VITAL STATISTICS.

Law as to marriages in Victoria.

Marriages in Victoria can only be celebrated by a minister of religion whose name is registered in the office of the Government Statist, or by the Government Statist, or the Assistant Government Statist, or a duly appointed registrar of marriages. It is essential that every marriage be preceded by the parties making a declaration as to age and the absence of any legal impediment, and by three days' notice, except in cases of emergency, also that two witnesses of full age be present at the ceremony; but there is no residential qualification. To be married by a minister, one of the parties must give him at least three clear days' written notice, or—in cases of emergency—a written permission obtained from any Justice, dispensing with such notice; and the marriage may then be solemnized according to the rites of the religious denomination to which the minister belongs. To be married by a Registrar of Marriages, the parties to the marriage must give written notice, which has to be posted in, and a copy thereof at the outer door of, his office at least three clear days before the marriage. This can only take place in his office, with open doors, and between the hours of 8 a.m. and 4 p.m. No fee is payable for the celebration of a marriage before a registrar. In the event of a minor (not being a widower or widow) wishing to marry, there must be obtained the written consent of the father or a guardian appointed by him; or, in the case of his absence, death, desertion, judicial separation, or divorce, of the mother, if the minor is under her care; and, in other cases, of a police magistrate, or a guardian of minors appointed by the Chief Justice. If the minor is a ward of the Neglected Children's or Reformatory Schools' Department, the Departmental Secretary's consent is the authority. In order to guard against the celebration of marriages by undesirable persons, the present law provides that no person shall be registered as a minister of religion unless he ordinarily officiates as such in one of the recognised religious denominations, is nominated by the recognised head of the denomination in Victoria, or, if there be no such head, then by

at least two registered ministers; and unless he satisfies the Government Statist that he is a fit and proper person to celebrate marriages. The Governor in Council may prohibit from celebrating marriages any minister who is proved guilty of any offence, misconduct, or impropriety unworthy of his calling, or who makes a business of celebrating marriages for the purpose of profit or gain, irrespective of carrying out the ordinary duties of a minister; and the Government Statist may, at the request of the head of a denomination, cancel the registration of any minister of that denomination who ceases to officiate or otherwise loses his qualifications. Any clergyman or person officiating as such who celebrates a marriage without being duly registered, or any person who obtains registration by untruly representing himself as an officiating minister, or who personates a registrar, shall be guilty of a misdemeanour, punishable by a penalty not exceeding £500, or by imprisonment not exceeding five years, or by both; but, if the offence were accidental, he is subject to a maximum penalty of £20 on summary conviction. No marriage shall be invalid by reason of its having been celebrated by an unqualified person if either of the parties shall have believed at the time that such person was qualified, or by reason of any formal defect or irregularity. Marriage with a deceased wife's sister was legalized in Victoria in 1873; but there is no provision to validate the marriage of a woman with a deceased husband's brother.

Marriages of Jews and Quakers are exempted from the foregoing provisions, and are deemed legal and valid if celebrated according to their respective usages.

Registration. 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 (so far as regards their registration duties) over the officiating clergymen and registrars of marriages. Copies of entries certified by him or by the Assistant Government Statist are *primâ 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. The indexes in use since the introduction of civil registration in 1853 contained up to the end of 1915 over 3,470,000 names, of which 1,779,000

related to births, 834,000 to deaths, and 857,000 to marriages. The indexes are at present growing at the rate of 77,000 names per annum. For the registration of births and deaths the State is divided into about 520 registration districts, for each of which a registrar is appointed, who (if not a public servant) is paid by fees at the rate of 2s. 6d. per entry, but is not prevented from following his or her own private business; whilst the marriages are recorded by the clergyman or registrar of marriages who performs the ceremony. Registrations of marriages are made in triplicate, and of births and deaths in duplicate—each copy bearing the original signatures of the parties married and witnesses (in case of a marriage), or of the informant (in case of a birth or death), and of the minister or registrar. One copy is retained by the registrar or minister; one is forwarded to the Government Statist—to be kept as a permanent record; and the third (in case of marriage only) is given to one of the parties married. Births must be registered within 60 days by the father or mother or the occupier of the house where the birth occurred, or by some person authorized by one of these. A person who fails in his duty to register within 60 days is liable to a penalty of £10, although he still may register within twelve months on payment of a fee of 5s. To insure registration of all births, parents and the occupiers of houses where births occur are required to, and doctors and nurses may, and are expected to, report cases to the registrars. After twelve months, registration can only be effected after proper legal authority has been obtained, and on payment of a fee of 10s. Deaths must, under a penalty of £10, be notified within seven days to the local registrar by the occupier of the house where the death occurred, or the doctor or nurse, and must be registered within twenty-one days by some person present at death or in attendance during the last illness, or in default of such persons by the occupier of the house where the death occurred, or by some person authorized by one of these. An exception is made in regard to sudden deaths, and deaths of boarded-out children under the age of five years, which should be at once reported to the Coroner, and can only be registered by him or on his authority. This exception does not apply to wards of the State or infants retained by or received into any approved public charitable institution. In addition to ordinary registration, every birth, or death under the age of five, of an illegitimate child must be notified in writing by the occupier of the house where the event occurred within three days to the local registrar, if in any city, town, or borough, or within seven days if elsewhere. If, however, the mother is the occupier, the period for notification is extended to three weeks. Offenders against this provision are liable to imprisonment

for six months, or to a penalty of £25. Illegitimate children may be legitimized at any time after the marriage of the parents on the application of the father to the Government Statist or to any Registrar of Births and Deaths, and on the payment of fees varying from 10s. to 20s.—provided that there was at the time of the birth no impediment to the marriage. 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, or 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 that for a certificate 7s. 6d. (except where the case appears in the records of the current quarter, when 5s. only is charged). For a search in the early church records, prior to 1st July, 1853, the fee is only 1s., or 2s. if a certificate is required.

MARRIAGES.

Marriages. Marriages in Victoria in 1915 numbered 12,832, which was 1,002 above the total for the preceding year, and 2,068 above the average of the period 1909–13. The figures for each of the last twenty years are as follows:—

MARRIAGES IN EACH YEAR, 1896 TO 1915.

Year.	No. of Marriages.	Year.	No. of Marriages.
1896 ..	7,625	1906 ..	8,930
1897 ..	7,568	1907 ..	9,575
1898 ..	7,620	1908 ..	9,334
1899 ..	8,140	1909 ..	9,431
1900 ..	8,308	1910 ..	10,240
1901 ..	8,406	1911 ..	11,088
1902 ..	8,477	1912 ..	11,738
1903 ..	7,605	1913 ..	11,324
1904 ..	8,210	1914 ..	11,830
1905 ..	8,774	1915 ..	12,832

During the past decade the number of marriages increased by 46 per cent. The substantial nature of the improvement, especially in recent years, is indicated by the fact that after allowing for the increase in population 14,110 more persons were married in the past five years than in the period 1906–10. As the tendency to marry is necessarily influenced by the view taken of

present and future prospects, the relatively large number of marriages in the past five years is an indication of the general prosperity of that period. The increase in 1915 was probably due, to some extent, to a large number of soldiers having married shortly before leaving Victoria to take part in the war.

Marriage rates.

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, as it affords a ready and approximate comparison between years not widely separated, the figures relating to Victoria are shown in the following table for the last ten years :—

MARRIAGE RATES, 1906 TO 1915.

Year.	Marriage Rate.	Year.	Marriage Rate.
1906 ..	7·21	1911 ..	8·40
1907 ..	7·64	1912 ..	8·65
1908 ..	7·37	1913 ..	8·13
1909 ..	7·36	1914 ..	8·31
1910 ..	7·83	1915 ..	9·00

The marriage rate for 1915 was the highest recorded since 1860.

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 1911, are given in the following table :—

MARRIAGES PER 1,000 OF POPULATION AND OF SINGLE MEN AND WOMEN, 1857 TO 1911.

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 ..	1,309,950	132,642	158,556	10,984	8·39	82·81	69·28

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.

The marriage rate for men in the last census year was the highest ever recorded, and the marriages in proportion to population were more numerous than in the preceding four census years. An examination of the figures for the seven census periods shows that the crude marriage rate is materially affected by the proportion of marriageable persons in the community. This is evidenced by the fact that 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 12·1 in 1911, whilst that of single men aged 21 to 55 fell from 23 to 10 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 the chances of a woman marrying are now very much smaller than at any earlier period, except 1901, the proportion entering wedlock each year having fallen from about 1 in 4 in 1857, and nearly 1 in 5 in 1861, to 1 in 16 in 1901, and 1 in 15 in 1911.

Marriage rate in age groups.

The marriage rates amongst 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:—

PROPORTION OF MARRIAGES PER 1,000 MARRIAGEABLE MEN AND WOMEN AT EACH AGE.

Age Group.	Men.				Women.			
	1881.	1891.	1901.	1911.	1881.	1891.	1901	1911.
15—21 ..	..	..	..	..	24·6	23·6	18·8	23·3
21—25* ..	57·8	44·3	44·6	55·2	118·8	106·0	87·2	105·6
25—30 ..	114·2	85·9	90·5	118·6	105·7	100·5	84·7	112·1
30—35 ..	82·9	75·2	82·1	101·1	73·1	66·4	57·9	66·0
35—40 ..	56·4	51·1	62·6	72·9	53·8	46·4	37·2	43·0
40—45 ..	30·5	33·4	39·9	44·7	32·5	27·7	22·3	20·7
45—50 ..	21·8	25·9	29·8	34·9	22·1	17·8	14·3	15·5
50 and upwards	10·5	9·1	9·1	12·1	4·9	4·2	2·4	2·6

* In the case of men 20–25.

In 1911 the proportion of marriages to marriageable men at each age (except 20–25) was the highest experienced, and the marriages to marriageable women were more numerous at every age except 40–45 than in the preceding census year. The men aged 25–30, 30–35, and 35–40 who entered into wedlock during the year under review represented 119, 101, and 73 per 1,000 respectively of the marriageable males at these ages, as against 90, 82, and 63 in 1901. The numbers of women aged 21–25, 25–30, and 30–35 who contracted marriage in 1911 were equal to 105, 112, and 66 per 1,000 respectively of the single and widowed women, as compared with 87, 85, and 58 for the corresponding ages in 1901. It thus appears that the chances of women aged 21–25 and 25–30 marrying within a year increased by 21 and 32 per cent. in Victoria during the last intercensal period. It will be noted that in 1911 the highest marriage rate among women obtained at the age period 25–30, whilst in each of the three earlier census years the maximum rate occurred between the ages 21 and 25.

Marriage rates of bachelors, widowers, spinsters, and widows.

The probabilities of bachelors and spinsters marrying and of widowers and widows re-marrying were obtained by comparing their marriages at specified ages with the respective numbers in the community at these ages at the last census. The marriages per 1,000 of the above-mentioned persons are given in the following table for the year 1911 :—

MARRIAGES, PER 1,000, BACHELORS, WIDOWERS, SPINSTERS, AND WIDOWS, 1911.

Age Group.	Marriages to every 1,000—			
	Bachelors.	Widowers.	Spinsters.	Widows.
15—21	..	..	22·3	40·0
21—25*	55·3	64·5	105·3	145·6
25—30	118·8	120·1	111·1	147·6
30—35	99·6	151·2	63·8	80·8
35—40	69·0	113·2	38·9	60·5
40—45	38·1	94·4	16·5	30·7
45—50	27·0	66·8	12·6	17·2
50 and upwards	7·4	16·8	3·7	2·3

* 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 rate for widows

with that for spinsters it is seen that at every age under 50 the chance of a widow marrying is considerably greater than that of a spinster of the same age. As 76 per cent. of the widowers and 78 per cent. of the 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 follows that the rate for each of the two former sections is much lower than that for each of the latter. In proportion to their respective numbers, the marriages of widowers were only slightly more than half as numerous as those of bachelors, and those of widows were only about one-fifth those of spinsters.

Ages of bridegrooms and brides.

The ages of bridegrooms and brides who were married in 1915 are shown in combination for various groups in the following table:—

AGES OF BRIDEGROOMS AND BRIDES IN COMBINATION IN VICTORIA, 1915.

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	...	...	2	2	3	1	3	...	...	...	...	...	...	...	...	...	...	...	11
18	...	1	6	6	8	12	3	5	...	...	...	...	...	...	...	...	...	...	41
19	...	...	9	13	22	24	9	31	1	...	1	...	...	...	...	...	...	...	110
20	...	...	3	18	33	36	40	78	13	3	...	...	...	...	...	...	...	...	224
21 to 25	...	3	24	86	194	297	367	2,066	595	59	14	2	1	...	...	...	...	...	3,708
25 to 30	...	2	11	24	64	144	210	2,006	1,760	312	63	13	3	...	...	...	...	...	4,612
30 to 35	...	...	2	6	17	44	45	511	804	438	104	21	12	3	..	...	...	...	2,007
35 to 40	...	...	2	...	6	11	22	170	293	251	179	45	16	3	..	...	...	...	998
40 to 45	...	...	...	1	3	3	4	45	97	110	79	68	28	6	1	..	...	...	445
45 to 50	...	...	...	1	1	1	2	16	38	48	84	61	38	21	2	...	1	...	314
50 to 55	1	...	...	...	...	...	1	2	14	21	29	42	33	19	6	1	1	...	170
55 to 60	..	...	...	...	...	1	...	...	2	11	19	16	19	11	10	1	...	...	90
60 to 65	...	...	...	...	...	...	...	1	1	3	6	10	9	9	6	2	...	1	48
65 to 70	...	...	...	..	...	...	...	...	...	...	2	5	3	4	6	3	3	2	28
70 to 75	...	...	...	...	...	...	...	...	...	1	1	3	5	2	1	.	1	...	14
75 and over	...	...	...	..	..	...	...	...	...	...	1	..	3	1	1	2	3	...	11
Total Brides	1	6	59	157	352	574	706	4,931	3,618	1,257	582	286	170	79	33	9	9	3	12,832

The ages of bridegrooms ranged from 16 to 86 years, and those of brides from 14 to 74. Although age inequalities among contracting parties were relatively few, they were striking in degree. Thus a man between

50 and 55 married a girl of 14, while twelve women between 45 and 50 were married to men who were their juniors by 15 years. The great majority of the parties were, however, of suitable ages. Of every 1,000 men married during the year, 681 were older and 203 younger than their brides, and 116 were of the same age as their partners.

Proportion of marriages at various ages.

The proportions of both sexes marrying in the various age groups are shown in the following table for the averages of the periods 1881–90 and 1901–10, also for the year 1915:—

PROPORTION OF MALES AND FEMALES MARRYING AT DIFFERENT AGES, 1881–90, 1901–10, AND 1915.

