

## SECTION V. VITAL STATISTICS.

**NOTE.**—The rates quoted throughout this Section for the years 1908 to 1918 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, 1908 to 1918.—The total number of male and female births registered in the Commonwealth during the years 1908 to 1919 is shewn in the two tables hereunder :—

#### TOTAL MALE BIRTHS, COMMONWEALTH, 1908 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Federal Territory.	Commonwealth.
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
1918 ..	26,002	16,172	10,080	5,787	3,615	2,717	59	26	64,458

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

#### TOTAL FEMALE BIRTHS, COMMONWEALTH, 1908 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Federal Territory.	Commonwealth.
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
1918 ..	24,707	15,425	9,456	5,570	3,491	2,563	46	23	61,281

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

2. Total Births, 1908 to 1918.—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 four years shew a falling off for the Commonwealth as compared with those for 1913 and 1914, the births recorded for 1918 being the lowest for any year since 1911.

## TOTAL BIRTHS, COMMONWEALTH, 1908 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	C'wealth.
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
1918 ..	50,709	31,597	19,536	11,357	7,106	5,280	105	49	125,739

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

3. Birth Rates, 1908 to 1918.—(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 6,000 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 subsequent years show decreases in the rate, that for 1918 having fallen below 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, 1908 TO 1918.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Territory.	C'wth.
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
1918 ..	26.53	22.29	28.37	25.80	22.84	25.91	21.03	20.19	25.25
Density (b) (No. per square mile) ..	6.24	16.28	1.04	1.17	0.32	7.97	0.019	2.37	1.69

(a) Number of births per 1,000 of the mean annual population. (b) On 31st December, 1918.

(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, however, 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 1,000 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 1,000 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 shows that the Australian States occupy a rather 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	Tasmania ..	1918	25.9
Rumania ..	1914	42.5	South Australia ..	1918	25.8
Bulgaria ..	1911	40.2	New Zealand ..	1917	25.6
Serbia ..	1912	38.0	United States (b) ..	1910	25.4
Ceylon ..	1915	37.0	<b>Australia ..</b>	<b>1918</b>	<b>25.3</b>
Chile ..	1914	37.0	Denmark ..	1915	24.2
Hungary ..	1912	36.3	Norway ..	1915	23.8
Jamaica ..	1915	34.6	Western Australia ..	1918	22.8
Japan ..	1913	33.3	Scotland ..	1916	22.8
Austria ..	1912	31.3	Ontario (Canada) ..	1917	22.6
Italy ..	1914	31.1	Belgium ..	1912	22.6
Spain ..	1914	29.8	Victoria ..	1918	22.3
Queensland ..	1918	28.4	Sweden ..	1915	21.6
Prussia ..	1913	28.2	United Kingdom ..	1916	21.1
German Empire ..	1913	27.5	Ireland ..	1916	21.1
Finland ..	1914	26.9	England and Wales ..	1916	20.9
New South Wales ..	1918	26.5	Switzerland ..	1915	19.5
Netherlands ..	1915	26.2	France ..	1913	19.0

(a) Number of births per 1,000 of the mean population. (b) Figures for "provisional birth-registration area," which includes about 31 per cent. of the 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 1,000 women of child-bearing ages, the comparison shews very different results. The report for 1908 of the Registrar-General for England and Wales contains a table shewing the nuptial births per 1,000 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 1,000 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	<b>Australia ..</b>	<b>235.8</b>
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 excess of males over females per 100 births, 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 -0.09 in Tasmania in 1911 to 4.58 in South Australia in 1916. The following table, which gives the values for the States and Commonwealth for 1908 to 1918, shews the remarkable fact that for the Commonwealth there was a steady increase of masculinity from 1908 to 1910, with a sharp decrease in 1911 and 1912, and slight increases in every year from 1913 to 1917. In 1918 there was a distinct drop.

**MASCULINITY (a) OF BIRTHS REGISTERED, COMMONWEALTH, 1908 TO 1918.**

Year.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Territory.	C'wealth.
1908 ..	1.77	3.36	3.53	0.94	2.98	0.37	47.06	..	2.40
1909 ..	2.62	2.05	2.29	3.82	2.18	3.60	18.52	..	2.54
1910 ..	2.84	4.41	2.17	2.37	1.65	3.40	40.00	..	3.09
1911 ..	2.59	2.55	2.48	1.56	1.94	-0.09	3.23	(b)13.33	2.31
1912 ..	2.29	1.83	2.21	2.13	2.87	3.06	39.39	2.56	2.22
1913 ..	2.04	2.50	1.78	3.03	2.19	4.35	3.85	0.00	2.32
1914 ..	2.35	2.40	1.80	3.35	1.33	2.84	6.90	12.73	2.34
1915 ..	2.34	1.80	3.60	3.00	1.54	2.34	8.20	-6.38	2.39
1916 ..	2.21	2.95	2.29	4.58	3.68	1.84	18.92	20.63	2.73
1917 ..	2.97	4.26	1.66	1.75	2.97	1.19	21.74	-4.55	2.92
1918 ..	2.55	2.36	3.19	1.91	1.75	2.92	12.38	6.12	2.53

(a) Excess of males over females per 100 total births.

(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 3.98 to 1.77, and from 3.80 to 0.79 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 .. ..	3.98	3.80	German Empire ..	2.53	2.29
Rumania .. ..	3.71	1.67	Finland .. ..	2.44	2.53
Portugal .. ..	3.61	3.10	Hungary .. ..	2.44	1.43
Austria .. ..	2.82	2.68	Sweden .. ..	2.44	2.10
Italy .. ..	2.82	2.15	Denmark .. ..	2.34	2.44
Norway .. ..	2.82	2.87	Serbia .. ..	2.30	1.72
Ireland .. ..	2.68	2.34	France .. ..	2.25	1.43
Netherlands ..	2.68	2.29	Belgium .. ..	2.20	1.08
Scotland .. ..	2.68	2.87	Switzerland ..	2.20	0.79
Russia, European ..	2.63	2.20	England .. ..	1.77	2.15

(a) Excess of males over females per 100 total births.

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

**MASCULINITY (a) OF EX-NUPTIAL BIRTHS REGISTERED, COMMONWEALTH, 1908 TO 1918.**

Year	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Territory.	C'wth.
1908 ..	4.12	2.62	-1.61	-1.62	-5.64	2.72	20.00	..	1.96
1909 ..	2.66	1.07	1.91	2.61	12.72	12.67	-20.00	..	3.03
1910 ..	2.42	1.76	0.19	0.66	-5.43	3.36	33.33	..	1.50
1911 ..	0.86	3.20	-1.04	3.00	3.87	2.76	-55.56	..	1.53
1912 ..	4.68	-2.05	-1.37	9.44	10.88	-9.47	33.33	-100.00 <sup>(b)</sup>	1.98
1913 ..	0.75	2.81	3.09	4.92	4.93	18.69	14.29	0.00	3.01
1914 ..	4.44	3.92	2.26	5.20	3.61	0.85	14.29	..	3.73
1915 ..	-0.72	1.09	-0.37	0.85	0.26	0.32	-17.65	..	0.00
1916 ..	1.67	4.71	6.83	5.68	0.31	-5.26	-6.67	33.33	3.22
1917 ..	2.21	3.61	3.43	0.00	-7.65	5.63	25.00	-100.00	2.34
1918 ..	1.33	-1.68	5.07	6.14	-5.59	-0.36	14.29	..	0.24

(a) Excess of males over females per 100 total births. (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 in Tasmania in 1911), this has not been the case in regard to ex-nuptial births, since in Tasmania in 1912 the masculinity was only -9.47, while on the other hand it rose as high as 18.69 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 and 1918. (See the following table.)

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, 1908 TO 1918.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Territory.	C'wealth.
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	3	6,272
1917 ..	2,485	1,826	992	448	327	284	16	1	6,379
1918 ..	2,625	1,849	1,066	456	286	279	21	..	6,582

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

(i) *Rate of Ex-nuptiality, 1908 to 1918.* The rate of ex-nuptiality, i.e., the percentage on ex-nuptial to total births, has been gradually decreasing during the last ten years, on the whole, although 1917 and 1918 shewed an advance.

PERCENTAGE OF EX-NUPTIAL ON TOTAL BIRTHS, COMMONWEALTH,  
1908. TO 1918.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Territory.	C'wealth.
	%	%	%	%	%	%	%	%	%
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
1918 ..	5.18	5.85	5.46	4.02	4.02	5.28	20.00	..	5.23

(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 1,000 unmarried women of ages 15 to 45 has been found to be as follows:—Years 1880–82, 14.49; years 1890–92, 15.93; years 1900–02, 13.30; years 1910–12, 12.53. 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 1,000 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	<b>Australia .. .. .</b>	<b>13.3</b>
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, 1908 TO 1918.

Rates.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
Ex-nuptial	1.64	1.60	1.54	1.57	1.58	1.55	1.48	1.40	1.28	1.30	1.32
Nuptial ..	24.95	25.09	25.19	25.64	27.07	26.70	26.57	25.85	25.50	25.21	23.93
Total ..	26.59	26.69	26.73	27.21	28.65	28.25	28.05	27.25	26.78	26.51	25.25

(a) Number of births per 1,000 of mean population.

7. *Multiple Births.*—Among the total number of 125,739 births registered in the Commonwealth in 1918 there were 122,991 single births, 2,724 twins, and 24 triplets. The number of cases of twins was 1,362, and the number of cases of triplets 8. The total number of mothers was, therefore, 124,361, the proportion of mothers of twins being one in every 91, and of mothers of triplets one in every 15,545 of total mothers.

The proportion of multiple births is a fairly constant one. In 1908 they numbered 1,065, or one in 104; in 1909, 1,142, or one in 99; in 1910, 1,189, or one in 99; in 1911, 1,236, or one in 98; in 1912, 1,350, or one in 98; in 1913, 1,369, or one in 99; in 1914, 1,401, or one in 97; in 1915, 1,417, or one in 94; in 1916, 1,383, or one in 95; in 1917, 1,477, or one in 86; and in 1918, 1,370, or one in 91. The number of cases of triplets is so small that a slight alteration in the total will completely change the proportion. Thus, they were one in 18,415 in 1908; one in 8,066 in 1909, one in 8,893 in 1910, one in 8,639 in 1911, one in 8,233 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, one in 7,558 in 1917, and one in 15,545 in 1918. A case of quadruplets occurred in 1917, the only one registered by the Commonwealth Bureau of Census and Statistics since its inception.

8. Ages of Parents.—The relative ages of the parents of children registered in 1918 have been tabulated separately for male and female births, twins and triplets being distinguished from single births, and are shewn for single ages and for every State in "Bulletin of Population and Vital Statistics, No. 36; Commonwealth Demography, 1918 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 single births occurred where the ages of both father and mother were between 25 and 29. The largest number of mothers was also found at ages 25 to 29.

(a) AGES OF PARENTS IN CASES OF SINGLE BIRTHS, COMMONWEALTH, 1918.

Ages of Fathers.	Total Children.	Ages of Mothers.									
		Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and upwards.	Un-specified	
Under 20	Males ..	200	144	53	3	..	..	..	..	..	
	Females ..	228	160	58	9	..	..	..	..	..	
	Total ..	428	304	111	12	..	..	..	..	..	
20 to 24	Males ..	4,985	932	3,240	724	72	16	1	..	..	
	Females ..	4,732	893	3,031	713	80	12	2	..	..	
	Total ..	9,717	1,825	6,271	1,437	152	28	3	..	..	
25 to 29	Males ..	15,047	497	5,794	7,164	1,406	165	20	..	..	
	Females ..	14,266	523	5,473	6,795	1,269	189	10	2	..	
	Total ..	29,313	1,020	11,267	13,959	2,675	354	30	2	..	
30 to 34	Males ..	15,752	160	2,258	6,375	5,842	1,030	85	5	..	
	Females ..	14,841	133	2,166	6,064	5,506	890	75	4	1	
	Total ..	30,593	293	4,424	12,439	11,350	1,920	160	6	1	
35 to 39	Males ..	11,629	50	469	2,385	4,503	3,411	401	10	..	
	Females ..	10,969	45	698	2,344	4,301	3,214	365	2	..	
	Total ..	22,598	95	1,367	4,729	8,804	6,625	766	12	..	
40 to 44	Males ..	6,666	10	187	759	1,917	2,601	1,150	36	..	
	Females ..	6,313	14	175	703	1,767	2,520	1,102	32	..	
	Total ..	12,979	24	362	1,462	3,684	5,121	2,258	68	..	
45 to 49	Males ..	3,574	4	72	275	775	1,372	957	119	..	
	Females ..	3,539	8	71	292	791	1,298	1,001	138	..	
	Total ..	7,113	12	143	567	1,566	2,670	1,958	257	..	
50 to 54	Males ..	1,379	1	25	93	240	438	475	100	..	
	Females ..	1,224	4	20	73	207	408	433	79	..	
	Total ..	2,603	5	45	166	456	844	908	179	..	
55 to 59	Males ..	437	1	6	31	71	126	159	43	..	
	Females ..	404	1	14	28	68	125	128	39	1	
	Total ..	841	2	20	59	139	251	287	82	1	
60 to 64	Males ..	105	..	..	10	20	32	36	7	..	
	Females ..	128	1	4	7	26	37	40	13	..	
	Total ..	233	1	4	17	46	69	76	20	..	
65 and upwards	Males ..	50	..	1	3	7	18	13	1	..	
	Females ..	50	..	3	5	16	13	6	7	..	
	Total ..	93	..	4	8	23	31	19	8	..	
Not stated	Males ..	7	..	1	1	1	1	..	..	1	
	Females ..	3	..	..	1	1	1	..	..	..	
	Total ..	10	..	1	2	2	2	..	..	1	
Nuptial children	Males ..	59,824	1	1,799	12,306	18,023	14,863	9,208	3,305	318	1
	Females ..	56,697	2	1,787	11,713	17,034	13,974	8,707	3,182	316	2
	Total ..	116,521	3	3,586	24,019	35,057	28,837	17,915	6,487	634	3
Ex-nuptial children	Males ..	3,234	13	855	1,215	577	324	188	52	8	4
	Females ..	3,236	10	817	1,267	570	298	190	68	7	9
	Total ..	6,470	23	1,672	2,482	1,147	622	376	120	15	13
Total children	Males ..	63,058	14	2,654	13,521	18,600	15,187	9,394	3,357	326	5
	Females ..	59,933	12	2,604	12,980	17,604	14,272	8,897	3,230	323	11
	Total ..	122,991	26	5,258	26,501	36,204	29,459	18,291	6,587	649	16

(b) AGES OF PARENTS OF TWINS, COMMONWEALTH, 1918.

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 and upwards.
Under 20	Males ..	..	..	..	..	..	..	..	..
	Females ..	6	4	2	..	..	..	..	..
	Total ..	6	4	2	..	..	..	..	..
20 to 24	Males ..	64	4	42	18	..	..	..	..
	Females ..	88	12	52	24	..	..	..	..
	Total ..	152	16	94	42	..	..	..	..
25 to 29	Males ..	250	12	78	118	35	7	..	..
	Females ..	244	6	82	116	37	3	..	..
	Total ..	494	18	160	234	72	10	..	..
30 to 34	Males ..	354	..	34	116	169	35	..	..
	Females ..	384	2	28	136	185	31	2	..
	Total ..	738	2	62	252	354	66	2	..
35 to 39	Males ..	303	2	10	59	130	92	10	..
	Females ..	301	..	14	47	128	106	8	..
	Total ..	604	2	24	106	258	198	18	..
40 to 44	Males ..	196	..	..	24	56	81	33	2
	Females ..	144	..	..	20	42	59	23	..
	Total ..	340	..	..	44	98	140	56	2
45 to 49	Males ..	99	..	1	3	15	54	26	..
	Females ..	87	..	1	3	19	44	20	..
	Total ..	186	..	2	6	34	98	46	..
50 to 54	Males ..	40	..	..	4	3	19	14	..
	Females ..	26	..	..	..	7	11	8	..
	Total ..	66	..	..	4	10	30	22	..
55 to 59	Males ..	12	..	..	..	3	9	..	..
	Females ..	8	..	..	..	1	3	..	4
	Total ..	20	..	..	..	4	12	..	4
60 to 64	Males ..	4	..	..	..	..	..	2	2
	Females ..	2	..	..	..	..	..	2	..
	Total ..	6	..	..	..	..	..	4	2
Nuptial children	Males ..	1,322	18	165	342	411	297	85	4
	Females ..	1,290	24	179	346	417	257	63	4
	Total ..	2,612	42	344	688	828	554	149	8
Ex-nuptial children	Males ..	65	5	33	18	9	..	..	..
	Females ..	47	5	9	14	11	8	..	..
	Total ..	112	10	42	32	20	8	..	..
Total children	Males ..	1,387	23	198	360	420	297	85	4
	Females ..	1,337	29	188	360	428	265	63	4
	Total ..	2,724	52	386	720	848	562	148	8

(c) AGES OF PARENTS OF TRIPLETS, COMMONWEALTH, 1918.

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 ..	..	..	..	..	..	..	..
	Females ..	..	3	..	..	..	..	..
	Total ..	..	3	3	..	..	..	..
25 to 29	Males ..	..	2	..	1	..	..	..
	Females ..	..	4	..	2	2	..	..
	Total ..	..	6	..	3	3	..	..
30 to 34	Males ..	..	3	..	..	3	..	..
	Females ..	..	3	..	..	3	..	..
	Total ..	..	6	..	..	6	..	..
35 to 39	Males ..	..	3	..	..	3	..	..
	Females ..	..	3	..	..	3	..	..
	Total ..	..	3	..	..	3	..	..
40 to 44	Males ..	..	3	..	..	..	..	3
	Females ..	..	..	..	..	..	..	..
	Total ..	..	3	..	..	..	..	3
45 to 49	Males ..	..	2	..	..	..	2	..
	Females ..	..	1	..	..	..	1	..
	Total ..	..	3	..	..	..	3	..
Nuptial children	Males ..	..	13	..	1	7	2	3
	Females ..	..	11	..	2	5	1	..
	Total ..	..	24	..	3	12	3	3
Total children	Males ..	..	13	..	1	7	2	3
	Females ..	..	11	..	2	5	1	..
	Total ..	..	24	..	3	12	3	3



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 conclusions 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 1918 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, 1918.

Birthplaces.	Fathers.			Mothers of Nuptial Children.			Mothers of Ex-nuptial Children.	
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.
AUSTRALASIA—								
Commonwealth of								
Australia—								
New South Wales	37,407	418	3	40,527	467	2	2,345	27
Victoria ..	29,963	333	1	29,952	328	2	1,720	14
Queensland ..	12,162	117	2	14,703	139	2	928	8
South Australia	11,384	146	1	11,264	130	..	466	1
Western Australia	1,454	17	..	1,960	22	..	150	..
Tasmania ..	5,125	56	1	5,367	55	1	370	2
North. Territory	16	..	..	33	..	..	21	..
New Zealand ..	1,096	5	..	878	8	..	39	..
EUROPE—								
England ..	10,502	118	..	7,395	88	1	273	1
Wales ..	296	2	..	185	1	..	8	1
Scotland..	2,493	38	..	1,855	32	..	68	..
Ireland ..	1,470	23	..	936	17	..	17	1
Isle of Man ..	22	1	..	12	..	..	..	..
Other European British Possessions..	44	1	..	20	..	..	1	..
Austria-Hungary ..	81	1	..	42	1	..	1	..
Belgium ..	14	..	..	7	1	..	..	..
Denmark ..	171	..	..	45	1	..	1	..
France ..	65	..	..	37	..	..	1	..
Germany ..	651	6	..	273	4	..	9	..
Greece ..	126	1	..	62	1	..	..	..
Italy ..	328	6	..	190	3	..	3	..
Netherlands ..	50	1	..	20	..	..	..	..
Norway ..	84	1	..	23	..	..	1	..
Portugal..	1	..	..	2	..	..	..	..
Russia ..	248	2	..	147	1	..	2	..
Spain ..	35	..	..	22	..	..	..	..
Sweden ..	134	1	..	19	..	..	..	..
Switzerland ..	36	..	..	16	..	..	..	..
Other European Countries ..	31	..	..	13	..	..	..	..
ASIA—								
British India ..	129	3	..	53	..	..	7	1
Ceylon ..	12	..	..	5	..	..	..	..
Hong Kong	1	..	..	2	..	..	..	..
Straits Settlements	4	..	..	1	..	..	1	..
Other Asiatic British Possessions ..	3	..	..	2	..	..	..	..
Afghanistan ..	3	..	..	..	..	..	..	..

BIRTHPLACES OF PARENTS OF CHILDREN—*continued.*

Birthplaces.	Fathers.			Mothers of Nuptial Children.			Mothers of Ex-nuptial Children.	
	Single Births.	Twins.	Triplets.	Single Births.	Twins.	Triplets.	Single Births.	Twins.
<i>ASIA—continued.</i>								
Arabia .. ..	..	..	..	..	..	..	1	..
China .. ..	144	1	..	36	..	..	3	..
Japan .. ..	14	..	..	9	..	..	..	..
Java .. ..	4	..	..	..	..	..	..	..
Philippine Islands ..	9	..	..	1	..	..	..	..
Syria .. ..	79	1	..	59	1	..	..	..
Other Asiatic Countries .. ..	12	..	..	8	..	..	..	..
<i>AFRICA—</i>								
Mauritius .. ..	12	1	..	4	..	..	..	..
S. Africa, Union of ..	82	2	..	66	1	..	4	..
Egypt .. ..	13	..	..	9	..	..	..	..
Other African British Possessions ..	2	..	..	4	..	..	..	..
Other African Countries .. ..	7	..	..	..	..	..	..	..
<i>AMERICA—</i>								
Canada .. ..	90	4	..	40	1	..	1	..
Jamaica .. ..	3	..	..	1	..	..	..	..
Newfoundland .. ..	1	..	..	..	..	..	..	..
Other American British Possessions ..	8	..	..	1	..	..	..	..
Argentine Republic ..	4	..	..	2	..	..	..	..
Brazil .. ..	2	..	..	1	..	..	..	..
Chile .. ..	2	..	..	..	..	..	..	..
Mexico .. ..	2	..	..	1	..	..	..	..
Peru .. ..	..	..	..	..	..	..	..	..
United States of America .. ..	190	..	..	94	1	..	4	..
Other American Countries .. ..	37	..	..	10	..	..	..	..
<i>POLYNESIA—</i>								
Fiji .. ..	23	..	..	17	2	..	..	..
Friendly Islands .. ..	1	..	..	..	..	..	..	..
Papua .. ..	3	..	..	2	..	..	..	..
Other Polynesian British Possessions ..	5	..	..	3	..	..	..	..
New Caledonia .. ..	8	..	..	8	..	..	2	..
New Hebrides .. ..	7	..	..	2	..	..	..	..
Samoa .. ..	..	..	..	..	..	..	..	..
Other Polynesian Islands .. ..	..	..	..	..	..	..	..	..
South Sea Islands (so described) ..	18	..	..	1	..	..	1	..
At Sea .. ..	85	..	..	60	1	..	3	..
Unspecified .. ..	13	..	..	14	..	..	19	..
Total .. ..	116,521	1,306	8	116,521	1,306	8	6,470	56

