

VITAL STATISTICS.

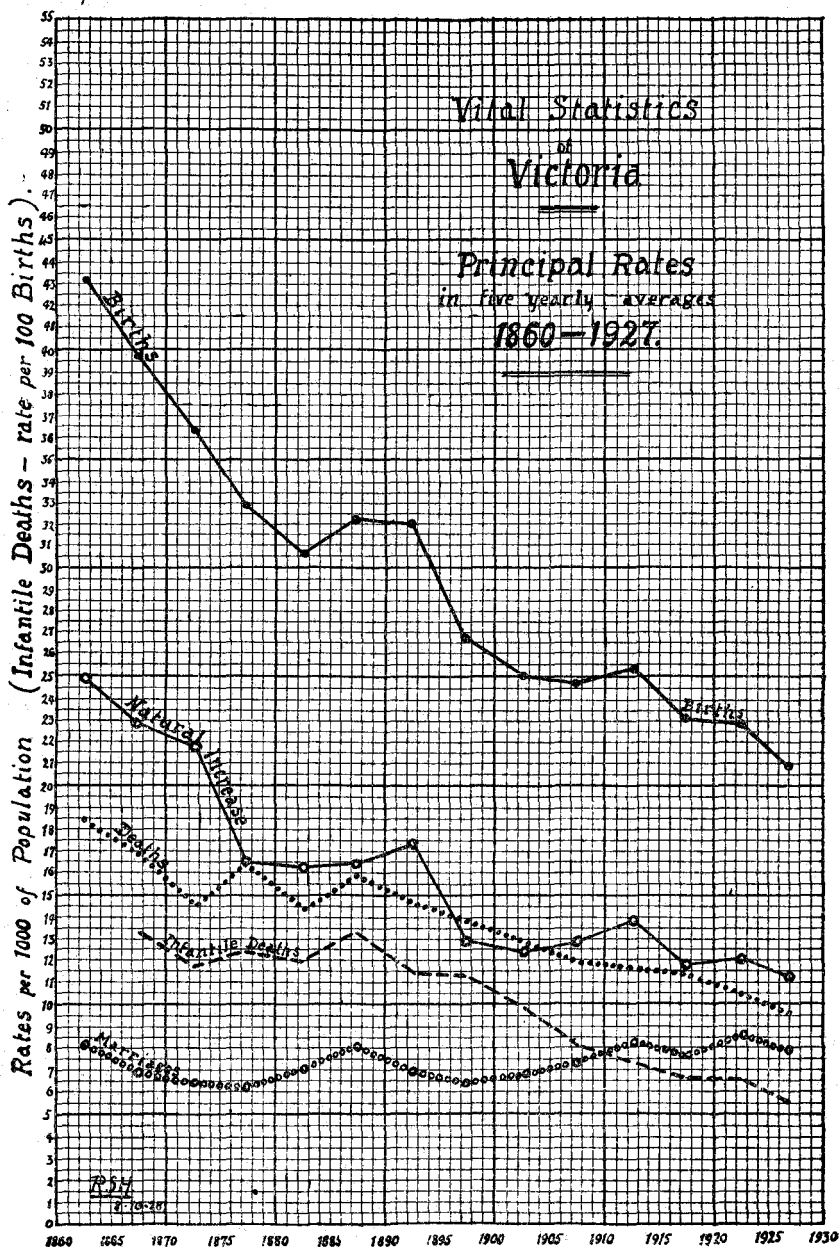
Registration
of Births,
Deaths, and
Marriages.

The present official system of compulsory registration of births, deaths, and marriages in Victoria has been in force since 1853, and the registers—framed on the best models—are replete with all necessary information bearing on the family history of the people. The statutory duties under the Registration Acts are performed by the Government Statist, who has control over the local registrars of births and deaths, and the registrars of marriages, and (so far as regards their registration duties) over the clergymen who celebrate marriages. Copies of entries certified by him or by the Assistant Government Statist are *prima facie* evidence in the Courts of Australia of the facts to which they relate. At the head office in Melbourne there is kept for reference a complete collection of all registrations effected since 1st July, 1853, as well as originals or certified copies of all existing church records relating to earlier periods, as far back as 1837. Since the present system was instituted approximately 4,466,000 original entries have been made in the indexes, of which 1,187,000 relate to marriages, 2,231,000 to births, and 1,048,000 to deaths.

Applicants for searches or certificates of births, deaths, or marriages should, in applying to the Government Statist, furnish particulars of the date and place of the event; also the names of the parties in the case of a marriage, and the name, age (if a death), and parentage in the case of a birth or death. The fee for a search in the Official Records, or an extract of an entry, is 2s. 6d., and for a certificate, including the cost of search, 7s. 6d. (except where application is made within three months of the registration of the event when 5s. only is charged). For a search in the early church records, prior to 1st July, 1853, the fee is only 1s., a further sum of 1s. being payable if a certificate is required.

As evidence of the extent by which the information in the records is availed of, the number of transactions which took place in 1928 was 45,122, yielding £5,649 revenue. Included in the above number were 5,522 free ordinary searches and 364 free certificates.

The *Year-Book* for 1916-17 contains on pages 301 to 303 a statement of the law relating to marriages and the registration of births and deaths in Victoria. Since 1915, when the Acts were consolidated, minor validating and other Acts have been passed.



The principal numbers and rates—male and female—relating to Vital Statistics in Victoria for the year 1928, are given in the following table:—

SUMMARY OF VITAL STATISTICS, VICTORIA, 1928.

Division.	Sex.	Mean Population.	Number of—			Rate per 1,000 of Population.		Deaths under One Year per 1,000 Births.
			Births.	Deaths.	Deaths under One Year.	Births.	Deaths.	
Greater Melbourne	Males	466,700	9,312	5,087	582	19·95	10·90	62·50
	Females	520,880	8,570	4,941	433	16·45	9·49	50·53
	Total	987,580	17,882	10,028	1,015	18·11	10·15	56·76
Rest of the State	Males	404,197	8,493	4,297	506	21·01	10·63	59·58
	Females	359,563	8,123	3,383	398	22·59	9·41	49·00
	Total	763,760	16,616	7,680	904	21·76	10·06	54·41
Victoria	Males	870,897	17,805	9,384	1,088	20·44	10·78	61·11
	Females	880,443	16,693	8,324	831	18·96	9·45	49·78
	Total	1,751,340	34,498	17,708	1,919	19·70	10·11	55·63

NOTE.—Particulars of marriages are available only for the whole State.

MARRIAGES.

Marriages—
Numbers and Rates. Marriages in Victoria in 1928 numbered 13,186. This was 422 less than the number for the previous year, and 1,712 less than the greatest number recorded—that for 1920.

The ordinary marriage rate—per 1,000 of the total population—like birth and death rates similarly estimated, is somewhat unreliable in comparatively newly settled countries like Australia, especially in earlier periods, but it affords a ready and approximate comparison between years not widely separated.

The following table shows the number of marriages, the quarters in which they were registered, and the proportion per 1,000 of the population, since 1854:—

MARRIAGES IN EACH QUARTER, VICTORIA, 1855 TO 1928.

Period.	Average Annual Number of Marriages.	Quarter of Registration.				Rate per 1,000 of Mean Population.
		March.	June.	September.	December.	
1855-59..	4,362	*	*	*	*	10·24
1860-64..	4,418	1,068	1,166	1,079	1,105	8·16
1865-69..	4,533	1,123	1,144	1,113	1,153	6·94
1870-74..	4,823	1,168	1,299	1,131	1,225	6·40
1875-79..	5,023	1,239	1,307	1,207	1,270	6·21
1880-84..	6,296	1,528	1,611	1,483	1,674	7·07
1885-89..	8,208	1,899	2,196	1,915	2,198	8·04
1890-94..	7,945	1,995	2,100	1,838	2,012	6·88
1895-99..	7,627	1,816	2,074	1,778	1,959	6·44
1900-04..	8,201	2,000	2,252	1,930	2,019	6·78
1905-09..	9,209	2,185	2,548	2,182	2,294	7·36
1910-14..	11,244	2,664	3,000	2,644	2,936	8·29
1915-19..	10,908	2,437	2,754	2,815	2,902	7·62
1920-24..	13,598	3,252	3,578	3,152	3,616	8·64
1925 ..	13,370	3,064	3,594	3,201	3,511	8·00
1926 ..	13,405	3,012	3,757	3,085	3,551	7·90
1927 ..	13,608	3,152	3,835	3,000	3,621	7·88
1928 ..	13,186	3,162	3,524	3,148	3,352	7·53

* Not available.

The highest number of marriages in the history of the State—14,898, and also the highest rate per 1,000 of the population since 1857—9·85, were recorded in 1920. This was mainly due to the marriages of a large number of returned soldiers who had settled down to ordinary civilian life.

Marriage rates in Australasia. The subjoined statement shows the marriage rate per 1,000 of the population in the various Australian States, the Commonwealth of Australia, and New Zealand, in quinquennial periods for the years 1910 to 1924, and for the years 1925 to 1928:—

MARRIAGES PER 1,000 OF MEAN POPULATION IN AUSTRALASIA, 1910 TO 1928.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1910-14	8·29	9·17	8·54	9·38	8·22	7·94	8·72	8·51
1915-19	7·62	7·96	7·59	7·94	6·62	6·90	7·75	7·30
1920-24	8·64	8·55	7·80	8·53	7·60	7·93	8·38	8·44
1925 ..	8·00	8·14	7·60	7·82	7·46	7·05	7·91	7·85
1926 ..	7·90	8·28	7·34	8·06	7·58	6·79	7·92	7·90
1927 ..	7·88	8·45	7·04	7·88	8·07	6·82	7·95	7·62
1928 ..	7·53	8·28	6·95	7·18	8·29	7·09	7·73	7·58

The marriage rate in England and Wales in 1928 was 7·65.

The marriages in Australia for 1928 numbered 48,592, as against 49,833 in 1927, 47,865 in 1926, 46,899 in 1925, 45,869 in 1924, and 44,541 in 1923. Of the total for 1928, 13,186 took place in Victoria, 20,075 in New South Wales, 6,322 in Queensland, 4,146 in South Australia, 3,309 in Western Australia, 1,502 in Tasmania, 23 in the Northern Territory, and 29 in the Federal Capital Territory.

Marriages to marriageable men and women.

The marriages in proportion to the population, to the unmarried men and widowers aged 21 to 55, and to the unmarried women and widows aged 18 to 50, in each census year, 1857 to 1921, are given in the following table :—

MARRIAGES PER 1,000 OF POPULATION AND OF SINGLE MEN AND WOMEN, 1857 TO 1921.

Year of Census.	Exclusive of Chinese and Aborigines.						
	Enumerated Population.	Number of Unmarried and Widowed.		Marriages.	Proportion of Marriages per 1,000 of the—		
		Men (aged 21 to 55).	Women (aged 18 to 50).		Population.	Unmarried and Widowed Men (aged 21 to 55).	Unmarried and Widowed Women (aged 18 to 50).
1857 ..	383,668	88,456	18,128	4,465	11·64	50·48	246·30
1861 ..	513,896	98,665	24,009	4,528	8·81	45·89	188·60
1871 ..	712,263	77,078	40,836	4,715	6·62	61·17	115·46
1881 ..	849,438	77,250	75,098	5,732	6·75	74·20	76·33
1891 ..	1,130,463	133,576	113,276	9,007	7·97	67·43	79·51
1901 ..	1,193,340	123,691	137,267	8,468	7·10	68·46	61·69
1911 ..	1,309,503	132,642	158,556	10,984	8·39	82·81	69·28
1921 ..	1,526,659	136,569	163,488	14,009	9·18	102·57	85·69

NOTE.—The figures in this table relate to the twelve months of which the date of census is the central point.

Factors in marriage rates.

An examination of the figures for the eight census periods shows how the crude marriage rate is affected by the proportion of marriageable persons in the community. The maximum marriage rate (per 1,000 of population), which occurred in 1857, was co-incident with the highest proportion of marriageable

persons, while the minimum rate—in 1871—was associated with the lowest proportion of such persons. A further examination of the figures shows that the ordinary marriage rate is more directly affected by the proportion of eligible men than by that of eligible women in the population. Thus, the percentage of single women aged 18 to 50 rose from 4·7 in 1857 to 10·7 in 1921, while that of single men aged 21 to 55 fell from 23 to 8·9 in the same period. After allowing for the more uniform distribution of males and females of marriageable ages in the later years, the decrease in the percentage of marriageable men coincides fairly closely with the decline in the ordinary marriage rate. The female marriage rates show that, of females aged 18 to 50, the proportion entering wedlock each year fell from about 1 in 4 in 1857, and nearly 1 in 5 in 1861, to 1 in 16 in 1901, 1 in 15 in 1911, and nearly 1 in 12 in 1921.

The large number of discharged soldiers, who were settling down to civilian life, was responsible to a great extent for the high crude marriage rate recorded in 1921. This factor, however, only partially accounts for the very high proportion of marriageable men and women who entered wedlock in that year in comparison with the years 1901 and 1911, as, quite apart from the effect produced by the marriages of discharged soldiers, the improvement in the rate shown in 1911 became more prominent in the next decennial year.

Marriages
to marriage-
able males
in Austral-
asia.

The following statement shows for the period 1900-02 and for the years 1911 and 1921 the number of marriages per 1,000 marriageable males in Victoria, the other States of Australia, and New Zealand. It has been assumed that marriageable males are unmarried men and widowers aged 21 to 55:—

MARRIAGES PER 1,000 MARRIAGEABLE MALES IN AUSTRALASIA.

	1900-02.	1911.	1921.	Increase per cent. in 20 Years.
Victoria	56·0	67·3	81·7	45·9
New South Wales	58·3	68·0	73·9	26·8
Queensland	41·6	54·9	62·1	49·3
South Australia	56·8	81·3	88·7	56·2
Western Australia	41·9	45·8	62·5	49·2
Tasmania	65·7	69·3	81·9	24·7
Australia	55·7	64·7	77·2	38·6
New Zealand	55·1	58·8	78·9	43·2

In each State the proportion of marriageable men who married during the year 1921 was greater than that for the period 1900-02 or for 1911, the excess over the proportion for the earlier period, expressed as a percentage, being 56 in South Australia, 49 in Western Australia, 49 in Queensland, 46 in Victoria, nearly 27 in New South Wales, and nearly 25 in Tasmania. The comparatively low marriage rates for men in Western Australia and Queensland were due to the unequal distribution of marriageable men and women. At the 1921 census, to every 1,000 unmarried and widowed women aged 18 to 50 the numbers of bachelors and widowers between 21 and 55 years of age in each State and Australia were as follows:—Victoria, 837; New South Wales, 1,015; Queensland, 1,230; South Australia, 892; Western Australia, 1,330; Tasmania, 889; and Australia, 984.

Marriageable persons in Metropolis and Country.

An examination of the sex distribution of persons residing in Greater Melbourne and the rest of the State discloses the fact that, whether the comparison be made for all ages or for marriageable ages only, there is a great preponderance of women over men in the metropolis, while in the remainder of the State the men are in excess. In Greater Melbourne in 1921 there were 63,337 marriageable men aged 21 to 55, as compared with 95,024 marriageable women aged 18 to 50. In the rest of the State the eligible men and women at those ages numbered 73,232 and 68,464 respectively. It is thus seen that, while there was a surplus of 31,687 marriageable females in the metropolis as compared with males, there was a deficiency of 4,768 in the country.

The number of such males per 1,000 marriageable females in the metropolis was 667, while in the rest of the State the corresponding number was 1,070.

The following statement shows the proportions of marriageable men and women per 1,000 of the respective populations in Greater Melbourne and the rest of the State:—

MARRIAGEABLE MEN AND WOMEN PER 1,000 OF POPULATION IN GREATER MELBOURNE AND THE REST OF THE STATE, 1921.

District.	Males.	Females.
Greater Melbourne ..	82·6	124·0
Rest of the State..	95·8	89·5

The marriage rates of marriageable men and women at different periods of life have been computed for various age groups at each of four census periods, and are shown in the following table:—

MARRIAGES PER 1,000 MARRIAGEABLE MEN AND WOMEN IN AGE GROUPS.

Age Group—	Men.				Women.			
	1891.	1901.	1911.	1921.	1891.	1901.	1911.	1921.
15-21 ..	..	..	..	..	23·6	18·8	23·3	25·7
21-25* ..	44·3	44·6	55·2	64·9	106·0	87·2	105·6	129·8
25-30 ..	85·9	90·5	118·6	148·2	100·5	84·7	112·1	135·3
30-35 ..	75·2	82·1	101·1	126·0	66·4	57·9	66·0	79·6
35-40 ..	51·1	62·6	72·9	91·1	46·4	37·2	43·0	43·3
40-45 ..	33·4	39·9	44·7	50·5	27·7	22·3	20·7	22·2
45-50 ..	25·9	29·8	34·9	35·0	17·8	14·3	5·5	13·5
50 and upwards	9·1	9·1	12·1	12·8	4·2	2·4	2·6	3·1

* In the case of men, 20-25.

The probabilities of bachelors and spinsters marrying and of widowers and widows re-marrying have been obtained by comparing their marriages at specified ages with the respective numbers in the community at those ages at the census of 1921. The marriages per 1,000 of the above-mentioned persons are given in the following table for the year mentioned:—

MARRIAGES PER 1,000 BACHELORS, WIDOWERS, SPINSTERS, AND WIDOWS, 1921.

Age Group.	Marriages to every 1,000—			
	Bachelors.	Widowers.	Spinsters.	Widows.
15-21 .. ..	..	..	25·7	..
21-25*	64·8	114·3	129·5	179·4
25-30	147·4	165·2	134·1	132·2
30-35	123·3	170·4	77·5	84·4
35-40	85·4	129·4	37·5	64·8
40-45	40·8	105·6	18·9	31·3
45-50	25·7	71·5	10·6	18·9
50 and upwards	6·7	20·2	3·3	2·9

* In the case of men, 20-25.

The figures show that the probability of a widower marrying within a year is greater than that of a bachelor of similar age, and further, that the difference in favour of the former is much greater at ages

over 30 than at earlier ages. Comparing the marriage rates for widows with those for spinsters it is seen that at every age under 50, except the age group 25-30, the chance of a widow marrying is considerably greater than that of a spinster of the same age. As 78 per cent. of both widowers and widows are over 50 years—a period of life when the chance of re-marrying is small—and the great majority of the bachelors and spinsters are under that age—a period when the probability of marrying is much greater—it was to be expected that the rates for the two former would be much lower than those for the two latter sections. In proportion to their respective numbers, the marriages of widowers were only slightly more than half as numerous as those of bachelors, and the marriages of widows were less than one-fourth of those of spinsters.

The ages of bridegrooms and brides who were married in 1928 are shown in combination for various groups in the table which follows :—

AGES OF BRIDEGROOMS AND BRIDES IN COMBINATION, IN VICTORIA, 1928.

Ages of Bridegrooms.	Ages of Brides.													Total Bridegrooms.					
	14.	15.	16.	17.	18.	19.	20.	21 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.		50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 and over.
16	1	...	...	...	...	...	...	...	...	...	...	...	1
17	3	1	1	3	2	1	...	...	...	...	...	...	...	...	...	...	11
18	...	2	14	13	16	13	2	7	2	1	...	...	...	...	...	...	...	...	70
19	...	3	10	24	27	31	23	34	3	1	...	...	...	...	...	...	...	...	156
20	11	22	67	59	47	75	10	1	...	...	...	...	...	...	...	...	292
21 to 25	1	19	61	140	248	338	429	1,977	466	34	8	2	1	...	...	...	...	...	3,724
25 to 30	...	3	12	47	121	166	247	1,979	1,737	313	62	10	1	1	1	...	...	...	4,706
30 to 35	...	3	3	9	19	37	46	514	787	396	137	22	7	...	...	...	...	...	1,981
35 to 40	1	6	5	7	10	119	264	272	198	40	14	2	1	...	...	...	939
40 to 45	1	...	...	...	...	3	4	44	79	121	120	79	29	7	1	...	...	...	488
45 to 50	2	1	1	13	37	52	76	42	39	11	4	4	1	...	283
50 to 55	1	...	9	8	26	30	32	36	23	5	2	1	...	173
55 to 60	1	...	...	...	5	10	23	27	32	25	23	8	...	...	154
60 to 65	1	...	...	...	1	3	5	13	14	21	16	16	8	4	3	105
65 to 70	1	3	9	6	12	11	9	7	14	4	76
70 to 75	4	1	4	6	3	1	19
75 and over	1	4	...	1	2	2	2	2	14
Total Brides	2	30	115	263	507	659	812	4,773	3,402	1,235	677	278	196	98	66	38	25	10	13,186

Although age inequalities among contracting parties were relatively few, they were striking in degree. Thus five men between 45 and 55, and two men between 55 and 65, married women under 21, while sixteen women between 40 and 60 were married to men who were

under 30 years. The great majority of the parties were, however, of suitable ages. Of every 1,000 men married during the year, 707 were older and 190 younger than their brides, and 103 were of the same age as their partners.