Age Group.	Proportion per 1,000 of total					
	Bridegrooms.			Brides.		
	1881–90.	1901–10.	1915.	1881–90.	1901–10.	1915.
Under 15	...	...	...	·15	·14	·08
15 to 16	...	...	...	1·17	1·12	·47
16 to 17	·03	·09	·08	6·53	5·16	4·60
17 to 18	·29	·34	·86	20·32	15·58	12·23
18 to 19	1·46	2·09	3·20	42·94	33·31	27·43
19 to 20	5·62	7·02	8·57	65·03	48·67	44·73
20 to 21	15·19	13·67	17·46	73·84	59·41	55·02
21 to 25	321·02	258·64	288·97	432·34	380·91	384·27
25 to 30	365·48	357·07	359·41	223·83	267·78	281·95
30 to 35	134·57	177·13	156·40	62·07	98·54	97·96
35 to 40	58·29	84·06	77·77	29·53	44·37	45·35
40 to 45	32·54	40·87	34·68	17·10	21·19	22·29
45 to 50	24·77	24·05	24·47	12·23	11·00	13·25
50 to 55	18·40	13·33	13·25	6·74	6·29	6·16
55 to 60	11·49	8·05	7·01	3·40	3·13	2·57
60 and over	10·85	13·59	7·87	2·78	3·40	1·64
Total	1,000·00	1,000·00	1,000·00	1,000·00	1,000·00	1,000·00

The age constitution of brides shows a very marked alteration in recent periods. Of every 1,000 women who were married during 1915 529 were under 25 years, and 282 were aged 25–30, as against 642 and 224 at corresponding ages in 1881–1890. As fertility is considerably less at older than at younger ages, it is evident that, owing to the altered age distribution of wives, the potential births to every 1,000 marriages in the year under review are fewer than to marriages contracted during 1881–1890.

Age at marriage.

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 1915 the mean age at marriage of bachelors, 28·28, with that of divorced men and of widowers—39·56 and 45·75 respectively. The average age of spinsters marrying was 25·58, as against 34·23 for divorced women and 40·60 for widows. Although the ratio of re-marriages has declined, the average age of men marrying women under 45 and of their brides is greater than in the period 1890–4. The average age at marriage for certain periods since 1870 is shown in the following table :—

MEAN AGES AT MARRIAGE.

Period.	Average Age of—	
	Brides under 45.	Bridegrooms of Brides under 45.
	Years.	Years.
1870–4	24·13	29·93
1880–4	23·83	28·61
1890–4	24·66	28·66
1900–4	25·44	29·70
1905	25·77	29·76
1906	25·97	29·90
1907	25·82	29·78
1908	25·85	29·77
1909	25·99	29·78
1910	25·88	29·58
1911	25·81	29·46
1912	25·75	29·17
1913	25·66	29·01
1914	25·71	29·01
1915	25·68	28·75

The mean age of women under 45 who married in 1915 was slightly below the average of the previous five years, but it was greater by about two years than that of women who married thirty years ago. For Victoria in 1915 the mean marrying age of all brides was 26·28, as compared with 26·80 in England and Wales and 26·69 in New Zealand. The mean ages of all bridegrooms in the same countries were 29·30, 29·11, and 30·09 years respectively.

Marriage rates in Australian States and New Zealand.

The marriages in Australia for 1915 numbered 45,264, as against 43,276 in the previous year, 41,605 in 1913, 42,145 in 1912, and 39,473 in 1911. Of the total, 12,832 took place in Victoria, 18,129 in New South Wales, 6,141 in Queensland, 3,965 in South Australia, 2,581 in Western Australia, 1,600 in Tasmania, 12 in the Northern Territory, and 4 in the Federal Capital Territory. In the following table are shown the marriage rates per 1,000 of the population in the Australian

States and New Zealand for the period 1902–6 and for each of the last nine years :—

MARRIAGE RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania	Australia.	New Zealand.
1902–6	6·92	7·33	6·15	6·73	9·02	7·58	7·11	8·26
1907 ..	7·64	7·84	7·58	7·94	8·02	7·91	7·78	8·91
1908 ..	7·37	7·97	7·22	7·84	7·50	7·74	7·64	8·82
1909 ..	7·36	8·21	7·96	8·30	7·54	8·13	7·86	8·33
1910 ..	7·83	8·81	8·05	9·21	7·75	7·98	8·37	8·30
1911 ..	8·40	9·18	8·41	9·82	8·45	7·77	8·78	8·67
1912 ..	8·65	9·58	8·91	9·62	8·37	7·86	9·07	8·85
1913 ..	8·13	9·01	8·68	9·44	8·19	8·27	8·67	8·25
1914 ..	8·31	9·37	8·73	9·11	8·22	7·62	8·80	8·51
1915 ..	9·00	9·70	8·94	9·01	8·01	8·03	9·14	9·12
Average 1911–15	8·50	9·37	8·73	9·40	8·25	7·91	8·89	8·68

All the States, except South Australia and Western Australia, had higher marriage rates in 1915 than in the preceding year.

Marriage rates in various countries.

The average marriage rate in Australia—8·89—for the period 1911–15 was higher than in seventeen of the twenty-one countries shown in the following table for the latest five years for which this information is available :—

MARRIAGES PER 1,000 OF THE POPULATION IN VARIOUS COUNTRIES.

Country.	Marriage Rate.	Country.	Marriage Rate
Ontario	10·2	Italy	7·5
Bulgaria	9·3	Austria	7·5
Roumania	9·2	Switzerland	7·3
Hungary	8·9	The Netherlands ...	7·3
Japan	8·8	Denmark	7·2
Servia	8·7	Spain	7·0
Russia	8·4	Scotland	6·9
England and Wales ...	8·2	Norway	6·3
Belgium	7·9	Sweden	5·9
France	7·8	Ireland	5·2
Germany	7·8		

Marriages to marriageable males in Australasia.

For reasons already given, a better and more reliable index of the frequency of marriage in the different States is a comparison of the marriages with the number of marriageable males, aged 21 and upwards. This is shown in

the following statement for the period 1900–2 and for the year 1911 :—

MARRIAGES PER 1,000 MARRIAGEABLE MALES IN AUSTRALASIA.

—	1900–2.	1911.	Increase per cent. in 1911.
Victoria	56·0	67·3	20·2
New South Wales... ...	58·3	68·0	16·6
Queensland	41·6	54·9	32·0
South Australia	56·8	81·3	43·1
Western Australia ..	41·9	45·8	9·3
Tasmania	65·7	69·3	5·5
Australia	55·7	64·7	16·0
New Zealand	55·1	58·8	6·7

In each State the proportion of marriageable men who married during the year 1911 was greater than that for the period 1900–2, the excess amounting to 43 per cent. in South Australia, 32 in Queensland, 20 in Victoria, nearly 17 in New South Wales, 9 in Western Australia, and 5½ 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 1911 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, 853 · New South Wales, 1,116 ; Queensland, 1,449 ; South Australia, 946 ; Western Australia, 2,265 ; Tasmania, 950 ; and Australia, 1,096.

Marriage rates in districts.

The following table gives the numbers and rates per 1,000 of the population of brides and of bridegrooms—whose usual place of residence (if in Victoria) was in Melbourne and suburbs, other urban districts, or rural districts respectively, or was outside the State—during the year 1915 :—

USUAL RESIDENCE OF BRIDES AND BRIDEGROOMS, 1915.

Usual Residence of Bridegrooms.	Usual Residence of Brides.				Total Bridegrooms.	Proportion of Bridegrooms per 1,000 of Population.
	Metropolitan.	Other Urban.	Rural.	Outside Victoria.		
In Victoria—						
Metropolitan Districts	6,281	231	373	71	6,956	10·2
Other Urban Districts	164	1,153	216	11	1,544	7·1
Rural Districts	734	299	2,703	42	3,778	7·1
Outside Victoria ..	249	42	129	134	554	..
Total Brides	7,428	1,725	3,421	258	12,832	..
Proportion of Brides per 1,000 of Population ..	10·9	8·0	6·5	..	..	..

Of the 420 men residing outside the State who married Victorian women, 214 were residents of New South Wales, 38 of Queensland, 49 of South Australia, 19 of Western Australia, 42 of Tasmania, 18 of New Zealand, 17 of the United Kingdom, 4 of India, 2 of South Africa, 2 of the United States, and 6 of other countries, while 9 were seafaring men.

Marriages to marriageable persons in metropolis and country.

The extent to which the high crude marriage rates in Greater Melbourne, as compared with the country, are due to variations in age, sex, and conjugal condition may be ascertained by an examination of the results of the last census. The first striking fact disclosed is 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, whilst in the remainder of the State the men are in excess. In Greater Melbourne there were 55,347 unmarried men aged 21 to 55, as compared with 84,238 unmarried women aged 18 to 50. In the rest of the State the eligible men and women at the corresponding ages numbered 79,925 and 74,318 respectively. It is thus seen that, while there was a surplus of 28,891 marriageable females in the metropolis, there was a deficiency of 5,607 in the country. To obtain definite information regarding the frequency of marriage, the residents of these areas who entered into wedlock were compared with the marriageable population of each sex, and the resulting proportions for the average of the period 1910–12 are shown in the following statement:—

YEARLY MARRIAGES PER 1,000 MARRIAGEABLE PERSONS IN GREATER MELBOURNE AND THE REST OF THE STATE, 1910–12.

District.	Men.	Women.
Melbourne and Suburbs	95·8	66·6
Rest of the State	66·4	68·9

The results show that the chance of marrying within a year is slightly less for a woman residing in Greater Melbourne than for one living outside that area. On the other hand, the chance of a man marrying is 44 per cent. greater for a metropolitan than for a country resident.

Marrying age according to occupation.

In order to obtain information regarding the influence of occupation upon the marrying age of men, the following table has been constructed. This has been based upon 42,764

marriages for the period 1907–11, in connexion with which the records gave definite occupations :—

AGE AT MARRIAGE ACCORDING TO OCCUPATION.

Occupation.	Number Married.	Average Age at Marriage.	Percentage Marrying at Age Group.			
			Under 25.	25 to 35.	35 to 45.	45 and over.
Hairdresser, Tobacconist	334	27·65	42·81	45·52	9·28	2·39
Ironworker, Foundry Employé, &c.	824	27·78	42·72	45·76	7·76	3·76
Carter, Driver, Carrier ...	2,139	28·04	43·43	42·92	9·54	4·11
Blacksmith	876	28·37	38·47	47·26	10·50	3·77
Salesman, Storeman ...	1,147	28·86	30·34	56·06	10·81	2·79
Baker, Grocer, Butcher, Fruiterer	2,680	29·01	33·62	51·23	10·78	4·37
Jockey, Trainer ...	181	29·12	35·91	46·41	14·36	3·32
Labourer	7,172	29·28	35·11	46·79	12·90	5·20
Bootmaker	754	29·34	39·39	43·90	9·15	7·56
Coachbuilder	342	29·37	30·99	49·42	15·79	3·80
Miner	2,269	29·57	35·17	45·53	13·84	5·46
Carpenter, Bricklayer, Mason, &c.	2,772	29·64	35·82	44·16	13·31	6·71
Mechanical Engineer, Fitter, Engine-driver ...	1,739	29·79	28·23	54·46	11·79	5·52
Printer, Stationer, Newsagent	695	29·89	30·06	49·68	15·53	4·73
Railway, Tramway Employé	1,331	29·86	27·88	53·12	14·34	4·66
Constable, Warder, Soldier	410	29·82	26·10	54·39	14·39	5·12
Tailor	754	29·94	28·91	52·79	11·67	6·63
Clerk	2,290	30·24	23·05	57·86	14·50	4·59
Cook, Steward, Waiter ...	352	30·26	30·68	48·86	12·79	7·67
School Teacher ...	339	31·67	15·04	63·72	12·68	8·56
Market Gardener ...	473	31·83	20·51	53·91	16·28	9·30
Civil Servant	539	32·11	24·30	43·97	23·19	8·54
Farmer, Dairy-farmer, Grazier, &c.	8,370	32·25	15·90	55·77	20·83	7·50
Commercial Traveller, Agent	1,316	32·32	14·74	57·68	18·69	8·89
Sailor, Mariner ...	395	32·50	24·30	48·86	17·22	9·62
Professional	1,207	32·69	13·67	58·99	17·56	9·78
Builder, Contractor ...	630	33·08	19·20	48·41	20·17	12·22
Brewer, Cordial-maker, Hotel-keeper ...	434	33·10	18·89	47·24	21·43	12·44

An inspection of the table shows that wage-earners marry at an earlier age than persons working on their own account and employers of labour. It should be remembered, however, that the average age of the persons in the community who belong to the two last mentioned classes is higher than that of the wage-earners. It is further shown that some wage-earners, such as ironworkers, foundry employés, &c., carters, drivers, carriers, &c., and labourers, who generally receive

the highest wage of their occupation in comparatively early manhood, marry at an earlier age than those whose highest wage is reached at a later age, of whom clerks, civil servants, school teachers, mechanical engineers, fitters, &c., and railway employés may be taken as examples. This is emphasized by comparing the proportion of labourers marrying under 25 years of age, which was equal to 35·11 per cent., with that of school teachers (15·04), civil servants (24·30), and clerks (23·05) per cent. The group comprising farmers, dairy-farmers, graziers, &c., shows a late marrying age, and has, with three exceptions (professional, commercial travellers, and school teachers), the lowest proportion marrying at the earliest age division. The average age at marriage of this class is greater than that of hairdressers and tobacconists by 4·60 years; of ironworkers and foundry employés by 4·47; of carters, drivers, and carriers, by 4·21; of blacksmiths by 3·88; of grocers, bakers, butchers, &c., by 3·24; of labourers by 2·97; of miners by 2·68; and of carpenters, bricklayers, masons, &c., by 2·61 years. The high marrying age of farmers, dairy-farmers, graziers, &c., accounts to some extent for the low marriage and birth rates in the rural division of the State.

Birthplaces of persons marrying.

Marriage records show that of the persons married in Victoria during 1915, 89·9 per cent. were born in Australia, 8·3 per cent. were born in the United Kingdom, and only small proportions, amounting to 1·2 per cent. of the bridegrooms and ·4 per cent. of the brides, were natives of foreign countries. The numbers born in Australia and other countries are shown in the following table for the years 1908 and 1915:—

BIRTHPLACES OF PERSONS MARRIED, 1908 AND 1915.

Where Born.	Bridegrooms.		Brides.	
	1908.	1915.	1908.	1915.
Australia	8,013	11,158	8,709	11,917
New Zealand	173	132	106	78
England and Wales ...	635	1,034	301	617
Scotland	154	185	68	96
Ireland	141	136	81	69
Other British Possessions ...	31	28	20	7
Germany	56	22	15	7
Russia	7	17	2	6
Italy	15	15	6	7
United States	24	23	6	7
Other Foreign Countries ...	85	82	20	21
Total	9,334	12,832	9,334	12,832

A striking feature of the figures is the relatively large increase in the number of English women and Scotch women entering into wedlock in Victoria. The numbers indicate that the migration of single women to this State is very frequently a preliminary step to marriage.

Marriages in quarters. Victorian experience shows that the Autumn quarter the most frequently selected season for marrying. In 1915, however, the greatest proportion took place in the Winter, when 29·68 per cent. of the total marriages were solemnized, as against 27·21 per cent. in the Spring, 23·35 per cent. in the Autumn, and 19·76 per cent. in the Summer.

Conjugal condition of persons marrying. The proportion of re-marriages has shown during the last forty-four years a continuous decline, owing to the decreasing ratio of persons who have become widowed at the younger and probable marrying ages, and also to the later marrying ages of bachelors and spinsters in recent as compared with earlier periods. The following statement shows the percentages of persons in each conjugal condition who married in the periods mentioned :—

CONJUGAL CONDITION OF PERSONS MARRYING, 1871-1915.

