1906. During the three years 1911-13 the numbers shew a considerable increase, with further decreases in 1914, 1915 and 1916 and a slight increase in 1917. (See the table on the following page).

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

### TOTAL EX-NUPTIAL BIRTHS REGISTERED IN THE COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed'l Terr.	C'wealth.
1907 ...	2,920	1,764	1,117	378	298	306	...	...	6,783
1908 ...	2,887	1,793	1,118	433	337	294	5	...	6,867
1909 ...	2,821	1,870	1,097	421	346	300	5	...	6,860
1910 ...	2,853	1,759	1,034	455	313	298	9	...	6,721
1911 ...	2,921	1,969	1,057	466	362	290	9	(a)...	7,074
1912 ...	2,904	2,046	1,170	572	377	285	3	1	7,358
1913 ...	2,793	2,169	1,228	528	406	305	7	2	7,438
1914 ...	2,836	2,015	1,148	500	388	355	21	...	7,263
1915 ...	2,633	2,012	1,082	472	383	311	17	...	6,910
1916 ...	2,461	1,763	966	458	321	285	15	8	6,272
1917 ...	2,485	1,826	992	448	327	284	16	1	6,379

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

(i.) *Rate of Ex-nuptiality, 1907 to 1917.* The rate of ex-nuptiality, i.e., the percentage of ex-nuptial to total births, has been gradually decreasing during the last ten years, as the subjoined table shews:—

### PERCENTAGE OF EX-NUPTIAL ON TOTAL BIRTHS, COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed'l Terr.	C'wealth.
	%	%	%	%	%	%	%	%	%
1907 ...	6.92	5.62	7.68	4.10	3.86	5.78	...	...	6.15
1908 ...	6.80	5.77	7.54	4.44	4.35	5.24	14.71	...	6.16
1909 ...	6.44	5.94	7.05	4.18	3.95	5.45	18.52	...	6.01
1910 ...	6.28	5.60	6.39	4.32	4.13	5.33	22.50	...	5.75
1911 ...	6.14	5.96	6.22	4.21	4.47	5.33	29.03	(a)...	5.79
1912 ...	5.60	5.72	6.24	4.74	4.34	4.87	9.09	2.56	5.53
1913 ...	5.35	6.03	6.22	4.18	4.40	5.18	13.46	4.55	5.48
1914 ...	5.29	5.56	5.77	3.87	4.22	5.90	36.21	...	5.26
1915 ...	4.97	5.74	5.36	4.00	4.24	5.32	27.87	...	5.12
1916 ...	4.73	5.15	5.11	3.80	3.75	5.05	20.27	4.76	4.77
1917 ...	4.74	5.53	5.01	3.96	4.15	5.28	23.19	2.27	4.91

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

A comparison of greater significance is obtained by calculating the number of ex-nuptial births per thousand of the single and widowed female population between the ages of 15 and 45. The calculation has been made for the last four Census periods, and covers in each case the Census year, together with the year immediately preceding and the year immediately following. The number of ex-nuptial births per 1000 unmarried women of ages 15 to 45 has been found to be as follows:—Years 1880-82, 14.49; years 1890-92, 15.93; years 1900-02, 13.30; years 1910-12, 12.53. Corresponding figures for the countries the nuptial birth rates of which were shewn in a preceding paragraph are here given for the sake of comparison:—

**EX-NUPTIAL BIRTHS PER 1000 UNMARRIED WOMEN AGED 15-45 YEARS,  
1900 TO 1902.**

Country.	Rate.	Country.	Rate.
Austria ... ..	40.1	Spain ... ..	15.5
German Empire ... ..	27.4	Scotland ... ..	13.4
Sweden ... ..	24.3	Commonwealth ... ..	13.3
Denmark ... ..	24.2	Switzerland ... ..	9.8
Prussia ... ..	23.7	New Zealand ... ..	8.9
Italy ... ..	19.4	England and Wales ... ..	8.5
France ... ..	19.1	Netherlands ... ..	6.8
Belgium ... ..	17.8	Ireland ... ..	3.8
Norway ... ..	17.2		

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

**CRUDE EX-NUPTIAL, NUPTIAL, AND TOTAL BIRTH RATES (a), COMMONWEALTH,  
1907 TO 1917.**

Rates.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
Ex-nuptial	1.64	1.64	1.60	1.54	1.57	1.58	1.55	1.48	1.40	1.28	1.30
Nuptial ...	25.12	24.95	25.09	25.19	25.64	27.07	26.70	26.57	25.85	25.50	25.21
Total ...	26.76	26.59	26.69	26.73	27.21	28.65	28.25	28.05	27.25	26.78	26.51

(a) Number of births per 1000 of mean population.

**7. Multiple Births.**—Among the total number of 129,965 births registered in the Commonwealth in 1917 there were 126,957 single births, 2954 twins, 50 triplets, and 4 quadruplets. The number of cases of twins was 1477, the number of cases of triplets 17, and the number of cases of quadruplets one. The total number of mothers was, therefore, 128,452, the proportion of mothers of twins being one in every 87, and of mothers of triplets one in every 7558 of total mothers. The proportion of multiple births is a fairly constant one. In 1907 they numbered 1043 out of a total of 109,806, or one in 105; in 1908, 1065, or one in 104; in 1909, 1142, or one in 99; in 1910, 1189, or one in 99; in 1911, 1236, or one in 98; in 1912, 1350, or one in 98; in 1913, 1369, or one in 99; in 1914, 1401, or one in 97; in 1915, 1417, or one in 94; in 1916, 1383, or one in 95; and in 1917, 1477, or one in 86. The number of cases of triplets is so small that a slight alteration in the total will completely change the proportion. Thus, there were 14 cases in 1907, or one in 7872 of total mothers, as compared with one in 18,415 in 1908; one in 8066 in 1909, one in 8893 in 1910, one in 8639 in 1911, one in 8233 in 1912, one in 16,793 in 1913, one in 12,415 in 1914, one in 13,444 in 1915, one in 10,952 in 1916, and one in 7558 in 1917. The case of quadruplets which occurred in 1917 was the first since the tabulation of Vital Statistics was undertaken by the Commonwealth Bureau of Census and Statistics.

**8. Ages of Parents.**—The relative ages of the parents of children registered in 1917 have been tabulated separately for male and female births, twins and triplets being distinguished from single births, and are shown for single ages and for every State in "Bulletin of Population and Vital Statistics, No. 34; Commonwealth Demography, 1917 and previous years." In the present work the exigencies of space allow only the insertion of corresponding tables shewing the relative ages of parents in groups of five years. It will be seen from the tables that the largest number of both single and twin births occurred where the ages of both father and mother were between 25 and 29. The largest number of mothers was found at ages 25 to 29.

## (a) AGES OF PARENTS IN CASES OF SINGLE BIRTHS, COMMONWEALTH, 1917.

Ages of Fathers.		Total Chil- dren.	Ages of Mothers.									Not Stated.
			Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and Upwds.		
Under 20	Males	168	...	108	57	3	...	...	...	...	...	
	Females	160	...	107	49	4	...	...	...	...	...	
	Total	328	...	215	106	7	...	...	...	...	...	
20 to 24	Males	5,534	...	855	3,603	857	94	14	...	...	1	
	Females	5,215	...	855	3,465	777	96	18	1	...	...	
	Total	10,749	3	1,820	7,068	1,634	190	32	1	...	1	
25 to 29	Males	16,301	...	545	6,238	7,836	1,487	178	15	2	...	
	Females	15,264	...	515	5,898	7,336	1,324	172	17	2	...	
	Total	31,565	...	1,060	12,136	15,172	2,811	350	32	4	...	
30 to 34	Males	15,925	...	148	2,311	6,618	5,765	979	99	3	2	
	Females	15,018	...	130	2,273	6,210	5,408	920	73	1	3	
	Total	30,943	...	278	4,584	12,828	11,173	1,899	172	4	5	
35 to 39	Males	12,004	...	45	779	2,845	4,521	3,472	329	11	2	
	Females	11,119	...	50	642	2,549	4,268	3,250	347	13	...	
	Total	23,123	...	95	1,421	5,394	8,789	6,722	676	24	2	
40 to 44	Males	6,755	...	15	210	806	1,895	2,654	1,147	28	...	
	Females	6,391	...	13	194	770	1,788	2,474	1,124	27	1	
	Total	13,146	...	28	404	1,576	3,683	5,128	2,271	55	1	
45 to 49	Males	3,656	...	4	98	291	729	1,463	951	120	...	
	Females	3,526	...	6	57	285	719	1,319	1,017	123	...	
	Total	7,182	...	10	155	576	1,448	2,782	1,968	243	...	
50 to 54	Males	1,297	...	2	17	81	239	388	483	87	1	
	Females	1,270	...	2	23	93	243	413	408	87	1	
	Total	2,567	...	4	40	174	482	801	890	174	2	
55 to 59	Males	380	...	...	5	35	74	119	114	33	...	
	Females	372	...	...	10	27	58	134	119	24	...	
	Total	752	...	...	15	62	132	253	233	57	...	
60 to 64	Males	119	...	...	4	12	28	31	39	5	...	
	Females	116	...	1	2	11	12	40	44	6	...	
	Total	235	...	1	6	23	40	71	83	11	...	
65 and up- wards	Males	36	...	...	...	3	11	10	12	...	...	
	Females	39	...	...	...	5	9	18	4	3	...	
	Total	75	...	...	...	8	20	28	16	3	...	
Not stated	Males	15	...	...	...	1	1	...	...	...	13	
	Females	13	...	...	...	...	...	...	...	...	13	
	Total	28	...	...	...	1	1	...	...	...	26	
Nuptial child- ren.	Males	62,190	...	1,832	13,322	19,388	14,844	9,308	3,188	289	19	
	Females	58,503	3	1,679	12,613	18,067	13,925	8,758	3,154	286	18	
	Total	120,693	3	3,511	25,935	37,455	28,769	18,066	6,342	575	37	
Ex- nuptial child- ren	Males	3,193	16	845	1,190	589	279	182	80	7	5	
	Females	3,071	10	805	1,143	561	300	183	62	3	4	
	Total	6,264	26	1,650	2,333	1,150	579	365	142	10	9	
Total child- ren	Males	65,383	16	2,677	14,512	19,977	15,123	9,490	3,268	296	24	
	Females	61,574	13	2,484	13,756	18,628	14,225	8,941	3,216	289	22	
	Total	126,957	29	5,161	28,268	38,605	29,348	18,431	6,484	585	46	

## (b) AGES OF PARENTS OF TWINS, COMMONWEALTH, 1917.

Ages of Fathers.		Total Chil- dren.	Ages of Mothers.						
			Under 20.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 & up- wards.
Under 20	Males	...	...	...	...	...	...	...	...
	Females	...	6	4	3	...	...	...	...
	Total	...	6	4	3	...	...	...	...
20 to 24	Males	...	85	9	65	11	...	...	...
	Females	...	87	7	57	23	...	...	...
	Total	...	172	16	122	34	...	...	...
25 to 29	Males	...	294	3	94	154	40	3	...
	Females	...	294	3	106	152	32	1	...
	Total	...	588	6	200	306	72	4	...
30 to 34	Males	...	359	...	31	130	170	28	...
	Females	...	363	...	47	136	154	26	...
	Total	...	722	...	78	266	324	54	...
35 to 39	Males	...	315	...	9	58	116	124	8
	Females	...	297	2	11	56	102	116	10
	Total	...	612	2	20	114	218	240	18
40 to 44	Males	...	173	...	3	14	54	79	22
	Females	...	212	...	3	22	52	107	28
	Total	...	384	...	6	36	106	186	50



## (b) AGES OF PARENTS OF TWINS, COMMONWEALTH, 1917—Continued.

Ages of Fathers.			Total Children.	Ages of Mothers.						
				Under 20.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 & upwards.
45 to 49	...	Males	101	...	...	1	10	53	35	2
	...	Females	105	...	...	1	32	35	33	4
	...	Total	206	...	...	2	42	88	68	6
50 to 54	...	Males	57	...	...	7	5	25	20	...
	...	Females	63	...	...	3	11	31	16	2
	...	Total	120	...	...	10	16	56	36	2
55 to 59	...	Males	10	...	...	3	1	...	6	...
	...	Females	10	...	...	1	1	4	4	...
	...	Total	20	...	...	4	2	4	10	...
60 to 64	...	Males	1	...	...	...	...	...	1	...
	...	Females	3	...	2	...	...	...	1	...
	...	Total	4	...	2	...	...	...	2	...
65 and upwards	...	Males	4	...	...	...	...	2	1	1
	...	Females	4	...	...	...	...	2	1	1
	...	Total	8	...	...	...	...	4	2	2
Nuptial children	...	Males	1,398	12	202	378	396	314	93	3
	...	Females	1,444	16	228	394	384	322	93	7
	...	Total	2,842	28	430	772	780	636	186	10
Ex-nuptial children	...	Males	71	14	21	17	10	7	2	...
	...	Females	41	4	17	7	10	3	...	...
	...	Total	112	18	38	24	20	10	2	...
Total children	...	Males	1,469	26	223	395	406	391	95	3
	...	Females	1,485	20	245	401	394	325	93	7
	...	Total	2,954	46	468	796	800	646	188	10

## (c) AGES OF PARENTS OF TRIPLETS, COMMONWEALTH, 1917.

Ages of Fathers.			Total Children.	Ages of Mothers.				
				20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.
20 to 24	...	Males	3	3	...	...	...	...
	...	Females	...	...	...	...	...	...
	...	Total	3	3	...	...	...	...
25 to 29	...	Males	2	...	2	...	...	...
	...	Females	1	...	1	...	...	...
	...	Total	3	...	3	...	...	...
30 to 34	...	Males	8	...	...	8	...	...
	...	Females	3	...	*2	1	...	...
	...	Total	11	...	2	9	...	...
35 to 39	...	Males	3	...	1	2	...	...
	...	Females	9	...	5	4	...	...
	...	Total	12	...	6	6	...	...
40 to 44	...	Males	9	...	2	...	5	2
	...	Females	3	...	1	...	1	1
	...	Total	12	...	3	...	6	3
45 to 49	...	Males	2	...	...	...	2	...
	...	Females	1	...	...	...	1	...
	...	Total	3	...	...	...	3	...
50 to 54	...	Males	1	...	...	...	1	...
	...	Females	2	...	...	...	2	...
	...	Total	3	...	...	...	3	...
Nuptial children	...	Males	28	3	5	10	8	2
	...	Females	19	...	9	5	4	1
	...	Total	47	3	14	15	12	3
Ex-nuptial children	...	Males	...	...	...	...	...	...
	...	Females	3	...	3	...	...	...
	...	Total	3	...	3	...	...	...
Total children	...	Males	28	3	5	10	8	2
	...	Females	22	...	12	5	4	1
	...	Total	50	3	17	15	12	3

\* Excluding one female stillborn.

In the case of quadruplets above-mentioned, the age of the father was 38 years, and that of the mother 34. There were three male children and one female.

No conclusions can, of course, be drawn from one year's figures as to variations in the masculinity of the births at different ages of the parents, but so far as the figures go they indicate a few particulars which may be mentioned, viz.: In cases where the father is older than the mother the masculinity has a tendency to be above the average, while in cases where both parents belong to the same age group, or where the father is younger than the mother, the masculinity is rather below the average. It is also below the average in cases where the father, or both father and mother, are under 25; and it is above the average where the mother alone is under 25.

9. **Birthplaces of Parents.**—The relative birthplaces of the parents of children whose births were registered during the year 1917 will be found tabulated in the Bulletin before-mentioned. A summary of the results of the tabulation is here given:—

**BIRTHPLACES OF PARENTS OF CHILDREN, COMMONWEALTH, 1917.**

Birthplaces.	Fathers.			Mothers of Nuptial Children.			Mothers of Ex-nuptial Children.		
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.
<b>AUSTRALASIA—</b>									
Commonwealth of Australia—									
N. South Wales	38,620	458	5	41,720	484	5	2,238	22	1
Victoria	31,047	374	...	31,136	349	* 1	1,692	14	...
Queensland	12,096	134	2	14,684	158	2	838	7	...
South Australia	11,640	130	3	11,633	146	4	456	5	...
Western Australia	1,505	14	...	1,970	25	...	171	1	...
Tasmania	5,247	46	2	5,500	51	2	358	2	...
North. Territory.	10	...	...	23	...	...	18	...	...
New Zealand	1,212	7	...	995	12	...	33	...	...
<b>EUROPE—</b>									
England...	11,535	139	3	8,118	119	3	270	3	...
Wales	340	3	1	230	1	...	3	...	...
Scotland...	2,643	49	...	2,060	36	...	68	...	...
Ireland	1,621	29	* 1	1,048	17	...	40	1	...
Isle of Man	13	...	...	10	...	...	...	...	...
Other European British Possessions...	41	1	...	22	...	...	...	...	...
Austria-Hungary	83	...	...	55	...	...	...	...	...
Belgium...	15	...	...	7	1	...	1	...	...
Denmark	159	2	...	50	1	...	1	...	...
France	49	...	...	27	...	...	4	...	...
Germany	668	8	...	275	4	...	10	...	...
Greece	89	1	...	46	1	...	2	...	...
Italy	332	2	...	210	2	...	3	...	...
Netherlands	74	...	...	31	...	...	...	...	...
Norway	91	...	...	19	1	...	1	...	...
Portugal...	1	...	...	1	...	...	...	...	...
Russia	277	3	...	178	2	...	3	1	...
Spain	39	...	...	20	2	...	3	...	...
Sweden	155	3	...	21	...	...	...	...	...
Switzerland	38	1	...	28	...	...	1	...	...
Other European Countries	34	...	...	13	1	...	1	...	...
<b>ASIA—</b>									
British India	117	3	...	64	1	...	4	...	...
Ceylon	12	...	...	7	...	...	...	...	...
Hong Kong	...	...	...	1	...	...	...	...	...
Straits Settlements	5	...	...	1	...	...	...	...	...
Other Asiatic British Possessions	4	...	...	2	...	...	...	...	...
Afghanistan	5	...	...	...	...	...	...	...	...

\* One Case of Quadruplets.

## BIRTHPLACES OF PARENTS OF CHILDREN—Continued.

Birthplace.	Fathers.			Mothers of Nuptial Children.			Mothers of Ex-nuptial Children.		
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.
ASIA—continued.									
Arabia ...	1	...	...	...	...	...	...	...	...
China ...	125	1	...	31	...	...	1	...	...
Japan ...	16	...	...	9	...	...	...	...	...
Java ...	4	...	...	1	...	...	...	...	...
Philippine Islands	6	...	...	...	...	...	...	...	...
Syria ...	85	2	...	71	2	...	...	...	...
Other Asiatic Coun-tries ...	41	...	...	1	...	...	...	...	...
AFRICA—									
Mauritius ...	14	1	...	4	...	...	...	...	...
S. Africa, Union of	86	1	...	78	1	...	8	...	...
Other African Brit-ish Possessions ...	2	...	...	2	...	...	...	...	...
Egypt ...	11	...	...	7	1	...	...	...	...
Other African Coun-tries ...	6	...	...	1	...	...	...	...	...
AMERICA—									
Canada ...	87	1	...	24	...	...	1	...	...
Jamaica ...	1	...	...	...	...	...	...	...	...
Newfoundland ...	2	...	...	1	...	...	...	...	...
Other American British Pos. ...	6	...	...	4	...	...	...	...	...
Argentine Republic	7	...	...	5	...	...	...	...	...
Brazil ...	1	...	...	3	...	...	...	...	...
Chile ...	5	...	...	2	...	...	...	...	...
Mexico ...	2	...	...	1	...	...	1	...	...
Peru ...	1	...	...	...	...	...	...	...	...
United States of America ...	200	4	...	107	2	...	5	...	...
Other American Countries ...	25	...	...	10	...	...	2	...	...
POLYNESIA—									
Fiji ...	25	1	...	29	...	...	...	...	...
Friendly Islands ...	2	...	...	2	...	...	...	...	...
Papua ...	1	...	...	1	...	...	...	...	...
Other Polynesian British Pos. ...	3	...	...	2	...	...	...	...	...
New Caledonia ...	10	...	...	11	...	...	5	...	...
New Hebrides ...	6	...	...	...	...	...	...	...	...
Samoa ...	2	...	...	3	...	...	...	...	...
Other Polynesian Islands ...	5	...	...	...	...	...	...	...	...
South Sea Islands ° (so described) ...	13	...	...	...	...	...	1	...	...
At Sea ...	89	1	...	60	1	...	1	...	...
Unspecified ...	13	2	...	18	...	...	20	...	...
Total ...	120,693	1,421	*17	120,693	1,421	*17	6,264	56	1

\* Including one case of Quadruplets.

10. Occupations of Fathers.—A summary of the occupations of the fathers of all nuptial children, whose births were registered in 1917, will be found in the following table. The figures include all the States and Territories of the Commonwealth :—

## OCCUPATIONS OF FATHERS OF ALL NUPTIAL CHILDREN, COMMONWEALTH, 1917.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
<b>CLASS I.—PROFESSIONAL.</b>			
General Government ...	651	Wool and Tallow ...	83
Local Government ...	109	Hay, Corn, etc. ...	183
Defence ...	2,808	Other Vegetable Matter, n.e.i. ...	108
Law and Order ...	1,184	Wood and Coal ...	125
Religion ...	393	Stone, Clay, and Glass ...	21
Charities ...	7	Gold, Silver, and Precious Stones ...	4
Health ...	952	Ironmongery ...	205
Literature ...	153	Merchants, Importers ...	460
Science ...	82	Shopkeepers and Assistants ...	1,190
Civil Engineering, Architecture, and Surveying ...	360	Dealers and Hawkers ...	372
Education ...	776	Agents and Brokers ...	504
Fine Arts ...	134	Clerks, Bookkeepers, etc. ...	3,814
Music ...	140	Commercial Travellers, Salesmen ...	1,545
Amusements ...	478	Others engaged in Commercial Pursuits ...	1,279
Total Professional ...	8,227	Speculators on Chance Events ...	61
		Storage ...	5
		Total Commercial ...	16,844
<b>CLASS II.—DOMESTIC.</b>		<b>CLASS IV.—TRANSPORT AND COMMUNICATION.</b>	
Hotelkeepers and Assistants ...	678	Railway Traffic ...	5,122
Others engaged in providing board and lodging ...	335	Tramway Traffic ...	1,330
House Servants ...	84	Road Traffic ...	5,315
Coachmen and Grooms ...	214	Sea and River Traffic ...	1,739
Hairdressers ...	577	Postal Service ...	637
Laundrymen ...	62	Telegraph and Telephone Service ...	664
Others engaged in domestic occupations ...	282	Messengers, etc. ...	22
Total Domestic ...	2,232	Total Transport & Communication ...	14,829
<b>CLASS III.—COMMERCIAL.</b>		<b>CLASS V.—INDUSTRIAL.</b>	
Banking and Finance ...	502	Books and Publications ...	805
Insurance and Valuation ...	466	Musical Instruments ...	56
Landed and House Property ...	146	Prints, Pictures and Art Materials ...	109
Property Rights not elsewhere clsd. ...	—	Ornaments and Small Wares ...	134
Books, Publications, Advertising ...	173	Equipment for Sports and Games ...	3
Musical Instruments ...	20	Medals, Type, and Dies ...	38
Prints, Pictures and Art Materials ...	2	Watches, Clocks, and Scientific Instruments ...	133
Ornaments and Small Wares ...	2	Surgical Instruments ...	7
Watches, Clocks, Jewellery ...	9	Arms and Ammunition ...	153
Surgical Instruments ...	1	Engines, Machines, Tools, and Implements ...	1,540
Arms and Ammunition ...	2	Carriages and Vehicles ...	1,088
Machinery ...	44	Harness, Saddlery & Leatherware ...	397
Carriages and Vehicles ...	56	Ships, Boats, etc. ...	161
Harness, Saddlery & Leatherware ...	5	Furniture ...	626
Ships and Boats ...	9	Building Materials ...	835
Building Materials ...	25	Chemicals and By-Products ...	61
Furniture ...	71	Textile Fabrics ...	125
Chemicals and By-products ...	10	Dress ...	1,827
Paper and Stationery ...	37	Fibrous Materials ...	48
Textile Fabrics ...	566	Animal Food ...	424
Dress ...	178	Vegetable Food ...	1,476
Fibrous Materials ...	9	Groceries, Drinks, Narcotics, and Stimulants ...	369
Animal Food ...	2,296	Animal Matter, not elsewhere clsd. ...	359
Vegetable Food ...	695	Workers in wood, not elsewhere clsd. ...	154
Groceries, Drinks, Narcotics, and Stimulants ...	1,349	Vegetable Produce for Fodder ...	17
Living Animals ...	180		
Leather, Raw Materials ...	33		

## OCCUPATIONS OF FATHERS OF ALL NUPTIAL CHILDREN—Continued.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
Paper ... ..	21	CLASS VI.—AGRICULTURAL, PASTORAL, MINING, ETC.	
Stone, Clay, Glass, etc. ...	453		
Jewellery and Precious Stones ...	228		
Metals, other than Gold & Silver ...	2,830		20,451
Gas, Electric Lighting, etc. ...	922		3,714
Building—			
Builders ... ..	489		1,162
Stonemasons ... ..	211		403
Bricklayers ... ..	546		838
Carpenters ... ..	2,754		159
Slaters ... ..	39	Mines and Quarries ... ..	4,953
Plasterers ... ..	297		31,680
Painters ... ..	1,173	CLASS VII.—INDEFINITE.	
Plumbers ... ..	831	Independent Means, having no specific occupation ... ..	
Signwriters ... ..	65		69
Others ... ..	29	Occupation not stated ... ..	
Roads, Railways, Earthworks ...	364		30
Disposal of the Dead ... ..	51	Total Indefinite ... ..	
Disposal of Refuse ... ..	56	99	
Other Industrial Workers—		CLASS VIII.—DEPENDENTS.	
Manufacturers, etc. ... ..	442	Dependent Relatives ... ..	1
Engineers, Firemen ... ..	3,428		5
Contractors ... ..	1,283	Total Dependents ... ..	
Labourers, undefined ... ..	20,440		6
Others ... ..	317	Total all Occupations ... ..	
Total Industrial ... ..	48,214		122,131

11. **Mothers' Age, Duration of Marriage, and Issue.**—A tabulation has been made shewing, in age-groups, the duration of marriage and issue of mothers. The total number of nuptial confinements in 1917 was 122,131, viz., 120,693 single births, 1421 cases of twins, 16 cases of triplets, and 1 case of quadruplets. From this number 185 mothers must be deducted, in whose case the necessary particulars either as to date of marriage or as to previous issue were not stated. The tables refer, therefore, to a total of 121,946 mothers. They exclude children by former marriages and still-born children, but include ex-nuptial children, previous issue by the same father. The tables cannot be given *in extenso*, but the following are their most salient features. The complete tabulations are shown in "Commonwealth Bulletin of Population and Vital Statistics, No. 35; Commonwealth Demography, 1917, and previous years."

**DURATION OF MARRIAGE AND ISSUE OF MOTHERS OF ALL AGES,  
COMMONWEALTH, 1917.**

Duration of Marriage.	Total Mothers.	Total Issue.	Average Number of Children.	Duration of Marriage.	Total Mothers.	Total Issue.	Average Number of Children.
Years.				Years.			
0-1 ...	16,196	16,392	1.01	18-19 ...	1,406	10,656	7.58
1-2 ...	9,731	10,696	1.10	19-20 ...	1,144	9,040	7.90
2-3 ...	9,698	17,217	1.78	20-21 ...	881	7,128	8.09
3-4 ...	11,451	23,923	2.09	21-22 ...	730	6,354	8.70
4-5 ...	9,913	24,616	2.48	22-23 ...	529	4,717	8.92
5-6 ...	9,118	26,005	2.85	23-24 ...	382	3,581	9.37
6-7 ...	7,930	25,447	3.21	24-25 ...	268	2,594	9.68
7-8 ...	6,927	25,086	3.62	25-26 ...	202	2,030	10.05
8-9 ...	5,709	22,687	3.97	26-27 ...	133	1,398	10.51
9-10 ...	5,364	23,221	4.33	27-28 ...	64	654	10.22
10-11 ...	4,757	22,300	4.69	28-29 ...	49	545	11.12
11-12 ...	4,043	20,395	5.04	29-30 ...	16	173	10.81
12-13 ...	3,449	18,770	5.44	30-31 ...	8	100	12.40
13-14 ...	2,980	17,085	5.73	31-32 ...	3	35	11.66
14-15 ...	2,508	15,173	6.05	32-33 ...	1	11	11.00
15-16 ...	2,394	15,367	6.42	33-34 ...	1	13	13.00
16-17 ...	2,049	13,976	6.50				
17-18 ...	1,912	13,764	7.20	Total	121,946	401,149	3.29

## AGES AND ISSUE OF MOTHERS, COMMONWEALTH, 1917.

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	3,500	4,285	1.22	40-44 years ...	6,433	42,236	6.57
20-24 years ...	26,097	47,347	1.81	45 yrs. and over	579	4,704	8.12
25-29 " ...	37,808	99,624	2.63				
30-34 " ...	29,149	109,181	3.75				
35-39 " ...	18,380	93,772	5.10	All ages ...	121,946	401,149	3.29

## PREVIOUS ISSUE OF MOTHERS OF VARIOUS AGES, COMMONWEALTH, 1917.

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	2,805	12,375	9,816	3,900	1,434	319	17	30,666
1	623	8,312	10,560	5,382	1,864	372	18	27,131
2	68	3,896	8,084	5,614	2,370	533	31	20,596
3	4	1,180	5,022	4,811	2,625	591	27	14,260
4	...	285	2,727	3,820	2,503	691	49	10,075
5	...	44	1,079	2,692	2,233	717	45	6,810
6	...	5	372	1,555	1,860	749	51	4,592
7	...	...	110	804	1,484	654	66	3,118
8	...	...	25	361	1,000	619	59	2,064
9	...	...	9	136	553	491	65	1,254
10	...	...	3	47	254	335	53	692
11	...	...	1	18	119	166	47	351
12	...	...	...	8	45	100	24	177
13	...	...	...	1	18	51	14	84
14	...	...	...	...	11	25	4	40
15	...	...	...	...	6	8	5	19
16	...	...	...	...	...	9	3	12
17	...	...	...	...	...	2	1	3
18	...	...	...	...	1	1	...	2
Total Mothers	3,500	26,097	37,808	29,149	18,380	6,433	579	121,946

The tables shew a fairly regular increase in the number of children up to the period where the marriage has lasted twenty years, and it appears that the average interval between successive confinements up to that period was rather more than two years and eight months. The average number of children of all marriages was 3.29, the corresponding figures for 1916 having been 3.18; for 1915, 3.26; for 1914, 3.22; for 1913, 3.21; for 1912, 3.29; for 1911, 3.34; and for 1910, 3.41.

A similar table has been prepared shewing the previous issue of mothers of twins, triplets and quadruplets, from which it appears that 258 mothers had twins at their first confinement; 245 at their second; 258 at their third; 199 at their fourth; 148 at their fifth; 110 at their sixth; 66 at their seventh; 54 at their eighth; 38 at their ninth; 30 at their tenth; 14 at their eleventh; 7 at their twelfth; 7 at their thirteenth; 1 at her fourteenth.

Of the sixteen cases of triplets, 3 occurred at the first confinement; 3 at the second; 2 at the third; 2 at the fourth; 1 at the fifth; 2 at the seventh; 1 at the eighth; and 2 at the ninth. The case of quadruplets occurred at the sixth confinement.

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

INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH, COMMONWEALTH, 1917.

Interval.	Number of First Children.	Interval.	Number of First Children.	Interval.	Number of First Children.	Interval.	Number of First Children.
Under 1 mth.	322	12 mths.	1,547	2 years	2,638	14 years	17
1 mth.	375	13 "	1,145	3 "	1,168	15 "	14
2 mths	556	14 "	997	4 "	677	16 "	5
3 "	749	15 "	902	5 "	372	17 "	5
4 "	918	16 "	811	6 "	232	18 "	3
5 "	1,210	17 "	725	7 "	141	19 "	2
6 "	1,565	18 "	639	8 "	99	20 "	4
7 "	1,460	19 "	520	9 "	79	21 "	1
8 "	1,409	20 "	481	10 "	62	24 "	1
9 "	3,142	21 "	467	11 "	36		
10 "	2,527	22 "	380	12 "	21	Total	30,666
11 "	1,921	23 "	298	13 "	23		

Of these 30,666 children, 15,751 were males and 14,915 were females; the masculinity of first births was therefore 105.61 as compared with 106.02 for total births.

The previous issue of mothers of ex-nuptial children is not recorded, but for the purposes of the following table all ex-nuptial births have been assumed to be first births. The table shews the ages of mothers of ex-nuptial births, of nuptial births occurring less than nine months after marriage, and of nuptial births occurring nine months or more after marriage. A comparison of the combined total of the first two columns with the total of nuptial children born nine months or more after marriage, reveals the fact that for all ages the ratio of the two was as 4 is to 5. At all ages up to and including 21, however, there was a great preponderance of ex-nuptial births and of births following on ante-nuptial conception. It must, of course, be understood that a certain number of premature births are necessarily included among the births which occurred less than nine months after marriage, but there is no means of arriving at the proportion of those births.