The proportions of both sexes marrying in the various age groups are shown in the succeeding table for the periods 1881-90 and 1911-20, and the year 1928:—

PROPORTIONS OF MALES AND FEMALES MARRYING AT DIFFERENT AGES, 1881-90, 1911-20, AND 1928

Age Group.	Proportion per 1,000 of total—					
	Bridegrooms.			Brides.		
	1881-90.	1911-20.	1928.	1881-90.	1911-20.	1928.
Under 15 ... ..	...	...	...	·15	·07	·15
15 to 16 ... ..	...	...	...	1·17	·75	2·28
16 to 17	·03	·16	·08	6·53	3·79	8·72
17 to 18	·29	·62	·83	20·32	12·65	19·95
18 to 19	1·46	3·81	5·31	42·94	29·53	38·45
19 to 20	5·62	9·53	11·83	65·03	44·34	49·98
20 to 21	15·19	16·82	22·14	73·84	54·41	61·58
21 to 25	321·02	255·25	282·42	432·34	360·34	361·98
25 to 30	365·48	356·68	356·44	223·83	286·34	258·00
30 to 35	134·57	166·37	150·24	62·07	105·01	93·66
35 to 40	58·29	84·52	71·21	29·53	50·44	51·34
40 to 45	32·54	42·03	37·01	17·10	24·21	21·08
45 to 50	24·77	28·21	21·46	12·23	15·13	14·86
50 to 55	18·40	16·55	13·12	6·74	6·60	7·43
55 to 60	11·49	9·65	11·68	3·40	3·29	5·00
60 and over	10·85	9·80	16·23	2·78	3·10	5·54
Total	1,000·00	1,000·00	1,000·00	1,000·00	1,000·00	1,000·00

Of every 1,000 women who were married during 1928, 543 were under 25 years, and 258 were aged 25-30, as against 506 and 286 at corresponding ages in the years 1911 to 1920, and 642 and 224 in the years 1881 to 1890.

A high proportion of re-marriages has the effect of increasing the average marrying age of bridegrooms and brides. This is readily seen by comparing for 1928 the mean age at marriage of bachelors, 28·12, with that of divorced men, and of widowers—40·83 and 48·35 respectively. The average age of spinsters marrying was 25·34, as against 35·35 for divorced women and 43·34 for widows. The average age of men marrying women under 45 and

Age at marriage.

of their brides for certain periods since 1869 is shown in the following table :—

MEAN AGES AT MARRIAGE.

Period.	Average Age of—	
	Brides under 45.	Bridegrooms of Brides under 45.
	Years.	Years.
1870-74	24·13	29·93
1880-84	23·83	28·61
1890-94	24·66	28·66
1900-04	25·44	29·70
1905-09	25·88	29·80
1910-14	25·76	29·25
1915-19	25·97	29·40
1920-24	25·92	29·20
1925	25·75	29·00
1926	25·62	28·87
1927	25·50	28·71
1928	25·42	28·66

The mean age of women under 45 who married in 1928 differed very slightly from the average of the previous five years. In Victoria in 1928 the mean marrying age of all brides was 26·34, and of all bridegrooms, 29·55.

Marriage records show that, of the persons married in Victoria during 1928, 85·9 per cent. were born in Australia, 11·5 per cent. in the United Kingdom, and 1·2 per cent. in other British Possessions, and that only small proportions, about 1·8 per cent. of the bridegrooms and 0·9 per cent. of the brides, were natives of foreign countries. The numbers born in Australia and other countries are shown in the subjoined table for the years 1913 and 1928 :—

BIRTHPLACES OF PERSONS MARRIED, 1913 AND 1928.

Where Born.	Bridegrooms.		Brides.	
	1913.	1928.	1913.	1928.
	Australia	9,628	10,931	10,274	11,714
New Zealand	155	120	82	92
England and Wales	972	1,323	644	853
Scotland	213	382	141	263
Ireland	126	132	83	85
Other British Possessions	40	61	24	56
Germany	46	33	19	15
Russia	17	18	3	12
Italy	15	40	12	22
United States	30	23	14	11
Other Foreign Countries	82	123	28	63
Total	11,324	13,186	11,324	13,186

Conjugal condition of persons marrying.

The following statement shows the percentages of persons in each conjugal condition who have married in different periods since 1870 :—

CONJUGAL CONDITION OF PERSONS MARRYING, 1871-1928.

Conjugal Condition.	Percentage of Total Marriages.					
	1871-80.	1881-90.	1891-1900.	1901-10.	1911-20.	1928.
Bachelors and Spinsters..	80·59	85·84	87·22	88·46	90·31	91·48
Bachelors and Widows ..	7·10	4·72	4·23	3·66	3·15	2·64
Widowers and Spinsters..	7·75	6·17	6·07	5·70	4·81	4·10
Widowers and Widows ..	4·56	3·27	2·48	2·18	1·73	1·78

NOTE.—In this table divorced men and women are included with bachelors and spinsters respectively.

Of every 1,000 persons of each sex married in Victoria during 1928, 59 were widowers and 44 were widows, as against 58 and 44 respectively in 1927, 63 and 47 in 1926, 65 and 48 in 1925, 64 and 51 in 1924, and 65 and 47 in 1923.

The number of divorced persons re-married during 1928 was 503, which was 38 more than the number for the preceding year. Of the 133,730 persons married during the last five years, divorced persons numbered 2,310, or 1 in every 58 persons, as compared with 1 in every 98 in the period, 1916-20. The following are the numbers of divorced persons who have re-married since 1923 :—

Divorced persons re-marrying.

DIVORCED PERSONS RE-MARRYING, 1924 TO 1928.

Year.	Males.	Females.	Total.
1924	196	201	397
1925	238	237	475
1926	243	227	470
1927	227	238	465
1928	248	255	503

The divorced persons in the State at the census of 1921 numbered 2,313, of whom 1,092 were men and 1,221 women. A comparison of the re-marriages of divorced males and females during 1921 with these numbers shows that, according to the experience of that year, 17·2

per cent. of the males and 13·5 per cent. of the females re-marry each year. As these proportions greatly exceed the rates for other sections of the community it is evident that many divorces are obtained with a view to early re-marriage.

The proportions of bridegrooms and brides under 21 years of age are given in the subjoined table for the years 1924 to 1928 :—

Year.	Percentage under 21 years of age.	
	Bridegrooms.	Brides.
1924	3·58	16·03
1925	4·28	16·32
1926	4·08	17·20
1927	4·15	17·47
1928	4·02	18·11

The numbers and proportions of marriages solemnized according to the rites of the principal religious denominations and of those performed by registrars of marriages, for the years 1913 and 1928, are shown in the following table :—

MARRIAGES IN VARIOUS DENOMINATIONS.

Denomination.	1913.		1928.	
	Number.	Percentage of Total Marriages.	Number.	Percentage of Total Marriages.
Church of England	3,179	28·07	3,762	28·53
Roman Catholic Church	1,922	16·97	2,580	19·56
Presbyterian Church	2,105	18·59	2,304	17·47
Methodist Church	1,633	14·42	1,825	13·84
Congregational Church	1,014	8·95	581	4·40
Baptist Church	449	3·97	542	4·11
Church of Christ	257	2·27	319	2·42
Lutheran Church	71	·63	59	·45
Salvation Army	47	·42	67	·51
Hebrew	43	·38	45	·36
Other Sects	314	2·77	89	·67
Registrars of Marriages	290	2·56	1,013	7·68
Total	11,324	100·00	13,186	100·00

Marriages by Anglican clergymen represented 28·53 per cent. of the total in 1928, as compared with 28·78 per cent. in 1927, 29·10 per cent. in 1921, 28·07 per cent. in 1913, and 21·18 per cent.

in the period 1904-08. Excepting the ratios for the Roman Catholic, Presbyterian, and Methodist churches, there were great disparities between the proportion of marriages celebrated according to the rites of each of the principal denominations and the proportionate number of adherents possessed by it in the community.

In 1928, 7·68 per cent., in 1927, 6·21 per cent., in 1926, 4·61 per cent., in 1925, 3·95 per cent., in 1924, 4·95 per cent., and, in 1914 and 1913, 2·6 per cent. of the total marriages in Victoria were celebrated by lay registrars, as against 1 per cent. in 1909, and about 7 per cent. in the decade ended 1890. The decrease which occurred between the earlier period and 1909 was due to the competition of matrimonial agencies which sprang up about 1894, and the increase since 1909 has probably been due to the *Marriage Act* 1909 (now incorporated in the *Marriage Act* 1915—No. 2691) permitting the removal from the list of registered clergymen of the names of those who make a business of celebrating marriages. The percentages of civil marriages in Australia and New Zealand, in 1928, were 7·11 per cent. and 19·58 per cent. respectively.

The ministers qualified by registration to celebrate marriages in Victoria numbered 1,740 on 31st December, 1928. The numbers of ministers in each denomination (excepting Jews and Quakers) and lay registrars of marriages were as follows:—

REGISTERED MINISTERS OF EACH DENOMINATION.

Denomination.	Number of Registered Ministers.	Denomination.	Number of Registered Ministers.
Church of England ..	451	Ballarat Town Mission ..	1
Roman Catholic ..	372	New Church ..	3
Presbyterian ..	306	Greek Orthodox Church ..	2
Methodist ..	291	Unitarian ..	1
Congregational ..	58	International Bible Students' Association ..	1
Baptist ..	91	Latter Day Saints (Mormons) ..	1
Church of Christ ..	74	Open Brethren ..	3
Lutheran ..	29		
Salvation Army ..	38		
Latter Day Saints (Re-organized) ..	4	Total Clergymen ..	1,740
Seventh Day Adventist ..	9	Lay Registrars of Marriages ..	27
Catholic Apostolic ..	2		
Free Christian ..	2	Grand Total ..	1,767
Australian Church ..	1		

Marriages of Jews and Quakers are exempted from the law relating to marriages in Victoria, and are deemed legal and valid if celebrated according to their respective usages.

BIRTHS.

Births—Numbers and Rates. The number of births registered in Victoria during the year 1928 was 34,498, of which 17,805 were of males and 16,693 of females! This was 576 less than the number recorded for the preceding year. Stillbirths, which are excluded from both births and deaths, numbered 950, and corresponded to a ratio of 2.75 per 100 infants born alive in 1928. There were 1,066 male to every 1,000 female births in 1928, as compared with 1,062 in 1927, 1,061 in 1926, 1,073 in 1925, 1,049 in 1924, and 1,073 in 1923.

In young communities, birth rates calculated per 1,000 of the population are to some extent unreliable and misleading. In the earlier periods, when, owing to immigration, the population consists for the most part of men and women at the reproductive period of life, such rates are naturally high. As time proceeds, however, notwithstanding that immigration of reproductive adults may be maintained, the proportion of such adults to the total population must diminish, and with it, consequently, the birth rate.

The following table shows the number of births—male and female—the quarters in which they were registered, and the proportion per 1,000 of the population, since 1854:—

BIRTHS IN EACH QUARTER, VICTORIA, 1855 TO 1928.

Period.	Average Annual Number of Births.	Sex.		Quarter of Registration.				Rate per 1,000 of Mean Population.
		Males.	Females.	March.	June.	Sep-tember.	Decem-ber.	
1855-59	17,154	8,742	8,412	*	*	*	*	39.49
1860-64	24,060	12,379	11,681	5,614	5,991	6,534	5,921	43.29
1865-69	25,963	13,219	12,744	6,027	6,543	7,105	6,288	39.77
1870-74	27,359	13,944	13,415	6,478	6,769	7,467	6,645	36.35
1875-79	26,584	13,639	12,945	6,333	6,686	7,211	6,354	32.85
1880-84	27,286	13,965	13,321	6,374	7,025	7,300	6,587	30.64
1885-89	32,941	16,883	16,058	7,824	8,289	8,814	8,014	32.27
1890-94	36,945	18,901	18,044	8,669	9,604	9,735	8,937	31.99
1895-99	31,675	16,213	15,462	7,746	8,078	8,323	7,528	26.76
1900-04	30,316	15,544	14,772	7,384	7,682	7,880	7,370	25.08
1905-09	30,994	15,879	15,115	7,489	7,832	8,076	7,597	24.76
1910-14	34,500	17,717	16,783	8,329	8,619	8,850	8,702	25.42
1915-19	33,101	17,014	16,087	8,228	8,336	8,514	8,023	23.13
1920-24	36,022	18,549	17,473	8,729	8,970	9,367	8,956	22.89
1925 ..	35,922	18,593	17,329	8,938	8,790	9,195	8,999	21.49
1926 ..	35,362	18,203	17,159	8,832	8,861	8,950	8,719	20.84
1927 ..	35,074	18,068	17,006	8,508	8,742	9,265	8,559	20.30
1928 ..	34,498	17,805	16,693	8,870	8,684	8,716	8,228	19.70

* Not available.

The following statement shows the birth rates per 1,000 of the population of each State, the Commonwealth of Australia, and New Zealand, since 1909 :—

BIRTHS PER 1,000 OF MEAN POPULATION IN AUSTRALASIA,
1910 TO 1928.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1910-14	25·42	28·79	28·81	27·98	28·63	29·90	27·73	26·15
1915-19	23·13	26·64	27·86	25·51	25·21	27·78	25·89	24·37
1920-24	22·89	25·27	25·59	23·37	23·52	26·54	24·40	22·99
1925 ..	21·49	24·01	23·82	21·06	22·23	24·24	22·89	21·17
1926 ..	20·84	22·89	22·58	20·55	22·14	23·62	22·02	21·05
1927 ..	20·30	22·69	22·24	20·12	22·03	23·01	21·67	20·29
1928 ..	19·70	22·60	21·76	19·76	21·79	22·13	21·33	19·56

The birth rate in England and Wales in 1928 was 16·7.

The births in Australia were fewer by 3,905, or 2·8 per cent., in 1928 than in 1914, although in the intervening period the population had increased by 27·1 per cent. The number in 1928 was 134,078, as compared with 137,983 in 1914. Of the total recorded for 1928, 34,498 occurred in Victoria, 54,791 in New South Wales, 19,783 in Queensland, 11,408 in South Australia, 8,704 in Western Australia, 4,691 in Tasmania, 83 in the Northern Territory, and 120 in the Federal Capital Territory.

The birth rate of a community is almost wholly dependent upon the proportion of wives at the reproductive period of life and their internal age distribution. As these elements, especially the former, differ widely in certain Australian States, the crude rates of the different States are scarcely comparable. The figures for the census of 1921 showed that in every 1,000 of the respective populations of each State and the Commonwealth the married women aged 15 to 45 numbered 116·1 in Victoria, 127·5 in New South Wales, 119·3 in Queensland, 125·3 in South Australia, 118·0 in Western Australia, 117·3 in Tasmania, and 121·9 in Australia. In the case of Victoria, the deficiency in the proportion of married women at the ages mentioned was accentuated by a comparatively small proportion of them being at the younger and more fertile ages. During the years 1920-22 the crude nuptial birth rate per 1,000 of the population was lower in Victoria than in any other State. When, however, the rates for the other States were adjusted to Victorian conditions by eliminating the differences referred to, they were altered as follows :—New South Wales was reduced by 2·7

per 1,000 of the population, Queensland by 1·4, South Australia by 1·6, Tasmania by 1·1, and Australia by 1·3, while the rate for Western Australia was increased by ·4. The result was that, according to the adjusted figures, the nuptial rate for Victoria was more satisfactory than the rates for two of the other States, viz., New South Wales and South Australia.

Births to wives in Australasia and England.

The next table shows the nuptial births per 1,000 married women under 45 (not allowing for their differing age distribution) in each State, New Zealand, and England and Wales in the four census years 1891, 1901, 1911, and 1921 :—

NUPTIAL BIRTHS PER 1,000 MARRIED WOMEN UNDER 45 YEARS OF AGE.

Country.	Nuptial Births per 1,000 Married Women aged 15 to 45.				Decrease per cent. in 20 years.
	1891.	1901.	1911.	1921.	
Victoria	297·0	229·0	223·0	190·5	16·8
New South Wales	298·9	235·6	235·4	194·2	17·6
Queensland	315·0	251·0	244·8	213·6	14·9
South Australia	311·1	235·0	235·9	186·9	20·5
Western Australia	352·8	244·0	221·8	190·9	21·8
Tasmania	315·9	254·6	244·8	216·9	14·8
New Zealand	279·1	246·1	211·7	181·0	26·9
England and Wales	268·8	234·2	196·2	176·3	24·7

Birthplaces of parents of nuptial children.

The birth records of children born in wedlock show that, in Victoria, in 1928, 80 out of every 100 children were born to Australian parents, and 94 out of every 100 to one or both parents born in Australia. Of the total fathers, the percentages born in the States or countries mentioned hereafter were as follows :—76·9 in Victoria; 85·6 in Australia; ·7 in New Zealand; 8·4 in England and Wales; 2·2 in Scotland; ·9 in Ireland; ·4 in other British Possessions; and 1·8 in foreign countries. The corresponding percentages for mothers were :—Victoria, 79·5; Australia, 88·4; New Zealand, ·6; England and Wales, 7·2; Scotland, 1·8; Ireland, ·6; other British Possessions, ·3; and foreign countries, 1·1.

Standardized birth rates per 1,000 wives in Victoria.

An accurate view of the alteration in the fertility of wives is obtained by comparing the ratio of nuptial births to wives at reproductive ages, and allowing for the difference in their age distribution at each period. The following

table shows for Victoria the distribution of married women in six five-year groups in the last six census years :—

PROPORTION OF MARRIED WOMEN IN AGE GROUPS TO TOTAL BETWEEN 15 AND 45 IN THE LAST SIX CENSUS YEARS.

Census Year.	Proportion in each Age Group to Every 1,000 Married Women between 15 and 45.					
	15-20.	20-25.	25-30.	30-35.	35-40.	40-45.
1871	20·3	130·4	211·4	230·7	233·2	174·0
1881	17·3	159·5	204·6	206·0	209·7	202·9
1891	13·5	156·9	275·2	244·1	172·1	138·2
1901	8·1	99·0	198·3	249·6	249·2	195·8
1911	12·4	113·8	206·9	226·6	221·2	219·1
1921	9·2	105·3	222·5	247·9	221·1	194·0

To estimate the effect which the alteration in age distribution has on the birth rate, the proportion in each of the above groups was multiplied by the average natality rate for the group according to a standard table—the standard used for this purpose being the Swedish table of 1891. The sum of the products for each census year represented the number of births which would have occurred in that year per 1,000 married women between 15 and 45 had the fertility of these women remained unaltered, i.e., the potential births. The year 1871 was used as a basis with which to compare the five subsequent census years, and adjustments were applied to the actual births (per 1,000) occurring in those years, so as to make them conform to the age constitution in the first-mentioned year. The correction factors were obtained by taking the number of births per 1,000 married women aged 15-45 which would have occurred in 1871 had the standard natality rates prevailed, and dividing this number by the corresponding numbers of potential births for 1881, 1891, 1901, 1911, and 1921. The above method was applied to find what proportion of the alteration in the ratio of births to married women under 45 was due to causes other than varying age constitution. The last mentioned factor has been taken into account in the computation of the birth rates appearing in column (5) of the subjoined table :—

STANDARDIZED NUPTIAL BIRTH RATES.

(1) Census Year.	(2) Married Women between 15 and 45 years of age.	(3) Nuptial Births.	(4) Nuptial Births per 1,000 Married Women 15-45.	(5) Standardized Nuptial Births per 1,000 Married Women 15-45.	(6) Factor for Correction of Rate in Column 4.
1871 ..	88,561	26,805	302·67	..	..
1881 ..	84,831	25,675	302·66	303·14	1·0016
1891 ..	120,700	35,853	297·04	231·98	0·9493
1901 ..	127,858	29,279	229·00	238·75	1·0426
1911 ..	139,398	31,080	222·96	231·50	1·0383
1921 ..	177,803	33,879	190·50	195·47	1·0261

An inspection of the rates in column (5) shows that there was a fall of 7 per cent. in 1891 as compared with 1881, a further serious decline of over 15 per cent. in 1901 as compared with 1891, a decrease of 3 per cent. in 1911 as compared with 1901, and a further decline of nearly 16 per cent. in 1921 as compared with 1911, which were not due to variations in the age distribution of the married women between 15 and 45 in the community. A further examination of the standardized nuptial birth rates appearing in this column shows that the births in 1921 to every 1,000 married women of reproductive ages were 108 fewer than in 1881, 87 fewer than in 1891, 43 fewer than in 1901, and 36 fewer than in 1911.

Standardized nuptial birth rate for Victoria.

Nuptial birth rates (per 1,000 of the total population) for widely separated periods do not give a correct indication of the relative fertilities of those periods, unless the number of married women at reproductive ages in proportion to the population and the age constitution of such women have remained unchanged. In order to allow for the disturbance which may have been introduced through variations in these elements it is necessary that adjustments be made in the crude rates. The factor to correct the result of changes in the proportion of married women between 15 and 45 is obtained by comparing the number of such women in the community at the period of observation with the number in a standard population. The method of obtaining the correcting factor for the disturbance due to the second element was explained in a previous paragraph.

The following table shows the crude nuptial birth rates in six census years, the adjustments to be applied thereto for the reasons mentioned above, the amended birth rates, and the difference between these and the crude rates. The standard used in the computation of the correction factors was the Victorian population of 1871. Standardized birth rates per 1,000 of the population in the years 1881, 1891, 1901, 1911, and 1921 are as follows:—

STANDARDIZED NUPTIAL BIRTH RATES PER 1,000 OF POPULATION.

Year.	Enu-merated Population.	Nuptial Births.	Nuptial Births per 1,000 of Population (crude Rates).	Wives aged 15-45 per 1,000 of Population.	Correction Factor for variations in—		Stan-dardized Birth Rate.	Difference between crude and stan-dardized Rates.
					Proportion of Wives aged 15-45.	Age Distribu-tion of Wives aged 15-45.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1871	731,528	26,805	36.64	121.1	..	..	..	..
1881	862,346	25,675	29.77	98.4	1.2307	1.0016	36.69	6.92
1891	1,140,405	35,853	31.44	105.8	1.1446	0.9493	34.39	2.95
1901	1,201,341	29,279	24.37	106.4	1.1382	1.0426	28.77	4.40
1911	1,315,551	31,080	23.63	106.0	1.1425	1.0388	27.89	4.26
1921	1,531,280	33,379	22.12	116.1	1.0431	1.0261	23.68	1.56

An inspection of the crude rates in the fourth column of the above table shows that nuptial births per 1,000 of population apparently declined by 6·87 in 1881, 5·20 in 1891, 12·27 in 1901, 13·01 in 1911, and 14·52 in 1921, as compared with the first-mentioned census date. After making allowance for the disturbing elements known to exist, the apparent decline of 6·87 in 1881 is altered to an increase of ·05 per 1,000, while the decline of 1891 is reduced from 5·20 to 2·25, that of 1901 from 12·27 to 7·87, that of 1911 from 13·01 to 8·75, and that of 1921 from 14·52 to 12·96 per 1,000 as compared with 1871. Between 1901 and 1921 there was a reduction of nearly 18 per cent. in the rate due to other than normal causes.