Conjugal Condition.	Percentage of total Marriages.				
	1871-80.	1881-90.	1891-1900.	1901-10.	1915.
Bachelors and Spinsters	80·59	85·84	87·22	88·46	91·79
Bachelors and Widows	7·10	4·72	4·23	3·66	2·83
Widowers and Spinsters	7·75	6·17	6·07	5·70	4·12
Widowers and Widows	4·56	3·27	2·48	2·18	1·26

Of every 1,000 persons of each sex married in Victoria during last year, 54 were widowers and 41 were widows, as against 94 and 80 respectively during the decade 1881-90.

Divorced persons re-marrying. The number of divorced persons re-married during 1915 was 207, which was slightly below the number for the preceding year. Of the 117,624 persons married during the last five years, divorced persons numbered 981, or 1 in every 120 persons, as compared with 1 in every 671 in England and Wales in 1913. The following are the numbers of divorced persons who have re-married in Victoria since 1910 :—

DIVORCED PERSONS RE-MARRYING, 1911 TO 1915.

Year.	Males.	Females.	Total.
1911	66	105	171
1912	91	120	211
1913	78	99	177
1914	91	124	215
1915	88	119	207

The divorced persons in the State at the last census numbered 1,240, of whom 575 were men and 665 women. A comparison of the re-marriages of divorced males and females during 1911 with these numbers shows that, according to the experience of that year, 11·5

per cent. of the males and 15·8 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 the view of early re-marriage.

Marriages of minors.

There has been a marked increase during the past eight years in the proportion of bridegrooms under 21 years of age. Of every 1,000 men married in 1915, 30 were minors, as against 24 in 1907—an increase of 25 per cent. in the intervening period. The ratio of brides under 21 decreased slightly between the years mentioned. The percentages for each Australian State in 1915 were as follows :—

	Percentage under 21 years of age.	
	Bridegrooms.	Brides.
Victoria	3·02 ..	14·46
New South Wales ..	3·77 ..	20·86
Queensland	3·65 ..	22·26
South Australia	4·06 ..	18·31
Western Australia ..	2·91 ..	19·64
Tasmania	3·31 ..	22·38
Australia	3·50 ..	18·99

In Victoria the proportions of bridegrooms and brides under 21 are below those for the Commonwealth.

Marriages in religious denominations.

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 1914 and 1915 are shown in the following table :—

MARRIAGES IN VARIOUS DENOMINATIONS.

Denomination.	1914.		1915.	
	Number.	Percentage of Total Marriages.	Number.	Percentage of Total Marriages.
Church of England	3,255	27·52	3,542	27·60
Roman Catholic Church	2,097	17·73	2,179	16·98
Presbyterian Church	2,069	17·49	2,316	18·05
Methodist Church	1,836	15·52	1,945	15·16
Congregational Church	1,041	8·80	1,169	9·11
Baptist Church...	490	4·14	550	4·29
Lutheran Church	63	·53	55	·43
Independent Presbyterian Church	154	1·30	148	1·15
Church of Christ	283	2·39	312	2·43
Salvation Army	64	·54	51	·40
Jews	44	·37	38	·30
Other Sects	122	1·03	135	1·05
Registrars of Marriages... ...	312	2·64	392	3·05
Total	11,830	100·00	12,832	100·00

Marriages by Anglican clergymen represented 27·60 per cent. of the total in 1915 as compared with 25·44 in 1911 and 21·18 in the period 1904–8. Excepting the ratios for the 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.

Civil marriages. In 1915, 3·0 per cent. and in 1914 and 1913, 2·6 per cent. of the total marriages in Victoria were celebrated by lay registrars, as against 2·3 per cent. in 1912, 2·6 per cent. in 1911, 1·6 per cent. in 1910, 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 of 200 per cent. shown by the rate for 1915 over that for 1909 was probably due to the provisions of 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 were making a business of celebrating marriages. The percentages of civil marriages in the Australian States, New Zealand, and the United Kingdom in the latest year for which the information is available were as follows :—

CIVIL MARRIAGES.

Country.	Year.	Civil Marriages—per cent. of total.
England and Wales	1914	24·1
New Zealand...	1915	18·6
Western Australia	1915	15·7
Scotland	1912	7·9
South Australia	1915	4·1
Queensland	1915	3·8
Victoria	1915	3·0
New South Wales	1915	2·8
Ireland	1914	2 2
Tasmania	1915	2·1

The proportion of civil marriages in Victoria is smaller than in South Australia and Queensland, and is less than one-fifth of the proportion in Western Australia, about one-sixth of that in New Zealand, and one-eighth of that in England and Wales.

Registered clergymen. The ministers qualified by registration to celebrate marriages in Victoria numbered 1,499 on 31st December, 1915. The numbers of these in each denomination (excepting

Jews and Quakers) and of the 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 ..	390	Australian Church ..	1
Roman Catholic ..	307	Ballarat Town Mission..	1
Presbyterian	275	Christian (Unattached)	1
Methodist	258	Free Christian ..	1
Congregational	69	New Church	1
Baptist	80	Unitarian	1
Church of Christ ..	48	Greek Orthodox Church	1
Lutheran	21		
Salvation Army.. ..	30	Total clergymen ..	1,499
Seventh Day Adventist ..	8	Lay Registrars of Marriages	23
Latter Day Saints ..	4		
Catholic Apostolic ..	2	Grand Total ..	1,522

BIRTHS.

Number of births.

The number of births registered in Victoria during the year 1915 was 35,010, of which 17,821 were of males and 17,189 of females. This was 1,215 below the number recorded for the preceding year, but 1,445 higher than the average of the period 1909–13. Still-births, which are excluded from both births and deaths, numbered 1,125, and corresponded to a ratio of 3·2 per 100 infants born alive in 1915. The ratio for the metropolitan area was 3·4, as against 3·1 for the remainder of the State. There were 1,037 male to every 1,000 female births in 1915, as compared with 1,056 to every 1,000 on the average of the preceding five years. The figures for each year since 1895 are as follows :—

BIRTHS IN VICTORIA, 1896 TO 1915.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1896 ..	16,460	15,718	32,178	1906 ..	15,716	15,128	30,844
1897 ..	16,013	15,297	31,310	1907 ..	15,989	15,380	31,369
1898 ..	15,435	14,737	30,172	1908 ..	16,073	15,028	31,101
1899 ..	15,785	15,223	31,008	1909 ..	16,092	15,457	31,549
1900 ..	15,834	14,945	30,779	1910 ..	16,411	15,026	31,437
1901 ..	15,876	15,132	31,008	1911 ..	16,944	16,100	33,044
1902 ..	15,583	14,878	30,461	1912 ..	18,244	17,573	35,817
1903 ..	15,115	14,454	29,569	1913 ..	18,436	17,542	35,978
1904 ..	15,313	14,450	29,763	1914 ..	18,549	17,676	36,225
1905 ..	15,523	14,584	30,107	1915 ..	17,821	17,189	35,010

About two-thirds of the increase for 1912 was due to the fact that, after the Maternity Allowance Act came into force on the 10th October of that year, births were registered much sooner after their occurrence than was customary before the passing of that measure. As a result of the commencement of this practice there were more births registered in 1912 than occurred in that year. Allowing for this fact there were approximately 2,000 more births in 1913, 2,250 more births in 1914, and 1,050 more births in 1915 than in 1912.

Birth rates. 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, the rates are obviously 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, of necessity, the birth rate. The following table shows the birth rates in Victoria from 1870 to 1915 :—

BIRTH RATES IN VICTORIA PER 1,000 OF POPULATION, 1870 TO 1915.

Year.	Birth Rate.	Year.	Birth Rate.	Year.	Birth Rate.
1870 ..	38·07	1896 ..	27·19	1906 ..	24·91
1875 ..	33·94	1897 ..	26·49	1907 ..	25·03
1880 ..	30·75	1898 ..	25·51	1908 ..	24·56
1885 ..	31·33	1899 ..	26·14	1909 ..	24·62
1890 ..	33·60	1900 ..	25·79	1910 ..	24·20
1891 ..	33·57	1901 ..	25·72	1911 ..	25·03
1892 ..	32·51	1902 ..	25·05	1912 ..	26·41
1893 ..	31·18	1903 ..	24·28	1913 ..	25·82
1894 ..	29·05	1904 ..	24·42	1914 ..	25·45
1895 ..	28·46	1905 ..	24·57	1915 ..	24.55

The birth rate for 1915 was the lowest since 1910. The cause of the sharp rise in the rate for 1912 is given on page 356. The varying proportions and age distributions of married women at reproductive ages in the population at different periods account in a measure for the reduction in the crude rate in the above table. The effect of these changes is shown on page 358.

Birth rates, Australian States and New Zealand.

The births in Australia for 1915 numbered 134,829, as against 137,964 in the previous year, 135,701 in 1913, 133,270 in 1912, 122,369 in 1911, 116,894 in 1910, and 114,070 in 1909. Of the total births 35,010 occurred in Victoria, 52,885 in New South Wales, 20,165 in Queensland, 11,798 in South Australia, 9,018 in Western Australia, 5,845 in Tasmania, 61 in the Northern Territory, and 47 in the Federal Capital Territory. The following table gives the birth rates, calculated in the ordinary way, per thousand of the population in the Australian States and New Zealand for 1891, 1901, and each of the last six years :—

BIRTH RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1891 ..	33·57	34·50	36·35	33·92	34·85	33·37	34·23	29·01
1901 ..	25·78	27·60	28·28	25·09	30·32	28·40	27·05	26·34
1910 ..	24·20	28·07	27·31	26·38	27·89	29·87	26·73	26·17
1911 ..	25·03	28·68	27·66	26·89	28·25	28·63	27·23	25·97
1912 ..	26·41	29·90	29·70	28·65	28·86	30·53	28·65	26·48
1913 ..	25·82	28·81	30·26	29·12	29·39	30·03	28·27	26·14
1914 ..	25·45	28·93	29·46	29·33	28·40	30·33	28·05	25·99
1915 ..	24·55	28·31	29·35	26·81	27·97	29·32	27·24	25·33
Mean of 1911–15	25·45	28·93	29·29	28·16	28·57	29·77	27·89	25·98

Factors in birth rates.

The birth rate was lower in all the Australian States and New Zealand in 1915 than in the preceding year. 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. An investigation of the results of the last census shows that in every 1,000 of the population of each State and of the Commonwealth the married women aged 15 to 45 numbered 106·0 in Victoria, 115·4 in New South Wales, 107·2 in Queensland, 109·9 in South Australia, 123·6 in Western Australia, 110·5 in Tasmania, and 111·2 in Australia. In the case of Victoria, the deficiency in the proportion of wives at the ages mentioned was accentuated by their comparatively unfavorable internal age distribution, the proportion at the younger and more fertile ages being smaller than that of any other State. A computation shows that owing to these differences the legitimate births in Victoria to every 1,000 of the population in 1911 were fewer by 3·5 than in New South Wales, by 1·4 than in Queensland, by 1·8 than in South Australia, by 4·2 than in Western Australia, and by 2·5 than in Tasmania, also that they were 2·0 less than in the whole of Australia.

Birth rate in various countries.

On the average of the past five years the birth rate in Victoria was lower than in any other State. It was, however, above the rates in Switzerland, Sweden, Ontario, Belgium, England and Wales, Ireland, and France, on the average of the latest five years for which this information is available :—

BIRTHS PER 1,000 OF POPULATION, IN VARIOUS COUNTRIES.

Country.	Births per 1,000 of population.	Country.	Births per 1,000 of population.
Russia (European) ...	45·3	The Netherlands ...	28·2
Roumania	41·9	South Australia ...	28·2
Bulgaria	41·3	Denmark	26·4
Servia	37·2	New Zealand ...	26·0
Hungary	36·3	Scotland	25·9
Japan	33·8	Norway	25·6
Austria	32·5	Victoria	25·5
Italy	32·0	Switzerland	24·4
Spain	31·4	Sweden	23·7
Tasmania	29·8	Ontario	23·6
Queensland	29·3	Belgium	23·6
Germany	29·0	England and Wales ...	23·5
New South Wales ...	28·9	Ireland	23·0
Western Australia ...	28·6	France	18·9

Corrected 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 legitimate 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 five census years :—

PROPORTION OF MARRIED WOMEN IN AGE GROUPS TO TOTAL BETWEEN 15 AND 45 IN THE LAST FIVE 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

To estimate the effect which the alteration in age distribution had 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 four subsequent census years, and corrections 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, and 1911. 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 :—

CORRECTED LEGITIMATE BIRTH RATES.

(1) Census Year.	(2) Married Women between 15 and 45 years of age.	(3) Legitimate Births.	(4) Legitimate Births per 1,000 Married Women 15–45.	(5) Corrected Legitimate 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	281·98	0·9493
1901 ..	127,858	29,279	229·00	238·75	1·0426
1911 ..	139,398	31,080	222·96	231·50	1·0383

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, and a decrease of 3 per cent. in 1911 as compared with 1901, 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 corrected legitimate birth rates appearing in this column shows that the births in 1911 to every 1,000 married women of reproductive ages were 71 fewer than in 1881, 50 fewer than in 1891, and 7 fewer than in 1901.

Corrected legitimate birth rate for Victoria.

Legitimate 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 corrections 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 legitimate birth rates in five census years, the corrections 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. Corrected birth rates per 1,000 of the population in the years 1881, 1891, 1901, and 1911 are as follows :—

CORRECTED LEGITIMATE BIRTH RATES PER 1,000 OF POPULATION.

Year.	Enumerated Population.	Legitimate Births	Legitimate Births per 1,000 of population (crude rates).	Wives aged 15–45, per 1,000 of population.	Correction factor for variations in—		Corrected Birth Rate.	Difference between crude and corrected rates.
					Proportion of wives aged 15–45.	Age distribution of wives aged 15–45.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1871	731,528	26,305	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	1·0383	27·89	4·26

An inspection of the crude rates in the fourth column of the above table shows that legitimate births per 1,000 of population apparently declined by 6·87 in 1881, 5·20 in 1891, 12·27 in 1901, and 13·01 in 1911, as compared with the first 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, and that of 1911 from 13·01 to 8·75 per 1,000 as compared with 1871. Between 1891 and 1911 there was a reduction of nearly 19 per cent. in the rate due to other than normal causes.

Births to wives in Australasia and England.

The next table shows the legitimate 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 three census years 1891, 1901, and 1911 :—

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

Country.	Legitimate Births per 1,000 Married Women aged 15 to 45.			Decrease per cent. in 20 years.
	1891.	1901.	1911.	
Victoria	297·0	229·0	223·0	24·9
New South Wales ..	298·9	235·6	235·4	21·2
Queensland	315·0	251·0	244·8	22·3
South Australia ..	311·1	235·0	235·9	24·2
Western Australia ..	352·8	244·0	221·8	37·1
Tasmania	315·9	254·6	244·8	22·5
New Zealand ..	279·1	246·1	211·7	24·2
England and Wales ..	268·8	234·2	196·2	27·0

It will be seen from these figures that between 1891 and 1911 there was a pronounced decline in the proportion of legitimate births to married women under 45 years of age in the different States, New Zealand, and England and Wales varying from 37 per cent. in Western Australia to 27 per cent. in England and Wales, 25 per cent. in Victoria, 24 per cent. in South Australia and New Zealand, and 21 per cent. in New South Wales. Slightly more than one-fourth of the total decline in Victoria during the twenty years was due to the altered age distribution of married women under 45 years of age, and it is probable that this cause was also responsible for a portion of the decrease in each of the other States and New Zealand.