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

COMMONWEALTH, 1917.

Age of Mother at Birth of Child.	Ex-nuptial Births.	Nuptial Births less than nine months after Marriage.	Total of two preceding columns.	Nuptial Births nine months after Marriage and later.	Total Nuptial First Births.	Nuptial First Births and Ex-nuptial Births.
Years.						
13 ...	3	...	3	...	...	3
14 ...	24	1	25	...	1	25
15 ...	64	19	83	2	21	85
16 ...	182	104	286	19	123	305
17 ...	349	302	651	103	405	754
18 ...	458	619	1,077	236	855	1,313
19 ...	605	830	1,435	570	1,400	2,005
20 ...	591	869	1,460	867	1,736	2,327
21 ...	517	1,114	1,631	1,247	2,361	2,878
22 ...	471	915	1,386	1,809	2,724	3,195
23 ...	438	836	1,274	2,060	2,896	3,334
24 ...	335	632	967	2,026	2,658	2,993
25 ...	292	483	775	1,986	2,469	2,761
26 ...	270	408	678	1,855	2,263	2,533
27 ...	240	326	566	1,698	2,024	2,264
28 ...	199	232	431	1,464	1,696	1,895

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

Age of Mother at Birth of Child.	Ex-nuptial Births.	Nuptial Births less than nine months after Marriage.	Total of two preceding columns.	Nuptial Births nine months after Marriage and later.	Total Nuptial First Births.	Nuptial First Births and Ex-nuptial Births.
Years.						
29 ...	162	190	352	1,174	1,364	1,526
30 ...	154	155	309	993	1,148	1,302
31 ...	118	100	218	804	904	1,022
32 ...	132	103	235	665	768	900
33 ...	93	65	158	522	587	680
34 ...	92	54	146	439	493	585
35 ...	87	48	135	367	415	502
36 ...	81	54	135	285	339	420
37 ...	79	26	105	287	313	392
38 ...	60	26	86	172	198	258
39 ...	63	17	80	152	169	232
40 ...	41	11	52	114	125	166
41 ...	33	9	42	59	68	101
42 ...	35	8	43	61	69	104
43 ...	23	3	26	27	30	53
44 ...	11	1	12	26	27	38
45 ...	7	2	9	6	8	15
46 ...	2	2	4	5	7	9
47 ...	...	...	...	1	1	1
48 ...	1	...	1	1	1	2
49 ...	...	...	...	...	...	...
53 ...	...	...	...	...	...	...
Not stated	9	...	9	...	...	9
Total ...	6,321	8,564	14,885	22,102	30,666	36,987

These results have sometimes been wrongly interpreted. In order to make their true significance clearer, it may be pointed out that during the seven years 1908 to 1914 inclusive there were, in an average female population between the ages 12 to 54 inclusive of about 1,377,108, an annual average of 114,832 nuptial and 6935 ex-nuptial confinements. Of the former, about 31,431 were first births, of which 10,952 occurred within 9 months of marriage (and 19,105 within 12 months), leaving 90,336 which were either not first confinements, or were ex-nuptial confinements. The female population between 12 and 54 inclusive was characterised as follows :—

“Never married” 690,845

“Married” 639,570

“Widowed” ... 44,764

“Divorced” 1,929

Thus the female population between the age limits mentioned, not living in the state of marriage, were 737,538 or 53.56 per cent., the married being 46.44 per cent. In the course of the period mentioned, the proportion of married women giving birth during the interval of 0 to 9 months from marriage was 0.34843 of the total nuptial first confinements, or 0.09537 of the total nuptial confinements. During the same period 269,452 marriages were consummated, the brides aged 12 to 54 inclusive being 267,852 in number. Thus the relative numbers can be set out as follow, the basis being 1,000,000 females of the ages of 12 to 54 inclusive.



## CHARACTERISTICS OF FERTILITY IN AUSTRALIA, 1908-1914.

1,000,000 Females ages 12 to 54 inclusive.					Confinements, average for 1 Year.						Marriages, ages 12-54 inclusive.	
Married.	Never Married.	Widowed	Divorced	Total.	First Confinements.			All Confinements.			Marriages.	First Confinements.
					After 9 Months.	Within 9 Months.	Total.	Nuptial.	Ex-Nuptial.	Total.		
464,430	501,663	32,506	1,401	1,000,000	14,871	7,953	22,824	83,387	5,035	88,422	194,503	159,769
464,430	535,570			1,000,000	(6,516)	(3,484)	(10,000)	(94,306)	(5,694)	(100,000)	(100,000)	(82,142)
100,000	1,000,000							17,955	9,401			

If the total ex-nuptial cases in the 7 years (48,546) be added to the total nuptial cases born within 9 months of marriage (76,662), the grand total is 125,208, which is equivalent for 7 years to 90,921 for the 1,000,000 females of ages 12 to 54 inclusive. The ratio of the sum of the ex-nuptial children and those born within 9 months of marriage in one year to the total unmarried (i.e., never married, widowed, and divorced), is consequently 0.02425, or about one-fortieth, while the ratio of the births within 9 months of marriage to the total unmarried females is 0.01485, or about one-seventieth. The matter may be put another way. In a female population of 1,000,000 of ages 12 to 54, there are on the average per diem 62.48 first births; the ex-nuptial births are 13.79 per diem; and the nuptial births, occurring within 9 months of marriage, are 21.77 per diem, the total births being 242.06 per diem, of which 228.27 are nuptial.

13. **Interval between Birth and Registration of Birth.**—Information was obtained during 1917 as to the period elapsing between birth and registration. It has already been mentioned in par. 3 *ante* that one of the effects of the law relating to maternity allowances has been to accelerate the registration of births, as the certificate of registration must be produced when a claim under the Act is lodged. In 1912, during the last quarter of which year the Act was in force, about 6 per cent. of all births were registered within seven days; in 1913 this percentage had risen to 34; in 1914 to 40; and in 1917 to 43.

## INTERVAL BETWEEN BIRTH AND REGISTRATION, COMMONWEALTH, 1917.

Interval.	Nuptial Births.	Ex-Nuptial Births.	Total Births.	Interval.	Nuptial Births.	Ex-Nuptial Births.	Total Births.
Under 1 day ...	1,497	67	1,564	16 days ...	2,806	139	2,945
1 day ...	5,820	553	6,373	17 " ...	2,515	128	2,643
2 days ...	7,603	620	8,223	18 " ...	2,235	113	2,348
3 " ...	8,264	494	8,758	19 " ...	2,158	83	2,241
4 " ...	8,125	432	8,557	20 " ...	1,873	67	1,940
5 " ...	7,589	375	7,964	21 " ...	1,710	78	1,788
6 " ...	7,122	331	7,453	22 " ...	1,590	52	1,642
7 " ...	6,548	296	6,844	23 " ...	1,447	59	1,506
8 " ...	5,622	216	5,838	24 " ...	1,377	50	1,427
9 " ...	5,001	170	5,171	25 " ...	1,198	54	1,252
10 " ...	4,685	209	4,894	26 " ...	1,181	45	1,226
11 " ...	4,601	254	4,855	27 " ...	1,133	42	1,175
12 " ...	4,420	249	4,669	28 " ...	1,060	44	1,104
13 " ...	4,272	235	4,507	29 " ...	901	45	946
14 " ...	3,709	192	3,901	30 " ...	858	32	890
15 " ...	3,152	156	3,308	31 " ...	828	31	859

INTERVAL BETWEEN BIRTH AND REGISTRATION, COMMONWEALTH,  
1917—Continued.

Interval.	Nuptial Births.	Ex-Nuptial Births.	Total Births.	Interval.	Nuptial Births.	Ex-Nuptial Births.	Total Births.
32 days ...	776	26	802	55 days ...	165	9	174
33 " ...	704	37	741	56 " ...	157	8	165
34 " ...	599	24	623	57 " ...	150	8	158
35 " ...	618	24	642	58 " ...	153	11	164
36 " ...	582	30	612	59 " ...	167	11	178
37 " ...	552	11	563	60 " ...	99	8	107
38 " ...	540	16	556	61 to 69 days	278	17	295
39 " ...	544	14	558	70 " 79 "	113	5	118
40 " ...	523	12	535	80 " 89 "	67	5	72
41 " ...	480	18	498	90 " 99 "	30	1	31
42 " ...	399	13	412	100 " 109 "	17	2	19
43 " ...	331	10	341	110 " 119 "	10	3	13
44 " ...	316	16	332	120 " 129 "	8	6	14
45 " ...	275	11	286	130 " 139 "	7	1	8
46 " ...	277	9	286	140 " 149 "	9	2	11
47 " ...	268	14	282	150 " 159 "	2	2	4
48 " ...	247	11	258	160 " 169 "	11	1	12
49 " ...	226	14	240	170 " 179 "	5	3	8
50 " ...	218	11	229	180 " 365 "	30	3	33
51 " ...	201	10	211	1 to 2 years ...	2	1	3
52 " ...	181	7	188	2 years and over	4	3	7
53 " ...	164	6	170				
54 " ...	181	14	195	Total Births	123,586	6,379	129,965

The weighted average interval between the dates of birth and registration has been found to be as follows :—

INTERVAL BETWEEN BIRTH AND REGISTRATION, COMMONWEALTH, 1911 to 1917.

Year.	For Nuptial Children.	For Ex-nuptial Children.
1911 ... ..	37.4 days	26.7 days
1912 ... ..	*	*
1913 ... ..	15.6 "	15.2 "
1914 ... ..	13.4 "	14.3 "
1915 ... ..	12.3 "	12.4 "
1916 ... ..	12.6 "	14.9 "
1917 ... ..	13.0 "	12.1 "

\* Introduction of maternity allowance.

Similar information for years prior to 1911 is not available, but it may be assumed that the averages did not vary much from year to year. The figures for 1912 have been omitted; they would shew an average similar to that for 1911 for the first three quarters of the year, and one similar to that for 1913 for the last quarter.

## § 2. Marriages.

1. **Marriages, 1907 to 1917.**—The number of marriages registered in the Commonwealth in 1915 was 45,224, the highest number ever recorded. There was a steady increase in the annual number of marriages in each State from 1905 to 1915, and the crude marriage-rate increased similarly in all the States until 1907, with the exception of Western Australia. In 1908 all the States, with the exception of New South Wales and Tasmania, had a lower marriage rate than in 1907, but the rate recovered in 1909 and the three following years, and was considerably higher in 1912 than in 1907 in all the States. In 1913, although the actual number of marriages was greater in Queensland, South Australia, Western Australia, and Tasmania than it had been in 1912, the marriage rate shewed a decrease in every State with the exception of Tasmania. In 1914 the number of marriages and the marriage rate increased in all the States with the exception of South Australia and Tasmania, and in 1915 there were further increases both in the actual number of marriages and in the marriage rate in all States, with the exception of South Australia and Western Australia. The rate for 1915 was the highest ever experienced in the Commonwealth. A considerable decrease however took place in 1916, and a still further fall in 1917, the actual number of marriages in the latter year being about the same as in 1909. The number of marriages in each State since 1907 is shewn below:—

### TOTAL MARRIAGES, COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	C'wealth.
1907 ...	12,187	9,575	4,105	3,070	2,114	1,410	9	...	32,470
1908 ...	12,641	9,335	4,009	3,112	2,012	1,432	10	...	32,551
1909 ...	13,025	9,431	4,543	3,275	1,997	1,494	10	...	33,775
1910 ...	14,307	10,239	4,768	3,661	2,107	1,493	17	...	36,592
1911 ...	15,278	11,088	5,167	4,036	2,421	1,477	10	(a) 5	39,482
1912 ...	16,666	11,738	5,627	4,056	2,524	1,506	24	6	42,147
1913 ...	16,307	11,324	5,655	4,094	2,572	1,620	16	6	41,594
1914 ...	17,357	11,829	5,894	4,010	2,660	1,543	17	1	43,311
1915 ...	18,095	12,832	6,135	3,965	2,581	1,600	12	4	45,224
1916 ...	16,316	11,342	5,208	3,602	2,365	1,433	19	4	40,289
1917 ...	13,246	9,505	4,868	3,252	1,621	1,138	34	2	33,666

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

2. **Marriage Rates, 1907 to 1917.**—The number of marriages registered per thousand of mean population is shewn in the following table for the same period:—

### CRUDE MARRIAGE RATE (a), COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Victoria.	Qld.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Territory.	C'wealth.
1907 ...	7.89	7.81	7.56	8.35	8.27	7.63	2.35	...	7.87
1908 ...	8.03	7.53	7.24	8.23	7.80	7.64	2.74	...	7.76
1909 ...	8.15	7.48	7.97	8.43	7.59	7.85	2.83	...	7.90
1910 ...	8.76	7.98	8.06	9.21	7.77	7.82	5.00	...	8.37
1911 ...	9.19	8.40	8.41	9.81	8.44	7.76	3.01	(b) 2.81	8.79
1912 ...	9.60	8.65	8.91	9.62	8.37	7.86	7.14	2.95	9.07
1913 ...	9.02	8.13	8.67	9.44	8.19	8.27	4.37	2.45	8.66
1914 ...	9.37	8.31	8.73	9.11	8.22	7.78	4.53	0.38	8.80
1915 ...	9.68	9.00	8.93	9.01	8.01	8.03	2.73	1.62	9.14
1916 ...	8.74	8.05	7.69	8.32	7.51	7.23	3.92	1.53	8.21
1917 ...	7.09	6.76	7.16	7.52	5.25	5.72	6.86	0.80	6.87

(a) Number of marriages (not persons married) per 1000 of mean annual population. (b) Part of New South Wales prior to 1911.

As in some international tabulations the marriage rates are calculated per 1000 of the unmarried population of 15 years and over, the corresponding rates have been worked out for the Commonwealth for the four last Census periods. The figures comprise in each case the Census year with the year immediately preceding and the year immediately following, and are as follows:—Years 1880-82, 48.98; years 1890-92, 45.74; years 1900-02, 42.14; years 1910-12, 50.10. These rates refer, of course, to persons married and not to marriages, as do the rates in the preceding table.

3. **Marriage Rates in Various Countries.**—A comparison of the Australian marriage rate with that of European countries shews that until 1915 it was once or twice surpassed by the rate for Ontario, and equalled by the rate of some of the countries of the East of Europe, and that it was higher than the rate of the countries of Central and Western Europe, and especially than the rate of countries of the North of Europe. Since 1915 it has fallen considerably, as might be expected, but figures for European countries not being available for the last few years, a comparison cannot at present be made.

#### CRUDE MARRIAGE RATES.—VARIOUS COUNTRIES.

Country.	Year.	Crude Marriage Rate.	Country.	Year.	Crude Marriage Rate.
Serbia ...	1911	10.3	New South Wales ...	1917	7.1
Bulgaria ...	1911	9.4	Denmark ...	1915	6.9
Hungary ...	1912	8.6	Commonwealth ...	1917	6.9
Ontario (Canada) ...	1915	8.5	Victoria ...	1917	6.8
Rumania ...	1914	8.5	Scotland ...	1916	6.6
Japan ...	1913	8.1	Netherlands ...	1915	6.6
Belgium ...	1912	8.0	Norway ...	1915	6.5
Prussia ...	1912	8.0	Spain ...	1914	6.5
Russia (European) ...	1909	7.9	Sweden ...	1915	5.8
German Empire ...	1913	7.7	Finland ...	1914	5.7
England and Wales ...	1916	7.5	Tasmania ...	1917	5.7
France ...	1913	7.5	New Zealand ...	1917	5.7
South Australia ...	1917	7.5	Western Australia ...	1917	5.3
Austria ...	1912	7.4	Ireland ...	1916	5.2
Queensland ...	1917	7.2	Chile ...	1914	5.2
Ceylon ...	1915	7.2	Switzerland ...	1915	5.0
Italy ...	1914	7.1	Jamaica ...	1915	3.0
United Kingdom ...	1916	7.1			

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 1186 males who were less than twenty-one years of age, were married during 1917. The corresponding number of females was 6388, of whom six were widows. At the other extreme there were thirty-seven men of sixty-five years and upwards, who described themselves as bachelors, and six spinsters of corresponding age.

**AGES AND CONJUGAL CONDITION OF PERSONS MARRIED, 1917.**  
**COMMONWEALTH.**

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors	Widowers	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
13 years	...	...	...	...	1	...	...	1
14 "	...	...	...	...	6	...	...	6
15 "	...	...	...	...	69	...	...	69
16 "	3	...	...	3	273	...	...	273
17 "	42	...	...	42	734	...	...	734
18 "	152	...	...	152	1,342	2	...	1,344
19 "	355	...	...	355	1,844	2	...	1,846
20 "	634	...	...	634	2,113	2	...	2,115
21 "	1,722	2	1	1,725	3,608	8	1	3,617
22 "	2,010	3	1	2,014	2,993	8	3	3,004
23 "	2,336	3	...	2,339	2,820	24	5	2,849
24 "	2,584	8	...	2,592	2,602	26	5	2,633
25 "	2,661	17	3	2,681	2,263	23	8	2,294
26 "	2,533	13	4	2,550	1,892	44	9	1,945
27 "	2,389	27	6	2,422	1,602	41	12	1,655
28 "	2,194	20	6	2,220	1,309	49	18	1,376
29 "	1,837	48	3	1,888	1,063	66	23	1,152
30 "	1,458	53	8	1,519	877	58	26	963
31 "	1,109	50	14	1,173	594	61	11	666
32 "	1,021	62	11	1,094	550	56	20	626
33 "	914	41	14	969	373	48	11	432
34 "	702	59	10	771	397	78	17	492
35 "	635	76	15	726	331	74	18	423
36 "	611	90	18	719	318	62	17	397
37 "	425	69	17	511	253	63	13	329
38 "	444	78	19	541	223	66	19	308
39 "	313	54	13	380	181	71	14	266
40 "	251	67	14	332	126	83	10	219
41 "	219	55	7	281	97	51	12	160
42 "	203	65	9	277	80	68	9	157
43 "	171	55	10	236	66	58	3	127
44 "	155	73	10	238	66	40	13	119
45 "	159	58	10	227	77	70	8	155
46 "	134	72	9	215	66	54	4	124
47 "	132	63	11	206	42	61	5	108
48 "	113	84	10	207	37	44	6	87
49 "	67	61	4	132	32	33	6	71
50 "	81	57	5	143	28	39	1	68
51 "	48	55	2	105	12	21	1	34
52 "	57	61	5	123	20	35	4	59
53 "	49	49	5	103	17	27	6	50
54 "	34	55	3	92	12	17	...	29
55 "	20	45	3	68	12	18	4	34
56 "	35	44	2	81	8	22	1	31
57 "	27	56	...	83	8	21	2	31
58 "	29	34	1	64	8	15	...	23
59 "	11	38	2	51	2	20	1	23
60 "	13	44	3	60	5	12	1	18
61 "	10	32	...	42	...	16	1	17
62 "	9	21	1	31	6	13	...	19
63 "	4	27	...	31	2	15	...	17
64 "	3	17	...	20	1	8	...	9
65 "	6	19	...	25	1	8	...	9
66 "	4	20	1	25	1	7	...	8
67 "	7	15	...	22	2	6	...	8
68 "	4	17	1	22	...	7	...	7
69 "	3	11	...	14	...	9	...	9
70 "	2	12	...	14	1	3	...	4

**AGES AND CONJUGAL CONDITION OF PERSONS MARRIED, 1917—Continued.  
COMMONWEALTH.**

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors	Widowers	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
71 years ...	...	6	...	6	...	1	...	1
72 " ...	...	8	...	8	...	3	...	3
73 " ...	1	10	...	11	...	...	...	...
74 " ...	3	8	...	11	...	...	...	...
75 " ...	2	6	...	8	...	...	...	...
76 " ...	...	7	...	7	1	2	...	3
77 " ...	1	5	...	6	...	...	...	...
78 " ...	1	2	...	3	...	...	...	...
79 " ...	...	2	...	2	...	...	...	...
80 " ...	1	1	...	2	...	1	...	1
81 " ...	...	2	...	2	...	...	...	...
82 " ...	...	...	...	...	...	1	...	1
83 " ...	1	1	...	2	...	...	...	...
84 " ...	1	1	...	2	...	...	...	...
85 " ...	...	...	...	...	...	...	...	...
86 " ...	...	1	...	1	...	...	...	...
87 " ...	...	1	...	1	...	...	...	...
88 " ...	...	1	...	1	...	...	...	...
Not stated ...	2	1	...	3	8	...	...	8
Total ...	31,157	2,218	291	33,666	31,475	1,841	350	33,666

(b) The relative ages of bridegrooms and brides are shewn for single years in "Bulletin of Population and Vital Statistics, No. 35"; a condensation into age-groups of five years is here given:—

**RELATIVE AGES OF PERSONS MARRIED, COMMONWEALTH, 1917.**

Ages.	Total Bridegrooms.	Ages of Brides.								
		Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and Upwds.	Not Stated.
Ages of Bridegrooms.										
Under 20 ...	553	1	390	151	9	1	...	...	...	...
20 to 24 ...	9,304	2	2,245	5,698	1,188	192	34	3	1	1
25 to 29 ...	11,761	2	1,162	5,733	3,957	717	154	27	5	1
30 to 34 ...	5,526	...	316	1,763	1,945	1,069	320	78	32	3
35 to 39 ...	2,877	1	107	580	862	666	478	120	63	...
40 to 44 ...	1,364	...	32	177	263	296	309	178	108	...
45 to 49 ...	987	...	10	84	134	189	234	157	178	1
50 to 54 ...	566	1	...	24	44	67	103	123	202	...
55 to 59 ...	347	...	3	4	13	21	56	64	188	...
60 to 64 ...	184	...	...	2	3	7	20	21	131	...
65 and upwards ...	195	...	...	2	4	14	15	11	149	...
Not stated ...	3	...	...	...	...	...	...	...	1	2
Total Brides ...	33,666	7	4,266	14,218	8,422	3,179	1,723	782	1,061	8

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 1917, was shewn. In the following table the relative conjugal condition of the contracting parties is given:—

**RELATIVE CONJUGAL CONDITION OF PERSONS MARRIED, COMMONWEALTH, 1917.**

Conjugal Condition.		Total Bridegrooms.	Brides.		
			Spinsters.	Widows.	Divorced.
Bridegrooms	Bachelors ...	31,157	29,746	1,161	250
	Widowers ...	2,218	1,515	634	69
	Divorced ...	291	214	46	31
Total Brides ...		33,666	31,475	1,841	350

6. **Birthplaces of Persons Married.**—Information as to the birthplaces of persons who were married in 1917 was not obtained in the State of Western Australia; the following figures refer, therefore, only to New South Wales, Victoria, Queensland, South Australia, Tasmania, the Northern Territory and Federal Territory. As might be expected, there were more brides than bridegrooms who were natives of the Commonwealth. In "Bulletin No. 35, Commonwealth Demography," the relative birthplaces of bridegrooms and brides will be found tabulated.

### BIRTHPLACES OF PERSONS MARRIED, 1917.

#### COMMONWEALTH (a).

Birthplaces.	Bridegrooms.	Brides.	Birthplaces.	Bridegrooms.	Brides.
<b>AUSTRALASIA—</b>			<b>ASIA—cont.—</b>		
New South Wales ...	10,105	11,289	Java ...	5	1
Victoria ...	8,777	9,171	Philippine Islands ...	...	1
Queensland ...	3,574	4,168	Syria ...	7	5
South Australia ...	3,026	3,156	Other Asiatic Countries	3	1
Western Australia ...	53	79	<b>AFRICA—</b>		
Tasmania ...	1,217	1,320	Union of South Africa	37	20
Northern Territory ...	7	13	Mauritius ...	4	...
New Zealand ...	284	214	Other African British Possessions	...	...
<b>EUROPE—</b>			Egypt ...	4	1
England ...	2,827	1,601	Other African Countries	...	...
Wales ...	91	49	<b>AMERICA—</b>		
Scotland ...	643	382	Canada ...	45	6
Ireland ...	467	286	Jamaica ...	...	...
Isle of Man ...	5	...	Newfoundland	...	...
Other European British Possessions	24	9	Other American British Possessions	6	3
Austria-Hungary ...	15	6	Argentina Republic ...	1	...
Belgium ...	4	3	Brazil ...	...	1
Denmark ...	65	9	Chile ...	1	...
France ...	22	12	Mexico ...	...	...
Germany ...	119	49	United States	101	28
Greece ...	44	8	Other American Countries	11	2
Italy ...	82	27	<b>POLYNESIA—</b>		
Netherlands ...	25	5	Fiji ...	6	4
Norway ...	30	3	Friendly Islands	...	...
Portugal ...	1	...	Other Polynesian British Possessions	2	...
Russia ...	98	36	New Caledonia	2	6
Spain ...	8	7	New Hebrides	1	1
Sweden ...	52	2	Samoa ...	...	1
Switzerland	25	3	Other Polynesian Islands	1	1
Other European Countries	8	2	South Sea Islands (so described)	7	3
<b>ASIA—</b>			At sea	15	12
British India	40	14	Not stated	7	17
Ceylon ...	7	3	<b>Total</b>		
Straits Settlements	1	...	...	32,045	32,045
Other Asiatic British Possessions	2	1			
Afghanistan	2	...			
China	26	4			
Japan	3	...			

(a) Exclusive of Western Australia.

7. **Occupations and Ages of Bridegrooms.**—A tabulation has been made of the occupations and ages of all males married in the Commonwealth in the years 1907 to 1917. In "Bulletin No. 35" the 1917 tabulation is shown for orders of occupations: here it is repeated for classes only, with a subdivision of the Industrial class and of the class of Primary Producers. The average ages of the persons

falling under those twelve subdivisions were determined, and it appears that, apart from the Indefinite class, which consists chiefly of persons who have retired from business and who are living on their own means, and where a high average age may naturally be expected, the average age ranges from 28.70 in the Manufacturing class to 32.63 years in the Pastoral class. The averages for the two five-year periods 1907-1911 and 1912-1916 have been added for the purposes of comparison. The results obtained are shewn in the following table:—

### OCCUPATIONS AND AGES OF BRIDEGROOMS, COMMONWEALTH, 1917.

Ages at Marriage.	Professional.	Domestic.	Mercantile.	Transport and Communication.	Industrial.			Primary Producers.				Indefinite.
					Manu- facturing.	Building and Construction.	Indefinite Industrial Workers.	Agricultural.	Pastoral.	Mines and Quarries.	Other Primary Producers.	
16 years ...	...	...	...	1	1	...	1	...	...	...	...	...
17 " ...	1	...	6	5	5	3	16	2	2	2	...	...
18 " ...	15	4	21	20	31	8	35	8	3	6	1	...
19 " ...	22	9	47	48	53	15	106	29	4	21	1	...
20 " ...	51	9	85	62	111	32	163	73	11	28	6	1
21 " ...	209	22	245	244	283	70	377	157	32	68	18	...
22 " ...	206	35	298	248	330	101	431	241	38	73	12	1
23 " ...	257	50	368	305	383	118	450	263	53	76	14	2
24 " ...	303	42	459	326	379	121	486	333	68	62	12	1
25 " ...	257	47	458	329	398	117	501	407	70	74	23	...
26 " ...	267	51	465	314	363	132	461	356	61	63	16	1
27 " ...	250	42	423	253	341	108	449	381	75	75	11	4
28 " ...	205	37	374	258	286	107	407	385	73	72	12	4
29 " ...	213	39	328	198	250	86	325	317	66	42	13	1
30 " ...	180	33	256	143	212	69	245	274	47	45	13	2
31 " ...	127	26	171	127	139	50	207	236	49	27	11	3
32 " ...	126	21	189	109	132	41	178	208	53	29	5	3
33 " ...	121	21	164	82	111	44	167	191	38	26	4	...
34 " ...	91	20	139	70	82	34	137	129	38	19	9	3
35 to 39 years	298	77	472	281	305	102	541	541	120	106	24	10
40 " 44 "	166	36	231	120	124	46	272	218	82	52	13	4
45 " 49 "	97	36	151	89	86	54	187	165	57	48	8	7
50 years and upwards	118	49	179	97	127	78	259	208	68	56	11	43
Not stated	1	...	...	...	...	1	...	...	...	...	...	1
Total	3,581	705	5,529	3,739	4,544	1,537	6,401	5,122	1,108	1,070	239	91
Average age—years (1917)	29.94	32.00	29.98	28.91	28.70	30.05	29.77	30.92	32.63	30.69	30.63	45.96
" " (1912-1916)	29.80	30.31	29.42	28.32	28.20	33.19	28.80	30.76	32.32	29.37	29.67	42.74
" " (1907-1911)	31.12	30.32	29.73	28.65	28.27	29.11	28.83	30.99	32.50	29.14	29.43	41.60

The average age at marriage of brides has slowly risen from 25.56 years in 1907 to 25.78 years in 1913 and 1914, 25.75 years in 1915, 26.07 years in 1916, and 26.22 years in 1917. The figures for the eleven years are:—1907, 25.56 years; 1908, 25.67 years; 1909, 25.74 years; 1910, 25.77 years; 1911, 25.74 years; 1912, 25.74 years; 1913, 25.78 years; 1914, 25.78 years; 1915, 25.75 years; 1916, 26.07 years; and 1917, 26.22 years. For the five years 1907-11 the average age was 25.70 years, compared with an average of 25.82 years for the five years 1912-16, and 26.22 years for 1917. As the average age of all bridegrooms during 1917 was 29.97 years, it follows that brides are on an average about three years and three-quarters younger than bridegrooms.

**8. Fertility of Marriages.**—The quotient obtained by division of the nuptial births registered, say during the five years 1913 to 1917, by the number of marriages registered during the five years 1908 to 1912, 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 3.44, or in other words, the number of children to be expected from every marriage in the Commonwealth is under four. This method, while not professing any claim to accuracy, generally furnishes results which agree fairly well with those found by more elaborate and careful investigation, but in this instance, owing chiefly to the fictitious increase in the number of births shewn in 1912, it is rather higher than for a number of years prior to 1912. For the period 1907-11 the result was 3.43; for the year 1912, 3.87; for the year 1913, 3.94; for the year 1914, 3.87; for the year 1915, 3.50; for the year 1916, 3.17; and for the year 1917, 2.93.



**9. Registration of Marriages.**—In all the States of the Commonwealth marriages may be celebrated either by ministers of religion whose names are registered for that purpose with the Registrar-General, or by certain civil officers—in most cases district registrars. The percentage of marriages celebrated by ministers of religion has fluctuated during the last eleven years between 95.83 per cent. in 1917 and 97.55 per cent. in 1909. The figures for the individual States in 1917 were: New South Wales, 96.45 per cent.; Victoria, 96.52 per cent.; Queensland, 96.56 per cent.; South Australia, 96.46 per cent.; Western Australia, 79.66 per cent.; and Tasmania, 98.12 per cent., the percentage for the Commonwealth being 95.83. The registered ministers in 1917 belonged to more than forty different denominations, some of which, however, can hardly be regarded as having any valid existence. A number of these have been omitted from the tabulation, and are bracketed under the heading "Other Christians." The figures for 1917 are shewn in the following table:—

**MARRIAGES IN EACH DENOMINATION, COMMONWEALTH, 1917.**

Denomination.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N. Ter.	Fed. Ter.	Com'-wealth
Church of England ...	5,758	2,478	1,314	768	545	436	15	2	11,316
Roman Catholic Church ...	2,824	1,861	1,169	421	300	184	8	...	6,767
Presbyterian Church of Aust. ...	1,680	1,729	708	160	131	98	...	...	4,506
Methodist Church ...	1,625	1,415	777	989	243	164	4	...	5,217
Congregational Church ...	296	832	98	157	55	47	...	...	1,485
Baptist Church ...	193	445	178	208	37	66	...	...	1,127
Church of Christ ...	157	237	26	162	9	13	...	...	604
Lutheran Church ...	31	48	135	216	3	...	...	...	433
Greek Orthodox Church ...	6	4	...	...	2	...	...	...	12
Unitarian Church ...	15	2	...	1	...	...	...	...	18
Salvation Army ...	88	37	24	40	12	9	...	...	210
Seventh-Day Adventists ...	28	10	5	6	3	2	...	...	54
Other Christians ...	43	52	261	11	...	97	...	...	464
Hebrew ...	48	35	9	2	7	1	...	...	102
Registrar's Office ...	454	320	162	111	274	21	7	...	1,349
Unspecified ...	...	...	2	...	...	...	...	...	2
<b>Total ...</b>	<b>13,246</b>	<b>9,505</b>	<b>4,868</b>	<b>3,252</b>	<b>1,621</b>	<b>1,138</b>	<b>34</b>	<b>2</b>	<b>33,666</b>

**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, 1907 to 1917.* For a number of years, with the exception of 1908, 1910, 1912, and 1913, mark signatures by males have been slightly more numerous than those by females, the percentages for the Commonwealth during the past eleven years having been as follows:—

**PERCENTAGE OF MARK SIGNATURES AT MARRIAGE, COMMONWEALTH, 1907 to 1917.**

Year. ...	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
Male...	0.81	0.71	0.65	0.56	0.56	0.43	0.36	0.41	0.27	0.37	0.37
Female	0.70	0.73	0.62	0.59	0.54	0.45	0.38	0.38	0.27	0.32	0.31

(ii.) *Mark Signatures in Commonwealth States, 1907 to 1917.* The following table shews that while the Tasmanian percentage has been the highest, and the Victorian the lowest, in each of the eleven years under review, there has been a marked decrease in every State:—

## PERCENTAGE OF MARK SIGNATURES AT MARRIAGE, COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Terr.	C'wealth.
1907 ...	0.87	0.36	1.14	0.55	0.64	2.02	...	...	0.76
1908 ...	0.79	0.33	1.20	0.56	0.82	1.57	...	...	0.72
1909 ...	0.60	0.22	1.16	0.55	0.68	2.07	30.00	...	0.64
1910 ...	0.61	0.29	0.92	0.44	0.52	1.17	29.41	...	0.58
1911 ...	0.54	0.22	0.84	0.46	0.78	1.96	15.00	(a)...	0.55
1912 ...	0.33	0.27	0.60	0.54	0.61	1.29	25.00	...	0.44
1913 ...	0.33	0.17	0.45	0.34	0.78	1.20	8.33	...	0.37
1914 ...	0.36	0.19	0.59	0.45	0.53	1.00	1.47	...	0.39
1915 ...	0.25	0.11	0.26	0.32	0.43	1.47	...	...	0.27
1916 ...	0.41	0.18	0.32	0.35	0.32	0.98	10.53	...	0.35
1917 ...	0.41	0.16	0.32	0.25	0.49	1.14	7.35	...	0.34

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

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

## § 3. Deaths.

1. Male and Female Deaths, 1907 to 1917.—The total number of deaths registered in the Commonwealth from 1907 to 1917 inclusive, gives an annual average of 28,281 males and 20,815 females, the details being as follow:—

## MALE DEATHS, COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	Fed. Terr.	C'wealth.
1907 ...	9,444	7,977	3,482	1,998	1,866	1,083	89	...	25,939
1908 ...	9,298	8,816	3,500	2,029	1,800	1,112	77	...	26,632
1909 ...	9,184	8,070	3,419	2,080	1,671	1,030	60	...	25,514
1910 ...	9,339	8,128	3,594	2,163	1,760	1,098	72	...	26,154
1911 ...	9,973	8,355	4,060	2,179	1,923	1,037	59	(a) 5	27,591
1912 ...	11,094	9,072	4,305	2,409	2,210	1,130	61	4	30,285
1913 ...	11,508	8,495	4,195	2,563	1,852	1,189	53	4	29,859
1914 ...	10,984	9,017	4,132	2,621	1,942	1,063	69	7	29,835
1915 ...	11,439	8,860	4,695	2,587	1,887	1,083	89	14	30,654
1916 ...	11,500	8,901	4,653	2,721	1,981	1,148	108	6	31,018
1917 ...	10,445	7,952	4,027	2,398	1,802	926	52	7	27,609
Rate, (b) 1917	11.30	11.89	11.53	11.96	11.36	9.32	13.03	5.07	11.47

(a) Part of New South Wales prior to 1911. (b) Number of deaths per 1000 of mean population.