10. Occupations of Fathers.—A summary of the occupations of the fathers of all nuptial children, whose births were registered in 1918, 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, 1918.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
<b>CLASS I.—PROFESSIONAL.</b>		<b>CLASS III.—COMMERCIAL—contd.</b>	
General Government .. ..	629	Stone, Clay and Glass .. ..	20
Local Government .. ..	135	Gold, Silver, and Precious Stones .. ..	3
Defence .. ..	1,692	Ironmongery .. ..	175
Law and Order .. ..	1,185	Merchants, Importers .. ..	471
Religion .. ..	425	Shopkeepers and Assistants .. ..	1,076
Charities .. ..	3	Dealers and Hawkers .. ..	387
Health .. ..	970	Agents and Brokers .. ..	577
Literature .. ..	151	Clerks, Bookkeepers, &c. .. ..	3,943
Science .. ..	88	Commercial Travellers, Salesmen .. ..	1,586
Civil Engineering, Architecture, and Surveying .. ..	362	Others engaged in Commercial Pursuits .. ..	1,351
Education .. ..	703	Speculators on Chance Events .. ..	52
Fine Arts .. ..	131	Storage .. ..	4
Music .. ..	128	<b>Total Commercial .. ..</b>	<b>16,938</b>
Amusements .. ..	484		
<b>Total Professional .. ..</b>	<b>7,086</b>	<b>CLASS IV.—TRANSPORT AND COMMUNICATION.</b>	
<b>CLASS II.—DOMESTIC.</b>		Railway Traffic .. ..	4,908
Hotelkeepers and Assistants .. ..	613	Tramway Traffic .. ..	1,227
Others engaged in providing board and lodging .. ..	344	Road Traffic .. ..	5,276
House Servants .. ..	103	Sea and River Traffic .. ..	1,737
Coachmen and Grooms .. ..	210	Postal Service .. ..	614
Hairdressers .. ..	536	Telegraph and Telephone Service .. ..	611
Laundrymen .. ..	29	Messengers, &c. .. ..	8
Others engaged in domestic occupations .. ..	247	<b>Total Transport &amp; Communication .. ..</b>	<b>14,381</b>
<b>Total Domestic .. ..</b>	<b>2,082</b>	<b>CLASS V.—INDUSTRIAL.</b>	
<b>CLASS III.—COMMERCIAL.</b>		Books and Publications .. ..	775
Banking and Finance .. ..	486	Musical Instruments .. ..	62
Insurance and Valuation .. ..	557	Prints, Pictures and Art Materials .. ..	82
Landed and House Property .. ..	133	Ornaments and Small Wares .. ..	125
Property Rights not elsewhere clsd .. ..	3	Equipment for Sports and Games .. ..	3
Books, Publications, Advertising .. ..	158	Medals, Type, and Dies .. ..	32
Musical Instruments .. ..	13	Watches, Clocks, and Scientific Instruments .. ..	126
Prints, Pictures and Art Materials .. ..	2	Surgical Instruments .. ..	4
Ornaments and Small Wares .. ..	5	Arms and Ammunition .. ..	96
Watches, Clocks, Jewellery .. ..	8	Engines, Machines, Tools, and Implements .. ..	1,338
Surgical Instruments .. ..	2	Carriages and Vehicles .. ..	1,037
Arms and Ammunition .. ..	..	Harness, Saddlery & Leatherware .. ..	395
Machinery .. ..	45	Ships, Boats, &c. .. ..	131
Carriages and Vehicles .. ..	30	Furniture .. ..	618
Harness, Saddlery & Leatherware .. ..	2	Building Materials .. ..	848
Ships and Boats .. ..	1	Chemicals and By-products .. ..	57
Building Materials .. ..	27	Textile Fabrics .. ..	136
Furniture .. ..	63	Dress .. ..	1,796
Chemicals and By-products .. ..	9	Fibrous Materials .. ..	47
Paper and Stationery .. ..	53	Animal Food .. ..	392
Textile Fabrics .. ..	523	Vegetable Food .. ..	1,591
Dress .. ..	129	Groceries, Drinks, Narcotics, and Stimulants .. ..	366
Fibrous Materials .. ..	14	Animal Matter not elsewhere clsd .. ..	352
Animal Food .. ..	2,373	Workers in wood not elsewhere clsd .. ..	145
Vegetable Food .. ..	616	Vegetable Produce for Fodder .. ..	9
Groceries, Drinks, Narcotics, and Stimulants .. ..	1,322	Paper .. ..	13
Living Animals .. ..	180	Stone, Clay, Glass, &c. .. ..	460
Leather, Raw Materials .. ..	37	Jewellery and Precious Stones .. ..	240
Wool and Tallow .. ..	69	Metals, other than Gold & Silver .. ..	2,804
Hay, Corn, &c. .. ..	216	Gas, Electric Lighting, &c. .. ..	893
Other Vegetable Matter, n.e.i. .. ..	86		
Wood and Coal .. ..	131		

OCCUPATIONS OF FATHERS OF ALL NUPTIAL CHILDREN—*continued.*

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
<b>CLASS V.—INDUSTRIAL—<i>contd.</i></b>		<b>CLASS VI.—AGRICULTURAL, PASTORAL, MINING, ETC.</b>	
Building—		Agricultural .. .. .	19,688
Builders .. .. .	421	Pastoral .. .. .	3,775
Stonemasons .. .. .	159	Dairy Farming .. .. .	1,168
Bricklayers .. .. .	452	Bees, Fisheries, and Wild Animals	421
Carpenters .. .. .	2,480	Forestry .. .. .	828
Slaters .. .. .	60	Water Conservation and Supply	130
Plasterers .. .. .	270	Mines and Quarries .. .. .	4,795
Painters .. .. .	1,042	Total Primary Producers	30,805
Plumbers .. .. .	733		
Signwriters .. .. .	58	<b>CLASS VII.—INDEFINITE.</b>	
Others .. .. .	22	Independent Means, having no	
Roads, Railways, Earthworks ..	283	specific occupation .. .. .	70
Disposal of the Dead .. .. .	43	Occupation not stated .. .. .	29
Disposal of Refuse .. .. .	64	Total Indefinite .. .. .	99
Other Industrial Workers—			
Manufacturers, &c. .. .. .	495	<b>CLASS VIII.—DEPENDENTS.</b>	
Engineers, Firemen .. .. .	3,144	Dependent Relatives .. .. .	1
Contractors .. .. .	1,212	Dependent on State .. .. .	5
Labourers, undefined .. .. .	20,259	Total Dependents .. .. .	6
Others .. .. .	268	Total all Occupations .. .. .	117,835
Total Industrial .. .. .	46,438		

11. *Mother's 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 1918 was 117,835, viz., 116,521 single births, 1,306 cases of twins, and 8 cases of triplets. From this number 78 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 117,757 mothers. They exclude children by former marriages and still-born children, but include ex-nuptial children, previous issue by the same father. The tables cannot be given *in extenso*, but the following are their most salient features. The complete tabulations are shewn in "Commonwealth Bulletin of Population and Vital Statistics, No. 36; Commonwealth Demography, 1918, and previous years."

DURATION OF MARRIAGE AND ISSUE OF MOTHERS OF ALL AGES,  
COMMONWEALTH, 1918.

Duration of Marriage.	Total Mothers.	Total Issue.	Average Number of Children.	Duration of Marriage.	Total Mothers.	Total Issue.	Average Number of Children.
Years.				Years.			
0-1 ..	15,036	15,288	1.02	18-19 ..	1,604	12,083	7.53
1-2 ..	8,025	8,833	1.10	19-20 ..	1,148	8,980	7.82
2-3 ..	8,729	15,043	1.72	20-21 ..	918	7,580	8.26
3-4 ..	10,841	22,155	2.04	21-22 ..	704	6,053	8.60
4-5 ..	9,809	24,207	2.47	22-23 ..	535	4,920	9.19
5-6 ..	8,800	24,944	2.83	23-24 ..	361	3,375	9.35
6-7 ..	8,256	26,439	3.20	24-25 ..	279	2,777	9.95
7-8 ..	6,941	24,584	3.54	25-26 ..	187	1,911	10.22
8-9 ..	6,221	24,301	3.91	26-27 ..	131	1,377	10.51
9-10 ..	4,969	21,287	4.28	27-28 ..	83	910	10.96
10-11 ..	4,721	21,758	4.61	28-29 ..	54	590	10.93
11-12 ..	4,111	20,592	5.01	29-30 ..	20	219	10.95
12-13 ..	3,611	19,290	5.34	30-31 ..	9	101	11.22
13-14 ..	3,058	17,549	5.74	31-32 ..	4	36	9.00
14-15 ..	2,580	15,536	6.02	32-33 ..	3	41	13.67
15-16 ..	2,213	14,146	6.39	33-34 ..	3	35	11.67
16-17 ..	2,094	13,992	6.68				
17-18 ..	1,699	12,031	7.08				
				Total ..	117,757	392,963	3.34

## AGES AND ISSUE OF MOTHERS, COMMONWEALTH, 1918.

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	3,588	4,332	1.21	40-44 years ..	6,541	43,284	6.62
20-24 years ..	24,151	44,237	1.83	45 yrs. and over	640	5,207	8.02
25-29 ,, ..	35,393	94,459	2.67				
30-34 ,, ..	29,251	110,023	3.76				
35-39 ,, ..	18,193	91,421	5.03	All ages ..	117,757	392,963	3.34

## PREVIOUS ISSUE OF MOTHERS OF VARIOUS AGES, COMMONWEALTH, 1918.

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	2,934	11,286	8,624	3,702	1,361	296	14	28,217
1	587	7,688	10,066	5,433	1,952	379	32	26,137
2	64	3,698	7,729	5,770	2,467	530	29	20,287
3	3	1,154	4,905	4,880	2,692	606	35	14,275
4	..	269	2,529	3,841	2,460	686	54	9,839
5	..	45	1,052	2,603	2,170	768	47	6,685
6	..	11	358	1,655	1,833	708	59	4,624
7	..	..	99	801	1,409	678	60	3,047
8	..	..	21	365	924	655	78	2,043
9	..	..	5	141	504	491	60	1,201
10	..	..	4	37	241	346	55	683
11	..	..	1	17	110	207	46	381
12	..	..	..	3	41	108	40	192
13	..	..	..	3	17	47	6	73
14	..	..	..	..	8	21	15	44
15	..	..	..	..	2	9	8	19
16	..	..	..	..	1	2	..	3
17	..	..	..	..	1	4	1	6
18	..	..	..	..	..	..	1	1
Total Mothers	3,588	24,151	35,393	29,251	18,193	6,541	640	117,757

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 3.34, the corresponding figures for 1917 having been 3.29; for 1916, 3.29; 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 and triplets, from which it appears that 267 mothers had twins at their first confinement; 248 at their second; 245 at their third; 164 at their fourth; 119 at their fifth; 77 at their sixth; 68 at their seventh; 48 at their eighth; 41 at their ninth; 9 at their tenth; 10 at their eleventh; 4 at their twelfth; and 14 at their thirteenth.

Of the 8 cases of triplets, 3 occurred at the first confinement; 2 at the third; 2 at the sixth; and 1 at the eighth.

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

**INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH, COMMONWEALTH, 1918.**

Interval.	Number of First Children.	Interval.	Number of First Children.	Interval.	Number of First Children.	Interval.	Number of First Children.
Under 1 mth.	333	12 mths.	1,397	2 years	2,745	14 years	18
1 month ..	390	13 "	994	3 "	1,355	15 "	10
2 months ..	608	14 "	822	4 "	621	16 "	15
3 "	739	15 "	787	5 "	390	17 "	7
4 "	955	16 "	657	6 "	249	18 "	3
5 "	1,179	17 "	605	7 "	170	19 "	2
6 "	1,492	18 "	473	8 "	99	20 "	2
7 "	1,403	19 "	372	9 "	77	21 "	1
8 "	1,245	20 "	381	10 "	52		
9 "	2,793	21 "	333	11 "	35	Total	28,217
10 "	2,276	22 "	300	12 "	43		
11 "	1,564	23 "	211	13 "	14		

Of these 28,217 children, 14,481 were males and 13,736 were females; the masculinity of first births was therefore 2.64 as compared with 2.53 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 3 is to 4. 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, 1918.**

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.
13 years ..	1	1	2	..	1	2
14 "	22	2	24	..	2	24
15 "	69	19	88	4	23	92
16 "	157	107	264	19	126	283
17 "	301	332	633	91	423	724
18 "	532	683	1,215	232	915	1,447
19 "	623	919	1,542	525	1,444	2,067
20 "	619	938	1,557	841	1,779	2,398
21 "	558	989	1,547	1,171	2,160	2,718
22 "	502	935	1,437	1,538	2,473	2,975
23 "	471	700	1,171	1,812	2,512	2,983
24 "	374	577	951	1,785	2,362	2,736
25 "	332	474	806	1,705	2,179	2,511
26 "	268	369	637	1,635	2,004	2,272
27 "	232	276	508	1,410	1,686	1,918
28 "	180	238	418	1,240	1,478	1,658

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.
29 years ..	167	170	337	1,107	1,277	1,444
30 " ..	183	141	324	1,005	1,146	1,329
31 " ..	118	111	229	723	834	952
32 " ..	129	75	204	629	704	833
33 " ..	127	53	180	501	554	681
34 " ..	85	54	139	410	464	549
35 " ..	96	43	139	333	376	472
36 " ..	73	37	110	282	319	392
37 " ..	73	23	96	212	235	308
38 " ..	75	29	104	225	254	329
39 " ..	67	20	87	157	177	244
40 " ..	40	14	54	96	110	150
41 " ..	31	6	37	75	81	112
42 " ..	22	3	25	45	48	70
43 " ..	18	4	22	31	35	53
44 " ..	9	1	10	21	22	31
45 " ..	9	..	9	7	7	16
46 " ..	2	1	3	4	5	7
47 " ..	..	..	..	1	1	1
48 " ..	2	..	2	1	1	3
49 " ..	2	..	2	..	..	2
Not stated ..	13	..	13	..	..	13
Total ..	6,582	8,344	14,926	19,873	28,217	34,799

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 was, 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 6,935 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, was 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.	
					First Confinements.			All Confinements.				
Married.	Never Married.	Widowed.	Divorced.	Total.	After 9 Months.	Within 9 Months.	Total.	Nuptial.	Ex-nuptial.	Total.	Marriages.	First Confinements.
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 1918 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. In 1918 it had fallen slightly to 41½.

**INTERVAL BETWEEN BIRTH AND REGISTRATION, COMMONWEALTH, 1918.**

Interval.	Nuptial Births.	Ex-nuptial Births.	Total Births.	Interval.	Nuptial Births.	Ex-nuptial Births.	Total Births.
Under 1 day	1,368	115	1,483	39 days	523	20	543
1 day ..	4,953	516	5,469	40 .. ..	526	21	547
2 days ..	6,797	649	7,446	41 .. ..	481	21	502
3 .. ..	7,773	491	8,264	42 .. ..	431	11	442
4 .. ..	7,724	422	8,146	43 .. ..	379	15	394
5 .. ..	7,347	352	7,699	44 .. ..	294	12	306
6 .. ..	6,876	297	7,173	45 .. ..	265	11	276
7 .. ..	6,167	247	6,414	46 .. ..	268	12	280
8 .. ..	5,494	251	5,745	47 .. ..	236	4	240
9 .. ..	4,932	232	5,164	48 .. ..	225	11	236
10 .. ..	4,501	207	4,708	49 .. ..	207	7	214
11 .. ..	4,455	267	4,722	50 .. ..	202	8	210
12 .. ..	4,397	236	4,633	51 .. ..	170	9	179
13 .. ..	4,204	259	4,463	52 .. ..	184	2	186
14 .. ..	3,686	245	3,931	53 .. ..	159	6	165
15 .. ..	3,061	169	3,230	54 .. ..	191	10	201
16 .. ..	2,770	148	2,918	55 .. ..	183	6	189
17 .. ..	2,443	134	2,577	56 .. ..	145	9	154
18 .. ..	2,277	116	2,393	57 .. ..	159	6	165
19 .. ..	2,090	91	2,181	58 .. ..	176	19	195
20 .. ..	1,835	90	1,925	59 .. ..	175	11	186
21 .. ..	1,726	70	1,796	60 .. ..	98	18	116
22 .. ..	1,632	77	1,709	61 to 69 days	276	21	297
23 .. ..	1,413	57	1,470	70 .. 79 ..	126	10	136
24 .. ..	1,373	46	1,419	80 .. 89 ..	58	10	68
25 .. ..	1,275	48	1,323	90 .. 99 ..	26	7	33
26 .. ..	1,249	53	1,302	100 .. 109 ..	16	7	23
27 .. ..	1,075	53	1,128	110 .. 119 ..	14	6	20
28 .. ..	1,054	32	1,086	120 .. 129 ..	16	2	18
29 .. ..	960	35	995	130 .. 139 ..	8	3	11
30 .. ..	849	27	876	140 .. 149 ..	5	2	7
31 .. ..	845	35	880	150 .. 159 ..	9	2	11
32 .. ..	691	23	714	160 .. 169 ..	8	3	11
33 .. ..	657	33	690	170 .. 179 ..	6	2	8
34 .. ..	662	32	694	180 .. 365 ..	28	7	35
35 .. ..	638	24	662	1 to 2 years..	1	1	2
36 .. ..	544	30	574	2 years and over	3	..	3
37 .. ..	564	23	587				
38 .. ..	523	18	541				
				Total Births	119,157	6,582	125,739



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 1918.**

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 "
1918	..	..	..	12.9 "	12.7 "

\* 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, 1908 to 1918.**—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 and 1918, the actual number of marriages in the latter years being about the same as in 1909. The number of marriages in each State since 1908 is shewn below :—

**TOTAL MARRIAGES, COMMONWEALTH, 1908 TO 1918.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	Commonwealth.
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
1918 ..	13,194	9,156	4,815	3,190	1,612	1,131	39	4	33,141

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

2. **Marriage Rates, 1908 to 1918.**—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, 1908 TO 1918.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	Commonwealth.
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
1918 ..	6.90	6.46	6.99	7.25	5.18	5.55	7.81	1.65	6.65

(a) Number of marriages (not persons married) per 1,000 of mean annual population. (b) Part of New South Wales prior to 1911.

As in some international tabulations the marriage rates are calculated per 1,000 of the unmarried population of 15 years and over, the corresponding rates have been worked out for 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 is the case 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 ..	1918	6.9
Bulgaria .. ..	1911	9.4	Denmark .. ..	1915	6.9
Hungary .. ..	1912	8.6	Scotland .. ..	1916	6.6
Rumania .. ..	1914	8.5	Netherlands .. ..	1915	6.6
Japan .. ..	1913	8.1	Australia .. ..	1918	6.6
Belgium .. ..	1912	8.0	Norway .. ..	1915	6.5
Prussia .. ..	1912	8.0	Spain .. ..	1914	6.5
Russia (European)	1909	7.9	Victoria .. ..	1918	6.5
Ontario (Canada)	1917	7.7	Sweden .. ..	1915	5.8
German Empire ..	1913	7.7	Finland .. ..	1914	5.7
England and Wales	1916	7.5	New Zealand .. ..	1917	5.7
France .. ..	1913	7.5	Tasmania .. ..	1918	5.5
Austria .. ..	1912	7.4	Ireland .. ..	1916	5.2
South Australia ..	1918	7.2	Chile .. ..	1914	5.2
Ceylon .. ..	1915	7.2	Western Australia ..	1918	5.2
Italy .. ..	1914	7.1	Switzerland .. ..	1915	5.0
United Kingdom ..	1916	7.1	Jamaica .. ..	1915	3.0
Queensland .. ..	1918	7.0			

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 1,495 males who were less than twenty-one years of age were married during 1918. The corresponding number of females was 6,492. At the other extreme there were twenty-seven men of sixty-five years and upwards, who described themselves as bachelors, and thirteen spinsters of corresponding age.

AGES AND CONJUGAL CONDITION OF PERSONS MARRIED,  
COMMONWEALTH, 1918.

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors.	Widowers.	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
13 years ..	..	..	..	..	1	..	..	1
14 " ..	..	..	..	..	4	..	..	4
15 " ..	1	..	..	1	41	..	..	41
16 " ..	8	..	..	8	243	..	..	243
17 " ..	43	..	..	43	707	2	..	709
18 " ..	228	..	..	228	1,585	9	1	1,588
19 " ..	449	..	..	449	1,768	2	..	1,778
20 " ..	764	2	..	766	2,117	10	1	2,128
21 " ..	1,903	1	1	1,905	3,615	18	1	3,634
22 " ..	1,978	4	..	1,982	2,874	22	2	2,898
23 " ..	2,293	11	1	2,305	2,726	55	2	2,783
24 " ..	2,377	14	1	2,392	2,557	51	3	2,611
25 " ..	2,401	14	3	2,418	2,158	66	9	2,233
26 " ..	2,302	18	2	2,322	1,834	64	8	1,906
27 " ..	2,168	25	2	2,195	1,579	61	19	1,659
28 " ..	2,015	44	6	2,065	1,244	66	13	1,323
29 " ..	1,782	46	2	1,830	973	61	19	1,053
30 " ..	1,505	65	10	1,580	843	72	16	931
31 " ..	1,143	45	11	1,199	613	62	12	687
32 " ..	1,020	50	13	1,083	472	66	17	555
33 " ..	786	58	8	852	459	81	12	552
34 " ..	685	70	10	765	364	83	15	462
35 " ..	603	69	16	688	340	66	16	422
36 " ..	515	84	16	615	252	61	16	329
37 " ..	497	84	7	588	199	75	19	293
38 " ..	456	78	19	553	203	76	12	291
39 " ..	344	81	14	439	167	68	10	245
40 " ..	277	63	10	350	151	82	14	247
41 " ..	220	88	15	323	94	53	7	154
42 " ..	208	70	9	287	103	54	10	167
43 " ..	186	54	7	247	77	53	7	137
44 " ..	172	68	8	248	57	50	3	110
45 " ..	177	77	3	257	76	49	2	127
46 " ..	151	62	7	220	53	50	4	107
47 " ..	118	70	12	200	34	31	4	69
48 " ..	104	87	9	200	39	61	4	104
49 " ..	96	79	12	187	25	32	2	59
50 " ..	78	69	7	154	32	44	3	79
51 " ..	50	54	7	111	18	22	2	42
52 " ..	73	56	11	140	19	24	1	44
53 " ..	35	58	2	95	15	26	..	41
54 " ..	44	58	5	107	10	30	..	40
55 " ..	30	62	3	95	10	22	..	32
56 " ..	28	47	1	76	6	16	..	22
57 " ..	30	40	1	71	8	18	1	27
58 " ..	21	45	3	69	5	12	1	18
59 " ..	17	29	2	48	4	19	2	25
60 " ..	16	50	1	67	2	19	..	21
61 " ..	7	23	3	33	3	12	2	17
62 " ..	5	22	..	27	2	7	..	9
63 " ..	8	30	..	38	3	10	..	13
64 " ..	4	29	1	34	2	8	1	11
65 " ..	4	22	1	27	..	3	..	3
66 " ..	4	19	1	24	8	6	..	14
67 " ..	1	11	1	13	..	4	..	4
68 " ..	6	17	..	23	..	4	..	4
69 " ..	4	17	..	21	..	9	..	9
70 " ..	2	10	..	12	..	6	..	6

AGES AND CONJUGAL CONDITION OF PERSONS MARRIED,  
COMMONWEALTH, 1918—*continued.*

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors.	Widowers.	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
71 years ..	..	9	..	9	..	2	..	2
72 " ..	..	6	..	6	1	1	..	2
73 " ..	3	10	..	13	..	1	..	1
74 " ..	..	4	..	4	1	..	..	1
75 " ..	1	8	..	9	..	..	..	..
76 " ..	1	1	..	2	..	2	..	2
77 " ..	..	2	..	2	..	..	..	..
78 " ..	..	7	..	7	..	..	..	..
79 " ..	..	2	..	2	..	1	..	1
80 " ..	..	3	..	3	..	1	..	1
81 " ..	1	..	..	1	..	..	..	..
82 " ..	..	1	..	1	..	..	..	..
85 " ..	..	1	..	1	..	..	..	..
Not stated	4	2	..	6	5	5	..	10
<b>Total</b>	<b>30,452</b>	<b>2,405</b>	<b>284</b>	<b>33,141</b>	<b>30,801</b>	<b>2,046</b>	<b>294</b>	<b>33,141</b>

(b) The relative ages of bridegrooms and brides are shewn for single years in "Bulletin of Population and Vital Statistics, No. 36"; a condensation into age-groups of five years is here given:—

**RELATIVE AGES OF PERSONS MARRIED, COMMONWEALTH, 1918.**

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 upwards.	Not stated.
Under 20 ..	729	2	490	211	24	2	..	..	..	..
20 to 24 ..	9,350	2	2,323	5,781	1,111	106	20	5	2	..
25 to 29 ..	10,830	..	1,090	5,306	3,607	673	131	15	7	1
30 to 34 ..	5,479	..	305	1,818	1,968	1,036	270	64	18	..
35 to 39 ..	2,883	..	106	606	888	671	425	132	55	..
40 to 44 ..	1,455	..	27	197	308	368	278	188	89	..
45 to 49 ..	1,064	1	8	85	168	192	242	191	177	..
50 to 54 ..	607	..	7	34	57	82	132	108	187	..
55 to 59 ..	359	..	1	9	30	33	46	59	180	1
60 to 64 ..	199	..	2	3	9	16	28	35	104	2
65 and upwards ..	180	..	..	4	4	8	8	18	138	..
Not stated ..	6	..	..	..	..	..	..	..	..	6
<b>Total Brides</b> ..	<b>33,141</b>	<b>5</b>	<b>4,359</b>	<b>14,054</b>	<b>8,174</b>	<b>3,187</b>	<b>1,580</b>	<b>815</b>	<b>957</b>	<b>10</b>

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 1918, was shewn. In the following table the relative conjugal condition of the contracting parties is given:—

**RELATIVE CONJUGAL CONDITION OF PERSONS MARRIED, COMMONWEALTH, 1918.**

Conjugal Condition.	Total Bridegrooms.	Brides.		
		Spinsters.	Widows.	Divorced.
Bridegrooms { Bachelors ..	30,452	28,871	1,366	215
{ Widowers ..	2,405	1,715	633	57
{ Divorced ..	284	215	47	22
<b>Total Brides</b> ..	<b>33,141</b>	<b>30,801</b>	<b>2,046</b>	<b>294</b>

6. Birthplaces of Persons Married.—Information as to the birthplaces of persons who were married in 1918 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. 36, Commonwealth Demography," the relative birthplaces of bridegrooms and brides will be found tabulated.

BIRTHPLACES OF PERSONS MARRIED, COMMONWEALTH (a), 1918.