Birthplaces of parents of legitimate children.

The birth records for 1915 show that 84 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, 78·44 per cent. were born in Victoria; 86·28 in Australia; 1·16 in New Zealand; 7·75 in England and Wales; 1·71 in Scotland; 1·05 in Ireland; ·25 in other British Possessions; and 1·80 per cent. in foreign countries. The corresponding percentages for mothers were: Victoria, 82·12; Australia, 90·66; New Zealand, ·95; England and Wales, 5·59; Scotland, 1·24; Ireland, ·57; other British Possessions, ·19; and foreign countries, ·80.

Chinese and half-caste Chinese births.

During the past six years the births to Chinese parents numbered 47, or 1 in every 4,160 legitimate births, and the Chinese half-caste births (fathers only Chinese) totalled 182, or 1 in every 1,074 legitimate births registered in the same period.

Ages of parents of legitimate children.

The average ages of fathers and mothers of legitimate children whose births were recorded in 1915 were 33·69 and 29·82 years respectively, which were 4·94 and 4·14 years above the average ages of bridegrooms marrying brides under 45 years of age, and of such brides for the same period. 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, 1915.

Father.		Mother.	
Age Group.	Proportion per 100 Births.	Age Group.	Proportion per 100 Births.
Under 20	·34	Under 20	2·81
20 to 25	10·52	20 to 25	21·63
25 to 30	26·10	25 to 30	30·84
30 to 35	24·42	30 to 35	23·50
35 to 40	18·55	35 to 40	14·88
40 to 45	10·96	40 to 45	5·75
45 to 50	6·18	45 and over ...	·59
50 and over	2·93		
Total ...	100·00	Total ...	100·00

It will be seen that on the experience of 1915, 52·47 per cent. of the mothers were between ages 20 and 30, and 38·38 per cent. between ages 30 and 40. The proportions of fathers at corresponding ages were 36·62 and 42·97 per cent. Of every 1,000 legitimate births, about 28 were due to mothers under 20 years, and nearly 6 to mothers aged 45 years and upwards.

Ages of mothers of first births.

The proportion of legitimate births recorded as first births was 29·21 per cent. in 1915, as compared with 28·36 in the previous year, 29·26 in 1913, 28·55 in 1912, 27·42 in 1911, 26·22 in 1910, 26·20 in 1909, 25·43 in 1908, 24·98 in 1907, 24·78 in 1906, and 21·87 per cent. in 1901, the proportion for the latest year being greater by 33·6 per cent. than that for 1901. The percentages of mothers of first births at various ages are shown in the following table for the last five years:—

PERCENTAGE OF MOTHERS OF FIRST-BORN CHILDREN IN AGE GROUPS.

Ages.	Percentage of Mothers in Age Groups.				
	1911.	1912.	1913.	1914.	1915.
Under 20	8·4	8·5	8·1	7·8	8·0
20 to 25	39·9	41·1	40·5	40·9	39·6
25 to 30	30·9	32·0	32·7	32·2	32·9
30 to 35	13·7	12·2	12·7	13·4	13·5
35 to 40	5·6	5·0	4·9	4·6	4·8
40 or over	1·5	1·2	1·1	1·1	1·2
Total	100·0	100·0	100·0	100·0	100·0

The experience of the period 1911–15 shows that of every 100 mothers of first-born children, 8·2 were under 20 years of age, 48·6 were under 25, 80·7 were under 30, and only 1·2 were aged 40 or over. These proportions are very similar to the ratios of brides in the same groups during the period dealt with, which show that 9·8 per cent. of the women marrying were under 20, 51·8 per cent. were under 25, 79·5 per cent. were under 30, and only 2·3 per cent. were aged 40 to 45.

Birth rates in town and country.

The next table shows the number of births per 1,000 of the population in the metropolitan, the other urban, and the rural districts, for 1875 and each subsequent

fifth year, also the averages of the years 1901–5 and the rates for each of the last ten years :—

BIRTH RATES IN METROPOLITAN, OTHER URBAN, AND RURAL DISTRICTS, 1875 TO 1915.

Year.	Births per 1,000 of the Population.			
	Metropolitan District.	Other Urban Districts.	Rural Districts.	Victoria.
1875	33·63	38·63	31·54	33·94
1880	31·19	34·21	28·72	30·75
1885	34·94	31·87	28·12	31·33
1890	37·71	34·43	28·93	33·60
1895	29·46	34·03	25·49	28·46
1900	24·54	32·29	24·26	25·79
1901–5	24·03	32·14	23·46	24·81
1906	23·58	32·90	23·40	24·91
1907	23·97	32·70	23·36	25·03
1908	23·68	32·43	22·70	24·56
1909	23·75	32·09	22·65	24·62
1910	22·99	32·21	22·31	24·20
1911	24·51	31·85	22·79	25·03
1912	27·48	33·24	22·46	26·41
1913	27·20	31·77	21·74	25·82
1914	26·82	31·36	21·34	25·45
1915	26·11	30·32	20·18	24·55

The reduction in the birth rate in 1915 was fairly uniform in the three divisions of the State.

Birth rates in country towns.

The birth rates in the seven principal country towns are given below for each of the last five years :—

BIRTH RATES IN THE SEVEN PRINCIPAL COUNTRY TOWNS.

Year.	Births per 1,000 of the Population.						
	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Castlemaine and Suburbs.	Maryborough.	Warrnambool.	Stawell.
1911 ...	25·73	32·30	27·09	29·20	30·13	40·00	39·36
1912 ...	26·55	33·99	28·00	29·86	35·18	42·11	38·51
1913 ...	26·53	32·74	28·13	27·00	30·18	38·65	36·52
1914 ...	26·01	31 44	27·03	32·46	34·91	45·27	42·20
1915 ..	24·73	28·99	28·17	28·16	26·67	44·11	34·22
Average	25·91	31·89	27·68	29·34	31·41	42·03	38·16

On the average of the five years 1911 to 1915, the birth rate in all of the above towns exceeded that of the State, and except in Ballarat it was greater than that of Melbourne and suburbs. The highest rate prevailed in Warrnambool, and the lowest in Ballarat and suburbs.

Birth rates in metropolitan municipalities. The birth rates in metropolitan municipalities are shown in the following table :—

METROPOLITAN BIRTH RATES 1901, 1911, 1913, 1914 AND 1915.

Districts.	Births per 1,000 of the Population.				
	1901.	1911.	1913.	1914.	1915.
Footscray City ...	28·21	30·05	36·40	36·39	24·28
Oakleigh Borough ...	31·25	33·94	31·51	34·45	34·45
Northcote City ...	24·40	26·00	31·87	33·23	32·55
Richmond City ...	25·51	25·28	29·99	31·31	29·36
Brunswick City ...	26·71	24·81	28·74	28·72	28·79
Williamstown Town ...	25·34	24·42	23·76	27·24	25·69
Caulfield City ...	18·72	20·15	27·57	27·20	27·35
Port Melbourne Town ...	25·26	24·59	26·38	26·76	22·21
Prahran City ...	22·69	23·77	26·99	25·96	25·12
Essendon City ...	23·77	21·32	25·80	25·19	27·89
Preston Shire ...	26·76	24·06	26·23	24·14	23·87
Kew Town ...	21·54	23·43	24·54	23·26	25·04
Collingwood City ...	26·46	23·36	24·33	23·22	21·46
Coburg Town... ...	20·58	22·75	20·93	23·12	22·72
Camberwell City ...	19·17	15·24	19·86	23·11	19·36
Fitzroy City ...	22·58	24·40	29·39	22·93	23·05
Melbourne City ...	21·15	19·90	22·32	22·69	21·85
Malvern City ...	21·98	20·25	24·14	22·68	21·46
South Melbourne City... ...	22·10	21·71	22·83	22·19	20·08
Brighton Town ...	22·39	22·48	22·15	22·00	21·89
St. Kilda City ...	18·59	21·10	22·23	20·28	19·60
Hawthorn City ...	22·67	20·16	20·54	20·08	19·17
Greater Melbourne :—					
Excluding Births in Institutions	23·03	22·32	25·12	24·83	23·94
Including Births in Institutions	24·85	24·51	27·20	26·82	26·11

In 1915 there were 1·60 more births to every 1,000 of the population of Greater Melbourne than in 1911. Between the two years mentioned the births per 1,000 of population increased by 7·20 in Caulfield, 6·57 in Essendon, 6·55 in Northcote, 4·23 in Footscray, 4·12 in Camberwell, and 4·08 in Richmond.

Birth rates in Australasian Capitals. The next table shows the mean population, number of births, and birth rate in each Australasian capital city and suburbs for the year 1915 :—

BIRTH RATES IN CAPITAL CITIES OF AUSTRALASIA.

Capital City and Suburbs.	Year 1915.		
	Mean Population.	Number of Births.	Births per 1,000 of the Population.
Melbourne	679,000	17,732	26·11
Sydney	757,750	20,871	27·54
Brisbane	157,975	5,614	35·54
Adelaide	207,446	6,046	29·14
Perth	127,000	4,033	31·76
Hobart	39,527	1,391	35·19
Wellington	73,735	1,784	24·19

The average birth rate of the six Australian capitals was 28·29 per 1,000 of the population in 1915, as against 29·05 in the previous year.

Birth rates in cities. The birth rates of the Australasian capitals and of London and Boston for 1915 and of 18 other cities for 1913 are given below:—

BIRTH RATES IN CITIES.

City.	Births per 1,000 of Population.	City.	Births per 1,000 of Population.
Brisbane	35·5	Wellington ...	24·2
Hobart	35·2	Copenhagen ...	23·7
Buenos Ayres ...	34·2	Amsterdam ...	23·2
Moscow	33·0	London	22·6
Perth	31·8	Milan	21·7
Adelaide	29·1	Hamburg	21·4
Dublin	27·9	Stockholm ...	20·1
Belfast	27·8	Edinburgh ...	20·1
Sydney	27·5	Dresden	20·1
Breslau	26·3	Berlin	19·6
Boston	26·3	Prague	18·7
Melbourne ...	26·1	Vienna	17·7
Petrograd... ...	25·9	Paris	16·8
New York ...	25·2		

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

CASES OF TWINS AND TRIPLETS.

Year.	Cases of Twins.	Cases of Triplets.
1911	332	3
1912	367	7
1913	394	2
1914	402	4
1915	397	1

On the average of the five years 1 mother in every 93 gave birth to twins and 1 in every 10,357 was delivered of three children at a birth. The proportions for the decennium ended 1912 were 1 in every 98 and 1 in every 7,949 respectively.

Children legitimized. Under a section of an Act passed in 1903, an illegitimate child, whose parents subsequently married, might, provided there was no lawful impediment to the marriage of the parents at the time of the birth, be legitimized if registered for that purpose within six months after marriage. In December, 1912, another 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. Up to the end of 1915 advantage was taken of these Acts to legitimate 1,029 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, and 141 in 1915.

Legitimation Acts are in force in all the States and New Zealand, the most recent being that of Western Australia, which was passed in 1909. Of every 100 children born out of wedlock, the numbers legitimized in the various States and New Zealand during 1915 were as follows:—Queensland, 16·9; New South Wales, 15·5; New Zealand, 14·5; Western Australia, 11·5; South Australia, 11·4; Victoria, 7·0; and Tasmania, only 4·5.

Illegitimate births in various countries. The number of illegitimate births in Victoria during the year 1915 was 2,012, which gives a proportion of 5·75 to every 100 births registered, as against 5·57 in the previous year, 6·03 in 1913, 5·72 in 1912, 5·94 in 1911, and 5·59 in 1910. The percentages of the children born out of wedlock in various countries are shown in the following table:—

PERCENTAGE OF CHILDREN BORN OUT OF WEDLOCK

Country.	Year.	Percentage Born out of Wedlock.	Country.	Year.	Percentage Born out of Wedlock.
Sweden	1911	14·8	New South Wales ..	1915	5·1
Austria	1912	11·8	Tasmania ..	1915	5·0
Denmark ..	1913	11·5	Italy	1913	4·7
German Empire ..	1912	9·5	New Zealand ..	1915	4·2
Japan	1911	9·2	England and Wales	1914	4·2
Scotland	1914	7·2	Western Australia ..	1915	4·2
Norway	1913	7·1	South Australia ..	1915	3·9
Belgium	1911	6·3	Ireland	1914	3·0
Victoria	1915	5·7	The Netherlands ..	1913	2·1
Queensland ..	1915	5·4			

Illegitimate births to unmarried women in Victoria. While the percentage of illegitimate to total births in Victoria increased from 5·36 in 1891 to 5·58 in 1901 and to 5·94 in 1911, the illegitimate births were 100 fewer in 1911 than in 1891. It is thus seen that the increased proportion of infants born out of wedlock in 1911 was not due to greater laxity of morals, but to the smaller number of legitimate births. The morality of the community, as

indicated by illegitimacy, is much more satisfactorily expressed by stating the proportion of infants born out of wedlock to the unmarried and widowed women between 15 and 45 years of age. Such proportions for Victoria are shown in the subjoined table for the census years 1891, 1901, and 1911, when the conjugal condition of the population was known :—

ILLEGITIMATE BIRTHS PER 1,000 SINGLE WOMEN.

Year.	Single Women aged 15 to 45.	Illegitimate Births.	Illegitimate Births per 1,000 Single Women.
1891	142,443	2,064	14·49
1901	167,760	1,729	10·31
1911	187,488	1,964	10·48

Although the proportion of illegitimate births to total births was nearly 11 per cent. higher in 1911 than in 1891, the ratio of infants born out of wedlock per 1,000 unmarried and widowed women fell from 14·49 in 1891 to 10·48 in 1911, which was equal to a decrease of nearly 28 per cent. in the intervening period.

Illegitimate births to unmarried women in various countries.

The illegitimate births in proportion to unmarried and widowed women of reproductive ages in various countries are given in the next table :—

BIRTHS TO UNMARRIED AND WIDOWED WOMEN IN VARIOUS COUNTRIES.

Country.	Period.	Illegitimate Births per 1,000 Unmarried Women aged 15–45.	Country.	Period.	Illegitimate Births per 1,000 Unmarried Women aged 15–45.
German Empire	1900–2	27·4	Western Australia	1911	14·0
Sweden ..	,,	24·3	Scotland ..	1900–2	13·4
Denmark ..	,,	24·2	Tasmania ..	1911	11·9
Prussia ..	,,	23·7	Victoria ..	,,	10·5
Italy	,,	19·4	Switzerland ..	1900–2	9·8
France ..	,,	19·1	New Zealand ..	1911	9·2
Belgium ..	,,	17·8	South Australia	,,	8·5
Norway ..	,,	17·2	England and Wales ..	,,	8·0
Spain ..	,,	15·5	Holland ..	1900–2	6·8
Queensland ..	1911	15·5	Ireland ..	,,	3·8
New South Wales	,,	14·5			

Illegitimacy in town and country. A larger proportion of illegitimacy prevails in Melbourne and suburbs than in the other urban and rural districts of Victoria, the proportion in the country districts being the smallest of all. During the year 1915, in the metropolitan area, slightly more than 1 birth in every 12, in other urban districts 1 in 22, and in the rural districts only 1 in 48, was registered as illegitimate. The proportions in 1907-12 were 1 in 11, 1 in 21, and 1 in 42 respectively.