## FEMALE DEATHS, COMMONWEALTH, 1907 to 1917.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aus.	Tas.	North. Terr.	Fed. Terr.	C'wealth.
1907 ...	6,967	6,562	2,116	1,738	1,065	915	3	...	19,366
1908 ...	6,757	6,950	2,180	1,805	1,079	1,017	6	...	19,794
1909 ...	6,626	6,366	2,111	1,702	1,033	812	8	...	18,658
1910 ...	6,819	6,604	2,150	1,851	980	1,022	10	...	19,436
1911 ...	7,173	6,861	2,484	1,859	1,000	890	6	(a) 5	20,278
1912 ...	7,768	7,517	2,616	1,927	1,125	927	6	6	21,892
1913 ...	8,191	6,979	2,588	2,130	1,082	942	11	7	21,930
1914 ...	7,736	7,486	2,599	2,092	1,101	855	12	4	21,885
1915 ...	8,146	6,963	2,864	2,107	1,105	932	8	3	22,128
1916 ...	8,346	7,588	2,861	2,356	1,104	908	14	2	23,179
1917 ...	7,496	6,603	2,528	1,967	967	842	11	6	20,420
Rate, (b) 1917	7.93	8.96	7.63	8.49	6.45	8.46	11.36	5.39	8.18

(a) Part of New South Wales prior to 1911. (b) Number of deaths per 1000 of mean population.

**ART 2. Male and Female Death Rates, 1917.**—The crude male and female death rates for 1917 only are given in the last line of the preceding tables. South Australia has the highest rate for males, and Victoria for females, while Tasmania has the lowest male, and Western Australia the lowest female death rate. The rates for the two Territories are based on very small numbers, and comparisons with the States are misleading.

Owing to differences in the age constitution of the six States, the crude rates are not, however, strictly comparable, but for the purpose of calculating the "Index of Mortality" (see page 201) a distribution into five age-groups has been made, and the death rates are shewn for males and females in each State in five-year age groups for the three years 1910-1912, that is, for the census year and for the year immediately preceding and following, on page 196.

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

**DEATH RATES (a) OF VARIOUS COUNTRIES.**

Country.	Year.	Crude Death Rate.	Country.	Year.	Crude Death Rate.
Tasmania ...	1917	8.9	Prussia ...	1913	14.9
Western Australia ...	1917	9.0	German Empire ...	1913	15.0
New South Wales ...	1917	9.6	Finland ...	1914	15.6
Queensland ...	1917	9.6	Ireland ...	1916	16.5
New Zealand ...	1917	9.6	France ...	1913	17.7
Commonwealth ...	1917	9.8	Italy ...	1914	17.9
South Australia ...	1917	10.1	Japan ...	1913	19.5
Victoria ...	1917	10.4	Austria ...	1912	20.5
Ontario (Canada) ...	1915	12.0	Serbia ...	1912	21.1
Netherlands ...	1915	12.4	Bulgaria ...	1911	21.5
Denmark ...	1915	12.8	Jamaica ...	1915	21.6
Norway ...	1915	13.3	Spain ...	1914	22.1
Switzerland ...	1915	13.3	Hungary ...	1912	23.3
England and Wales ...	1916	14.4	Rumania ...	1914	23.8
Scotland ...	1916	14.6	Ceylon ...	1915	25.2
United Kingdom ...	1916	14.6	Chile ...	1914	27.8
Sweden ...	1915	14.6	Russia, European ...	1909	28.9
Belgium ...	1912	14.8			

(a) Number of deaths per 1000 of mean population.

**4. Total Deaths, 1907 to 1917.**—The total number of deaths in each of the Commonwealth States during the eleven years 1907 to 1917, is shewn below:—

**TOTAL DEATHS, COMMONWEALTH, 1907 to 1917.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aus.	Tas.	North Terr.	Federal Terr.	C'wealth.
1907 ...	16,411	14,539	5,598	3,736	2,931	1,998	92	...	45,805
1908 ...	16,055	15,766	5,680	3,834	2,879	2,129	83	...	46,426
1909 ...	15,810	14,436	5,530	3,782	2,704	1,842	68	...	44,172
1910 ...	16,158	14,732	5,744	4,014	2,740	2,120	82	...	45,590
1911 ...	17,146	15,216	6,544	4,038	2,923	1,927	65	(a) 10	47,869
1912 ...	18,862	16,589	6,921	4,386	3,335	2,057	67	10	52,177
1913 ...	19,699	15,474	6,783	4,693	2,934	2,131	64	11	51,789
1914 ...	18,720	16,503	6,731	4,713	3,043	1,918	81	11	51,720
1915 ...	19,585	15,823	7,559	4,694	2,992	2,015	97	17	52,782
1916 ...	19,846	16,489	7,514	5,077	3,085	2,056	122	8	54,197
1917 ...	17,941	14,555	6,555	4,365	2,769	1,768	63	13	48,029

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

5. **Crude Death Rates, 1907 to 1917.**—The death rate for 1917 shewed a decrease from that for 1916 in every State of the Commonwealth, and was the lowest on record in every State and the Commonwealth as a whole, with the exception of South Australia, where the rate had been lower in the three years 1909 to 1911.

**CRUDE DEATH RATE (a), COMMONWEALTH, 1907 to 1917.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	C'wealth.
1907 ...	10.63	11.86	10.31	10.16	11.47	10.81	24.07	...	10.99
1908 ...	10.20	12.71	10.26	10.14	11.17	11.36	22.71	...	11.07
1909 ...	9.89	11.45	9.70	9.74	10.27	9.68	19.22	...	10.33
1910 ...	9.89	11.49	9.71	10.09	10.11	11.10	24.10	...	10.43
1911 ...	10.32	11.52	10.65	9.82	10.19	10.13	19.58	(b) 5.62	10.66
1912 ...	10.86	12.23	10.96	10.28	11.06	10.73	19.95	4.91	11.23
1913 ...	10.89	11.11	10.39	10.82	9.34	10.87	17.49	4.49	10.78
1914 ...	10.11	11.59	9.97	10.71	9.41	9.67	21.59	4.16	10.51
1915 ...	10.48	11.09	11.00	10.68	9.28	10.11	22.03	6.89	10.66
1916 ...	10.63	11.70	11.09	11.73	9.80	10.38	25.16	3.06	11.04
1917 ...	9.60	10.36	9.64	10.10	8.97	8.89	12.71	5.21	9.80

(a) Number of deaths per thousand of mean population for year. (b) Part of New South Wales prior to 1911.

6. **Male and Female Death Rates, 1907 to 1917.**—The rise in the Commonwealth rate in 1908 was practically limited to the male death rate, as the subjoined table shews. The decrease from 1908 to 1909 was fairly equal for the male and female rates, and the increase in 1910 was due to a rise in the female rate. From 1910 to 1911, and again from 1911 to 1912, the increase in the male rate was about one and a-half times as marked as that in the female rate, while the decrease from 1912 to 1913 was more than twice as great for the male rate as for the female rate. The decrease from 1913 to 1914 was fairly equal for the male and female rates, while in 1915 and 1916 there were increases in the male rate, with a further slight decrease in the female rate in 1915, followed by an increase in 1916. In 1917 there were equally pronounced falls both in the male and female rates, which were both the lowest for any year for which records are available.

**MALE AND FEMALE DEATH RATES, (a), COMMONWEALTH, 1907 to 1917.**

Year.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
Male rate	12.11	12.24	11.51	11.54	11.82	12.51	11.93	11.67	12.08	12.65	11.47
F'male „	9.77	9.81	9.06	9.24	9.40	9.84	9.53	9.27	9.16	9.44	8.18
Crude total rate	10.99	11.07	10.33	10.43	10.66	11.23	10.78	10.51	10.66	11.04	9.80

(a) Number of deaths per thousand of mean population.

7. **Infantile Death Rate.**—(i.) *Deaths and Death Rates of Male and Female Infants, 1907 to 1917.* Improvement continues to take place in the infantile death rate since 1907, in which year it stood at 81.06 per thousand births registered, while in 1917 it had fallen to 55.91 per thousand, a rate lower than that experienced in any previous year, the lowest rate previously experienced being that of the year 1915, when it stood at 67.52 per thousand. In the following table, which shews both the total number of deaths of children under one year and the rate per thousand births since 1907, males and females are distinguished. The universal experience that during the first few years of life the excess of male births tends to disappear, as a consequence of the higher death rate of male infants, is shewn by the fact that out of 706,295 male infants born from 1907 to 1917, 55,188 died during their first year of life, while of 671,769 female infants the number who died was only 42,528 :—

**NUMBER OF INFANTILE DEATHS AND RATES OF INFANTILE MORTALITY,  
COMMONWEALTH, 1907 to 1917.**

Year.	Registered Deaths under one year.			Rate of Infantile Mortality (a).		
	Males.	Females.	Total.	Males.	Females.	Total.
1907 ...	4,993	3,952	8,945	88.39	73.38	81.06
1908 ...	4,885	3,791	8,676	85.53	69.65	77.78
1909 ...	4,604	3,559	8,163	78.73	64.02	71.56
1910 ...	4,916	3,822	8,738	81.65	67.53	74.81
1911 ...	4,745	3,624	8,369	75.91	60.72	68.49
1912 ...	5,446	4,102	9,548	80.06	63.04	71.74
1913 ...	5,472	4,328	9,800	78.81	65.30	72.21
1914 ...	5,582	4,279	9,861	79.06	63.51	71.47
1915 ...	5,127	3,980	9,107	74.25	60.47	67.52
1916 ...	5,186	4,057	9,243	76.82	63.47	70.33
1917 ...	4,232	3,034	7,266	63.27	48.10	55.91

(a) Number of deaths under 1 year per 1000 births registered.

(ii.) *Infantile Mortality, 1907 to 1917.* Divided among the States and Territories, the rates of infantile mortality during the last eleven years were as follows:—

**RATES (a) OF INFANTILE MORTALITY, COMMONWEALTH, 1907 to 1917.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Territory.	Com'wealth.
1907 ...	88.46	72.60	77.65	66.23	97.51	82.97	185.19	...	81.06
1908 ...	75.20	86.05	70.67	69.50	84.72	75.16	58.82	...	77.78
1909 ...	73.87	71.36	71.50	60.91	78.01	64.91	111.11	...	71.56
1910 ...	74.71	76.88	62.90	70.21	78.18	101.68	200.00	...	74.81
1911 ...	69.46	68.70	65.36	60.60	76.01	73.39	96.77	...	68.49
1912 ...	71.00	74.48	71.73	61.68	82.06	66.80	121.21	(b) 33.34	71.74
1913 ...	77.78	70.53	63.35	69.93	70.30	70.68	115.38	76.92	72.21
1914 ...	69.29	78.27	63.93	75.79	68.12	71.46	51.72	22.73	71.47
1915 ...	67.67	68.78	64.33	67.04	66.54	72.37	65.57	42.55	67.52
1916 ...	67.15	74.63	70.27	73.21	66.22	74.97	40.54	15.87	70.33
1917 ...	56.93	56.82	53.87	53.06	57.09	52.27	43.48	45.45	55.91

(a) Number of deaths under 1 year per 1000 births registered. (b) Part of New South Wales prior to 1911.

The movement has been a fairly regular one, shewing slight increases in the rates during 1910, 1913, and 1916. The minimum rates in the six States, prior to 1917, occurred at different periods, viz., Tasmania, in 1909; Queensland, in 1910; Victoria and South Australia, in 1911; New South Wales, in 1916, and Western Australia, in 1915. The regrettable increase in the Victorian rate for 1908 over that of 1907 was wholly due to the large mortality caused by the phenomenal heat of January, 1908. With the exception of Queensland, where the 1908 rate was exceptionally low, the 1909 rate was the lowest ever experienced up to that date in any of the States. A rise occurred in every State in 1910 with the exception of Queensland, which was counterbalanced by a considerable decrease during 1911 in every State but Queensland. In 1912 the rates shewed a rise in every State except Tasmania, and this was followed by a decrease in 1913 in Victoria, Queensland, and Western Australia, and by a further rise in New South Wales, South Australia, and Tasmania. In 1914 the rates increased in every State except New South Wales and Western Australia, the increases in Victoria and South Australia being particularly noticeable. In 1915 the rate decreased in New South Wales, Victoria, South Australia, and Western Australia, and increased slightly in Queensland and Tasmania, while in 1916 it increased in every State with the exception of New South Wales and Western Australia. A considerable decrease is shown by every State during 1917, and the rates for that year are the lowest on record in every State and in the Commonwealth as a whole.

The total number of births, and of deaths of children under one year of age, and the average rate of infantile mortality for the eleven years 1907 to 1917 are shewn in the following table for each of the fifty-nine districts for which the vital statistics of the Commonwealth have been tabulated during that period. To afford a better idea of the geographical position of the districts, the name of a town situated in a fairly central part of each district has been added. The figures for the Federal Territory and for Lord Howe Island are included for the sake of completeness, but are too small to be used in comparison with others.

### INFANTILE MORTALITY FOR THE ELEVEN YEARS 1907 to 1917.

States and Territories.	Districts.	Towns.	Total Births, 1907-17.	Total Deaths of Children under one year, 1907-17.	Average Infantile Mortality per 1000 Births, 1907-17.
New South Wales	Metropolitan	Sydney	205,675	15,517	75.44
"	North Coast	Grafton	44,006	2,382	54.13
"	Lower Hunter	Newcastle	55,354	4,095	73.98
"	Cumberland	Farramatta	23,601	1,583	67.07
"	South Coast	Nowra	23,031	1,463	63.52
"	Northern Tableland	Armidale	32,368	2,119	65.47
"	Central Tableland	Bathurst	38,758	2,905	74.95
"	Southern Tableland	Goulburn	29,423	1,904	64.71
"	North-Western Slope	Moree	13,202	963	72.94
"	Central-Western Slope	Dubbo	19,413	1,439	74.13
"	South-Western Slope	Temora	20,633	1,272	61.65
"	Riverina	Hay	11,253	687	61.05
"	Plains East of Darling	Cobar	6,236	585	93.81
"	Trans-Darling Plains	Broken Hill	13,607	1,463	107.52
"	Lord Howe Island		19	3	157.89
Victoria	Metropolitan	Melbourne	171,866	14,299	83.20
"	Central	Geelong	34,446	2,255	65.46
"	North-Central	Kyneton	19,050	1,155	60.63
"	Western	Hamilton	42,737	3,000	70.20
"	Wimmera	Horsham	16,790	947	56.40
"	Mallee	Ultima	9,285	551	59.34
"	Northern	Rochester	40,951	2,727	66.59
"	North-Eastern	Beechworth	14,499	843	58.14
"	Gippsland	Sale	19,110	1,017	53.22
Queensland	Metropolitan	Brisbane	51,037	4,055	79.45
"	Moreton	Ipswich	25,101	1,392	54.80
"	Wide Bay	Maryborough	25,067	1,848	53.78
"	Port Curtis	Rockhampton	16,521	1,238	74.48
"	Edgumbe	Townsville	19,391	1,188	59.73
"	Rockingham	Cairns	9,788	597	60.99
"	York Peninsula	Cooktown	1,516	101	66.62
"	Carpentaria	Croydon	3,420	280	81.87
"	Central-Western	Winton	948	80	84.39
"	South-Western	Charleville	2,519	252	100.04
"	Central	Blackall	5,325	373	64.99
"	Maranoa	Roma	4,315	258	66.74
"	Downs	Toowoomba	28,640	1,776	61.58
South Australia	Metropolitan	Adelaide	59,258	4,432	74.79
"	Central	Gawler	25,846	1,397	52.04
"	Lower North	Redruth	19,530	1,455	75.05
"	Upper North	Port Augusta	6,404	351	54.81
"	South-Eastern	Mount Gambier	6,759	338	50.01
"	Western	Port Lincoln	4,429	194	43.80
Western Australia	Metropolitan	Perth	39,482	3,206	81.20
"	Northern Agricultural	Geraldton	12,650	836	66.09
"	South-Western	Katanning	19,914	1,016	51.02
"	Eastern Goldfields	Kalgoorlie	15,181	1,311	86.96
"	Northern Goldfields	Pilbara	3,147	284	90.24
"	North-Western	Roebourne	450	27	60.00
"	Northern	Broome	394	35	88.83
Tasmania	Hobart	Hobart	13,618	1,196	87.82
"	Launceston	Launceston	8,876	808	91.03
"	North-Eastern	Scottsdale	7,488	493	65.84
"	North-Western	Stanley	15,400	937	60.84
"	Midland	Zeehan	8,282	597	72.08
"	South-Eastern	Sorell	6,388	386	60.43
"	South-Western	Franklin	1,966	132	66.13
Northern Territory	—	Darwin	506	44	86.96
Federal Territory (1911-17)	—	Canberra	322	10	31.06

(iii.) *Infantile Mortality in Various Countries and Cities.* Compared with European countries, the cities and States of the Commonwealth occupy a very enviable position, and it may be pointed out that experience has shewn that a high birth rate is often, though not invariably, accompanied by a high infantile death rate. The figures in the subjoined tables relate to the latest years for which returns are available:—

#### RATE (a) OF INFANTILE MORTALITY IN VARIOUS COUNTRIES.

Country.	Year.	Rate of Infantile Mortality. (a)	Crude Birth Rate. (b)	Country.	Year.	Rate of Infantile Mortality. (a)	Crude Birth Rate. (b)
New Zealand ...	1915	50	25.4	Ontario (Canada)...	1915	102	24.2
Tasmania ...	1917	52	27.0	Finland ...	1915	104	26.9
South Australia ...	1917	53	26.2	Belgium ...	1912	120	22.6
Queensland ...	1917	54	29.1	Italy ...	1913	137	31.7
Commonwealth ...	1917	56	26.5	Prussia ...	1912	146	28.9
New South Wales ...	1917	57	28.1	Serbia ...	1911	146	36.2
Victoria ...	1917	57	23.5	Japan ...	1913	150	33.3
Western Australia ...	1917	57	25.5	German Empire ...	1913	151	27.5
Norway ...	1914	68	25.2	Bulgaria ...	1911	156	40.2
Sweden ...	1913	70	23.2	Spain ...	1907	158	33.6
France ...	1912	78	19.0	Ceylon ...	1915	171	37.0
Ireland ...	1916	83	21.1	Jamaica ...	1915	175	34.6
Netherlands ...	1915	87	26.2	Austria ...	1912	180	31.3
England and Wales ...	1916	91	20.9	Hungary ...	1912	186	36.3
United Kingdom ...	1916	91	21.1	Rumania ...	1914	187	42.5
Switzerland ...	1914	91	22.5	Russia, European	1909	248	44.0
Denmark ...	1915	95	24.2	Chile ...	1914	286	37.0
Scotland ...	1916	97	22.8				

(a) Number of deaths under 1 year per 1000 births registered. (b) Number of births per 1000 of mean population.

#### RATE (a) OF INFANTILE MORTALITY IN VARIOUS CITIES.

City.	Year.	Rate of Infantile Mortality. (a)	City.	Year.	Rate of Infantile Mortality. (a)
Zurich ...	1916	55	Birmingham ...	1915	118
Rome ...	1915	56	Milan ...	1916	124
Amsterdam ...	1916	58	Paris ...	1915	125
Sydney ...	1917	59	Genoa ...	1916	126
Adelaide ...	1917	60	Belfast ...	1912	129
Hobart ...	1917	60	Manchester ...	1915	129
Brisbane ...	1917	63	Hamburg ...	1912	130
Perth ...	1917	64	Leipzig ...	1912	133
Rotterdam ...	1916	65	Munich ...	1912	134
Melbourne ...	1917	66	Antwerp ...	1912	140
Geneva ...	1916	73	Budapest ...	1912	141
Stockholm ...	1916	80	Berlin ...	1912	142
Copenhagen ...	1915	92	Chicago ...	1916	145
Buenos Aires ...	1916	94	Dublin ...	1916	147
Edinburgh ...	1916	100	Vienna ...	1912	149
New York ...	1915	102	Marseilles ...	1916	157
Washington ...	1916	106	Brussels ...	1912	166
Christiania ...	1912	108	Rio de Janeiro ...	1912	174
London ...	1915	110	Madrid ...	1915	177
Glasgow ...	1916	111	Bucharest ...	1912	185
Monte Video ...	1916	111	Florence ...	1916	192
Aberdeen ...	1916	112	Montreal ...	1911	242
Toronto ...	1911	114	Petrograd ...	1912	249
Lyons ...	1916	115	Moscow ...	1915	317
Liverpool ...	1916	117	Bombay ...	1915	329

(a) Number of deaths under 1 year per 1000 births registered.

(iv.) *The Effect of Infantile Mortality on Birth Rate.* It has been contended by certain investigators that the birth-rate question is intimately related to that of infantile mortality, and that in many cases a declining birth rate may be to a large extent accounted for by a decline in the infantile death rate, since, in the case in which an infant has survived, the period elapsing before the birth of the next child is likely to be longer than in the case in which the infant has died. It may indeed be readily admitted that in any community the birth rate may be affected in a definite way by variations of infantile mortality, but careful investigation of the question serves to shew that, whether considered from the theoretical aspect with a view to determining the *maximum* and the *probable* effects which a given change in the rate of infantile mortality would produce in the birth rate, or from the practical point of view by observing the fluctuations in the birth rates of various countries which have been collateral with changes in their rates of infantile mortality, there is little ground for the contention that the rate of infantile mortality is an important factor in determining the variations in the birth rate. One calculation which has been made on the basis of normal Australian conditions indicates that the *maximum* effect of increasing the rate of infantile mortality 100 per cent. would, in the absence of other disturbing causes, be to increase the birth rate by only  $3\frac{1}{4}$  per cent., whilst the *probable* effect would be considerably less than this. In other words, the *maximum* effect of an increase in the rate of infantile mortality from 100 to 200 per 1000 births would be to increase the birth rate from say 30 to 31 per 1000 of population. It may be noted too, that although in some countries an increase in birth-rate accompanies an increase in the rate of infantile mortality, in others the birth rate would appear to be quite unaffected by such an increase, while in the case of England and Wales, Scotland, and Ireland, the tendency apparently exhibited is for an increase in the rate of infantile mortality to be associated with a decrease in the birth rate. The conclusion which these results appear to warrant is that although infantile mortality undoubtedly tends on the whole to increase the birth rate, the practical effect produced is so slight that the existence of such a relation may in any instance be quite masked by more important causes of variation.

8. **Deaths in Age-Groups, 1907 to 1917.**—A distribution into age-groups has been made of the 540,056 deaths which occurred in the Commonwealth from 1907 to 1917, and the results are tabulated for each State. It is, however, sufficient here to shew the results for the Commonwealth as a whole, which are as follows:—

**DEATHS IN AGE-GROUPS, COMMONWEALTH, 1907 to 1917.**

Ages.	Males.	Females.	Total.	Percentage of Total Males.	Percentage of Total Females.	Percentage of Total.
Under 1 year ...	55,188	42,528	97,716	17.74	18.57	18.09
1 year and under 5 ...	17,586	15,495	33,081	5.65	6.77	6.13
5 years and under 20 ...	16,492	14,305	30,797	5.30	6.25	5.70
20 years and under 40 ...	39,732	35,512	75,244	12.77	15.51	13.93
40 years and under 60 ...	67,242	39,140	106,382	21.62	17.09	19.70
60 years and under 65 ...	19,107	11,184	30,291	6.14	4.89	5.61
65 years and over ...	95,092	70,677	165,769	30.57	30.87	30.70
Age not stated ...	651	125	776	0.21	0.05	0.14
Total ...	311,090	228,966	540,056	100.00	100.00	100.00

9. **Deaths at Single Ages and in Age-Groups, 1917.**—The 48,029 deaths which were registered in the Commonwealth in the year 1917 will be found tabulated under single years, and in groups of five years for each State and Territory, in "Bulletin No.



34, Commonwealth Demography, 1917." It has been thought advisable to tabulate the deaths during the first two years of life in greater detail. The first month has, therefore, been shewn in weeks, and the twenty-three months up to the end of the second year in months. This tabulation shews a great number of children dying during the first week, the number gradually diminishing towards the end of the second year. The particulars relating to the Commonwealth are given in the following table:—

## DEATHS AT SINGLE AGES AND IN AGE-GROUPS, 1917.

## COMMONWEALTH.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
Under 1 week ...	1,643	1,182	2,825	10 years ...	77	73	150
1 week and under 2 ...	279	193	472	11 " ...	81	47	128
2 weeks " " 3 ...	178	129	307	12 " ...	60	62	122
3 " " " 4 ...	117	103	220	13 " ...	73	61	134
				14 " ...	82	57	139
Total under one month ...	2,217	1,607	3,824				
1 month and under 2 ...	345	212	557	Total 10 years and under 15	373	300	673
2 months " " 3 ...	275	175	450	15 years ...	84	67	151
3 " " " 4 ...	226	161	387	16 " ...	83	67	150
4 " " " 5 ...	189	131	320	17 " ...	98	91	189
5 " " " 6 ...	155	121	276	18 " ...	116	64	180
6 " " " 7 ...	152	133	285	19 " ...	97	103	200
7 " " " 8 ...	159	108	267				
8 " " " 9 ...	142	111	253	Total 15 years and under 20	478	392	870
9 " " " 10 ...	142	89	231	20 years ...	100	124	224
10 " " " 11 ...	122	103	225	21 " ...	106	123	229
11 " " " 12 ...	108	83	191	22 " ...	120	139	259
				23 " ...	146	147	293
Total under 1 year ...	4,232	3,034	7,266	24 " ...	132	148	280
12 months and under 13 ...	247	196	443				
13 " " " 14 ...	63	63	126	Total 20 years and under 25	604	681	1,285
14 " " " 15 ...	66	47	113	25 years ...	123	165	288
15 " " " 16 ...	51	39	90	26 " ...	146	152	298
16 " " " 17 ...	42	48	90	27 " ...	130	178	308
17 " " " 18 ...	56	31	87	28 " ...	146	153	299
18 " " " 19 ...	52	47	99	29 " ...	164	188	352
19 " " " 20 ...	32	32	64				
20 " " " 21 ...	31	20	51	Total 25 years and under 30	709	836	1,545
21 " " " 22 ...	24	32	56	30 years ...	184	177	361
22 " " " 23 ...	30	18	48	31 " ...	155	146	301
23 " " " 24 ...	23	7	30	32 " ...	150	171	321
				33 " ...	171	182	353
Total under 2 years ...	4,949	3,614	8,563	34 " ...	172	174	346
2 years ...	299	272	571				
3 " ...	214	209	423	Total 30 years and under 35	832	850	1,682
4 " ...	178	152	330	35 years ...	211	160	371
				36 " ...	182	174	356
Total under 5 years ...	5,640	4,247	9,887	37 " ...	183	162	345
5 years ...	153	125	278	38 " ...	224	169	393
6 " ...	128	113	241	39 " ...	221	169	390
7 " ...	99	97	196				
8 " ...	89	67	156	Total 35 years and under 40	1,021	834	1,855
9 " ...	82	54	136				
Total 5 years and under 10	551	456	1,007				

## DEATHS AT SINGLE AGES AND IN AGE-GROUPS, 1917—Continued.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
40 years ...	351	164	415	75 years ...	470	363	833
41 " ...	161	136	297	76 " ...	420	334	754
42 " ...	222	168	390	77 " ...	402	313	715
43 " ...	206	161	367	78 " ...	407	294	701
44 " ...	231	139	370	79 " ...	312	314	626
Total 40 years and under 45	1,071	768	1,839	Total 75 years and under 80	2,011	1,618	3,629
45 years ...	313	153	471	80 years ...	395	322	717
46 " ...	254	167	421	81 " ...	309	239	548
47 " ...	306	185	491	82 " ...	305	258	563
48 " ...	301	176	477	83 " ...	287	232	519
49 " ...	292	173	465	84 " ...	306	234	540
Total 45 years and under 50	1,466	859	2,325	Total 80 years and under 85	1,602	1,285	2,887
50 years ...	367	202	569	85 years ...	247	207	454
51 " ...	265	137	402	86 " ...	221	147	368
52 " ...	368	221	589	87 " ...	184	160	344
53 " ...	370	197	567	88 " ...	136	121	257
54 " ...	372	227	599	89 " ...	109	94	203
Total 50 years and under 55	1,742	984	2,726	Total 85 years and under 90	897	729	1,626
55 years ...	404	185	589	90 years ...	67	89	156
56 " ...	429	256	685	91 " ...	48	59	107
57 " ...	425	199	624	92 " ...	51	53	104
58 " ...	416	242	658	93 " ...	35	30	65
59 " ...	421	228	649	94 " ...	28	34	62
Total 55 years and under 60	2,095	1,110	3,205	Total 90 years and under 95	229	265	494
60 years ...	507	257	794	95 years ...	20	26	46
61 " ...	363	221	584	96 " ...	15	9	24
62 " ...	428	254	682	97 " ...	9	11	20
63 " ...	416	244	660	98 " ...	9	9	18
64 " ...	375	248	623	99 " ...	6	7	13
Total 60 years and under 65	2,089	1,254	3,343	Total 95 yrs. and under 100	59	62	121
65 years ...	458	296	754	100 years ...	2	3	5
66 " ...	365	226	591	101 " ...	3	...	3
67 " ...	396	272	668	102 " ...	2	1	3
68 " ...	435	273	708	103 " ...	2	...	2
69 " ...	405	283	688	104 " ...	2	...	2
Total 65 years and under 70	2,059	1,350	3,409	105 " ...	1	2	3
70 years ...	448	324	772	106 " ...	2	...	2
71 " ...	337	251	588	107 " ...	1	...	1
72 " ...	409	318	727	108 " ...	1	...	1
73 " ...	412	321	733	Total 100 years and over...	16	6	22
74 " ...	414	309	723	Age not stated ...	45	11	56
Total 70 years and under 75	2,020	1,523	3,543	Total all ages ...	27,609	20,420	48,029

The following tables shew the death rate per 1000 living at each age for the three years 1910, 1911 and 1912, viz., the Census year 1911, and the years immediately preceding and following. The Northern Territory is included with South Australia, and the Federal Territory with New South Wales :—