Birthplaces.	Bridegrooms.	Brides.	Birthplaces.	Bridegrooms.	Brides.
AUSTRALASIA—			ASIA— <i>continued.</i>		
New South Wales ..	10,172	11,349	Philippine Islands ..	1	..
Victoria .. ..	8,549	8,803	Syria .. ..	29	8
Queensland ..	3,511	4,125	Other Asiatic		
South Australia ..	2,943	3,088	Countries ..	1	1
Western Australia ..	71	78	AFRICA—		
Tasmania .. ..	1,268	1,392	Union of South Africa	28	17
Northern Territory	5	13	Mauritius .. ..	1	..
Federal Territory ..	1	..	Other African British		
New Zealand .. ..	309	233	Possessions ..	..	..
EUROPE—			Egypt .. ..	1	1
England .. ..	2,652	1,505	Other African Coun-		
Wales .. ..	79	39	tries .. ..	1	..
Scotland .. ..	607	348	AMERICA—		
Ireland .. ..	420	249	Canada .. ..	40	9
Isle of Man .. ..	5	3	Jamaica .. ..	1	..
Other European			Newfoundland ..	..	..
British Possessions	19	3	Other American Bri-		
Austria-Hungary ..	15	4	tish Possessions ..	6	1
Belgium .. ..	5	1	Argentine Republic..	3	1
Denmark .. ..	66	10	Brazil .. ..	2	..
France .. ..	23	13	Chile .. ..	2	1
Germany .. ..	103	53	Mexico .. ..	1	..
Greece .. ..	48	21	United States ..	75	26
Italy .. ..	67	13	Other American		
Netherlands .. ..	29	5	Countries ..	13	6
Norway .. ..	37	1	POLYNESIA—		
Portugal .. ..	..	..	Fiji .. ..	7	3
Russia .. ..	96	30	Friendly Islands ..	2	..
Spain .. ..	11	6	Other Polynesian		
Sweden .. ..	48	7	British Possessions	..	1
Switzerland .. ..	15	3	New Caledonia ..	2	6
Other European			New Hebrides ..	1	2
Countries ..	8	2	Samoa .. ..	..	1
ASIA—			Other Polynesian Is-		
British India .. ..	44	15	lands .. ..	1	2
Ceylon .. ..	2	..	South Sea Islands		
Straits Settlements	2	..	(so described) ..	6	1
Other Asiatic British			At sea .. ..	19	13
Possessions ..	1	..	Not stated .. ..	5	12
Afghanistan .. ..	1	..			
Arabia .. ..	1	..	Total .. ..	31,529	31,529
China .. ..	34	4			
Japan .. ..	10	1			
Java .. ..	4	..			

(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 1908 to 1918. In "Bulletin No. 36" the 1918 tabulation is shewn for orders of occupations; here it is repeated for classes only, with a subdivision of the Industrial class and of the class of Primary Producers. The average ages of the persons falling under those twelve

subdivisions were determined, and it appears that, apart from the Indefinite class, which consists chiefly of persons who have retired from business and who are living on their own means, and where a high average age may naturally be expected, the average age ranges from 28.70 in the Manufacturing class to 32.63 years in the Pastoral class. The results obtained are shewn in the following table :—

OCCUPATIONS AND AGES OF BRIDEGROOMS, COMMONWEALTH, 1918.

Ages at Marriage.					Industrial.			Primary Producers.				
	Professional.	Domestic.	Mercantile.	Transport and Communication.	Manufacturing.	Building and Construction.	Indefinite Industrial Workers.	Agricultural.	Pastoral.	Mines and Quarries.	Other Primary Producers.	Indefinite.
16 years .. .. .	4	1	1	1	2	1	1	1	1	2	1	..
17 .. .. .	2	4	4	2	5	1	5	1	1	1	1	..
18 .. .. .	22	2	27	15	56	4	71	11	6	13	1	..
19 .. .. .	32	13	50	52	76	12	137	40	8	23	6	..
20 .. .. .	36	5	92	95	130	29	233	86	11	10	9	..
21 .. .. .	155	44	270	257	301	73	470	196	38	70	25	1
22 .. .. .	177	39	261	245	332	74	512	227	32	58	22	3
23 .. .. .	205	42	338	272	365	95	554	295	50	62	27	..
24 .. .. .	223	54	401	279	377	92	505	310	52	69	28	2
25 .. .. .	223	45	445	293	343	114	445	355	61	61	31	2
26 .. .. .	245	40	409	249	344	95	443	346	53	70	26	2
27 .. .. .	240	40	348	262	301	93	408	348	73	54	25	3
28 .. .. .	212	41	359	203	277	100	381	336	74	52	28	2
29 .. .. .	198	31	326	182	213	76	358	301	60	57	28	..
30 .. .. .	159	28	239	169	182	71	301	281	81	52	14	3
31 .. .. .	128	30	213	112	134	48	219	197	58	45	15	..
32 .. .. .	121	29	187	93	127	38	220	153	60	37	16	2
33 .. .. .	110	11	150	81	85	38	152	147	41	27	10	..
34 .. .. .	87	12	137	58	88	32	144	144	37	18	6	2
35 to 39 years ..	264	61	474	257	321	113	595	507	154	100	30	7
40 ,, 44 ,, ..	145	42	236	124	146	38	309	249	93	54	15	4
45 ,, 49 ,, ..	87	23	177	86	112	49	224	179	64	45	18	..
50 years and upwards	120	43	196	102	140	73	278	215	68	65	13	32
Not stated .. ..	2	..	..	..	1	1	2	..	..	..	..	..
Total .. .. .	3,195	676	5,340	3,489	4,458	1,364	6,980	4,929	1,176	1,075	394	65
Average age—year 1918 ..	29.91	30.76	29.97	28.53	28.55	30.41	29.41	30.54	32.69	29.00	29.74	40.85

The average age at marriage of brides has slowly risen from 25.67 years in 1908 to 25.78 years in 1913 and 1914, 25.75 years in 1915, 26.07 years in 1916, 26.22 years in 1917, and 26.11 years in 1918. The figures for the eleven years are :—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 ; 1917, 26.22 years ; and 26.11 years in 1918. For the five years 1907–11 the average age was 25.70 years, compared with an average of 25.92 years for the five years 1912–16, and 26.11 years for 1918. As the average age of all bridegrooms during 1918 was 29.55 years, it follows that brides are on an average about three years and one-half younger than bridegrooms.

8. Fertility of Marriages.—The quotient obtained by division of the nuptial births registered, say during the five years 1914 to 1918, by the number of marriages registered during the five years 1909 to 1913, 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 3.41, 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 ; for the year 1917, 2.93 ; and for the year 1918, 3.02.

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 95.70 per cent. in 1918 and 97.55 per cent. in 1909. The figures for the individual States in 1918 were: New South Wales, 95.95 per cent.; Victoria, 96.92 per cent.; Queensland, 96.13 per cent., South Australia, 96.52 per cent.; Western Australia, 83.06 per cent.; and Tasmania, 98.14 per cent., the percentage for the Commonwealth being 95.70. The registered ministers in 1918 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 1918 are shewn in the following table:—

**MARRIAGES IN EACH DENOMINATION, COMMONWEALTH, 1918.**

Denomination.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N. Ter.	Fed. Ter.	Com'-wealth.
Church of England ..	5,748	2,534	1,416	767	557	436	10	3	11,471
Roman Catholic Church..	2,741	1,711	1,103	420	291	153	5	1	6,425
Presbyterian Church of Australia ..	1,717	1,696	676	141	133	116	..	..	4,479
Methodist Church ..	1,616	1,300	758	967	219	184	8	..	5,052
Congregational Church ..	272	768	107	153	65	37	..	..	1,402
Baptist Church ..	173	439	140	194	38	57	..	..	1,041
Church of Christ ..	167	216	29	182	12	20	..	..	626
Lutheran Church ..	16	53	91	176	1	..	..	..	337
Greek Orthodox Church..	11	8	..	3	5	..	..	..	27
Unitarian Church ..	6	1	..	1	..	..	..	..	8
Salvation Army ..	97	33	31	40	7	9	..	..	217
Seventh-Day Adventists..	18	12	1	11	6	2	..	..	50
Other Christians ..	39	52	257	23	1	96	..	..	468
Hebrew ..	38	51	2	1	4	..	..	..	96
Registrar's Office ..	535	282	186	111	273	21	16	..	1,424
Unspecified ..	..	..	18	..	..	..	..	..	18
<b>Total ..</b>	<b>13,194</b>	<b>9,156</b>	<b>4,815</b>	<b>3,190</b>	<b>1,612</b>	<b>1,131</b>	<b>39</b>	<b>4</b>	<b>33,141</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, 1908 to 1918.* 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,  
1908 TO 1918.**

Year.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
Male ..	0.71	0.65	0.56	0.56	0.43	0.36	0.41	0.27	0.37	0.37	0.33
Female	0.73	0.62	0.59	0.54	0.45	0.38	0.38	0.27	0.32	0.31	0.29

(ii) *Mark Signatures in Commonwealth States, 1908 to 1918.* 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,  
1908 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	C'wealth
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
1918 ..	0.37	0.13	0.12	0.34	0.43	1.41	5.13	..	0.31

(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 show 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, 1908 to 1918.*—The total number of deaths registered in the Commonwealth from 1908 to 1918 inclusive, gives an annual average of 28,546 males and 21,002 females, the details being as follow:—

MALE DEATHS, COMMONWEALTH, 1908 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	C'wealth.
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	1,931	1,148	108	6	31,018
1917 ..	10,445	7,952	4,027	2,398	1,802	926	52	7	27,609
1918 ..	10,914	8,079	4,359	2,430	1,774	959	66	4	28,585
Rate(b), 1918	11.53	11.96	12.42	11.96	11.12	9.35	16.82	3.03	11.70

(a) Part of New South Wales prior to 1911. (b) Number of deaths per 1,000 of mean population.



## FEMALE DEATHS, COMMONWEALTH, 1908 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	Commonwealth.
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
1918 ..	7,902	7,098	2,792	1,960	1,059	843	8	2	21,664
Rate (b), 1918	8.19	9.56	8.27	8.27	6.99	8.33	7.48	1.81	8.54

(a) Part of New South Wales prior to 1911. (b) Number of deaths per 1,000 of mean population.

2. **Male and Female Death Rates, 1918.**—The crude male and female death rates for 1918 only are given in the last line of the preceding tables. Queensland 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 would be 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 193) 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 188.

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 crude 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 ..	1918	8.8	Belgium ..	1912	14.8
Western Australia ..	1918	9.1	Prussia ..	1913	14.9
New Zealand ..	1917	9.6	German Empire ..	1913	15.0
New South Wales ..	1918	9.8	Finland ..	1914	15.6
South Australia ..	1918	10.0	Ireland ..	1916	16.5
<b>Australia ..</b>	<b>1918</b>	<b>10.1</b>	France ..	1913	17.7
Queensland ..	1918	10.4	Italy ..	1914	17.9
Victoria ..	1918	10.7	Japan ..	1913	19.5
Ontario (Canada) ..	1917	12.0	Austria ..	1912	20.5
Netherlands ..	1915	12.4	Serbia ..	1912	21.1
Denmark ..	1915	12.8	Bulgaria ..	1911	21.5
Norway ..	1915	13.3	Jamaica ..	1915	21.6
Switzerland ..	1915	13.3	Spain ..	1914	22.1
United States (regis- tration area) ..	1915	13.5	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

(a) Number of deaths per 1,000 of mean population.

4. Total Deaths, 1908 to 1918.—The total number of deaths in each of the Commonwealth States during the eleven years 1908 to 1918 is shown below :—

## TOTAL DEATHS, COMMONWEALTH, 1908 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	C'wealth.
1908	16,055	15,766	5,680	3,834	2,879	2,129	83	..	46,426
1909	15,810	14,436	5,530	3,782	2,704	1,842	68	..	44,172
1910	16,158	14,732	5,744	4,014	2,740	2,120	82	..	45,590
1911	17,146	15,216	6,544	4,038	2,923	1,927	65	(a) 10	47,869
1912	18,862	16,589	6,921	4,336	3,335	2,057	67	10	52,177
1913	19,699	15,474	6,783	4,693	2,934	2,131	64	11	51,789
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
1918	18,816	15,177	7,151	4,390	2,833	1,802	74	6	50,249

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

5. Crude Death Rates, 1908 to 1918.—The death rate for 1918 shewed an increase on that for 1917, but was the lowest on record in the Commonwealth as a whole, with the exception of the rate for 1917.

## CRUDE DEATH RATE (a), COMMONWEALTH, 1908 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Terr.	C'wealth.	
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
1918	..	9.84	10.70	10.39	9.97	9.11	8.84	14.82	2.47	10.09

(a) Number of deaths per 1,000 of mean population for year. (b) Part of New South Wales prior to 1911.

6. Male and Female Death Rates, 1908 to 1918.—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 increase 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, and the subsequent rise in 1918 was only a very small one.

## MALE AND FEMALE DEATH RATES (a), COMMONWEALTH, 1908 TO 1918.

Year.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
Male rate	12.24	11.51	11.54	11.82	12.51	11.93	11.67	12.08	12.65	11.47	11.70
Female ,,	9.81	9.06	9.24	9.40	9.84	9.53	9.27	9.16	9.44	8.18	8.54
Crude total rate	11.07	10.33	10.43	10.66	11.23	10.78	10.51	10.66	11.04	9.80	10.09

(a) Number of deaths per 1,000 of mean population.

7. *Infantile Death Rate.*—(i) *Deaths and Death Rates of Male and Female Infants, 1908 to 1918.* Improvement continues to take place in the infantile death rate since 1908, in which year it stood at 77.78 per thousand births registered, while in 1918 it had fallen to 58.57 per thousand, a rate lower than that experienced in any previous year except 1917. In the following table, which shews both the total number of deaths of children under one year and the rate per thousand births since 1908, 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 714,264 male infants born from 1908 to 1918, 54,373 died during their first year of life, while of 679,692 female infants the number who died was only 41,762 :—

## NUMBER OF INFANTILE DEATHS AND RATES OF INFANTILE MORTALITY, COMMONWEALTH, 1908 TO 1918.

Year.	Registered Deaths under one year.			Rate of Infantile Mortality (a).		
	Males.	Females.	Total.	Males.	Females.	Total.
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
1918 .. ..	4,178	3,186	7,364	64.82	51.99	58.57

(a) Number of deaths under 1 year per 1,000 births registered.

(ii) *Infantile Mortality, 1908 to 1918.* 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, 1908 TO 1918.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Federal Territory.	Com'wealth.
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
1918 .. ..	59.02	61.75	56.66	51.25	57.13	60.80	28.57	20.41	58.57

(a) Number of deaths under 1 year per 1,000 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, 1916, and 1918. 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 size of the Victorian rate in 1908 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, whilst only a very slight increase was registered in 1918.

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 1908 to 1918 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 1908 TO 1918.

States and Territories.	Districts.	Towns.	Total Births, 1908-18.	Total Deaths of Children under one year, 1908-18.	Average Infantile Mortality per 1,000 Births, 1908-18.
New South Wales	Metropolitan	Sydney	210,997	15,824	75.00
	North Coast	Grafton	44,793	2,446	54.61
	Lower Hunter	Newcastle	56,346	4,185	74.27
	Cumberland	Parramatta	24,604	1,627	66.13
	South Coast	Nowra	23,005	1,453	63.16
	Northern Tableland	Armidale	32,106	2,091	65.13
	Central Tableland	Bathurst	38,746	2,876	74.23
	Southern Tableland	Goulburn	29,690	1,916	64.53
	North-Western Slope	Moree	13,198	964	73.04
	Central-Western Slope	Dubbo	19,660	1,417	72.07
	South-Western Slope	Temora	21,089	1,293	61.31
	Riverina	Hay	11,460	726	63.35
	Plains East of Darling	Cobar	5,978	547	91.50
	Trans-Darling Plains	Broken Hill	13,397	1,441	107.56
Lord Howe Island			15	2	111.11
Victoria	Metropolitan	Melbourne	175,556	14,788	84.23
	Central	Geelong	34,496	2,297	66.59
	North-Central	Kyneton	18,193	1,106	60.79
	Western	Hamilton	42,057	2,938	69.86
	Wimmera	Horsham	16,627	955	57.44
	Mallee	Ultima	9,610	610	63.48
	Northern	Rochester	39,822	2,713	68.13
Queensland	North-Eastern	Beechworth	13,858	779	56.14
	Gippsland	Sale	18,747	1,012	53.98
	Metropolitan	Brisbane	53,295	4,219	79.16
	Moreton	Ipswich	25,744	1,414	54.93
	Wide Bay	Maryborough	12,516	1,385	54.28
	Port Curtis	Rockhampton	16,958	1,291	76.13
	Edgumbe	Townsville	20,393	1,277	62.62
	Rockingham	Calras	10,062	613	60.92
	York Peninsula	Cooktown	1,569	108	68.83
	Carpentaria	Croydon	3,530	295	83.57
Central-Western	Winton	946	81	85.62	

INFANTILE MORTALITY FOR THE ELEVEN YEARS 1908 TO 1918—*continued.*

States and Territories.	Districts.	Towns.	Total Births, 1908-18.	Total Deaths of Children under one year, 1908-18.	Average Infantile Mortality per 1,000 Births, 1908-18.
Queensland ..	South-Western .. ..	Charleville ..	2,556	264	103.29
" ..	Central .. ..	Blackall ..	6,035	379	62.80
" ..	Maranoa .. ..	Roma ..	4,230	290	67.60
" ..	Downs .. ..	Toowoomba ..	29,290	1,818	62.07
South Australia ..	Metropolitan .. ..	Adelaide ..	60,660	4,540	74.82
" ..	Central .. ..	Gawler ..	27,023	1,404	51.95
" ..	Lower North .. ..	Redruth ..	19,789	1,492	75.39
" ..	Upper North .. ..	Port Augusta ..	6,438	368	57.18
" ..	South-Eastern .. ..	Mount Gambier ..	6,772	330	48.73
" ..	Western .. ..	Port Lincoln ..	4,662	215	46.12
Western Australia ..	Metropolitan .. ..	Perth ..	39,675	3,185	80.28
" ..	Northern Agricultural ..	Geraldton ..	12,772	816	63.89
" ..	South-Western .. ..	Katanning ..	20,006	1,007	50.33
" ..	Eastern Goldfields ..	Kalgoorlie ..	14,310	1,223	85.46
" ..	Northern Goldfields ..	Pilbara ..	3,010	257	85.38
" ..	North-Western .. ..	Roebourne ..	443	26	58.69
" ..	Northern .. ..	Broome ..	396	34	85.86
Tasmania ..	Hobart .. ..	Hobart ..	13,976	1,223	87.51
" ..	Launceston .. ..	Launceston ..	9,030	796	88.15
" ..	North-Eastern .. ..	Scottsdale ..	7,314	432	65.90
" ..	North-Western .. ..	Stanley ..	15,459	942	60.94
" ..	Midland .. ..	Zeehan ..	7,946	559	70.35
" ..	South-Eastern .. ..	Sorell ..	6,362	330	59.73
" ..	South-Western .. ..	Franklin ..	1,950	127	65.13
Northern Territory ..	..	Darwin ..	584	47	80.48
Federal Territory (1911-18) ..	..	Canberra ..	371	12	32.34

(iii) *Infantile Mortality in Various Countries and Cities.* Compared with European and American 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	Scotland ..	1916	97	22.8
South Australia ..	1918	51	25.8	Finland ..	1915	104	26.9
Queensland ..	1918	57	28.4	Belgium ..	1912	120	22.6
Western Australia ..	1918	57	22.8	Italy ..	1913	137	31.7
Australia ..	1918	59	25.3	Prussia ..	1912	146	28.9
New South Wales ..	1918	59	26.5	Serbia ..	1911	146	36.2
Tasmania ..	1918	61	25.9	Japan ..	1913	150	33.3
Victoria ..	1918	62	22.3	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
Ontario (Canada) ..	1917	92	22.6	Chile ..	1914	286	37.0
Denmark ..	1915	95	24.2				

(a) Number of deaths under 1 year per 1,000 births registered. (b) Number of births per 1,000 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 1,000 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 3½ per cent., whilst the *probable* effect would be considerably less than this. In other words, the *maximum* effect of an increase in the rate of infantile mortality from 100 to 200 per 1,000 births would be to increase the birth rate from say 30 to 31 per 1,000 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, 1908 to 1918.—A distribution into age-groups has been made of the 545,000 deaths which occurred in the Commonwealth from 1908 to 1918, 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, 1908 TO 1918.

Ages.	Males.	Females.	Total.	Percentage of Total Males.	Percentage of Total Females.	Percentage of Total.
Under 1 year ..	54,373	41,762	96,135	17.33	18.04	17.64
1 year and under 5 ..	17,551	15,495	33,046	5.59	6.70	6.06
5 years and under 20 ..	16,596	14,220	30,816	5.29	6.15	5.65
20 years and under 40 ..	39,691	35,604	75,295	12.65	15.40	13.81
40 years and under 60 ..	68,500	40,079	108,579	21.84	17.33	19.92
60 years and under 65 ..	19,981	11,557	31,538	6.37	5.00	5.79
65 years and over ..	96,413	72,438	168,851	30.73	31.33	30.99
Age not stated ..	631	109	740	0.20	0.05	0.14
<b>Total ..</b>	<b>313,736</b>	<b>231,264</b>	<b>545,000</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

9. Deaths at Single Ages and in Age-Groups, 1918.—The 50,249 deaths which were registered in the Commonwealth in the year 1918 will be found tabulated under single years, and in groups of five years for each State and Territory, in "Bulletin No. 36, Commonwealth Demography, 1918." 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, COMMONWEALTH, 1918.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
Under 1 week ..	1,675	1,269	2,944	16 months and under 17 ..	44	51	95
1 week and under 2 ..	288	189	477	17 " " " 18 ..	34	39	73
2 weeks " " 3 ..	186	134	320	18 " " " 19 ..	65	48	113
3 " " " 4 ..	138	92	230	19 " " " 20 ..	31	26	57
<b>Total under 1 month ..</b>	<b>2,287</b>	<b>1,684</b>	<b>3,971</b>	20 " " " 21 ..	37	32	69
1 month and under 2 ..	348	251	599	21 " " " 22 ..	33	30	72
2 months " " 3 ..	265	218	483	22 " " " 23 ..	23	22	45
3 " " " 4 ..	189	174	363	23 " " " 24 ..	27	29	56
4 " " " 5 ..	181	143	324	<b>Total under 2 years ..</b>	<b>4,908</b>	<b>3,850</b>	<b>8,757</b>
5 " " " 6 ..	162	124	286	2 years ..	335	311	646
6 " " " 7 ..	140	123	263	3 " " " ..	213	221	434
7 " " " 8 ..	145	105	250	4 " " " ..	176	184	360
8 " " " 9 ..	135	112	247	<b>Total under 5 years ..</b>	<b>5,632</b>	<b>4,575</b>	<b>10,207</b>
9 " " " 10 ..	113	92	205	5 years ..	160	138	298
10 " " " 11 ..	114	79	193	6 " " " ..	143	114	257
11 " " " 12 ..	99	81	180	7 " " " ..	105	94	199
<b>Total under 1 year ..</b>	<b>4,178</b>	<b>3,186</b>	<b>7,364</b>	8 " " " ..	109	63	172
12 months and under 13 ..	279	222	501	9 " " " ..	87	66	153
13 " " " 14 ..	58	76	134	<b>Total 5 years and under 10</b>	<b>604</b>	<b>475</b>	<b>1,079</b>
14 " " " 15 ..	45	50	95				
15 " " " 16 ..	54	39	93				

## DEATHS AT SINGLE AGES AND IN AGE-GROUPS, 1918—continued.

Ages—	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
10 years .. ..	88	67	155	60 years .. ..	581	271	852
11 " .. ..	73	53	126	61 " .. ..	403	220	623
12 " .. ..	73	57	130	62 " .. ..	450	239	689
13 " .. ..	74	54	128	63 " .. ..	457	283	740
14 " .. ..	108	53	161	64 " .. ..	508	280	788
Total 10 years and under 15	416	284	700	Total 60 years and under 65	2,399	1,293	3,692
15 years .. ..	74	66	140	65 years .. ..	488	260	748
16 " .. ..	99	59	158	66 " .. ..	412	250	662
17 " .. ..	108	80	188	67 " .. ..	433	276	709
18 " .. ..	114	98	212	68 " .. ..	414	311	725
19 " .. ..	97	102	199	69 " .. ..	358	289	627
Total 15 years and under 20	492	405	897	Total 65 years and under 70	2,105	1,366	3,471
20 years .. ..	98	116	214	70 years .. ..	490	336	826
21 " .. ..	118	113	231	71 " .. ..	330	254	584
22 " .. ..	118	111	229	72 " .. ..	439	314	753
23 " .. ..	115	141	256	73 " .. ..	438	364	802
24 " .. ..	135	174	309	74 " .. ..	464	381	845
Total 20 years and under 25	584	655	1,239	Total 70 years and under 75	2,161	1,649	3,810
25 years .. ..	136	158	294	75 years .. ..	434	354	788
26 " .. ..	157	192	349	76 " .. ..	485	344	829
27 " .. ..	139	165	304	77 " .. ..	414	359	773
28 " .. ..	164	148	312	78 " .. ..	460	366	826
29 " .. ..	169	151	320	79 " .. ..	328	322	650
Total 25 years and under 30	765	814	1,579	Total 75 years and under 80	2,121	1,745	3,866
30 years .. ..	180	168	348	80 years .. ..	388	359	747
31 " .. ..	162	143	305	81 " .. ..	287	252	539
32 " .. ..	174	183	357	82 " .. ..	355	275	630
33 " .. ..	168	162	330	83 " .. ..	268	256	524
34 " .. ..	180	166	346	84 " .. ..	353	286	639
Total 30 years and under 35	864	822	1,686	Total 80 years and under 85	1,651	1,428	3,079
35 years .. ..	208	164	372	85 years .. ..	253	235	488
36 " .. ..	187	194	381	86 " .. ..	230	191	421
37 " .. ..	213	188	401	87 " .. ..	155	165	320
38 " .. ..	218	192	410	88 " .. ..	160	134	294
39 " .. ..	196	173	369	89 " .. ..	124	129	253
Total 35 years and under 40	1,022	911	1,933	Total 85 years and under 90	922	854	1,776
40 years .. ..	252	179	431	90 years .. ..	100	86	186
41 " .. ..	165	165	330	91 " .. ..	67	56	123
42 " .. ..	241	157	398	92 " .. ..	49	59	108
43 " .. ..	207	165	372	93 " .. ..	33	42	75
44 " .. ..	207	171	378	94 " .. ..	23	32	55
Total 40 years and under 45	1,072	837	1,909	Total 90 years and under 95	272	275	547
45 years .. ..	307	179	486	95 years .. ..	16	26	42
46 " .. ..	255	169	424	96 " .. ..	20	22	42
47 " .. ..	288	158	446	97 " .. ..	11	15	26
48 " .. ..	320	188	508	98 " .. ..	9	12	21
49 " .. ..	299	199	498	99 " .. ..	4	7	11
Total 45 years and under 50	1,469	893	2,362	Total 95 yrs. and under 100	60	82	142
50 years .. ..	407	185	592	100 years .. ..	1	6	7
51 " .. ..	287	183	470	101 " .. ..	1	3	4
52 " .. ..	365	219	584	102 " .. ..	..	4	4
53 " .. ..	348	203	551	103 " .. ..	2	2	4
54 " .. ..	409	250	659	105 " .. ..	..	1	1
Total 50 years and under 55	1,816	1,040	2,856	106 " .. ..	2	..	2
55 years .. ..	426	231	657	107 " .. ..	..	1	1
56 " .. ..	410	261	671	Total 100 years and over	6	17	23
57 " .. ..	373	244	617	Age not stated . . .	28	3	31
58 " .. ..	470	256	726	Total all ages .. ..	28,585	21,664	50,249
59 " .. ..	445	249	694				
Total 55 years and under 60	2,124	1,241	3,365				



The following tables shew the death rate per 1,000 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 1,000 LIVING IN VARIOUS  
AGE-GROUPS, 1910 TO 1912.**

Age Group.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
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MALES.