DEATHS.

Deaths. The following return shows the number of deaths—males and females—also the quarters in which they were registered and the proportion per 1,000 of the population since 1899 :—

DEATHS IN EACH QUARTER, 1900 TO 1915.

Period.	Annual Deaths.	Sex.		Quarter of Registration.				Death Rate per 1,000 of the Population.
		Males.	Females.	March.	June.	September.	December.	
1900–4 ..	15,457	8,686	6,771	3,921	3,750	3,992	3,794	12·84
1905–9 ..	14,932	8,296	6,636	3,805	3,539	3,917	3,671	11·93
1910 ..	14,736	8,132	6,604	3,820	3,693	3,661	3,562	11·34
1911 ..	15,217	8,356	6,861	3,519	3,774	4,132	3,792	11·52
1912 ..	16,595	9,077	7,518	4,000	4,199	4,498	3,898	12·23
1913 ..	15,475	8,496	6,979	4,075	3,678	4,137	3,585	11·11
1914 ..	16,503	9,017	7,486	3,953	4,030	4,257	4,263	11·59
1915 ..	15,823	8,860	6,963	3,524	3,788	4,380	4,131	11·10
Average 1911–15	15,923	8,761	7,162	3,814	3,894	4,281	3,934	11·51

The number of deaths in 1915 was 15,823, which was 680 below the total for the preceding year. The seasonal mortality showed that the quarter ending 30th September was most fatal, the next being that ending 31st December, and the first quarter being least fatal. For every 100 female there were 122 male deaths during the past five years, although the sex proportions of the population were practically equal.

Death rates in Australian States and New Zealand. The deaths in Australia in 1915 numbered 52,808, as against 51,778 in the preceding year, 51,825 in 1913, 52,209 in 1912, 47,901 in 1911, and 45,628 in 1910. Of the total deaths in the year under review 15,823 occurred in Victoria, 19,610 in New South Wales, 7,560 in Queensland, 4,694 in South Australia, 2,992 in Western Australia, 2,015 in Tasmania, 97 in the Northern Territory, and 17 in the Federal Capital Territory. The death rates per 1,000 of the population for each of the Australian

States and New Zealand are shown in the following statement for the period 1902-6, and for each of the last nine years :—

DEATH RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1902–6	12·55	10·84	10·92	10·67	12·17	11·04	11·44	9·81
1907 ..	11·61	10·56	10·35	9·87	11·09	11·22	10·86	10·95
1908 ..	12·45	10·13	10·23	9·84	10·74	11·51	10·91	9·57
1909 ..	11·27	9·97	9·68	9·72	10·21	10·01	10·31	9·22
1910 ..	11·34	9·98	9·70	10·21	10·09	11·31	10·43	9·71
1911 ..	11·52	10·34	10·65	9·82	10·20	10·12	10·67	9·39
1912 ..	12·23	10·86	10·96	10·28	11·07	10·73	11·23	8·87
1913 ..	11·11	10·91	10·39	10·82	9·35	10·87	10·78	9·47
1914 ..	11·59	10·13	9·97	10·71	9·39	9·67	10·53	9·31
1915 ..	11·10	10·50	11·00	10·67	9·28	10·11	10·67	9·06
Average 911–15	11·51	10·55	10·59	10·46	9·86	10·30	10·78	9·22

The death rate was higher in New South Wales, Queensland, and Tasmania and lower in the other States in 1915 than in the previous year. The rate in Victoria, taking the average of the last five years, was higher than in any other State, but this result was chiefly due to the larger proportion of elderly persons, amongst whom the mortality rate is very high. In any comparison of crude death rates of the different States and New Zealand, it is necessary to bear in mind the proportion of persons aged (say) 60 years and upwards in each community. This was accurately known at the 1911 census when Victoria had 735 persons aged 60 years and over per 10,000 of the population, as compared with 629 in New South Wales, 581 in Queensland, 706 in South Australia, 402 in Western Australia, 626 in Tasmania, 647 in Australia, and 705 in New Zealand. Of the persons who died in 1915, 36·1 per cent. were aged 65 years and over in Victoria, 29·2 in New South Wales, 27·5 in Queensland, 32·8 in South Australia, 19·3 in Western Australia, 30·7 in Tasmania, 30·8 in Australia, and 36·1 in New Zealand. It will thus be seen that, while Victoria had a higher crude death rate, it had concurrently a larger proportion of elderly persons in the population and a greater percentage of total deaths at ages 65 years and upwards than any other State.

Death rates in various countries.

The following are the maximum, minimum, and mean death rates per 1,000 of the population in various countries for the latest five years for which these particulars are available, also the averages of the 25 years ended 1901. In all the countries except Japan, Bulgaria, and Ontario, there has been a noticeable decrease, and in Austria, Hungary, England and Wales, Germany, Prussia, Spain, Denmark, The Netherlands, and Italy, there has been a considerable decrease in the recent five-year period as compared with the average of 25

years. The countries are arranged in order according to the average rate of mortality in the more recent period :—

DEATH RATES IN VARIOUS COUNTRIES.

Country.	Five Years 1910-1914.			Average of 25 Years. 1877-1901.
	Max.	Min.	Mean.	
Russia, European (1905-9)	31·1	28·0	29·2	33·9*
Hungary (1908–12) ..	25·6	23·3	24·6	31·8
Roumania	25·9	22·9	24·5	28·2
Servia (1908–12) ..	29·3	21·1	23·6	25·8*
Bulgaria (1907–11) ..	26·6	21·5	23·6	22·1*
Spain	23·3	21·8	22·5	30·2
Austria (1908–12) ..	22·9	20·5	21·8	28·4
Japan (1907–11) ..	21·9	20·4	21·1	20·5*
Italy	21·4	17·9	19·2	26·2
France	19·6	17·5	18·4	21·8
Ireland	17·1	16·3	16·7	18·2
Germany (1909-13) ..	17·3	15·0	16·3	23·9
Prussia (1909–13) ..	17·2	14·9	16·1	23·5
Belgium (1908–12) ..	16·5	14·8	15·7	19·9
Scotland	15.5	15·1	15·3	19·1
Switzerland (1909–13)	16·1	14·1	15·1	20·3
United Kingdom ..	14·8	13·8	14·3	18·8
United States (registration area)	15·0	13·6	14·2	..
England and Wales (1911–15)	15.1	13·3	14·1	18·9
Sweden	14·2	13·6	13·9	16·8
Norway	13·5	13·2	13·4	16·4
The Netherlands ..	14·5	12·3	13·0	20·1
Denmark	13·6	12·5	12·9	18·1
Province of Ontario ..	13·9	11·8	12·7	11·3*

* 1881–1901.

Comparing this statement with the previous one, it will be noticed that the death rate in Victoria—the highest in Australasia for the reason previously stated—is considerably lower than in The Netherlands, Denmark, and Norway—the European countries having the lowest rates. Emigration from the older to the newer countries tends to raise the death rate in the former, and to lower it in the latter. In consequence of this, the crude death rates, calculated on the total population, will naturally be on a lower level in Australasia than in Europe, yet it may be safely affirmed that the true rate of mortality, allowing for differences in the age constitution of the people, is considerably lighter in Australasia than in any country in Europe, except, perhaps, Denmark, Norway, England and Wales, Sweden, and The Netherlands.

Age distribution and crude death rates.

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 Victoria, and lower in Western Australia, than in any of the other States. The proportions living at various age groups at the last census in each division of the Commonwealth and New Zealand, and those in 1890 in Sweden—a country which fairly represents European conditions—are shown in the following table :—

PROPORTIONS LIVING AT FIVE AGE GROUPS IN AUSTRALIAN STATES, NEW ZEALAND, AND SWEDEN.

Country.	Proportion per 10,000 of Population living at the Age Group—					Total.
	Under 1 Year.	1 to 20.	20 to 40.	40 to 60.	60 and over.	
Victoria	235	3,837	3,173	2,020	735	10,000
New South Wales ..	274	3,926	3,358	1,813	629	10,000
Queensland.. ..	269	4,083	3,285	1,782	581	10,000
South Australia ..	256	3,901	3,304	1,833	706	10,000
Western Australia ..	266	3,646	3,682	2,004	402	10,000
Tasmania	279	4,243	3,069	1,783	626	10,000
Australia	260	3,914	3,297	1,882	647	10,000
New Zealand ..	241	3,763	3,600	1,691	705	10,000
Sweden	255	3,980	2,696	1,923	1,146	10,000

The figures show that the characteristic features of Australian populations, as compared with those of European countries, are a large preponderance of persons at the age group 20-40, and a relatively small number aged 60 and over. Among the Australian States, Victoria and Western Australia have, as mentioned previously, the highest and lowest proportions respectively of persons aged 60 years and upwards—a point which should be kept in view when comparing their crude death rates.

Index of mortality. The differences shown in the preceding table in the age constitutions of the populations of the six States and New Zealand have been taken into account in computing their respective indexes of mortality. The results for each are based upon an age distribution corresponding to that of Sweden in 1890, which has been adopted by statisticians as a standard for this purpose. Mortality indexes for each State and New Zealand for the undermentioned years are as follows :—

INDEX OF MORTALITY FOR THE AUSTRALIAN STATES AND NEW ZEALAND.

Year.	Index of Mortality.							
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.	New Zealand.
1901	15·63	15·33	15·24	14·30	17·89	13·82	15·41	12·42
1911	14·31	13·13	13·52	12·15	13·49	12·90	13·52	11·80
1912	15·17	13·58	14·00	12·74	15·26	13·64	14·06	11·26
1913	13·62	13·68	13·64	13·19	12·60	13·42	13·56	11·90
1914	14·24	12·78	12·80	12·95	12·34	12·02	13·20	11·78
1915	13·35	13·04	14·08	12·83	12·29	12·80	13·24	11·44

Death rates at various ages.

A reliable estimate of the improvement in the health of the community is obtained by comparing the death rates for each age group at different periods. Such rates for Victoria are given in the subjoined table for the decennial periods 1881-1890, 1891-1900, and 1902-1911 :—

DEATH RATES AT CERTAIN AGE GROUPS IN VICTORIA.

Age Group.	Deaths per 1,000 at each Age.		
	1881–1890.	1891–1900.	1902–1911.
Males.			
Under 5	44·79	39·29	26·73
5 to 10	4·06	3·36	2·16
10 to 15	2·65	2·20	1·87
15 to 20	4·03	3·28	2·72
20 to 25	6·35	4·79	3·51
25 to 35	7·72	6·60	4·75
35 to 45	11·23	9·03	7·81
45 to 55	19·28	15·32	13·48
55 to 65	33·25	32·90	25·38
65 to 75	61·13	62·99	59·04
75 and upwards	137·18	145·05	157·26
All ages	16·55	15·47	13·30
Females.			
Under 5	39·46	34·09	22·35
5 to 10	3·92	3·12	2·03
10 to 15	2·56	2·06	1·78
15 to 20	4·17	3·43	2·80
20 to 25	5·81	4·81	3·59
25 to 35	7·90	6·89	5·01
35 to 45	10·93	8·68	7·16
45 to 55	14·84	12·12	9·96
55 to 65	23·49	23·64	18·80
65 to 75	50·32	45·87	46·71
75 and upwards	129·00	124·33	131·77
All ages	13·56	12·36	10·66

The figures show that at all ages, excepting 75 and over for males, and 65 and over for females, very much lower death rates were experienced during the last decennium than in the preceding one. Compared with 1891-1900, the mortality rate for the period 1902-11 for the two sexes combined was lower by 33 per cent. at the age group 0-10, by 14 per cent. at 10-15, by 18 per cent. at 15-20, by 26 per cent. at 20-25, by 27 per cent. at 25-35, by 15 per cent. at 35-45 and 45-55, and by 20 per cent. at 55-65. The rates, up to age 65 and probably to age 75, are comparable, and the marked decrease at successive periods points to a general improvement in hygienic conditions.

Death rates at various ages in Australian States.

In the next table the annual deaths in Victoria per 1,000 persons of each sex at various ages are compared with those in the other Australian States, and in the Commonwealth, for the period 1909–11:—

ANNUAL DEATH RATES AT VARIOUS AGES IN EACH AUSTRALIAN STATE, 1909–11.

Age Group.	Annual Deaths per 1,000 of Population.						
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.
Males.							
0–5 ..	24·04	23·76	21·53	20·31	26·78	24·05	23·40
5–10 ..	2·01	2·03	2·15	1·90	3·09	2·36	2·13
10–15 ..	1·68	1·75	1·92	1·34	1·84	1·49	1·71
15–20 ..	2·53	2·47	3·14	2·46	2·54	2·63	2·58
20–25 ..	3·14	3·22	4·38	3·05	4·42	3·63	3·43
25–30 ..	3·94	3·74	4·94	3·90	5·07	4·11	4·09
30–35 ..	4·72	4·35	5·42	4·79	5·91	4·44	4·76
35–40 ..	6·30	5·63	7·32	6·90	7·20	6·73	6·34
40–45 ..	7·97	8·13	9·30	7·86	10·64	6·86	8·40
45–50 ..	10·89	10·64	13·55	10·77	14·48	9·00	11·35
50–55 ..	14·63	13·28	17·15	14·91	16·12	13·28	14·49
55–60 ..	20·49	20·41	22·55	18·98	23·98	15·70	20·52
60–65 ..	32·04	27·94	29·16	29·95	30·21	23·33	29·28
65–70 ..	50·53	44·50	50·32	40·11	45·43	36·89	46·25
70–75 ..	76·20	70·60	65·82	59·63	78·10	53·49	70·20
75–80 ..	120·16	108·32	98·99	102·64	116·27	99·52	111·19
80–85 ..	171·92	158·63	152·59	155·53	155·88	158·83	163·58
85 and over	269·56	233·16	231·29	250·80	281·66	355·33	273·85
All ages—Males	12·82	11·15	11·46	10·79	11·42	10·84	11·60
Females.							
0–5 ..	18·89	20·05	19·08	16·24	21·66	20·91	19·39
5–10 ..	1·94	1·69	2·11	1·46	3·05	1·91	1·89
10–15 ..	1·51	1·34	1·34	1·47	1·86	1·97	1·46
15–20 ..	2·44	2·04	2·20	2·35	2·10	3·48	2·28
20–25 ..	3·46	3·15	3·44	3·45	3·76	4·23	3·40
25–30 ..	4·33	3·92	4·41	5·02	4·52	4·54	4·28
30–35 ..	4·92	4·40	4·68		5·15		4·69
35–40 ..	6·20	5·79	5·90	6·05	6·22	6·47	6·04
40–45 ..	6·58	6·06	6·94		6·62		6·36
45–50 ..	8·22	7·66	7·79	8·04	7·44	7·43	7·87
50–55 ..	9·90	9·98	10·13	9·60	11·58		9·93
55–60 ..	14·49	14·45	13·51	12·88	13·13	14·19	14·12
60–65 ..	21·62	20·67	21·89	19·19	17·72	18·18	20·73
65–70 ..	35·12	37·10	33·48	32·19	34·43	34·43	35·30
70–75 ..	59·07	54·55	50·18	48·98	55·53	52·95	55·22
75–80 ..	97·13	91·45	88·41	83·86	98·36	86·75	92·80
80–85 ..	133·47	133·49	137·58	128·76	130·53	138·35	133·94
85 and over	239·69	211·64	223·23	228·03	190·19	258·01	229·05
All ages—Females	10·17	8·83	8·34	9·20	8·55	9·71	9·23

A comparison shows that for the period 1909-11, the Victorian death rate for males at every age group between 5 and 50 was below that of the Commonwealth. For men aged 50 to 60 the rates were very similar, but for the five age periods between 60 and 85 they were lower in Australia, as a whole, than in Victoria. Among females, the mortality rates in the State were lower for four, and higher for fourteen, age periods than those for the corresponding ages in the Commonwealth.