During the last ten years the births to Chinese parents numbered 33, or 1 in every 10,684 births. There were 208 Chinese half-caste births (fathers only Chinese), or 1 in every 1,695 births registered in the same period.

The average ages of fathers and mothers of nuptial children whose births were recorded in 1928 were 32·85 and 29·54 years respectively, which were 4·19 and 4·12 years above the average ages of bridegrooms marrying brides under 45 years of age, and of such brides for the same year. The proportions of both parents in various age groups are shown in the following table for the year mentioned :—

PERCENTAGE OF PARENTS IN AGE GROUPS, 1928.

Father.			Mother.		
Age Group.	Proportion per 100 Births.		Age Group.	Proportion per 100 Births.	
Under 20	·47		Under 20	4·11	
20 to 25	11·66		20 to 25	22·21	
25 to 30	26·71		25 to 30	29·49	
30 to 35	24·82		30 to 35	23·37	
35 to 40	19·38		35 to 40	15·28	
40 to 45	10·13		40 to 45	5·14	
45 to 50	4·46		45 and over	·40	
50 and over	2·37				
Total	100·00		Total	100·00	

It will be seen that, on the experience of 1928, 51·70 per cent. of the mothers were between ages 20 and 30, and 38·65 per cent. between ages 30 and 40. The proportions of fathers at these ages were 38·37 and 44·20 per cent. respectively. Of every 1,000 nuptial births, about 41 were due to mothers under 20 years, and about 4 to mothers aged 45 years and upwards.

Birth rates in town and country. In editions of this work prior to 1923 birth rates for the various municipalities and divisions of the State were based on the births occurring therein in relation to their respective populations.

This method made no allowance for prospective mothers travelling from rural districts to towns where better lying-in facilities and attention were available, or to the metropolis, or for metropolitan residents, *enceinte*, travelling from one municipality to another. By reason of this the rates for the metropolis and urban districts were unduly inflated at the expense of the rural districts, and the recorded variations in the rates of the various municipalities were incorrect. Also, no provision was made for births which had occurred in the Women's and other public hospitals being credited to the districts in which the mothers resided. As, at that time, about 14 per cent. of the metropolitan births occurred in these institutions the rates for certain municipalities—particularly the poorer and more congested ones—were necessarily considerably understated. The proportion in 1928 was about 22 per cent.

In 1923, therefore, it was decided to allot all births registered in Victoria to the place of usual residence of the mother. Upon this being done for the year mentioned it was found that the total for the metropolis, i.e., the births registered therein, had decreased by approximately 1,200. In subsequent years the consequent decrease has ranged between 1,220 and 1,350. These numbers give a fair indication of the extent by which the rates in districts outside the metropolitan area suffered under the discarded system of compilation.

The following table, computed on the above-mentioned basis, shows the number of births per 1,000 of the population in the metropolitan, other urban, and rural districts for the years 1923 to 1928:—

BIRTH RATES IN METROPOLITAN, OTHER URBAN, AND RURAL DISTRICTS, 1923 TO 1928.

Division.	Births per 1,000 of Mean Population.					
	1923.	1924.	1925.	1926.	1927.	1928.
Metropolitan District	21·10	20·90	19·93	19·31	18·65	18·11
Country Towns (other urban)	22·08	21·25	20·41	20·11	19·50	19·64
Rest of State	24·03	23·81	24·13	23·44	23·24	22·43
Total State	22·31	22·01	21·49	20·84	20·30	19·70

Birth rates in metropolitan municipalities. The appended statements show, for the years 1923 to 1928, the number of births, and the births per 1,000 of the mean population in the metropolitan municipalities:—

**BIRTHS IN METROPOLITAN MUNICIPALITIES,
1923 TO 1928.**

Municipality.	Number of Births.					
	1923.	1924.	1925.	1926.	1927.	1928.
Melbourne	2,011	1,843	1,766	1,791	1,648	1,610
Box Hill	*	*	*	268	263	280
Brighton	482	479	523	433	493	467
Brunswick	1,130	1,206	1,113	1,191	1,164	1,109
Camberwell	632	746	833	864	911	896
Caulfield	1,050	1,073	1,057	1,105	1,039	1,074
Coburg	553	680	735	763	785	812
Collingwood	687	726	706	662	671	620
Essendon	833	876	833	805	881	881
Fitzroy	805	719	661	620	608	592
Footscray	1,022	960	992	974	950	1,006
Hawthorn	562	559	534	505	463	448
Heidelberg	*	*	*	*	*	456
Kew	378	387	363	373	394	388
Malvern	625	691	664	594	608	604
Northcote	823	930	908	925	902	812
Oakleigh	235	226	*	*	*	*
Port Melbourne	305	291	276	283	237	254
Prahran	954	878	888	844	822	821
Preston	380	501	567	625	719	764
Richmond	898	946	890	861	835	813
Sandringham	221	268	275	307	303	309
South Melbourne	951	951	777	849	795	794
St. Kilda	648	677	641	665	665	621
Williamstown	499	490	525	474	439	511
Remainder of Metropolis	927	1,067	1,384	1,145	1,305	940
Greater Melbourne	17,611	18,170	17,911	17,926	17,900	17,882

* Included in "Remainder of Metropolis."

BIRTHS IN METROPOLITAN MUNICIPALITIES, 1923 TO 1928—*continued.*

Municipality.	Births per 1,000 of Mean Population.					
	1923.	1924.	1925.	1926.	1927.	1928.
Melbourne	19·73	18·08	17·35	17·62	16·20	15·81
Box Hill	*	*	*	24·59	22·19	22·06
Brighton	20·51	19·21	20·19	16·20	17·94	16·51
Brunswick	24·26	25·22	22·61	23·51	21·74	19·75
Camberwell	22·97	23·96	24·01	22·72	22·12	20·38
Caulfield	21·35	19·84	18·34	17·96	15·87	15·61
Coburg	24·50	25·56	24·69	23·40	22·36	21·66
Collingwood	20·05	21·29	20·80	19·59	20·00	18·65
Essendon	22·23	22·62	20·96	19·78	21·10	20·71
Fitzroy	23·12	20·79	19·25	18·25	18·07	17·77
Footscray	26·73	23·41	23·20	21·99	20·72	20·83
Hawthorn	18·55	17·92	16·83	15·76	14·29	13·61
Heidelberg	*	*	*	*	*	21·90
Kew	20·26	19·44	17·24	16·70	16·72	16·05
Malvern	15·89	16·68	15·62	13·66	13·69	13·35
Northcote	24·98	26·72	24·59	23·98	22·62	19·81
Oakleigh	34·36	31·22	*	*	*	*
Port Melbourne	23·21	22·13	20·99	21·49	17·89	19·03
Prahran	18·73	17·17	17·23	16·26	15·75	15·64
Preston	32·59	35·11	32·87	30·12	28·53	27·82
Richmond	20·64	21·68	20·39	19·76	19·23	18·84
Sandringham	15·79	17·29	15·94	16·16	14·79	13·75
South Melbourne	20·24	20·20	16·49	17·99	16·80	16·71
St. Kilda	16·12	16·59	15·58	16·06	15·89	14·59
Williamstown	24·62	22·78	23·10	20·40	18·49	20·95
Remainder of Metropolis	23·74	25·80	26·76	25·28	26·49	29·78
Greater Melbourne	21·10	20·90	19·93	19·31	18·65	18·11

* Included in "Remainder of Metropolis."

Birth rates
in country
towns.

Similar information relating to the principal country towns is given in the table which follows :—

**BIRTH RATES IN THE PRINCIPAL COUNTRY TOWNS,
1923 TO 1928.**

Town.	Number of Births.					
	1923.	1924.	1925.	1926.	1927.	1928.
Ballarat	785	790	708	708	648	693
Bendigo	653	634	614	569	576	577
Geelong	829	790	842	913	937	911
Carrum	133	125	127	133	111	143
Castlemaine	147	138	128	122	124	119
Hamilton	139	144	145	148	143	156
Maryborough	*	127	112	107	112	120
Mildura	200	211	186	195	200	192
Mordialloc	120	152	160	148	172	146
Shepparton	*	*	*	*	*	135
Stawell	130	107	112	107	100	103
Warrnambool	196	180	180	176	180	185
Wonthaggi	188	146	151	159	153	153
Total Country Towns ..	3,520	3,544	3,465	3,485	3,456	3,633

Town.	Births per 1,000 of Mean Population.					
	1923.	1924.	1925.	1926.	1927.	1928.
Ballarat	19·64	19·46	17·27	17·04	15·46	16·50
Bendigo	19·50	18·85	18·22	16·96	16·99	17·04
Geelong	22·35	20·93	21·53	22·33	22·15	21·11
Carrum	22·17	20·16	19·54	19·70	15·48	20·00
Castlemaine	20·50	19·38	17·85	17·02	17·71	16·60
Hamilton	27·20	28·13	27·88	28·14	27·08	29·43
Maryborough	*	26·29	23·14	22·02	22·86	24·24
Mildura	36·04	37·02	31·79	32·50	33·33	31·74
Mordialloc	17·39	21·17	22·16	19·07	18·88	14·51
Shepparton	*	*	*	*	*	24·55
Stawell	28·26	23·01	24·03	22·91	21·28	21·73
Warrnambool	24·65	22·50	22·44	21·86	22·30	22·84
Wonthaggi	33·57	24·33	23·23	23·38	22·17	22·01
Total Country Towns ..	22·08	21·25	20·41	20·11	19·50	19·64

* Not available.

Twin and triplet births.

The numbers of cases of twin and triplet births in Victoria in the last five years were as follows:—

CASES OF TWINS AND TRIPLETS.

Year.	Cases of Twins.	Cases of Triplets.
1924	378	3
1925	393	3
1926	377	4
1927	397	3
1928	361	1

On the average of the five years 1 mother in every 92 gave birth to twins, and 1 in every 12,504 was delivered of triplets. The proportions for the decennium ended 1917 were 1 in every 94 and 1 in every 9,538 respectively.

Adoption of Children.

The *Adoption of Children Act* 1928 makes provision for the legal adoption of children. An adopted child has the right of succession whether under an intestacy or disposition to the real and personal property of an adopter, but not of its natural parent or parents; it has no rights of succession to the property of adopting parents' relatives, but has rights in estate of natural parents' relatives. Marriage is prohibited between an adopter and an adopted child.

Children legitimized.

In December, 1912, an Act was passed which provides that children born out of wedlock may be legitimized at any time after the marriage of the parents, on the application of the father, provided there was no lawful impediment to the marriage of the parents at the time of the birth. An amending Act passed in 1916 allowed legitimation to be effected on the application of the mother if the father were absent on war service or had died not more than two years previously. Up to the end of 1928 advantage was taken of these Acts, and of an Act (now repealed) passed in 1903, to legitimate 2,876 children, of whom 14 were registered in 1903, 19 in 1904, 34 in 1905, 43 in 1906, 58 in 1907, 60 in 1908, 51 in 1909, 71 in 1910, 126 in 1911, 106 in 1912, 157 in 1913, 149 in 1914, 141 in 1915, 140 in 1916, 136 in 1917, 162 in 1918, 159 in 1919, 165 in 1920, 168 in 1921, 133 in 1922, 133 in 1923, 121 in 1924, 133 in 1925, 133 in 1926, 159 in 1927, and 105 in 1928.

Legitimation Acts are in force in all the States and New Zealand, but there are marked differences in the numbers of legitimations resulting therefrom. In proportion to every 100 children born out of wedlock in 1928, the numbers of legitimations in the various States and New Zealand during that year were as follows:—Victoria, 6·5; New South Wales, 24·7; Queensland, 15·5; South Australia, 13·1; Western Australia, 19·8; Tasmania, 9·4; and New Zealand, 25·2.

**Ex-nuptial
Births in
Victoria.**

The following table shows the number of ex-nuptial births and their percentage to total births, in Victoria, since 1909 :—

EX-NUPTIAL BIRTHS IN VICTORIA, 1910 TO 1928.

Period.	Average Annual Number of Births.	Average Annual Number of Ex-nuptial Births.			Percentage of Total Births.
		Male.	Female.	Total.	
1910-14	34,500	1,013	979	1,992	5·77
1915-19	33,101	941	912	1,853	5·60
1920-24	36,022	869	821	1,690	4·69
1925	35,922	809	734	1,543	4·30
1926	35,362	818	785	1,603	4·53
1927	35,074	811	745	1,556	4·44
1928	34,498	845	780	1,625	4·71

The percentages in the various States and New Zealand in 1928 were as follows :—Victoria, 4·71 per cent. ; New South Wales, 4·94 per cent. ; Queensland, 5·21 per cent. ; South Australia, 3·28 per cent. ; Western Australia, 3·84 per cent. ; Tasmania, 4·75 per cent. ; Australia, 4·72 per cent. ; and New Zealand, 5·08 per cent.

**Ex-nuptial
births to
unmarried
women in
Victoria.**

The percentage of ex-nuptial to total births in Victoria varied from 5·36 in 1891 to 5·94 in 1911, and 4·82 in 1921. The proportion of infants born out of wedlock to the unmarried and widowed women between 15 and 45 years of age in Victoria is shown in the subjoined table for the census years 1891, 1901, 1911, and 1921, when the conjugal condition of the population was known :—

EX-NUPTIAL BIRTHS PER 1,000 SINGLE WOMEN.

Year.	Single Women aged 15 to 45.	Ex-nuptial Births.	Ex-nuptial Births per 1,000 Single Women.
1891	142,443	2,064	14·5
1901	167,760	1,729	10·3
1911	187,488	1,964	10·5
1921	189,737	1,714	9·0

The number of infants born out of wedlock per 1,000 unmarried and widowed women in Victoria was 9·0 in 1921. This was considerably lower than the latest available figures for most European countries. The proportions ranged from 23 in Germany, 26 in Sweden, 24 in Denmark, 14 in Italy, and 16 in France, to 12 in Belgium, 13 in Scotland, 7 in England and Wales, 5 in Holland, and 4 in Ireland.

A larger proportion of ex-nuptiality prevails in Melbourne and suburbs than in the other urban and the rural districts of Victoria, the proportion in the country districts being the smallest of all. During the year 1928, in the metropolitan area 1 birth in every 18, in other urban districts 1 in 21, and in the rural districts only 1 in 28 were ex-nuptial. The corresponding rates for 1927 were 1 in 20, 1 in 20, and 1 in 36 respectively.

DEATHS.

The following table shows the number of deaths—male and female—the quarters in which they were registered, and the proportion per 1,000 of the population since 1854 :—

DEATHS IN EACH QUARTER, VICTORIA, 1855 TO 1928.

Period.	Average Annual Number of Deaths.	Sex.		Quarter of Registration.				Rate per 1,000 of Mean Population.
		Males.	Females.	March.	June.	September.	December.	
1855-59..	7,653	4,768	2,885	*	*	*	*	17·78
1860-64..	10,210	6,001	4,209	3,257	2,658	2,093	2,202	18·44
1865-69..	11,035	6,374	4,661	3,385	2,938	2,243	2,469	16·93
1870-74..	10,978	6,365	4,613	3,232	2,744	2,461	2,541	14·56
1875-79..	13,289	7,567	5,722	4,016	3,567	2,831	2,875	16·45
1880-84..	12,820	7,324	5,496	3,512	3,167	3,013	3,128	14·40
1885-89..	16,200	9,307	6,893	4,591	3,912	3,689	4,008	15·87
1890-94..	16,886	9,716	7,170	4,643	4,108	3,977	4,158	14·62
1895-99..	16,350	9,227	7,123	4,324	3,957	3,808	4,261	13·81
1900-04..	15,457	8,686	6,771	3,921	3,750	3,992	3,794	12·84
1905-09..	14,932	8,296	6,636	3,805	3,539	3,917	3,671	11·93
1910-14..	15,705	8,616	7,089	3,873	3,875	4,137	3,820	11·57
1915-19..	16,283	8,860	7,423	3,781	4,172	4,467	3,863	11·38
1920-24..	16,375	8,781	7,594	3,846	4,166	4,503	3,860	10·40
1925 ..	15,836	8,582	7,254	3,744	4,039	4,334	3,719	9·47
1926 ..	16,335	8,765	7,570	3,622	4,439	4,239	4,035	9·63
1927 ..	16,773	8,982	7,791	3,809	4,271	4,714	3,979	9·71
1928 ..	17,708	9,384	8,324	4,087	4,176	4,735	4,710	10·11

* Not available.

The number of deaths in 1928 was 17,708, which was 1,077 above the average of the preceding five years.

The deaths in Australia in 1928 numbered 59,378 as against 58,282 in 1927, 56,952 in 1926, 54,567 in 1925, 54,980 in 1924, 56,236 in 1923, 51,312 in 1922, 54,076 in 1921, 56,289 in 1920, 65,930 in 1919, 50,249 in 1918, 48,029 in 1917, 54,197 in 1916, 52,782 in 1915, and 51,720 in 1914. Of the total deaths in the year under review 17,708 occurred in Victoria, 22,657 in New South Wales, 7,976 in Queensland, 5,147 in South Australia, 3,640 in Western Australia, 2,132 in Tasmania, 71 in the Northern Territory, and 47 in the Federal Capital Territory. The death rates per 1,000 of the population, for each of the Australian States, the Commonwealth of Australia, and New Zealand, are shown in the following statement for quinquennial periods 1910-24, and for the years 1925 to 1928:—

DEATHS PER 1,000 OF MEAN POPULATION IN
AUSTRALASIA, 1910 TO 1928.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1910-14	11·57	10·41	10·30	10·30	10·02	10·55	10·70	9·35
1915-19	11·38	10·66	10·80	10·67	9·74	9·95	10·90	10·52
1920-24	10·40	9·50	9·56	9·66	9·48	9·82	9·79	8·98
1925 ..	9·47	9·16	8·86	9·15	9·00	9·35	9·20	8·29
1926 ..	9·63	9·55	9·39	8·73	8·93	9·05	9·42	8·74
1927 ..	9·71	9·59	9·06	8·98	8·81	9·68	9·45	8·45
1928 ..	10·11	9·34	8·77	8·92	9·11	10·06	9·45	8·49

The death rate in England and Wales in 1928 was 11·7.

The crude rate in Victoria is higher than in any other State, but this result is chiefly due to its containing a larger proportion of elderly persons, among whom the mortality rate is very high.

Comparisons of the crude death rates of a country for different periods, or of different countries for the same period, are frequently misleading, as they do not allow for variations in the age distributions of the population. In European countries, the proportion of elderly people, among whom the death rate is heavy, is higher than in the Commonwealth or any of the Australian States, and it is greater in South Australia, and lower in Western Australia, than in any of the other States. The proportions of each sex living in various age groups at the census of 1921 in each

Age distribution and crude death rates.

division of the Commonwealth, and those in a standard population, which has been adopted by statisticians as a standard for this purpose, are shown in the following table :—

PROPORTIONS LIVING IN FIVE AGE GROUPS IN A STANDARD POPULATION AND AUSTRALIA.

Age Group.	Proportion per 10,000 of Population living in—							
	Standard Population.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
			MALES.					
Under 5 years	601	517	578	611	557	535	602	562
5 to 25 ..	1,942	1,826	1,879	1,962	1,866	1,948	2,017	1,884
25 to 45 ..	1,318	1,431	1,559	1,585	1,509	1,527	1,336	1,512
45 to 65 ..	791	929	859	889	829	1,134	849	897
65 and over	258	226	227	231	253	184	236	228
Total ..	4,910	4,929	5,102	5,278	5,014	5,328	5,040	5,083
			FEMALES.					
Under 5 years	597	497	561	582	529	516	593	541
5 to 25 ..	1,959	1,833	1,869	1,921	1,857	1,912	1,990	1,872
25 to 45 ..	1,368	1,539	1,517	1,388	1,536	1,347	1,381	1,491
45 to 65 ..	856	948	747	661	806	756	760	798
65 and over	310	254	204	170	258	141	236	215
Total ..	5,090	5,071	4,898	4,722	4,986	4,672	4,960	4,917

The figures show that the characteristic features of Australian populations, as compared with those of European countries, are a large preponderance of persons in the age group 25-45, and a relatively small number aged 65 and over. Among the Australian States, South Australia and Western Australia have the highest and lowest proportions respectively of persons aged 65 years and upwards, Queensland and Western Australia a large excess of males over females, particularly at ages over 25, and Victoria an excess of females in each group, except those under 5 years—points which should be kept in view when comparing their crude death rates.

The differences shown in the preceding table in the age and sex constitutions of the populations of the six States have been taken into account in computing their respective indexes of mortality. The results for each are based upon a standard

Index of mortality.

population, distributed according to sex, into eleven age groups. In the preceding table, for the purpose of obtaining a readier comparison, the eleven groups have been reduced to five. Mortality indexes for each State, and detailed particulars for Victoria, for the undermentioned years, as compiled by the Commonwealth Statistician, are as follows :—

INDEX OF MORTALITY FOR AUSTRALIA, 1924 TO 1928.