0 to 4 years	..	25.40	24.71	23.30	21.30	28.44	24.65	24.71
5 ,, 9 ,,	..	2.11	2.39	2.39	1.85	2.61	2.53	2.26
10 ,, 14 ,,	..	1.75	1.69	1.74	1.40	2.16	1.70	1.72
15 ,, 19 ,,	..	2.42	2.41	2.92	2.43	2.86	2.59	2.52
20 ,, 24 ,,	..	3.37	3.27	4.83	3.00	5.17	3.57	3.65
25 ,, 29 ,,	..	3.91	4.13	5.57	3.57	5.86	4.49	4.35
30 ,, 34 ,,	..	4.90	4.83	5.96	5.40	6.75	3.77	5.20
35 ,, 39 ,,	..	6.08	6.31	7.54	7.15	8.41	6.28	6.68
40 ,, 44 ,,	..	8.25	8.26	9.65	8.31	10.37	6.17	8.58
45 ,, 49 ,,	..	10.91	11.05	13.83	10.27	14.96	9.25	11.58
50 ,, 54 ,,	..	14.78	15.33	17.77	13.02	17.66	14.08	15.36
55 ,, 59 ,,	..	21.93	21.41	23.01	19.99	24.65	16.24	21.67
60 ,, 64 ,,	..	30.99	31.52	31.25	31.94	35.06	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	73.74	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

**AVERAGE ANNUAL DEATH RATES PER 1,000 LIVING IN VARIOUS  
AGE-GROUPS, 1910 TO 1912—continued.**

Age Group.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
<b>PERSONS.</b>							
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 1,000 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, 1918.—Particulars as to the twenty-three persons who died in 1918, 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, COMMONWEALTH, 1918.**

Age.	Locality where Death occurred.	State.	Cause of Death.	Occupation.	Birth-place.	Length of Residence in Commonwealth.
			<b>MALES.</b>			
Yrs.						
106	Clifton Hill ..	Victoria ..	Senility .. ..	Gardener ..	England	82 years
106	Adelaide ..	S. Australia	" .. ..	Labourer ..	Ireland	89 "
103	Morphett Vale ..	" .. ..	" .. ..	Farmer ..	England	80 "
103	Deloraine ..	Tasmania	Cystitis .. ..	" .. ..	" .. ..	Unspecified
101	Mount Gambier ..	S. Australia	Bronchitis .. ..	" .. ..	Scotland	65 years
100	Parramatta ..	N.S.W. ..	Senility .. ..	Miner ..	Ireland	Unspecified

DEATHS OF CENTENARIANS, COMMONWEALTH, 1918—*continued.*

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

107	Grafton ..	N.S.W. ..	Bronchitis ..	..	Ireland	59 years
105	St. Leonards ..	.. ..	Atheroma of Arteries ..	..	..	78 "
103	Talbot ..	Victoria ..	Senility ..	..	Scotland	62 "
103	Naracoorte ..	S. Australia ..	.. ..	..	..	63 "
102	Auburn ..	N.S.W. ..	.. ..	..	Ireland	Unspecified
102	Stroud ..	.. ..	.. ..	..	England	72 years
102	Randwick ..	.. ..	.. ..	..	Ireland	96 "
102	Bega ..	.. ..	.. ..	..	England	86 "
101	Camberwell ..	Victoria ..	.. ..	..	..	70 "
101	Prahran ..	.. ..	.. ..	..	Germany	71 "
101	Digby ..	.. ..	.. ..	..	Ireland	77 "
100	Lord Howe Island	N.S.W. ..	Cancer ..	..	S. Africa	66 "
100	Gosford ..	.. ..	Senility ..	..	England	53 "
100	Auburn ..	.. ..	.. ..	..	..	43 "
100	Bathurst ..	.. ..	.. ..	..	Ireland	90 "
100	Paddington ..	.. ..	.. ..	..	..	64 "
100	St. Kilda ..	Victoria ..	.. ..	..	England	73 "

11. Length of Residence in the Commonwealth of Persons who Died in 1918.—The length of residence in the Commonwealth of all persons whose deaths were registered in the year 1918 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 1918.**

Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.	Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.
Born in the C'wealth ..	16,495	13,873	30,368	Resident 25 to 29 years	413	231	644
Resident under 1 year ..	60	9	69	"  30 to 34 ..	1,152	667	1,819
"  1 year ..	32	13	45	"  35 to 39 ..	923	503	1,426
"  2 years ..	48	23	71	"  40 to 44 ..	1,082	504	1,586
"  3 ..	52	32	84	"  45 to 49 ..	538	318	856
"  4 ..	79	64	143	"  50 to 54 ..	1,095	840	1,935
"  5 ..	127	84	211	"  55 to 59 ..	797	740	1,537
"  6 ..	144	118	262	"  60 to 64 ..	1,404	1,331	2,735
"  7 ..	140	98	238	"  65 yrs. and over	1,235	1,259	2,494
"  8 ..	72	57	129	Length of residence			
"  9 ..	66	30	96	not stated ..	1,889	557	2,446
"  10 to 14 years ..	203	96	299				
"  15 to 19 ..	191	94	285				
"  20 to 24 ..	348	123	471				
				Total ..	28,585	21,664	50,249

12. Birthplaces of Persons who Died in 1918.—In the following table are shewn the birthplaces of persons whose deaths were registered in 1918 :—

## BIRTHPLACES OF PERSONS WHO DIED IN 1918, COMMONWEALTH.

Birthplace.	Males.	Females.	Total.	Birthplace.	Males.	Females.	Total.
<b>AUSTRALASIA—</b>				<b>ASIA—continued.</b>			
Commonwealth of				Philippine Islands	6	..	6
Australia—				Syria .. ..	7	4	11
New South Wales	6,357	5,267	11,624	Other Asiatic			
Victoria .. ..	5,103	4,344	9,447	Countries ..	11	..	11
Queensland ..	1,864	1,490	3,354				
South Australia	1,661	1,432	3,093	<b>AFRICA—</b>			
Western Australia	513	446	959	Union of Sth. Africa	21	8	29
Tasmania .. ..	986	887	1,873	Mauritius .. ..	6	5	11
Northern Territory	10	7	17	Other African Brit.			
Federal Territory	1	..	1	Possessions ..	2	1	3
New Zealand .. ..	142	96	238	Egypt .. ..	4	..	4
				Other African	1	1	2
				Countries ..			
<b>EUROPE—</b>							
England .. ..	5,175	3,538	8,713	<b>AMERICA—</b>			
Wales .. ..	166	71	237	Canada .. ..	42	20	62
Scotland .. ..	1,434	1,006	2,440	Jamaica .. ..	6	3	9
Ireland .. ..	2,479	2,340	4,819	Newfoundland ..	2	1	3
Isle of Man .. ..	18	6	24	Other American			
Other European				Brit. Possessions	17	4	21
Brit. Possessions	34	15	49	Argentine Republic	..	1	1
Austria-Hungary	34	4	38	Brazil .. ..	2	..	2
Belgium .. ..	8	2	10	Chile .. ..	..	1	1
Denmark .. ..	131	35	166	Mexico .. ..	..	..	..
France .. ..	70	18	88	Peru .. ..	..	..	..
Germany .. ..	523	284	807	United States of			
Greece .. ..	20	1	21	America .. ..	79	28	107
Italy .. ..	80	17	97	Other American			
Netherlands ..	21	2	23	Countries ..	10	7	17
Norway .. ..	67	11	78				
Portugal .. ..	7	..	7	<b>POLYNESIA—</b>			
Russia .. ..	101	15	116	Fiji .. ..	7	1	8
Spain .. ..	14	7	21	Papua .. ..	3	..	3
Sweden .. ..	128	7	135	Other Polynesian			
Switzerland ..	43	10	53	Brit. Possessions	6	..	6
Other European				New Caledonia ..	2	1	3
Countries .. ..	8	4	12	New Hebrides ..	3	..	3
				Samoa .. ..	1	..	1
<b>ASIA—</b>				Other Polynesian			
British India ..	73	24	97	Islands .. ..	2	1	3
Ceylon .. ..	5	2	7	South Sea Islands			
Straits Settlements	9	..	9	(so described)	34	1	35
Other Asiatic Brit.				At Sea .. ..	65	54	119
Possessions ..	4	1	5	Not stated .. ..	607	128	735
Afghanistan ..	1	..	1				
China .. ..	308	3	311	<b>Total Deaths</b> ..	<b>28,585</b>	<b>21,664</b>	<b>50,249</b>
Japan .. ..	36	1	37				
Java .. ..	5	1	6				

13. Occupations of Male Persons who Died in 1918.—Information as to the occupations of the 28,585 males who died in the Commonwealth in 1918 is contained in the following statement :—

OCUPATIONS OF MALES WHO DIED IN 1918, COMMONWEALTH.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
<b>CLASS I.—PROFESSIONAL.</b>		<b>CLASS III.—COMMERCIAL—cont.</b>	
General Government .. ..	140	Dress .. ..	16
Local Government .. ..	35	Fibrous materials .. ..	2
Defence .. ..	436	Animal food .. ..	240
Law and order .. ..	186	Vegetable food .. ..	72
Religion .. ..	76	Groceries and stimulants .. ..	141
Charity .. ..	5	Living animals .. ..	44
Health .. ..	157	Leather, raw material .. ..	4
Literature .. ..	43	Wool and tallow .. ..	10
Science .. ..	12	Hay, corn, &c. .. ..	28
Civil and mechanical engineering, architecture and surveying .. ..	95	Other vegetable matter .. ..	3
Education .. ..	110	Wood and coal .. ..	18
Fine arts .. ..	36	Stone, clay, glass .. ..	3
Music .. ..	33	Ironmongery .. ..	29
Amusements .. ..	121	Merchants .. ..	112
Total Professional .. ..	1,485	Shopkeepers and assistants .. ..	216
<b>CLASS II.—DOMESTIC.</b>		Dealers and hawkers .. ..	126
Hotelkeepers and assistants .. ..	245	Agents and brokers .. ..	118
Others engaged in providing board and lodging .. ..	150	Clerks, bookkeepers, &c. .. ..	547
House servants .. ..	53	Commercial travellers and salesmen	179
Coachmen and grooms .. ..	72	Others engaged in commercial pursuits .. ..	130
Hairdressers .. ..	61	Speculators on chance events .. ..	10
Laundrymen .. ..	12	Total Commercial .. ..	2,451
Others engaged in domestic occu- pations .. ..	138	<b>CLASS IV.—TRANSPORT AND COMMUNICATION.</b>	
Total Domestic .. ..	731	Railway traffic .. ..	468
<b>CLASS III.—COMMERCIAL.</b>		Tramway traffic .. ..	63
Banking and finance .. ..	87	Road traffic .. ..	563
Insurance and valuation .. ..	73	Sea and river traffic .. ..	550
Land and household property .. ..	45	Postal service.. ..	81
Property rights, n.e.i. .. ..	1	Telegraph and telephone service..	42
Books, publications and advertising	36	Messengers, &c. .. ..	11
Musical instruments .. ..	3	Total Transport and Commu- nication.. ..	1,778
Ornaments, small wares .. ..	1	<b>CLASS V.—INDUSTRIAL.</b>	
Storage .. ..	1	Books and publications .. ..	119
Gold, silver and precious stones .. ..	1	Musical instruments .. ..	10
Machines, tools and implements..	3	Prints, pictures and art materials	7
Carriages and vehicles .. ..	2	Ornaments and small wares .. ..	25
Harness and saddlery .. ..	..	Designs, medals, type and dies .. ..	7
Ships and boats .. ..	4	Watches and clocks .. ..	20
Building materials .. ..	25	Arms and ammunition .. ..	8
Furniture .. ..	7	Engines, machines, tools, &c. .. ..	160
Paper and Stationery .. ..	3	Carriages and vehicles .. ..	119
Textile fabrics .. ..	111	Harness, saddlery and leatherware	98

OCCUPATIONS OF MALES WHO DIED IN 1918, COMMONWEALTH—*continued.*

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
<b>CLASS V.—INDUSTRIAL—<i>continued.</i></b>		<b>CLASS VI.—AGRICULTURAL, PASTORAL, MINING PURSUITS, ETC.</b>	
Ships, boats and equipments ..	61	Agricultural .. .. .	3,119
Furniture .. .. .	96	Pastoral .. .. .	854
Building material .. .. .	91	Dairy farming .. .. .	77
Chemicals and by-products ..	8	Bees, fisheries and wild animals ..	97
Textile fabrics .. .. .	26	Forestry .. .. .	72
Dress .. .. .	391	Water conservation and supply	18
Fibrous materials .. .. .	15	Mines and quarries .. .. .	1,527
Animal food .. .. .	39		
Vegetable food .. .. .	163	Total Primary Producers ..	5,764
Groceries and stimulants ..	57		
Animal matter .. .. .	45	<b>CLASS VII.—INDEFINITE.</b>	
Workers in wood not elsewhere classed .. .. .	20	Independent means, having no specific occupation .. .. .	312
Vegetable produce for fodder ..	2	Occupation unspecified .. .. .	778
Stone, clay, glass .. .. .	70	Total Indefinite .. .. .	1,090
Jewellery and precious stones ..	37		
Metals, other than gold and silver	364	<b>CLASS VIII.—DEPENDENTS.</b>	
Gas, electric lighting, &c. ..	61	Dependent relatives (including persons under 20 years of age with no specified occupation) ..	6,823
<b>Buildings—</b>		Supported by voluntary and State contributions .. .. .	511
Builders .. .. .	91	Total Dependents .. .. .	7,334
Stonemasons .. .. .	94		
Bricklayers .. .. .	94	Total Male Deaths .. .. .	28,585
Slaters .. .. .	2		
Carpenters .. .. .	446		
Plasterers .. .. .	48		
Painters and glaziers .. .. .	172		
Plumbers .. .. .	82		
Signwriters .. .. .	10		
Others .. .. .	7		
Roads, railways and earthworks	50		
Disposal of the dead .. .. .	15		
Disposal of refuse .. .. .	7		
<b>Other industrial workers—</b>			
Manufacturers .. .. .	40		
Engineers, firemen .. .. .	418		
Contractors .. .. .	180		
Labourers, undefined .. .. .	4,055		
Others .. .. .	22		
Total Industrial .. .. .	7,952		

14. *Index of Mortality.*—The death rates, those for age-groups on page 188 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 1918 is shown below for each of the States and Territories and for the Commonwealth, the distribution of the mean population of 1918 into age-groups being in accordance with the distribution as found at the Census of 1911:—

## INDEX OF MORTALITY, STATES AND COMMONWEALTH, 1918.

Age-Group.	Mean Population, 1918, distributed according to Results of Census of 1911.	Number of Deaths, 1918.	No. of Deaths per 1,000 of Mean Population, 1918, in each Age-Group.	Age Distribution per 1,000 of Standard Population.	Index of Mortality.
<b>NEW SOUTH WALES.</b>					
Under 1 year	52,564	2,994	56.96	25.5	1.45
1 year and under 20	752,750	2,134	2.83	398.0	1.13
20 years " 40	610,442	2,444	3.82	269.6	1.03
40 " " 60	345,778	3,710	10.73	192.3	2.06
60 " and upwards	120,026	7,534	62.77	114.6	7.19
Total	1,911,560	18,816	9.84	1,000.0	12.86
<b>VICTORIA.</b>					
Under 1 year	33,543	1,951	58.16	25.5	1.48
1 year and under 20	545,723	1,485	2.72	398.0	1.08
20 years " 40	448,778	1,730	3.85	269.6	1.04
40 " " 60	285,730	3,276	11.47	192.3	2.21
60 " and upwards	103,986	6,735	64.77	114.6	7.42
Total	1,417,760	15,177	10.70	1,000.0	13.23
<b>QUEENSLAND.</b>					
Under 1 year	18,619	1,107	59.46	25.5	1.52
1 year and under 20	282,069	927	3.29	398.0	1.31
20 years " 40	225,595	1,014	4.49	269.6	1.21
40 " " 60	122,315	1,448	11.84	192.3	2.28
60 " and upwards	39,949	2,655	66.46	114.6	7.62
Total	688,547	7,151	10.39	1,000.0	13.94
<b>SOUTH AUSTRALIA.</b>					
Under 1 year	11,336	582	51.34	25.5	1.31
1 year and under 20	172,331	452	2.62	398.0	1.04
20 years " 40	145,048	602	4.15	269.6	1.12
40 " " 60	80,477	861	10.70	192.3	2.06
60 " and upwards	30,971	1,893	61.12	114.6	7.00
Total	440,213	4,390	9.97	1,000.0	12.53
<b>WESTERN AUSTRALIA.</b>					
Under 1 year	8,317	408	49.06	25.5	1.25
1 year and under 20	113,934	325	2.85	398.0	1.13
20 years " 40	114,252	420	3.68	269.6	0.99
40 " " 60	62,130	838	13.49	192.3	2.59
60 " and upwards	12,480	842	67.47	114.6	7.73
Total	311,093	2,833	9.11	1,000.0	13.69
<b>TASMANIA.</b>					
Under 1 year	5,729	321	56.03	25.5	1.43
1 year and under 20	86,770	190	2.19	398.0	0.87
20 years " 40	62,333	209	3.35	269.6	0.90
40 " " 60	36,224	336	9.28	192.3	1.79
60 " and upwards	12,737	746	58.57	114.6	6.71
Total	203,793	1,802	8.84	1,000.0	11.70
<b>NORTHERN TERRITORY.</b>					
Under 1 year	45	3	66.67	25.5	1.70
1 year and under 20	918	9	9.80	398.0	3.90
20 years " 40	1,332	20	15.02	269.6	4.04
40 " " 60	2,245	29	12.92	192.3	2.48
60 " and upwards	454	13	28.63	114.6	3.28
Total	4,994	74	14.82	1,000.0	15.40
<b>FEDERAL TERRITORY.</b>					
Under 1 year	56	1	17.86	25.5	0.46
1 year and under 20	995	1	1.01	398.0	0.40
20 years " 40	746	3	4.02	269.6	1.08
40 " " 60	451	1	2.22	192.3	0.43
60 " and upwards	179	..	..	114.6	..
Total	2,427	6	2.47	1,000.0	2.37

INDEX OF MORTALITY, STATES AND COMMONWEALTH, 1918—*continued.*

Age-Group.	Mean Population, 1918, distributed according to Results of Census of 1911.	Number of Deaths, 1918.	No. of Deaths per 1,000 of Mean Population, 1918, in each Age-Group.	Age Distribution per 1,000 of Standard Population.	Index of Mortality.
<b>COMMONWEALTH.</b>					
Under 1 year	130,209	7,367	56.58	25.5	1.44
1 year and under 20 .. ..	1,955,540	5,523	2.82	398.0	1.12
20 years " 40 .. ..	1,638,506	6,442	3.93	269.6	1.06
40 " " 60 .. ..	935,350	10,499	11.22	192.3	2.16
60 " " and upwards .. ..	320,782	20,418	63.65	114.6	7.29
Total .. ..	4,980,387	50,249	10.09	1,000.0	13.07

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 persons who died in 1918, and whose ages were not stated in the certificates of death.

It will be seen that among the States in 1918 Queensland had the highest index and Victoria the highest crude rate, while Tasmania had the lowest index and crude rate. Victoria experienced the highest crude death rate and the third highest index. The range of the indexes was above that of the crude rates, the latter varying from 8.84 per thousand in Tasmania to 10.70 per thousand in Victoria, a range of 1.86 per thousand, while the index varied from 11.70 per thousand in Tasmania to 13.94 per thousand in Queensland, a range of 2.24 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 1908–1918 :—

## INDEX OF MORTALITY, STATES AND TERRITORIES, 1908–1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Territory.	C'wealth.
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	14.47	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	3.63	13.99
1917 ..	12.45	12.81	12.64	12.65	12.93	11.78	13.42	6.70	12.63
1918 ..	12.86	13.23	13.94	12.53	13.69	11.70	15.40	2.37	13.07

(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 six times, in Queensland twice, and in New South Wales, South Australia, and Western Australia once each in the same period. South Australia had the lowest index four times, Western Australia twice, Tasmania four times, and New South Wales once, while the crude rate was lowest three times in South Australia, four times in Western Australia, three times in Tasmania, and once in Queensland. 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 216 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 Rate.* A similar series of diagrams, shewing the monthly variations in the infantile death rates, appears on page 217. 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, 1908 to 1918, 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 showing the causes of death according to the abridged classification, so that the results may be compared with those of countries which use the abridged index.

The compilations for the years 1908 to 1918 will be found in full in "Bulletins Nos. 14, 20, 25, 29, 30, 31, 32, 33, 34, 35, and 36 of Population and Vital Statistics"; here it will suffice to give the abridged classification under thirty-eight headings for the year 1918.

## CAUSES OF DEATH, COMMONWEALTH, 1918.

(a) MALES.