**AVERAGE ANNUAL DEATH RATES PER 1000 LIVING IN VARIOUS  
AGE-GROUPS, 1910 to 1912.**

**MALES.**

Age Group.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
0 to 4 years	25.40	24.71	23.30	21.30	23.44	24.65	24.71
5 " 9 "	2.11	2.39	2.39	1.85	2.61	2.53	2.26
10 " 14 "	1.75	1.69	1.74	1.40	2.16	1.70	1.72
15 " 19 "	2.42	2.41	2.92	2.43	2.86	2.59	2.52
20 " 24 "	3.37	3.27	4.83	3.00	5.17	3.57	3.65
25 " 29 "	3.91	4.13	5.57	3.57	5.86	4.49	4.35
30 " 34 "	4.90	4.83	5.96	5.40	6.75	3.77	5.20
35 " 39 "	6.08	6.31	7.54	7.15	8.41	6.28	6.68
40 " 44 "	8.25	8.26	9.65	8.31	10.37	6.17	8.58
45 " 49 "	10.91	11.05	13.83	10.27	14.96	9.25	11.58
50 " 54 "	14.78	15.33	17.77	13.02	17.66	14.08	15.36
55 " 59 "	21.93	21.41	23.01	19.99	24.65	16.24	21.67
60 " 64 "	30.99	31.52	31.25	31.94	35.06	28.39	31.38
65 " 69 "	45.80	50.53	51.53	45.94	45.96	38.29	47.69
70 " 74 "	71.49	74.28	70.94	58.38	78.74	58.79	70.88
75 " 79 "	117.05	115.68	112.40	99.49	110.54	108.60	114.04
80 " 84 "	181.34	174.56	190.89	165.68	185.23	148.67	176.32
85 " 89 "	252.58	270.76	202.56	225.42	328.21	313.87	257.73
90 and over	375.35	365.88	272.73	279.57	321.43	465.61	357.11

**FEMALES.**

0 to 4 years	20.96	19.79	20.07	16.96	21.76	21.27	20.22
5 " 9 "	1.78	2.27	2.29	1.71	2.58	1.88	2.04
10 " 14 "	1.41	1.81	1.45	1.25	1.77	2.51	1.59
15 " 19 "	1.96	2.42	2.20	2.19	2.01	3.47	2.22
20 " 24 "	3.22	3.74	3.76	3.44	3.82	4.09	3.53
25 " 29 "	4.02	4.31	4.68	4.79	4.42	4.66	4.31
30 " 34 "	4.51	4.98	4.46	4.92	4.88	4.93	4.73
35 " 39 "	5.84	6.02	5.79	5.71	6.15	7.68	5.97
40 " 44 "	6.24	6.63	7.11	5.80	6.73	5.67	6.44
45 " 49 "	7.63	8.05	9.07	7.91	8.40	7.02	7.98
50 " 54 "	11.22	11.30	11.73	9.72	11.82	8.76	11.07
55 " 59 "	14.38	15.55	14.13	12.63	14.18	15.80	14.60
60 " 64 "	21.69	22.27	21.64	20.54	20.44	19.50	21.60
65 " 69 "	37.81	36.48	34.69	35.01	34.59	35.09	36.47
70 " 74 "	55.75	58.36	57.82	48.28	54.52	55.11	56.13
75 " 79 "	97.62	98.27	86.11	91.32	92.45	93.30	95.91
80 " 84 "	154.31	157.19	138.33	137.87	144.14	150.77	151.89
85 " 89 "	184.60	225.65	200.82	202.17	186.67	254.45	208.59
90 and over	307.43	361.44	351.52	328.17	358.97	317.88	334.87

**PERSONS.**

0 to 4 years	23.21	22.29	21.72	19.16	25.15	23.00	22.50
5 " 9 "	1.95	2.33	2.34	1.78	2.60	2.21	2.15
10 " 14 "	1.58	1.75	1.60	1.33	1.97	2.10	1.66
15 " 19 "	2.19	2.42	2.57	2.31	2.45	3.03	2.37
20 " 24 "	3.30	3.51	4.33	3.22	4.60	3.84	3.59
25 " 29 "	3.96	4.22	5.17	4.17	5.29	4.58	4.33
30 " 34 "	4.71	4.92	5.29	5.16	6.00	4.34	4.97
35 " 39 "	5.97	6.16	6.78	6.44	7.51	6.94	6.34
40 " 44 "	7.31	7.44	8.58	7.09	9.06	5.94	7.59
45 " 49 "	9.45	9.59	11.95	9.14	12.73	8.20	9.96
50 " 54 "	13.25	13.40	15.48	11.49	15.64	11.63	13.48
55 " 59 "	18.63	18.52	19.59	16.67	20.87	16.04	18.52
60 " 64 "	26.79	26.86	27.44	26.48	29.25	24.08	26.87
65 " 69 "	42.18	43.26	44.44	40.58	41.22	36.66	42.37
70 " 74 "	64.41	65.98	65.87	53.36	68.67	56.91	63.91
75 " 79 "	108.56	107.11	101.89	95.17	103.30	100.66	105.58
80 " 84 "	169.10	171.29	166.15	150.82	170.12	149.75	164.97
85 " 89 "	217.51	248.40	201.72	211.72	266.67	284.83	232.64
90 and over	337.70	363.94	308.54	307.81	333.33	404.98	345.44

The tables shew a high death rate for children under five years of age, which rapidly diminishes until, at ages 10 to 14, a rate of 1.66 per 1000 is shewn, which is the lowest at any age. The rate then gradually rises with increasing age until, at the ages 90 and over, more than one-third die every year.

10. Deaths of Centenarians, 1917.—Particulars as to the twenty-two persons who died in 1917, aged 100 years and upwards, are given in the following table. It must, of course, be understood that while the Registrars-General of the various States take the greatest care to have statements as to abnormally high ages verified as far as possible, no absolute reliance can be placed on the accuracy of the ages shewn, owing to the well-known tendency of very old people to overstate their ages. No attempt has been made by the Commonwealth Bureau of Census and Statistics to verify the truth of the statements made. 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, 1917.—COMMONWEALTH.

## MALES.

Age	Locality where Death occurred.	State.	Cause of Death.	Occupation.	Birth-place.	Length of Residence in Commonwealth.
Yrs						
108	Mansfield ...	Victoria ...	Senility ...	Miner ...	China ...	40 years
107	Murwillumbah ...	N.S.W. ...	" ...	Labourer ...	N. Zealand ...	45 "
106	Cargo ...	Tasmania ...	" ...	Farmer ...	Ireland ...	68 "
106	Devonport ...	Tasmania ...	" ...	Labourer ...	Ireland ...	65 "
105	Campbellfield ...	Victoria ...	" ...	Coachgilder ...	England ...	54 "
104	Yea ...	" ...	" ...	Farmer ...	Ireland ...	43 "
104	Goondiwindi ...	Queensland ...	" ...	Unspecified ...	China ...	Unspecified
104	Northam ...	W. Australia ...	" ...	Farmer ...	Ireland ...	82 years
103	Smithfield ...	S. Australia ...	Chronic Bronchitis ...	Labourer ...	Ireland ...	63 "
102	Gladesville ...	N.S.W. ...	Acute Bronchitis ...	Unspecified ...	N.S.W. ...	Native
102	Salé ...	Victoria ...	Senility ...	Unspecified ...	Ireland ...	42 years
101	Collingwood ...	" ...	" ...	Sawyer ...	Ireland ...	Unspecified
101	Perth ...	W. Australia ...	" ...	Gentleman ...	Scotland ...	64 years
101	Hobart ...	Tasmania ...	" ...	Gentleman ...	Scotland ...	70 "
100	Sea Lake ...	Victoria ...	" ...	Unspecified ...	Ireland ...	60 "
100	North Melbourne ...	" ...	" ...	Traveller ...	Scotland ...	79 "

## FEMALES.

105	Richmond ...	N.S.W. ...	Senility ...	" ...	N.S.W. ...	Native
105	South Melbourne ...	Victoria ...	" ...	" ...	Ireland ...	35 years
102	New Angledool ...	N.S.W. ...	" ...	" ...	N.S.W. ...	Native
100	Parramatta ...	" ...	" ...	" ...	B.W. Indies ...	79 years
100	Waverley ...	" ...	Gastritis ...	" ...	England ...	50 "
100	Adelaide ...	S. Australia ...	Senility ...	" ...	England ...	61 "

11. Length of Residence in the Commonwealth of Persons who Died in 1917.—The length of residence in the Commonwealth of all persons whose deaths were registered in the year 1917 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 1917.

Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.	Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.
Born in the C'wealth...	15,809	13,006	28,815	Resident 25 to 29 years	509	287	796
Resident under 1 year	81	12	93	" 30 to 34 "	1,267	626	1,893
" 1 year ...	37	16	53	" 35 to 39 "	831	439	1,270
" 2 years ...	70	39	109	" 40 to 44 "	876	464	1,340
" 3 " ...	72	73	145	" 45 to 49 "	490	303	793
" 4 " ...	144	90	234	" 50 to 54 "	1,129	902	2,031
" 5 " ...	150	103	253	" 55 to 59 "	815	686	1,501
" 6 " ...	127	86	213	" 60 to 64 "	1,525	1,364	2,889
" 7 " ...	81	44	125	" 65 yrs. & over	1,015	1,021	2,036
" 8 " ...	60	25	85	Length of residence not stated...	1,765	531	2,296
" 9 " ...	49	20	69				
" 10 to 14 years...	178	76	254				
" 15 to 19 " ...	194	90	284				
" 20 to 24 " ...	335	117	452	Total ...	27,609	20,420	48,029

12. **Birthplaces of Persons who Died in 1917.**—In the following table are shewn the birthplaces of persons whose deaths were registered in 1917:—

### BIRTHPLACES OF PERSONS WHO DIED IN 1917.

#### COMMONWEALTH.

Birthplace.	Males.	Females.	Total.	Birthplace	Males	Females.	Total.
<b>AUSTRALASIA—</b>				<b>ASIA—continued.</b>			
Commonwealth of Australia—				Philippine Islands	6	...	6
New South Wales ...	6,137	5,065	11,202	Syria ...	9	6	15
Victoria ...	4,814	3,921	8,735	Other Asiatic Countries ...	3	...	3
Queensland ...	1,728	1,375	3,103				
South Australia ...	1,628	1,363	2,991	<b>AFRICA—</b>			
Western Australia...	527	427	954	Union of Sth. Africa	20	17	37
Tasmania ...	969	846	1,815	Mauritius ...	7	1	8
Northern Territory	4	9	13	Other African Brit. Possessions ...	...	3	3
Federal Territory ...	2	...	2	Egypt ...	1	1	2
New Zealand ...	148	85	233	Other African Countries ...	1	...	1
<b>EUROPE—</b>				<b>AMERICA—</b>			
England ...	5,143	3,295	8,438	Canada ...	54	19	73
Wales ...	155	93	248	Jamaica...	8	3	11
Scotland ...	1,396	968	2,364	Newfoundland ...	5	...	5
Ireland ...	2,385	2,220	4,605	Other American Brit. Possessions	10	11	21
Isle of Man ...	8	5	13	Argentine Republic	1	...	1
Other European Brit'h Possessions	25	11	36	Brazil ...	2	1	3
Austria-Hungary ...	36	4	40	Chile ...	1	1	2
Belgium ...	12	2	14	Mexico ...	4	...	4
Denmark ...	110	39	149	Peru ...	1	...	1
France ...	56	30	86	United States of America ...	77	20	97
Germany ...	501	260	761	Other American Countries ...	8	2	10
Greece ...	22	3	25				
Italy ...	78	13	91	<b>POLYNESIA—</b>			
Netherlands ...	15	4	19	Fiji ...	1	6	7
Norway ...	49	8	57	Papua ...	3	...	3
Portugal...	7	...	7	Other Polynesian Brit. Possessions	8	...	8
Russia ...	106	21	127	New Caledonia ...	2	...	2
Spain ...	17	1	18	New Hebrides ...	7	...	7
Sweden ...	105	6	111	Samoa ...	1	...	1
Switzerland ...	51	9	60	Other Polynesian Islands ...	5	...	5
Other European Countries ...	8	2	10	South Sea Islands (so described) ...	28	5	33
<b>ASIA—</b>				At Sea ...	57	43	100
British India ...	68	37	105	Not stated...	595	152	747
Ceylon ...	9	1	10				
Straits Settlements	5	1	6	<b>Total Deaths</b> ...	<b>27,609</b>	<b>20,420</b>	<b>48,029</b>
Other Asiatic British Possessions ...	2	1	3				
Afghanistan ...	3	...	3				
China ...	279	2	281				
Japan ...	66	...	66				
Java ...	10	2	12				

13. **Occupations of Male Persons who Died in 1917.**—Information as to the occupations of the 27,609 males who died in the Commonwealth in 1917, is contained in the following statement :—

**OCCUPATIONS OF MALES WHO DIED IN 1917.**

**COMMONWEALTH.**

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
<b>CLASS I.—PROFESSIONAL.</b>			
General Government ... ..	125	Vegetable food ... ..	82
Local Government ... ..	37	Groceries and stimulants ... ..	139
Defence ... ..	271	Living animals... ..	32
Law and order ... ..	182	Leather, raw material ... ..	4
Religion ... ..	97	Wool and tallow ... ..	13
Charity ... ..	5	Hay, corn, etc. ... ..	37
Health ... ..	163	Other vegetable matter ... ..	6
Literature ... ..	35	Wood and coal... ..	25
Science ... ..	15	Stone, clay, glass ... ..	6
Civil and mechanical engineering, architecture and surveying ... ..	79	Ironmongery ... ..	18
Education ... ..	114	Merchants ... ..	89
Fine arts ... ..	36	Shopkeepers and assistants ... ..	218
Music ... ..	42	Dealers and hawkers ... ..	117
Amusements ... ..	115	Agents and brokers ... ..	117
		Clerks, bookkeepers, etc. ... ..	574
		Commercial travellers and salesmen	152
		Others engaged in commercial pur- suits ... ..	114
Total Professional ... ..	1,316	Speculators on chance events ... ..	14
<b>CLASS II.—DOMESTIC.</b>		Total Commercial ... ..	2,417
Hotelkeepers and assistants ... ..	246		
Others engaged in providing board and lodging... ..	112	<b>CLASS IV.—TRANSPORT AND COMMUNICATION.</b>	
House servants ... ..	91	Railway traffic ... ..	431
Coachmen and grooms ... ..	66	Tramway traffic ... ..	42
Hairdressers ... ..	53	Road traffic ... ..	518
Laundrymen ... ..	17	Sea and river traffic ... ..	506
Others engaged in domestic occu- pations ... ..	152	Postal service ... ..	79
Total Domestic ... ..	737	Telegraph and telephone service ... ..	43
		Messengers, etc. ... ..	8
<b>CLASS III.—COMMERCIAL.</b>		Total Transport & Communication	1,627
Banking and finance ... ..	92		
Insurance and valuation ... ..	72	<b>CLASS V.—INDUSTRIAL.</b>	
Land and household property ... ..	35	Books and publications ... ..	130
Property rights, n.e.i. ... ..	1	Musical instruments ... ..	11
Books, publications and advertising	42	Prints, pictures, and art materials	5
Musical instruments ... ..	2	Ornaments and small wares ... ..	14
Prints, pictures and art materials... ..	2	Sports and games ... ..	3
Ornaments, small wares ... ..	1	Designs, medals, type, and dies ... ..	7
Surgical instruments ... ..	1	Watches and clocks ... ..	32
Arms and Ammunition ... ..	1	Surgical instruments ... ..	2
Machines, tools, and implements ... ..	5	Arms and ammunition ... ..	3
Carriages and vehicles ... ..	2	Engines, machines, tools, etc. ... ..	129
Harness and saddlery ... ..	1	Carriages and vehicles ... ..	116
Ships and boats ... ..	2	Harness, saddlery, and leatherware	84
Building materials ... ..	14	Ships, boats, and equipment ... ..	68
Furniture ... ..	5	Furniture ... ..	94
Paper and stationery ... ..	9	Building material ... ..	64
Textile fabrics ... ..	106	Chemicals and by-products ... ..	6
Dress ... ..	16		
Fibrous Materials ... ..	2		
Animal food ... ..	249		

## OCCUPATIONS OF MALES WHO DIED IN 1917—Continued.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
<b>INDUSTRIAL—Continued.</b>		<b>CLASS VI.—AGRICULTURAL, PASTORAL, MINING PURSUITS, ETC.</b>	
Textile fabrics ... ..	24	Agricultural ... ..	3,024
Dress ... ..	373	Pastoral ... ..	762
Fibrous materials ... ..	17	Dairy farming ... ..	74
Animal food ... ..	18	Bees, fisheries and wild animals ...	136
Vegetable food ... ..	173	Forestry ... ..	90
Groceries and stimulants ... ..	56	Water conservation and supply ...	17
Animal matter ... ..	27	Mines and quarries ... ..	1,508
Workers in wood not elsewhere classified ... ..	22		
Vegetable produce for fodder ... ..	2	Total Primary Producers ... ..	5,611
Stone, clay, glass ... ..	69		
Jewellery and precious stones ... ..	30	<b>CLASS VII.—INDEFINITE.</b>	
Metals, other than gold and silver ...	380	Independent means, having no spe- cific occupation ... ..	326
Gas, electric lighting, etc. ... ..	55	Occupation unspecified ... ..	775
<b>Buildings—</b>			
Builders ... ..	114	Total Indefinite ... ..	1,101
Stonemasons ... ..	85		
Bricklayers ... ..	75	<b>CLASS VIII.—DEPENDENTS.</b>	
Slaters ... ..	3	Dependent relatives (including per- sons under 20 years of age with no specified occupation) ... ..	6,757
Carpenters ... ..	440	Supported by voluntary and State contributions ... ..	439
Plasterers ... ..	43		
Painters and glaziers ... ..	187	Total Dependents ... ..	7,196
Plumbers ... ..	64		
Signwriters ... ..	6		
Others ... ..	4		
Roads, railways, and earthworks ...	61		
Disposal of the dead ... ..	16		
Disposal of refuse ... ..	11		
<b>Other industrial workers—</b>			
Manufacturers ... ..	37		
Engineers, firemen ... ..	408		
Contractors ... ..	170		
Labourers, undefined ... ..	3,830		
Others ... ..	36		
Total Industrial ... ..	7,604	Total Male Deaths ... ..	27,609

14. **Index of Mortality.**—The death rates, those for age-groups on page 196 excepted, so far shewn are crude rates, *i.e.*, they simply shew the number of deaths per thousand of mean population, without taking the age constitution of that population into consideration. It is, however, a well-known fact that the death rate and age constitution of a people are intimately related; thus, other conditions being equal, the death rate of a country will be lower if it contain a large percentage of young people (not infants). In order to have a comparison of the mortality of various countries on a uniform basis, so far as age constitution is concerned, the International Statistical Institute in its 1895 session recommended the universal adoption of the population of Sweden in five age-groups, as ascertained at the Census of 1890, as the standard population by which this "Index of Mortality," as distinguished from the crude death rate, should be ascertained. The calculation for 1917 is shewn below for each of the States and Territories and for the Commonwealth, the distribution of the mean population of 1917 into age-groups being in accordance with the distribution as found at the Census of 1911:—

## INDEX OF MORTALITY, 1917.—(STATES AND COMMONWEALTH).

Age-Group.	Mean Population, 1917, distributed according to Results of Census of 1911.	Number of Deaths, 1917.	No. of Deaths per 1000 of Mean Population, 1917, in each Age-Group.	Age Distribution per 1000 of Standard Population.	Index of Mortality.
<b>NEW SOUTH WALES.</b>					
Under 1 year ... ..	51,406	2,988	58.13	25.5	1.48
1 year and under 20 ... ..	736,157	1,996	2.71	398.0	1.08
20 years " 40 ... ..	526,324	2,386	3.81	269.6	1.03
40 " 60 ... ..	338,156	3,582	10.59	192.3	2.04
60 " and upwards ... ..	117,380	6,999	59.54	114.6	6.82
<b>Total</b> ... ..	<b>1,869,423</b>	<b>17,941</b>	<b>9.60</b>	<b>1,000.0</b>	<b>12.45</b>
<b>VICTORIA.</b>					
Under 1 year ... ..	33,252	1,877	56.45	25.5	1.44
1 year and under 20 ... ..	540,990	1,339	2.48	398.0	0.99
20 years " 40 ... ..	444,887	1,702	3.83	269.6	1.03
40 " 60 ... ..	283,253	3,139	11.08	192.3	2.13
60 " and upwards ... ..	103,084	6,498	63.04	114.6	7.22
<b>Total</b> ... ..	<b>1,405,466</b>	<b>14,555</b>	<b>10.36</b>	<b>1,000.0</b>	<b>12.81</b>
<b>QUEENSLAND.</b>					
Under 1 year ... ..	18,396	1,068	58.06	25.5	1.48
1 year and under 20 ... ..	278,696	874	3.14	398.0	1.25
20 years " 40 ... ..	222,897	959	4.30	269.6	1.16
40 " 60 ... ..	120,853	1,416	11.72	192.3	2.25
60 " and upwards ... ..	39,471	2,238	56.70	114.6	6.50
<b>Total</b> ... ..	<b>680,313</b>	<b>6,555</b>	<b>9.64</b>	<b>1,000.0</b>	<b>12.64</b>
<b>SOUTH AUSTRALIA.</b>					
Under 1 year ... ..	11,130	601	54.00	25.5	1.38
1 year and under 20 ... ..	169,238	457	2.70	398.0	1.07
20 years " 40 ... ..	142,404	618	4.34	269.6	1.17
40 " 60 ... ..	79,010	827	10.47	192.3	2.01
60 " and upwards ... ..	30,406	1,862	61.24	114.6	7.09
<b>Total</b> ... ..	<b>432,188</b>	<b>4,365</b>	<b>10.10</b>	<b>1,000.0</b>	<b>12.65</b>
<b>WESTERN AUSTRALIA.</b>					
Under 1 year ... ..	8,250	450	54.55	25.5	1.39
1 year and under 20 ... ..	113,013	298	2.64	398.0	1.05
20 years " 40 ... ..	113,309	479	4.23	269.6	1.14
40 " 60 ... ..	61,628	802	13.01	192.3	2.50
60 " and upwards ... ..	12,379	740	59.78	114.6	6.85
<b>Total</b> ... ..	<b>308,579</b>	<b>2,769</b>	<b>8.97</b>	<b>1,000.0</b>	<b>12.93</b>
<b>TASMANIA.</b>					
Under 1 year ... ..	5,592	281	50.25	25.5	1.28
1 year and under 20 ... ..	84,697	211	2.49	398.0	0.99
20 years " 40 ... ..	60,844	220	3.62	269.6	0.98
40 " 60 ... ..	35,359	321	9.08	192.3	1.75
60 " and upwards ... ..	12,432	735	59.12	114.6	6.78
<b>Total</b> ... ..	<b>198,924</b>	<b>1,768</b>	<b>8.89</b>	<b>1,000.0</b>	<b>11.78</b>
<b>NORTHERN TERRITORY.</b>					
Under 1 year ... ..	44	3	68.18	25.5	1.74
1 year and under 20 ... ..	912	3	3.29	398.0	1.31
20 years " 40 ... ..	1,322	15	11.35	269.6	3.06
40 " 60 ... ..	2,229	20	8.97	192.3	1.72
60 " and upwards ... ..	451	22	48.78	114.6	5.59
<b>Total</b> ... ..	<b>4,958</b>	<b>63</b>	<b>12.71</b>	<b>1,000.0</b>	<b>13.42</b>
<b>FEDERAL TERRITORY.</b>					
Under 1 year ... ..	57	2	35.09	25.5	0.89
1 year and under 20 ... ..	1,022	...	...	398.0	...
20 years " 40 ... ..	766	...	...	269.6	...
40 " 60 ... ..	464	5	10.78	192.3	2.07
60 " and upwards ... ..	184	6	32.61	114.6	3.74
<b>Total</b> ... ..	<b>2,493</b>	<b>13</b>	<b>5.21</b>	<b>1,000.0</b>	<b>6.70</b>



## INDEX OF MORTALITY, 1917.—(STATES AND COMMONWEALTH)—Continued.

Age-Group.	Mean Population, 1917, distributed according to Results of Census of 1911.	Number of Deaths, 1917.	No. of Deaths per 1000 of Mean Population, 1917, in each Age-Group.	Age Distribution per 1000 of Standard Population.	Index of Mortality.
<b>COMMONWEALTH.</b>					
Under 1 year ... ..	128,127	7,270	56.74	25.5	1.45
1 year and under 20 ... ..	1,924,725	5,178	2.69	398.0	1.07
20 years " 40 ... ..	1,612,753	6,379	3.96	269.6	1.07
40 " 60 ... ..	920,952	10,112	10.98	192.3	2.11
60 " and upwards ... ..	315,787	19,090	60.45	114.6	6.93
Total ... ..	4,902,344	48,029	9.80	1,000.0	12.63

NOTE.—The small number of persons whose ages were not ascertained at the 1911 Census have been proportionately distributed among the various age-groups, and the same plan has been followed in regard to the 56 persons who died in 1917, and whose ages were not stated in the certificates of death.

It will be seen that among the States in 1917, Western Australia had the highest index and the second lowest crude rate, while Tasmania had the lowest index and crude rate. Victoria experienced the highest crude death rate and the second highest index. The range of the indexes was below that of the crude rates, the latter varying from 8.89 per thousand in Tasmania to 10.36 per thousand in Victoria, a range of 1.47 per thousand, while the index varied from 11.78 per thousand in Tasmania to 12.93 per thousand in Western Australia, a range of 1.15 per thousand.

For purposes of comparison with previous years the index of mortality is shewn in the following table for each of the eleven years 1907-1917 :—

## INDEX OF MORTALITY 1907-1917 (STATES AND TERRITORIES).

Year.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Northern Territory.	Federal Territory.	Com'-wealth.
1907 ... ..	13.66	14.55	13.52	13.12	14.94	14.10	...	...	13.97
1908 ... ..	13.13	15.58	13.37	12.89	14.81	14.46	...	...	14.10
1909 ... ..	12.61	14.11	12.57	12.27	13.91	12.32	...	...	13.15
1910 ... ..	12.48	14.15	12.60	12.50	13.48	13.62	...	...	13.17
1911 ... ..	13.23	14.23	13.57	12.18	13.47	12.97	(a) 17.91	(b) 6.53	13.55
1912 ... ..	13.63	14.94	13.91	12.76	14.55	13.69	17.23	6.36	14.08
1913 ... ..	13.61	13.50	13.25	13.25	12.58	13.54	20.17	6.13	13.47
1914 ... ..	12.72	14.11	12.70	13.03	12.56	12.11	20.35	5.17	13.18
1915 ... ..	13.24	13.54	14.30	13.09	12.79	13.04	21.62	7.15	13.47
1916 ... ..	13.48	14.28	14.37	14.45	14.15	13.43	22.63	4.05	13.99
1917 ... ..	12.45	12.81	12.64	12.65	12.93	11.78	13.42	6.70	12.63

(a) Included in South Australia prior to 1911. (b) Part of New South Wales prior to 1911.

A comparison of the above figures with the crude death rates given on a previous page shews that while the crude rate was highest in Victoria every year, the index was highest in Victoria seven times, and in New South Wales, Queensland, South Australia, and Western Australia once each in the same period. South Australia had the lowest index five times, Western Australia three times, Tasmania twice, and New South Wales once, while the crude rate was lowest five times in South Australia, four times in Western Australia, and twice in Tasmania. The high index in Victoria is due to the large proportion of persons over 60 years of age, and in Western Australia to the heavy mortality in the early period of life.

15. **Monthly Variations in Death Rates.**—(i.) *General Death Rates.* The annual death rates, corresponding to the number of deaths registered in each equalised month, have been calculated for the six years 1907-1912, and a series of diagrams shewing the results for each State and the Commonwealth as a whole appears on page 222 of this issue, distinguishing the rates for males, females, and persons. The curves shewing the male and female rate exhibit in each State a fairly parallel course,

irregularities being, however, more strongly marked in the case of the male curve. The minimum rates in New South Wales and Queensland fall within the autumn months, from March to May, while in Victoria, South Australia, Western Australia, and Tasmania they fall in the spring months, October and November. In no case is there, however, a very great difference between the rates in spring and in autumn, the figures for the Commonwealth being 10.19 per thousand in March, and 10.34 per thousand in October. The maximum rates in New South Wales, Victoria, and Tasmania are experienced in August, and in Queensland in September, with the rates for December and January as secondary maxima. In South Australia the maximum rate of 11.33 per thousand falls in January, the rate for August standing next with 10.80 per thousand. In Western Australia the maximum rate is found in May.

(ii.) *Infantile Death Rates.* A similar series of diagrams, shewing the monthly variations in the infantile death rates, appears on page 223. With the exception of Western Australia, where the maximum occurs in May, the maxima are found in the summer months in every State. The rates gradually decrease from January to March, shewing in several States a slight increase in April, with a further diminution until July. In July and August the rates rise to some extent, to fall again until October or November. From that time a rapid rise takes place, until the maximum is reached in December or January. Tasmania, where the seasons are rather later than in the continental States, shews two distinct minima in May and November, with a summer maximum in February, and a fairly high rate in September. In Western Australia the rates are moderately high in December and January, and drop until March, to rise rapidly in April and May when the maximum is reached. From May to September there is a gradual decrease, with a quick rise from the latter month until December.

16. *Causes of Death.*—(i.) Information regarding the changes in the classification of causes of death will be found in previous editions of this Year Book (*e.g.*, Year Book No. 5, pages 222 and 223). The statement will suffice, therefore, that the classification adopted by the Commonwealth Bureau of Census and Statistics is that of the International Institute of Statistics, as amended by the Committee of Revision which met in 1909. The detailed classification groups causes of death under 189 different headings in fourteen categories, as follows:—

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

(ii.) *Compilation of Vital Statistics for 1907 and Subsequent Years in Commonwealth Bureau.* The vital statistics of the Commonwealth from the year 1907 onward have been tabulated according to this classification in the Commonwealth Bureau, and the system is being employed in all the State offices in the preparation of their monthly and quarterly bulletins of vital statistics.

(iii.) *Classification of Causes of Death, 1907 to 1917, according to Abridged International Classification.* An abridged classification, which enumerates thirty-eight diseases and groups of diseases according to the revised classification, is in use in many European and American States, while the Commonwealth Statistics have been compiled on the detailed classification of 189 headings. A table has been compiled shewing the causes of death according to the abridged classification, so that the results may be compared with those of countries which use the abridged index.