Year.	Index of Mortality for—						
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
1924	10·31	10·31	9·90	9·50	10·82	10·43	10·20
1925	9·74	10·13	9·94	9·43	10·67	9·94	9·93
1926	9·91	10·62	10·47	9·02	10·63	9·70	10·20
1927	10·02	10·64	10·20	9·30	10·71	10·43	10·43
1928	10·45	10·40	9·91	9·21	11·14	10·76	10·24

VICTORIA, 1924 TO 1928.

Year.	Crude Rates.			Standardized Rates.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
1924 ..	10·87	9·24	10·05	11·00	9·64	10·31
1925 ..	10·32	8·64	9·47	10·45	9·04	9·74
1926 ..	10·38	8·88	9·63	10·55	9·29	9·91
1927 ..	10·44	8·98	9·71	10·63	9·41	10·02
1928 ..	10·78	9·45	10·11	11·02	9·89	10·45

In each of the last five years the crude death rate was higher in Victoria than in any other Australian State, but the figures in the above table show that, by taking an average over those years, four States—New South Wales, Queensland, Western Australia, and Tasmania—had a higher index of mortality than Victoria.

A reliable estimate of the improvement in the health of the community is obtained by comparing the death rates for groups of ages at different periods. Such rates for Victoria are given in the subjoined table for the decennial periods 1891-1900, 1902-11, and 1912-21 :—

DEATH RATES IN CERTAIN AGE GROUPS IN VICTORIA.

Age Group.		Deaths per 1,000 at each Age.		
		1891-1900.	1902-11.	1912-21.
<i>Males.</i>				
Under 5	...	39·29	26·73	23·85
5 to 10	...	3·36	2·16	2·42
10 to 15	...	2·20	1·87	1·75
15 to 20	...	3·28	2·72	2·37
20 to 25	...	4·79	3·51	3·57
25 to 35	...	6·60	4·75	4·71
35 to 45	...	9·03	7·81	7·14
45 to 55	...	15·32	13·48	13·10
55 to 65	...	32·90	25·38	25·05
65 to 75	...	62·99	59·04	53·18
75 and upwards	...	145·05	157·26	157·97
All ages	...	15·47	13·30	12·57
<i>Females.</i>				
Under 5	...	34·09	22·35	19·26
5 to 10	...	3·12	2·03	2·24
10 to 15	...	2·06	1·78	1·56
15 to 20	...	3·43	2·80	2·27
20 to 25	...	4·81	3·59	3·56
25 to 35	...	6·89	5·01	4·58
35 to 45	...	8·68	7·16	6·01
45 to 55	...	12·12	9·96	9·44
55 to 65	...	23·64	18·80	17·46
65 to 75	...	45·87	46·71	42·01
75 and upwards	...	124·33	131·77	136·61
All ages	...	12·36	10·66	10·35

The figures show that at all ages, excepting between 5 and 10, and 20 and 25, and 75 and over for males, and between 5 and 10, and 75 and over for females, much lower death rates were experienced during the decennium 1912-21 than in the preceding one. Compared with 1902-11, the mortality rate for the period 1912-21 for the two

sexes combined was lower by 10 per cent. for the age group 0-10, by 9 per cent. at ages 10-15, by 16 per cent. at 15-20, by 5 per cent. at 25-35, by 12 per cent. at 35-45, and by 4 per cent. at 45-55 and 55-65. The rates, up to age 65 and probably to age 75, are comparable, and the marked decrease at successive periods shows that there had been a general improvement in hygienic conditions.

In years prior to 1923 it was the custom, when computing local death rates, to treat the deaths in two main divisions—those occurring in public institutions and those occurring elsewhere. The latter were credited to the district in which they were registered. Of the institutional deaths those occurring in hospitals were allotted to the usual residence; the remainder, together with any deaths of persons unknown or whose residence was not stated, were allotted to the various divisions of the State according to the population of each.

For purposes of greater accuracy, and following the practice of England and other countries, the allotment to usual residence has, for 1923, *et seq.*, been extended to cover all deaths, only those institutional deaths where the usual residence is unknown being allotted to the various divisions of the State as before mentioned.

The following table, computed on the above-mentioned basis, shows the number of deaths per 1,000 of the population in the metropolitan, other urban, and rural districts for the years 1923 to 1928:—

DEATH RATES IN METROPOLITAN, OTHER URBAN,
AND RURAL DISTRICTS, 1923 TO 1928.

Division.	Deaths per 1,000 of Population.					
	1923.	1924.	1925.	1926.	1927.	1928.
Metropolitan District ..	11·28	10·49	9·71	9·86	10·15	10·15
Country Towns (other urban)	12·46	11·27	10·69	10·72	10·62	11·43
Rest of State	9·48	9·09	8·79	8·94	8·71	9·62
Total State	10·71	10·05	9·47	9·63	9·71	10·11

The deaths in Victoria of residents of metropolitan municipalities, and their proportions to the populations of these municipalities are shown in the following table for the years 1923 to 1928 :—

DEATHS IN METROPOLITAN MUNICIPALITIES,
1923 TO 1928.

Municipality.	Number of Deaths.					
	1923.	1924.	1925.	1926.	1927.	1928.
Melbourne	1,418	1,310	1,166	1,192	1,236	1,191
Box Hill	*	*	*	101	132	133
Brighton	249	250	218	243	252	248
Brunswick	534	502	495	509	561	576
Camberwell	264	332	304	336	342	427
Caulfield	402	477	457	462	517	545
Coburg	227	229	218	256	228	279
Collingwood	457	395	390	436	434	392
Essendon	401	417	395	410	399	442
Fitzroy	539	414	458	394	478	499
Footscray	385	411	376	388	426	442
Hawthorn	359	308	300	324	366	355
Heidelberg	*	*	*	*	*	185
Kew	159	203	198	187	209	249
Malvern	358	350	353	372	407	421
Northcote	309	333	366	353	384	370
Oakleigh	87	72	*	*	*	*
Port Melbourne	158	142	135	157	165	146
Prahran	620	617	550	617	638	670
Preston	137	139	172	175	218	267
Richmond	561	471	464	478	474	501
Sandringham	111	122	131	117	122	148
South Melbourne	585	542	483	502	583	534
St. Kilda	446	414	407	470	467	495
Williamstown	240	236	208	240	258	223
Remainder of Metropolis	408	432	480	436	450	290
Greater Melbourne	9,414	9,118	8,724	9,155	9,746	10,028

* Included in "Remainder of Metropolis."

DEATHS IN METROPOLITAN MUNICIPALITIES, 1923 TO 1928—*continued.*

Municipality.	Deaths per 1,000 of Population.					
	1923.	1924.	1925.	1926.	1927.	1928.
Melbourne	13·91	12·85	11·46	11·73	12·15	11·69
Box Hill	*	*	*	9·27	11·14	10·48
Brighton	10·60	10·02	8·42	9·09	9·17	8·77
Brunswick	11·46	10·50	10·05	10·05	10·48	10·26
Camberwell	9·59	10·66	8·76	8·84	8·31	9·71
Caulfield	8·17	8·82	7·93	7·51	7·89	7·92
Coburg	10·06	8·61	7·32	7·85	6·49	7·44
Collingwood	13·34	11·58	11·49	12·90	12·94	11·79
Essendon	10·70	10·77	9·94	10·07	9·56	10·39
Fitzroy	15·48	11·97	13·34	11·60	14·21	14·98
Footscray	10·07	10·02	8·80	8·76	9·29	9·15
Hawthorn	11·85	9·87	9·45	10·11	11·30	10·79
Heidelberg	*	*	*	*	*	8·89
Kew	8·52	10·20	9·41	8·37	8·87	10·32
Malvern	9·10	8·45	8·31	8·55	9·17	9·31
Northcote	9·38	9·57	9·91	9·15	9·63	9·03
Oakleigh	12·72	9·94	*	*	*	*
Port Melbourne	12·02	10·80	10·27	11·92	12·45	10·94
Prahran	12·17	12·06	10·67	11·89	12·22	12·77
Preston	11·75	9·74	9·97	8·43	8·65	9·72
Richmond	12·90	10·80	10·63	10·97	10·92	11·61
Sandringham	7·93	7·87	7·59	6·16	5·96	6·58
South Melbourne	12·45	11·51	10·25	10·64	12·32	11·24
St. Kilda	11·09	10·15	9·89	11·35	11·16	11·63
Williamstown	11·84	10·97	9·15	10·33	10·87	9·14
Remainder of Metropolis	10·45	10·44	9·28	9·62	9·13	9·19
Greater Melbourne	11·28	10·49	9·71	9·86	10·15	10·15

* Included in "Remainder of Metropolis."

The outstanding features of the above figures are the high death rates prevailing in some of the old centres of population, of which Melbourne City, Collingwood, Fitzroy, Port Melbourne, Prahran, Richmond, and South Melbourne, are examples, and the low rates in comparatively recently settled areas, such as Camberwell, Caulfield, Coburg, Kew, Malvern, Northcote, and Sandringham. The deaths for

1928 were 12·10 per 1,000 in the former as against 8·61 in the latter group. Slight differences in the age distribution of the populations of these two divisions may exist, but they can account for only a small portion of the great disparity in their mortality rates. It would appear that the standard of health, as indicated by death rates, is much better in the outlying and less densely populated suburbs than in the central and more congested areas of the metropolis.

Metropolitan and country death rates compared. The ages of the people, as disclosed at the census of 1921, enable a comparison to be made between the death rates prevailing in Greater Melbourne and in the remainder of the State. On the average of the years 1923-25, the deaths of metropolitan residents were in the ratio of 10·47 per 1,000 of population, as against a ratio of 9·62 for residents of the rest of the State. The apparent difference in favour of the country is ·85, but a computation shows that, when allowances are made for the unequal age and sex distribution of the people in these areas, the actual difference is greater—the deaths per 1,000 of population being fewer by 1·34 among country than among metropolitan residents.

Decrease in Metropolitan death rate. In Greater Melbourne, in the decade 1919-28, there were 11·03 deaths per 1,000 of the population, as compared with 15·76 in the decennium 1892-1901. The reduction in the rate represents a saving of approximately 40,000 lives in the last ten years. Many factors have contributed to this result, but it is probable that the introduction of the sewerage system, the notification of contagious diseases, the improvement in the conditions of labour, the increasing supervision of the manufacture and sale of articles of consumption, the greater proportion of females in the community, and the advance of medical science, have been the main causes of the decline. That the sanitary conditions of the metropolis have greatly improved is evidenced by a comparison of the death rates from tubercular and certain other diseases for the period 1919-28 with those for the decennium 1892-1901. The following are the rates :—

Cause of Death.	Deaths per 100,000 of Population.		
	1892-1901.	1919-28.	Decrease in 1919-28.
Pulmonary Tuberculosis ...	1,654	691	963
Other Tubercular Diseases ...	446	135	311
Typhoid Fever ...	293	16	277
Scarlet Fever ...	33	15	18
Measles ...	215	35	180
Diphtheria ...	196	81	115
Total ...	2,837	973	1,864

The figures show that the mortality from the six diseases mentioned declined by 64 per cent. in 1919-28—the decline representing a rate

of 186 per 100,000 of the population. It is impossible to state which municipalities have contributed most to this result, as their mortality rates from the diseases referred to are not available for the earlier period. A comparison, however, of the general death rates in each, for the periods under review, shows that all divisions of the metropolis have, in varying degrees, shared in the improvement. The mortality from all causes showed a net decline of 473 per 100,000 of the population during the period mentioned.

Death rates
in country
towns.

The appended statements show, for the years 1923 to 1928, the number of deaths, and the deaths per 1,000 of the population in the principal country towns:—

DEATHS IN THE PRINCIPAL COUNTRY TOWNS, 1923 TO 1928.

Town.	Number of Deaths.					
	1923.	1924.	1925.	1926.	1927.	1928.
Ballarat	552	451	470	489	449	480
Bendigo	474	470	410	434	433	487
Geelong	394	394	410	361	443	491
Carrum	71	52	41	61	56	72
Castlemaine	69	78	68	79	69	79
Hamilton	73	66	58	64	56	51
Maryborough	*	61	58	60	59	63
Mildura	70	69	67	63	54	49
Mordialloc	68	56	69	87	71	81
Shepparton	*	*	*	*	*	63
Stawell	61	52	46	43	63	53
Warrnambool	96	70	76	75	84	97
Wonthaggi	58	61	41	41	45	49
Total Country Towns ..	1,986	1,880	1,814	1,857	1,882	2,115

Town.	Deaths per 1,000 of Population.					
	1923.	1924.	1925.	1926.	1927.	1928.
Ballarat	13·81	11·11	11·47	11·77	10·71	11·43
Bendigo	14·15	13·97	12·17	12·94	12·77	14·38
Geelong	10·62	10·44	10·48	8·83	10·47	11·38
Carrum	11·83	8·39	6·31	9·04	7·81	10·07
Castlemaine	9·62	10·96	9·48	11·02	9·86	11·02
Hamilton	14·29	12·89	11·15	12·17	10·61	9·62
Maryborough	*	12·63	11·98	12·35	12·04	12·73
Mildura	12·61	12·11	11·45	10·50	9·00	8·10
Mordialloc	9·86	7·80	9·56	11·21	7·79	8·05
Shepparton	*	*	*	*	*	11·45
Stawell	13·26	11·18	9·87	9·21	13·40	11·18
Warrnambool	12·08	8·75	9·48	9·32	10·41	11·98
Wonthaggi	10·36	10·17	6·31	6·03	6·52	7·05
Total Country Towns ..	12·46	11·27	10·69	10·72	10·62	11·43

* Not available.

Residents of different areas dying in hospitals.

An examination of the particulars of residence of persons who have died in the public hospitals of Victoria during recent years reveals definite and interesting information regarding the assistance rendered by these institutions to people in different divisions of the State. For the metropolitan municipalities, the principal country towns, and the remainder of the State, the percentages of the total deaths of residents thereof which occurred in public hospitals during the year 1928 were as follows:—

PROPORTION OF DEATHS OF RESIDENTS OF CERTAIN AREAS OCCURRING IN HOSPITALS, 1928.

Area.	Percentage of Deaths of Residents occurring in Hospitals, 1928.	Area.	Percentage of Deaths of Residents occurring in Hospitals, 1928.
Melbourne	42·1	St. Kilda	25·7
Box Hill	21·8	Williamstown	25·1
Brighton	17·3	Remainder of Metropolis	28·6
Brunswick	34·7	Ballarat	21·5
Camberwell	19·9	Bendigo	28·7
Caulfield	20·0	Geelong	28·1
Coburg	35·1	Carrum	34·7
Collingwood	38·3	Castlemaine	34·2
Essendon	26·7	Hamilton	21·6
Fitzroy	41·3	Maryborough	31·7
Footscray	38·2	Mildura	49·0
Hawthorn	19·2	Mordialloc	21·0
Heidelberg	22·7	Shepparton	30·2
Kew	15·7	Stawell	28·3
Malvern	14·7	Warrnambool	36·1
Northcote	34·6	Wonthaggi	57·1
Port Melbourne	36·3		
Prahran	32·5	Summary—	
Preston	39·0	Greater Melbourne	31·0
Richmond	38·9	Country Towns	28·5
Sandringham	21·6	Remainder of State	22·3
South Melbourne	35·4	Whole State	27·9

Of the total deaths in the State 27·9 per cent. occurred in public hospitals in 1928, as against 27·1 per cent. in 1927, 27·0 per cent. in 1926, 25·9 per cent. in 1925, 24·4 per cent. in 1924, and 20·9 per cent. in 1910-15. The disparities in the proportions for different areas are very significant. Of the total cases of fatal illness which occurred amongst residents of the metropolitan districts mentioned in 1928, the percentage treated in public hospitals varied from 42·1 for Melbourne City, 41·3 for Fitzroy, 39·0 for Preston, 38·9 for Richmond, 38·3 for Collingwood, and 38·2 for Footscray, to 20·0 for Caulfield, 19·9 for Camberwell, 19·2 for Hawthorn, 17·3 for Brighton, 15·7 for Kew, and 14·7 for Malvern. For the whole metropolitan area the percentage was

31·0 as compared with 24·0 for the rest of the State. Taking the proportions for fatal cases as an index of all cases dealt with, it would appear that, relatively to population, the assistance rendered by public hospitals to the residents of Greater Melbourne exceeds by about 29 per cent. that given to people residing elsewhere.

Residents of Greater Melbourne who died in public hospitals in Victoria during 1928 numbered 3,104.

In 1928 the deaths in public institutions were 33·9 per cent. of the total in the State. The number of deaths in each metropolitan public institution in 1928 is given in the subjoined table :—

DEATHS IN METROPOLITAN PUBLIC INSTITUTIONS, 1928.

Institution.	No. of Deaths.	Institution.	No. of Deaths.
Hospitals—		Asylums—	
Melbourne	1,077	Mental—	
Alfred	647	Kew	133
Children's	569	Mont Park	104
St. Vincent's	207	Receiving House, Royal Park	41
Austin	242	Macleod Military	1
Women's	231		
Homœopathic	151	Total Mental	279
Infectious Diseases	115		
Caulfield Repatriation	83	Benevolent—	
Queen Victoria	69	Melbourne (Cheltenham)	157
Williamstown	15	Victorian Homes for Aged and	
Caulfield Convalescent	20	Infirm	104
Eye and Ear	19	Convent of Little Sisters of the	
Police	3	Poor	45
		Old Colonists' Homes	2
Total Hospitals	3,448	Total Benevolent	308
		Foundling Homes, Refuges—	
Sanatoria —		Broadmeadows	12
Heatherton	73	East Melbourne	4
Janefield	19	The Haven, Fitzroy	8
Macleod Military	7	Carlton	2
Greenvale	7	Children's Welfare Depot	2
		Berwick .. .. .	..
Total Sanatoria	106	Total Refuges, etc.	28
		Total Hospitals and other	
		Institutions	4,169

Of the 4,169 deaths in the above institutions, 2,410 were males and 1,759 were females.

Infantile mortality.

The mortality of children under one year in proportion to births has been considerably less in recent than in earlier periods, but the necessity for reducing the risks

to infant health and life, particularly amongst ex-nuptial children, is still apparent. The deaths of infants in 1928 numbered 1,919, and, as there were 34,498 births, it follows that of every 10,000 infants born 556 died within twelve months. The rates for Greater Melbourne, the extra metropolitan area, and the whole State, for different periods since 1879, are shown in the following table :—

INFANTILE MORTALITY IN VICTORIA, 1880 TO 1928.

Period.	Greater Melbourne.		Rest of State.		Victoria.	
	Average Annual Number of Deaths under One Year.	Rate per 100 Births.	Average Annual Number of Deaths under One Year.	Rate per 100 Births.	Average Annual Number of Deaths under One Year.	Rate per 100 Births.
1880-84..	1,649	17·01	1,626	9·23	3,275	12·00
1885-89..	2,576	17·85	1,812	9·79	4,388	13·33
1890-94..	2,311	14·04	1,926	9·49	4,237	11·47
1895-99..	1,650	13·15	1,913	10·00	3,563	11·25
1900-04..	1,417	11·65	1,565	8·62	2,982	9·82
1905-09..	1,209	9·65	1,307	7·15	2,516	8·12
1910-14..	1,345	8·42	1,201	6·49	2,546	7·38
1915-19..	1,302	7·62	886	5·54	2,188	6·61
1920-24..	1,328	7·16	1,024	5·86	2,352	6·53
1925 ..	1,079	6·02	967	5·37	2,046	5·70
1926 ..	1,104	6·16	863	4·95	1,967	5·56
1927 ..	1,118	6·25	848	4·94	1,966	5·61
1928 ..	1,015	5·68	904	5·44	1,919	5·56

In computing birth and death rates the system was introduced in 1923 of allotting all births and deaths to the place of usual residence of the parties. In the cases of births and infantile deaths the mother's residence is considered to be that of the child. This accounts for the slight increase in the rate for the remainder of the State in the period 1920-24, and a corresponding decrease in the rate for the Metropolis.

The deaths of infants under 1 year of age per 100 births in Greater Melbourne, Ballarat, Bendigo, Geelong, and the rest of the State in the years 1923 to 1928 were as follows :—

INFANTILE DEATH RATES IN DIFFERENT DIVISIONS OF THE STATE, 1923 TO 1928.

Division.	Deaths under One Year per 100 Births.					
	1923.	1924.	1925.	1926.	1927.	1928.
Melbourne ..	7·34	6·77	6·02	6·16	6·25	5·68
Ballarat ..	8·54	6·58	7·49	5·51	5·56	5·92
Bendigo ..	10·57	10·25	6·19	5·10	6·25	8·67
Geelong ..	10·01	7·34	7·13	4·82	6·40	6·04
Rest of the State	5·29	5·15	5·15	4·93	4·77	5·25
Victoria ..	6·57	6·13	5·70	5·56	5·61	5·56

The prejudicial effect of city surroundings on infant life is evidenced by the mortality being heavier in urban than in country districts. During the years 1923 to 1928 the deaths of children under 1 year of age to every 1,000 births were 64 in Melbourne, 66 in Ballarat, 78 in Bendigo, and 70 in Geelong, as against 51 in the rest of the State.

Infantile
death rates in
metropolitan
districts.

The following tables show for each metropolitan municipality the deaths of infants under 1 year, and the number of such deaths per 100 births in the years 1923 to 1928 :—

INFANTILE DEATHS IN METROPOLITAN MUNICIPALITIES, 1923 TO 1928.