Victorian and English death rates compared.

The death rates of each sex at various ages in Victoria and Australia for the period 1909-11, and in England and Wales for 1906-10, are shown in the following table:—

DEATH RATES AT VARIOUS AGES IN VICTORIA, AUSTRALIA, AND ENGLAND.

Age Group.	Annual Deaths per 1,000 of Each Sex.					
	Males.			Females.		
	Victoria. 1909–11.	Australia. 1909–11.	England and Wales. 1906–10.	Victoria. 1909–11.	Australia. 1909–11.	England and Wales. 1906–10.
0–5 ..	24·0	23·4	45·4	18·9	19·4	38·0
5–10 ..	2·0	2·1	3·3	1·9	1·9	3·4
10–15 ..	1·7	1·7	2·0	1·5	1·5	2·1
15–20 ..	2·5	2·6	3·0	2·4	2·3	2·8
20–25 ..	3·1	3·4	4·0	3·5	3·4	3·3
25–35 ..	4·3	4·3	5·3	4·6	4·5	4·5
35–45 ..	7·1	7·3	8·6	6·4	6·2	7·1
45–55 ..	12·5	12·8	15·5	8·9	8·8	12·0
55–65 ..	25·3	25·2	31·2	17·6	17·0	24·3
65–75 ..	62·1	56·2	64·4	45·7	43·6	53·1
75–85 ..	138·2	127·8	137·7	109·1	105·8	119·6
85 and upwards	269·6	273·8	283·0	239·7	229·0	250·9
All ages ..	12·8	11·6	15·6	10·2	9·2	13·8

The low mortality rate at nearly every age in Victoria, by comparison with that in England and Wales, evidences the healthy climate and the favorable social and industrial conditions of the State. A striking feature of the Victorian and Commonwealth mortalities is the light rate among infants and young children. The superiority of the Victorian over the English rate is very pronounced for the age groups 0-5 and 5-10, but it is less marked for the next ten years of life. For the age groups 20-25 and 25-35, the rates for males are lower, while those for females are slightly higher, in Victoria than in England. For each age period after 35, except 75-85 for males, the death rates for both sexes in Victoria are lighter, and at some ages considerably lighter, than in England.

Death rates among metropolitan residents.

Prior to 1912 two sets of death rates were given for metropolitan municipalites, *i.e.*, the numbers dying (exclusive of those in hospitals) in specified areas in proportion to their respective populations, and the deaths in metropolitan institutions in proportion to the population of Greater Melbourne. On the assumption that the various districts contributed proportionately to population to the deaths in institutions, the sum of the two rates mentioned was generally accepted as the approximate death rate of a given area. An investigation of the usual place of residence of 9,500 persons who died in public hospitals in

Victoria during 1910-12 showed, however, that in many instances facts did not justify the assumption referred to, and that there were striking disparities in the ratios of residents of different centres dying in hospitals. Thus, of the total deaths of persons residing in Fitzroy, Port Melbourne, and Melbourne City, 34 per cent. occurred in hospitals, as compared with only 11 per cent. in the case of deaths of persons resident in Kew, Caulfield, and Camberwell. In consequence of these discrepancies, the method of estimating the mortality rate for each district was discarded, and in its place was adopted the system of allotting all hospital deaths to the districts where the deceased had resided, and showing the deaths of residents of specified areas in proportion to their respective populations. In regard to persons dying in Hospitals for the Insane and Benevolent Asylums, their places of residence before entering these institutions were unknown, and the deaths were, therefore, distributed according to population.

The deaths in twenty-two metropolitan municipalities and the numbers per 1,000 residents are shown in the following table for the period 1910-12 and for the years 1914 and 1915:—

DEATH RATE OF METROPOLITAN MUNICIPALITIES, 1910–12, 1914 AND 1915.

Municipality.	Annual Deaths.			Annual Deaths per 1,000 Residents.		
	1910-12.	1914.	1915.	1910-12.	1914.	1915.
Richmond City ...	594	584	527	14·71	13·98	12·68
Port Melbourne Town	196	178	185	14·56	12·95	13·60
Melbourne City ...	1,469	1,553	1,470	14·44	14·76	13·87
Fitzroy City ...	493	514	503	14·41	14·44	14·19
Collingwood City ...	462	486	458	13·44	13·39	12·72
Brighton Town ...	161	170	157	13·02	11·13	9·57
Oakleigh Borough ...	40	57	62	12·90	13·64	13·65
Prahran City ...	587	563	580	12·89	11·74	11·96
South Melbourne City	591	611	560	12·83	12·68	11·58
Williamstown Town ...	198	196	227	12·80	11·41	13·11
St. Kilda City ...	326	331	373	12·65	11·22	12·39
Preston Shire ...	65	57	66	12·63	8·55	9·32
Footscray City ...	290	367	359	12·15	13·12	12·39
Brunswick City ...	383	431	456	11·75	11·50	11·83
Coburg Town ..	111	170	156	11·49	13·80	11·85
Essendon City ...	269	298	320	11·12	10·24	10·53
Hawthorn City ...	265	324	273	10·64	11·58	9·66
Kew Town ...	105	138	114	10·47	12·02	9·68
Camberwell City	131	166	150	10·21	10·48	8·77
Caulfield City ..	157	228	199	9·68	11·15	8·86
Malvern City ...	151	204	241	9·29	9·60	10·32
Northcote City ...	165	233	280	9·22	10·63	11·95
Remainder of Metropolis	218	231	299	9·22	8·30	10·38
Whole Metropolis ...	7,427	8,090	8,015	12·61	12·21	11·80
Remainder of State ...	8,089	8,413	7,808	10·99	11·06	10·45

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, Fitzroy, Richmond, Collingwood and Port Melbourne are examples, and the low rates in comparatively recently settled areas, such as Northcote, Malvern, Caulfield, Camberwell, and Kew. For the former group the deaths for 1914-15 were 13·88 per 1,000 as against 10·33 for the latter. Slight differences in the age distribution of the populations of the 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 last census, enable a comparison to be made between the death rates prevailing in Greater Melbourne and the remainder of the State. On the average of the years 1910–12, the deaths of metropolitan residents were in the ratio of 12·61 per 1,000 of population as against a ratio of 10·99 for residents of the rest of the State. The apparent difference in favour of the country is 1·62, 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 2·55 among country than among metropolitan residents.

Decrease in Metropolitan death rate.

In Greater Melbourne in the decade 1906-15 there were 12·94 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 16,800 lives in the past 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 destruction of insanitary dwellings, 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 typhoid fever, diphtheria, and tubercular diseases for the period 1906-15 with those for the decennium 1892-1901. The following are the rates :—

Cause of Death.	Deaths per 1,000 of Population.		
	1892-1901.	1906-1915.	Total Decrease in 1906-15.
Pulmonary Tuberculosis ...	1·654	0·993	0·661
Other Tubercular Diseases ...	0·446	0·254	0·192
Typhoid Fever	0·293	0·071	0·222
Scarlet Fever	0·033	0·012	0·021
Measles	0·215	0·043	0·172
Diphtheria	0·196	0·148	0·048
Total	2·837	1·521	1·316

The figures show that the lower death rates from the six above-mentioned diseases in 1906-15 accounted for nearly 47 per cent. of the total decline. 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.

Death rates in country towns.

Prior to 1912 the death rates given for the chief country towns were based upon the deaths therein in relation to their respective populations. For the reasons mentioned on page 374, that method was discarded and the deaths of residents in proportion to population are now shown instead. Such deaths, and their rates per 1,000 of population, are given in the following statement for the period 1910-12 and the years 1913 to 1915:—

DEATHS PER 1,000 RESIDENTS IN COUNTRY TOWNS.

Town.	Annual Deaths of Residents.				Annual Deaths of Residents per 1,000 of Population.			
	1910–12.	1913.	1914.	1915.	1910–12.	1913.	1914.	1915.
Stawell	82	66	81	62	18·60	14·35	17·80	13·78
Ballarat and Suburbs	639	628	744	668	15·07	14·92	17·51	15·81
Bendigo and Suburbs	690	645	643	607	17·51	16·71	16·46	16·16
Maryborough ..	76	79	85	60	13·39	14·36	16·04	11·76
Castlemaine ..	92	90	118	99	13·11	12·27	16·03	13·40
Warrnambool ..	95	92	104	77	13·55	12·43	14·05	10·55
Geelong and Suburbs	411	414	409	382	13·68	12·23	11·54	10·83

On the average of the past six years the death rate in Bendigo was nearly 39 per cent. higher, and that in Ballarat 27 per cent. higher than the rate—12·26—in Greater Melbourne.

Residents of different areas dying in hospitals.

An examination of the particulars of residence of persons who died in public hospitals of Victoria during the past six years reveals interesting and definite information regarding the assistance rendered by these institutions to people in different divisions of the State. For

twenty-two metropolitan municipalities, the seven principal country towns, and the remainder of the State, the percentage of the total deaths of residents thereof which occurred in public hospitals during the period 1910-15 was as follows :—

PROPORTION OF DEATHS OF RESIDENTS OCCURRING IN HOSPITALS, 1910–15.

Area.	Percentage of Deaths of Residents occurring in Hospitals.	Area.	Percentage of Deaths of Residents occurring in Hospitals.
Port Melbourne Town	35·9	Oakleigh Borough ...	14·6
Fitzroy City ...	34·5	Brighton Town ...	14·2
Melbourne City ...	34·4	Castlemaine ...	13·9
Collingwood City ...	28·0	Ballarat	13·9
Richmond City ...	26·6	Hawthorn City ...	13·2
South Melbourne City	26·5	Malvern City ...	12·8
Preston Shire ...	25·0	Kew Town... ..	12·6
Northcote City ...	24·4	Williamstown Town	12·2
Brunswick City ...	23·9	Caulfield City ...	11·7
Warrnambool ...	23·0	Camberwell City ...	11·1
Maryborough ..	22·9		
Footscray City ...	22·6	Summary :—	
Prahran City ...	21·7	Greater Melbourne ...	24·6
Stawell	19·6	Seven Country Towns ...	16·4
St. Kilda City ..	18·9	Remainder of State ...	17·8
Coburg Town ...	18·0	Whole State .	20·9
Bendigo	16·8		
Essendon City ..	16·5		
Geelong	16·3		

The disparities in the proportions for different areas are very significant. Of the total cases of fatal illness occurring amongst residents of the districts mentioned, the percentage treated in public hospitals varied from 35·9 for Port Melbourne, 34·5 for Fitzroy, 34·4 for Melbourne City, 28·0 for Collingwood, and 26·6 for Richmond, to 11·7 for Caulfield and 11·1 for Camberwell. For the metropolitan area the percentage was 24·6 as compared with 17·6 for the rest of the State. Taking the proportion 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 40 per cent. that given to people residing elsewhere.

Deaths in public Institutions in Greater Melbourne.

In 1915 the deaths in public institutions were 36·7 per cent. of the total in Greater Melbourne, 21·6 per cent. of the total in extra metropolitan districts, and 29·8 per cent. of the total in the State as a whole. The number of deaths in

each public institution in the metropolis in 1915 is given in the subjoined table :—

DEATHS IN PUBLIC INSTITUTIONS IN GREATER MELBOURNE, 1915.

Institution.	No. of Deaths.	Institution	No. of Deaths.
Hospitals—		Other Public Institutions—	
Melbourne	916	Victorian Homes for Aged and Infirm	77
Alfred	373	Benevolent Asylum ...	163
St. Vincent's	180	Heatherton Sanatorium ...	73
Homœopathic	85	Convent of the Little Sisters of the Poor	73
Austin	159	Old Colonists' Homes ...	7
Children's	405	Foundling Hospital, Broadmeadows	2
Women's	162	Foundling Hospital, East Melbourne	5
Infectious Diseases ...	111	Carlton Refuge	4
Queen Victoria	4	Depôt for Neglected Children	49
Eye and Ear	10	Metropolitan Lunatic Asylum	144
Williamstown	17	Yarra Bend Lunatic Asylum...	54
Military Base	49	Mont Park Asylum ...	3
Glenroy Military ...	3	Receiving House — Mental Hospital	9
Broadmeadows Military ...	2	Other Institutions	4
Total Hospitals ...	2,476	Total Hospitals and other Institutions	3,143

Of the 2,476 persons who died in public hospitals in Greater Melbourne during 1915, 403 were residents of places outside the metropolis.

Deaths and births in Australasian capitals.

The next table shows the numbers of deaths and births, and the death rates in the Australasian capital cities ; also the numerical and centesimal excess of births over deaths in each during 1915 :—

DEATHS AND BIRTHS IN CAPITAL CITIES, 1915.

Capital City with Suburbs.	Number of Deaths.	Deaths per 1,000 of Population.	Number of Births.	Excess of Births over Deaths.	
				Numerical.	Centesimal.
Melbourne ...	8,574	12·63	17,732	9,158	107
Sydney	8,189	10·81	20,871	12,682	155
Brisbane	2,129	13·48	5,614	3,485	164
Adelaide	2,837	13·68	6,046	3,209	113
Perth	1,520	11·97	4,033	2,513	165
Hobart	584	14·77	1,391	807	138
Wellington ...	716	9·71	1,784	1,068	149

The deaths in the capital cities of the six States numbered 23,833, or 45·1 per cent. of the total deaths in Australia, during the year 1915. The centesimal excess of births over deaths for each city shows that

for every 100 deaths there were 265 births in Perth, 264 in Brisbane, 255 in Sydney, 249 in Wellington, 238 in Hobart, 213 in Adelaide, and 207 in Melbourne, giving an average of 234 for the metropolitan cities of Australasia.

Death rates in various cities. The death rate in Melbourne for 1915 was 12·63 per 1,000 of population, which was lower than the rates for 1913 in 19 of the 21 undermentioned cities :—

DEATH RATES IN VARIOUS CITIES, 1913.