The compilations for the years 1907 to 1917 will be found in full in "Bulletins Nos. 8, 14, 20, 25, 29, 30, 31, 32, 33, 34, and 35 of Population and Vital Statistics"; here it will suffice to give the abridged classification under thirty-eight headings for the year 1917:—

## CAUSES OF DEATH—COMMONWEALTH, 1917.

## (a) MALES.

Cause.	N.S.W.	Vic.	Q'land.	S.Aust.	W.Aus.	Tas.	Nor. Ter.	Fed. Ter.	C'with.
1 Typhoid Fever ...	65	36	36	17	14	10	...	...	178
2 Typhus ...	...	...	...	...	...	...	...	...	...
3 Malaria ...	5	...	23	...	4	...	1	...	33
4 Small-pox ...	...	...	...	...	...	...	...	...	...
5 Measles ...	12	13	5	...	8	1	...	...	39
6 Scarlet Fever ...	12	13	1	1	...	...	...	...	27
7 Whooping Cough ...	72	29	13	12	13	3	...	...	142
8 Diphtheria and Croup ...	121	70	40	50	19	21	...	...	321
9 Influenza ...	30	37	12	7	7	...	...	...	93
10 Asiatic Cholera ...	...	...	...	...	...	...	...	...	...
11 Cholera Nostras ...	...	1	...	...	...	...	...	...	1
12 Other Epidemic Diseases ...	30	16	25	5	8	2	...	...	86
13 Tuberculosis of the Lungs ...	625	493	208	167	160	50	4	...	1,707
14 Tuberculosis of the Meninges ...	32	52	5	16	5	5	...	...	115
15 Other forms of Tuberculosis ...	48	56	9	23	14	10	1	...	161
16 Cancer and other Malignant Tumours ...	772	614	290	201	108	74	2	1	2,062
17 Simple Meningitis ...	151	106	73	41	33	12	...	...	416
18 Congestion, Hæmorrhage and Softening of Brain ...	424	308	163	138	68	49	...	2	1,152
19 Organic Diseases of the Heart ...	807	619	299	211	136	90	4	...	2,166
20 Acute Bronchitis ...	97	30	25	21	10	6	...	...	189
21 Chronic Bronchitis ...	184	165	68	44	13	12	1	...	487
22 Pneumonia ...	485	380	114	91	79	34	2	...	1,185
23 Other Diseases of the Respiratory System (Tuberculosis excepted) ...	388	459	193	54	74	43	2	...	1,213
24 Diseases of the Stomach (Cancer excepted) ...	76	63	35	14	18	9	...	...	215
25 Diarrhoea & Enteritis (children under 2 years only) ...	423	219	185	72	58	28	...	...	985
26 Appendicitis and Typhlitis ...	73	45	25	18	18	6	...	...	185
27 Hernia, Intestinal Obstructions ...	90	84	32	15	15	9	...	...	245
28 Cirrhosis of the Liver ...	84	56	39	17	16	1	1	...	214
29 Nephritis and Bright's Disease ...	502	424	208	118	71	20	...	...	1,343
30 Non-cancerous Tumours and other Diseases of Female Genital Organs ...	...	...	...	...	...	...	...	...	...
31 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis) ...	...	...	...	...	...	...	...	...	...
32 Other Puerperal Accidents of Pregnancy and Confinement ...	...	...	...	...	...	...	...	...	...
33 Congenital Debility and Malformations ...	812	508	274	180	111	84	2	1	1,972
34 Senile Debility ...	1,027	912	239	217	132	95	11	...	2,633
35 Violence ...	785	466	378	187	186	59	8	...	2,069
36 Suicide ...	133	98	88	32	45	8	3	1	408
37 Other Diseases ...	1,923	1,465	881	383	323	163	7	2	5,147
38 Unspecified or Ill-defined Diseases ...	157	115	41	46	36	22	3	...	420
Total—Males ...	10,445	7,952	4,027	2,398	1,802	926	52	7	27,609

## CAUSES OF DEATH—COMMONWEALTH, 1917.

## (b) FEMALES.

Cause.	N.S.W.	Vic.	Q'land.	S. A.	W.A.	Tas.	Nor. Ter.	Fed. Ter.	C'with.
1 Typhoid Fever ...	31	26	15	12	15	7	...	...	106
2 Typhus ...	...	...	...	...	...	...	...	...	...
3 Malaria ...	1	...	14	...	...	...	1	...	16
4 Small-pox ...	...	...	...	...	...	...	...	...	...
5 Measles ...	14	3	11	...	5	...	...	...	33
6 Scarlet Fever ...	15	20	2	...	...	...	...	...	37
7 Whooping Cough...	70	38	11	12	7	2	...	...	140
8 Diphtheria and Croup	128	86	42	39	13	17	...	...	325
9 Influenza ...	29	23	13	4	3	3	...	...	75
10 Asiatic Cholera ...	...	...	...	...	...	...	...	...	...
11 Cholera Nostras ...	...	...	...	...	...	...	...	...	...
12 Other Epidemic Diseases ...	21	9	8	8	8	3	1	...	58
13 Tuberculosis of the Lungs...	386	415	104	174	54	43	...	...	1,176
14 Tuberculosis of the Meninges	24	40	5	12	2	8	...	...	91
15 Other forms of Tuberculosis	26	55	10	17	4	2	...	...	114
16 Cancer and other Malignant Tumours ...	698	692	210	180	96	84	...	...	1,960
17 Simple Meningitis ...	104	70	55	18	17	10	...	...	274
18 Congestion, Hæmorrhage, & Softening of the Brain ...	365	376	127	109	40	44	...	1	1,062
19 Organic Diseases of the Heart	578	531	196	218	80	83	...	...	1,686
20 Acute Bronchitis ...	76	12	19	17	5	1	...	2	132
21 Chronic Bronchitis ...	110	143	35	37	3	14	...	...	342
22 Pneumonia ...	285	246	63	66	21	30	...	...	711
23 Other Diseases of the Res- piratory System (Tuber- culosis excepted) ...	287	250	84	47	27	33	...	...	728
24 Diseases of the Stomach (Cancer excepted) ...	68	54	27	14	8	8	...	...	179
25 Diarrhoea and Enteritis (children under 2 yrs only)	312	165	126	62	41	28	...	...	734
26 Appendicitis and Typhlitis...	54	40	15	9	12	6	...	...	136
27 Hernia, Intestinal Obstruc- tions... ..	76	57	24	26	13	8	...	...	204
28 Cirrhosis of the Liver ...	44	35	22	10	4	6	...	...	121
29 Nephritis & Bright's Disease	284	290	147	77	46	15	...	1	860
30 Non-cancerous Tumours and other Diseases of the Female Genital Organs	61	39	25	5	14	3	1	...	148
31 Puerperal Septicæmia (Puer- peral Fever, Puerperal Peritonitis, Puerperal Phlebitis) ...	118	54	32	14	19	13	...	...	250
32 Other Puerperal Accidents of Pregnancy & Confinement	207	106	93	34	23	17	2	...	482
33 Congenital Debility and Mal- formations ...	593	366	216	124	97	55	...	...	1,451
34 Senile Debility ...	747	843	147	227	67	105	...	1	2,137
35 Violence... ..	232	157	86	59	39	14	...	...	587
36 Suicide ...	39	30	15	6	3	1	...	...	94
37 Other Diseases ...	1,329	1,243	509	306	171	160	5	1	3,724
38 Unspecified or Ill-defined Diseases ...	84	89	20	24	10	19	1	...	247
Total—Females ...	7,496	6,603	2,528	1,967	967	842	11	6	20,420

## CAUSES OF DEATH—COMMONWEALTH, 1917.

(c) TOTAL, MALES AND FEMALES.

Cause.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Nor. Ter.	Fed. Ter.	Com- wealth
1 Typhoid Fever ...	96	62	51	29	29	17	...	...	284
2 Typhus ...	...	...	...	...	...	...	...	...	...
3 Malaria ...	6	...	37	...	4	...	2	...	49
4 Small-pox ...	...	...	...	...	...	...	...	...	...
5 Measles ...	26	16	16	...	13	1	...	...	72
6 Scarlet Fever ...	27	33	3	1	...	...	...	...	64
7 Whooping Cough ...	142	67	24	24	20	5	...	...	282
8 Diphtheria and Croup ...	249	156	82	89	32	38	...	...	646
9 Influenza ...	59	60	25	11	10	3	...	...	168
10 Asiatic Cholera ...	...	...	...	...	...	...	...	...	...
11 Cholera Nostras ...	...	1	...	...	...	...	...	...	1
12 Other Epidemic Diseases ...	51	25	33	13	16	5	1	...	144
13 Tuberculosis of the Lungs ...	1,011	908	312	341	214	93	4	...	2,883
14 Tuberculosis of the Meninges ...	56	92	10	28	7	13	...	...	206
15 Other forms of Tuberculosis ...	74	111	19	40	18	12	1	...	275
16 Cancer and other Malignant Tumours ...	1,470	1,306	500	381	204	158	2	1	4,022
17 Simple Meningitis ...	255	176	128	59	50	22	...	...	690
18 Congestion, Hæmorrhage, & Softening of the Brain ...	789	684	290	247	108	93	...	3	2,214
19 Organic Diseases of Heart ...	1,385	1,150	495	429	216	173	4	...	3,852
20 Acute Bronchitis ...	173	42	44	38	15	7	...	2	321
21 Chronic Bronchitis ...	294	308	103	81	16	26	1	...	829
22 Pneumonia ...	770	626	177	157	100	64	2	...	1,896
23 Other Diseases of the Re- spiratory System (Phthisis excepted) ...	675	709	277	101	101	76	2	...	1,941
24 Diseases of the Stomach (Cancer excepted) ...	144	117	62	28	26	17	...	...	394
25 Diarrhœa and Enteritis (children under 2 yrs. only) ...	735	384	311	134	99	56	...	...	1,719
26 Appendicitis and Typhlitis ...	127	85	40	27	30	12	...	...	321
27 Hernia, Intestinal Obstruc- tions ...	166	141	56	41	28	17	...	...	449
28 Cirrhosis of the Liver ...	128	91	61	27	20	7	1	...	335
29 Nephritis & Bright's Disease ...	786	714	355	195	117	35	...	1	2,203
30 Non-cancerous Tumours & other Diseases of the Female Genital Organs ...	61	39	25	5	14	3	1	...	148
31 Puerperal Septicæmia (Puer- peral Fever, Puerperal Peritonitis, Puerperal Phlebitis) ...	118	54	32	14	19	13	...	...	250
32 Other Puerperal Accidents of Pregnancy and Confine- ment ...	207	106	93	34	23	17	2	...	482
33 Congenital Debility and Malformations ...	1,405	874	490	304	208	139	2	1	3,423
34 Senile Debility ...	1,774	1,755	386	444	199	200	11	1	4,770
35 Violence ...	1,017	623	464	246	225	73	8	...	2,656
36 Suicide ...	172	128	103	38	48	9	3	1	502
37 Other Diseases ...	3,252	2,708	1,390	689	494	323	12	3	8,871
38 Unspecified or Ill-defined Diseases ...	241	204	61	70	46	41	4	...	667
Total—Males and Females	17,941	14,555	6,555	4,365	2,769	1,768	63	13	48,029

(d) The classification for the years 1910 to 1916 is shown for the Commonwealth in the following table, and for purposes of comparison the figures for the year 1917 have

been repeated from the preceding table. Male and female deaths for 1905, 1906, and 1907 are shewn separately on page 237 of the second issue, those for 1908 on pages 211 and 212 of the third issue, for 1909 on pages 200 and 201 of the fourth issue, for 1910 on pages 202 and 203 of the fifth issue, for 1911 on pages 224 and 225 of the sixth issue, for 1912 on pages 182 and 183 of the seventh issue, for 1913 on pages 182 and 183 of the eighth issue, for 1914 on pages 188 and 189 of the ninth issue, and for 1915 on pages 198 and 199 of the tenth issue of this Year Book, while the figures for 1917 are given on pages 204 and 205 of this issue.

## CAUSES OF DEATH—COMMONWEALTH, 1910 to 1917.

## MALES AND FEMALES.

Cause.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
1 Typhoid Fever ...	648	488	619	576	604	561	529	284
2 Typhus ...	...	...	...	...	...	...	...	...
3 Malaria ...	55	19	17	24	22	30	50	49
4 Small-pox ...	4	1	...	1	3	1	1	...
5 Measles ...	124	206	519	186	155	439	211	72
6 Scarlet Fever ...	58	24	41	39	29	104	134	64
7 Whooping Cough...	476	291	301	560	320	185	426	282
8 Diphtheria and Croup ...	555	696	754	808	716	703	893	646
9 Influenza ...	324	447	386	341	331	389	278	168
10 Asiatic Cholera ...	...	...	...	...	...	...	...	...
11 Cholera Nostras ...	1	6	5	3	2	2	4	1
12 Other Epidemic Diseases ...	184	295	224	185	176	205	249	144
13 Tuberculosis of the Lungs...	3,059	3,164	3,146	3,252	3,111	3,064	3,198	2,883
14 Tuberculosis of the Meninges	215	269	215	252	207	213	215	206
15 Other forms of Tuberculosis	343	303	327	296	256	278	310	275
16 Cancer & other Mal. Tumours	3,205	3,321	3,537	3,603	3,675	3,702	3,979	4,022
17 Simple Meningitis ...	567	636	749	753	812	1,209	1,201	690
18 Congestion, Hæmorrhage, and Softening of the Brain	1,704	2,178	2,176	2,281	2,204	2,118	2,230	2,214
19 Organic Diseases of the Heart	4,378	4,896	5,267	4,989	4,836	4,370	4,509	3,852
20 Acute Bronchitis ...	420	515	460	397	389	489	512	321
21 Chronic Bronchitis ...	859	1,046	1,053	991	959	913	1,057	829
22 Pneumonia ...	1,612	1,869	2,107	1,966	1,992	2,225	2,220	1,896
23 Other Diseases of the Respir. System (Tuberculosis ex.)	1,544	1,872	1,863	1,812	1,866	2,212	2,243	1,941
24 Diseases of the Stomach (Cancer excepted) ...	297	370	457	447	368	351	263	394
25 Diarrhœa & Enteritis (Children under two years only)	3,145	2,462	3,248	3,176	3,506	2,815	3,018	1,719
26 Appendicitis and Typhlitis	315	320	347	364	374	356	321	321
27 Hernia, Intest. Obstructions	398	439	463	486	460	488	501	449
28 Cirrhosis of the Liver ...	368	385	426	365	380	376	309	335
29 Nephritis & Bright's Disease	1,771	1,951	2,188	2,211	2,127	2,274	2,329	2,203
30 Non-cancerous Tumours and other Diseases of the Female Genital Organs ...	149	120	145	153	138	139	153	148
31 Puerperal Septicæmia (Puer. Fever, Periton'ts, Phleb'ts)	218	209	231	235	215	182	282	250
32 Other Puerperal Accidents of Pregnancy & Confinement	373	406	413	428	419	394	411	482
33 Congenital Debility, etc. ...	3,221	3,142	3,611	3,823	3,860	3,993	3,826	3,423
34 Senile Debility ...	3,353	3,849	4,124	4,116	4,130	4,686	4,980	4,770
35 Violence ...	2,738	3,018	3,237	3,168	3,121	2,851	2,712	2,656
36 Suicide ...	516	544	631	647	643	658	577	502
37 Other Diseases ...	7,795	7,652	8,300	8,241	8,670	9,090	9,433	8,871
38 Unspec. or Ill-defined Dis's.	598	460	590	614	644	717	633	667
Total ...	45,590	47,869	52,177	51,789	51,720	52,782	54,197	48,029

**17. Certification of Deaths.**—Information was obtained in 1917 as to the persons by whom the 48,029 deaths which occurred in the Commonwealth were certified. The result of the enquiry shews that approximately 89.3 per cent. (in 1910, 88.1 per cent.; in 1911, 88.2 per cent.; in 1912, 88.1 per cent.; in 1913, 88.7 per cent.; in 1914, 88.8 per cent.; in 1915, 89.3 per cent.; and in 1916, 89.5 per cent.) were certified by medical practitioners, and 10.3 per cent. (in 1910, 11.1 per cent.; in 1911, 10.9 per cent.; in 1912, 10.9 per cent.; in 1913, 10.8 per cent.; in 1914, 10.7 per cent.; in 1915, 10.2 per cent., and in 1916, 9.9 per cent.) by coroners after inquests or magisterial enquiries, while in 0.4 per cent. (in 1910, 0.8 per cent.; in 1911, 0.9 per cent.; in 1912, 1.0 per cent.; in 1913, 0.5 per cent.; in 1914, 0.5 per cent.; in 1915, 0.5 per cent., and in 1916, 0.6 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. 35; a short summary will therefore suffice here:—

#### CERTIFICATION OF DEATHS, COMMONWEALTH, 1917.

Death Certified by—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Fed. Ter.	C'with.
Medical practitioner	15,928	12,789	6,081	4,011	2,414	1,629	27	8	42,887
Coroner ...	2,007	1,766	350	342	326	131	36	5	4,963
Not certified or not stated ...	6	...	124	12	29	8	...	...	179
Total Deaths ...	17,941	14,555	6,555	4,365	2,769	1,768	63	13	48,029

Of the cases certified by coroners, violent deaths numbered 2443, senile decay 421, organic heart disease 342, ill-defined causes 286, congenital debility 176, cerebral hæmorrhage and apoplexy 115, pneumonia 102, Bright's disease 76, diarrhoea and enteritis 70, pulmonary tuberculosis 70, diseases of arteries, aneurisms, etc. 64, broncho-pneumonia 59, acute and chronic alcoholism 55, puerperal diseases, 51, infantile convulsions 39; a total of 4369 out of 4963.

Of uncertified causes of death, violent deaths numbered 38, congenital debility 32, senile debility 28, ill-defined causes 20, infantile convulsions 8, pulmonary tuberculosis 6; a total of 132 out of 179.

**18. Deaths from Special Causes.**—The table on p. 207 furnishes comparisons for the last eight years only, and comparisons will, therefore, generally be restricted to that period.

(i.) *Typhoid Fever.* Deaths from typhoid fever were more numerous in 1908 than in any succeeding year, numbering 736. A continuous decline continued until 1911, when 488 deaths were recorded. Since 1911 the number of deaths from typhoid has risen and fallen twice. Of the 284 deaths recorded in 1917, 96 occurred in New South Wales, 62 in Victoria, 51 in Queensland, 29 in South Australia, 29 in Western Australia, and 17 in Tasmania.

(ii.) *Typhus.* No deaths from typhus have been registered from 1910 to 1917.

(iii.) *Malaria.* Deaths from malarial diseases are practically confined to the tropical districts of Northern Queensland and Western Australia, and to the Northern Territory, 37 out of 49 deaths registered in 1917 having occurred in Queensland, 4 in Western Australia, and 2 in the Northern Territory.

(iv.) *Small-pox.* The number of deaths from small-pox in Australia is very small, eleven deaths only resulting in the eight years under review. An epidemic occurred in 1913, but caused only one death. There were three deaths in 1914, one in 1915, and one in 1916.

(v.) *Measles.* No serious epidemic of measles has occurred for several years; the deaths in 1910 numbered 124, while 206 were registered in 1911. In 1912 New South Wales experienced a slight epidemic, and was responsible for 352 deaths out of 519 registered. In 1913 the number of deaths fell to 186, and in 1914 to 155. A large increase

in the number of deaths occurred in 1915, but in 1916 the total fell again to 211, and in 1917 to 72.

(vi.) *Scarlet Fever*. 29 deaths were registered in 1914, 104 in 1915, 134 in 1916, and 64 in 1917.

(vii.) *Whooping Cough*. A rather severe epidemic of whooping cough visited New South Wales in the early part of 1907, causing 592 deaths out of a total of 1070 registered in the Commonwealth. The deaths in 1908 fell to 249, with a slight increase to 257 in 1909, and a much greater increase to 476 in 1910. During 1911, however, only 291 deaths, and in 1912, 301 deaths were registered. In 1913 the number of deaths was 560, falling to 185 in 1915, and increasing again to 426 in 1916, with a further fall to 282 in 1917, of which 142 occurred in New South Wales and 67 in Victoria.

(viii.) *Diphtheria and Croup*. Deaths from this cause increased each year from 421 in 1908 to a maximum of 808 in 1913. The numbers declined to 716 in 1914 and 703 in 1915, but increased to 893 in 1916, and fell to 646 in 1917, of which 249 were registered in New South Wales, 156 in Victoria, 82 in Queensland, 89 in South Australia, 32 in Western Australia and 38 in Tasmania.

(ix.) *Influenza*. This disease was rather more prevalent in 1908 than in any succeeding year, the deaths numbering 588; in 1909, 326; in 1910, 324; in 1911, 447; in 1912, 386; in 1913, 341; in 1914, 331; in 1915, 389; in 1916, 278; and in 1917, 168.

(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 eight years. One death from this cause was registered during 1917.

(xii.) *Other Epidemic Diseases*. The number of deaths registered under this heading was 184 in 1910, 295 in 1911, 224 in 1912, 185 in 1913, 176 in 1914, 205 in 1915, 249 in 1916, and 144 in 1917. The list in 1917 includes the following diseases:—Dysentery 57, erysipelas 54, leprosy 3, other epidemic diseases 30. Of the 89 deaths from leprosy in the years 1908 to 1917, 73 occurred in Queensland. There have been no deaths from plague in the Commonwealth since 1912. In 1908, 14 deaths were registered; in 1909, 13 deaths, and in 1912, 1 death.

(xiii.) *Tuberculosis of the Lungs and Acute Miliary Tuberculosis*. The deaths in 1917 numbered 2883; viz., 1707 males and 1176 females. The figures for the years 1910 to 1916 were 3059, 3164, 3146, 3252, 3111, 3198 and 2883 respectively. Of the deaths in 1917, 1011 occurred in New South Wales, 908 in Victoria, 312 in Queensland, 341 in South Australia, 214 in Western Australia, 93 in Tasmania, and 4 in the Northern Territory.

(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.

In the matter of the age incidence of death from tuberculosis of the respiratory system, diagrams were given in Year Books 2, 3, and 4, pp. 239, 217, and 206 respectively, shewing the frequency of deaths at successive ages in England and Wales during 1906 (Fig. 1), and in the Commonwealth during 1907 (Fig. 2). These were superseded by a fuller reference based on later results in Year Book No. 5, pp. 230, etc. The results given depended upon intercensal estimates of population, and these having been adjusted to agree with the Census of 3rd April, 1911, some slight amendments of the figures in previous issues were made in Year Book No. 5.

(xiv.) *Tuberculosis of the Meninges*. The number of deaths ascribed to this cause has varied very slightly during the last eight years. The greatest number of deaths, viz., 269, occurred in 1911, and the least number, viz., 206, in 1917.



(xv.) *Other Forms of Tuberculosis.* The deaths in 1917 include the following forms of tuberculosis :—Abdominal tuberculosis, 107; Pott's disease, 44; white swellings, 22; tuberculosis of other organs, 38; and disseminated tuberculosis, 64.

(xva.) *All Forms of Tuberculosis.* A complete tabulation of all the different tubercular diseases from which deaths occurred in 1917 will be found in Bulletin No. 35 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 3364, viz., 1983 males and 1381 females. The following table shews the ages of these 3364 persons :—

**AGES OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1917.**  
**COMMONWEALTH.**

Ages.	Male.	Female	Total.	Ages.	Male.	Female	Total.
Under 5 years ...	104	75	179	55 years and under 60	146	53	199
5 years and under 10	27	29	56	60 " " 65	108	36	144
10 " " 15	23	30	53	65 " " 70	65	17	82
15 " " 20	73	97	170	70 " " 75	37	7	44
20 " " 25	159	189	348	75 " " 80	7	7	14
25 " " 30	180	224	404	80 " " over ...	8	7	15
30 " " 35	230	203	433	Unspecified ...	...	1	1
35 " " 40	230	158	388				
40 " " 45	201	104	305				
45 " " 50	211	86	297				
50 " " 55	174	58	232	Total Deaths ...	1,983	1,381	3,364

A tabulation has been made of the occupations of males dying from tubercular diseases during 1917. A summary is here given :—

**OCCUPATIONS OF MALES WHO DIED FROM TUBERCULAR DISEASES, 1917.**  
**COMMONWEALTH.**

Occupation.	No. of Deaths	Occupation.	No. of Deaths
Professional class ...	154	Agricultural class ...	130
Domestic class ...	78	Pastoral class ...	34
Mercantile class ...	261	Working in mines and quarries ...	201
Engaged in transport and communication ...	165	Other primary producers ...	12
Manufacturing class ...	205	Independent means ...	8
Engaged in building and construction ...	80	Dependents ...	249
Other industrial workers ...	375	Occupation not stated ...	31
		Total male deaths ...	1,983

The length of residence in the Commonwealth of persons who died from tubercular diseases has been tabulated for the year 1917 for all the Commonwealth States, with the following results :—

**LENGTH OF RESIDENCE IN COMMONWEALTH**  
**OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1917.**

Length of Residence in Commonwealth.	Male.	Fem.	Total.	Length of Residence in Commonwealth.	Male.	Fem.	Total.
Born in Commonwealth ...	1,333	1,186	2,519	Resident 10 yrs. & under 15	38	7	45
Resident under 1 year ...	9	2	11	" 15 " " 20	29	9	38
" 1 year ...	8	7	15	" 20 " " over ...	314	94	408
" 2 years ...	12	5	17	Length of resid'ce not stated	107	18	125
" 3 " " ...	14	6	20				
" 4 " " ...	23	13	36				
" 5 " " & under 10	96	34	130	Total Deaths ...	1,983	1,381	3,364

From the above table and the table on page 197, it will be seen that, among persons who had lived less than 5 years in Australia, 634 deaths occurred, and of these 99, or 15.6 per cent., were due to tubercular diseases.

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

**DEATH RATES (a) FROM TUBERCULOSIS AND PERCENTAGE ON TOTAL DEATHS,  
COMMONWEALTH, 1917.**

State.	Death Rates (a) from Tuberculosis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.76	0.46	0.61	6.75	5.82	6.36
Victoria ...	0.90	0.69	0.79	7.56	7.72	7.63
Queensland ...	0.64	0.36	0.50	5.51	4.71	5.20
South Australia ...	1.03	0.88	0.95	8.59	10.32	9.37
Western Australia	1.13	0.40	0.77	9.93	6.21	8.63
Tasmania ...	0.65	0.53	0.59	7.02	6.30	6.67
North. Territory	1.25	...	1.01	9.62	...	7.94
Federal Territory	...	...	...	...	...	...
Commonwealth	0.82	0.55	0.69	7.18	6.77	7.00

(a) Number of deaths from tuberculosis per 1000 of mean population.

The following table, which gives for a number of countries the death-rates from pulmonary and military tuberculosis per 1000 persons living, shews that the Commonwealth occupies a very enviable position when compared with most European countries.

**PULMONARY AND MILITARY TUBERCULOSIS—DEATHS PER 1000 PERSONS LIVING.**

Country.	Year.	Death Rate.	Country.	Year.	Death Rate.
Rumania ...	1914	0.40	United States (Registration Area) ...	1915	1.28
Denmark ...	1914	0.44	Prussia ...	1913	1.37
Commonwealth ...	1917	0.59	Switzerland ...	1914	1.38
New Zealand ...	1915	0.63	Jamaica ...	1915	1.47
Ceylon ...	1915	0.89	Japan ...	1913	1.50
Belgium ...	1912	0.93	Sweden ...	1912	1.60
Ontario (Canada) ...	1915	0.99	Ireland ...	1916	1.69
Italy ...	1914	1.05	Norway ...	1914	1.76
Scotland ...	1916	1.06	France ...	1911	1.80
Netherlands ...	1915	1.10	Chile ...	1914	2.55
England and Wales ...	1916	1.20	Finland ...	1914	2.57
Spain ...	1914	1.23	Austria ...	1912	2.83
United Kingdom ...	1916	1.24	Serbia ...	1911	3.24
German Empire ...	1913	1.24	Hungary ...	1912	3.49

(xvi.) *Cancer and other Malignant Tumours.* The number of deaths from cancer has increased continuously from 2921 in 1908 to 4022 deaths in 1917. Of the deaths registered in 1917, 2062 were those of males, viz., 772 in New South Wales, 614 in Victoria, 290 in Queensland, 201 in South Australia, 108 in Western Australia, 74 in Tasmania, 2 in the Northern Territory, and 1 in the Federal Territory; while 1960 were those of females, viz., 698 in New South Wales, 692 in Victoria, 210 in Queensland, 180 in South Australia, 96 in Western Australia, and 84 in Tasmania. Bulletin No. 35 contains a complete tabulation of the various types of cancer and of the seat of the disease, of which the following is a summary:—

## DEATHS FROM CANCER, COMMONWEALTH, 1917.

Seat of Disease.	Male.	Female	Total.
Cancer, etc., of the buccal cavity ... ..	271	22	293
" " the stomach and liver ... ..	825	600	1,425
" " the peritoneum, the intestines, and the rectum ... ..	292	279	571
" " the female genital organs ... ..	...	398	398
" " the breast ... ..	...	269	269
" " the skin ... ..	111	58	169
" " other organs ... ..	563	334	897
Total Deaths ... ..	2,062	1,960	4,022

Of these deaths, 965 were described as cancer, 1958 as carcinoma, 222 as epithelioma, 411 as "malignant disease," 92 as "malignant tumour," 20 as neoplasm, 40 as "rodent ulcer," 291 as sarcoma, and 23 as scirrhus.

The ages of the 4022 persons who died from cancer in 1917 are shewn in the following table, from which it will be seen that while the ages below 35 are not by any means immune from the disease, the great majority of deaths occurred at ages from 35 upwards, the maximum being found in the age group 60 to 65 :—

## AGES OF PERSONS WHO DIED FROM CANCER, 1917.

## COMMONWEALTH.

Ages.	Male.	Female	Total.	Ages.	Male.	Female	Total.
Under 15 years ...	19	22	41	55 years and under 60	319	250	569
15 years and under 20	7	7	14	60 " " 65	331	267	598
20 " " 25	7	9	16	65 " " 70	298	224	522
25 " " 30	13	28	41	70 " " 75	263	228	491
30 " " 35	18	42	60	75 " " 80	197	165	362
35 " " 40	39	77	116	80 " " 85	100	83	183
40 " " 45	54	127	181	85 years and over ...	51	55	106
45 " " 50	127	163	290	Unspecified ...	2	1	3
50 " " 55	217	212	429	Total Deaths ...	2,062	1,960	4,022

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

## OCCUPATIONS OF MALES WHO DIED FROM CANCER, 1917.

## COMMONWEALTH.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
Professional class ... ..	110	Pastoral class ... ..	86
Domestic class ... ..	66	Working in mines and quarries ...	100
Mercantile class ... ..	248	Other primary producers ... ..	16
Engaged in transport and communication ... ..	156	Independent means ... ..	42
Manufacturing class ... ..	223	Dependents ... ..	69
Engaged in building and construction ... ..	101	Occupation not stated ... ..	71
Other industrial workers ... ..	404	Total Male Deaths ... ..	2,062
Agricultural class ... ..	370		

As the following tables shew, the total death rates from cancer are below those for tubercular diseases in South Australia and Western Australia only. The male death rates from cancer were, in 1917, in excess of those from tuberculosis in all the States except South Australia and Western Australia, while the female death rates were in excess in all the States with the exception of South Australia. While the death rates from tuberculosis have a general tendency to decrease, the death rates from cancer have, on the contrary, shewn an increase in nearly every recent year. Thus for the whole Commonwealth in 1908 the death rate from tuberculosis was 0.25 per thousand greater than that from cancer. In 1909 this decreased to 0.14; in 1910 to 0.10; in 1911 to 0.09; and in 1912 to 0.03 per thousand, while 1913 shews a slight increase in the excess to 0.04 per thousand. In 1914, while the death rate from tuberculosis decreased from 0.79 to 0.73 per thousand, the rate for cancer remained stationary, the result being that the rate for cancer exceeded that for tuberculosis by 0.02 per thousand. In 1915 the death rate from cancer was 0.03 per thousand; in 1916, 0.06 per thousand; and in 1917, 0.13 per thousand in excess of that of tuberculosis.

**DEATH RATES (a) FROM CANCER AND PERCENTAGE ON TOTAL DEATHS, 1917.**  
COMMONWEALTH.

State.	Death Rates (a) from Cancer.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.84	0.74	0.79	7.39	9.31	8.19
Victoria ...	0.92	0.94	0.93	7.72	10.48	8.76
Queensland ...	0.83	0.64	0.74	7.20	8.31	7.63
South Australia ...	1.00	0.78	0.88	8.38	9.15	8.73
Western Australia	0.68	0.64	0.66	6.00	9.93	7.37
Tasmania ...	0.74	0.84	0.79	7.99	9.98	8.94
Northern Territ'y	0.50	...	0.40	3.85	...	3.17
Federal Territory	0.72	...	0.40	14.29	...	7.69
Commonwealth	0.86	0.79	0.82	7.47	9.60	8.37

(a) Number of deaths from Cancer per 1000 of mean population.

The following table shows the death rate of the Commonwealth in comparison with other countries:—

**CANCER—DEATH RATE IN VARIOUS COUNTRIES.**

Country.	Year.	Rate.	Country.	Year.	Rate.
Ceylon ...	1915	0.09	Commonwealth ...	1917	0.82
Rumania ...	1914	0.13	New Zealand ...	1915	0.82
Serbia ...	1911	0.14	Prussia ...	1913	0.83
Jamaica ...	1915	0.17	Ireland ...	1916	0.91
Chile ...	1914	0.36	German Empire ...	1913	0.91
Hungary ...	1912	0.47	United States (Registra- tion Area) ...	1915	0.91
Spain ...	1914	0.57	Norway ...	1914	1.02
Denmark ...	1914	0.58	Netherlands ...	1915	1.09
Japan ...	1913	0.66	Sweden ...	1912	1.10
Italy ...	1914	0.67	Scotland ...	1916	1.12
Belgium ...	1912	0.71	United Kingdom ...	1916	1.15
Ontario (Canada)	1915	0.72	England and Wales ...	1916	1.18
France ...	1911	0.80	Switzerland ...	1914	1.28
Austria ...	1912	0.81			

The fifth issue of this Year Book contains, on pages 230, etc., a paper dealing, *inter alia*, with the incidence of cancer in the Commonwealth. The paper is not reprinted in the present issue.

(xvii.) *Simple Meningitis.* Deaths from this cause decreased from 676 deaths in 1908 to 567 in 1910. Since that year the number has increased each year until 1914 when 812 deaths were registered. Sporadic cases of cerebro-spinal meningitis, which occurred to the end of 1914, are included in these figures, but from 1915 onward they were tabulated separately, the deaths during 1917 from cerebro-spinal meningitis being 255, and those from all other forms of meningitis, 435. Of the former, 85 occurred in New South Wales, 76 in Victoria, 54 in Queensland, 18 in South Australia, 13 in Western Australia, and 9 in Tasmania.

(xviii.) *Apoplexy, Hæmorrhage, and Softening of the Brain.* The deaths registered under this heading in 1908, were 1867, viz., 991 males and 876 females; in 1909, 1665, viz., 869 males and 796 females; in 1910, 1704, viz., 864 males and 840 females; in 1911, 2178, viz., 1122 males and 1056 females; in 1912, 2176, viz., 1146 males and 1030 females; in 1913, 2281, viz., 1188 males and 1093 females; in 1914, 2204, viz., 1143 males and 1061 females; in 1915, 2118, viz., 1120 males and 998 females; in 1916, 2230, viz., 1133 males and 1097 females, and in 1917, 2214, viz., 1152 males and 1062 females. The 1917 figures are made up of hæmorrhage of the brain and apoplexy—1117 males, 1007 females, total 2124; and softening of the brain—85 males, 55 females, total 90.