Municipality.	Number of Deaths under One year.					
	1923.	1924.	1925.	1926.	1927.	1928.
Melbourne	237	168	136	139	135	104
Box Hill	*	*	*	14	14	15
Brighton	22	21	20	17	20	19
Brunswick	85	79	72	74	73	85
Camberwell	25	37	32	41	33	36
Caulfield	56	63	35	56	49	48
Coburg	42	38	49	51	39	37
Collingwood	64	68	54	62	62	44
Essendon	59	52	53	46	49	40
Fitzroy	84	59	55	36	51	44
Footscray	68	74	75	51	71	61
Hawthorn	32	30	19	23	21	19
Heidelberg	*	*	*	*	*	18
Kew	13	18	19	21	15	21
Malvern	31	27	28	23	33	24
Northcote	49	54	54	61	52	42
Oakleigh	10	8	*	*	*	*
Port Melbourne	25	26	24	26	23	23
Prahran	68	66	49	51	56	54
Preston	24	31	37	25	36	45
Richmond	73	66	65	56	67	57
Sandringham	16	16	14	16	12	13
South Melbourne	95	88	59	76	69	65
St. Kilda	31	34	28	39	36	24
Williamstown	32	38	32	34	29	29
Remainder of Metropolis	51	69	70	66	73	48
Greater Melbourne	1,292	1,230	1,079	1,104	1,118	1,015

* Included in "Remainder of Metropolis."

INFANTILE DEATHS IN METROPOLITAN MUNICIPALITIES,
1923 TO 1928—continued.

Municipality.	Deaths under One year per 100 Births.					
	1923.	1924.	1925.	1926.	1927.	1928.
Melbourne	11·79	9·12	7·70	7·76	8·19	6·46
Box Hill	*	*	*	5·22	5·32	5·36
Brighton	4·56	4·38	3·82	3·93	4·06	4·07
Brunswick	7·52	6·55	6·47	6·21	6·27	7·66
Camberwell	3·96	4·96	3·84	4·75	3·62	4·02
Caulfield	5·33	5·87	3·31	5·07	4·72	4·47
Coburg	7·59	5·59	6·67	6·68	4·97	4·56
Collingwood	9·32	9·37	7·65	9·37	9·24	7·10
Essendon	7·08	5·94	6·36	5·71	5·56	4·54
Fitzroy	10·43	8·20	8·32	5·81	8·39	7·43
Footscray	6·65	7·71	7·56	5·24	7·47	6·06
Hawthorn	5·69	5·37	3·56	4·56	4·54	4·24
Heidelberg	*	*	*	*	*	3·95
Kew	3·44	4·65	5·23	5·63	3·81	5·41
Malvern	4·96	3·91	4·22	3·87	5·43	3·97
Northcote	5·95	5·81	5·95	6·59	5·76	5·17
Oakleigh	4·26	3·54	*	*	*	*
Port Melbourne	8·20	8·93	8·70	9·19	9·70	9·06
Prahran	7·13	7·52	5·52	6·04	6·81	6·58
Preston	6·32	6·19	6·53	4·00	5·01	5·89
Richmond	8·13	6·98	7·30	6·50	8·02	7·01
Sandringham	7·24	5·97	5·09	5·21	3·96	4·21
South Melbourne	9·99	9·25	7·59	8·95	8·68	8·19
St. Kilda	4·78	5·02	4·37	5·86	5·41	3·86
Williamstown	6·41	7·76	6·10	7·17	6·61	5·68
Remainder of Metropolis	5·50	6·47	5·06	5·76	5·59	5·11
Greater Melbourne	7·34	6·77	6·02	6·16	6·25	5·68

* Included in "Remainder of Metropolis."

It is noticeable that the centres having the lowest infantile death rates are residential areas which are not so thickly populated as nearly all of the other metropolitan districts.

An investigation into the experience in regard to infantile mortality over a period of years discloses a constant decrease in the infantile death rate, shared proportionately by each sex, since the earlier periods. Further analysis shows that the decrease was shared by all age periods except the period "under one week." Comparing the periods 1910-14 and 1925-28 the mortality

Infantile
Mortality at
different
ages.

rate of infants whose age was over one week shows a decrease of 36·1 per cent., while that of infants under one week increased by 5·6 per cent.

In 1925, 1926, 1927, and 1928 the total rate for males was higher than that for females by 24·6 per cent., 23·6 per cent., 28·4 per cent., and 22·7 per cent. respectively.

The tables which follow show the percentage of deaths of infants at various ages under one year for certain periods since 1899, and male and female death rates at each age period for the year 1928:—

**INFANTILE MORTALITY AT DIFFERENT AGES,
1900 TO 1928.**

Period.	Deaths Under One Year per 1,000 Births.						Males.	Females.
	Under 1 Week.	1 Week to 1 Month.	1 to 3 Months.	3 to 6 Months.	6 to 12 Months.	Total under 1 Year.		
1900-04 ..	34·4		16·9	21·0	25·9	98·2	105·7	90·4
1905-09 ..	33·0		13·8	15·1	19·3	81·2	89·3	72·6
1910-14 ..	21·5	11·1	12·1	12·4	16·7	73·8	81·8	65·3
1915-19 ..	23·3	10·1	10·5	9·4	12·8	66·1	73·0	58·7
1920-24 ..	23·7	9·3	9·8	10·0	12·5	65·3	71·8	58·5
1925 ..	23·1	7·8	7·9	7·1	11·1	57·0	62·9	50·5
1926 ..	22·6	7·1	7·1	7·5	11·3	55·6	61·3	49·6
1927 ..	22·6	8·7	7·5	7·1	10·2	56·1	62·8	48·9
1928 ..	22·5	6·9	6·6	7·2	12·4	55·6	61·1	49·8

**INFANTILE MORTALITY AT DIFFERENT AGES,
MALES AND FEMALES, 1928.**

Age.	Males.			Females.		
	Number.	Rate per 1,000 Births.	Percentage at each Age.	Number.	Rate per 1,000 Births.	Percentage at each Age.
Under 1 week ..	429	24·1	39·4	347	20·8	41·8
1 week to 1 month ..	140	7·9	12·9	100	6·0	12·0
1 to 3 months ..	140	7·9	12·9	87	5·2	10·5
3 to 6 months ..	137	7·7	12·6	112	6·7	13·5
6 to 12 months ..	242	13·5	22·2	185	11·1	22·2
Total ..	1,088	61·1	100·0	831	49·8	100·0

Probable mortality of infants. The experience of the years 1924-28 shows that, of every 20,000 newly-born boys and girls in equal numbers, 626 boys and 515 girls died within twelve months, and 9,374 of the former and 9,485 of the latter, or 18,859 of mixed sexes, were living at the end of the year. The corresponding numbers surviving the first year in earlier periods were 17,765 in the ten years 1891-1900 and 17,468 in 1881-90. It is thus seen that, of every 20,000 births comprising equal numbers of each sex, there were 1,094 more survivors in 1924-28 than in 1891-1900, and 1,391 more than in 1881-90.

Infantile death rates from certain causes. An investigation of infantile mortalities would be incomplete if the diseases which have proved fatal in different periods of years were not ascertained, and their incidence in each period compared. Information of this nature reveals the causes of high death rates, and, when a fairly early period is selected for comparison with recent years, it shows in what direction improvements have taken place. The chief preventable and non-preventable causes of death, grouped under certain headings, are shown in the subjoined table for the periods 1891-93, 1901-10, 1911-20, 1926, 1927, and for the years 1926 to 1928:—

INFANTILE DEATH RATES FROM CERTAIN CAUSES.

Cause of Death.	Deaths under One Year per 1,000 Births in—					
	1891-93.	1901-10.	1911-20.	1926.	1927.	1928.
Epidemic, Endemic, and Infectious Diseases ..	12·41	7·31	4·87	4·47	2·85	3·37
Convulsions	6·83	3·10	1·63	·79	·80	·72
Bronchitis, Broncho-pneumonia, Pneumonia	11·37	8·13	6·86	5·40	7·64	6·49
Diarrhoeal Diseases, all forms	29·66	24·62	16·13	9·25	7·98	9·83
Congenital Malformations, &c. ..	3·45	4·86	4·38	4·55	4·88	4·67
Wasting Diseases (Marasmus, Atrophy, &c.)..	22·24	12·74	13·09	6·14	6·16	5·91
Prematurity	13·13	14·99	15·17	14·93	14·68	14·61
Violence	3·16	2·47	1·07	·71	·97	·84
Injury at birth ..				2·83	3·51	3·51
Other diseases peculiar to early Infancy ..	14·68	9·67	6·35	2·51	2·79	2·52
All other causes ..				4·04	3·80	3·16
Total, all Causes ..	116·93	87·89	69·55	55·62	56·06	55·63

INFANTILE DEATH RATES, AT DIFFERENT AGES, FROM CERTAIN CAUSES, 1928.

Cause of Death.	Deaths under One Year per 1,000 Births.									
	Age Period.						Total.	Males.	Females.	Average Annual Rate, 1926-28.
	Under 1 Week.	1 Week and under 1 Month.	1 Month and under 3 Months.	3 Months and under 6 Months.	6 Months and under 12 Months.					
Epidemic, Endemic, and Infectious Diseases ..	·12	·17	·55	·79	1·74	3·37	3·71	2·99	3·56	
Convulsions ..	·29	·17	·03	·06	·17	·72	·84	·60	·77	
Bronchitis, Broncho-pneumonia, Pneumonia ..	·49	·70	1·59	1·36	2·35	6·49	7·53	5·39	6·51	
Diarrhoeal Diseases, all forms ..	..	·29	1·22	2·96	5·36	9·83	10·39	9·23	9·02
Congenital Malformations, &c. ..	2·12	·87	·75	·55	·38	4·67	5·34	3·95	4·70	
Wasting Diseases (Marasmus, Atrophy, &c.) ..	2·20	1·13	1·25	·75	·58	5·91	6·29	5·51	6·07	
Prematurity ..	11·56	2·41	·55	·06	·03	14·61	16·06	13·06	14·74	
Injury at Birth ..	2·93	·52	·03	·03	..	3·51	3·82	3·17	3·28	
Early Infancy ..	2·00	·41	·11	..	..	2·52	3·09	1·93	2·61
All other violence ..	·32	·03	·09	·14	·26	·84	·84	·84	·84	
All other causes ..	·46	·26	·41	·52	1·51	3·16	3·20	3·11	3·67	
Total, all Causes ..	22·49	6·96	6·58	7·22	12·38	55·63	61·11	49·78	55·77	
Average Annual Rate, 1926-28 ..	22·57	7·62	7·08	7·23	11·27	55·77	61·73	49·43	..	

Of every 1,000 infants born during 1921-28, 11 died from diarrhoeal and 7 from wasting diseases, as compared with 29 from these causes in 1911-20, 37 in 1901-10, and 52 in 1891-93—a decrease of 65 per cent. since the last mentioned period. In 1921-28, acute bronchitis, broncho-pneumonia and pneumonia were responsible for 6·1 deaths per 1,000 births, as compared with 11·4 in 1891-93—a decline of 46 per cent. between the two periods. Of every 1,000 children who died in the last eight years, 333 deaths were due to prematurity and congenital malformations, which may be regarded as of a non-preventable nature, while 186 died from diarrhoeal diseases. The mortality from the latter diseases was highest during the months December to April.

An examination of the male and female mortalities from infantile diseases discloses the fact that the male rate was consistently higher than the female rate, except in the cases of whooping cough and convulsions.

The table which follows shows the number of deaths and the death rate of infants under one month for Greater Melbourne and the whole State for the years 1924 to 1928, also the principal causes of death:—

DEATHS OF INFANTS UNDER ONE MONTH, 1924 TO 1928.

Cause of Death.	Greater Melbourne.					Victoria.				
	1924.	1925.	1926.	1927.	1928.	1924.	1925.	1926.	1927.	1928.
Epidemic, Endemic, and Infectious Diseases ..	13	4	11	6	10	20	6	13	12	10
Convulsions ..	10	7	9	4	7	27	20	16	15	16
Bronchitis, Broncho-pneumonia, Pneumonia ..	29	14	15	45	23	47	20	26	57	41
Diarrhoeal Diseases, all forms	3	9	7	5	8	14	19	13	14	10
Congenital Malformations, &c. ..	58	60	56	57	62	110	110	106	104	103
Wasting Diseases (Marasmus, Atrophy, &c.) ..	80	65	50	67	44	137	146	134	149	115
Prematurity ..	322	263	270	284	247	568	502	502	481	482
Violence ..	2	3	6	12	7	4	4	8	16	12
Injury at Birth ..	106	80	57	62	68	207	124	100	120	119
Early Infancy (162) ..		56	55	48	53		123	86	93	83
All other causes ..	9	15	28	24	14	25	36	48	38	25
Total, all Causes ..	632	576	564	614	543	1,159	1,110	1,052	1,099	1,016
Deaths per 100 Births	3.48	3.22	3.15	3.43	3.04	3.21	3.09	2.97	3.13	2.95

On the average of the last ten years, 142 in every 1,000 ex-nuptial infants died within a year, as against 58 in every 1,000 nuptial children. It is thus seen that the proportion of ex-nuptial children dying before the age of 1 year is 2.4 times that of nuptial children. In the year 1928 the mortality rate of nuptial infants was 53.7 per 1,000 births. The children born out of wedlock during the same year numbered 1,625, and the deaths of ex-nuptial infants were 153, the death rate being thus 94.2 per 1,000 births. With the view of ascertaining the chief reasons for the marked disproportion in the mortality rates of the two classes the following table has been constructed, showing the deaths from certain causes, per 1,000 nuptial and ex-nuptial births, for the periods 1904-08 and 1914-18 and the year 1928 :—

DEATH RATES OF NUPTIAL AND EX-NUPTIAL INFANTS FROM CERTAIN CAUSES.

Cause of Death.	Deaths under One Year per 1,000 Births.					
	Nuptial.			Ex-nuptial.		
	1904-08.	1914-18.	1928.	1904-08.	1914-18.	1928.
Diarrhoeal Diseases ..	19.8	14.2	9.4	72.6	48.6	17.9
Prematurity, Congenital Malformations, Marasmus, &c. ..	30.3	27.2	30.5	52.1	64.9	47.4
Bronchitis, Broncho-pneumonia, Pneumonia ..	6.9	6.1	6.3	18.6	12.5	9.8
Other causes ..	18.3	15.3	7.5	58.7	36.6	19.1
Total, all Causes...	75.3	62.8	53.7	202.0	162.6	94.2

The rates for 1928 show that of every 1,000 children born out of wedlock 17·9 died from diarrhoeal diseases within a year, as compared with 9·4 deaths per 1,000 nuptial infants from the same cause. Owing to a larger proportion of the former children being deprived of breast food a higher mortality from these diseases might be expected among them than among nuptial infants, but the striking differences in the death rates from this cause and from the chief respiratory diseases indicate considerable neglect in the rearing of ex-nuptial infants. The rates from bronchitis, broncho-pneumonia, and pneumonia were 9·8 and 6·3 per 1,000 births respectively.

The influence of temperature on infantile mortality from the chief digestive and respiratory diseases is specially noticeable, whilst on deaths from other causes, particularly those of a developmental character, very little influence is apparent. The infantile deaths in Greater Melbourne from the two former classes of complaint in each month during the years 1923-27 are shown in the appended table:—

INFANTILE DEATHS IN EACH MONTH FROM CERTAIN CAUSES, 1923-27.

Month.	Infantile Deaths in Greater Melbourne in 1923-27 from—					
	Diarrhoeal Diseases.			Respiratory Diseases.		
	Males.	Females.	Total.	Males.	Females.	Total.
January	117	95	212	23	24	47
February	121	98	219	30	10	40
March	103	90	193	20	21	41
April	81	58	139	26	19	45
May	47	34	81	26	25	51
June	20	18	38	28	23	51
July	11	3	14	57	51	108
August	8	4	12	55	49	104
September	5	10	15	42	42	84
October	12	12	24	21	16	37
November	16	7	23	21	12	33
December	37	32	69	20	17	37
Total, 1923-27 ..	578	461	1,039	369	309	678

The experience of the five years shows that of the total infantile deaths in the metropolis from diarrhoeal diseases 73 per cent. occur during the four months January to April, and of the deaths from respiratory diseases 51 per cent. occur in the four months June to September.

The deaths of infants under 1 year of age in the Commonwealth numbered 7,108 in 1928, as compared with 7,283 in 1927, 7,188 in 1926, 7,250 in 1925, and 7,701 in 1924. The next table gives the proportion of such deaths to the total births in each State, the Commonwealth of Australia, and New Zealand for periods back to 1910:—

INFANTILE MORTALITY IN AUSTRALASIA, 1910 TO 1928.

Period.	Deaths under One Year per 100 Births.							
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1910-14	7.38	7.27	6.55	6.78	7.49	7.68	7.17	5.72
1915-19	6.61	6.44	6.33	6.18	6.19	6.53	6.43	4.86
1920-24	6.53	6.10	5.46	5.84	6.11	6.24	6.10	4.49
1925 ..	5.70	5.50	4.52	4.61	5.66	5.52	5.34	4.00
1926 ..	5.56	5.76	5.06	4.43	4.93	4.67	5.40	3.98
1927 ..	5.61	5.49	5.45	5.34	4.59	5.30	5.45	3.87
1928 ..	5.56	5.49	4.55	4.75	4.81	6.39	5.30	3.62

The infantile death rate in England and Wales, in 1928, was 6.5.

The infantile deaths per 100 births in the Australasian capitals in 1928 were as follows:—Melbourne 5.68, Sydney 4.93, Brisbane 4.78, Adelaide 4.85, Perth 6.21, Hobart 7.93, and Wellington 4.08.

In 1928 the deaths of male children under 5 years of age numbered 1,457, and the deaths of female children under that age, 1,103—the former being in the proportion of 15.53 per cent., and the latter of 13.29 per cent., to the total number of deaths of the respective sexes at all ages. The subjoined table

Deaths of children under 5.

gives the annual number of such deaths in the State at each year of age, and the proportion of the deaths under five years of age to the deaths at all ages in decennial periods from 1871 to 1920, and in the years 1921 to 1928 :—

MORTALITY OF CHILDREN UNDER FIVE YEARS.

Period.	Year of Age at Death.					Total under 5 Years.	
	0.	1.	2.	3.	4.	Number.	Proportion Per 100 Deaths at all Ages.
<i>Males</i>							
1871-80 ..	1,783	508	206	148	119	2,764	39·41
1881-90 ..	2,158	464	161	114	92	2,989	34·28
1891-1900 ..	2,050	432	143	93	76	2,794	30·05
1901-10 ..	1,504	249	83	59	41	1,936	22·93
1911-20 ..	1,363	233	92	64	48	1,800	20·38
1921 ..	1,479	213	86	50	45	1,873	21·62
1922 ..	1,130	170	65	47	34	1,446	17·66
1923 ..	1,311	213	86	43	43	1,696	18·57
1924 ..	1,199	201	94	49	58	1,601	18·06
1925 ..	1,170	186	64	44	39	1,503	17·51
1926 ..	1,116	166	72	50	36	1,440	16·43
1927 ..	1,134	193	77	56	36	1,496	16·66
1928 ..	1,088	185	90	58	36	1,457	15·53
<i>Females</i>							
1871-80 ..	1,482	482	198	139	106	2,407	46·06
1881-90 ..	1,805	423	151	105	84	2,568	39·61
1891-1900 ..	1,702	385	129	82	68	2,366	33·61
1901-10 ..	1,192	217	81	51	40	1,581	23·58
1911-20 ..	1,029	190	74	59	49	1,401	19·00
1921 ..	1,107	183	73	36	57	1,456	19·41
1922 ..	805	123	61	34	27	1,050	15·07
1923 ..	1,047	159	71	33	32	1,342	16·60
1924 ..	1,017	175	66	44	19	1,321	17·29
1925 ..	876	150	47	35	26	1,134	15·63
1926 ..	851	105	64	40	27	1,087	14·36
1927 ..	832	157	53	41	34	1,117	14·34
1928 ..	831	133	73	43	26	1,106	13·29

The number of persons of advanced ages was greater in the later than in the earlier years mentioned in the above table, and, as the mortality is very heavy at the older ages, this accounts to some extent for the gradual decrease in the proportion of deaths under the age of 5 years. After making allowance for this there is still a marked

reduction in the mortality under 5 years of age in recent years as compared with that in periods prior to 1901.

The ages of males and females who died in 1928 and in the two preceding years are shown in the following table:—

AGES AT DEATH IN VICTORIA, 1926 TO 1928.

Ages.	1926.			1927.			1928.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 ..	1,116	851	1,967	1,134	832	1,966	1,088	831	1,919
1 to 2	166	105	271	193	157	350	185	133	318
2 ,, 3	72	64	136	77	53	130	90	73	163
3 ,, 4	50	40	90	56	41	97	58	43	101
4 ,, 5	36	27	63	36	34	70	36	26	62
5 ,, 10	124	91	215	122	117	239	160	126	286
10 ,, 15	114	88	202	114	80	194	120	91	211
15 ,, 20	168	132	300	155	124	279	164	148	312
20 ,, 25	196	200	396	201	208	409	222	220	442
25 ,, 30	191	212	403	241	223	464	219	264	483
30 ,, 35	225	260	485	253	222	475	231	286	517
35 ,, 40	271	284	555	275	273	548	309	307	616
40 ,, 45	315	284	599	312	264	576	344	298	642
45 ,, 50	426	342	768	427	338	765	440	373	813
50 ,, 55	485	385	870	495	402	897	557	400	957
55 ,, 60	673	511	1,184	644	514	1,158	635	493	1,128
60 ,, 65	830	626	1,456	892	665	1,557	900	707	1,607
65 ,, 70	940	722	1,662	1,006	776	1,782	1,086	824	1,904
70 ,, 75	776	663	1,439	836	698	1,534	986	795	1,781
75 ,, 80	643	595	1,238	613	638	1,251	697	665	1,362
80 ,, 85	483	558	1,041	475	533	1,008	460	591	1,051
85 ,, 90	300	337	637	272	388	660	266	409	675
90 ,, 95	127	137	264	126	156	282	104	163	267
95 ..	10	22	32	5	9	14	12	21	33
96 ..	9	10	19	5	21	26	4	10	14
97 ..	7	5	12	5	5	10	4	12	16
98 ..	2	10	12	7	8	15	5	9	14
99 ..	3	3	6	1	6	7	6	1	7
100 ..	4	1	5	2	1	3	..	2	2
101 ..	..	1	1	..	3	3	..	..	..
102 ..	..	..	..	1	1	2	1	..	1
103 ..	..	1	1	..	..	..	..	1	1
104 ..	1	1	2	1	..	1	..	2	2
105 ..	..	1	1	..	..	..	..	..	..
106 ..	..	..	..	..	..	..	1*	..	1
107 ..	..	1	1	..	1	1	..	..	..
110 ..	*2	..	2	..	..	..	..	..	..
Total ..	8,765	7,570	16,335	8,982	7,791	16,773	9,384	8,324	17,708

* Age not verified.