Cause.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	Nor. Ter.	Fed. Ter.	C'with.
1 Typhoid Fever ..	66	29	35	5	10	6	..	..	151
2 Typhus .. ..	..	..	..	..	..	..	..	..	..
3 Malaria .. ..	2	2	19	1	..	..	3	..	27
4 Small-pox .. ..	..	..	..	..	..	..	..	..	..
5 Measles .. ..	38	5	1	1	3	2	..	..	50
6 Scarlet Fever ..	10	11	4	3	3	1	..	..	32
7 Whooping Cough ..	55	22	10	4	6	5	..	..	102
8 Diphtheria and Croup	106	93	33	41	11	12	..	..	296
9 Influenza .. ..	204	101	71	24	45	20	..	..	465
10 Asiatic Cholera ..	..	..	..	..	..	..	..	..	..
11 Cholera Nostras ..	..	..	..	1	..	..	..	..	1
12 Other Epidemic Diseases	19	25	25	11	12	1	1	..	94
13 Tuberculosis of the Lungs	648	487	228	159	171	50	11	..	1,754
14 Tuberculosis of the Men- inges .. ..	42	54	2	8	2	5	..	..	113
15 Other forms of Tuber- culosis .. ..	46	59	19	15	9	12	..	..	160
16 Cancer and other Malig- nant Tumours ..	877	667	344	194	123	65	2	..	2,272
17 Simple Meningitis ..	139	87	63	31	23	15	..	..	358
18 Congestion, Hæmorrhage and Softening of Brain	483	320	172	111	50	46	..	..	1,182
19 Organic Diseases of the Heart .. ..	794	601	330	234	132	89	2	1	2,183
20 Acute Bronchitis ..	109	39	18	21	6	18	..	..	211
21 Chronic Bronchitis ..	215	220	92	51	19	12	..	..	609
22 Pneumonia .. ..	530	399	168	88	80	62	..	..	1,327
23 Other Diseases of the Respiratory System (Tuberculosis exceptd.)	456	457	209	73	66	30	1	1	1,293
24 Diseases of the Stomach (Cancer excepted) ..	74	75	35	17	14	10	..	..	225
25 Diarrhœa and Enteritis (children under 2 years only) .. ..	352	282	192	66	63	26	2	..	983
26 Appendicitis & Typhlitis	86	46	43	25	10	9	..	..	219
27 Hernia, Intestinal Ob- structions .. ..	117	84	47	26	17	10	..	..	301
28 Cirrhosis of the Liver	77	44	41	15	12	3	..	..	192
29 Nephritis and Bright's Disease .. ..	476	409	204	123	70	22	8	..	1,312
30 Non-cancerous Tumours and other Diseases of Female Genital Organs	..	..	..	..	..	..	..	..	..
31 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	..	..	..	..	..	..	..	..	..
32 Other Puerperal Acci- dents of Pregnancy and Confinement ..	..	..	..	..	..	..	..	..	..
33 Congenital Debility and Malformations ..	840	520	228	173	116	89	..	1	1,967
34 Senile Debility .. ..	1,051	754	265	235	140	95	6	..	2,546
35 Violence .. ..	727	445	434	178	175	68	12	..	2,039
36 Suicide .. ..	166	81	69	39	46	4	3	..	408
37 Other Diseases .. ..	1,977	1,550	901	398	299	152	12	1	5,290
38 Unspecified or Ill-defined Diseases .. ..	132	111	57	59	41	20	3	..	423
Total—Males .. ..	10,914	8,079	4,359	2,430	1,774	959	66	4	28,585

## CAUSES OF DEATH, COMMONWEALTH, 1918.

(b) FEMALES.

Cause.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	Nor. Ter.	Fed. Ter.	C'wth.
1 Typhoid Fever ..	41	19	19	5	12	4	..	..	100
2 Typhus ..	..	..	..	..	..	..	..	..	..
3 Malaria ..	..	..	14	..	..	..	..	..	14
4 Small-pox ..	..	..	..	..	..	..	..	..	..
5 Measles ..	27	3	2	..	..	..	..	..	32
6 Scarlet Fever ..	6	29	1	6	7	..	..	..	49
7 Whooping Cough ..	51	44	22	1	10	4	..	..	132
8 Diphtheria and Croup ..	127	116	40	42	16	8	..	..	349
9 Influenza ..	132	117	68	21	26	19	..	..	383
10 Asiatic Cholera ..	..	..	..	..	..	..	..	..	..
11 Cholera Nostras ..	1	..	..	..	..	..	..	..	1
12 Other Epidemic Diseases ..	20	17	19	13	8	1	2	..	80
13 Tuberculosis of the Lungs ..	442	450	110	164	73	42	..	..	1,281
14 Tuberculosis of the Meninges ..	28	41	2	13	7	4	..	..	95
15 Other forms of Tuberculosis ..	47	51	6	9	8	11	..	..	132
16 Cancer and other Malignant Tumours ..	707	673	232	185	97	80	..	..	1,974
17 Simple Meningitis ..	92	55	37	19	12	10	..	..	225
18 Congestion, Hæmorrhage and Softening of Brain ..	408	389	121	101	48	48	..	..	1,115
19 Organic Diseases of the Heart ..	613	602	235	194	58	91	..	..	1,793
20 Acute Bronchitis ..	101	21	36	18	3	9	..	..	188
21 Chronic Bronchitis ..	201	158	72	40	24	17	..	..	512
22 Pneumonia ..	286	246	133	72	37	40	..	..	814
23 Other Diseases of the Respiratory System (Tuberculosis exceptd.) ..	355	323	106	63	34	25	..	..	906
24 Diseases of the Stomach (Cancer excepted) ..	71	61	25	12	9	6	..	..	184
25 Diarrhœa and Enteritis (children under 2 yrs. only) ..	266	202	135	58	61	27	..	..	749
26 Appendicitis & Typhlitis ..	63	49	17	10	7	6	..	..	152
27 Hernia, Intestinal Obstructions ..	96	75	19	27	18	7	..	..	242
28 Cirrhosis of the Liver ..	42	37	15	4	4	3	..	..	105
29 Nephritis and Bright's Disease ..	272	316	117	68	37	21	1	..	832
30 Non-cancerous Tumours and other Diseases of the Female Genital Organs ..	57	51	18	12	13	6	2	..	159
31 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis) ..	83	45	22	13	10	10	..	..	183
32 Other Puerperal Accidents of Pregnancy and Confinement ..	172	91	70	34	23	19	..	..	409
33 Congenital Debility and Malformations ..	608	401	211	121	83	61	2	..	1,487
34 Senile Debility ..	738	838	158	207	78	99	..	..	2,118
35 Violence ..	209	173	114	46	38	20	1	1	602
36 Suicide ..	39	24	10	10	5	2	..	..	90
37 Other Diseases ..	1,419	1,301	567	341	176	131	..	1	3,936
38 Unspecified or Ill-defined Diseases ..	82	80	19	31	17	12	..	..	241
Total—Females ..	7,902	7,098	2,792	1,960	1,059	843	8	2	21,664

## CAUSES OF DEATH, COMMONWEALTH, 1918.

(c) TOTAL—MALES AND FEMALES.

Cause.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	Nor. Ter.	Fed. Ter.	C'with.
1 Typhoid Fever ..	107	48	54	10	22	10	..	..	251
2 Typhus ..	..	..	..	..	..	..	..	..	..
3 Malaria ..	2	2	33	1	..	..	3	..	41
4 Small-pox ..	..	..	..	..	..	..	..	..	..
5 Measles ..	65	8	3	1	3	2	..	..	82
6 Scarlet Fever ..	16	40	5	9	10	1	..	..	81
7 Whooping Cough ..	106	66	32	5	16	9	..	..	234
8 Diphtheria and Croup	233	209	73	83	27	20	..	..	645
9 Influenza ..	336	218	139	45	71	39	..	..	848
10 Asiatic Cholera ..	..	..	..	..	..	..	..	..	..
11 Cholera Nostras ..	1	..	..	1	..	..	..	..	2
12 Other Epidemic Diseases	39	42	44	24	20	2	3	..	174
13 Tuberculosis of the Lungs	1,090	937	338	323	244	92	11	..	3,035
14 Tuberculosis of the Meninges ..	70	95	4	21	9	9	..	..	208
15 Other forms of Tuberculosis ..	93	110	25	24	17	23	..	..	292
16 Cancer and other Malignant Tumours ..	1,584	1,340	576	379	220	145	2	..	4,246
17 Simple Meningitis ..	231	142	100	50	35	25	..	..	583
18 Congestion, Hæmorrhage and Softening of the Brain ..	891	709	293	212	98	94	..	..	2,297
19 Organic Diseases of Heart	1,407	1,203	565	428	190	180	2	1	3,976
20 Acute Bronchitis ..	210	60	54	39	9	27	..	..	399
21 Chronic Bronchitis ..	416	378	164	91	43	29	..	..	1,121
22 Pneumonia ..	816	645	301	160	117	102	..	..	2,141
23 Other Diseases of the Respiratory System (Phthisis excepted) ..	811	780	315	136	100	55	1	1	2,199
24 Diseases of the Stomach (Cancer excepted) ..	145	136	60	29	23	16	..	..	409
25 Diarrhœa and Enteritis (children under 2 years only) ..	618	484	327	124	124	53	2	..	1,732
26 Appendicitis & Typhlitis	149	95	60	35	17	15	..	..	371
27 Hernia, Intestinal Obstructions ..	213	159	66	53	35	17	..	..	543
28 Cirrhosis of the Liver ..	119	81	56	19	16	6	..	..	297
29 Nephritis and Bright's Disease ..	748	725	321	191	107	43	9	..	2,144
30 Non-cancerous Tumours and other Diseases of the Female Genital Organs ..	57	51	18	12	13	6	2	..	159
31 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis) ..	83	45	22	13	10	10	..	..	183
32 Other Puerperal Accidents of Pregnancy and Confinement ..	172	91	70	34	23	19	..	..	409
33 Congenital Debility and Malformations ..	1,448	921	439	294	199	150	2	1	3,454
34 Senile Debility ..	1,789	1,592	423	442	218	194	6	..	4,664
35 Violence ..	936	618	548	224	213	88	13	1	2,641
36 Suicide ..	205	105	79	49	51	6	3	..	498
37 Other Diseases ..	3,396	2,851	1,468	739	475	283	12	2	9,226
38 Unspecified or Ill-defined Diseases ..	214	191	76	90	58	32	3	..	664
Total—Males and Females	18,816	15,177	7,151	4,390	2,833	1,802	74	6	50,249

(d) The classification for the years 1910 to 1917 is shewn for the Commonwealth in the following table, and for purposes of comparison the figures for the year 1918 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, for 1915 on pages 198 and 199 of the tenth issue of this Year Book, and for 1917 on pages 204 and 205 of the eleventh issue, while the figures for 1918 are given on pages 197 and 198 of this issue.

## CAUSES OF DEATH, COMMONWEALTH, 1910 TO 1918.

## MALES AND FEMALES.

Cause.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.
1 Typhoid Fever .. .. .	648	488	619	576	604	561	529	284	251
2 Typhus .. .. .	..	..	..	..	..	..	..	..	..
3 Malaria .. .. .	55	19	17	24	22	30	50	49	41
4 Small-pox .. .. .	4	1	..	1	3	1	..	..	..
5 Measles .. .. .	124	206	519	186	155	439	211	72	82
6 Scarlet Fever .. .. .	58	24	41	39	29	104	134	64	81
7 Whooping Cough .. .. .	476	291	301	560	320	185	426	282	234
8 Diphtheria and Croup .. .. .	555	696	754	808	716	703	893	646	645
9 Influenza .. .. .	324	447	386	341	331	389	278	168	848
10 Asiatic Cholera .. .. .	..	..	..	..	..	..	..	..	..
11 Cholera Nostras .. .. .	1	6	5	3	2	2	..	1	2
12 Other Epidemic Diseases .. .. .	184	295	224	185	176	205	249	144	174
13 Tuberculosis of the Lungs .. .. .	3,059	3,164	3,146	3,252	3,111	3,064	3,198	2,883	3,035
14 Tuberculosis of the Meninges .. .. .	215	269	215	252	207	213	215	206	208
15 Other forms of Tuberculosis .. .. .	343	303	327	296	256	278	310	275	292
16 Cancer and other Mal. Tumours .. .. .	3,205	3,321	3,537	3,603	3,675	3,702	3,979	4,022	4,246
17 Simple Meningitis .. .. .	567	636	749	753	812	1,209	1,201	690	583
18 Congestion, Hæmorrhage and Softening of the Brain .. .. .	1,704	2,178	2,176	2,281	2,204	2,118	2,230	2,214	2,297
19 Organic Diseases of the Heart .. .. .	4,378	4,896	5,267	4,989	4,836	4,370	4,509	3,852	3,976
20 Acute Bronchitis .. .. .	420	515	480	397	389	489	512	321	399
21 Chronic Bronchitis .. .. .	859	1,046	1,053	991	959	913	1,057	829	1,121
22 Pneumonia .. .. .	1,612	1,869	2,107	1,966	1,992	2,225	2,220	1,866	2,141
23 Other Diseases of the Respiratory System (Tuberculosis excepted) .. .. .	1,544	1,872	1,863	1,812	1,866	2,212	2,243	1,941	2,199
24 Diseases of the Stomach (Cancer excepted) .. .. .	297	370	457	447	368	351	263	394	409
25 Diarrhoea and Enteritis (Children under two years only) .. .. .	3,145	2,462	3,248	3,176	3,506	2,815	3,018	1,719	1,732
26 Appendicitis and Typhlitis .. .. .	315	320	347	364	374	356	321	321	371
27 Hernia, Intestinal Obstructions .. .. .	398	439	463	486	460	488	501	449	543
28 Cirrhosis of the Liver .. .. .	368	385	426	365	380	376	309	335	297
29 Nephritis and Bright's Disease .. .. .	1,771	1,951	2,188	2,211	2,127	2,274	2,329	2,203	2,144
30 Non-cancerous Tumours and other Diseases of the Female Genital Organs .. .. .	149	120	145	153	138	139	153	148	159
31 Puerperal Septicæmia (Puerperal Fever, Peritonitis, Phlebitis) .. .. .	218	209	231	235	215	182	282	250	183
32 Other Puerperal Accidents of Pregnancy and Confinement .. .. .	373	406	413	428	419	394	411	482	409
33 Congenital Debility, &c. .. .. .	3,221	3,142	3,611	3,823	3,860	3,993	3,826	3,423	3,454
34 Senile Debility .. .. .	3,353	3,849	4,124	4,116	4,130	4,686	4,980	4,770	4,664
35 Violence .. .. .	2,738	3,018	3,237	3,168	3,121	2,851	2,712	2,656	2,641
36 Suicide .. .. .	516	544	631	647	643	658	577	502	498
37 Other Diseases .. .. .	7,795	7,652	8,300	8,241	8,670	9,090	9,433	8,871	9,226
38 Unspecified or Ill-defined Diseases .. .. .	598	460	590	614	644	717	633	667	664
Total .. .. .	45,590	47,869	52,177	51,789	51,720	52,782	54,197	48,029	50,249

17. Certification of Deaths.—Information was obtained in 1918 as to the persons by whom the 50,249 deaths which occurred in the Commonwealth were certified. The result of the enquiry shews that approximately 89.9 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. ; in 1916, 89.5 per cent. ; and in 1917, 89.3 per cent.) were certified by medical practitioners, and 9.8 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. ; in 1916, 9.9 per cent. ; and in 1917, 10.3 per cent.) by coroners after inquests or magisterial enquiries, while in 0.3 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. ; in 1916, 0.6 per cent. ; and in 1917, 0.4 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. 36 ; a short summary will therefore suffice here :—

**CERTIFICATION OF DEATHS, COMMONWEALTH, 1918.**

Death Certified by—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Ter.	C'with.
Medical practitioner	16,919	13,484	6,609	3,967	2,492	1,667	40	6	45,184
Coroner ..	1,886	1,693	433	415	311	128	33	..	4,899
Not certified or not stated ..	11	..	109	8	30	7	1	..	166
<b>Total Deaths</b>	<b>18,816</b>	<b>15,177</b>	<b>7,151</b>	<b>4,390</b>	<b>2,833</b>	<b>1,802</b>	<b>74</b>	<b>6</b>	<b>50,249</b>

Of the cases certified by coroners, violent deaths numbered 2,348, senile decay 423, organic heart disease 344, ill-defined causes 335, congenital debility 140, cerebral hæmorrhage and apoplexy 87, pneumonia 125, Bright's disease 94, diarrhœa and enteritis 60, pulmonary tuberculosis 74, diseases of arteries, aneurisms, &c., 54, broncho-pneumonia, 47, acute and chronic alcoholism 56, puerperal diseases 28, infantile convulsions 33 ; a total of 4,248 out of 4,899.

Of uncertified causes of death, violent deaths numbered 21, congenital debility 13, senile debility 32, ill-defined causes 29, infantile convulsions 1, pulmonary tuberculosis 9 ; a total of 105 out of 166.

**18. Deaths from Special Causes.**—The table on p. 200 furnishes comparisons for the last nine years only, and comparisons will, therefore, generally be restricted to that period.

(i) *Typhoid Fever.* 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 251 deaths recorded in 1918, 107 occurred in New South Wales, 48 in Victoria, 54 in Queensland, 10 in South Australia, 22 in Western Australia, and 10 in Tasmania.

(ii) *Typhus.* No deaths from typhus have been registered from 1910 to 1918.

(iii) *Malaria.* Deaths from malarial diseases are practically confined to the tropical districts of Northern Queensland and Western Australia, and to the Northern Territory, 33 out of 41 deaths registered in 1918 having occurred in Queensland and 3 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 nine 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, rising slightly in 1918 to 82.

(vi) *Scarlet Fever.* 29 deaths were registered in 1914, 104 in 1915, 134 in 1916 ; 64 in 1917, and 81 in 1918.

(vii) *Whooping Cough*. During 1911 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. The number registered in 1918 was the smallest in the period under review except 1915.

(viii) *Diphtheria and Croup*. Deaths from this cause increased each year 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 645 in 1918, of which 233 were registered in New South Wales, 209 in Victoria, 73 in Queensland, 83 in South Australia, 27 in Western Australia, and 20 in Tasmania.

(ix) *Influenza*. In 1910, 324 deaths were registered from this cause; in 1911, 447; in 1912, 386; in 1913, 341; in 1914, 331; in 1915, 389; in 1916, 278; and in 1917, 168. In 1918 there was rather a serious outbreak, the deaths rising to 848.

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

(xi) *Cholera Nostras*. Isolated cases only of choleric diarrhoea occurred in each of the eight years. One death from this cause was registered during 1917, and 2 in 1918.

(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, 144 in 1917, and 174 in 1918. The list in 1918 includes the following diseases:—Dysentery 87, erysipelas 56, leprosy 9, other epidemic diseases 22. Of the 98 deaths from leprosy in the years 1908 to 1917, 80 occurred in Queensland. There have been no deaths from plague in the Commonwealth since 1912.

(xiii) *Tuberculosis of the Lungs and Acute Miliary Tuberculosis*. The deaths in 1918 numbered 3,035; viz., 1,754 males and 1,281 females. The figures for the years 1910 to 1917 were 3,059, 3,164, 3,146, 3,252, 3,111, 3,064, 3,198, and 2,883 respectively. Of the deaths in 1918, 1,090 occurred in New South Wales, 937 in Victoria, 338 in Queensland, 323 in South Australia, 244 in Western Australia, 92 in Tasmania, and 11 in the Northern Territory.

(xiiiia) *Tuberculosis of the Respiratory System*. Of the various forms of tuberculosis prevalent in the Commonwealth, that which has 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, showing 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, &c. 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 1918 include the following forms of tuberculosis:—Abdominal tuberculosis, 124; Pott's disease, 46; white swellings, 10; tuberculosis of other organs, 50; and disseminated tuberculosis, 62.

(xva) *All Forms of Tuberculosis.* A complete tabulation of all the different tubercular diseases from which deaths occurred in 1918 will be found in Bulletin No. 36 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 3,535, viz., 2,027 males and 1,508 females. The following table shews the ages of these 3,535 persons :—

**AGES OF PERSONS WHO DIED FROM TUBERCULAR DISEASES,  
COMMONWEALTH, 1918.**

Ages.	Male.	Female.	Total.	Ages.	Male.	Female.	Total.
Under 5 years ..	99	87	186	55 years and under 60	147	56	203
5 years and under 10	28	29	57	60 " " 65	112	46	158
10 " " 15	15	18	29	65 " " 70	67	15	82
15 " " 20	20	57	114	70 " " 75	24	16	40
20 " " 25	25	155	220	75 " " 80	18	9	27
25 " " 30	30	205	222	80 " " over ..	6	2	8
30 " " 35	35	225	178	Unspecified ..	1	..	1
35 " " 40	40	258	163	Total Deaths ..	2,027	1,508	3,535
40 " " 45	45	200	146				
45 " " 50	50	222	91				
50 " " 55	55	185	85				

A tabulation has been made of the occupations of males dying from tubercular diseases during 1918. A summary is here given :—

**OCCUPATIONS OF MALES WHO DIED FROM TUBERCULAR DISEASES,  
COMMONWEALTH, 1918.**

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
Professional class .. ..	192	Agricultural class .. ..	143
Domestic class .. ..	68	Pastoral class .. ..	50
Mercantile class .. ..	284	Working in mines and quarries ..	203
Engaged in transport and communication .. ..	149	Other primary producers .. ..	15
Manufacturing class .. ..	224	Independent means .. ..	7
Engaged in building and construction .. ..	86	Dependents .. ..	205
Other industrial workers .. ..	360	Occupation not stated .. ..	41
		Total Male Deaths .. ..	2,027

The length of residence in the Commonwealth of persons who died from tubercular diseases has been tabulated for the year 1918 for all the Commonwealth States, with the following results :—

**LENGTH OF RESIDENCE IN COMMONWEALTH OF PERSONS WHO DIED FROM  
TUBERCULAR DISEASES, 1918.**

Length of Residence in Commonwealth.	Male.	Fem.	Total.	Length of Residence in Commonwealth.	Male.	Fem.	Total.
Born in Commonwealth .. ..	1,394	1,296	2,690	Resident 10 years & under 15	24	11	35
Resident under 1 year .. ..	5	1	6	" 15 " " 20	16	5	21
" 1 year .. ..	8	4	12	" 20 " " over ..	297	118	415
" 2 years .. ..	11	4	15	Length of residence not stated	108	12	120
" 3 " " .. ..	15	6	21				
" 4 " " .. ..	43	8	51	Total Deaths .. ..	2,027	1,508	3,535
" 5 " " and under 10	108	43	149				



From the preceding table and the table on page 190, it will be seen that, among persons who had lived less than 5 years in Australia, 412 deaths occurred, and of these 105, or 25.5 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 shewn in the following table, together with the percentage which deaths from tuberculosis bear to the total number of deaths registered:—

**DEATH RATES (a) FROM TUBERCULOSIS AND PERCENTAGE ON TOTAL DEATHS, COMMONWEALTH, 1918.**

State.	Death Rates (a) from Tuberculosis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales .. .. .	0.78	0.54	0.66	6.74	6.54	6.66
Victoria .. .. .	0.89	0.73	0.81	7.43	7.64	7.52
Queensland .. .. .	0.71	0.35	0.53	5.71	4.23	5.14
South Australia .. .. .	0.90	0.78	0.84	7.49	9.49	8.38
Western Australia .. .. .	1.14	0.58	0.87	10.26	8.30	9.53
Tasmania .. .. .	0.65	0.56	0.61	6.99	6.76	6.98
Northern Territory .. .. .	2.80	..	2.20	16.67	..	14.86
Federal Territory .. .. .	..	..	..	..	..	..
Commonwealth .. .. .	0.83	0.59	0.71	7.09	6.96	7.03

(a) Number of deaths from tuberculosis per 1,000 of mean population.

The following table, which gives for a number of countries the death rates from pulmonary and military tuberculosis per 1,000 persons living, shews that the Commonwealth occupies a very enviable position when compared with most European countries:—

**PULMONARY AND MILITARY TUBERCULOSIS—DEATHS PER 1,000 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
Australia .. .. .	1918	0.61	Switzerland .. .. .	1914	1.38
New Zealand .. .. .	1915	0.63	Jamaica .. .. .	1915	1.47
Ontario (Canada) .. .. .	1917	0.88	Japan .. .. .	1913	1.50
Ceylon .. .. .	1915	0.89	Sweden .. .. .	1912	1.60
Belgium .. .. .	1912	0.93	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 to 4,246 deaths in 1918. Of the deaths registered in 1918, 2,272 were those of males, viz., 877 in New South Wales, 667 in Victoria, 344 in Queensland, 194 in South Australia, 123 in Western Australia, 65 in Tasmania, and 2 in the Northern Territory; while 1,974 were those of females, viz., 707 in New South Wales, 673 in Victoria, 232 in Queensland, 185 in South Australia,

97 in Western Australia, and 80 in Tasmania. Bulletin No. 36 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, 1918.

Seat of Disease.	Male.	Female.	Total.
Cancer, &c., of the buccal cavity .. .. .	285	21	306
"   "   the stomach and liver .. .. .	956	620	1 576
"   "   the peritonæum, the intestines, and the rectum ..	299	274	573
"   "   the female genital organs .. .. .	..	402	402
"   "   the breast .. .. .	..	283	283
"   "   the skin .. .. .	125	52	177
"   "   other organs .. .. .	607	322	929
Total Deaths .. .. .	2,272	1,974	4,246

Of these deaths, 992 were described as cancer, 2,106 as carcinoma, 239 as epithelioma, 478 as "malignant disease," 88 as "malignant tumour," 23 as neoplasm, 54 as "rodent ulcer," 253 as sarcoma, and 13 as scirrhus.

The ages of the 4,246 persons who died from cancer in 1918 are shown 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, COMMONWEALTH, 1918.