(xix.) *Organic Diseases of the Heart.* The number of deaths registered in 1917 was 3852, viz., 2166 males and 1686 females. Of these deaths, New South Wales was responsible for 807 males and 578 females; Victoria for 619 males and 531 females; Queensland for 299 males and 196 females; South Australia for 211 males and 218 females; Western Australia for 136 males and 80 females; Tasmania for 90 males and 83 females; and the Northern Territory for 4 males. To the figures for 1917 correspond the following death rates and percentages to total deaths:—

**DEATH RATES (a) FROM ORGANIC HEART DISEASE AND PERCENTAGE ON TOTAL DEATHS, COMMONWEALTH, 1917.**

State.	Death Rates (a) from Organic Heart Disease.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.87	0.61	0.74	7.73	7.71	7.72
Victoria ...	0.93	0.72	0.82	7.78	8.04	7.97
Queensland ...	0.86	0.59	0.73	7.43	7.75	7.55
South Australia ...	1.05	0.94	0.99	8.80	11.09	9.83
Western Australia	0.86	0.53	0.70	7.55	8.27	7.80
Tasmania ...	0.91	0.83	0.87	9.72	9.86	9.78
Northern Territory	1.00	...	0.81	7.69	...	6.35
Federal Territory	...	...	...	...	...	...
Commonwealth ...	0.90	0.68	0.79	7.84	8.26	8.02

(a) Number of deaths from Organic Heart Disease per 1000 of mean population.

(xx.) *Acute Bronchitis.* The classification of causes of death requires deaths of persons under five years of age, which are merely ascribed to "bronchitis," to be classified under "acute bronchitis," and similarly certified deaths of older persons under "chronic

bronchitis." This rule has been followed throughout in compiling the tables for 1908-1917, with the result that acute bronchitis is credited with 412 deaths in 1908, 422 deaths in 1909, 420 deaths in 1910, 515 deaths in 1911, 460 deaths in 1912, 397 deaths in 1913, 389 in 1914, 489 in 1915, 512 in 1916, and 321 deaths in 1917, viz., 189 males and 132 females.

(xxi.) *Chronic Bronchitis.* The adjustment mentioned in the preceding paragraph gives a total of 829 deaths in 1917.

(xxii.) *Pneumonia.* The 1917 figures were 1185 males and 711 females, a total of 1896 deaths.

(xxiii.) *Other Diseases of the Respiratory System.* This head was established in 1910, the figures previously being included in "Other Diseases" (paragraph xxxvii.). Deaths in 1908, 1569; in 1909, 1565; in 1910, 1544; in 1911, 1872; in 1912, 1863; in 1913, 1812; in 1914, 1866; in 1915, 2212; in 1916, 2243, and in 1917, 1941. The total for 1917 is made up as follows, viz.:—Diseases of the larynx, 62 deaths; diseases of the thyroid body, 21 deaths; broncho-pneumonia, 876 deaths; pleurisy, 170 deaths; pulmonary congestion and apoplexy, 262 deaths; gangrene of the lung, 26 deaths; asthma, 158 deaths; pulmonary emphysema, 33 deaths; fibroid phthisis (miners' complaint), 262 deaths; other diseases of the respiratory system (tuberculosis excepted), 71 deaths.

(xxiv.) *Diseases of the Stomach (Cancer excepted).* In 1917 this heading includes: Ulcer of the stomach, 59 males, 46 females; and other diseases of the stomach (cancer excepted), 156 males, 133 females; a total of 394 deaths.

(xxv.) *Diarrhoea and Enteritis (Children under two years only).* The number of deaths due to these causes is always a large one, varying from 1719 deaths in 1917 to a maximum of 3506 deaths in 1914. The total for 1917 was 1719, distributed amongst the six States as follows:—New South Wales, 423 males, 312 females, total 735; Victoria, 219 males, 165 females, total 384; Queensland, 185 males, 126 females, total 311; South Australia, 72 males, 62 females, total 134; Western Australia, 58 males, 41 females, total 99; and Tasmania, 28 males, 28 females, total 56.

The following are the death rates and percentages on total deaths due to infantile diarrhoea and enteritis in the States and Territories for the year 1917:—

**DEATH RATES (a) FROM INFANTILE DIARRHOEA AND ENTERITIS, AND PERCENTAGE ON TOTAL DEATHS, COMMONWEALTH, 1917.**

State.	Death Rates (a) from Infantile Diarrhoea and Enteritis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.46	0.33	0.39	4.05	4.16	4.10
Victoria	0.33	0.22	0.27	2.75	2.50	2.64
Queensland	0.53	0.38	0.46	4.59	4.98	4.75
South Australia	0.36	0.27	0.31	3.00	3.15	3.07
Western Australia	0.37	0.27	0.32	3.22	4.24	3.58
Tasmania	0.28	0.28	0.28	3.02	3.33	3.17
Commonwealth	0.41	0.29	0.35	3.57	3.60	3.58

(a) Number of deaths from these diseases per 1000 of mean population.

As a large number of these deaths is directly due to improper feeding, it would be interesting to know the percentage of infants who were bottle-fed, but, unfortunately, no provision exists for the registration of this information. The number of deaths was larger than usual in 1908, particularly in Victoria, and to a lesser degree in South Australia and in Tasmania, owing to the phenomenal heat experienced in the early part of that year. The death rates for the three States named were 0.83, 0.61, and 0.71 per 1000 respectively in 1908, compared with 0.55, 0.45 and 0.48 in 1907, and with 0.50, 0.36 and 0.51 in 1911. The rate in 1912 was higher in every State, Tasmania excepted, than that for 1911, the increase being particularly noticeable in New South Wales, Queensland, and Western Australia. In 1913 all the States, with the exception of New South Wales and South Australia, experienced lower rates than in 1912, and in 1914 the rate fell in New South Wales and Western Australia, while it rose in Victoria, South Australia and Tasmania, and remained stationary in Queensland. The rates for 1915 were considerably lower than those for 1914 in every State with the exception of Queensland and South Australia, while in 1916 Victoria, South Australia, and Tasmania had higher rates than in 1915. In 1917 every State experienced a large fall, the rates in Victoria, South Australia, and Tasmania being less than half those of 1916.

(xxvi.) *Appendicitis and Typhlitis*. Prior to 1910, deaths from these causes were included in *Other Diseases*, paragraph xxxvii. Deaths numbered 293 in 1908, 344 in 1909, 315 in 1910, 320 in 1911, 347 in 1912, 364 in 1913, 374 in 1914, 356 in 1915, 321 in 1916, and 321 in 1917, viz., 185 males and 136 females.

(xxvii.) *Hernia, Intestinal Obstructions*. The number of deaths has not varied much from year to year, the number registered in 1908 being 389; and in 1917, 449, viz., 245 males and 204 females.

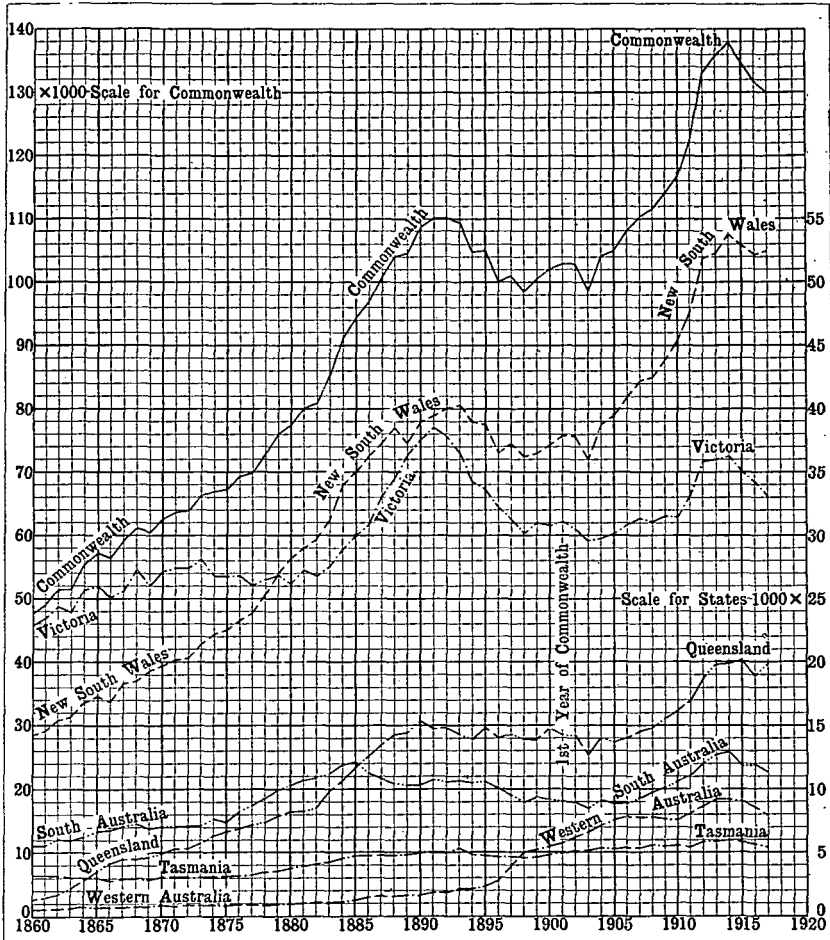
(xxviii.) *Cirrhosis of the Liver*. There is little variation in the number of deaths from 1908 to 1917. 362 deaths were registered in 1908 and 835 in 1917, viz., 214 males and 121 females.

(xxix.) *Nephritis and Bright's Disease*. The number of deaths attributable to these diseases from year to year is a very large one. In 1908 there were registered the deaths of 1140 males and 724 females; in 1909, those of 1076 males and 723 females; in 1910, 1771, 1077 males and 694 females; in 1911, 1951, 1197 males and 754 females; in 1912, 2188, 1352 males and 836 females; in 1913, 2211, 1363 males and 848 females; in 1914, 2127, 1281 males and 846 females; in 1915, 2274, 1413 males and 861 females; in 1916, 2329, 1416 males and 913 females; and in 1917, 2203, 1343 males and 860 females. Of the deaths registered in 1917, those of 89 males and 77 females were ascribed to acute nephritis, and those of 1254 males and 783 females to Bright's Disease. New South Wales was responsible for 786 deaths; Victoria for 714; Queensland for 355; South Australia for 195; Western Australia for 117; Tasmania for 35; and Federal Territory for 1; making a total of 2203.

(xxx.) *Non-cancerous Tumours and other Diseases of the Female Genital Organs*. Deaths in 1908 numbered 159; in 1909, 130; in 1910, 149; in 1911, 120; in 1912, 145; in 1913, 153; in 1914, 138; in 1915, 139; in 1916, 153; and 1917, 148. Included in the 148 deaths registered in 1917 were the following:—Non-puerperal uterine hæmorrhage, 2; non-cancerous uterine tumours, 43; other diseases of the uterus, 37; cysts and ovarian tumours, 26; salpingitis and other diseases of the female genital organs, 40.

(xxxi.) *Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)*. The number of deaths is fairly constant, varying from a maximum of 282 in 1916 to a minimum of 182 in 1915.

GRAPHS SHEWING TOTAL ANNUAL BIRTHS IN THE COMMONWEALTH AND  
STATES OF AUSTRALIA, 1860-1917.



(See Table page 162.)

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

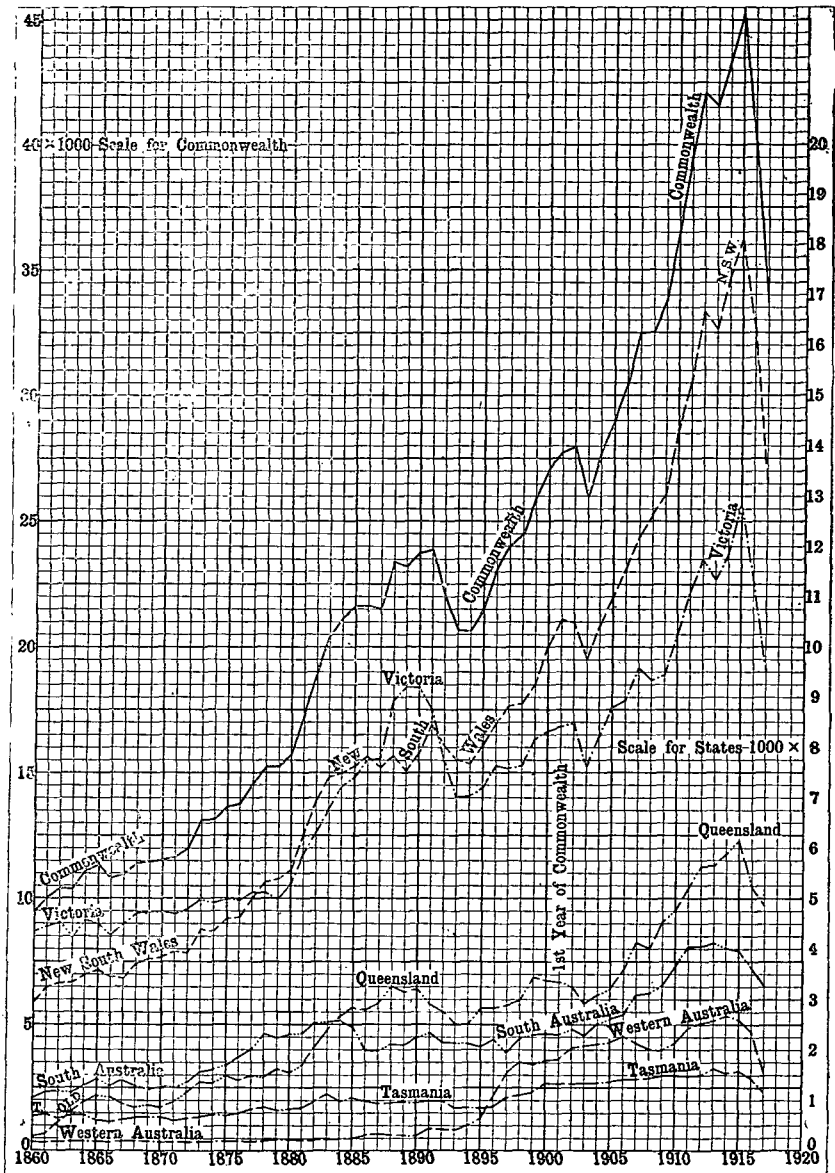
The scale on the left relates to the Commonwealth, and that on the right to the States.

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

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



GRAPHS SHEWING TOTAL ANNUAL MARRIAGES IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1917.



(See Table page 180.)

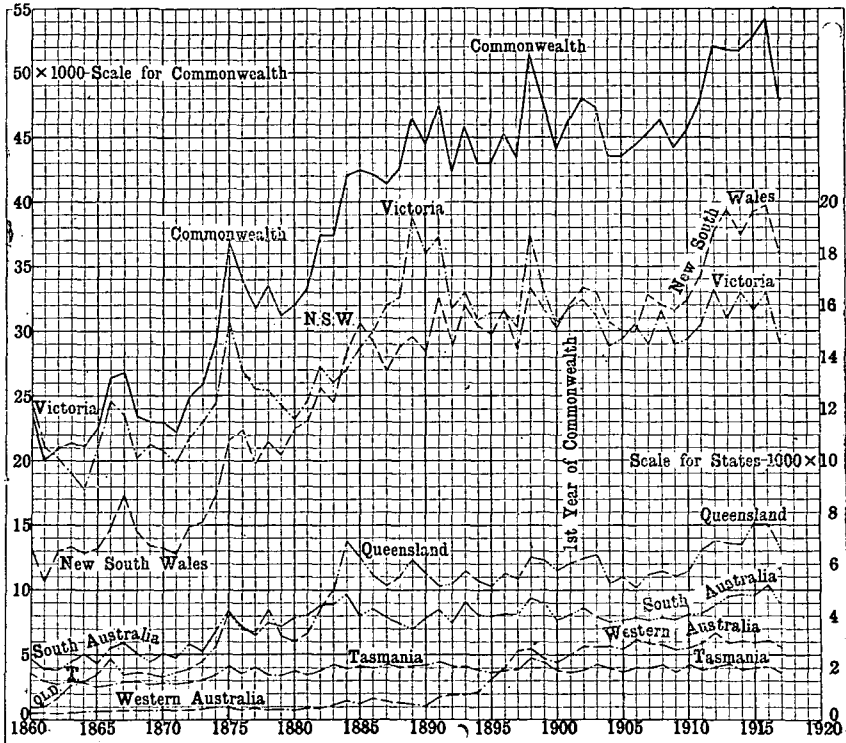
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 500 marriages for the Commonwealth and 250 for the States.

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

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

The names of the States to which the graphs refer are written thereon, and the lines used are similar to those for births on page 217.

GRAPHS SHEWING TOTAL ANNUAL DEATHS IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1917.



(See Table page 188.)

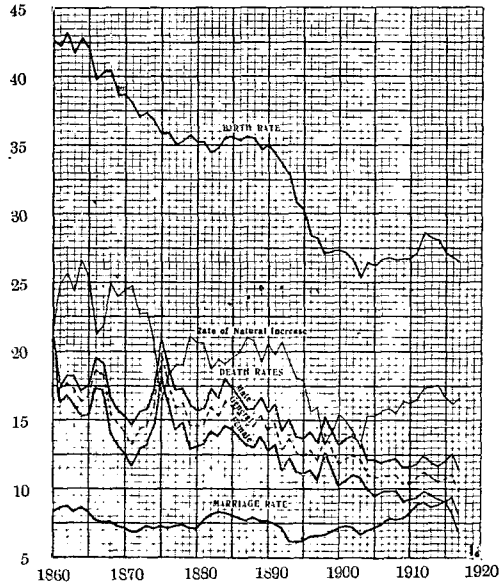
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 1000 persons for the Commonwealth and 500 for the States.

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

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

The names of the States to which the curves refer are written thereon, and the lines used are similar to those for births on page 217.

GRAPHS SHEWING GENERAL BIRTH, NATURAL INCREASE, DEATH MALE-  
GENERAL, AND FEMALE), AND MARRIAGE RATES IN THE COMMONWEALTH OF  
AUSTRALIA, 1860-1917.



(See pages 163, 180, 187 and 245.)

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

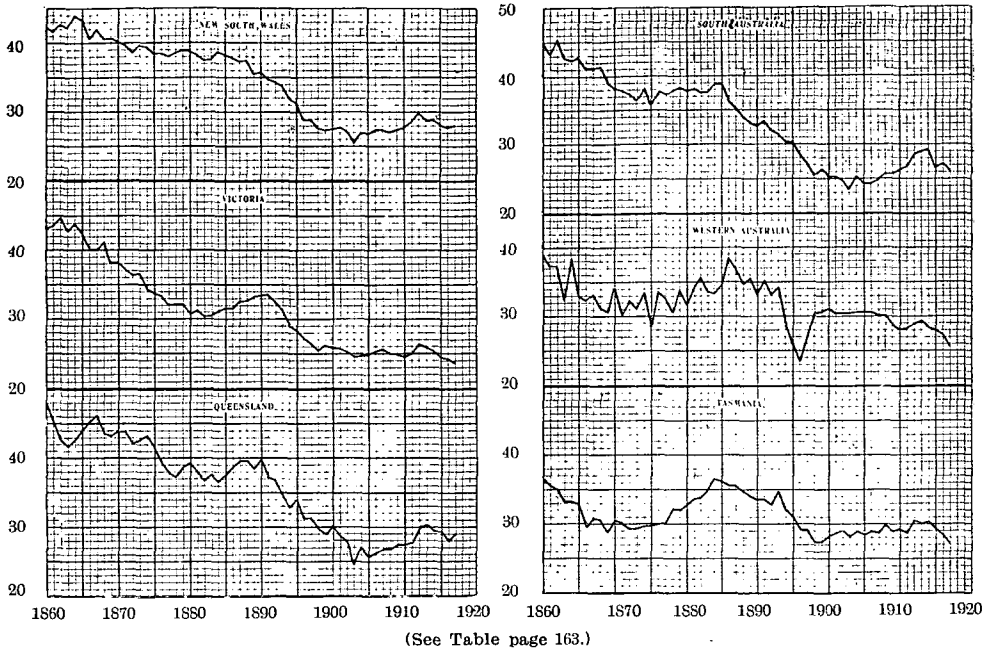
BIRTH RATE GRAPHS. (See next page.)

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

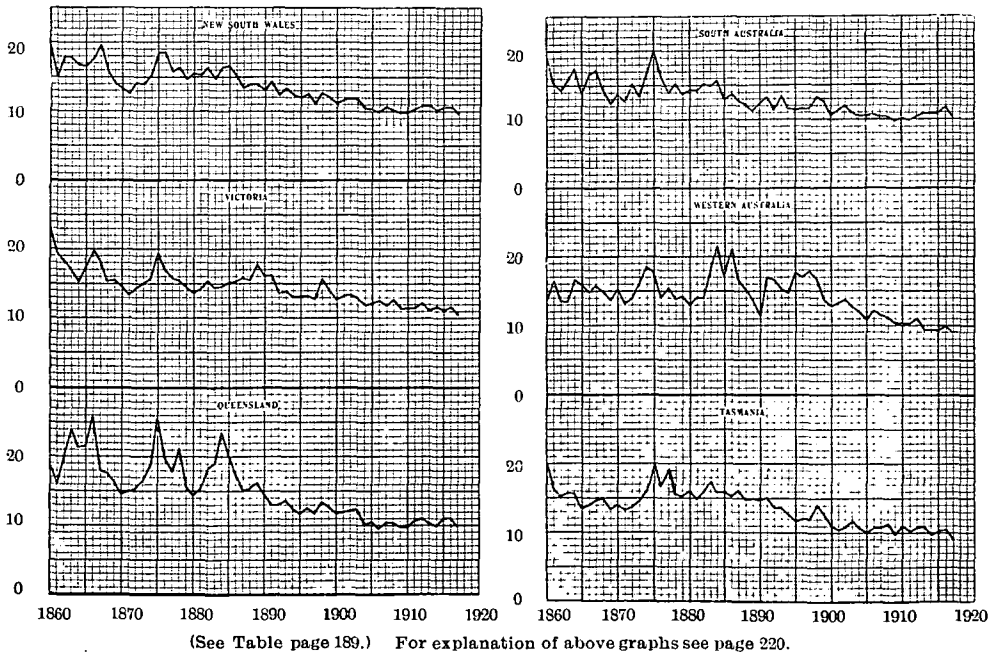
DEATH RATE GRAPHS. (See next page.)

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

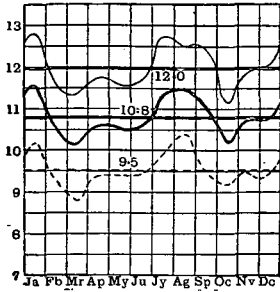
GRAPHS SHEWING BIRTH RATES IN THE STATES OF NEW SOUTH WALES, VICTORIA,  
QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA, AND TASMANIA, 1860-1917.



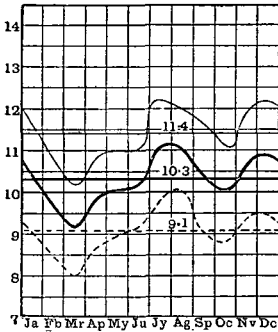
GRAPHS SHEWING DEATH RATES IN THE STATES OF NEW SOUTH WALES, VICTORIA,  
QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA, AND TASMANIA, 1860-1917



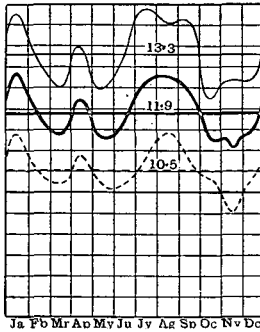
GRAPHS SHEWING GENERAL MONTHLY DEATH RATES, 1907-1912.



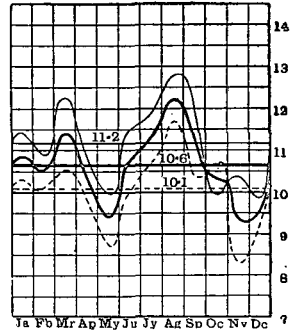
COMMONWEALTH.



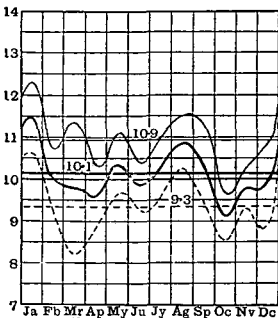
NEW SOUTH WALES.



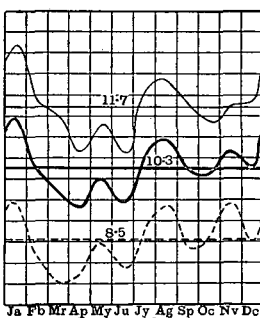
VICTORIA.



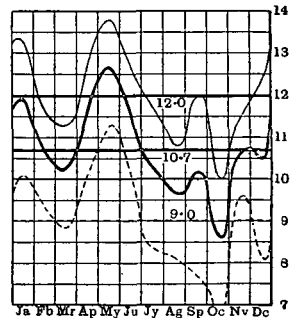
TASMANIA.



SOUTH AUSTRALIA.



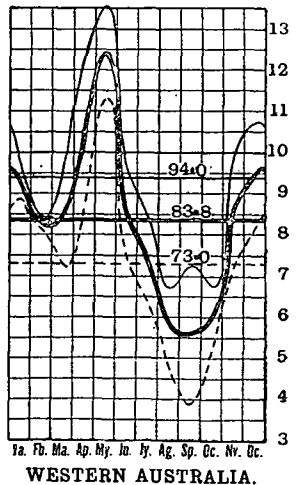
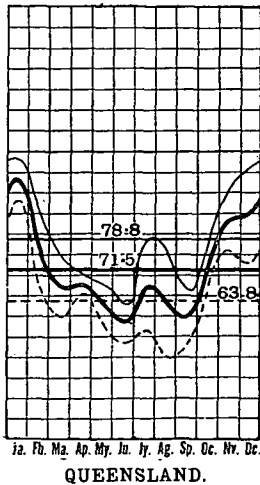
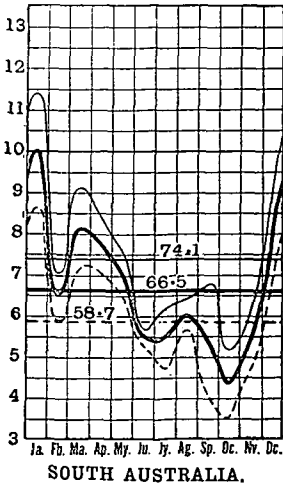
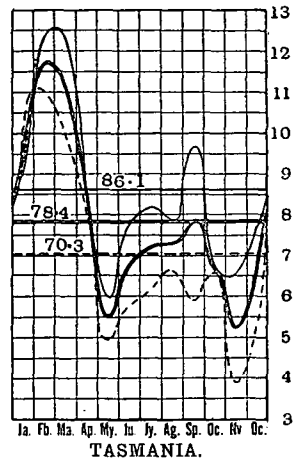
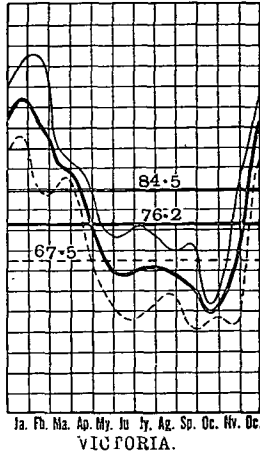
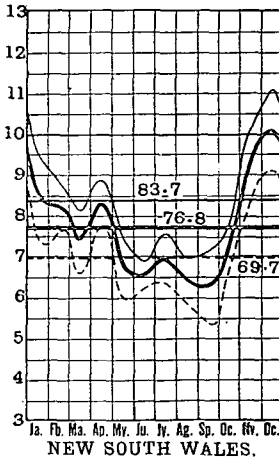
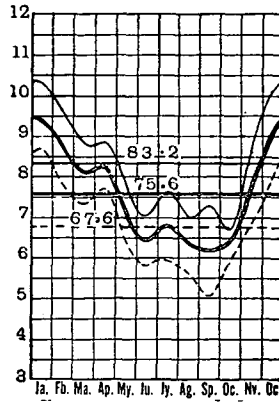
QUEENSLAND.



WESTERN AUSTRALIA

Male Death Rates shewn: —————  
 Female     "     "     -----  
 General    "     "     —————

GRAPHS SHEWING INFANTILE MONTHLY DEATH RATES, 1907-1912.



Male Death Rates shown: ————  
 Female " - - - - -  
 General " . . . . .



(xxxii.) *Other Puerperal Accidents of Pregnancy and Confinement.* The deaths in 1908 numbered 404; in 1909, 376; in 1910, 373; in 1911, 406; in 1912, 413; in 1913, 428; in 1914, 419; in 1915, 394; in 1916, 411; and in 1917, 482. Included in the 482 deaths registered in 1917 were the following:—Accidents of pregnancy, 92; puerperal hæmorrhage, 96; other accidents of childbirth, 97; puerperal albuminuria and convulsions, 137; puerperal phlegmasia alba dolens, embolus, sudden death, 53; death following childbirth, 6; puerperal diseases of the breast, 1.

(xxxia.) *All Puerperal Causes.* The 732 deaths registered in 1917 under the two preceding headings will be found tabulated in "Bulletin No. 35; Commonwealth Demography" under various aspects. It will suffice to repeat here the following facts:—

Of the 732 mothers who died from puerperal causes during the year 1917, 677 were married and 55 were single. As the total number of nuptial confinements was 122,131, and of ex-nuptial confinements 6321, it follows that one in 180 of married mothers, and one in 115 of single mothers, died from puerperal causes, the general proportion being one in 175, as against one in 215 in 1914, and one in 181 in 1908.

The ages of the mothers who died varied from 17 to 49 years, and are shewn in the following table:—

#### AGES OF MOTHERS WHO DIED FROM PUERPERAL CAUSES, COMMONWEALTH, 1917.

Age at Death.	Married Women.	Single Women.	Total.	Age at Death.	Married Women.	Single Women.	Total.
17 years ...	2	3	5	35 years ...	27	1	28
18 " ...	1	3	4	36 " ...	38	...	38
19 " ...	9	4	13	37 " ...	29	2	31
20 " ...	12	7	19	38 " ...	39	...	39
21 " ...	13	5	18	39 " ...	19	...	19
22 " ...	22	4	26	40 " ...	21	...	21
23 " ...	23	5	28	41 " ...	12	...	12
24 " ...	29	3	32	42 " ...	17	...	17
25 " ...	41	3	44	43 " ...	11	...	11
26 " ...	34	1	35	44 " ...	9	...	9
27 " ...	40	3	43	45 " ...	3	1	4
28 " ...	38	2	40	46 " ...	1	...	1
29 " ...	26	2	28	47 " ...	3	...	3
30 " ...	34	1	35	48 " ...	1	...	1
31 " ...	28	2	30	49 " ...	1	...	1
32 " ...	28	...	28				
33 " ...	36	1	37				
34 " ...	30	2	32				
				Total deaths	677	55	732

Of the 677 married women shewn in the above table, 106 left no children, 141 left 1 child each, 119 left 2, 90 left 3, 62 left 4, 46 left 5, 35 left 6, 24 left 7, 20 left 8, 13 left 9, 4 left 10, 8 left 11, 5 left 12, 3 left 13, and 1 left 14 children. The total number of children of the 677 mothers was 2023.

Twenty-three of the mothers who died had been married less than one year, 86 between one and two years, 61 between two and three years, the duration of marriage ranging up to 29 years, apart from 16 cases in which the date of marriage cannot be stated. This tabulation will be found in detail, distinguishing the ages at marriage, in "Bulletin No. 35; Commonwealth Demography," as will a further tabulation shewing in



combination the duration of marriage and previous issue. These tables shew, for instance, that one mother, who had been married at the age of 19 years, died at the age of 44, in the 26th year of her marriage, leaving 14 children.

(xxxiii.) *Congenital Debility and Malformations.* The total deaths registered under these heads in 1917 were 3423, of whom 3352 were children under 1 year of age, inclusive of 3021 under three months. The figures include:—Malformations, 306 males, 245 females, total 551; and congenital debility, icterus, and sclerema of children under one year of age, 1666 males and 1206 females, total 2872; or a grand total of 3423. Of these deaths, 1405 were registered in New South Wales, viz., 812 males and 593 females; 874 in Victoria, viz., 508 males and 366 females; 490 in Queensland, viz., 274 males and 216 females; 304 in South Australia, viz., 180 males and 124 females; 208 in Western Australia, viz., 111 males and 97 females; 139 in Tasmania, viz., 84 males and 55 females; 2 males in the Northern Territory, and 1 male in Federal Territory.

(xxxiv.) *Senile Debility.* The deaths ascribed to "old age" form a large group, and are in excess of those due to infantile debility. In 1917, 4770 deaths were attributed to this cause, and were distributed among the States as follows: 1774 occurred in New South Wales, viz., 1027 males and 747 females; 1755 in Victoria, viz., 912 males and 843 females; 386 in Queensland, viz., 239 males and 147 females; 444 in South Australia, viz., 217 males and 227 females; 199 in Western Australia, viz., 132 males and 67 females; 200 in Tasmania, viz., 95 males and 105 females; 11 males in the Northern Territory, and 1 female in the Federal Territory.