Of the 50,816 persons who died in Victoria during the last three years 6,152 were aged 80 years and upwards, and 30—twelve males and seventeen females—had attained or passed the age of 100 years. The highest age at death recorded in the period 1926-28 was 110 years, which was attained by two men. It was found impossible, however, to verify these ages. To every 100 female deaths there were 113 male deaths in 1928, as against 115 in 1927, 116 in 1926, 118 in 1925, and 116 in 1924.

The death rates from the chief diseases are shown in the appended table for the period 1908-12 and for the last five years :—

Death rates
from certain
diseases.

DEATHS PER MILLION FROM CERTAIN CAUSES.

Cause of Death.	Deaths per Million of the Population.					
	1908-1912.	1924.	1925.	1926.	1927.	1928.
Typhoid Fever	98	20	11	17	17	21
Measles	33	4	26	8	30	7
Scarlet Fever	16	13	10	9	17	7
Whooping Cough	77	160	27	71	30	30
Diphtheria and Croup	122	69	42	41	54	75
Influenza	109	104	41	118	40	204
Acute Anterior Poliomyelitis (previously Infantile Paralysis) .. .. .	..	2	15	5	5	18
Cerebro-Spinal Meningitis .. .. .	..	20	17	11	8	11
Tuberculosis of the Respiratory System	855	585	561	545	546	581
Other Tubercular Diseases	182	127	97	84	100	82
Syphilis	51	24	24	24	26	41
Cancer	833	999	978	1,014	1,001	1,070
Diabetes	107	133	107	109	130	135
Anæmia, Chlorosis, Leucæmia	81	97	104	98	81	65
Simple Meningitis	133	46	38	39	36	35
Locomotor Ataxia and other diseases of Spinal Cord	71	55	29	39	43	36
Apoplexy and Hæmorrhage of the Brain	449	467	451	434	461	493
Epilepsy	35	25	34	31	32	29
Convulsions	76	31	18	22	23	18

DEATHS PER MILLION FROM CERTAIN CAUSES—*continued.*

Cause of Death.	Deaths per Million of the Population.					
	1908-1912.	1924.	1925.	1926.	1927.	1928.
Heart Disease (including Endocarditis, Pericarditis, and Angina Pectoris)	1,441	1,364	1,384	1,255	1,323	1,373
Acute and Chronic Bronchitis	348	199	161	170	192	184
Pneumonia and Broncho-pneumonia	834	741	543	673	731	921
Pleurisy	45	30	29	30	43	37
Congestion of Lungs and Pulmonary Apoplexy	63	59	52	52	65	66
Asthma and Pulmonary Emphysema	60	26	30	24	28	30
Diseases of the Stomach (Cancer excepted)	99	71	91	88	87	74
Enteritis, Gastro-enteritis, and Diarrhoeal Diseases	833	354	376	332	272	330
Appendicitis	81	75	67	74	75	76
Hernia, Intestinal Obstruction	113	90	105	104	87	88
Hydatids	22	10	11	11	10	15
Cirrhosis and other diseases of the Liver (Cancer excepted)	158	87	86	89	109	103
Biliary Calculi	27	25	23	19	25	32
Simple Peritonitis (non-puerperal)	35	25	27	21	21	23
Acute and Chronic Nephritis, Uræmia, Bright's Disease	576	482	493	535	552	545
Calculi of the Urinary System	7	9	5	7	14	10
Diseases of the Bladder and Prostate	94	69	86	75	92	66
Old Age	1,030	770	762	743	658	609
Suicide	102	72	107	93	108	116
Accidental Violence	531	485	504	522	487	486
Homicide	19	11	13	20	18	18

The above and other causes of death are fully dealt with in subsequent paragraphs.

The following table shows for each month of the year the proportion of deaths per 1,000 due to nine well-known diseases and to all causes. The figures are based on the experience of the period 1920-26, and, in order to make the results comparable, adjustments have been made to correct the inequality of the number of days in each month. The average annual mortality from each disease is shown at the foot of the table :—

The Seasonal Prevalence of Diseases.

SEASONAL PREVALENCE OF DISEASES IN VICTORIA, 1920-26.

Month.	Typhoid Fever.	Whooping Cough.	Diphtheria and Croup.	Influenza.	Tuber- culosis of the Respiratory System.	Bronchitis.	Pneumonia and Broncho- pneumonia.	Diarrhea and Enteritis.	Bright's Disease.	Total from all Causes.
January	133	77	56	19	77	41	58	194	66	81
February	188	77	59	19	69	39	47	179	73	78
March	137	60	109	34	75	46	55	154	70	77
April	113	30	122	52	77	69	74	126	76	83
May	130	42	138	125	91	94	94	76	84	85
June	51	46	133	199	84	126	119	38	85	90
July	40	85	98	167	88	138	125	25	101	95
August	37	122	85	136	93	140	115	23	102	92
September ...	21	118	65	102	93	98	96	23	87	84
October	33	145	56	60	92	81	84	28	85	82
November	31	113	32	54	82	76	73	41	84	77
December	86	85	47	33	79	52	60	93	87	76
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Average Annual Number of Deaths 1920-26 ..	42	110	148	160	960	334	1,179	726	819	16,292

An inspection of the above table shows that the mortality from all causes was greatest in the winter months, the highest point being reached in July. It was lowest in the warmer months of the year, except January.

Typhoid fever, diarrhoea, and enteritis are essentially hot weather diseases, while pneumonia and broncho-pneumonia, bronchitis, and influenza are much more prevalent in the colder months than in the warmer ones. The greatest number of deaths from diphtheria occur in the autumn, while whooping cough reaches its zenith in the months of early spring. Tuberculosis of the Respiratory System and Bright's disease do not exhibit variations in mortality according to season to as great an extent as the other diseases mentioned, but reach their maximum mortality during the cold weather.

Vaccinations. Since the "Conscience Clause" of the Health Act of 1919, which came into operation on 24th March, 1920, compulsory vaccination has become practically non-operative. Particulars for past years are given in previous issues of this book.

Typhoid fever. The reported cases of typhoid fever for the whole State declined from 288 per 100,000 of population in 1895-99 to 53 per 100,000 in 1914-18, and 12 per 100,000 in 1928, or by 96 per cent. in the intervening years. The death rate from the disease decreased by 93 per cent. during the same period. The deaths per 100 cases in 1928 were 17·2 as compared with 12·1 in 1920-24. The reported cases of, and deaths from typhoid fever and their proportions to the population, also the percentage of cases that ended fatally, are given in the next table for periods back to 1890:—

TYPHOID FEVER IN VICTORIA, 1890 TO 1928.

Period.	Annual Cases Reported.		Annual Deaths.		Deaths per 100 reported Cases.
	Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.	
1890-94	2,932	253·9	381	33·0	13·0
1895-99	3,397	288·4	355	30·1	10·4
1900-04	2,152	178·1	213	17·6	9·9
1905-09	1,569	125·4	135	10·8	8·6
1910-14	1,374	101·0	107	7·8	7·8
1915-19	563	39·3	60	4·2	10·6
1920-24	408	25·9	49	3·1	12·1
1925	181	10·8	19	1·1	10·5
1926	286	16·9	29	1·7	10·1
1927	200	11·6	30	1·7	15·0
1928	215	12·3	37	2·1	17·2

The death rate from typhoid fever for Victoria is considerably lower than that for the Commonwealth.

The cases of, and deaths from typhoid fever in proportion to population, in Greater Melbourne, are given in the subjoined table for different periods during the last thirty-nine years :—

TYPHOID FEVER IN GREATER MELBOURNE, 1890 TO 1928.

Period.	Annual Cases Reported.		Annual Deaths.	
	Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.
1890-94	1,645	349·3	205	43·5
1895-99	1,510	327·6	156	33·8
1900-04	701	140·0	74	14·8
1905-09	466	86·7	49	9·1
1910-14	385	61·4	36	5·8
1915-19	128	18·0	19	2·7
1920-24	105	13·0	16	2·0
1925	38	4·2	5	0·6
1926	74	8·0	9	1·0
1927	81	8·4	16	1·7
1928	55	5·6	13	1·3

The cases of, and deaths from typhoid fever in proportion to population declined by 98 and 96 per cent. respectively in Greater Melbourne between 1895-99 and 1928. The introduction and extension of the sewerage system coincide closely with, and in a large measure account for this great improvement.

The number of cases of typhoid fever during each of the last five years in five divisions of the State, and their proportions to the respective populations for the period 1910-19 and the years 1927 and 1928, are given in the following table :—

PREVALENCE OF TYPHOID FEVER.

Area.	Reported Cases of Typhoid Fever.					Annual Cases per 10,000 of Population.		
	1924.	1925.	1926.	1927.	1928.	1910-19.	1927.	1928.
Greater Melbourne ..	96	38	74	81	55	4·1	0·8	0·6
Ballarat	8	9	16	1	10	13·4	0·2	2·4
Bendigo	9	3	2	4	5	18·2	1·2	1·5
Geelong	1	..	1	3	5	9·0	0·7	1·2
Rest of the State ..	190	131	193	111	140	8·9	1·7	2·2

The cases in proportion to population were fewer by 85 per cent. in Greater Melbourne, 82 per cent. in Ballarat, 92 per cent. in Bendigo, 87 per cent. in Geelong, and 75 per cent. in the rest of the State in 1928 than in the period 1910-19.

The mortality from typhoid fever is higher at early adult and middle ages than at other periods of life, and higher among males than females. This is shown in the next table, which gives the death rates in age groups for each sex in the years 1900-02, 1910-12, and 1920-22, being the years adjoining the censuses of 1901, 1911, and 1921 :—

DEATH RATES FROM TYPHOID FEVER, 1900-02, 1910-12,
AND 1920-22.

Age Group.	Deaths per 10,000 of each Sex.					
	Males.			Females.		
	1900-02.	1910-12.	1920-22.	1900-02.	1910-12.	1920-22.
0-15	0·97	0·38	0·12	1·46	0·44	0·28
15-20	2·65	1·76	0·40	2·23	1·22	0·46
20-25	4·39	1·82	0·97	1·84	1·32	0·54
25-35	3·28	1·71	0·41	2·04	0·82	0·38
35-45	2·25	1·26	0·45	1·21	0·68	0·36
45-55	1·95	0·82	0·54	0·93	0·39	0·20
55-65	0·66	0·20	0·42	0·34	0·50	0·16
65 and over ..	..	0·10	0·10	0·23	0·19	0·09
All ages	1·95	1·00	0·37	1·49	0·69	0·32

The experience of the three census periods mentioned shows that the rate for males exceeds that for females by 33 per cent., and that the heaviest mortality occurs between the ages 15 and 35. It is notable that at each census period there were proportionately fewer deaths of boys than of girls under the age of 15.

Persons suffering from small-pox have arrived at Victorian ports on many occasions, but, as they were at once quarantined, the disease never spread among the people of the State. During the years 1853 to 1928 only 31 deaths occurred from this cause, and of that number only 8 took place in the last forty-four years of the period.

Measles. Although the mortality from measles has varied very considerably from period to period, there has been no very severe epidemic outbreak since 1898, when 671 deaths resulted from the disease. In 1928 there were 12 deaths attributed to this cause, representing a rate of 7 per million of the population, as compared with rates of 30 in 1927, 8 in 1926, 26 in 1925, and 4 in 1924.

On the average of the five years 1919 to 1923, 53 per cent. of those who died from the disease were under 2 years of age and 75 per cent. were under 5 years. The incidence of mortality at various ages for each sex for the period 1919-23 was as follows :—

Sex.	Annual Deaths from Measles per 10,000 of each Sex aged—									
	0 to 1.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 and over.	All Ages.
Males	4·17	7·64	2·83	1·69	0·87	0·75	0·06	0·06	0·02	0·46
Females	2·34	7·87	2·35	1·50	0·52	0·57	0·23	0·03	0·06	0·40

Scarlet fever. In 1928 the deaths from scarlet fever numbered 13, which corresponded to a rate of 7 per million of the population, as compared with rates of 17 in 1927, 9 in 1926, 10 in 1925, 13 in 1924, and 34 in 1890-92. During 1928 there were 2,345 cases reported, as against 2,290 in 1927, 1,151 in 1926, 1,345 in 1925, and 2,356 in 1924. For the five years mentioned the deaths were equal to one per cent. of the cases. According to the experience of the last ten years the chance of dying from the disease is 45 per cent. greater for females than for males.

Whooping cough. Whooping cough was responsible for 52 deaths in 1928, which equalled a rate of 30 per million of the population at all ages, as compared with rates of 30 in 1927, 71 in 1926, 27 in 1925, and 160 in 1924. The infantile death rate is more affected than the general rate by this ailment, as it is practically confined to children. In the year under review 28 of the deaths were of infants under 1 year, and all except one of the deaths were of children less than 5 years of age. On the average of the last ten years the mortality rate from the disease was 23 per cent. higher among females than males.

Diphtheria. The prevalence of diphtheria throughout the State during the last eighteen years was an unsatisfactory feature of the statistics of sickness relating to that period. For the year 1928 the number of cases was 4,267, as against 3,254 in 1927, 2,471 in 1926, 2,631 in 1925, a yearly average of 5,739 in 1920-24, 4,901 in 1915-19, 4,612 in 1910-14, 1,410 in 1905-09, 1,680 in 1900-04, and 1,584 in 1895-99. On the other hand, a very great reduction took place from period to period in the proportion of cases which ended fatally. The case mortality rate was 3.1 per cent. in 1928, as compared with 4.3 per cent. in 1915-19, 6.3 per cent. in 1905-09, 9.5 per cent. in 1900-04, and 13.9 per cent. in 1895-99.

The appended table shows for the whole State and the metropolis the reported cases of and deaths from diphtheria, and their proportions to the population, also the ratios of deaths to cases for different periods since 1894 :—

DIPHTHERIA IN VICTORIA AND GREATER MELBOURNE,
1895 TO 1928.

Period.	Annual Cases Reported.		Annual Deaths.		Deaths per 100 Cases Reported.
	Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.	
VICTORIA.					
1895-99	1,584	134.6	221	18.8	13.9
1900-04	1,680	139.0	159	13.2	9.5
1905-09	1,410	112.6	89	7.1	6.3
1910-14	4,612	339.1	212	15.6	4.6
1915-19	4,901	342.5	209	14.6	4.3
1920-24	5,739	364.6	179	11.4	3.1
1925	2,631	157.4	71	4.2	2.7
1926	2,471	145.6	70	4.1	2.8
1927	3,254	188.4	93	5.4	2.9
1928	4,267	243.6	131	7.5	3.1
GREATER MELBOURNE.					
1895-99	748	162.1	113	24.6	15.1
1900-04	686	136.9	58	11.6	8.5
1905-09	758	140.8	46	8.5	6.1
1910-14	2,343	374.3	114	18.3	4.9
1915-19	2,864	402.6	127	17.9	4.4
1920-24	2,555	314.6	78	9.7	3.1
1925	1,567	174.3	41	4.6	2.6
1926	1,461	157.4	37	4.0	2.5
1927	1,795	187.0	49	5.1	2.7
1928	2,344	237.3	74	7.5	3.2

The cases of diphtheria which occurred in five divisions of the State in each of the last five years and their proportions to the respective populations, for the period 1910-19 and the years 1927 and 1928, are given in the subjoined table:—

CASES OF DIPHTHERIA IN DIFFERENT AREAS.

Area.	Reported Cases of Diphtheria.					Annual Cases per 10,000 of Population.		
	1924.	1925.	1926.	1927.	1928.	1910-19.	1927.	1928.
Greater Melbourne ..	2,239	1,567	1,461	1,795	2,344	39·3	18·7	23·7
Ballarat ..	54	36	43	37	53	24·3	8·8	12·6
Bendigo ..	108	85	35	67	79	84·6	19·8	23·3
Geelong ..	127	133	167	231	116	43·4	54·6	26·9
Rest of the State ..	1,459	810	765	1,124	1,675	25·7	17·3	26·0

In 1928, the cases in each division of the State, except Geelong, were more than in the preceding year.

Of the 488 males and 506 females who died from diphtheria during the five years 1919-23, 521, or 53 per cent., were under 5 years, and 850, or 86 per cent., were under 10 years of age. The incidence of mortality for each sex at different ages, for the period mentioned, was as follows:—

DEATH RATES FROM DIPHTHERIA AT DIFFERENT AGES, 1919-23.

Sex.	Annual Deaths from Diphtheria per 10,000 of each Sex aged—									
	0 to 1.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 and over.	All Ages.
Males..	5·08	9·09	9·23	7·67	6·23	3·67	0·83	0·33	0·07	1·29
Females	3·86	6·65	6·09	6·56	7·10	4·91	0·96	0·62	0·13	1·30

The deaths from influenza in 1928 numbered 358, which corresponded to a rate of 204 per million of the population, as compared with rates of 40 in 1927, 118 in 1926, 41 in 1925, 104 in 1924, 248 in 1923, 46 in 1922, 88 in 1921, 52 in 1920, 2,407 in 1919, 148 in 1918, 71 in 1913-17, 109 in 1908-12, and 381 in 1890-92.

In 1928, 77·1 per cent. of the deaths recorded were associated with specified pneumonic complications.

With the exception of the 1919 epidemic, when 72 per cent. of the deaths were of persons between 20 and 50 years of age, influenza has always proved more fatal to elderly people than to those at middle or young ages.

The next table gives the death rate per 10,000 of each sex in age groups for the last five census periods:—

DEATHS FROM INFLUENZA IN VICTORIA PER 10,000 OF EACH SEX.

Age Group.	1880-82.	1890-92.	1900-02.	1910-12.	1920-22.
<i>Males.</i>					
0-15	·34	2·50	1·10	·40	·23
15-20	·07	·64	·34	·24	·30
20-25 ... ..	...	1·20	·59	·21	·38
25-35	·07	1·50	·79	·17	·27
35-45 ... ..	...	3·04	1·31	·59	·56
45-55	·24	5·12	3·20	·73	·92
55-65	·24	12·65	5·25	2·38	1·44
65 and upwards	2·36	27·13	17·02	12·27	4·18
All ages	·25	3·94	2·30	1·10	·65
<i>Females.</i>					
0-15	·34	1·86	1·15	·42	·25
15-20 ... ..	...	·92	·83	·34	·26
20-25 ... ..	...	1·28	·69	·35	·35
25-35	·07	2·35	·89	·22	·45
35-45	·08	4·11	1·86	·30	·46
45-55 ... ..	...	5·39	2·02	·68	·68
55-65	·62	11·46	5·53	1·61	·91
65 and upwards	3·18	35·22	16·02	12·80	3·86
All ages	·24	3·72	2·13	1·10	·60

Influenza epidemic, 1919.

Information in regard to the epidemic of 1919 is given in the *Year-Book* for 1918-19, pages 214-216; and in the 1919-20 issue, pages 180-182.

Acute Anterior Poliomyelitis (Infantile Paralysis).

Opinions have been expressed by members of the medical profession that the name "infantile paralysis" as applied to "acute anterior poliomyelitis" is misleading, for adults are attacked and paralysis is not a constant symptom, consequently, deaths occurring from this disease are now indicated by the medical nomenclature.

Mortality returns show that acute anterior poliomyelitis was responsible for 32 deaths in 1928, 8 in 1927, 8 in 1926, 25 in 1925, 4 in 1924, 4 in 1923, and 8 in 1922. Of the above 89 deaths, 52 were of males and 37 were of females; 3 were under 1 year of age, 26 were between 1 and 5 years, 24 were between 5 and 10 years, and 36 were over 10 years.

Corebro-spinal, tubercular, and simple meningitis.

Cerebro-spinal meningitis was responsible for 20 deaths in 1928, 13 in 1927, 19 in 1926, 28 in 1925, 33 in 1924, 13 in 1923, 12 in 1922, 17 in 1921, 15 in 1920, 14 in 1919, 37 in 1918, 75 in 1917, 326 in 1916, and 338 in 1915. The numbers of deaths

from cerebro-spinal, tubercular, and simple meningitis during the last fifteen years were as follows :—

DEATHS FROM DIFFERENT FORMS OF MENINGITIS, 1914-28.

Year.	Cerebro-spinal Meningitis.		Tubercular Meningitis.		Simple Meningitis.		Total—All Forms of Meningitis.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1914 ..	12	5	42	30	90	63	144	98
1915 ..	239	99	35	35	74	46	348	180
1916 ..	191	135	29	40	56	39	276	214
1917 ..	48	27	56	41	37	35	141	103
1918 ..	28	9	55	40	39	35	122	84
1919 ..	7	7	38	24	33	29	78	60
1920 ..	12	3	49	34	46	35	107	72
1921 ..	8	9	42	44	62	37	112	90
1922 ..	9	3	30	28	67	40	106	71
1923 ..	7	6	32	34	64	43	103	83
1924 ..	19	14	47	32	47	29	113	75
1925 ..	16	12	38	39	39	25	93	75
1926 ..	14	5	36	29	42	25	92	59
1927 ..	9	4	42	42	35	27	86	73
1928 ..	12	8	36	34	33	28	81	70

Deaths from tuberculosis of the respiratory system at various ages. The ages and sexes of those who died from tuberculosis of the respiratory system in each of the last five years are given in the next table :—

DEATHS FROM TUBERCULOSIS OF THE RESPIRATORY SYSTEM AT VARIOUS AGES.