Ages.	Male.	Female.	Total.	Ages.	Male.	Female.	Total.
Under 15 years ..	16	16	32	55 years and under 60	324	298	622
15 years and under 20	2	4	6	60 " " 65	403	228	631
20 " " 25	6	6	12	65 " " 70	322	197	519
25 " " 30	19	24	43	70 " " 75	285	199	484
30 " " 35	21	38	59	75 " " 80	215	159	374
35 " " 40	53	93	146	80 " " 85	100	99	199
40 " " 45	75	137	212	85 years and over..	48	42	90
45 " " 50	142	192	334	Unspecified ..	1	1	2
50 " " 55	240	241	481	Total Deaths ..	2,272	1,974	4,246

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, COMMONWEALTH, 1918.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
Professional class .. .. .	139	Agricultural class .. .. .	360
Domestic class .. .. .	79	Pastoral class .. .. .	93
Mercantile class .. .. .	262	Working in mines and quarries	104
Engaged in transport and communication .. .. .	189	Other primary producers .. .. .	16
Manufacturing class .. .. .	240	Independent means .. .. .	30
Engaged in building and construction .. .. .	137	Dependents .. .. .	74
Other industrial workers .. .. .	489	Occupation not stated .. .. .	60
		Total Male Deaths .. .. .	2,272

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 shows 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; in 1917, 0.13 per thousand, and in 1918, 0.14 per thousand in excess of that of tuberculosis.

**DEATH RATES<sup>(a)</sup> FROM CANCER AND PERCENTAGE ON TOTAL DEATHS,  
COMMONWEALTH, 1918.**

State.	Death Rates (a) from Cancer.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales .. ..	0.92	0.73	0.83	8.04	8.95	8.42
Victoria .. ..	0.99	0.91	0.95	8.26	9.48	8.83
Queensland .. ..	0.98	0.69	0.84	7.89	8.31	8.05
South Australia .. ..	0.96	0.78	0.86	7.98	9.44	8.63
Western Australia .. ..	0.77	0.64	0.71	6.93	9.16	7.77
Tasmania .. ..	0.63	0.79	0.71	6.78	9.49	8.05
Northern Territory .. ..	0.51	..	0.40	3.03	..	2.70
Federal Territory .. ..	..	..	..	..	..	..
Commonwealth .. ..	0.93	0.78	0.85	7.95	9.20	8.45

(a) Number of deaths from Cancer per 1,000 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	New Zealand .. ..	1916	0.83
Rumania .. ..	1914	0.13	Prussia .. ..	1913	0.83
Serbia .. ..	1911	0.14	<b>Australia .. ..</b>	<b>1918</b>	<b>0.85</b>
Jamaica .. ..	1915	0.17	Ireland .. ..	1916	0.91
Chile .. ..	1914	0.36	German Empire .. ..	1913	0.91
Hungary .. ..	1912	0.47	United States (Regis- tration 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, &c., 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 to 567 in 1910. Since that year the number 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 1918 from cerebro-spinal meningitis being 173, and those from all other forms of meningitis, 410. Of the former, 73 occurred in New South Wales, 40 in Victoria, 39 in Queensland, 10 in South Australia, 6 in Western Australia, and 5 in Tasmania.

(xviii) *Apoplexy, Hæmorrhage and Softening of the Brain*. The deaths registered under this heading in 1910 were 1,704, viz., 864 males and 840 females; in 1911, 2,178, viz., 1,122 males and 1,056 females; in 1912, 2,176, viz., 1,146 males and 1,030 females; in 1913, 2,281, viz., 1,188 males and 1,093 females; in 1914, 2,204, viz., 1,143 males and 1,061 females; in 1915, 2,118, viz., 1,120 males and 998 females; in 1916, 2,230, viz., 1,133 males and 1,097 females; in 1917, 2,214, and in 1918, 2,297, viz., 1,182 males and 1,115 females. The 1918 figures are made up of hæmorrhage of the brain and apoplexy—1,122 males, 1,069 females, total 2,191; and softening of the brain—60 males, 46 females, total 106.

(xix) *Organic Diseases of the Heart*. The number of deaths registered in 1918 was 3,976, viz., 2,183 males and 1,793 females. Of these deaths, New South Wales was responsible for 794 males and 613 females; Victoria for 601 males and 602 females; Queensland for 330 males and 235 females; South Australia for 234 males and 194 females; Western Australia for 132 males and 58 females; Tasmania for 89 males and 91 females; the Northern Territory for 2 males; and the Federal Territory for 1 male. To the figures for 1918 correspond the following death rates and percentages to total deaths:—

**DEATH RATES<sup>(a)</sup> FROM ORGANIC HEART DISEASE AND PERCENTAGE ON TOTAL DEATHS, COMMONWEALTH, 1918.**

State.	Death Rates (a) from Organic Heart Diseases.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.84	0.62	0.74	7.28	7.76	7.48
Victoria	0.89	0.81	0.85	7.44	8.48	7.93
Queensland	0.94	0.69	0.82	7.57	8.42	7.90
South Australia	1.15	0.82	0.97	9.62	9.90	9.75
Western Australia	0.83	0.38	0.61	7.44	5.48	6.71
Tasmania	0.87	0.90	0.88	9.28	10.79	9.99
Northern Territory	0.51	..	0.40	3.03	..	2.70
Federal Territory	0.76	..	0.41	25.00	..	16.67
Commonwealth	0.89	0.71	0.80	7.64	8.27	7.91

(a) Number of deaths from Organic Heart Disease per 1,000 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 person under "chronic

bronchitis." This rule has been followed throughout in compiling the tables for 1910-1918, with the result that acute bronchitis is credited with 420 deaths in 1910, 515 in 1911, 460 in 1912, 397 in 1913, 389 in 1914, 489 in 1915, 512 in 1916, 321 in 1917; and 399 in 1918, viz., 211 males and 188 females.

(xxi) *Chronic Bronchitis.* The adjustment mentioned in the preceding paragraph gives a total of 1,121 deaths in 1918.

(xxii) *Pneumonia.* The 1918 figures were 1,327 males and 814 females, a total of 2,141 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 1910, 1,544; in 1911, 1,872; in 1912, 1,863; in 1913, 1,812; in 1914, 1,866; in 1915, 2,212; in 1916, 2,243; in 1917, 1,941; and in 1918, 2,199. The total for 1918 is made up as follows, viz. :—Diseases of the larynx, 77 deaths; diseases of the thyroid body, 27 deaths; broncho-pneumonia, 1,083 deaths; pleurisy, 193 deaths; pulmonary congestion and apoplexy, 264 deaths; gangrene of the lung, 18 deaths; asthma, 187 deaths; pulmonary emphysema, 33 deaths; fibroid phthisis (miners' complaint), 249 deaths; other diseases of the respiratory system (tuberculosis excepted), 68 deaths.

(xxiv) *Diseases of the Stomach (Cancer excepted).* In 1918 this heading includes—Ulcer of the stomach, 70 males, 43 females; and other diseases of the stomach (cancer excepted), 155 males, 141 females; a total of 409 deaths.

(xxv) *Diarrhœa and Enteritis (Children under two years only).* The number of deaths due to these causes is always a large one, varying from 1,719 deaths in 1917 to a maximum of 3,506 deaths in 1914. The total for 1918 was 1,732, distributed amongst the six States as follows :—New South Wales, 352 males, 266 females, total 618; Victoria, 282 males, 202 females, total 484; Queensland, 192 males, 135 females, total 327; South Australia, 66 males, 58 females, total 124; Western Australia, 63 males, 61 females, total 124; Tasmania, 26 males, 27 females, total 53; and Northern Territory, 2 males.

The following are the death rates and percentages on total deaths due to infantile diarrhœa and enteritis in the States and Territories for the year 1918 :—

**DEATH RATES (a) FROM INFANTILE DIARRHŒA AND ENTERITIS, AND PERCENTAGE ON TOTAL DEATHS, COMMONWEALTH, 1918.**

State.	Death Rates (a) from Infantile Diarrhœa and Enteritis.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	0.37	0.28	0.32	3.23	3.37	3.28
Victoria ..	0.42	0.27	0.34	3.49	2.85	3.19
Queensland ..	0.55	0.40	0.47	4.40	4.84	4.57
South Australia	0.32	0.24	0.28	2.72	2.96	2.82
Western Australia	0.39	0.40	0.40	3.55	5.76	4.38
Tasmania ..	0.25	0.27	0.26	2.71	3.20	2.94
Northern Territory	0.05	..	0.04	3.03	..	2.70
Commonwealth	0.40	0.30	0.35	3.44	3.46	3.45

(a) Number of deaths from these diseases per 1,000 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 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. In 1918 the deaths from this cause were hardly more numerous than those for 1917.

(xxvi) *Appendicitis and Typhlitis.* Prior to 1910, deaths from these causes were included in *Other Diseases*, paragraph xxxvii. Deaths numbered 315 in 1910, 320 in 1911, 347 in 1912, 364 in 1913, 374 in 1914, 356 in 1915, 321 in 1916, 321 in 1917, and 371 in 1918, viz., 219 males and 152 females.

(xxvii) *Hernia, Intestinal Obstructions.* The number of deaths has not varied within great limits from year to year, the number registered in 1918 being 543, viz., 301 males and 242 females.

(xxviii) *Cirrhosis of the Liver.* There is little variation in the number of deaths from 1910 to 1918. 368 deaths were registered in 1910 and 297 in 1918, viz., 192 males and 105 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 1910 there were 1,771 deaths, 1,077 males and 694 females; in 1911, 1,951, 1,197 males and 754 females; in 1912, 2,188, 1,352 males and 836 females; in 1913, 2,211, 1,363 males and 848 females; in 1914, 2,127, 1,281 males and 846 females; in 1915, 2,274, 1,413 males and 861 females; in 1916, 2,329, 1,416 males and 913 females; in 1917, 2,203, 1,343 males and 860 females; and in 1918, 2,144, viz., 1,312 males and 832 females. Of the deaths registered in 1918, those of 77 males and 60 females were ascribed to acute nephritis, and those of 1,235 males and 772 females to Bright's Disease. New South Wales was responsible for 748 deaths; Victoria for 725; Queensland, for 321; South Australia for 191; Western Australia for 107; Tasmania for 43; and Northern Territory for 9; making a total of 2,144.

(xxx) *Non-cancerous Tumours and other Diseases of the Female Genital Organs.* Deaths in 1910 numbered 149; in 1911, 120; in 1912, 145; in 1913, 153; in 1914, 138; in 1915, 139; in 1916, 153; in 1917, 148; and in 1918, 159. Included in the 159 deaths registered in 1918 were the following:—Non-puerperal uterine hæmorrhage, 7; non-cancerous uterine tumours, 44; other diseases of the uterus, 33; cysts and ovarian tumours, 33; salpingitis and other diseases of the female genital organs, 38; non-puerperal diseases of the breast (cancer excepted), 4.

(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. In 1918 the number was 183.

(xxxii) *Other Puerperal Accidents of Pregnancy and Confinement.* The deaths in 1910 numbered 373; in 1911, 406; in 1912, 413; in 1913, 428; in 1914, 419; in 1915, 394; in 1916, 411; in 1917, 482; and in 1918, 409. Included in the 409 deaths registered in 1918 were the following:—Accidents of pregnancy, 73; puerperal hæmorrhage, 73; other accidents of childbirth, 77; puerperal albuminuria and convulsions, 126; puerperal phlegmasia alba dolens, embolus, sudden death, 54; death following childbirth, 4; puerperal diseases of the breast, 2.

(xxxiii) *All Puerperal Causes.* The 592 deaths registered in 1918 under the two preceding headings will be found tabulated in "Bulletin No. 36; Commonwealth Demography," under various aspects. It will suffice to repeat here the following facts:—

Of the 592 mothers who died from puerperal causes during the year 1918, 539 were married and 53 were single. As the total number of nuptial confinements was 117,835 and of ex-nuptial confinements 6,526, it follows that one in 219 of married mothers, and one in 123 of single mothers, died from puerperal causes, the general proportion being one in 210, as against one in 215 in 1914, and one in 181 in 1908.

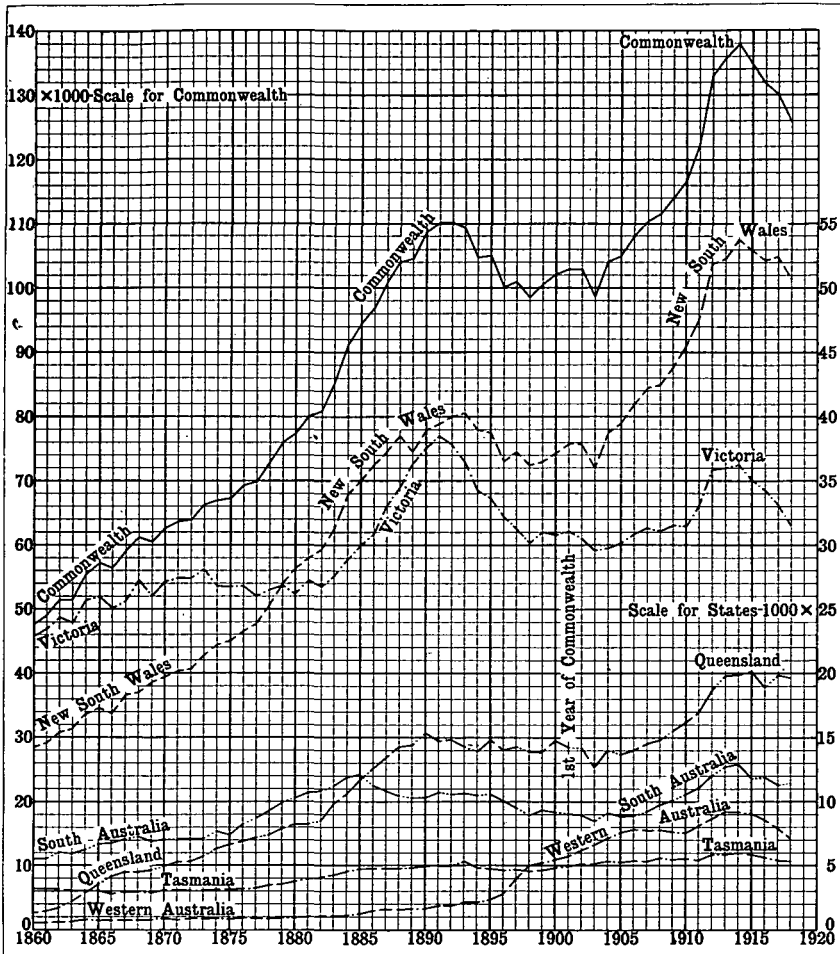
The ages of the mothers who died varied from 14 to 48 years, and are shewn in the following table:—

**AGES OF MOTHERS WHO DIED FROM PUERPERAL CAUSES, COMMONWEALTH, 1918.**

Age at Death.	Married Women.	Single Women.	Total.	Age at Death.	Married Women.	Single Women.	Total.
14 years ..	..	1	1	35 years ..	23	..	23
16 " ..	3	1	4	36 " ..	25	4	29
17 " ..	1	2	3	37 " ..	26	..	26
18 " ..	6	6	12	38 " ..	27	3	30
19 " ..	4	3	7	39 " ..	16	1	17
20 " ..	13	2	15	40 " ..	16	1	17
21 " ..	12	3	15	41 " ..	12	..	12
22 " ..	9	1	10	42 " ..	7	..	7
23 " ..	14	5	19	43 " ..	10	..	10
24 " ..	20	4	24	44 " ..	4	..	4
25 " ..	24	4	28	45 " ..	2	..	2
26 " ..	39	2	41	46 " ..	4	..	4
27 " ..	26	4	30	48 " ..	1	..	1
28 " ..	20	..	20				
29 " ..	31	..	31				
30 " ..	33	2	35				
31 " ..	26	1	27				
32 " ..	29	1	30				
33 " ..	29	1	30				
34 " ..	27	1	28				
				Total deaths	539	53	592

Of the 539 married women shewn in the above table, 68 left no children, 133 left 1 child each, 87 left 2, 66 left 3, 61 left 4, 38 left 5, 38 left 6, 19 left 7, 10 left 8, 9 left 9, 4 left 10, 3 left 11, 1 left 12, 1 left 13, and 1 left 14 children. The total number of children of the 539 mothers was 1,573.

GRAPHS SHEWING TOTAL ANNUAL BIRTHS IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1918.



(See Table page 156.)

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 2,000 persons for the Commonwealth, and 1,000 for the States.

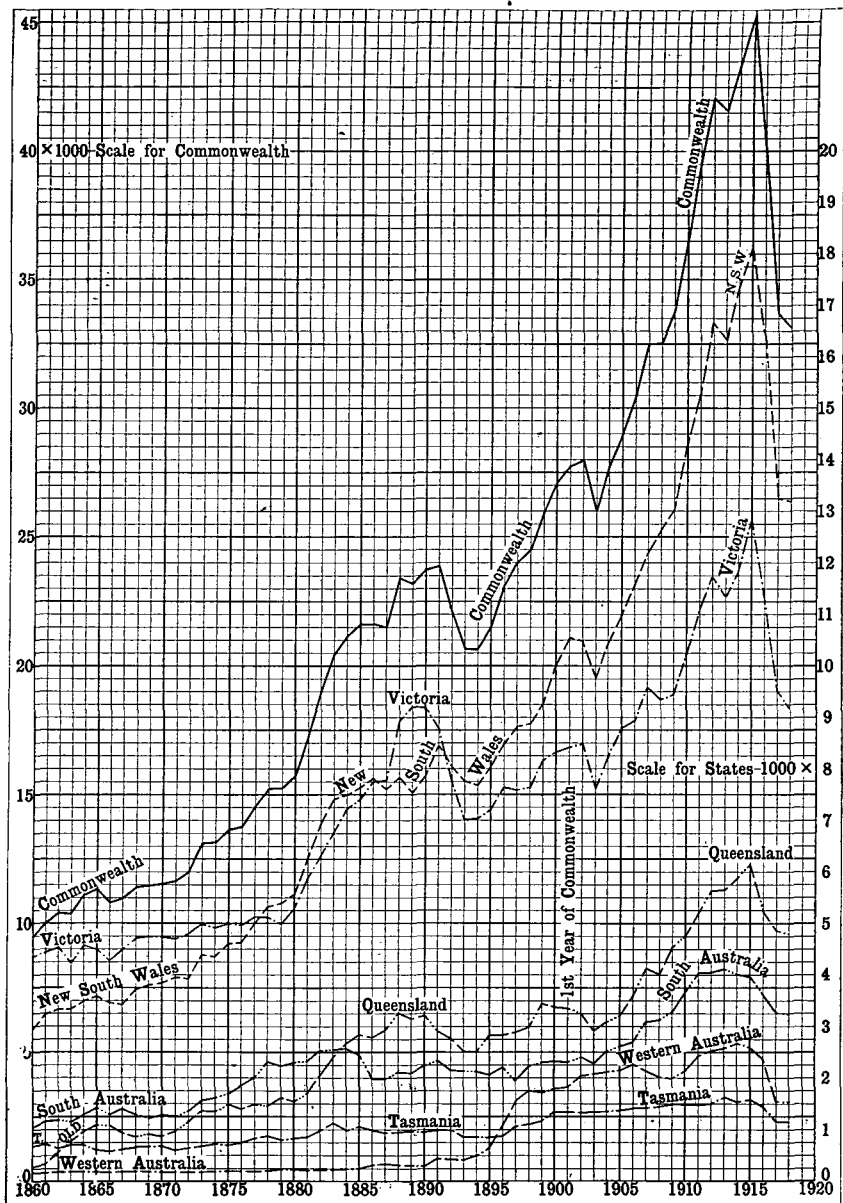
The scale on the left relates to the Commonwealth, and that on the right to the States.

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, ————; Tasmania, ————; South Australia, ————; Western Australia, ————; Tasmania, ————.



GRAPHS SHEWING TOTAL ANNUAL MARRIAGES IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1918.



(See Table page 172.)

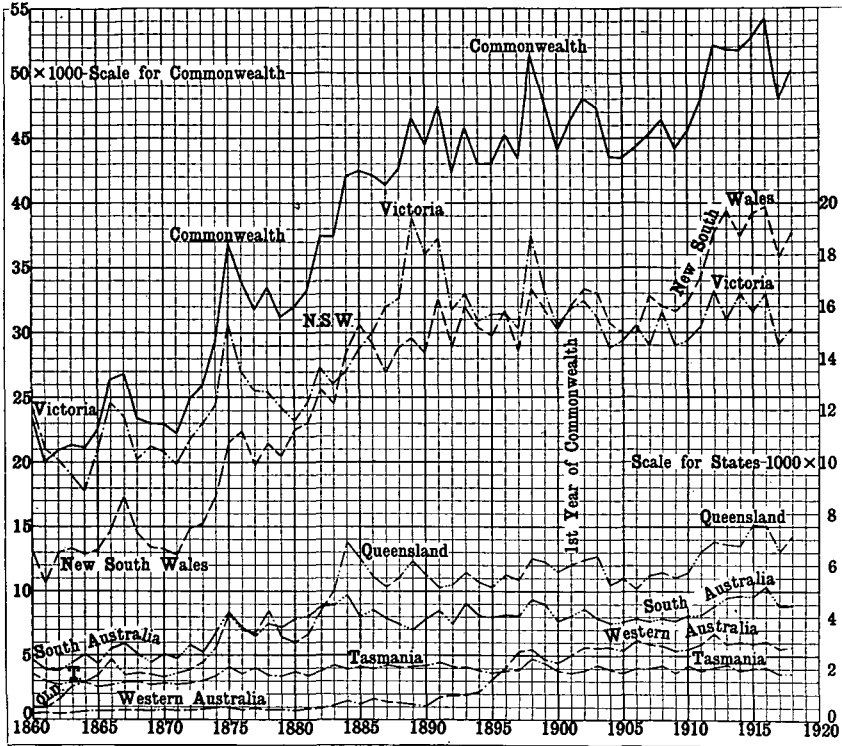
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 500 marriages for the Commonwealth and 250 for the States.

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 211.

GRAPHS SHEWING TOTAL ANNUAL DEATHS IN THE COMMONWEALTH AND STATES OF AUSTRALIA, 1860-1918.



(See table on page 181.)

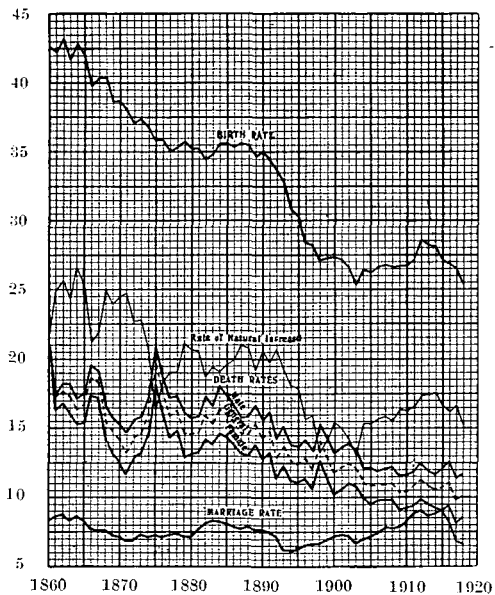
EXPLANATION OF GRAPHS.—The base of each small square represents an interval of one year for both Commonwealth and States, and the vertical height represents 1,000 persons for the Commonwealth and 500 for the States.

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 211.

GRAPHS SHEWING GENERAL BIRTH, NATURAL INCREASE, DEATH (MALE, GENERAL, AND FEMALE), AND MARRIAGE RATES IN THE COMMONWEALTH OF AUSTRALIA, 1860-1918.



(See pages 157, 173, 181, and 235.)

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.

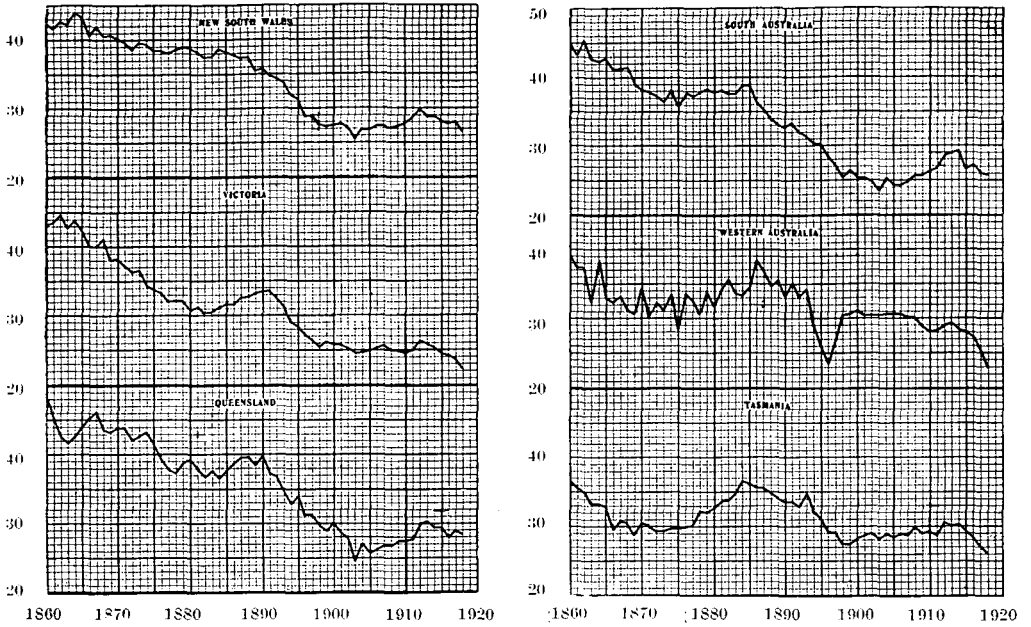
BIRTH RATE GRAPHS. (See next page.)