Of the males whose death was described as due to senility, one was aged between 45 and 50, 6 were between 50 and 54; 10 between 55 and 59; 58 between 60 and 64; 198 between 65 and 69; 443 between 70 and 74; 600 between 75 and 79; 645 between 80 and 84; 466 between 85 and 89; 146 between 90 and 94; 43 between 95 and 99; while 14 were 100 years old and upwards; and of three the age was not stated.

Of the females, one was between 50 and 54; 11 were between 55 and 59; 33 were between 60 and 64; 124 between 65 and 69; 279 between 70 and 74; 525 between 75 and 79; 558 between 80 and 84; 385 between 85 and 89; 174 between 90 and 94; 42 between 95 and 99; while 5 were 100 years old and upwards.

(xxxv.) *Violence.* A very large number of deaths is due every year 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 1908, 2922, viz., 2187 males and 735 females; in 1909, 2664, viz., 2050 males and 614 females; in 1910, 2738, viz., 2128 males and 610 females; in 1911, 3018, viz., 2323 males and 695 females; in 1912, 3237, viz., 2559 males and 678 females; in 1913, 3168, viz., 2503 males and 665 females; in 1914, 3121, viz., 2458 males and 663 females; in 1915, 2851, viz., 2251 males and 600 females, in 1916, 2712, viz., 2134 males and 578 females; and in 1917, 2656, viz. 2069 males and 587 females. Of the deaths registered in 1917, those of 785 males and 232 females occurred in New South Wales; those of 466 males and 157 females in Victoria; those of 378 males and 86 females in Queensland; those of 187 males and 59 females in South Australia; those of 186 males and 39 females in Western Australia; those of 59 males and 14 females in Tasmania; and those of 8 males in the Northern Territory.

The following table shews the various kinds of violent deaths which occurred in 1917, distinguishing males and females:—

## DEATHS FROM EXTERNAL VIOLENCE, COMMONWEALTH, 1917.

Cause of Death.	Males.	Females.	Total.
Poisoning by food ... ..	17	12	29
Venomous bites and stings ... ..	11	2	13
Other acute poisonings ... ..	24	14	38
Conflagration ... ..	6	5	11
Burns (conflagration excepted) ... ..	130	151	281
Absorption of deleterious gases (conflagration excepted) ... ..	34	16	50
Accidental drowning ... ..	449	114	563
Traumatism by firearms ... ..	83	13	96
Traumatism by cutting or piercing instruments ... ..	4	1	5
Traumatism by fall ... ..	239	54	293
Traumatism in mines or quarries ... ..	85	...	85
Traumatism by machines ... ..	44	...	44
Traumatism by other crushing (vehicles, railways, etc.) ... ..	486	82	568
Injuries by animals ... ..	46	4	50
Starvation, thirst, fatigue ... ..	33	3	36
Excessive cold ... ..	8	...	8
Effects of heat ... ..	57	16	73
Lightning ... ..	5	...	5
Electricity (lightning excepted) ... ..	10	...	10
Homicide by firearms ... ..	15	6	21
Homicide by cutting or piercing instruments... ..	4	6	10
Homicide by other means ... ..	21	21	42
Fractures (cause not specified) ... ..	63	38	101
Other external violence ... ..	195	29	224
Total Deaths ... ..	2,069	587	2,656

In every kind of violent death there was, therefore, an excess of males, with the exception of burning accidents, in which female deaths predominated, and homicide by cutting or piercing instruments.

(xxxvi.) *Suicide*. It may be said that suicides have shewn a slight tendency to increase during recent years, the number in 1908 having been 497, viz., 413 males and 84 females; in 1909, 495, viz., 398 males and 97 females; in 1910, 516, viz., 432 males and 84 females; in 1911, 544, viz., 446 males and 98 females; in 1912, 631, viz., 514 males and 117 females; in 1913, 647, viz., 516 males and 131 females; in 1914, 643, viz., 534 males and 109 females; in 1915, 653, viz., 536 males and 122 females; in 1916, 577, viz., 466 males and 111 females, and in 1917, 502, viz., 408 males and 94 females. Of the suicides in 1917, those of 133 males and 39 females occurred in New South Wales; those of 98 males and 30 females in Victoria; those of 88 males and 15 females in Queensland; those of 32 males and 6 females in South Australia; those of 45 males and 3 females in Western Australia; those of 8 males and 1 female in Tasmania; those of 3 males in the Northern Territory, and 1 in Federal Territory.

The modes adopted by persons who committed suicide in the years 1908 to 1917 were as follows:—

**MALE AND FEMALE SUICIDES, COMMONWEALTH (MODES ADOPTED), 1908 to 1917.**

Mode of Death.	Males.		Females.		Total.	
	Total of 9 years 1908-16.	191.	Total of 9 years 1908-16.	1917.	Total of 9 years 1908-16.	1917.
Poisoning ... ..	887	79	498	45	1,385	124
Asphyxia ... ..	13	...	3	2	16	2
Hanging or Strangulation ... ..	664	48	122	13	786	61
Drowning ... ..	305	37	151	17	456	54
Firearms ... ..	1,454	144	64	7	1,518	151
Cutting instruments ... ..	681	83	65	3	746	86
Precipitation from a height ... ..	36	2	16	4	52	6
Crushing... ..	59	6	12	1	71	7
Other modes ... ..	156	9	22	2	178	11
Total ... ..	4,255	408	953	94	5,208	502

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

**DEATH RATES (a) FROM SUICIDE AND PERCENTAGE ON TOTAL DEATHS, 1917.**  
COMMONWEALTH.

State.	Death Rates (a) from Suicide.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.14	0.04	0.09	1.27	0.52	0.96
Victoria ...	0.15	0.04	0.09	1.23	0.45	0.88
Queensland ...	0.25	0.05	0.15	2.19	0.59	1.57
South Australia ...	0.16	0.03	0.09	1.33	0.31	0.87
Western Australia	0.28	0.02	0.16	2.50	0.31	1.73
Tasmania ...	0.08	0.01	0.05	0.86	0.12	0.51
Northern Territory	0.75	...	0.60	5.77	...	4.76
Federal Territory	0.72	...	0.40	14.29	...	7.69
Commonwealth	0.17	0.04	0.10	1.48	0.46	1.05

(a) Number of deaths from suicide per 1000 of mean population.

From the following table, which shews the ages of the persons who committed suicide in 1917, it will be seen that both extreme youth and extreme old age are represented:—

**AGES OF PERSONS WHO COMMITTED SUICIDE, COMMONWEALTH, 1917.**

Ages.	M.	F.	Total.	Ages.	M.	F.	Total.
10 years and under 14	...	1	1	60 years and under 65	29	2	31
15 " " 20	5	10	15	65 " " 70	19	2	21
20 " " 25	16	14	30	70 " " 75	16	3	19
25 " " 30	34	15	49	75 " " 80	6	1	7
30 " " 35	34	10	44	80 " " 85	2	...	2
35 " " 40	40	8	48	85 " " 90	1	...	1
40 " " 45	54	8	62	Age not stated	2	1	3
45 " " 50	45	12	57				
50 " " 55	62	2	64				
55 " " 60	43	5	48				
				Total Deaths ...	408	94	502

The following table shows the occupations of the 408 males who committed suicide:—

**OCCUPATIONS OF MALE PERSONS WHO COMMITTED SUICIDE, 1917.**  
**COMMONWEALTH.**

Occupation.	Deaths.	Occupation.	Deaths.
Professional class ... ..	38	Pastoral class ... ..	20
Domestic class ... ..	15	Working in mines and quarries ...	29
Mercantile class ... ..	56	Other primary producers ... ..	9
Engaged in transport and communication ... ..	27	Independent means ... ..	4
Manufacturing class ... ..	21	Dependents ... ..	4
Engaged in building and construction ... ..	15	Occupation not stated ... ..	18
Indefinite industrial workers ...	104		
Agricultural class ... ..	53	Total Deaths ... ..	408

It has been said that suicide has become more frequent during recent years, but an examination of the figures from the year 1871 onwards shews that the assertion needs qualification. The absolute figures have certainly increased, but proportionately to the population the figures for 1906-10 were practically the same as those for 1886-90 and 1891-95. The figures for the five years 1911-15, shew, however, a regrettable increase, not only absolutely, but also in proportion to the population. Both 1916 and 1917 shew lower figures and percentages than the average of 1911-15, and in 1917 particularly, the figures in proportion to population decreased almost to the level of the period 1871-85. No particulars are available for Western Australia prior to 1886, and from 1886 to 1895 the sexes are not distinguished. The figures for the first five periods are, therefore, exclusive of Western Australia:—

**SUICIDES, COMMONWEALTH, 1871-75 to 1917.**

Period.	Number of Suicides.			Suicides per One Million.			Suicides of Females to 100 Suicides of Males. Based on	
	Males.	Females.	Total.	Males.	Females.	Total.	Absolute Figures.	Rates.
1871-75	715	150	865	150.94	37.56	99.07	20.98	24.88
1876-80	878	145	1,023	159.69	31.06	100.62	16.51	19.45
1881-85	999	183	1,182	152.58	32.90	97.61	18.32	21.56
1886-90	1,394	292	1,686	179.20	43.97	116.92	20.95	24.54
1891-95	1,574	337	1,911	181.34	44.09	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	201.78	40.88	124.98	18.50	20.26
1906-10	2,031	437	2,468	186.11	43.22	117.39	21.51	23.22
1911-15	2,546	577	3,123	206.15	50.36	131.17	22.66	24.43
1916 ...	466	111	577	190.06	45.21	117.58	23.82	23.78
1917 ...	408	94	502	169.55	37.66	102.40	23.04	22.21

(a) 1705 inclusive of Western Australian figures. (b) 1984 inclusive of Western Australian figures. (c) 116.49 inclusive of Western Australian figures. (d) 119.11 inclusive of Western Australian figures.

In the fifth issue of this Year Book (pp. 240, etc.), the result of a series of investigations into the periodicity of suicide was published. The paper was partly reprinted in the sixth issue (pp. 241, etc.), but is not repeated in the present issue.

(xxxvii.) *Other Diseases.* The number of causes included under this heading is a very large one, amounting to no less than 79 of the items shewn in the detailed classification, and deaths were recorded under every one of these with the exception of the following:—Glanders, rabies, pellagra, occupational poisonings other than lead poisoning, intestinal parasites, chyluria, and non-puerperal diseases of the breast. The total number of deaths under "other diseases" in 1908 was 7417, viz., 4351 males and

3066 females; in 1909, 7419, viz., 4344 males and 3075 females; in 1910, 7794, viz., 4590 males and 3204 females; in 1911, 7652, viz., 4508 males, 3144 females; in 1912, 8300, viz., 4777 males and 3523 females; in 1913, 8241, viz., 4794 males and 3447 females; in 1914, 8670, viz., 5081 males and 3589 females; in 1915, 9090, viz., 5259 males and 3831 females; in 1916, 9433 viz., 5489 males and 3944 females, and in 1917, 8871, viz., 5147 males and 3724 females. In accordance with the revised edition of the classification, the following changes were made in this heading during 1910: beri-beri is now included under this heading instead of under xii., "Other Epidemic Diseases." Other diseases of the respiratory system (2212 deaths) are now shewn under a new head (xxiii.), and appendicitis and typhlitis (356 deaths) under head xxvi. Some of the diseases included here account for very considerable numbers of deaths. Thus there were 745 deaths ascribed to diseases of the arteries, atheroma, and aneurism; 613 to "other diseases peculiar to early infancy"; 549 to diabetes; 548 to diarrhoea and enteritis of children over two years of age and of adults; 459 to acute endocarditis; 434 to embolism and thrombosis; 345 to anæmia and chlorosis; 313 to "paralysis without indicated cause"; 286 to convulsions of children under five years of age; 252 to "other diseases of the nervous system"; 245 to "other diseases of the spinal cord"; 222 to acute and chronic alcoholism; 208 to diseases of the prostate; and 204 to acute articular rheumatism. Particulars of the deaths included in 1917 are shewn in the following table:—

#### CAUSES OF DEATHS INCLUDED UNDER "OTHER DISEASES," COMMONWEALTH, 1917.

Causes.	M.	F.	T'tal.	Causes.	M.	F.	T'tal.
Purulent Infection and Septicæmia ... ..	73	60	133	Diseases of the Lymphatic System ... ..	13	6	19
Anthrax ... ..	1	1	2	Hæmorrhages, Other Diseases of Circulatory System ...	20	10	30
Tetanus ... ..	61	23	84	Diseases of the Mouth and its Associated Organs ... ..	11	8	19
Mycoses ... ..	7	2	9	Diseases of the Pharynx ...	25	15	40
Beri-beri ... ..	35	1	36	Diseases of the Oesophagus ...	8	3	11
Ricketts ... ..	2	2	4	Diarrhoea and Enteritis of Children over two years of age and Adults ... ..	251	267	548
Syphilis ... ..	116	62	178	Ankylostomiasis ... ..	1	2	3
Gonococcus Infection ...	4	...	4	Other Diseases of the Intestine's Acute Yellow Atrophy of the Liver ... ..	48	41	89
Other Tumours (Tumours of the female genital organs excepted) ... ..	13	19	32	Hydatid Tumours of the Liver ...	26	20	46
Acute Articular Rheumatism ...	94	110	204	Biliary Calculi ... ..	36	90	126
Chronic Rheumatism & Gout ...	68	97	165	Other Diseases of the Liver ...	90	103	193
Scurvy ... ..	2	2	4	Diseases of the Spleen ... ..	5	8	13
Diabetes ... ..	227	322	549	Simple Peritonitis (non-puerperal) ... ..	73	70	143
Exophthalmic Goitre ... ..	5	59	64	Other Diseases of the Digestive System ... ..	10	21	31
Addison's Disease ... ..	14	23	37	Other Diseases of the Kidneys and their Adnexa ... ..	107	63	170
Leucæmia ... ..	63	33	96	Calculi of Urinary Passages ...	20	10	30
Anæmia, Chlorosis ... ..	176	169	345	Diseases of the Bladder ... ..	159	36	195
Other General Diseases ... ..	45	29	74	Other Diseases of the Urethra, Urinary Abscess, etc. ...	33	2	35
Acute and Chronic Alcoholism ...	194	28	222	Diseases of the Prostate ... ..	208	...	208
Chronic Lead Poisoning ... ..	16	2	18	Non-venereal Diseases of the Male Genital Organs ...	4	...	4
Other Chronic Poisonings ... ..	6	2	8	Gangrene ... ..	61	63	124
Encephalitis ... ..	60	35	95	Furuncle ... ..	14	7	21
Progressive Locomotor Ataxia ...	58	15	73	Acute Abscess ... ..	44	34	78
Other Diseases of the Spinal Cord ... ..	140	105	245	Other Diseases of the Skin and Adnexa ... ..	17	22	39
Paralysis without indicated cause ... ..	174	139	313	Non-tuberculous Diseases of the Bones ... ..	29	25	54
General Paralysis of the Insane ...	137	19	156	Other Diseases of the Joints (Tuberculosis & Rheumatism excepted) ... ..	5	4	9
Other Forms of Mental Alienation ... ..	36	46	82	Amputations ... ..	2	1	3
Epilepsy ... ..	102	88	190	Other Diseases of the Organs of Locomotion ... ..	2	...	...
Convulsions (non-puerperal) ...	1	12	13	Other Diseases peculiar to Infancy ... ..	351	262	613
Convulsions of Children under five years of age ... ..	164	122	286	Want of Care (Infants) ... ..	10	4	14
Chorea ... ..	3	6	9				
Neuralgia and Neuritis ... ..	9	22	31				
Other Diseases of the Nervous System ... ..	151	101	252				
Diseases of the Eye ... ..	1	2	3				
Diseases of the Ear ... ..	17	12	29				
Pericarditis ... ..	56	35	91				
Acute Endocarditis ... ..	263	196	459				
Angina Pectoris ... ..	111	46	157				
Diseases of the Arteries, Atheroma, Aneurism ... ..	521	224	745				
Embolism and Thrombosis ... ..	200	234	434				
Diseases of the Veins (Varices, Varicose Ulcers, Hæmorrhoids) ... ..	6	14	20				
				Total Deaths ... ..	5,147	3,724	8,871

(xxxviii.) *Unspecified or Ill-defined Diseases.* The number of cases which has to be included here is a considerable one from year to year, comprising 1262 in 1908, 1087 in 1909, 598 in 1910, 460 in 1911, 590 in 1912, 614 in 1913, 644 in 1914, 717 in 1915, 633 in 1916, and 667, viz., 420 males and 247 females, in 1917. The detailed classification distinguishes these ill-defined diseases under three headings:—Ill-defined organic diseases, including such definitions as dropsy, 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 1917 the number of cases of death which would have to be classed under the first of these categories was 85; those belonging to the second, 73; and those belonging to the third, 509. It is, of course, true that there must always occur some cases where the disease is not well characterised, or where sufficient information is not procurable to allow of a clear definition being given in the certificate of death, but in the majority of cases included under this heading a more complete diagnosis and consequently a more satisfactory certificate would no doubt have been possible.

In the fifth issue of this Year Book, pp. 234, etc., some observations were published, dealing with the incidence of scarlet fever, measles, whooping cough, diphtheria and croup, typhoid, diarrhoea, enteritis, and dysentery.

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

**DEATHS, DEATH RATES (a), AND PERCENTAGES ON TOTAL DEATHS IN CLASSES, 1917.—COMMONWEALTH.**

Class.	Total Deaths.			Death Rate. (a)			Percentage on Total Deaths.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1. General diseases ...	6,187	5,175	11,362	2.57	2.07	2.32	22.41	25.35	23.65
2. Diseases of the Nervous System & of the Organs of Special Sense...	2,621	2,060	4,681	1.09	0.83	0.96	9.49	10.09	9.75
3. Diseases of the Circulatory System	3,356	2,451	5,807	1.39	0.98	1.19	12.16	12.00	12.09
4. Diseases of the Respiratory System	3,074	1,913	4,987	1.28	0.77	1.02	11.13	9.37	10.38
5. Diseases of the Digestive Organs...	2,460	2,032	4,492	1.02	0.81	0.92	8.91	9.95	9.35
6. Diseases of the Genito-Urinary System and Adnexa ...	1,874	1,119	2,993	0.78	0.45	0.61	6.79	5.48	6.23
7. Puerperal Condition ...	...	732	732	...	0.29	0.15	...	3.58	1.52
8. Diseases of the Skin and of the Cellular Tissue...	136	126	262	0.06	0.05	0.05	0.49	0.61	0.55
9. Diseases of the Organs of Locomotion ...	38	30	68	0.01	0.01	0.01	0.14	0.15	0.14
10. Malformations ...	306	245	551	0.13	0.10	0.11	1.11	1.20	1.15
11. Infancy ...	2,027	1,472	3,499	0.84	0.59	0.71	7.34	7.21	7.29
12. Old Age ...	2,633	2,137	4,770	1.09	0.86	0.97	9.54	10.47	9.93
13. Violence ...	2,477	681	3,158	1.03	0.27	0.64	8.97	3.33	6.58
14. Ill-defined Diseases ...	420	247	667	0.18	0.10	0.14	1.52	1.21	1.39
Total ...	27,609	20,420	48,029	11.47	8.18	9.80	100.00	100.00	100.00

(a) Number of deaths per 1000 of mean population.

**20. Deaths of Children under 1 Year.**—"Bulletin No. 35; Commonwealth Demography" contains tables shewing for twenty-one causes the age at death of children dying during the first year of life. In the Bulletin mentioned, the particulars are published for males and females separately for the States, Territories and Commonwealth, but the totals for the Commonwealth only are here shewn for both sexes combined:—

## DEATHS OF CHILDREN UNDER 1 YEAR, COMMONWEALTH, 1917.

Age at Death.	Whooping Cough.	Pulmonary Tuberculosis.	Acute Miliary Tuberculosis.	Tubercular Meningitis.	Abdominal Tuberculosis.	White Swellings.	Tuberculosis of Other Organs.	Disseminated Tuberculosis.	Syphilis.	Simple Meningitis.	Cerebro-Spinal Meningitis.	Convulsions.
Under 1 week ...	...	...	...	...	...	...	...	...	5	2	...	86
1 week and under 2 ...	2	...	...	...	...	...	...	...	5	2	...	19
2 weeks " 3 ...	3	...	...	...	...	...	...	...	7	2	...	5
3 " " 1mth. 7	7	1	1	...	...	...	...	...	5	4	...	6
1 month " 2 ...	28	...	...	3	1	...	...	...	12	9	...	14
2 months " 3 ...	34	...	...	2	2	...	...	1	15	7	5	12
3 " " 4 ...	29	...	...	2	2	...	...	...	10	19	3	9
4 " " 5 ...	16	1	1	2	1	...	...	...	5	8	...	7
5 " " 6 ...	11	1	1	2	...	...	...	1	1	9	1	6
6 " " 7 ...	12	1	1	2	...	...	...	...	4	16	6	7
7 " " 8 ...	7	...	2	5	...	...	1	...	4	20	1	6
8 " " 9 ...	6	1	1	3	...	...	...	...	1	9	3	8
9 " " 10 ...	14	...	...	2	2	...	...	...	1	8	5	5
10 " " 11 ...	8	...	...	5	...	1	...	...	...	14	3	14
11 " " 12 ...	10	...	...	2	...	...	...	1	1	11	1	4
Total under 1 year	187	5	7	30	8	1	1	3	76	140	28	208

Age at Death.	Acute Bronchitis.	Broncho-Pneumonia.	Pneumonia.	Diarrhea and Enteritis.	Hernia and Intestinal Obstruction.	Malformations.	Congenital Debility, Icterus and Sclerema.	Other Diseases peculiar to Early Infancy.	Lack of Care.	Other Causes.	Total.
Under 1 week	7	7	7	13	8	232	1,873	519	11	55	2,825
1 week & under 2	12	6	10	26	...	59	248	43	...	40	472
2 weeks " 3	16	7	14	27	...	19	149	23	...	35	307
3 " " 1mth 8	8	6	1	26	1	18	104	7	...	25	220
1 month " 2	37	34	25	104	2	40	164	14	1	69	557
2 months " 3	17	36	20	128	1	18	97	6	1	48	450
3 " " 4	15	26	16	135	2	19	67	1	...	32	387
4 " " 5	10	21	11	138	10	19	47	...	...	23	320
5 " " 6	5	17	11	145	4	12	31	...	...	18	276
6 " " 7	9	19	16	120	12	10	23	...	...	27	285
7 " " 8	8	20	14	116	9	6	19	...	...	29	267
8 " " 9	4	22	24	113	3	8	20	...	...	27	253
9 " " 10	4	20	20	98	8	7	16	...	...	21	231
10 " " 11	3	17	21	88	3	10	9	...	...	29	225
11 " " 12	8	19	15	82	2	3	5	...	...	27	191
Total under 1 year	163	277	225	1,359	65	480	2,872	613	13	505	7,266

It will be seen that the maximum number of deaths from convulsions, pneumonia, acute bronchitis, malformations, congenital debility, icterus and sclerema, other diseases peculiar to early infancy, and lack of care, occurred during the first month of life, while broncho-pneumonia was most fatal during the second and third

months. Diarrhoea and enteritis carried off more children in the fourth and fifth months than in any other, the numbers gradually decreasing toward the end of the year. Whooping cough reached its maximum during the third month of life.

21. **Ages at Death of Married Males and Females, and Issue.**—"Bulletin No. 35; Commonwealth Demography" contains a number of tables, for the Commonwealth, shewing the age at marriage, age at death, duration of life after marriage, birthplaces, and occupations, in combination with the issue of married persons who died in 1917. A short summary of the tables mentioned is given hereunder. Deaths of married males in 1917 numbered 13,718, and of married females, 12,470. The ages at death of the males ranged from 20 to 106 years, and those of the females, from 17 to 105 years. The tabulations mentioned in the sequel deal, however, with only 13,604 males and 12,423 females, the information in the remaining 161 cases being too incomplete to be made use of. The total number of children in the families of the 13,604 males was 69,952, the maximum in one family being 23; and of the 12,423 females, 64,626, with a maximum of 23. The average number of children is shewn for various age-groups in the following table:—

#### AGES AT DEATH OF MARRIED MALES AND FEMALES, AND AVERAGE ISSUE.

COMMONWEALTH, 1917.

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 ...	...	0.50	70 to 74 years ...	6.25	6.45
20 to 24 years ...	0.98	1.18	75 " 79 " ...	6.56	6.44
25 " 29 " ...	1.50	1.88	80 " 84 " ...	6.60	6.50
30 " 34 " ...	1.94	2.61	85 " 89 " ...	6.86	6.47
35 " 39 " ...	2.76	3.37	90 " 94 " ...	6.87	5.85
40 " 44 " ...	3.19	3.97	95 " 99 " ...	6.24	5.95
45 " 49 " ...	3.72	4.04	100 years and upwards ...	6.91	2.80
50 " 54 " ...	4.20	4.50	Age not stated ...	6.50	6.00
55 " 59 " ...	4.66	5.33			
60 " 64 " ...	5.17	5.67			
65 " 69 " ...	5.73	6.30			
			All ages ...	5.14	5.20

The figures shewn in the preceding table include the issue both living and dead; and the proportion between them, taking the issue of deceased males and females together, was about as 1000 to 298, or, roughly speaking, as ten to three. The totals are shewn in the following table:—

#### ISSUE OF MARRIED MALES AND FEMALES.

COMMONWEALTH, 1917.

Issue of Married Males.	Males.	Females.	Total.	Issue of Married Females.	Males.	Females.	Total.
Living ...	27,674	27,323	54,997	Living ...	24,394	24,277	48,671
Dead ...	8,153	6,802	14,955	Dead ...	8,681	7,274	15,955
Total ...	35,827	34,125	69,952	Total ...	33,075	31,551	64,626



These figures shew a masculinity in the births of 104.91, which agrees fairly well with the experience of the birth statistics, the masculinity of the births in the Commonwealth from 1907 to 1917 having averaged 105.16.

**22. Ages 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 :—

### AGES AT MARRIAGE OF MALES AND FEMALES, AND AVERAGE ISSUE.

COMMONWEALTH, 1917.

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 ...	6.73	7.11	55 to 59 years ...	1.09	...
20 to 24 years ...	6.19	5.55	60 „ 64 „ ...	0.80	...
25 „ 29 „ ...	5.48	4.33	65 years and upwards ...	0.10	...
30 „ 34 „ ...	4.66	2.84	Age not stated ...	4.11	4.73
35 „ 39 „ ...	3.99	1.46			
40 „ 44 „ ...	3.07	0.27			
45 „ 49 „ ...	2.10	...			
50 „ 54 „ ...	1.04	...	All ages ...	5.14	5.20

It will be seen that of women who were married at ages from 40 to 44 years; one in every four gave birth to a child.

**23. Duration of Life after Marriage of Males and Females.**—The duration of life after marriage has been tabulated for males and females both in combination with the age at marriage, and with the total and average issue. The tables shewing the result do not, however, lend themselves to condensation, and are, therefore, omitted here. They will be found in “Bulletin No. 35 of Commonwealth Demography,” pages 209 to 214.

**24. Birthplaces of Married Males and Females, and Issue.**—The following table shews the birthplaces of married males and females whose deaths were registered in 1917, together with their average issue. No generalisations can, of course, be made in those cases where the number of deaths is small, and where the average family had to be worked out on small figures. But where the figures are comparatively large, as in the case of natives of the Commonwealth, differences occur between the averages of the individual States which appear inexplicable on any other ground than that of inefficient registration in some of the States. It will be noted that the differences occur both in the male and female averages. Although the figures apply to the Commonwealth as a whole, it must be borne in mind that the vast majority of deaths of natives of any one State are registered in that particular State. The average family of all deceased males who were natives of the Commonwealth was 4.65, and that of deceased females who were natives of the Commonwealth, 4.59.

**BIRTHPLACES AT MARRIAGE OF MALES AND FEMALES, AND AVERAGE ISSUE,  
COMMONWEALTH, 1917.**

Birthplace.	Married Males.		Married Females.		Birthplace.	Married Males.		Married Females.	
	Deaths.	Average Family.	Deaths.	Average Family.		Deaths.	Average Family.	Deaths.	Average Family.
New South Wales	2,204	5.07	2,398	5.06	Japan ...	2	4.00	...	...
Victoria	1,895	4.07	1,835	4.00	Java ...	3	4.63	1	3.00
Queensland	346	3.71	398	3.51	Philippine Islands	3	5.66	...	...
South Australia	698	4.72	722	4.64	Syria	6	5.83	6	4.50
Western Australia	89	5.66	77	5.08	Other Asiatic C'ntries	1	2.00	...	...
Tasmania	486	5.43	502	5.16	Mauritius	6	4.66	1	2.00
New Zealand	76	3.18	65	3.83	Union of South Africa	11	4.18	14	4.28
England	3,959	5.55	2,965	5.71	Other African British Possessions	...	...	3	5.33
Wales	115	4.87	87	5.48	Egypt	...	...	1	7.00
Scotland	1,004	5.47	868	6.05	Other African C'ntries	1	2.00	...	...
Ireland	1,581	5.96	1,932	5.84	Canada	31	4.39	16	6.19
Isle of Man	5	6.20	5	6.40	Jamaica	4	2.25	2	3.50
Other European British Possessions	16	5.50	12	6.17	Newfoundland	3	1.66	...	...
Austria-Hungary	17	3.53	3	6.33	Other American British Possessions	6	2.33	11	6.73
Belgium	8	4.50	2	8.00	Brazil	1	4.00	...	...
Denmark	82	5.05	35	4.80	Chile	...	...	1	6.00
France	39	4.23	24	4.17	Mexico	1	8.00	...	...
Germany	382	5.89	248	6.64	United States	51	4.16	17	5.00
Greece	10	3.90	1	2.00	Other American Countries	4	5.75	1	4.00
Italy	31	3.16	11	4.00	Fiji	1	2.00	5	3.20
Netherlands	11	5.91	4	2.50	Papua	1	...	...	...
Norway	22	4.45	8	3.50	Other Polynesian British Possessions	2	1.00	...	...
Portugal	3	6.00	...	...	New Caledonia	2	11.50	...	...
Russia	66	5.18	19	5.16	New Hebrides	1	6.00	...	...
Spain	11	5.64	1	6.00	Samoa	1	6.00	...	...
Sweden	61	4.48	5	4.20	Other Polynesian Isl'ds	5	3.40	...	...
Switzerland	25	5.84	8	3.37	S. Sea Islands (sodescd.)	5	1.40	5	0.40
Other Europ. Countries	7	5.43	2	1.50	At Sea	46	5.37	40	5.45
British India	36	3.89	30	6.27	Not stated	48	4.23	28	3.39
Ceylon	5	3.40	1	2.00					
Straits Settlements	1	...	1	1.00					
Other Asiatic British Possessions	1	6.00	1	6.00					
China	66	2.42	1	8.00					
					Total	13,604	5.14	12,423	5.20

25. **Occupations of Married Males, and Issue.**—A final tabulation shews the average issue in combination with the occupation of deceased males. When these figures are available for a number of years they will afford some clue to the much debated question as to the decrease in the birth rate among various classes of the population.

**OCCUPATIONS OF MARRIED MALES, AND AVERAGE ISSUE.**

COMMONWEALTH, 1917.

Occupation.	Deaths of Married Males.	Average Family.
Professional class	881	4.38
Domestic class	469	3.92
Mercantile class	1,741	4.40
Engaged in transport and communication	1,124	4.66
Manufacturing class	1,531	4.92
Engaged in building and construction	841	5.17
Indefinite industrial workers	2,301	5.04
Agricultural class	2,335	6.48
Pastoral class	545	5.41
Working in mines and quarries	928	5.32
Other primary producers	111	4.76
Independent means	270	5.82
Dependents	107	4.51
Occupation not stated	420	5.44
Total	13,604	5.14

In the fifth issue of this Year Book (pp. 227 to 229), a series of observations was published dealing with the Commonwealth Rates of Infantile Mortality. These observations are not reprinted in the present issue.

### § 4. Life Tables, 1881-1910.

1. **General.**—Until the Census of 1911, in connection with which numerous and extensive general life tables were compiled, the construction of such tables in Australia had in only two previous instances been carried out by a Government department. One of these was the construction of life tables for New South Wales in connection with the Census of 5th April, 1891, the other was the construction of a similar table for Western Australia in connection with the Census of 31st March, 1901. Several other investigations of the mortality experience of the Australian general population had, however, been made, and had formed the subject of papers read before actuarial and kindred societies, but in no case had complete tables for the whole of Australia been compiled.

In addition to the investigation of the mortality of the general population, there have been several Australian investigations of selected data, of which the more important are the following:—(i.) Life Assurance Experience; (ii.) Friendly Societies' Experience; (iii.) Public Service Experience.

A brief outline of the more important tables constructed from Australian data is given on pp. 298 *et seq.* of Vol. I. of "The Census of the Commonwealth of Australia, 1911."

2. **Australian Life Tables at Census of 1911.**—(i.) *Range of Tables.* For the purpose of presenting a comprehensive view of the variations in mortality in the several Australian States during the thirty years 1881-1910, a series of forty-two life tables was constructed in connection with the Census of 1911. These tables represented separately the male and female experience in each State and in the Commonwealth as a whole for each of the decennia 1881-90, 1891-1900, and 1901-10. They are given in full on pp. 1209 to 1278 of Volume III. of "The Census of the Commonwealth of Australia, 1911," and in a summary and comparative form on pp. 2149 to 2183 of that volume.