Age Group.	Males.					Females.				
	Year.					Year.				
	1924.	1925.	1926.	1927.	1928.	1924.	1925.	1926.	1927.	1928.
0-10 ...	2	4	3	6	8	3	5	1	4	8
10-15 ...	1	1	2	3	2	6	9	1	3	6
15-20 ...	20	11	18	19	11	43	48	35	39	42
20-25 ...	53	46	33	40	54	69	66	74	72	82
25-30 ...	62	60	45	70	54	67	71	53	72	84
30-35 ...	60	56	53	69	61	59	50	66	55	71
35-40 ...	66	75	61	54	59	39	41	41	48	57
40-45 ...	60	55	63	48	58	28	26	42	35	37
45-50 ...	47	43	57	48	66	21	22	39	24	24
50-55 ...	57	62	38	47	51	29	25	23	29	13
55-60 ...	49	49	46	34	36	24	10	23	16	19
60-65 ...	35	37	41	36	27	15	13	11	16	16
65-70 ...	18	21	26	20	30	4	9	8	18	13
70 and over	17	13	16	10	17	7	9	5	9	11
Total ...	546	533	502	504	534	414	404	422	440	483

For the year 1928, the average age of those who died from tuberculosis of the respiratory system was 42·2 years for males and 34·5 years for females.

The deaths from tuberculosis of the respiratory system in 1928 numbered 1,017—534 being of males and 483 of females—and equalled a rate of 581 per million of the population, as compared with rates of 546 in 1927, 545 in 1926, 561 in 1925, 585 in 1924, 620 in 1923, 565 in 1922, 667 in 1921, 658 in 1920, 739 in 1919, 701 in 1918, 677 in 1917, 743 in 1916, 661 in 1915, 724 in 1914, 755 in 1913, 855 in 1908-12, and 1,365 in 1890-92. In England, Scotland, Northern Ireland, and the Irish Free State in 1927, the deaths from this cause were 791, 709, 1,039, and 1,153, per million of their respective populations. The rates for Victoria are more fully shown in the following table, which gives the mortality per 10,000 of each sex, in age groups, at six census periods:—

DEATH RATES IN VICTORIA FROM TUBERCULOSIS OF THE RESPIRATORY SYSTEM IN AGE GROUPS AT SIX CENSUS PERIODS.

Age Group.	Annual Mortality from Tuberculosis of the Respiratory System per 10,000 of each Sex.					
	1870-72.	1880-82.	1890-92.	1900-02.	1910-12.	1920-22.
<i>Males.</i>						
0 to 15 ...	1·22	1·74	·90	·38	·46	·42
15 " 20 ...	5·71	6·88	5·41	5·06	3·71	2·67
20 " 25 ...	18·75	21·19	18·29	14·35	8·45	7·88
25 " 35 ...	22·21	30·33	23·70	20·31	13·11	9·70
35 " 45 ...	21·83	25·11	28·28	22·07	15·63	12·43
45 " 55 ...	22·24	28·65	31·17	25·05	18·07	13·94
55 " 65 ...	27·86	31·41	36·48	35·75	18·88	13·08
65 and upwards ...	19·56	18·08	25·40	31·07	13·55	8·65
All ages ...	12·89	15·33	15·73	13·51	8·98	7·11
<i>Females.</i>						
0 to 15 ...	·98	1·76	1·43	·93	·97	·38
15 " 20 ...	12·37	12·50	9·51	8·18	7·62	4·84
20 " 25 ...	19·28	21·00	18·49	12·79	12·68	10·20
25 " 35 ...	22·02	26·56	21·77	18·15	14·03	10·00
35 " 45 ...	21·65	24·06	22·53	17·74	11·51	9·15
45 " 55 ...	19·60	20·72	16·13	14·41	8·18	5·91
55 " 65 ...	10·51	14·26	12·35	12·52	7·47	4·95
65 and upwards ...	12·61	13·12	8·25	8·18	5·29	3·94
All ages ...	10·62	12·75	11·51	9·72	7·61	5·55

A comparison of the mortalities from tuberculosis of the respiratory system at the census periods 1910-12 and 1920-22 shows that lower death rates obtained in each age group in 1920-22 than in 1910-12, and that the improvement was greater among females than males. By combining the death rates from tuberculosis of the respiratory system, as shown above, with those from other forms of tubercular disease, given in a subsequent page, it appears that every section of the community experienced relief from tubercular diseases in 1920-22 as compared with the previous census period.

The distribution of tuberculous mortality shows that certain urban centres—particularly Bendigo and suburbs—furnish considerably higher death rates than the rural portions of the State. The tubercular death rate among miners is considerably in excess of that among farmers and graziers, and, as the residents of Bendigo and suburbs are largely engaged in mining occupations, while most persons living in rural districts are associated with the farming and grazing industries, the distribution of callings accounts in a large measure for the disparity in the mortality rates from this cause in the divisions of the State referred to. On the average of the last five years the tubercular death rate of Bendigo exceeded the rates of Ballarat and Melbourne by 99 and 66 per cent. respectively. The rates in these localities from tubercular diseases are given in the appended table for different periods since 1890:—

DEATH RATES FROM TUBERCULAR DISEASES IN MELBOURNE, BALLARAT, AND BENDIGO, 1891 TO 1928.

Period.	Deaths per 10,000 of the Population.								
	Tuberculosis of the Respiratory System.			Other Tubercular Diseases.			All Tubercular Diseases.		
	Melbourne and Suburbs.	Ballarat and Suburbs.	Bendigo and Suburbs.	Melbourne and Suburbs.	Ballarat and Suburbs.	Bendigo and Suburbs.	Melbourne and Suburbs.	Ballarat and Suburbs.	Bendigo and Suburbs.
1891-1900 ..	16·7	17·1	24·1	4·7	3·5	4·0	21·4	20·6	28·1
1901-05 ..	13·9	15·3	22·7	4·2	4·0	4·7	18·1	19·3	27·4
1906-10 ..	10·8	11·5	21·2	3·0	2·1	2·0	13·8	13·6	23·2
1911-15 ..	9·1	10·3	16·5	2·1	2·2	2·1	11·2	12·5	18·6
1916-20 ..	8·3	11·2	16·0	1·9	1·5	2·0	10·2	12·7	18·0
1921-25 ..	6·9	6·7	11·9	1·5	1·0	2·2	8·4	7·7	14·1
1926 ..	5·9	6·7	10·1	·9	·5	·3	6·8	7·2	10·4
1927 ..	6·3	5·3	10·6	1·2	·2	·9	7·5	5·5	11·5
1928 ..	6·6	5·5	10·3	·9	·2	·6	7·5	5·7	10·9

Tubercular diseases (tuberculosis of the respiratory system excepted).

In 1928 there were in Victoria 143 deaths from tubercular diseases (excluding tuberculosis of the respiratory system), which corresponded to a rate of 82 per million of the population, as compared with rates of 100 in 1927, 84 in 1926, 97 in 1925, 127 in 1924, 123 in 1923, 120 in 1922, 137 in 1921, 145 in 1920, 126 in 1919, 144 in 1918, 163 in 1917, 136 in 1916, 135 in 1915, 140 in 1914, 156 in 1913, 182 in 1908-12, and 379 in 1890-92. In England, Scotland, Northern Ireland, and the Irish Free State, in 1927, the deaths from similar causes numbered 181, 286, 373, and 302 per million of their respective populations. The death rates in Victoria for various age groups are shown in the following table for five census periods:—

DEATH RATES FROM TUBERCULAR DISEASES (TUBERCULOSIS OF THE RESPIRATORY SYSTEM EXCEPTED) IN AGE GROUPS.

Age Group.	Deaths per 10,000 of each Sex.				
	1880-82.	1890-92.	1900-02.	1910-12.	1920-22.
<i>Males.</i>					
0-15 ...	7.98	10.36	5.64	2.75	2.00
15-20 ...	.81	1.17	1.12	1.12	.83
20-25 ...	1.23	.89	1.77	1.23	1.55
25-35 ...	.66	.84	1.91	1.71	1.61
35-45 ...	.88	.77	1.39	1.38	1.15
45-55 ...	.85	.67	1.64	.82	1.17
55-65 ...	1.07	.78	2.40	1.29	1.06
65 and over	2.36	.56	1.17	.59	1.07
All ages	3.55	4.02	2.99	1.70	1.48
<i>Females.</i>					
0-15 ...	7.28	8.43	5.33	2.12	1.57
15-20 ...	1.30	1.27	1.95	2.34	1.13
20-25 ...	.69	1.23	2.09	2.59	1.73
25-35 ...	.41	.88	1.98	1.81	1.18
35-45 ...	.70	.42	1.77	1.33	.78
45-55 ...	.67	.34	1.01	.93	1.01
55-65 ...	.62	.69	.71	1.11	.70
65 and over	1.19	.64	.71	.29	.86
All ages	3.39	3.58	2.91	1.76	1.21

As compared with the period 1910-12 the proportion of persons under 15 years of age who died from tubercular diseases (excluding tuberculosis of the respiratory system) during 1920-22 represented a decline of 27 per cent. for males and of 26 per cent. for females.

The experience of recent years shows that the tubercular death rate in Victoria is but slightly affected by the arrival from beyond Australia of persons suffering from tubercular diseases. Only six of those who died in 1928 had been born outside and resident less than one year in Australia, and 28 had resided in the continent for a shorter period than five years.

The numbers dying from cancer in different age groups in each of the last five years are given below :—

DEATHS FROM CANCER AT VARIOUS AGES.

Age Group.	Males.					Females.				
	1924.	1925.	1926.	1927.	1928.	1924.	1925.	1926.	1927.	1928.
0-15	5	6	7	3	9	1	6	6	5	4
15-25	9	9	3	5	2	5	2	4	3	4
25-35	9	14	12	14	13	15	16	21	22	21
35-45	44	42	25	40	35	67	87	93	78	69
45-55	127	108	117	107	118	159	151	162	163	181
55-65	263	253	266	255	236	228	233	235	238	269
65-75	245	249	276	261	365	204	203	226	265	257
75-85	106	95	124	112	111	103	119	104	117	127
85 and over ..	17	18	24	14	24	33	14	15	27	29
Total	825	799	854	811	913	815	836	866	918	961

The widely different social and economic effects produced by the prevalence of and deaths from the two important diseases, cancer and tuberculosis of the respiratory system, are evidenced by the ages of their victims. For the year 1928 the average age of those who died from the former was 64·1 years for males and 61·8 years for females, while the corresponding averages for the latter were 42·2 years for males and 34·5 years for females.

Deaths from cancer in 1928 numbered 1,874, and represented a death rate of 1,070 per million of the whole population, as compared with rates of 1,001 in 1927, 1,014 in 1926, 978 in 1925, 999 in 1924, 1,013 in 1923, 997 in 1922, 954 in 1921, 908 in 1920, 870 in 1919, 942 in 1918, 833 in 1908-12, and 584 in 1890-92. In England, Scotland, Northern Ireland, and the Irish Free State, in 1927, the deaths per million of population from this cause were 1,376, 1,414, 1,181, and 1,052 respectively.

**Cancer—
Death Rates
at different
ages.**

Cancer death rates, computed in relation to the general population in earlier and later periods, are not fairly comparable owing to the changed age distribution of the people. A more accurate mortality rate is obtained by comparing the deaths with the number of persons in the community of the same sex, in age groups. This has been done for four census periods, when the numbers of the people in age groups were accurately known, and the results are given in the appended table:—

DEATH RATES FROM CANCER IN AGE GROUPS.

Age Group.	Deaths from Cancer per 10,000 of each Sex.			
	1890-92.	1900-02.	1910-12.	1920-22.
<i>Males.</i>				
Under 5 ...	·18	·30	·73	·46
5 to 10 ...	·10	·42	·25	·13
10 " 15 ...	·11	·20	·16	·14
15 " 20 ...	·17	·22	·15	·30
20 " 25 ...	·32	·33	·71	·64
25 " 35 ...	·81	1·26	·96	·76
35 " 45 ...	4·29	3·69	3·16	3·31
45 " 55 ...	14·83	14·14	16·03	13·94
55 " 65 ...	31·92	36·00	36·36	40·46
65 " 75 ...	52·75	59·04	74·15	78·21
75 and over	53·55	74·04	88·40	110·12
All ages	6·16	7·52	8·50	9·52
<i>Females.</i>				
Under 5 ...	·09	·26	·19	·39
5 to 10 ...	·10	·04	·10	·17
10 " 15 ...	·06	..	·27	·05
15 " 20 ...	·12	·28	·44	·15
20 " 25 ...	·22	·23	·41	·30
25 " 35 ...	1·68	1·61	1·39	1·28
35 " 45 ...	7·43	6·05	7·26	6·61
45 " 55 ...	18·00	18·13	17·87	19·14
55 " 65 ...	31·79	33·05	38·03	34·48
65 " 75 ...	53·96	51·18	61·66	63·05
75 and over	49·55	62·70	86·19	92·86
All ages	5·57	6·64	8·76	9·63

Deaths from cancer occur at all age periods, but the rates in the foregoing table show that it is essentially a disease of later life, increasing rapidly in the groups past middle age, and reaching a maximum mortality rate in the oldest age group. From the figures for the periods 1910-12 and 1920-22 it will be seen that there was in the later period a considerable increase in the death rate from cancer.

Seat of cancer.

The following table shows the seat of cancer in persons who died from this disease in 1928 :—

SEAT OF CANCER

Seat of Disease.	Males.	Females.	Total.
Cancer of the buccal cavity (mouth, &c.) ...	86	9	95
„ the stomach and liver ...	380	282	662
„ the peritoneum, the intestines, and the rectum ...	158	149	307
„ the female genital organs ...	...	177	177
„ the breast ...	...	174	174
„ the skin ...	23	13	36
„ other and unspecified organs ...	266	157	423
Total Deaths ...	913	961	1,874

Thirty-five per cent. of the persons who died from cancer were affected in the stomach or liver. Of the females who died from the disease 37 per cent. were affected in the genital organs or the breast.

Diabetes. During 1928 diabetes was responsible for 94 male and 143 female deaths, representing a rate of 135 per million of the population, as compared with rates of 130 in 1927, 109 in 1926, 107 in 1925, 133 in 1924, 98 in 1923, 110 in 1922, 136 in 1921, 126 in 1920, 134 in 1919, 146 in 1918, and 107 in 1908-12. The deaths from diabetes per 10,000 of each sex in nine age groups, for the periods 1900-02, 1910-12, and 1920-22, are shown in the subjoined table :—

DEATHS FROM DIABETES PER 10,000 OF EACH SEX.

Age Group.	Deaths per 10,000 of each Sex.					
	Males.			Females.		
	1900-02.	1910-12.	1920-22.	1900-02.	1910-12.	1920-22.
0-10 ...	·09	·10	·13	·05	·15	·22
10-20 ...	·24	·20	·31	·26	·36	·39
20-30 ...	·17	·64	·48	·36	·30	·53
30-40 ...	·32	·58	·45	·51	·53	·54
40-50 ...	·49	1·11	·95	·42	·78	1·11
50-60 ...	1·38	1·80	2·14	1·42	3·18	2·79
60-70 ...	2·67	5·63	5·19	3·19	8·47	8·02
70-80 ...	4·36	7·34	7·37	5·01	11·54	12·51
80 and over ...	4·11	7·43	8·42	3·54	6·83	6·02
All ages ...	·56	1·00	1·03	·60	1·26	1·45

In 1920-22 the female exceeded the male rate for each age group between 40 and 80, the excess for the twenty years of life 60 to 80 amounting to 61 per cent. For all ages combined the rate for females was 41 per cent. higher than that for males.

**Anæmia,
chlorosis,
leucæmia.**

Anæmia, chlorosis, and leucæmia were responsible for 114 deaths in 1928, which corresponded to a rate of 65 per million of the population, as against rates of 81 in 1927, 98 in 1926, 104 in 1925, 97 in 1924, 118 in 1923, 85 in 1922, 104 in 1921, 90 in 1920, 93 in 1919, 90 in 1918, and 81 in 1908-12. Of the 42 persons who died from leucæmia in 1928, 22 were males.

**Diseases of
the spine.**

In 1928 locomotor ataxia and other diseases of the spine, excluding acute anterior poliomyelitis, accounted for 40 male and 23 female deaths, representing a death rate of 36 per million of the population, as compared with rates of 43 in 1927, 39 in 1926, 29 in 1925, 55 in 1924, 49 in 1923, 38 in 1922, 52 in 1921, 45 in 1920, 78 in 1919, 88 in 1918, and 71 in 1908-12. Of the 19 persons who died from locomotor ataxia in 1928, 16 were males.

**Heart
disease.**

During 1928 there were 2,142 deaths ascribed to organic heart disease, 21 to pericarditis, 83 to acute endocarditis and myocarditis, and 159 to angina pectoris. The deaths of persons, over 45 years of age, from endocarditis and myocarditis, are now ascribed to organic heart disease. The total—2,405—from these causes represented a rate of 1,373 per million of the population, as compared with 1,323 in 1927, 1,255 in 1926, 1,384 in 1925, 1,364 in 1924, 1,423 in 1923, 1,245 in 1922, 1,267 in 1921, 1,287 in 1920, 1,402 in 1919, 1,400 in 1918, and 1,441 in 1908-12. Of the 2,405 persons who died from these diseases in 1928, only 31, or 1.3 per cent., were under 15 years of age. On the average of the three years 1920 to 1922 the deaths from all forms of heart disease per 10,000 of each sex, in age groups, were as follows :—

**DEATH RATES FROM HEART DISEASE AT
VARIOUS AGES, 1920-22.**

Sex.	Deaths per 10,000 Persons aged—									
	0-15.	15-20.	20-25.	25-35.	35-45.	45-55.	55-65.	65-75.	75 and upwards.	All Ages.
Males ..	1.52	1.92	2.04	2.64	5.40	14.52	40.62	112.20	247.10	13.74
Females ..	1.15	1.85	1.53	3.25	5.26	10.73	29.53	85.65	208.17	11.70

The figures indicate that the mortality rate from heart disease is a function of age, and that it attains its maximum at the oldest age. Of the deaths of persons aged 75 and upwards, approximately 1 in 5 is due to some form of this disease.

In 1928 the deaths from respiratory diseases numbered **Respiratory diseases.** 2,290, which represented a rate of 1,308 per million of the population, as compared with rates of 1,151 in 1927, 1,033 in 1926, 887 in 1925, 1,143 in 1924, 1,441 in 1923, 1,195 in 1922, 1,141 in 1921, 1,329 in 1920, 1,430 in 1919, and 1,160 in 1918. Of the deaths from complaints of this nature in the year under review, 60 were referred to acute bronchitis, 113 to chronic bronchitis, 150 to bronchitis unspecified, 636 to broncho-pneumonia, 977 to pneumonia, 64 to pleurisy, and 47 to asthma. These six diseases accounted for 89 per cent. of the total respiratory mortality. The seasonal incidence of these maladies in normal years is greatest during the months May to September, but, in 1928, the deaths in October and November were abnormally high and were greater than any other two months of the year. Respiratory diseases are much more fatal at the extremes of life than at middle ages, and among males than females. This is shown in the appended table, which gives for each sex the death rates relating to groups of ages at five census periods:—

DEATHS FROM RESPIRATORY DISEASES PER 10,000 OF EACH SEX.

Age Group.		1880-82.	1890-92.	1900-02.	1910-12.	1920-22.
<i>Males.</i>						
0-15	...	29.02	28.52	16.53	12.94	10.25
15-20	...	3.30	2.92	2.70	1.66	1.76
20-25	...	5.34	4.88	4.85	2.35	2.73
25-35	...	8.31	6.85	5.94	3.86	3.71
35-45	...	15.80	13.55	9.49	10.50	8.01
45-55	...	26.59	25.18	18.04	18.25	15.69
55-65	...	51.65	56.51	38.37	32.68	30.42
65 and upwards	...	136.54	141.07	112.38	138.87	112.17
All ages	...	24.48	24.30	18.66	17.17	14.42
<i>Females.</i>						
0-15	...	24.18	24.13	13.85	10.50	8.54
15-20	...	2.02	3.52	2.34	1.56	2.32
20-25	...	4.23	3.05	3.34	2.48	1.72
25-35	...	5.72	5.65	3.75	3.55	3.25
35-45	...	12.53	11.55	7.68	5.85	4.90
45-55	...	13.63	17.01	11.80	8.28	6.71
55-65	...	29.15	32.10	27.42	16.64	13.50
65 and upwards	...	116.12	112.38	86.78	99.81	86.51
All ages	...	17.08	17.62	13.28	11.81	10.15

The mortality from respiratory diseases at all ages combined was less in the period 1920-22 than in any of the four previous census

periods. At each census date the male exceeded the female rate, the average excess for the five census periods being 42 per cent.