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.)

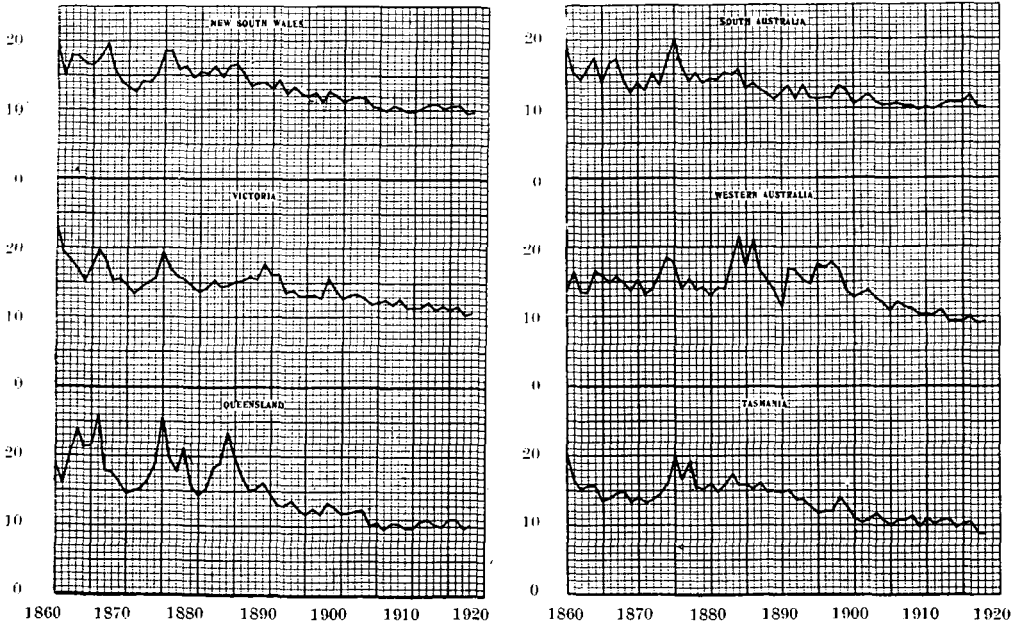
EXPLANATION OF GRAPHS.—The base of each small square represents one year's interval, and the vertical height one death per thousand of the population. The zero for each State is shown by a thickened line.

GRAPHS SHEWING BIRTH RATES IN THE STATES OF NEW SOUTH WALES, VICTORIA, QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA, AND TASMANIA, 1860-1918.



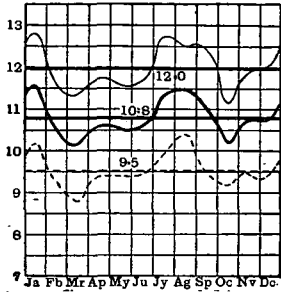
(See Table page 157.)

GRAPHS SHEWING DEATH RATES IN THE STATES OF NEW SOUTH WALES, VICTORIA, QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA, AND TASMANIA, 1860-1918.

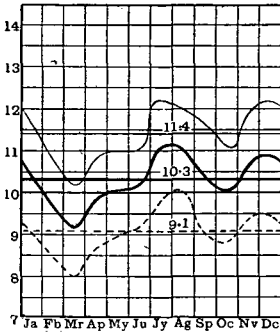


(See Table page 181.) For explanation of above graphs see page 214.

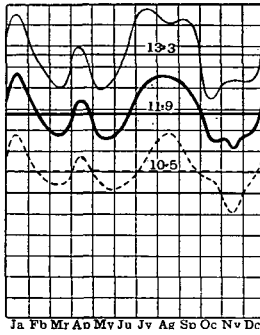
GRAPHS SHEWING GENERAL MONTHLY DEATH RATES, 1907-1912.



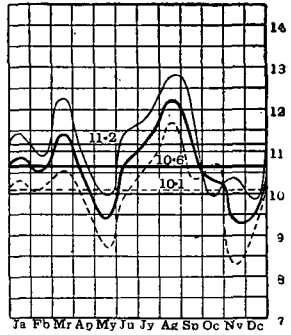
COMMONWEALTH.



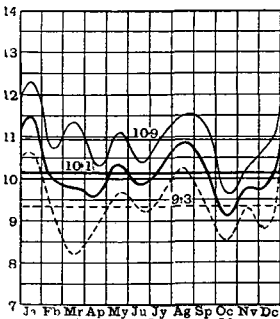
NEW SOUTH WALES.



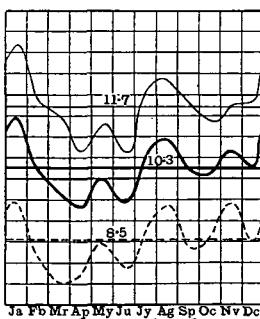
VICTORIA.



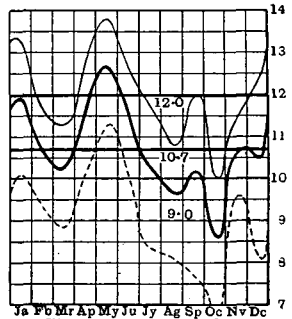
TASMANIA.



SOUTH AUSTRALIA.



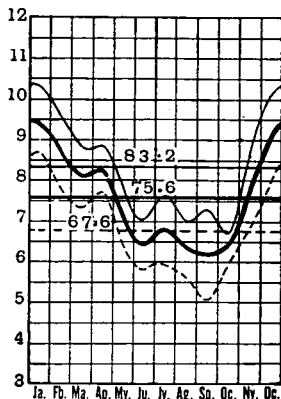
QUEENSLAND.



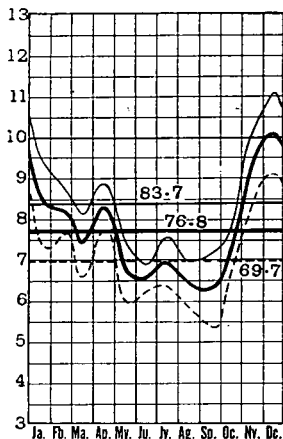
WESTERN AUSTRALIA.

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

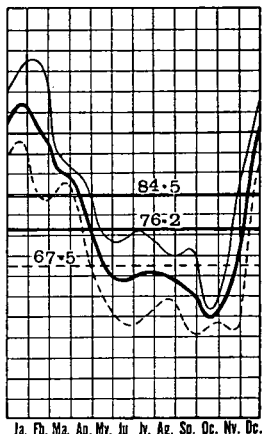
GRAPHS SHEWING INFANTILE MONTHLY DEATH RATES, 1907-1912.



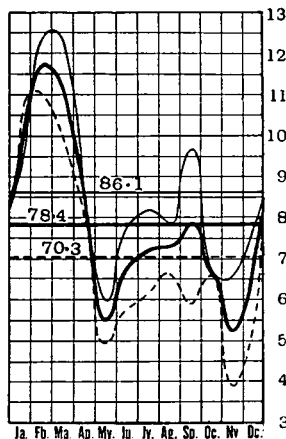
COMMONWEALTH.



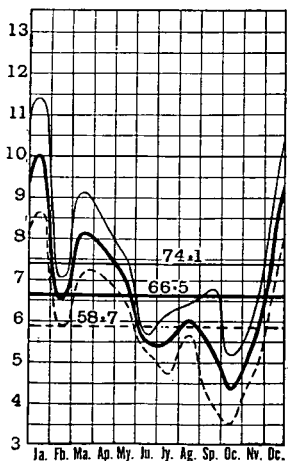
NEW SOUTH WALES.



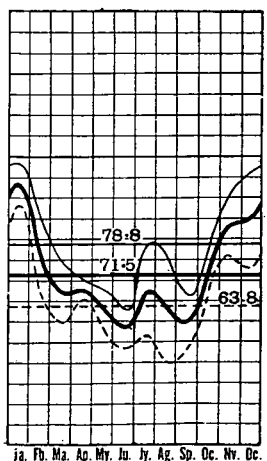
VICTORIA.



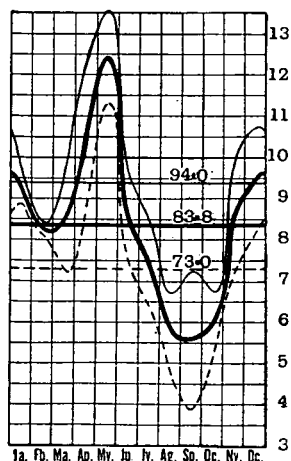
TASMANIA.



SOUTH AUSTRALIA.



QUEENSLAND.



WESTERN AUSTRALIA.

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



Thirty of the mothers who died had been married less than one year, 66 between one and two years, 37 between two and three years, the duration of marriage ranging up to 27 years, apart from 7 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. 36; 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 died in the 22nd year of her marriage, leaving 14 children.

(xxxiii) *Congenital Debility and Malformations.* The total deaths registered under these heads in 1918 were 3,454, of whom 3,418 were children under one year of age. The figures include:—Malformations, 278 males, 226 females, total 504; and congenital debility, icterus, and sclerema of children under one year of age, 1,639 males and 1,261 females, total 2,950; or a grand total of 3,454. Of these deaths, 1,448 were registered in New South Wales, viz., 840 males and 608 females; 921 in Victoria, viz., 520 males and 401 females; 439 in Queensland, viz., 228 males and 211 females; 294 in South Australia, viz., 173 males and 121 females; 199 in Western Australia, viz., 116 males and 83 females; 150 in Tasmania, viz., 89 males and 61 females; 2 females 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 1918, 4,664 deaths were attributed to this cause, and were distributed among the States as follows: 1,789 occurred in New South Wales, viz., 1,051 males and 738 females; 1,592 in Victoria, viz., 754 males and 838 females; 423 in Queensland, viz., 265 males and 158 females; 442 in South Australia, viz., 235 males and 207 females; 218 in Western Australia, viz., 140 males and 78 females; 194 in Tasmania, viz., 95 males and 99 females; and 6 males in the Northern Territory.

Of the males whose deaths were described as due to senility, one was aged between 55 and 60, 60 were between 60 and 64; 195 between 65 and 69; 412 between 70 and 74; 545 between 75 and 79; 663 between 80 and 84; 441 between 85 and 89; 176 between 90 and 94; 38 between 95 and 99; 4 were 100 years old and upwards; and of one the age was not stated.

Of the females, 3 were between 55 and 59; 31 between 60 and 64; 128 between 65 and 69; 263 between 70 and 74; 487 between 75 and 79; 565 between 80 and 84; 415 between 85 and 89; 163 between 90 and 94; 49 between 95 and 99; while 14 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 1910, 2,738, viz., 2,128 males and 610 females; in 1911, 3,018, viz., 2,323 males and 695 females; in 1912, 3,237, viz., 2,559 males and 678 females; in 1913, 3,168, viz., 2,503 males and 665 females; in 1914, 3,121, viz., 2,458 males and 663 females; in 1915, 2,851, viz., 2,251 males and 600 females; in 1916, 2,712, viz., 2,134 males and 578 females; in 1917, 2,656, viz., 2,069 males and 587 females; and in 1918, 2,641, viz., 2,039 males and 602 females. Of the deaths registered in 1918, those of 727 males and 209 females occurred in New South Wales; those of 445 males and 173 females in Victoria; those of 434 males and 114 females in Queensland; those of 178 males and 46 females in South Australia; those of 175 males and 38 females in Western Australia; those of 68 males and 20 females in Tasmania; those of 12 males and 1 female in the Northern Territory; and 1 female in the Federal Territory.



The following table shews the various kinds of violent deaths which occurred in 1918, distinguishing males and females:—

DEATHS FROM EXTERNAL VIOLENCE, COMMONWEALTH, 1918.

Cause of Death.	Males.	Females.	Total.
Poisoning by food .. .. .	26	12	38
Venomous bites and stings .. .. .	4	3	7
Other acute poisonings.. .. .	23	11	34
Conflagration .. .. .	13	4	17
Burns (conflagration excepted) .. .. .	115	166	281
Absorption of deleterious gases (conflagration excepted) .. .. .	28	24	52
Accidental drowning .. .. .	405	92	497
Traumatism by firearms .. .. .	92	11	103
Traumatism by cutting or piercing instruments .. .. .	10	3	13
Traumatism by fall .. .. .	221	51	272
Traumatism in mines or quarries .. .. .	90	..	90
Traumatism by machines .. .. .	32	..	32
Traumatism by other crushing (vehicles, railways, &c.) .. .. .	460	83	543
Injuries by animals .. .. .	43	1	44
Starvation, thirst, fatigue .. .. .	30	5	35
Excessive cold .. .. .	..	1	1
Effects of heat .. .. .	55	33	88
Lightning .. .. .	5	1	6
Electricity (lightning excepted) .. .. .	7	..	7
Homicide by firearms .. .. .	15	9	24
Homicide by cutting or piercing instruments .. .. .	3	5	8
Homicide by other means .. .. .	44	14	58
Fractures (cause not specified) .. .. .	54	36	90
Other external violence .. .. .	264	37	301
Total Deaths .. .. .	2,039	602	2,641

In every kind of violent death there was, therefore, an excess of males, with the exception of burning accidents, homicide by cutting or piercing instruments, and excessive cold.

(xxxvi) *Suicide.* It may be said that suicides have remained fairly stationary during recent years, the number in 1910 having been 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, 658, viz., 536 males and 122 females; in 1916, 577, viz., 466 males and 111 females; in 1917, 502, viz., 408 males and 94 females; and in 1918, 498, viz., 408 males and 90 females. Of the suicides in 1918, those of 166 males and 39 females occurred in New South Wales; those of 81 males and 24 females in Victoria; those of 69 males and 10 females in Queensland; those of 39 males and 10 females in South Australia; those of 46 males and 5 females in Western Australia; those of 4 males and 2 females in Tasmania; and those of 3 males in the Northern Territory.

The modes adopted by persons who committed suicide in the years 1908 to 1918 were as follows :—

**MALE AND FEMALE SUICIDES (MODES ADOPTED), COMMONWEALTH, 1908 TO 1918.**

Mode of Death.	Males.		Females.		Total.	
	Total of 10 years 1908-17.	1918.	Total of 10 years 1908-17.	1918.	Total of 10 years 1908-17.	1918.
Poisoning .. .. .	966	57	543	31	1,509	88
Asphyxia .. .. .	13	2	5	2	18	4
Hanging or Strangulation .. .. .	712	56	135	16	847	72
Drowning .. .. .	342	35	168	18	510	53
Firearms .. .. .	1,598	154	71	11	1,669	165
Cutting instruments .. .. .	764	84	68	5	832	89
Precipitation from a height .. .. .	38	6	20	2	58	8
Crushing .. .. .	65	7	13	1	78	8
Other modes .. .. .	165	7	24	4	189	11
<b>Total .. .. .</b>	<b>4,663</b>	<b>408</b>	<b>1,047</b>	<b>90</b>	<b>5,710</b>	<b>498</b>

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, COMMONWEALTH, 1918.**

State.	Death Rates (a) from Suicide.			Percentage on Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales .. .. .	0.18	0.04	0.11	1.52	0.49	1.09
Victoria .. .. .	0.12	0.03	0.07	1.00	0.34	0.70
Queensland .. .. .	0.20	0.03	0.11	1.58	0.36	1.10
South Australia .. .. .	0.19	0.04	0.11	1.60	0.51	1.12
Western Australia .. .. .	0.29	0.03	0.16	2.59	0.47	1.80
Tasmania .. .. .	0.04	0.02	0.03	0.42	0.24	0.33
Northern Territory .. .. .	0.75	..	0.60	4.55	..	4.05
Federal Territory .. .. .	..	..	..	..	..	..
<b>Commonwealth .. .. .</b>	<b>0.17</b>	<b>0.04</b>	<b>0.10</b>	<b>1.43</b>	<b>0.42</b>	<b>0.99</b>

(a) Number of deaths from suicide per 1,000 of mean population.

From the following table, which shews the ages of the persons who committed suicide in 1918, it will be seen that both extreme youth and extreme old age are represented :—

**AGES OF PERSONS WHO COMMITTED SUICIDE, COMMONWEALTH, 1918.**

Ages.	M.	F.	Total.	Ages.	M.	F.	Total.
10 years and under 14	1	..	1	60 years and under 65	31	6	37
15 .. .. .	20	5	3	65 .. .. .	70	30	1
20 .. .. .	25	13	13	70 .. .. .	75	13	5
25 .. .. .	30	32	15	75 .. .. .	80	5	..
30 .. .. .	35	37	10	80 .. .. .	85	4	..
35 .. .. .	40	40	6	85 .. .. .	90	1	..
40 .. .. .	45	38	10	90 .. .. .	94	1	..
45 .. .. .	50	70	9	Not stated	..	3	..
50 .. .. .	55	43	9				
55 .. .. .	60	41	3				
			44	<b>Total Deaths ..</b>	<b>408</b>	<b>90</b>	<b>498</b>

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

**OCCUPATIONS OF MALE PERSONS WHO COMMITTED SUICIDE,  
COMMONWEALTH, 1918.**

Occupation.	Deaths.	Occupation.	Deaths.
Professional class .. ..	39	Pastoral class .. ..	20
Domestic class .. ..	16	Working in mines and quarries ..	25
Mercantile class .. ..	39	Other primary producers .. ..	4
Engaged in transport and communication .. ..	32	Independent means .. ..	1
Manufacturing class .. ..	43	Dependents .. ..	6
Engaged in building and construction .. ..	14	Occupation not stated .. ..	10
Indefinite industrial workers ..	106		
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. The last three years shew lower figures and percentages than the average of 1911-15, and in 1918 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 1918.**

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	(a) 1,686	179.20	43.97	(c) 116.92	20.95	24.54
1891-95 ..	1,574	337	(b) 1,911	181.34	44.09	(d) 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
1918 ..	408	90	498	166.97	35.48	99.99	22.06	21.25

(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, &c.), the result of a series of investigations into the periodicity of suicide was published. The paper was partly reprinted in the following year (pp. 241, &c.), 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 shown 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, and chyluria. The total number of deaths under "other diseases" in 1910 was 7,794, viz., 4,590 males and 3,204 females; in 1911, 7,652, viz., 4,508 males and 3,144 females; in 1912, 8,300, viz., 4,777 males and 3,523 females; in 1913, 8,241, viz., 4,794 males and 3,447 females; in 1914, 8,670, viz., 5,081 males and 3,589 females; in 1915, 9,090, viz., 5,259 males and 3,831 females; in 1916, 9,433, viz., 5,489 males and 3,944 females; in 1,917, 8,871, viz., 5,147 males and 3,724 females; and in 1918, 9,226, viz., 5,290 males and 3,936 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 (2,212 deaths) are now shown 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. Particulars of the deaths included in 1918 are shown in the following table:—

CAUSES OF DEATHS INCLUDED UNDER "OTHER DISEASES," COMMONWEALTH,  
1918.

Causes.	M.	F.	Total.	Causes.	M.	F.	Total.
Purulent Infection and Septicæmia .. .. .	57	53	110	Diseases of the Lymphatic System .. .. .	11	7	18
Anthrax .. .. .	1	..	1	Hæmorrhages, Other Diseases of Circulatory System ..	28	15	43
Tetanus .. .. .	85	35	120	Diseases of the Mouth and its Associated Organs ..	12	12	24
Mycoses .. .. .	3	..	3	Diseases of the Pharynx ..	34	20	54
Peri-beri .. .. .	24	..	24	Diseases of the Oesophagus	13	7	20
Ricketts .. .. .	3	1	4	Diarrhœa and Enteritis of Children over two years of age and Adults ..	306	330	636
Syphilis .. .. .	108	67	175	Ankylostomiasis .. .. .	..	1	1
Gonococcus Infection	6	5	11	Other Diseases of the Intestines .. .. .	60	33	93
Other Tumours (Tumours of the female genital organs excepted) .. .. .	11	19	30	Acute Yellow Atrophy of the Liver .. .. .	3	5	8
Acute Articular Rheumatism	77	101	178	Hydatid Tumours of the Liver .. .. .	18	21	39
Chronic Rheumatism & Gout	89	94	183	Biliary Calculi .. .. .	29	77	106
Scurvy .. .. .	2	3	5	Other Diseases of the Liver	91	91	182
Diabetes .. .. .	237	316	553	Diseases of the Spleen ..	4	3	7
Exophthalmic Goitre .. ..	4	68	72	Simple Peritonitis (non-puerperal) .. .. .	57	69	126
Addison's Disease .. .. .	11	12	23	Other Diseases of the Digestive System .. .. .	23	25	48
Leucæmia .. .. .	63	37	100	Other Diseases of the Kidneys and their Adnexa ..	101	74	175
Anæmia, Chlorosis .. .. .	177	192	369	Calculi of Urinary Passages	37	7	44
Other General Diseases ..	38	29	67	Diseases of the Bladder ..	166	30	196
Acute and Chronic Alcoholism	195	33	228	Other Diseases of the Urethra, Urinary Abscess, &c. ..	27	..	27
Chronic Lead Poisoning ..	9	1	10	Diseases of the Prostate ..	234	..	234
Other Chronic Poisonings ..	2	..	2	Non-venereal Diseases of the Male Genital Organs ..	4	..	4
Encephalitis .. .. .	44	29	73	Gangrene .. .. .	76	62	138
Progressive Locomotor Ataxia	70	6	76	Furuncle .. .. .	20	9	29
Other Diseases of the Spinal Cord .. .. .	236	170	406	Acute Abscess .. .. .	34	22	56
Paralysis without indicated cause .. .. .	173	152	325	Other Diseases of the Skin and Adnexa .. .. .	20	12	32
General Paralysis of the Insane	133	19	152	Non-tuberculous Diseases of the Bones .. .. .	40	18	58
Other Forms of Mental Alienation .. .. .	43	53	96	Other Diseases of the Joints (Tuberculosis and Rheumatism excepted) ..	4	5	9
Epilepsy .. .. .	112	102	214	Amputations .. .. .	3	..	3
Convulsions (non-puerperal)	6	11	17	Other Diseases of the Organs of Locomotion ..	3	1	4
Convulsions of Children under five years of age .. .. .	160	136	296	Other Diseases peculiar to Infancy .. .. .	336	269	605
Chorea .. .. .	3	5	8	Want of Care (Infants) ..	7	7	14
Neuralgia and Neuritis ..	29	29	58				
Other Diseases of the Nervous System .. .. .	146	116	262				
Diseases of the Eye .. .. .	1	2	3				
Diseases of the Ear .. .. .	20	14	34				
Pericarditis .. .. .	47	27	74				
Acute Endocarditis .. .. .	273	233	506				
Angina Pectoris .. .. .	122	49	171				
Diseases of the Arteries, Atheroma, Aneurism ..	479	177	656				
Embolism and Thrombosis ..	181	264	445				
Diseases of the Veins (Varices, Varicose Ulcers, Hæmorrhoids) .. .. .	9	14	23				
				Total Deaths .. .. .	5,290	3,936	9,226

(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 598 in 1910, 460 in 1911, 590 in 1912, 614 in 1913, 644 in 1914, 717 in 1915, 633 in 1916, 667 in 1917, and 664 in 1918. The detailed classification distinguishes these ill-defined diseases under three headings:—Ill-defined organic diseases, including such definitions as dropsy, anasarca, ascites, general œdema, &c.; sudden death, including syncope; and unspecified or ill-defined causes, of which the following are specimens:—Asthénia, coma, dentition, exhaustion, heart failure, &c. In 1918 the number of cases of death which would have to be classed under the first of these categories was 40; those belonging to the second, 75; and those belonging to the third, 549. 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, &c., some observations were published, dealing with the incidence of scarlet fever, measles, whooping cough, diphtheria and croup, typhoid, diarrhœa, 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, COMMONWEALTH, 1918.**

Class.	Total Deaths.			Death Rate.(a)			Percentage on Total Deaths.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1. General diseases .. .. .	6,719	5,718	12,437	2.75	2.25	2.50	23.51	26.39	24.75
2. Diseases of the Nervous System and of the Organs of Special Sense	2,716	2,184	4,900	1.11	0.86	0.98	9.50	10.08	9.75
3. Diseases of the Circulatory System	3,333	2,579	5,912	1.37	1.02	1.19	11.67	11.90	11.78
4. Diseases of the Respiratory System	3,440	2,420	5,860	1.41	0.95	1.18	12.04	11.17	11.66
5. Diseases of the Digestive Organs	2,570	2,126	4,696	1.05	0.84	0.94	8.99	9.81	9.35
6. Diseases of the Genito-Urinary System and Adnexa .. .. .	1,881	1,102	2,983	0.77	0.43	0.60	6.58	5.09	5.94
7. Puerperal Condition .. .. .	..	592	592	..	0.23	0.12	..	2.73	1.18
8. Diseases of the Skin and of the Cellular Tissue .. .. .	150	105	255	0.06	0.04	0.05	0.52	0.49	0.51
9. Diseases of the Organs of Locomotion .. .. .	50	24	74	0.02	0.01	0.01	0.17	0.11	0.15
10. Malformations .. .. .	278	226	504	0.11	0.09	0.10	0.97	1.04	1.00
11. Infancy .. .. .	2,032	1,537	3,569	0.83	0.61	0.72	7.11	7.10	7.10
12. Old Age .. .. .	2,546	2,113	4,664	1.04	0.84	0.94	8.91	9.78	9.28
13. Violence .. .. .	2,147	692	3,139	1.00	0.27	0.63	8.54	3.20	6.25
14. Ill-defined Diseases .. .. .	423	241	664	0.17	0.10	0.13	1.49	1.11	1.32
Total .. .. .	28,585	21,664	50,249	11.69	8.54	10.09	100.00	100.00	100.00

(a) Number of deaths per 1,000 of mean population.