(ii.) *Extent of Material.* A full account of the material employed and of the methods of construction used is given in Volume I. of the same publication, on pp. 293 to 346. The total number of deaths of persons of each sex on which the tables were based is given in the following table:—

#### DEATHS IN AUSTRALIA, 1881 to 1910.

State.	MALES.			FEMALES.		
	1881-90.	1891-1900.	1901-10.	1881-90.	1891-1900.	1901-10.
New South Wales ...	80,376	90,064	91,712	57,184	64,521	67,199
Victoria ...	86,915	92,975	84,411	64,544	70,409	67,044
Queensland ...	35,032	35,335	35,678	18,739	20,448	21,279
South Australia ...	22,807	22,812	21,709	18,170	18,906	17,825
Western Australia ...	4,025	11,941	17,840	2,024	5,494	10,154
Tasmania ...	11,785	11,609	10,744	8,391	8,829	9,018
Total Commonwealth	240,940	264,736	262,094	169,052	188,607	192,519

Corresponding particulars for the number of years of life experienced in each of the decennia are as follows:—

#### YEARS OF LIFE EXPERIENCED IN AUSTRALIA, 1881-1910.

State.	MALES.			FEMALES.		
	1881-90.	1891-1900.	1901-10.	1881-90.	1891-1900.	1901-10.
N.S.W.	5,101,143	6,662,044	7,843,071	4,227,990	5,832,261	7,085,601
Victoria	5,134,838	6,040,632	6,085,658	4,632,390	5,732,524	6,182,818
Q'land ...	1,810,294	2,483,400	2,943,181	1,289,712	1,939,491	2,416,046
S. Aust.	1,598,666	1,780,215	1,887,100	1,441,006	1,685,153	1,847,891
W. Aust.	218,775	719,917	1,395,217	156,807	384,624	986,135
Tasmania	691,776	828,267	954,576	611,701	754,949	898,552
Total						
C'with.	14,545,492	18,514,475	21,108,803	12,359,606	16,329,002	19,417,043

(iii.) *The Commonwealth Annual Rates of Mortality.* The following table furnishes for the Commonwealth as a whole a comparative view of the annual rates of mortality for each sex and age in each of the three decennia embraced in the investigation:—

## COMMONWEALTH ANNUAL RATES OF MORTALITY.

AGE. (x)	Commonwealth Rate of Mortality during each Year of Age per 1000 Persons who Entered upon such Age (1000 $q_x$ ).					
	MALES.			FEMALES.		
	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.
0	132.48	118.40	95.10	115.72	101.39	79.53
1	34.93	26.36	17.80	33.53	24.76	16.65
2	13.68	9.76	6.75	13.27	9.58	6.29
3	8.87	6.27	4.39	8.30	6.15	4.11
4	6.88	4.96	3.49	6.45	4.87	3.24
5	5.37	3.98	2.81	4.98	3.88	2.58
6	4.32	3.29	2.35	3.91	3.20	2.14
7	3.72	2.90	2.09	3.22	2.78	1.91
8	3.29	2.60	1.96	2.83	2.44	1.75
9	2.90	2.39	1.84	2.60	2.19	1.63
10	2.53	2.25	1.79	2.39	2.00	1.59
11	2.32	2.14	1.79	2.23	1.84	1.63
12	2.32	2.14	1.84	2.23	1.79	1.75
13	2.53	2.30	1.98	2.39	1.89	1.84
14	2.97	2.53	2.25	2.64	2.14	2.00
15	3.72	2.90	2.55	2.99	2.48	2.19
16	4.64	3.29	2.81	3.45	2.90	2.44
17	5.44	3.70	3.03	3.95	3.26	2.69
18	6.08	4.09	3.31	4.43	3.49	2.90
19	6.63	4.43	3.49	4.89	3.70	3.10
20	7.14	4.73	3.70	5.28	3.88	3.29
21	7.57	5.03	3.91	5.65	4.14	3.49
22	7.91	5.33	4.04	5.92	4.43	3.70
23	8.21	5.63	4.18	6.22	4.73	3.88
24	8.48	5.95	4.34	6.56	5.03	4.09
25	8.62	6.17	4.48	7.02	5.33	4.30
26	8.67	6.38	4.64	7.48	5.65	4.48
27	8.67	6.59	4.78	7.82	5.88	4.69
28	8.67	6.72	4.94	8.07	6.08	4.89
29	8.67	6.82	5.03	8.23	6.27	5.03
30	8.67	6.98	5.19	8.28	6.52	5.19
31	8.71	7.18	5.40	8.25	6.82	5.40
32	8.80	7.36	5.58	8.30	7.14	5.58
33	8.96	7.62	5.79	8.46	7.43	5.79
34	9.21	7.91	6.04	8.71	7.73	5.99
35	9.51	8.21	6.33	9.01	7.98	6.17
36	9.81	8.51	6.63	9.35	8.16	6.38
37	10.10	8.80	6.98	9.72	8.37	6.59
38	10.44	9.10	7.86	10.01	8.53	6.77
39	10.83	9.40	7.78	10.26	8.53	6.98
40	11.29	9.69	8.16	10.40	8.37	7.18
41	11.77	9.99	8.60	10.54	8.21	7.36
42	12.31	10.33	9.10	10.79	8.21	7.57
43	12.90	10.79	9.65	11.08	8.39	7.73
44	13.56	11.29	10.24	11.38	8.76	7.87
45	14.24	11.83	10.83	11.67	9.17	8.07
46	14.97	12.43	11.42	12.02	9.56	8.25
47	15.83	13.02	12.04	12.47	9.94	8.51
48	16.71	13.65	12.61	12.97	10.40	8.80
49	17.64	14.38	13.27	13.45	10.88	9.15
50	18.61	15.22	13.95	13.99	11.42	9.56
51	19.65	16.17	14.63	14.63	12.02	9.99
52	20.78	17.19	15.38	15.38	12.65	10.54
53	22.00	18.32	16.22	16.22	13.45	11.17

## COMMONWEALTH ANNUAL RATES OF MORTALITY—Continued.

AGE. (x)	Commonwealth Rate of Mortality during each Year of Age per 1000 Persons who Entered upon such Age (1000 $q_x$ ).					
	MALES.			FEMALES.		
	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.
54	23.33	19.58	17.14	17.14	14.38	11.92
55	24.74	21.07	18.16	18.18	15.42	12.77
56	26.20	22.67	19.34	19.27	16.56	13.70
57	27.66	24.38	20.71	20.37	17.78	14.76
58	29.15	26.20	22.29	21.57	19.16	16.06
59	30.72	28.13	24.00	22.74	20.71	17.53
60	32.30	30.27	25.84	23.95	22.45	19.20
61	33.99	32.64	27.88	25.26	24.25	21.01
62	35.86	35.28	30.12	26.67	26.15	22.97
63	38.19	38.23	32.57	28.30	28.15	25.12
64	41.37	41.44	35.37	30.96	30.23	27.45
65	45.82	44.96	38.59	35.50	32.39	29.98
66	50.79	48.50	42.30	40.62	34.73	32.72
67	55.29	51.82	46.44	44.70	37.21	35.77
68	59.00	54.96	51.06	47.82	40.00	39.16
69	61.96	57.87	56.11	50.29	43.16	43.14
70	64.16	60.54	61.62	52.19	46.72	47.77
71	66.72	63.69	67.60	54.13	50.84	53.04
72	70.99	68.63	74.15	57.16	55.70	58.87
73	77.13	75.22	81.22	61.83	60.49	65.02
74	84.64	82.34	88.62	68.42	66.36	71.35
75	92.72	90.11	96.10	76.37	76.30	77.79
76	101.16	98.70	103.69	84.90	85.13	84.31
77	109.96	108.15	111.58	93.75	94.27	91.01
78	118.83	117.92	119.88	103.19	103.23	98.01
79	127.57	127.99	128.68	113.46	112.60	105.42
80	136.46	138.39	137.95	124.47	122.35	113.33
81	145.68	149.06	147.74	136.21	131.92	121.85
82	155.42	160.52	158.76	148.67	141.80	131.00
83	165.92	172.19	170.91	161.56	152.50	140.91
84	177.09	184.09	183.66	174.68	163.45	151.97
85	188.95	196.29	197.01	187.79	174.63	164.59
86	201.42	208.21	210.92	200.87	186.51	178.70
87	214.49	220.39	225.73	213.95	199.02	193.81
88	228.12	232.76	241.82	227.00	212.14	209.38
89	242.26	245.29	259.07	240.22	225.81	225.38
90	256.90	258.38	277.36	253.59	239.99	242.21
91	271.99	271.99	296.60	267.07	254.63	260.17
92	287.46	286.01	316.72	280.68	270.09	279.16
93	303.29	300.79	337.57	294.53	286.64	299.06
94	319.78	317.00	359.07	309.16	304.85	319.75
95	337.23	334.83	381.11	324.87	325.67	341.45
96	355.52	354.46	403.60	341.54	349.47	364.71
97	374.83	376.05	426.41	359.04	376.48	389.62
98	395.68	399.28	449.46	377.60	406.83	415.84
99	426.05	431.77	480.02	405.95	446.61	450.50
100	473.92	481.14	525.36	452.82	501.91	500.73
101	547.27	555.01	592.75	526.94	578.82	573.66
102	654.08	661.00	689.46	637.04	683.43	676.42
103	802.33	806.73	822.76	791.85	821.83	816.14
104	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00

The following is an example of the method of interpreting this table:—According to the Australian experience for the decennium 1881-90, out of each 1000 males who reached age thirty, the number who, on the average, died before reaching age thirty-one was 8.67. The corresponding numbers for the experience of 1891-1900 and 1901-10 were 6.98 and 5.19 respectively.

(iv.) *Survivors out of 100,000 at Birth.* The next table shews for each sex the number of persons who, out of 100,000 at birth, would survive each successive age if the mortality experience of the Commonwealth as a whole in the three decennia under review remained in force throughout life :—

**SURVIVORS OUT OF 100,000 AT BIRTH (COMMONWEALTH MORTALITY EXPERIENCE).**

AGE. (x)	Numbers who Survive each Age out of 100,000 at Birth ( $l_x$ ).					
	MALES.			FEMALES.		
	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.
0	100,000	100,000	100,000	100,000	100,000	100,000
1	86,752	88,160	90,490	88,428	89,861	92,047
2	83,722	85,836	88,879	85,463	87,635	90,515
3	82,577	84,998	88,280	84,330	86,796	89,946
4	81,845	84,466	87,892	83,630	86,262	89,576
5	81,281	84,047	87,585	83,090	85,842	89,285
6	80,844	83,712	87,339	82,676	85,509	89,055
7	80,495	83,437	87,134	82,353	85,235	88,865
8	80,196	83,196	86,952	82,088	84,998	88,695
9	79,932	82,979	86,782	81,856	84,791	88,540
10	79,700	82,781	86,622	81,643	84,606	88,395
11	79,499	82,594	86,467	81,448	84,436	88,255
12	79,314	82,418	86,312	81,266	84,281	88,111
13	79,130	82,241	86,153	81,085	84,130	87,957
14	78,930	82,052	85,982	80,891	83,971	87,795
15	78,696	81,845	85,789	80,677	83,792	87,619
16	78,403	81,607	85,570	80,436	83,583	87,428
17	78,039	81,339	85,330	80,159	83,341	87,215
18	77,614	81,038	85,071	79,842	83,069	86,980
19	77,142	80,707	84,789	79,488	82,779	86,728
20	76,630	80,349	84,493	79,099	82,473	86,459
21	76,083	79,969	84,180	78,681	82,152	86,175
22	75,507	79,566	83,851	78,237	81,813	85,874
23	74,910	79,143	83,512	77,773	81,450	85,556
24	74,295	78,697	83,163	77,289	81,064	85,224
25	73,665	78,229	82,802	76,782	80,657	84,875
26	73,030	77,746	82,431	76,243	80,227	84,510
27	72,397	77,250	82,048	75,673	79,774	84,132
28	71,770	76,741	81,656	75,081	79,305	83,738
29	71,148	76,225	81,253	74,475	78,822	83,328
30	70,531	75,706	80,844	73,862	78,329	82,909
31	69,920	75,178	80,425	73,250	77,818	82,478
32	69,311	74,638	79,991	72,646	77,288	82,033
33	68,701	74,088	79,544	72,043	76,736	81,576
34	68,085	73,524	79,082	71,433	76,166	81,104
35	67,457	72,942	78,607	70,811	75,577	80,618
36	66,816	72,344	78,109	70,173	74,974	80,120
37	66,161	71,728	77,591	69,517	74,362	79,609
38	65,492	71,097	77,050	68,841	73,739	79,084
39	64,808	70,450	76,482	68,152	73,111	78,549
40	64,106	69,788	75,887	67,453	72,487	78,001
41	63,383	69,111	75,268	66,751	71,880	77,441
42	62,637	68,421	74,621	66,048	71,290	76,871
43	61,866	67,714	73,942	65,336	70,705	76,289
44	61,067	66,984	73,228	64,612	70,112	75,699
45	60,239	66,228	72,479	63,876	69,498	75,103
46	59,381	65,444	71,694	63,131	68,860	74,497
47	58,492	64,631	70,875	62,372	68,202	73,882
48	57,567	63,790	70,021	61,594	67,524	73,254
49	56,604	62,919	69,139	60,795	66,822	72,609
50	55,606	62,014	68,221	59,978	66,095	71,945
51	54,571	61,070	67,270	59,138	65,340	71,257
52	53,498	60,083	66,286	58,273	64,555	70,546
53	52,387	59,050	65,266	57,377	63,738	69,802

## SURVIVORS OUT OF 100,000 AT BIRTH (COMMONWEALTH MORTALITY EXPERIENCE)—Continued.

AGE. (x)	Numbers who Survive each Age out of 100,000 at Birth ( $l_x$ ).					
	MALES.			FEMALES.		
	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.
54	51,234	57,968	64,208	56,447	62,881	69,022
55	50,039	56,833	63,107	55,479	61,977	68,199
56	48,801	55,635	61,961	54,470	61,021	67,329
57	47,523	54,374	60,763	53,421	60,011	66,406
58	46,208	53,048	59,505	52,332	58,944	65,426
59	44,861	51,658	58,178	51,204	57,815	64,375
60	43,483	50,205	56,782	50,039	56,617	63,247
61	42,078	48,686	55,315	48,840	55,346	62,033
62	40,648	47,097	53,772	47,607	54,005	60,730
63	39,190	45,435	52,153	46,337	52,592	59,335
64	37,694	43,698	50,455	45,026	51,112	57,844
65	36,134	41,887	48,670	43,631	49,567	56,256
66	34,479	40,004	46,792	42,082	47,961	54,570
67	32,727	38,064	44,813	40,373	46,296	52,784
68	30,918	36,091	42,732	38,568	44,573	50,896
69	29,094	34,108	40,550	36,724	42,790	48,902
70	27,291	32,134	38,275	34,877	40,943	46,793
71	25,540	30,188	35,916	33,057	39,030	44,557
72	23,836	28,266	33,488	31,267	37,046	42,194
73	22,144	26,326	31,005	29,480	34,982	39,710
74	20,436	24,346	28,487	27,657	32,831	37,128
75	18,706	22,341	25,962	25,765	30,587	34,479
76	16,971	20,328	23,467	23,797	28,253	31,797
77	15,255	18,321	21,034	21,777	25,848	29,116
78	13,577	16,340	18,637	19,736	23,412	26,466
79	11,964	14,413	16,447	17,699	20,995	23,872
80	10,438	12,568	14,330	15,691	18,631	21,356
81	9,013	10,829	12,354	13,738	16,351	18,935
82	7,700	9,215	10,528	11,867	14,194	16,628
83	6,503	7,736	8,857	10,103	12,181	14,450
84	5,424	6,404	7,343	8,470	10,324	12,414
85	4,464	5,225	5,995	6,991	8,636	10,527
86	3,620	4,199	4,814	5,678	7,128	8,795
87	2,891	3,325	3,798	4,537	5,799	7,223
88	2,271	2,592	2,941	3,567	4,645	5,823
89	1,753	1,989	2,230	2,757	3,659	4,604
90	1,328	1,501	1,652	2,095	2,833	3,566
91	987	1,113	1,194	1,564	2,153	2,703
92	719	810	840	1,146	1,605	1,999
93	512	579	574	824	1,171	1,441
94	357	405	380	582	836	1,010
95	243	276	244	402	581	637
96	161	184	151	271	392	453
97	104	119	90	179	255	288
98	65	74	52	114	159	175
99	39	44	28	71	94	103
100	22	25	15	42	52	56
101	12	13	7	23	26	28
102	5	6	3	11	11	12
103	2	2	1	4	3	4
104	...	...	...	1	1	1

The following is an example of the method of interpreting this table:—If the rates of mortality experienced in Australia during the decennium 1881-90 remained in operation throughout the lifetime of a group of males who numbered 100,000 at birth, the number surviving at age thirty would be 70,531. The corresponding numbers for the experience of 1891-1900 and 1901-10 are 75,706 and 80,844 respectively.

(v.) *Expectation of Life.* The final table furnishes for each of the three decennia under review and for each sex the expectation of life at each age from 0 upwards in respect of the Commonwealth as a whole.

For any given mortality table the "expectation of life" at any age is the further period which, on the average, will be lived by the persons attaining that age, on the assumption that the rates of mortality disclosed by the table are experienced.

## COMMONWEALTH EXPECTATION OF LIFE.

AGE. (x)	Expectation of Life at each Age ( $e_x$ ).					
	MALES.			FEMALES.		
	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.
0	47.199	51.076	55.200	50.844	54.756	58.837
1	53.343	56.881	59.962	56.444	59.888	62.886
2	54.262	57.413	60.044	57.390	60.401	62.945
3	54.008	56.975	59.449	57.155	59.981	62.341
4	53.487	56.331	58.709	56.630	59.349	61.597
5	52.855	55.609	57.913	55.995	58.637	60.796
6	52.138	54.880	57.075	55.273	57.863	59.952
7	51.362	54.009	56.208	54.488	57.048	59.079
8	50.552	53.164	55.325	53.662	56.206	58.191
9	49.717	52.302	54.432	52.813	55.342	57.292
10	48.861	51.426	53.532	51.949	54.462	56.385
11	47.983	50.541	52.627	51.072	53.570	55.474
12	47.094	49.648	51.720	50.186	52.668	54.564
13	46.202	48.754	50.815	49.297	51.761	53.658
14	45.318	47.865	49.915	48.414	50.858	52.756
15	44.451	46.984	49.026	47.541	49.966	51.861
16	43.615	46.120	48.150	46.682	49.090	50.974
17	42.816	45.270	47.284	45.841	48.231	50.097
18	42.048	44.437	46.427	45.021	47.387	49.231
19	41.302	43.617	45.579	44.219	46.551	48.372
20	40.575	42.809	44.737	43.434	45.722	47.521
21	39.863	42.010	43.902	42.662	44.899	46.676
22	39.163	41.220	43.072	41.902	44.083	45.838
23	38.471	40.438	42.245	41.149	43.277	45.007
24	37.785	39.664	41.420	40.403	42.481	44.180
25	37.104	38.898	40.599	39.667	41.692	43.360
26	36.422	38.137	39.779	38.944	40.913	42.545
27	35.736	37.379	38.962	38.233	40.143	41.733
28	35.044	36.623	38.147	37.531	39.377	40.927
29	34.346	35.868	37.333	36.832	38.615	40.126
30	33.642	35.110	36.520	36.133	37.855	39.327
31	32.932	34.353	35.707	35.431	37.100	38.530
32	32.217	33.598	34.898	34.722	36.351	37.736
33	31.499	32.844	34.092	34.008	35.609	36.944
34	30.779	32.092	33.288	33.294	34.872	36.156
35	30.061	31.344	32.486	32.582	34.140	35.371
36	29.345	30.599	31.690	31.874	33.410	34.588
37	28.630	29.858	30.898	31.170	32.681	33.807
38	27.917	29.118	30.112	30.471	31.953	33.028
39	27.207	28.381	29.331	29.774	31.223	32.250
40	26.499	27.645	28.557	29.077	30.488	31.473
41	25.796	26.911	27.788	28.378	29.741	30.697
42	25.097	26.178	27.025	27.675	28.983	29.920
43	24.403	25.446	26.268	26.971	28.219	29.145
44	23.716	24.717	25.520	26.268	27.453	28.368
45	23.035	23.994	24.778	25.564	26.691	27.589
46	22.361	23.275	24.044	24.860	25.934	26.810
47	21.693	22.562	23.316	24.157	25.179	26.029
48	21.033	21.853	22.594	23.455	24.427	25.247
49	20.383	21.148	21.876	22.757	23.678	24.467
50	19.740	20.450	21.163	22.060	22.933	23.688
51	19.104	19.758	20.456	21.366	22.192	22.912
52	18.477	19.074	19.752	20.676	21.456	22.138



## COMMONWEALTH EXPECTATION OF LIFE—Continued.

AGE. (x)	Expectation of Life at each Age ( $e_x$ ).					
	MALES.			FEMALES.		
	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.	Decennium 1881-90.	Decennium 1891-1900.	Decennium 1901-10.
53	17.859	18.399	19.053	19.991	20.725	21.369
54	17.249	17.733	18.358	19.312	20.000	20.605
55	16.649	17.077	17.670	18.640	19.285	19.847
56	16.059	16.434	16.987	17.976	18.579	19.097
57	15.477	15.803	16.312	17.319	17.883	18.355
58	14.903	15.186	15.646	16.669	17.198	17.623
59	14.336	14.581	14.992	16.026	16.524	16.902
60	13.774	13.988	14.348	15.387	15.863	16.195
61	13.217	13.409	13.715	14.752	15.215	15.502
62	12.665	12.844	13.094	14.121	14.581	14.823
63	12.117	12.296	12.485	13.495	13.959	14.160
64	11.578	11.765	11.888	12.873	13.348	13.512
65	11.056	11.252	11.306	12.268	12.749	12.879
66	10.563	10.757	10.739	11.701	12.159	12.262
67	10.101	10.280	10.191	11.175	11.578	11.659
68	9.663	9.815	9.663	10.675	11.006	11.073
69	9.237	9.356	9.156	10.185	10.444	10.504
70	8.815	8.900	8.670	9.698	9.892	9.955
71	8.385	8.442	8.207	9.205	9.352	9.429
72	7.949	7.982	7.765	8.703	8.826	8.929
73	7.518	7.533	7.347	8.200	8.317	8.456
74	7.104	7.105	6.952	7.708	7.829	8.009
75	6.715	6.698	6.580	7.237	7.367	7.586
76	6.350	6.312	6.226	6.794	6.934	7.183
77	6.009	5.948	5.889	6.377	6.532	6.799
78	5.690	5.609	5.566	5.985	6.160	6.430
79	5.390	5.293	5.257	5.617	5.812	6.074
80	5.106	4.997	4.960	5.272	5.486	5.731
81	4.835	4.720	4.675	4.950	5.182	5.401
82	4.575	4.460	4.400	4.653	4.894	5.081
83	4.326	4.219	4.137	4.379	4.621	4.772
84	4.089	3.994	3.889	4.128	4.364	4.474
85	3.864	3.785	3.654	3.897	4.121	4.158
86	3.651	3.591	3.431	3.686	3.889	3.916
87	3.448	3.407	3.218	3.489	3.668	3.661
88	3.257	3.233	3.014	3.307	3.459	3.423
89	3.076	3.067	2.821	3.136	3.259	3.200
90	2.906	2.908	2.639	2.975	3.068	2.990
91	2.744	2.754	2.468	2.822	2.885	2.791
92	2.590	2.604	2.308	2.676	2.706	2.603
93	2.443	2.456	2.157	2.534	2.530	2.426
94	2.299	2.308	2.016	2.393	2.354	2.257
95	2.157	2.159	1.883	2.252	2.177	2.095
96	2.016	2.008	1.755	2.109	2.000	1.936
97	1.869	1.853	1.629	1.958	1.821	1.779
98	1.710	1.689	1.499	1.793	1.638	1.616
99	1.526	1.502	1.351	1.599	1.442	1.438
100	1.315	1.293	1.180	1.373	1.233	1.240
101	1.086	1.066	.989	1.125	1.015	1.027
102	.841	.830	.786	.868	.795	.806
103	.598	.593	.583	.610	.577	.585
104	.347	.350	.373	.342	.361	.359

The following is an example of the method of interpreting this table:—If the rates of mortality experienced in Australia during the decennium 1881-90 had remained in operation throughout the lifetime of any group of males, the average period beyond age thirty lived by each of those who reached age thirty would have been 33.642 years. The corresponding figures for the experience of 1891-1900 and 1901-10 are 35.110 and 36.520 respectively.

### § 5. 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 217 and 218), shewing these fluctuations from 1860 to 1917, both for the States and the Commonwealth. The facts are very significant from the national point of view, and call for serious consideration. To properly appreciate the situation it should be remembered that, normally, the increase of births and also of marriages will be similar to the increase of population. Although the marriage curve shows a falling off in marriages after 1891 (see page 218), it shews a recovery in 1894, and, with the exception of a small fall for 1903, it continually advanced until 1915. In 1916 and 1917 a heavy falling off was recorded, unquestionably owing to the European War. The same characteristic is not seen in the curve of births, which, from 1904 onwards, rose continually to 1914, when there was a decline to 1917.

#### ACTUAL BIRTHS, DEATHS, AND MARRIAGES

EXPERIENCED IN THE COMMONWEALTH DURING THE YEARS 1890 TO 1917,  
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	111,002	43,080	49,501	21,564	26,428
1896	100,134	123,212	45,202	50,405	23,068	26,911
1897	101,137	125,419	43,447	51,308	23,939	27,393
1898	98,845	127,371	51,406	52,106	24,472	27,819
1899	100,638	129,088	47,629	52,809	25,958	28,194
1900	102,221	130,848	44,060	53,529	27,101	28,579
1901	102,945	132,599	46,330	54,245	27,753	28,961
1902	102,776	134,603	48,078	55,065	27,926	29,399
1903	98,443	136,189	47,293	55,714	25,977	29,745
1904	104,113	137,917	43,572	56,420	27,682	30,122
1905	104,941	139,959	43,514	57,256	29,004	30,569
1906	107,890	142,030	44,333	58,103	30,410	31,021
1907	110,347	144,248	45,305	59,011	32,470	31,505
1908	111,545	146,720	46,426	60,022	32,551	32,045
1909	114,071	149,526	44,172	61,170	33,775	32,658
1910	116,801	152,869	45,590	62,537	36,592	33,387
1911	122,193	157,072	47,869	64,257	39,482	34,306
1912	133,088	162,477	52,177	66,468	42,147	35,487
1913	135,714	168,032	51,789	68,740	41,594	36,700
1914	137,983	172,073	51,720	70,394	43,311	37,583
1915	134,871	173,159	52,782	70,838	45,224	37,820
1916	131,426	171,654	54,197	70,222	40,289	37,491
1917	129,965	171,484	48,029	70,153	33,666	37,454

The table printed above 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 the extent to which it is desirable to promote immigration.

**2. Graphs of Annual Births, Commonwealth and States** (page 217).—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. From 1904 to 1914 there was a gradual rise, followed in 1915, 1916 and 1917 by a continuous decline.

In the case of Victoria the graph shews the increase between 1860 and 1880 to have been comparatively slight, the curve being a gradual rise, with fluctuations more or less marked to 1873, with a subsequent decline. From 1880 to 1891 the increase in the number of births is seen to be very rapid and practically continuous, while from 1891 to 1898 an equally sharp and continuous decline was experienced. A further rise and fall took place between 1898 and 1903, succeeded by a continuous rise from the last-mentioned year to 1907, and a slight fall in 1908, followed by a recovery in 1909. A slight fall in 1910 was followed by a continuous rise to 1914, since which year a continuous decline has been experienced.

Starting in 1860 with a lower number of births than any State except Western Australia, the Queensland graph shews that the births increased somewhat rapidly until 1867. The equality in the number of births in Queensland and Tasmania in 1864 is shewn by the Queensland curve crossing the Tasmanian curve at the line for that year. From 1867 to 1882 a continuous though somewhat less rapid increase was experienced, followed by a very rapid rise to 1890, in which year Queensland's maximum number of births prior to 1909 and subsequent years was recorded. The South Australian graph is crossed by that of Queensland at the year 1885. From 1890 onwards the number of births has fluctuated somewhat, but has, on the whole, retained a practically stationary position at a height rather less than that of 1890. The most serious variation was a sudden fall in 1903, the drought year, and rapid recovery in 1904, with a further fall in 1905, and a continuous rise from 1906 to 1915. In 1916 there was a sudden fall, followed by a rapid rise in 1917.

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 1914. In 1915 there was a rapid fall, a slight rise in 1916, and a further fall in 1917.

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 to 1914, a period of steady recovery. Since 1914 there has been a continuous fall.

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 to 1906. A slight fall was apparent to 1910, followed by a rapid rise to 1913. Since 1913 there has been a decline.

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 ...	1914	1891	1915	1914	1913	1914	1914

3. **Graphs of Annual Marriages, Commonwealth and States** (page 218).—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 was 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 1915 was greater than in any preceding year. In 1916, and 1917, as already mentioned, there was a heavy falling off.

4. **Graphs of Annual Deaths, Commonwealth and States** (page 219).—The curves shewing the progression of the annual number of deaths indicate clearly that the periods for which exceptionally large numbers of deaths occurred were:—(a) 1866-7, (b) 1875-6, (c) 1884-5, (d) 1889-1891, (e) 1893, (f) 1898, and (g) 1902-3. It is remarkable that in each of the periods specified the phenomenon of a relatively high number of deaths was experienced in the majority of the States. Thus, as regards 1866-7, all the States except Western Australia and Tasmania were so affected; in 1875-6 all except Western Australia; in 1884-5 all were affected; in 1889 all except Western Australia and South Australia; in 1891 all except Queensland; whilst in 1893, 1898, and 1902-3, all were affected. The fact that the periods of high death rates have been practically identical in the several States furnishes an indication that the excessive mortality has been due to a considerable extent to some common cause operating throughout the Commonwealth.

It may be noted as curious that periods of heavy mortality have occurred at intervals of approximately nine years, viz.:—1866-7, 1875-6, 1884-5, 1893, and 1902-3. There are, however, two marked increases between the third and fourth dates, and one between the fourth and fifth.

Periods in which the number of deaths was exceptionally low are far less clearly defined than those in which the number was high, and the agreement amongst the States is also less complete. The principal periods of low mortality may be said to be 1861, 1869-71, 1879, 1892, 1897, 1900, 1904-5, 1909, 1914. In 1917 there were marked declines in all the States.

5. **Graphs of Annual Birth, Death, and Marriage Rates and of Rate of Natural Increase—Commonwealth** (page 220).—(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 1917.

(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 26.51 per 1000 in 1917. 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 26.51 in 1917. The lowest point reached, viz., 25.29, was attained in 1903, the year in which the Commonwealth suffered severely from the worst drought it has ever experienced. From 1903 to 1912 there was an advance in the rate, followed by a decline to 1917. 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. The highest birth rate recorded was 43.27 in 1862.

(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 general death rate of the Commonwealth, a fall having taken place from 20.86 in 1860 to 10.66 in 1915. In 1916 there was a slight rise to 11.04, followed in 1917 by a fall to 9.80, the lowest rate yet recorded in the Commonwealth as a whole. 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 11.47 in 1917. For females the highest was 20.71 in 1860, and the lowest 8.18 in 1917. The difference between the male and female rate has, since 1869, been fairly constant, and has ranged between 1.97 and 3.44, with a mean value of about 2.7.

(iv.) *Marriages.* In the case of the graph representing marriage rates, the fluctuations are less abrupt than in the case of the birth rate and death rate graphs, and the rate for 1915, 9.14, the highest ever recorded, 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. In 1916 and 1917 the rate declined to 8.21 and 6.87 respectively.

(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** (page 221).—These graphs furnish for the several States information similar to that supplied in the graph on page 220 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 most cases a slight tendency to increase is in evidence.

The highest birth rates during the period were as follows:—New South Wales (1864), 44.00; Victoria (1862), 44.71; Queensland (1860), 47.93; South Australia (1862), 45.44; Western Australia (1860), 38.96; and Tasmania (1884), 36.63. The following were the lowest rates for the period:—New South Wales (1903), 25.44; Victoria (1917), 23.50; Queensland (1903), 24.53; South Australia (1903), 23.84; Western Australia (1896), 23.44; Tasmania (1917), 27.03.

**7. Graphs of Annual Death Rates—States** (page 221).—These graphs furnish for the several States similar information to that given for the Commonwealth as a whole in the diagram on page 220, 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 (1917), 9.60; Victoria (1917), 10.36; Queensland (1906), 9.50; South Australia (1909), 9.74; Western Australia (1917), 8.97; and Tasmania (1917), 8.89.

**8. Graphs shewing Variations in Annual Death Rates from Month to Month.**—The graphs on pages 222 and 223 shew for the Commonwealth as a whole and for each of the six States the annual death rates for males, females, and persons calculated for equalised months, and the infantile death rate, calculated in the same way, and also distinguishing males, females, and persons. Further particulars in regard to these graphs will be found on pages 202 and 203.