Diseases of the digestive system. In 1928 there were 748 male and 625 female deaths from digestive ailments, representing a proportion of 784 per million of the population, as against rates of 732 in 1927, 778 in 1926, 823 in 1925, 778 in 1924, 914 in 1923, 796 in 1922, 1,095 in 1921, 1,147 in 1920, 978 in 1919, 1,030 in 1918, and 2,382 in 1890-92. Diarrhoeal diseases were responsible for 578 deaths, which were equivalent to a rate of 330 per million of population, the corresponding rates in previous periods being 272 in 1927, 332 in 1926, 376 in 1925, 354 in 1924, 480 in 1923, 358 in 1922, 657 in 1921, 639 in 1920, 501 in 1919, 504 in 1918, 833 in 1908-12, and 1,342 in 1890-92. The age incidence of these diseases shows that they are heaviest at the extremes of life. Of the 578 deaths from diarrhoeal diseases in the year under review, 429, or 74 per cent., were of children under 2 years of age, and 60, or about 10 per cent., were of persons over 65 years of age. There were 70 male and 40 female deaths from cirrhosis of the liver, 70 male and 72 female deaths from other affections of that organ. (including hydatids), and 78 male and 70 female deaths from hernia and intestinal obstruction.

Appendicitis. The deaths from appendicitis numbered 133 in 1928, which represented a death rate of 76 per million of the population, as compared with rates of 75 in 1927, 74 in 1926, 67 in 1925, 75 in 1924, 70 in 1923, 67 in 1922, 57 in 1921, 63 in 1920, 61 in 1919 and 66 in 1918. Hospital records show that during the year ended 30th June, 1928, there were 3,455 cases treated, and that 67, or 1·9 per cent., ended fatally, as compared with fatality rates of 2·3 per cent. in 1927, 1·8 per cent. in 1926, 1·9 per cent. in 1925, 3·3 per cent. in 1924, and 6 per cent. in the period 1908-12. According to the experience of the three years 1920 to 1922 the death rate from appendicitis is approximately 63 per cent. higher among males than females. The mortality rates at various ages for that period were as follows:—

DEATH RATES FROM APPENDICITIS, 1920-22.

Sex.	Deaths from Appendicitis per 10,000 of each Sex aged—									
	Under 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and over.	All Ages.
Males..	0·31	0·87	1·31	0·86	0·74	1·08	0·79	0·85	0·68	0·78
Females	0·30	0·66	0·51	0·59	0·53	0·56	0·40	0·32	0·69	0·48

Hydatids. In 1928 there were 21 male and 6 female deaths from hydatids, of which 13 males and 3 females were attributed to hydatid tumor of the liver. Of the above deaths 11 were of

residents of Greater Melbourne (8 of which resided in districts north of the River Yarra), 3 in the Gippsland, 4 in the North-Eastern, 6 in the Western, and 3 in the Wimmera districts. The deaths from hydatids were equivalent to a rate of 15 per million of the population, as compared with rates of 10 in 1927, 11 in 1926, 11 in 1925, 10 in 1924 and 1923, 13 in 1922, 14 in 1921, 13 in 1920, 18 in 1919, 21 in 1918, 14 in 1917, 22 in 1908-12, and 51 in 1890-92. Hospital returns for the period 1919-28 show that 645 cases of hydatids were treated therein and that 91, or approximately 1 in every 7, ended fatally.

In 1928 there were 1,236 deaths attributed to diseases of the urinary system, which corresponded to a rate of 706 per million of the population, as against rates of 740 in 1927, 677 in 1926, 627 in 1925, 626 in 1924, 628 in 1923, 624 in 1922, 643 in 1921, 697 in 1920, 645 in 1919, 741 in 1918, and 700 in 1909-12. Acute and chronic nephritis were responsible for 954 deaths, or 77 per cent., and complaints of the bladder and prostate for 115 deaths, or 9 per cent., of the total maladies of the urinary system. The deaths per 10,000 of each sex, in age groups, for the periods 1900-02, 1910-12, and 1920-22 are shown in the following table :—

DEATH RATES FROM DISEASES OF URINARY SYSTEM.

Age Group.	Deaths per 10,000 of each Sex.					
	Males.			Females.		
	1900-02.	1910-12.	1920-22.	1900-02.	1910-12.	1920-22.
0-10	·93	·67	·67	·59	·79	·67
10-20	·45	·73	·53	·82	·71	·52
20-30	1·83	1·72	1·23	1·59	1·61	1·72
30-40	3·55	3·03	2·66	4·21	3·76	2·89
40-50	8·12	9·03	6·23	7·26	7·07	5·27
50-60	17·43	18·95	14·59	11·36	13·81	10·57
60-70	39·62	46·63	38·30	21·49	24·44	22·04
70-80	80·68	96·18	97·19	27·70	38·53	40·26
80 and over	128·48	153·04	167·09	27·15	43·70	54·38
All ages	8·05	9·18	8·04	4·28	5·34	5·13

The figures for the latest period show that there is scarcely any difference between the rates for males and females under 50 years of age. For older ages, however, the excess of the male over the female rate is very pronounced, especially at ages 70 and upwards. For all ages the rate for males exceeds that for females by 57 per cent.

The following tables show, for 1928, in various age groups, the deaths of women from causes relating to child-birth, and the total number of children born to married mothers :—

DEATHS FROM PUERPERAL CAUSES, VICTORIA, 1928.

Causes of Death.	Ages at Death.						Total.	Married Mothers.	Unmarried Mothers.
	Under 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 and over.			
Accidents of Pregnancy—									
(a) Abortion .. ..	..	1	3	5	4	4	17	15	2
(b) Ectopic Gestation .. ..	..	..	2	4	2	4	12	11	1
(c) Other .. ..	..	1	1	2	2	..	8	5	3
Puerperal Hæmorrhage .. ..	..	4	3	6	9	..	22	21	1
Other Accidents of Labour—									
(a) Cæsarean section .. ..	..	..	1	..	..	..	1	1	..
(b) Other surgical operations and instrumental delivery .. ..	..	..	..	1	..	..	1	1	..
(c) Others	1	..	4	7	5	6	23	22	1
Puerperal Septicæmia .. ..	..	10	22	14	12	5	65	60	5
Puerperal Phlegmasia Alba Dolens .. ..	..	..	..	1	..	..	1	1	..
Puerperal Embolism and Sudden Death	1	..	2	2	4	1	10	10	..
Puerperal Albuminuria and Convulsions	2	7	11	10	8	6	44	42	2
Following Childbirth (not otherwise defined) .. ..	..	..	..	..	..	..	..	..	..
Puerperal Diseases of the Breast.. ..	..	..	..	..	..	..	..	..	..
Total	7	23	50	52	46	26	204	189	15
Married Mothers	4	16	49	49	45	26	189	..	..
Unmarried Mothers	3	7	1	3	1	..	15	..	..

**TOTAL ISSUE OF MARRIED MOTHERS DYING IN
CHILDBIRTH, 1928.**

Issue.	Ages at Death.						Total.
	Under 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 and over.	
0	2	4	11	5	1	3	26
1	2	8	12	6	11	2	41
2 .. .. .	..	3	9	8	3	4	27
3 .. .. .	..	1	11	10	5	4	31
4 .. .. .	..	..	4	8	6	3	21
5 .. .. .	..	..	1	4	8	2	15
6 .. .. .	..	..	1	2	5	4	12
7 .. .. .	..	..	..	4	3	1	8
8 .. .. .	..	..	..	1	2	3	6
9 .. .. .	..	..	..	1	1	..	2
Total Married Mothers ..	4	16	49	49	45	26	189
Total Issue	2	17	90	161	172	99	541

Of the total deaths from puerperal causes in 1928, 189 were of married women, and 15 were of single women.

Of the 541 children born to the 189 married women who died, 485 were living at the time of their mothers' death.

First confinements were responsible for 52, or 25·5 per cent., of the total deaths of married mothers.

**Ages at
Death of
Women in
Childbirth.**

The death rate of women in childbirth varies considerably at different ages, and is less at younger than at older ages. The number of deaths of women in childbirth and the death rates in various age groups in Victoria, for the period 1920-26 and the years 1927 and 1928, are shown in the following table:—

DEATH RATES OF WOMEN IN CHILDBIRTH, IN AGE GROUPS, 1920-26, 1927, AND 1928.

Age Group.	Mothers.					
	Deaths.			Deaths per 1,000 children born alive.		
	1920-26.	1927.	1928.	1920-26.	1927.	1928.
Under 20 years ..	45	8	7	4.49	4.62	3.89
20 to 25 ,, ..	182	30	23	3.36	3.87	2.92
25 ,, 30 ,, ..	274	54	50	3.62	5.34	5.03
30 ,, 35 ,, ..	279	44	52	4.58	5.32	6.62
35 ,, 40 ,, ..	231	47	46	6.27	8.91	8.92
40 years and over ..	102	13	26	7.37	6.71	13.84
Total	1,113	196	204	4.42	5.59	5.91

The experience of the years 1920-26 showed that, for the age period 35 years and upwards, the deaths of mothers in childbirth were 66 per 10,000 live births, as compared with 39 per 10,000 for those under 35 years of age. The higher rate for those under 20, as compared with the rates for the next two groups, is probably due to the larger proportion of ex-nuptial births and to the number of *primiparæ*.

**Deaths in
childbirth.**

The death rate of women in childbirth is usually ascertained by comparing the number of deaths of parturient women with the total number of live births. The proportions for

each of the last three years and the averages of previous periods back to 1871 are given below :—

DEATHS OF MOTHERS (MARRIED AND SINGLE) TO EVERY
10,000 CHILDREN BORN ALIVE.

Period.	Number of Mothers who Died Annually of—			Deaths of Mothers to every 10,000 Children Born Alive.
	Puerperal Diseases or Accidents. (Excluding Sep- ticæmia.)	Puerperal Septicæmia.	Total.	
1871-80 ..	127	46	173	64·38
1881-90 ..	121	64	185	59·19
1891-1900 ..	117	66	183	56·01
1901-05 ..	126	58	184	60·92
1906-10 ..	101	46	147	47·17
1911-15 ..	96	58	154	43·55
1916-20 ..	91	49	140	41·99
1921-25 ..	102	43	145	40·33
1926 ..	130	64	194	54·86
1927 ..	118	78	196	55·88
1928 ..	139	65	204	59·13

It will be seen that the death rate of women in childbirth fluctuates considerably, and, in 1928, reached a higher rate than had occurred in the last twenty-three years. Portion of this fluctuation may be ascribed to faulty certifications. The deaths of mothers per 10,000 children born alive were 59·1 in 1928, as compared with 55·9 in 1927, 54·9 in 1926, 40·3 in 1921-25, 42·0 in 1916-20, 43·5 in 1911-15, 47·2 in 1906-10, and 60·9 in 1901-05.

In 1928 there were 65 deaths of married and unmarried mothers from puerperal septicæmia, which corresponded to a death rate of 18·8 per 10,000 births, as against 22·2 in 1927, 18·1 in 1926, 10·9 in 1925, 15·5 in 1924, 8·1 in 1923, 8·5 in 1922, 16·3 in 1921, 17·1 in 1920, 12·3 in 1919, 13·6 in 1918, 16·0 in 1908-12, and 18·1 in 1901-07.

With a view to ascertaining the effect of the passing of the Commonwealth Maternity Allowance Act 1912 on the number of mothers who availed themselves of medical attention in confinement, the birth registration records for the years 1911, 1918, 1924, and 1926 have been examined, and the proportions so attended have been ascertained for the metropolitan area, the rest of the State, and the whole State.

Medical
Attendance at
Confinement.

MEDICAL ATTENDANCE AT CONFINEMENTS,
PROPORTION OF TOTAL CONFINEMENTS, 1911, 1918,
1924, AND 1926.

Year.				Metropolitan Area.	Rest of the State.	Total State.
				per cent.	per cent.	per cent.
1911	..	..	..	73	65	68
1918	..	..	..	81	77	79
1924	..	..	..	87	90	89
1926	..	..	..	89	91	90

NOTE.—Stillbirths and abortions have not been taken into consideration.

The above figures give evidence of the beneficial effects of the Act, especially in the country areas, where the proportion of births medically attended has risen from 65 per cent. in 1911 to 91 per cent. in 1926. It will be observed that, in 1924 and 1926, the proportion for the Rest of the State exceeded that for the Metropolitan area.

In the four years mentioned there were 11, 12, 9, and 6 births respectively registered where no one was shown as being in attendance at birth, but, in the majority of these cases, the children were foundlings.

During the year 1928, the deaths of 454 men and 612 women were ascribed to senile decay, as compared with 488 men and 649 women in 1927. Prior to 1927, deaths from ill-defined causes, i.e., heart failure, debility, etc., of those persons over 65 years of age, were shown as being due to senile decay. In 1927, however, in accordance with the rule laid down in the International List of Causes of Death, only deaths of persons over 70 years of age from such causes

Senile decay.

were included therein. The deaths at ages 70 and over from all causes during the year numbered 5,227—2,546 of men and 2,681 of women, or nearly 30 per cent. of the total deaths.

Death rates from accidental violence have been lower in late years than in earlier periods, a result that is chiefly due to the lighter mortality rate from accidental drowning, the smaller proportion of the population engaged in country occupations, which are generally of a more hazardous nature than those in towns, and the increasing proportion of females in the community. In 1928, 649 male and 203 female deaths were attributed to accidents and negligence, which represented a rate of 486 per million of the population. This proportion was slightly above the average rate—482—for the previous five years, and 40 per cent. below the rate—811—for 1890-92. The numbers of deaths from various accidents in 1927 and 1928 are given in the appended table:—

DEATHS FROM ACCIDENTAL VIOLENCE, 1927 AND 1928.

Nature or Place of Accident.	1927.			1928.		
	Males.	Females.	Total.	Males.	Females.	Total.
Poisoning by Food	2	2	4	3	..	3
Snake Bite	1	..	1	1	1	2
Other Venomous Bites and Stings .. ..	..	..	..	1	..	1
Other Acute Poisonings	10	6	16	10	6	16
Conflagration (Bush fires, &c.)	5	3	8	3	..	3
Burns, Scalds, &c.	26	32	58	32	25	57
Absorption of Poisonous Gases	5	7	12	9	3	12
Accidental Mechanical Suffocation	8	2	10	5	6	11
Drowning	116	21	137	107	18	125
Firearms	17	2	19	22	1	23
Falls	60	11	71	50	10	60
In Mines and Quarries	15	..	15	3	..	3
Machines	9	..	9	14	..	14
Vehicular Accidents	255	46	301	291	91	382
Other Crushings	28	2	30	17	..	17
Injuries by Animals	2	2	4	6	1	7
Effects of Heat	11	4	15	5	..	5
Excessive Cold .. ..	..	..	..	1	..	1
Electricity	7	..	7	3	1	4
Lightning	3	..	3	..	..	..
Fractures, Unspecified	35	30	65	25	29	54
Other Violence	47	10	57	41	11	52
Total	662	180	842	649	203	852

On the average of the last three years the female mortality rate from accidents was about 29 per cent. of the rate for males.

Vehicular Accidents. In 1928, deaths from vehicular accidents numbered 382, as against 301 in 1927, 309 in 1926, 299 in 1925, 245 in 1924, 201 in 1923, 163 in 1922, 178 in 1921, and 153 in 1920. Motor vehicles were involved in 297 deaths in 1928, as against 214 in 1927, 193 in 1926, 174 in 1925, 135 in 1924, 103 in 1923, 65 in 1922, 38 in 1921, and 43 in 1920.

In the following table details are given of deaths due to collisions between various types of conveyances, pedestrians killed, and other fatal accidents in which vehicles were concerned, for the year 1928 :—

DEATHS FROM VEHICULAR ACCIDENTS, IN VICTORIA, 1928.

	Collisions between—						Total.	Pedestrians killed.	Fall from vehicles and other accidents.	Total.	Males.	Females.
	Railway train.	Motor omnibus, car, lorry.	Motor cycle.	Horse drawn vehicle.	Bicycle.	Aeroplane.						
Railway train ..	16	..	..	..	..	16	32*	9	57	39	18
Tramcar ..	1	3	..	..	..	4	9	1	14	10	4
Motor omnibus ..	..	..	..	..	..	..	2	1	3	1	2
" car ..	18	23	8	6	..	55	92	48	195	146	49	
" lorry, &c. ..	..	3	..	1	..	4	23	10	37	29	8
" cycle ..	..	4	4	2	..	10	10	22	42	37	5
Vehicle drawn by horse ..	..	..	..	1	1	2	4	20	26	21	5
Bicycle ..	..	..	..	..	..	..	3	5	8	8	..
Aeroplane ..	..	..	..	..	..	..	..	..	..	..	..
Other or undefined ..	..	..	..	..	..	..	..	..	..	..	..
Total ..	35	33	13	10	..	91	175	116	382	291	91	

* Including 6 railway employees.

Accidental deaths involving motor vehicles. The number of motor vehicles (including motor cycles) registered in Victoria and the deaths in which they were involved, for the years 1922 to 1928, were as follows :—

DEATHS INVOLVING MOTOR VEHICLES, 1922 TO 1928.

Year.	Number of Motor Vehicles.	Deaths Involving Motor Vehicles.	Deaths per 10,000 Motor Vehicles.	Deaths per 1,000,000 of Population.
1922	39,638	65	16.4	41
1923	54,637	103	18.9	64
1924	69,809	135	19.3	82
1925	89,403	174	19.5	104
1926	103,551	193	18.6	114
1927	134,135	214	16.0	124
1928	150,343	297	19.8	170

It will be observed that, while registrations of motor vehicles increased nearly fourfold, the mortality per 10,000 motor vehicles fluctuated only slightly during the years mentioned. The mortality per million of the population increased from 41 in 1922 to 170 in 1928.

In 1928, motor cars, &c., were involved in two deaths per 100 cars registered, and motor cycles in three deaths per 100 cycles registered.

Fatal accidents among males at different ages. The mortality rate from accidents is only one-half as great among males aged 15 to 45 as among men over age 45. The deaths per 10,000 males at certain ages from drowning and other accidents, for the period 1920-22, were as follows:—

DEATH RATES FROM ACCIDENTS—MALES, 1920-22.

	Accidental Deaths per 10,000 Males Aged—							
	15-20.	20-25.	25-35.	35-45.	45-55.	55-65.	65 and over.	15 and upwards.
Drowning ..	1.92	1.13	1.06	1.11	1.46	1.91	2.43	1.44
Other Accidents ..	3.43	4.34	4.91	5.6	6.05	8.24	14.38	5.91
Total Accidents ..	5.35	5.47	5.97	6.37	7.51	10.15	16.81	7.35

For men aged 20 to 35 the death rate from accidental violence is about one-third of that for men over age 65 and slightly greater than one-half of the rate for those aged 55 to 65.

Suicide. In the year 1928, 152 males and 51 females took their own lives. The deaths represented a rate of 116 per million of the population, as compared with rates of 108 in 1927, 93 in 1926, 107 in 1925, 72 in 1924, 78 in 1923, 81 in 1922, 99 in 1921, 95 in 1920, 89 in 1919, 72 in 1918, 102 in 1908-12, and 109 in 1890-92. A much

lower rate from suicide obtains among females than males, the rate for the former being 27·4 per cent. of that for the latter on the average of the last five years.

Homicide. The deaths ascribed to homicide in 1928 numbered 32, of which 10 were of males and 22 of females. These represented a rate of 18 per million of the population, as against rates of 18 in 1927, 20 in 1926, 13 in 1925, 11 in 1924, 13 in 1923, 15 in 1922, 14 in 1921, 12 in 1920, 18 in 1919, 13 in 1918, and 19 in 1908-12.

NATURAL INCREASE.

The average annual natural increase, *i.e.*, the excess of births over deaths, per 1,000 of the population, in the various Australian States, the Commonwealth of Australia, and New Zealand, for different periods since 1909, as well as detailed particulars for Victoria since 1879, are shown in the following tables :—

NATURAL INCREASE PER 1,000 OF THE POPULATION.

AUSTRALASIA.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1910-14	13·85	18·38	18·51	17·68	18·61	19·35	17·03	16·80
1915-19	11·75	15·98	17·06	14·84	15·47	17·83	14·99	16·80
1920-24	12·49	15·80	16·03	13·72	14·04	16·71	14·62	14·19
1925 ..	12·02	14·85	14·96	11·91	13·23	14·89	13·69	12·88
1926 ..	11·21	13·34	13·19	11·82	13·21	14·57	12·60	12·31
1927 ..	10·59	13·10	13·18	11·14	13·22	13·33	12·22	11·84
1928 ..	9·59	13·26	12·99	10·84	12·68	12·07	11·88	11·07

VICTORIA.

Period.	Excess of Births over Deaths.	Annual Rates per 1,000 of Population.			Period.	Excess of Births over Deaths.	Annual Rates per 1,000 of Population.		
		Births.	Deaths.	Natural Increase.			Births.	Deaths.	Natural Increase.
1880-84	14,466	30·64	14·40	16·24	1915-19	16,818	23·13	11·38	11·75
1885-89	16,741	32·27	15·87	16·40	1920-24	19,647	22·89	10·40	12·49
1890-94	20,059	31·99	14·62	17·37	1925 ..	20,086	21·49	9·47	12·02
1895-99	15,625	26·76	13·81	12·95	1926 ..	19,027	20·84	9·63	11·21
1900-04	14,859	25·08	12·78	12·30	1927 ..	18,301	20·30	9·71	10·59
1905-09	16,062	24·76	11·93	12·83	1928 ..	16,790	19·70	10·11	9·59
1910-14	18,795	25·42	11·57	13·85					

The mean increase in the Australian States for the period 1924-28 was 12·83 per 1,000 of population, which is probably greater than will prevail when the age constitution of the people becomes similar to that of old settled countries. At present the proportion of elderly people is smaller than in those countries, and, partly as a consequence of this, the death rate is lower. The Victorian death rates are below those of England and Wales at nearly all periods of life. The Australian annual rate of increase due to excess of births over deaths for 1924-28—12·83—would enable a population to double itself in 54 years, while, at the Victorian rate of 11·07 per 1,000 of population, a period of 63 years would be required. In England and Wales in 1928 the excess of births over deaths was 5·0 per 1,000 of population.