City.	Death Rate.	City.	Death Rate.
Moscow	24·8	Vienna	15·3
Petrograd	21·2	Edinburgh	14·4
Dublin	20·1	Prague	13·6
Belfast	18·8	New York (1914)	13.6
Budapest	18·6	Berlin	13·5
Milan	16·6	Copenhagen	13·4
Glasgow	16·4	Dresden	13·1
Boston (1915)	16·1	Hamburg	12·7
London (1915)	16·1	Amsterdam	11·1
Buenos Ayres	15·5	Stockholm	11·0
Paris	15·4		

In 1915 the death rate of the metropolitan cities of Australia was 12·11 per 1,000 of their combined population, which was below the proportionate mortality of all of the above cities except Amsterdam and Stockholm.

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 illegitimate children, is still apparent. The deaths of infants in 1915 numbered 2,410, and, as there were 35,010 births, it follows that of every 100 infants born approximately 6·88 died within twelve months. The infantile death rates for Melbourne and suburbs, the extra metropolitan area, and the whole State, for different periods since 1880, are shown in the subjoined table :—

INFANTILE DEATH RATES 1881–1915.

Period.	Deaths under One Year per 100 Births in—		
	Melbourne and Suburbs.	Remainder of the State.	Whole State.
1881–1890	17·14	9·50	12·68
1891–1900	13·36	9·60	11·11
1901–1905	11·26	8·45	9·58
1906–1910	9·47	6·95	8·00
1911	7·82	6·12	6·87
1912	9·02	6·05	7·45
1913	7·63	6·51	7·05
1914	8·45	7·24	7·83
1915	7·99	5·77	6·88

On the average of the past five years the infantile death rate for the metropolis was 8·18 per 100 births, which was 39 per cent. below that for the decennium ended 1900, and 52 per cent. below the rate for the decennium 1881-1890.

Infantile deaths in different areas.

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

INFANTILE DEATH RATES IN DIFFERENT DIVISIONS OF THE STATE.

Year.	Deaths Under One Year per 100 Births.					
	Victoria.	Melbourne and Suburbs.	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Rest of the State.
1907.. ..	7·26	8·57	8·69	9·03	8·49	5·80
1908.. ..	8·61	9·83	9·52	11·37	10·33	7·12
1909.. ..	7·13	8·39	11·31	9·54	8·94	5·40
1910.. ..	7·69	9·23	10·19	9·44	6·57	6·01
1911.. ..	6·87	7·82	7·70	8·41	6·11	5·82
1912.. ..	7·45	9·02	10·04	8·36	6·73	5·53
1913.. ..	7·05	7·63	8·95	9·10	7·10	6·09
1914.. ..	7·83	8·45	12·31	9·45	8·91	6·58
1915.. ..	6·88	7·99	8·51	7·71	7·04	5·30

The prejudicial effect of city surroundings on infant life is evidenced by the mortality being heavier in urban than in country districts. On the average of the past five years the deaths of children under 1 year of age to every 1,000 births were 82 in Melbourne, 95 in Ballarat, 86 in Bendigo, and 72 in Geelong as against 59 in the rest of the State.

Infantile death rates in metropolitan districts.

In issues of this work prior to 1913 the infantile death rate given for each metropolitan municipality was based upon the deaths therein exclusive of those occurring in public hospitals. This method necessarily understated the mortality for each district, the understatement being greatest in the case of the poorer and more congested areas which contribute an undue proportion of the hospital cases. In order to ascertain the actual death rate for each area the deaths in hospitals are now allotted to the districts where the deceased had resided. For the period 1910–14 and the year 1915 the deaths under 1 year

per 100 births for each municipality of Greater Melbourne were as follows :—

INFANTILE DEATH RATES FOR METROPOLITAN MUNICIPALITIES.

Municipality.	Deaths under One Year per 100 Births.		Municipality.	Deaths under One Year per 100 Births.	
	1910-14.	1915.		1910-14.	1915.
Coburg Town ..	12·03	10·03	Brighton Town ..	7·84	5·85
Port Melb. Town ..	12·00	14·24	Oakleigh Borough ..	7·65	9·09
Fitzroy City ..	11·24	11·26	Prahran City ..	7·27	5·99
Richmond City ..	10·23	8·36	St. Kilda City ..	6·38	7·29
Preston Shire ..	10·01	11·83	Caulfield City ..	5·87	4·89
Collingwood City ..	9·89	11·51	Essendon City ..	5·79	5·90
Melbourne City ..	9·22	9·72	Hawthorn City ..	5·72	4·98
South Melb. City ..	9·05	7·93	Camberwell City ..	5·58	2·72
Brunswick City ..	8·50	9·37	Malvern City	5·51	5·99
Footscray City	8·11	8·16	Northcote City ..	5·47	6·95
Williamstown Town ..	8·03	8·09	Kew Town	4·76	3·05

It is noticeable that the seven centres having the lowest infantile death rates are residential areas which are not so thickly populated as nearly all of the other metropolitan districts. On the average of the years 1910 to 1914 Kew had only two-fifths and Northcote, Malvern, Camberwell, Hawthorn, Essendon, and Caulfield, had less than one-half of the rate experienced in Port Melbourne and Coburg.

Infantile death rates in various cities.

In 1915 the deaths of infants under one year per 100 births were 7·99 in Melbourne, as compared with 7·26 in Sydney, 7·05 in Brisbane, 7·53 in Adelaide, 7·81 in Perth, 8·20 in Hobart, and 6·28 in Wellington. The rates in Australasian capitals and London in 1915 and in 17 other cities in 1913 are shown in the following table :—

INFANTILE DEATH RATES IN VARIOUS CITIES.

City.	Deaths under 1 Year per 100 Births.	City.	Deaths under 1 Year per 100 Births
Petrograd	22·9	Boston	10·7
Breslau	17·2	Paris	9·9
Dublin	15·7	Edinburgh	9·8
Vienna	15·6	Buenos Ayres ...	9·3
Budapest	15·0	Hobart	8·2
Belfast	14·4	Melbourne	8·0
Berlin	13·7	Perth	7·8
Milan	13·0	Adelaide	7·5
Glasgow	12·8	Sydney	7·3
Dresden	11·7	Brisbane	7·1
Hamburg	11·4	Amsterdam	6·7
Prague	11·3	Wellington	6·3
London	11·2		

Deaths of infants at different ages.

Of the deaths of infants under 1 year, 46 per cent. occur in the first month and slightly more than 62 per cent. in the first three months of life. The annual deaths at ages under 1 month, from 1 to 3 months, from 3 to 6 months, and from 6 to 12 months, during the ten years ended with 1900, and the period 1911 to 1915, are given in the following table, together with the percentage of deaths at each of those age-periods and the proportion of deaths to each 100 births. It will be noticed that in the last five years the mortality of infants per 100 births at each age period, except under 1 month, was considerably below the average of the ten years ended with 1900:—

DEATHS OF INFANTS AT DIFFERENT AGES, 1891–1900 AND 1911–15.

Ages.	Average Annual Deaths of Infants under 1 year of Age.					
	Ten Years—1891-1900.			Five Years—1911–15.		
	Number.	Percentage at each Age.	Number per 100 Births.	Number.	Percentage at each Age.	Number per 100 Births.
Boys.						
Under 1 month	650	31·7	3·79	685	47·1	3·80
1 to 3 months	355	17·3	2·07	245	16·8	1·36
3 to 6 „	445	21·7	2·59	228	15·7	1·27
6 to 12 „	600	29·3	3·50	297	20·4	1·65
Total ..	2,050	100·0	11·95	1,455	100·0	8·08
Girls.						
Under 1 month	488	28·7	2·98	481	44·2	2·80
1 to 3 months	301	17·7	1·84	176	16·1	1·02
3 to 6 „	385	22·6	2·35	180	16·5	1·04
6 to 12 „	528	31·0	3·23	252	23·2	1·47
Total ..	1,702	100·0	10·40	1,089	100·0	6·33

The death rate of infants under 1 month was very similar in the two periods, but for the age groups 1 to 3 months, 3 to 6 months, and 6 to 12 months reductions amounting to 39, 53, and 54 per cent. respectively occurred in the mortality rates in 1911-15, as compared with 1891-1900. This result may be attributed chiefly to the improved milk supply and the consequent lighter mortality from diarrhœal diseases and wasting diseases.

Probable mortality of infants.

The experience of the years 1911-15 shows that of every 20,000 newly-born boys and girls in equal numbers, 808 boys and 633 girls died within twelve months, and 9,192 of the former and 9,367 of the latter, or 18,559 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 1881-1890. It is thus seen that of every 20,000 births comprising equal numbers of each sex there were 794

more survivors in 1911-15 than in 1891-1900, and 1,091 more than in 1881-1890.

Infantile death rates from certain causes.

An investigation of infantile mortalities would be incomplete unless the diseases which have proved fatal in different years were 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 following table for the periods 1891–3, and 1901–10, and for the years 1914 and 1915 :—

INFANTILE DEATH RATES FROM CERTAIN CAUSES, 1891–3, 1901–10, 1914 and 1915.

Causes of Death.	Deaths under 1 year per 1,000 Births in—			
	1891–3.	1901–10.	1914.	1915.
Diarrhœal Diseases, all forms	29·66	24·62	24·38	14·73
Wasting Diseases (Marasmus, Atrophy, &c.)	22·24	12·74	15·51	14·80
Prematurity	13·13	14·99	14·41	16·74
Bronchitis, Broncho-pneumonia, Pneumonia	11·37	8·13	6·65	6·54
Convulsions	6·83	3·10	1·96	1·63
Congenital Defects and Malformations ...	3·45	4·86	4·25	4·20
Violence	3·16	2·47	0·97	1·03
Whooping Cough	2·60	2·52	1·63	1·91
Other causes	24·49	14·46	8·53	7·26
Total, all causes	116·93	87·89	78·29	68·84

Of every 1,000 infants born 29 died from diarrhœal and wasting diseases in 1915, as against 37 in 1901–10, and 52 in 1891–3—a decrease of nearly 44 per cent. in 24 years. In 1915 acute bronchitis, broncho-pneumonia and pneumonia were responsible for 6·5 deaths per 1,000 births, as compared with 11·4 in 1891–3—a decline of 43 per cent. between the two periods. Certain causes, which may be regarded as of a non-preventable nature, such as prematurity, congenital defects, and malformations, were responsible for 27 per cent. of the total infantile mortality during the past three years. Of the deaths from preventable causes about 1 in every 3 is due to diarrhœal diseases, which are specially prevalent and fatal in hot weather, when milk food, the chief diet of children, undergoes rapid changes and consequently becomes dangerous to infant life. The influence of the seasons on the mortality amongst children under 1 year is vividly shown by the deaths in certain months. The Victorian experience shows a high death rate in December, January, February, March, and April, co-existent with a heavy mortality rate from diarrhœal diseases, and a low rate in the remaining seven months, concurrent with a very low rate from these complaints. On the average of the last three

years, of every 1,000 children born 19 died from diarrhœal diseases within a year, a proportion which shows the necessity for preventive measures in this direction.

Infantile deaths in each month from certain causes.

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 deaths in Melbourne and suburbs from the two former classes of complaint in each month during the past five years are shown in the next table :—

INFANTILE DEATHS IN EACH MONTH FROM CERTAIN CAUSES.

Month.	Infantile Deaths in Greater Melbourne in 1911–15 from—					
	Diarrhœal Diseases.			Respiratory Diseases.		
	Males.	Females.	Total.	Males.	Females.	Total.
January	178	123	301	19	17	36
February	142	96	238	14	13	27
March	131	119	250	12	15	27
April	100	112	212	22	28	50
May	63	52	115	35	29	64
June	27	32	59	44	46	90
July	17	19	36	82	48	130
August	17	17	34	66	54	120
September	26	14	40	44	36	80
October	25	24	49	30	22	52
November	88	54	142	31	10	41
December	194	132	326	23	12	35
Total, 1911–15 ..	1,008	794	1,802	422	330	752

The experience of the last five years shows that of the total infantile deaths in the metropolis from diarrhœal diseases 74 per cent. occur during the five months December to April, and of the deaths from respiratory diseases 56 per cent. occur in the four months June to September.

Legitimate and illegitimate infantile death rates.

On the average of the past seven years, 184 in every 1,000 illegitimate infants died within a year, as against 66 in every 1,000 legitimate children. It is thus seen that the chance of an illegitimate child dying before the age of 1 year is nearly three times that of the legitimate infant. In the year 1915 the mortality rate for legitimate infants was 6·38 per 100 births. The children born out of wedlock during the same year numbered 2,012, and the deaths of illegitimate infants were 304, the death rate being thus 15·11 per 100 births. In England and Wales, in 1914, the corresponding mortality rates for legitimate and illegitimate infants were 9·90 and 20·64 respectively. 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 in Victoria from certain causes per 1,000 legitimate and illegitimate births for the periods 1904-8 and 1909-13 and for the year 1915 :—

DEATH RATES OF LEGITIMATE AND ILLEGITIMATE INFANTS FROM CERTAIN CAUSES.

Cause of Death.	Deaths under 1 year per 1,000 Births.					
	Legitimate.			Illegitimate.		
	1904-8.	1909-13.	1915.	1904-8.	1909-13.	1915.
Diarrhœal Diseases	19·8	16·8	13·3	72·6	62·8	38·3
Prematurity, Congenital Defects, Marasmus, &c.	30·3	28·8	33·6	52·1	62·8	70·6
Bronchitis, Broncho-pneumonia, Pneumonia	6·9	6·7	6·4	18·6	14·2	8·4
Other causes	18·3	13·1	10·5	58·7	46·8	33·8
Total all causes	75·3	65·4	63·8	202·0	186·6	151·1

The rates for 1915 show that of every 1,000 children born out of wedlock 38·3 died from diarrhœal diseases within a year as compared with 13·3 deaths per 1,000 legitimate 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 legitimate infants, but the striking differences in the death rates from this cause and from the chief respiratory diseases would indicate considerable neglect in the rearing of illegitimate infants.

Infantile mortality in Australasia.

The next table gives the proportion of deaths of infants under one year to the total births in each Australian State and New Zealand for each of the last nine years, and the periods 1902-6 and 1891-1900 :—

INFANTILE MORTALITY IN AUSTRALASIA.

Period.	Deaths under 1 year per 100 Births.						
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1891–1900 ..	11·11	11·22	10·34	10·54	14·48	9·58	8·38
1902–6 ..	9·38	9·27	8·93	8·21	12·21	9·02	7·29
1907 ..	7·26	8·86	7·76	6·59	9·77	8·28	8·88
1908 ..	8·61	7·58	7·07	6·97	8·46	7·52	6·79
1909 ..	7·13	7·43	7·19	6·13	7·80	6·49	6·16
1910 ..	7·69	7·46	6·31	7·06	7·80	10·22	6·77
1911 ..	6·87	6·95	6·55	6·05	7·62	7·35	5·63
1912 ..	7·45	7·13	7·16	6·16	8·21	6·66	5·12
1913 ..	7·05	7·83	6·33	7·01	7·00	7·01	5·92
1914 ..	7·83	6·97	6·39	7·60	6·82	7·16	5·14
1915 ..	6·88	6·81	6·40	6·73	6·66	7·22	5·01
Average 1911–15..	7·22	7·14	6·57	6·71	7·26	7·08	5·36

Decrease in infantile mortality in Australasia.