20. **Deaths of Children under one Year.**—"Bulletin No. 36; 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 shown for both sexes combined:—

## DEATHS OF CHILDREN UNDER ONE YEAR, COMMONWEALTH, 1918.

Age at Death.	Whooping Cough.	Pulmonary Tuberculosis.	Acute Miliary Tuberculosis.	Tubercular Meningitis.	Abdominal Tuberculosis.	Disseminated Tuberculosis.	Syphilis.	Simple Meningitis.	Cerebro-Spinal Meningitis.	Convulsions.	Acute Bronchitis.
Under 1 week ..	2	..	..	..	..	..	3	5	..	77	10
1 week and under 2 ..	1	..	..	..	..	..	4	3	..	20	12
2 weeks ..	2	..	..	1	..	..	5	1	..	10	14
3 ..	2	..	..	..	..	..	4	..	..	3	10
3 .. 1 mth.	2	..	..	..	..	..	4	..	..	3	10
1 month ..	2	..	..	2	..	..	16	4	1	19	48
2 months ..	33	1	..	5	..	..	15	7	..	14	27
3 ..	7	..	..	2	1	2	9	9	2	8	20
4 ..	12	..	..	1	1	..	9	8	1	4	9
5 ..	8	..	..	1	1	..	6	12	3	8	9
6 ..	9	2	..	4	..	..	3	8	3	9	8
7 ..	9	..	3	3	..	..	4	12	2	8	7
8 ..	10	1	..	2	..	..	..	7	2	2	11
9 ..	5	..	..	2	..	..	5	7	1	11	6
10 ..	4	..	..	5	1	..	2	11	1	5	8
11 ..	8	..	..	1	1	..	3	9	1	7	5
Total under 1 year ..	146	4	3	28	5	2	88	103	17	205	204

Age at Death.	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 ..	17	15	19	11	241	1,949	503	13	79	2,944
1 week and under 2 ..	10	8	16	6	48	262	47	..	40	477
2 weeks ..	11	11	24	..	39	147	24	..	31	320
3 ..	12	7	34	2	14	102	16	..	24	230
3 .. 1 mth.	12	7	34	2	14	102	16	..	24	230
1 month ..	44	30	110	4	35	167	11	1	72	599
2 months ..	33	24	132	2	21	111	3	..	56	483
3 ..	31	13	131	2	16	67	1	..	42	363
4 ..	25	23	150	9	9	39	..	..	24	324
5 ..	28	15	117	11	15	28	..	..	25	286
6 ..	22	21	116	6	5	19	..	..	28	263
7 ..	12	17	115	7	8	17	..	..	26	250
8 ..	25	17	113	8	7	9	..	..	33	247
9 ..	19	16	77	4	3	20	..	..	29	205
10 ..	11	17	79	5	2	7	..	..	35	193
11 ..	13	14	78	3	5	6	..	..	26	180
Total under 1 year ..	313	248	1,311	80	468	2,950	605	14	570	7,364

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

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 second and third months of life.

21. **Ages at Death of Married Males and Females, and Issue.**—“Bulletin No. 36 ; 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 1918. A short summary of the tables mentioned is given hereunder. Deaths of married males in 1918 numbered 14,362, and of married females, 13,346. 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 14,077 males and 13,219 females, the information in the remaining 412 cases being too incomplete to be utilised. The total number of children in the families of the 14,362 males was 73,671, the maximum in one family being 24 ; and of the 13,219 females, 69,433, with a maximum of 22. 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, 1918.**

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 ..	..	0.78	70 to 74 years ..	6.31	6.39
20 to 24 years ..	0.89	1.34	75 ,, 79 ,, ..	6.57	6.72
25 ,, 29 ,, ..	1.47	1.80	80 ,, 84 ,, ..	6.75	6.51
30 ,, 34 ,, ..	2.12	2.55	85 ,, 89 ,, ..	7.06	6.57
35 ,, 39 ,, ..	2.66	3.21	90 ,, 94 ,, ..	7.00	6.13
40 ,, 44 ,, ..	3.19	3.68	95 ,, 99 ,, ..	6.72	5.64
45 ,, 49 ,, ..	3.89	3.99	100 years and upwards	3.75	4.19
50 ,, 54 ,, ..	4.20	4.46	Age not stated ..	4.83	..
55 ,, 59 ,, ..	4.71	5.04			
60 ,, 64 ,, ..	5.43	5.78	All ages ..	5.23	5.25
65 ,, 69 ,, ..	5.73	6.31			

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 1,000 to 301, or, roughly speaking, as ten to three. The totals are shewn in the following table :—

**ISSUE OF MARRIED MALES AND FEMALES, COMMONWEALTH, 1918.**

Issue of Married Males.	Males.	Females.	Total.	Issue of Married Females.	Males.	Females.	Total.
Living ..	29,238	28,712	57,950	Living ..	26,139	25,934	52,073
Dead ..	8,825	6,896	15,721	Dead ..	9,454	7,906	17,360
Total ..	38,063	35,608	73,671	Total ..	35,593	33,840	69,433

These figures shew a masculinity in the births of 2.94, which agrees fairly well with the experience of the birth statistics.

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, 1918.**

Age at Marriage.	Average Family of Males.	Average Family of Females.
Under 20 years .. .. .	7.23	7.27
20 to 24 years .. .. .	6.24	5.71
25 „ 29 „ .. .. .	5.54	4.23
30 „ 34 „ .. .. .	4.69	2.69
35 „ 39 „ .. .. .	3.98	1.43
40 „ 44 „ .. .. .	3.01	0.33
45 „ 49 „ .. .. .	2.03	..
50 „ 54 „ .. .. .	1.19	..
55 „ 59 „ .. .. .	0.43	..
60 „ 64 „ .. .. .	0.28	..
65 years and upwards .. .. .	0.05	..
Age not stated .. .. .	4.41	4.15
All ages .. .. .	5.23	5.25

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

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. 36 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 1918, 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, 1918.**

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 ..	2,316	5.37	2,507	5.27	Japan .. ..	6	1.34	..	..
Victoria ..	2,060	4.15	1,986	4.13	Java .. ..	..	..	..	..
Queensland ..	391	3.86	449	3.81	Philippine Islands..	1	..	..	..
South Australia ..	761	4.66	780	4.72	Syria .. ..	7	4.43	3	3.67
Western Australia..	76	5.62	99	4.62	Other Asiatic C'tries	1	4.00	..	..
Tasmania ..	481	5.32	547	5.13	Mauritius ..	4	1.75	5	4.40
New Zealand ..	83	3.84	71	3.26	Union of Sth. Africa	14	4.43	7	5.23
England ..	3,861	5.62	3,191	5.74	Other African British Possessions ..	1	6.00	1	5.00
Wales ..	113	5.51	66	6.11	Egypt .. ..	1	10.00	..	..
Scotland ..	1,011	5.39	891	5.60	Other African C'tries	..	..	1	2.00
Ireland ..	1,687	6.13	2,031	5.96	Canada .. ..	27	3.48	15	4.93
Isle of Man ..	13	4.85	6	7.00	Jamaica .. ..	3	5.67	2	5.00
Other European British Possessions ..	20	4.70	13	8.46	Newfoundland ..	1	5.00	2	..
Austria-Hungary ..	18	5.00	4	2.50	Other American British Possessions ..	5	5.20	4	6.25
Belgium ..	7	1.13	2	6.50	Brazil .. ..	1	7.00	..	..
Denmark ..	90	5.30	35	5.09	Chile .. ..	..	..	..	..
France ..	42	3.79	15	2.67	Mexico .. ..	..	..	..	..
Germany ..	386	6.32	272	6.67	United States ..	42	4.57	22	3.91
Greece ..	13	3.92	1	8.00	Other American Countries ..	8	5.13	6	5.67
Italy ..	37	5.05	17	4.53	Fiji .. ..	1	1.00	1	4.00
Netherlands ..	10	4.90	..	..	Papua .. ..	1	1.00	..	..
Norway ..	32	4.00	10	4.60	Other Polynesian British Possessions ..	2	0.50	1	12.00
Portugal ..	7	8.29	..	..	New Caledonia ..	1	1.00	1	4.00
Russia ..	54	4.63	14	5.21	New Hebrides ..	..	..	..	..
Spain ..	9	4.67	6	3.00	Samoa .. ..	1	10.00	..	..
Sweden ..	72	3.99	7	6.14	Other Polynesian Is. S.Sea Islds. (so desc'd.)	5	4.60	1	1.00
Switzerland ..	29	5.03	9	4.78	At Sea .. ..	49	6.04	48	5.77
Other Europ. C'tries.	4	4.50	4	4.75	Not stated ..	44	4.20	35	4.11
British India ..	31	2.77	20	5.00					
Ceylon ..	1	5.00	2	2.00					
Straits Settlements	3	2.00	..	..					
Other Asiatic British Possessions ..	2	9.00	1	1.00					
China ..	61	2.57	2	0.50					
					Total ..	14,077	5.23	13,219	5.25

25. Occupations of Married Males, and Issue.—A final tabulation shows 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, 1918.**

Occupation.	Deaths of Married Males.	Average Family.
Professional class .. ..	930	4.26
Domestic class .. ..	485	3.83
Mercantile class .. ..	1,759	4.40
Engaged in transport and communication .. ..	1,243	4.67
Manufacturing class .. ..	1,578	4.99
Engaged in building and construction .. ..	847	5.41
Indefinite industrial workers .. ..	2,328	5.26
Agricultural class .. ..	2,423	6.61
Pastoral class .. ..	617	5.74
Working in mines and quarries .. ..	948	5.27
Other primary producers .. ..	92	4.80
Independent means .. ..	261	5.53
Dependents .. ..	146	4.75
Occupation not stated .. ..	420	5.77
Total .. ..	14,077	5.23

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

#### § 4. Methods of Measuring Rates of Mortality.

1. **General.**—For the purpose of measuring the rates of mortality experienced by any community, various methods of computation have been employed, which differ materially in the labour involved on the one hand, and on the other in the degree to which they suitably measure the phenomenon in question, viz., the rate at which the members of the community are dying. In this connection it may be noted that, as regards the methods indicated hereunder, it is not correct to describe any of them as erroneous, as is occasionally done. So long as these rates are based upon the actual data, one is quite as correct as another; where they differ is that, whilst one may be very suitable for comparisons with similar rates for other communities, others may be less suitable, and others again quite unsuitable. Thus the "crude death rate" which represents the ratio of the deaths of both sexes for a given period to the mean population of both sexes for that period is perfectly correct as long as the number of deaths and the mean population are accurately determined, and the division of the former by the latter is properly performed. It may also be suitable for some purposes, such, for example, as in a question involving the rate of decrement of a given population at a given time. But it is not suitable for a purpose to which it is very frequently applied, viz., to furnish a basis of comparison in respect of mortality between two communities whose populations are differently constituted in respect of sex, age, and other characteristics, or between two experiences of the same community separated by a lapse of time in which the constitution of the population has characteristically changed.

It must, however, be borne in mind that all methods of determining rates of mortality, whatever degree of refinement may have been introduced into them, consist in ultimate analysis of the determination of ratios of deaths to population. What is done in the more refined cases is to subdivide both the population and the deaths into like categories according to sex, age, occupation, conjugal condition, &c., and then to determine for each category the ratio of deaths to population. It will be convenient to review briefly the methods which have been adopted under various circumstances for measuring the rate of mortality. The principal of these are six in number, as follows:—

- (a) The computation of a crude rate for the sexes combined.
- (b) The computation of a death rate for each sex separately.
- (c) The determination of the average age at death.
- (d) The calculation of death rate corrected for sex and age.
- (e) The calculation of an index of mortality.
- (f) The construction of a life table.

2. **Crude Rate for Sexes Combined.**—Probably the simplest measure of mortality, and that which first suggests itself, is the computation of the proportion of the whole population which has passed away by death during a given period. Where two communities are similarly constituted in respect of sex and age, this crude rate furnishes a useful and simple index to the relative salubrity of their climate and conditions of life. Similarly in a community which had changed little in the sex and age constitution of its population over a series of years, the crude rate would furnish a valuable index to the progress or retrogression of the community from a sanitary point of view. Such conditions, however, rarely exist in practice. Communities usually differ too markedly from each other and from their past selves in respect of sex and age constitution to render comparisons based on crude rates more than rough guides to tendencies which need to be analysed by more refined methods. ◊

3. **Death Rate for each Sex.**—Where data in respect both of deaths and population are available for the sexes separately, one of the disadvantages of the crude rate may be overcome by computing two rates, one for each sex. In practically all communities there is a marked difference not only in the physical constitution of the sexes, but also in the conditions under which they live, in the nature of their ordinary occupations, and in the special risks incurred by them. It is consequently not a matter for surprise

that there should usually be a very marked difference between the rates of mortality experienced by them. In most civilised communities longevity is more marked amongst females than amongst males, the female death rate being lower than the male at nearly all ages. Apart, therefore, from the question of a comparison with the experience of other communities, it appears desirable, wherever practicable, to segregate males and females for the calculation of mortality rates. To combine them gives a rate which is applicable to neither the one nor the other. The subdivision according to sex, however, eliminates one of the advantages possessed by the crude rate, viz., that being a single number it is readily quoted and easily compared. A rate for each sex is not so manageable. There are two numbers to quote, and if in a comparison with another community the rate for one sex predominates in the one community, and the rate for the other sex in the other, it is not always easy to draw a conclusion as to relative salubrity.

4. **Average Age at Death.**—A method of estimating salubrity which at an early date in the history of vital statistics had considerable vogue was that of determining the average age at death. Off-hand it might be thought that a high average age at death was a sure sign of longevity and consequently of salubrity. A little reflection, however, will shew that everything depends on the ages of the living. For example, a community in which there were no births, arrivals or departures would shew, under normal conditions, an increasing average age at death as it gradually wore down, while a thriving community with a high and increasing birth rate would shew a decreasing average age at death; yet it would be quite possible for the latter to be much more healthy than the former. Here again it may be noted that there is nothing erroneous in computing the average age at death, but an error arises when the conclusion is drawn that a high average age at death necessarily denotes a high degree of salubrity. The method is one which is now practically obsolete as an estimate of salubrity, but, as furnishing in respect of some disease the age incidence of death, it may conveniently and legitimately be employed. For example, statistics of the average age at death from phthisis indicate that it is a disease usually fatal in early adult life, while similar statistics of the average age at death from cancer indicate that the victims are usually of more advanced age.

5. **Death Rate Corrected for Sex and Age.**—Where a number of communities is concerned, and it is desired to effect comparisons between them in respect of mortality, a mode of operation has been devised which, by providing a correcting factor based on age and sex for application to the ordinary crude rate, retains the simplicity of the crude rate while eliminating some of its inherent defects. This method has been most extensively employed in England, where the Registrar-General of England and Wales has supplied in his annual summaries since 1883 a series of corrected death rates for the principal English towns. The first step in calculating the desired correction factors is that of computing for each town a "standard death rate." To obtain this, the average death rates per annum in age-groups for each sex are determined for England and Wales for the whole of an intercensal period. These death rates on being applied to the sex and age distribution for a town, as ascertained at the most recent Census, give the total number of deaths that would have arisen in the town if the average rates for England and Wales had operated therein for a year on a mean population distributed as regards sex and age in the same manner as the population of the town was distributed at the date of the Census. The division of this total number of deaths by the total Census population of the town furnishes the "standard death rate" for the town. The ratio of the crude rate for England and Wales for the whole of an intercensal period to the "standard" death rate of a town for the terminal Census of the period is the town's "factor for correction" for age and sex contribution, and is applied to the crude rate determined for the town in the ordinary way during the ensuing intercensal period. Since the correction factor for any community is determined once only for each intercensal period, and when determined is applied simply as a multiplier to the crude rate for the community, for any year or other period, it is clear that it furnishes a very convenient means for taking into account the sex and age constitution. Also, if the age groups on which it is based are not too comprehensive, for example, not larger than quinquennial, or at the outside, decennial groups, and if it can safely be assumed that the sex and age distribution of the community does not during the ensuing intercensal period deviate markedly from the Census results, the application of the correction factor supplies a very reliable indication of relative salubrity.

6. *Index of Mortality.*—The method of procedure outlined in section 5 consists in the main in (a) the computation of a normal series of death rates for sex and age; (b) the application of such a series successively to the actual sex and age distributions of the various communities under consideration; (c) the calculation of the crude rate resulting from the application mentioned in (b); and (d) the computation from (c) of a correction factor. Another method which is much in vogue, and which has been approved by the International Statistical Institute, is in some respects the converse of this. It consists in (a) the determination or selection of a population norm, *i. e.*, of a normal scale of distribution of population according to sex and age; (b) the computation for the community under review of death rates for sex and age-groups corresponding to those adopted for the population norm; (c) the application of the rates in (b) to the norm in (a); and (d) the calculation of the crude rate resulting from the application mentioned in (c). The crude rate so obtained is usually called the “index of mortality,” or, in the case of the Registrar-General of England and Wales, the “rate in standard population.” Where the data for computing the rates of mortality for the appropriate sex and age-groups are readily available, this method furnishes one of the most satisfactory indications of relative salubrity that have yet been described. In essence it consists in computing for a normal population the crude death rate that would arise therein from the operation of the death rates for sex and age-groups ascertained to have operated for the community under review during a given period. From another point of view it is a weighted mean of the death rates for sex and age-groups of the community under review, the weights employed being the appropriate portions of the population norm. The principal difficulty in connection with the computation of the index of mortality for any postcensal period is that of distributing the population of any community for such period according to sex and age. An assumption usually made is that the scale of distribution is the same as that disclosed at the preceding Census. For some communities such an assumption involves little error, in others the discrepancy may be large, but there are no simple means for obviating it. In any event the indications of relative salubrity furnished by such an index or by the corrected rates dealt with in section 5 are much more reliable than can be got by crude rates, rates for sexes, or average ages at death. It may be noted here that although the only characteristics which are dealt with in the ordinary course in computing correcting factors or indices of mortality are sex and age, these are by no means the only ones whose neglect may vitiate conclusions as to relative salubrity. For example, the effect of race on death rate has not yet been definitely determined, but there is little doubt that the variation with age of the death rate amongst European races on the one hand, and coloured races on the other, is essentially different. To institute comparisons, therefore, between mixed populations such as those of the United States, the Union of South Africa, and British India, where European and coloured races are associated in such markedly different proportions, it is not sufficient merely to allow for sex and age, race also should be taken into account.

7. *Life Tables.*—In connection with the measures of mortality dealt with in sections 5 and 6 above, it may be noted that from one point of view each consists in the determination of ratios of deaths to population for sex and age-groups, and the subsequent computation of a weighted mean death rate. From another point of view each consists of the computation of a series of death rates for one population, and the application thereof to another population, the correction factor method involving the computation of standard death rates and the application thereof to variable population distributions, while the index of mortality method involves the computation of death rates in sex and age-groups for populations varying in sex and age distribution, and the application thereof to a population norm, or population of standard distribution. A further method for measuring mortality is that of constructing a Life Table for the population in question. Here again the main element is the ratio of deaths to population for sex and age-groups, but in this case there is no adoption of an arbitrary standard either of death rates or of population distribution. What is done is to arbitrarily select any number as the number of children born, and by the successive application thereto of death rates for sex and age derived from the experience of the community under observation, to compute the number who will attain each successive age, on the supposition that the computed rates for each age operate at the appropriate ages throughout the lifetime of the children so selected. A table so constructed, however, shewing the number of each sex surviving at each age out of a given number born, is no more convenient for

the purposes of quotation or of ready comparison with other experiences than is the original series of death rates for sex and age on which the table of survivors has been based. The latter, however, presents, in a convenient form, data for the computation of a measure of mortality which is convenient for the purposes of both quotation and comparison. The measure referred to is what is generally known as the "expectation of life," or the "average future lifetime." Of these expressions the former is the more generally used, but the latter expresses the nature of the function in the better way. What is represented by the expectation of life at any age is the average future life time of the persons who reach the age, and are subject at succeeding ages to the rates of mortality deduced from the experience under review. The expectation of life at age 0, consequently, since it represents the average quantity of life that will be lived by each person born, furnishes as suitable a measure of relative salubrity as could be devised, and one which is entirely free from the introduction of an arbitrary standard whether of death rates or population distribution. It necessarily relates, however, only to a completed period, and consequently will not serve the purpose of providing comparative results for a current period. For this latter purpose the correction factor and the index of mortality furnish the best results.

In Year Book No. 11, pp. 236-242, are given tables shewing some of the principal results furnished by the Australian Life Tables, 1881-90, 1891-1900, and 1901-10.

### § 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 211 and 212), shewing these fluctuations from 1860 to 1918, both for the States and the Commonwealth. The facts are very significant from the national point of view, and call for serious consideration. To appreciate the situation properly, 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 shews a falling off in marriages after 1891 (see page 212), it shews a recovery in 1894, and, with the exception of a small fall for 1903, it continually advanced until 1915. In 1916, 1917, and 1918 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 1918.

#### ACTUAL BIRTHS, DEATHS, AND MARRIAGES

EXPERIENCED IN THE COMMONWEALTH DURING THE YEARS 1890 TO 1918, 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	42,208	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	23,993	27,393

ACTUAL BIRTHS, DEATHS, AND MARRIAGES, ETC.—*continued.*

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.
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
1918 ..	125,739	174,217	50,249	71,251	33,141	38,031

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 211).—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 and 1916 by a decline, a slight rise in 1917, and a further decline in 1918.

In the case of Victoria the graph shows 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 shows that the births increased somewhat rapidly until 1867. The equality in the number of births in Queensland and Tasmania in 1864 is shewn by the Queensland curve crossing the Tasmanian curve at the line for that year. From 1867 to 1882 a continuous though somewhat less rapid increase was experienced, followed by a very rapid rise to 1890, in which year Queensland's maximum number of births prior to 1909 was recorded. The South Australian graph is crossed by that of Queensland at the year 1885. From 1890 onwards to 1908 the number of births fluctuated somewhat, but, 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 and a fall in 1918.

The South Australian graph, a slow but practically continuous rise from 1860 to 1885, exhibits this 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, a further fall in 1917, and a slight rise in 1918.

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 continuous decline.

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.

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 212).—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 magnitude. 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, 1917, and 1918, as already mentioned, there was a heavy falling off.

4. **Graphs of Annual Deaths, Commonwealth and States** (page 213).—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, succeeded in 1918 by less marked increases.

5. **Graphs of Annual Birth, Death, and Marriage Rates and of Rate of Natural Increase—Commonwealth** (page 214).—(i) *General*. These graphs represent the number of births, deaths, and marriages, and the excess of births over deaths (natural increase) per 1,000 of the population of the Commonwealth, for each of the years 1860 to 1918.

(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 25.25 per 1000 in 1918. 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 25.25 in 1918. The lowest point reached, until 1918, 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 1918. 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. In 1918 there was a slight rise to 10.09. 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 1915 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, 1917, and 1918 the rate declined to 8.21, 6.87, and 6.65 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 the 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 215).—These graphs furnish for the several States information similar to that supplied in the graph on page 214 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 a 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 (1918), 22.29 ; Queensland (1903), 24.53 ; South Australia, (1903) 23.84 ; Western Australia (1918), 22.84 ; Tasmania (1918), 25.91.

**7. Graphs of Annual Death Rates—States** (page 215).—These graphs furnish for the several States similar information to that given for the Commonwealth as a whole in the diagram on page 214, 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), 9.56 ; Victoria (1917), 10.36 ; Queensland (1906), 9.50 ; South Australia (1909), 9.74 ; Western Australia (1917), 8.97 ; and Tasmania (1918), 8.84.

**8. Graphs shewing Variations in Annual Death Rates from Month to Month.**—The graphs on pages 216 and 217 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 195 and 196.