On the average of the last five years the lowest infantile death rate prevailed in New Zealand, followed by that in Queensland, South Australia, Tasmania, New South Wales, and Victoria, in that order, and the highest in Western Australia. Although the rates show considerable variations in the States during any one year, and in different years in the same State, it is noticeable that the pronounced improvement which commenced in all the divisions of the Commonwealth in 1904 has continued with slight variations up to the latest year. Compared with the infantile death rate in 1902-6, the rate for 1915 showed a percentage decline of nearly 27 in Victoria and New South Wales, 28 in Queensland, 18 in South Australia, 45 in Western Australia, and 20 in Tasmania. This reduction in the infantile mortality rate in 1915 was equivalent to a saving of 3,465 infant lives in Australia, of which 875 were in Victoria.

Infantile mortality in various countries.

The following table shows the infantile death rates of various countries on the average of the latest five years for which this information is available, and of the Australian States and New Zealand on the average of the years 1911–15 :—

INFANTILE MORTALITY IN VARIOUS COUNTRIES.

Country.	Deaths under 1 year per 100 Births.	Country.	Deaths under 1 year per 100 Births.
Russia (European) ...	24·6	Scotland	10·9
Hungary ...	20·0	Switzerland	10·7
Austria...	19·7	Holland	10·4
German Empire	17·0	Denmark	9·9
Prussia	16·6	Ireland	9·2
Spain	16·5	Sweden	7·5
Bulgaria	16·2	Western Australia ...	7·3
Japan	15·8	Victoria	7·2
Servia	15·4	New South Wales ...	7·1
Italy	14·3	Tasmania	7·1
Belgium	14·1	Norway	6·7
Ontario, Province of ...	11·4	South Australia ...	6·7
France	11·0	Queensland	6·6
England and Wales ...	10·9	New Zealand	5·4

Of all the countries for which information is available Russia has the highest, and New Zealand the lowest, infantile mortality. In the former 1 in every 4, and in the latter, approximately, 1 in every 19 infants dies within its first year.

Deaths of children under 5.

In 1915 the deaths of male children under 5 years of age numbered 1,789, and the deaths of female children under that age, 1,363—the former being in the proportion o 20·19 per cent., and the latter of 19·57 per cent., to the total numbe f

of deaths of the respective sexes at all ages. Comparing the averages of the four decades ended with 1910, it will be seen that a marked falling off took place, from period to period, in the mortality of children relatively to that of persons of all ages. The next table shows 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 1910, and in the years 1911 to 1915.

MORTALITY OF CHILDREN UNDER FIVE YEARS.

Period.	Years of Age at Death.					Total under 5 Years.	
	0	1.	2.	3.	4.	Number.	Proportion Per 100 Deaths at all Ages.
Males.							
1871–1880	1,783	508	206	148	119	2,764	39·41
1881–1890	2,158	464	161	114	92	2,989	34·28
1891–1900	2,050	432	143	93	76	2,794	30·05
1901–1910	1,504	249	83	59	41	1,936	22·93
1911	1,309	201	71	58	42	1,681	20·12
1912	1,515	266	96	66	51	1,994	21·97
1913	1,419	241	83	55	41	1,839	21·65
1914	1,634	291	110	70	43	2,148	23·82
1915	1,401	200	82	60	46	1,789	20·19
Females.							
1871–1880	1,482	482	198	139	106	2,407	46·06
1881–1890	1,805	423	151	105	84	2,568	39·61
1891–1900	1,702	385	129	82	68	2,366	33·61
1901–1910	1,192	217	81	51	40	1,581	23·58
1911	961	149	73	50	41	1,274	18·57
1912	1,154	217	76	57	52	1,556	20·70
1913	1,119	191	67	47	35	1,459	20·91
1914	1,202	235	74	67	46	1,624	21·69
1915	1,009	188	60	64	42	1,363	19·57

Infants surviving their fifth year.

The increasing proportion of infants who survive their fifth year shows that the conditions affecting child life have materially improved and that the improvement has been very pronounced since 1903. For the ten-year period 1906-15 a low death rate between 1 and 5 years was coincident with a low mortality in the first year of life, while in the decades 1881–1890 and 1891–1900 the high rates which prevailed under one year were associated with high mortality rates for each of the four following years. It would thus appear that the effects of illness in the first year of life, as indicated by a high death rate, are conducive to a high mortality in each of the four succeeding years.

The following table gives the numbers of survivors at each year of age from 1 to 5 inclusive per 10,000 male and 10,000 female infants born in Victoria, taking the averages of the decennia 1881–1890, 1891–1900, and 1906–15 :—

SURVIVORS AT EACH YEAR OF AGE, 1 TO 5 INCLUSIVE, PER 10,000 MALES AND 10,000 FEMALES BORN 1881–1890, 1891–1900, AND 1906–15.

Age.	Survivors at each Year of Age 1 to 5 inclusive per 10,000 Births of—					
	Males.			Females.		
	1881–1890.	1891–1900.	1906–1915.	1881–1890.	1891–1900.	1906–1915.
1 year ..	8,652	8,805	9,152	8,816	8,960	9,319
2 years ..	8,351	8,540	8,998	8,529	8,713	9,186
3 „ ..	8,252	8,459	8,942	8,430	8,629	9,137
4 „ ..	8,180	8,396	8,903	8,361	8,577	9,101
5 „ ..	8,121	8,349	8,875	8,305	8,534	9,073

According to the experience of the period 1906–15 of every 10,000 boys and 10,000 girls born in Victoria, 9,152 of the former and 9,319 of the latter may be expected to survive the first year of life, and 8,998 boys and 9,186 girls will be alive at the end of the second year, 8,942 and 9,137 at the end of the third year, 8,903 and 9,101 at the end of the fourth year, and 8,875 and 9,073 at the end of the fifth year. Combining the two sexes in equal numbers, the average number of survivors is 8,974 per 10,000 births—a much greater number than either of the proportions deduced from the mortalities in the decennia 1891–1900 and 1881–1890, when the corresponding averages were 8,441 and 8,213 respectively. Of every 10,000 infants born in Victoria there are, on the average, 5,122 boys and 4,878 girls—being in the ratio of 105 of the former to every 100 of the latter. According to the mortality experienced in the period 1906–15 these will be reduced at the end of five years to 4,546 boys and 4,426 girls, and the ratio of the sexes will be altered to slightly less than 103 males for every 100 females. Thus, nearly one-half of the excess of males over females at birth is neutralized in the first five years by the heavier mortality among boys, especially in their first year of life.

Ages at death.

The ages of males and females who died in 1915 and in the two preceding years are shown in the following table :—

AGES AT DEATH IN VICTORIA, 1913-15.

Ages.	1913.			1914.			1915.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 ..	1,419	1,119	2,538	1,634	1,202	2,836	1,401	1,009	2,410
1 to 2	241	191	432	291	235	526	200	188	388
2 „ 3	83	67	150	110	74	184	82	60	142
3 „ 4	55	47	102	70	67	137	60	64	124
4 „ 5	41	35	76	43	46	89	46	42	88
5 „ 10	169	141	310	160	157	317	164	137	301
10 „ 15	126	110	236	115	93	208	114	110	224
15 „ 20	147	165	312	171	139	310	197	150	347
20 „ 25	218	225	443	235	232	467	281	200	481
25 „ 30	205	244	449	253	243	496	248	257	505
30 „ 35	225	232	457	232	243	475	266	221	487
35 „ 40	281	289	570	296	254	550	286	268	554
40 „ 45	361	262	623	335	263	598	312	261	573
45 „ 50	457	332	789	463	344	807	441	301	742
50 „ 55	544	345	889	557	365	922	536	384	920
55 „ 60	511	324	835	546	384	930	577	390	967
60 „ 65	455	318	773	469	377	846	531	332	863
65 „ 70	516	428	944	534	444	978	583	388	971
70 „ 75	623	530	1,153	632	590	1,222	630	594	1,224
75 „ 80	713	655	1,368	670	680	1,350	688	618	1,306
80 „ 85	645	526	1,171	759	618	1,377	705	545	1,250
85 „ 90	355	286	641	337	317	654	390	308	698
90 „ 95	85	83	168	93	91	184	94	110	204
95 ..	8	7	15	3	12	15	10	9	19
96 ..	4	6	10	3	4	7	12	6	18
97 ..	1	5	6	2	4	6	3	4	7
98 ..	3	3	6	2	3	5	2	4	6
99 ..	1	1	2	..	3	3	1	..	1
100 ..	2	2	4	1	1	2	..	2	2
101 ..	1	..	1	..	..	..	..	1	1
102 ..	1	..	1	..	..	..	..	..	..
104 ..	..	..	..	1	..	1	..	..	..
106 ..	..	..	..	..	1	1	..	..	..
107 ..	..	1	1	..	..	..	..	..	..
Total ..	8,496	6,979	15,475	9,017	7,486	16,503	8,860	6,963	15,823

Of the 47,801 persons who died in Victoria during the last three years, 6,487 were aged 80 years and upwards, and 14—six males and eight females—had attained or passed the age of 100 years. The highest age at death recorded in 1913-15 was 107 years, which was

attained by a woman. To every 100 female deaths there were 127 male deaths in 1915, as against 120 in the previous year and 122 in 1913.

Death rate from certain diseases.

Since 1906 the causes of death in Victoria have been arranged according to the International Classification List. With regard to the selection of the primary cause of death when two or more associated diseases are stated, there is no material difference between this method and the one previously followed in the State, except in the case of a few minor nervous and respiratory complaints of persons dying in Hospitals for the Insane. Many important causes of death are practically unaffected by the new classification, and consequently retain their comparative character. Amongst these are cancer, tubercular diseases, typhoid fever, whooping cough, measles, influenza, scarlet fever, diabetes, appendicitis, urinary, liver and puerperal diseases, suicide, old age, &c. In many other instances, as where death was due to diarrhœa and enteritis, diphtheria and croup, hydatids, accidental violence, homicide, &c., re-arrangements of the mortalities have been made which allow comparisons to be instituted with previous years. The health of the community, as reflected in the death rates from the chief diseases arranged on a comparative basis, is shown in the appended table for the period 1890–2 and for the last five years :—

DEATHS PER MILLION FROM CERTAIN CAUSES.

Cause of Death.	Deaths per Million of the Population.					
	1890-1892.	1911.	1912.	1913.	1914.	1915.
Typhoid Fever	369	72	72	68	74	60
Scarlet Fever	34	3	4	4	1	8
Measles	2	56	64	32	74	22
Whooping Cough	129	32	115	71	69	68
Diphtheria and Croup	552	179	190	176	148	142
Influenza	381	114	122	67	106	67
Hydatids	51	24	20	19	20	18
Cancer	584	833	905	838	830	812
Phthisis	1,365	839	803	755	724	661
Other Tubercular Diseases ..	379	186	154	156	140	135
Syphilis	39	46	57	55	51	34
Diabetes	38	117	113	91	119	114
Anæmia, Chlorosis, Leucæmia ..	28	66	85	76	100	83
Simple Meningitis	..	95	102	108	107	84
Cerebro-Spinal Meningitis	..	8	5	9	12	237
Infantile Paralysis	..	..	4	2	6	1
Locomotor Ataxia and other diseases of Spinal Cord	43	62	70	62	75	58

DEATHS PER MILLION FROM CERTAIN CAUSES—*continued.*

Cause of Death.	Deaths per Million of the Population.					
	1890–1892.	1911.	1912.	1913.	1914.	1915.
Congestion and Hæmorrhage of the Brain	344	462	464	429	429	443
Epilepsy	74	33	34	31	39	30
Convulsions	353	66	83	57	75	60
Heart Disease (including Endocarditis, Pericarditis, and Angina Pectoris)	962	1,434	1,427	1,294	1,278	1,134
Acute and Chronic Bronchitis ..	691	356	399	270	295	263
Pneumonia and Broncho-pneumonia	853	818	1,006	767	863	865
Pleurisy	96	52	46	39	37	33
Congestion of Lungs and Pulmonary Apoplexy	140	67	63	55	58	59
Asthma and Pulmonary Emphysema	70	70	52	58	49	64
Enteritis, Gastro-enteritis, and Diarrhœal Diseases	1,342	679	752	709	941	590
Hernia, Intestinal Obstruction ..	124	110	114	92	107	109
Diseases of the Stomach (Cancer excepted)	175	104	103	98	90	78
Cirrhosis and other diseases of the Liver (Cancer excepted) ..	329	152	171	136	160	145
Biliary Calculi	11	26	24	20	32	26
Appendicitis, Typhlitis	..	83	83	83	72	72
Simple Peritonitis (non-puerperal) ..	106	23	27	30	39	34
Acute and Chronic Nephritis, Uræmia, Bright's Disease	294	589	658	594	520	566
Diseases of the Bladder and Prostate	86	96	105	80	97	99
Calculi of the Urinary System ..	8	10	6	9	10	6
Old Age	631	1,038	1,030	973	1,029	1,183
Suicide	109	114	112	103	90	105
Accidental Violence	811	469	515	491	468	492
Homicide	34	18	21	18	16	17

The most striking features of the mortality of 1915 as compared with the previous year were the great increase in the number of deaths from cerebro-spinal meningitis, the very notable reduction in the number of deaths from digestive diseases, and the satisfactory decreases in the death rates from typhoid fever, measles, influenza, cancer, tubercular diseases and heart disease. These and other comparable causes of death are fully dealt with in subsequent paragraphs.

Vaccinations. The efficacy of vaccination in minimizing the risk of infection from small-pox is recognised in Victorian legislation, which requires parents to have their children vaccinated. The proportion of successful vaccinations to every 100 births

for the average of the period 1876–1899 and for each year since, is shown in the following table :—

SUCCESSFUL VACCINATIONS PER 100 BIRTHS.

Period.	Vaccinations per 100 births.	Period.	Vaccinations per 100 births.
1876–1899 ...	72	1908 ...	67
1900 ...	67	1909 ...	68
1901 ...	62	1910 ...	69
1902 ...	53	1911 ...	62
1903 ...	71	1912 ...	60
1904 ...	69	1913 ...	69
1905 ...	67	1914 ...	65
1906 ...	67	1915 ...	69
1907 ...	67		

In 1915 the vaccinations of children were equal to 69 per cent. of the births, as compared with 65 per cent. in the preceding year, 66 per cent. in 1909–1913, and 72 per cent. in 1876–1899. As a result of an outbreak of small-pox in Sydney in 1913, it is estimated by the Public Health Department that about 160,000 adults were re-vaccinated in Victoria during that year.

Small-pox—Deaths from. 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. There were no deaths from the disease during the past five years, but in 1910 three oversea arrivals—1 male and 2 females—died from small-pox in the Victorian Quarantine Station. Since 1853 only 28 deaths have occurred from this cause, and of that number only 5 took place in the thirty-one years ended 1915. Statistics of European countries reveal a very marked decline in the mortality from small-pox in recent years. The deaths per million of the population in various countries are shown in the appended table for the average of the latest three years for which these particulars are available :—

DEATHS FROM SMALL-POX PER MILLION OF POPULATION IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per Million of the Population.	Country.	Period.	Deaths per Million of the Population.
Italy	1911–13	79·1	German Empire ...	1910–12	·5
Ceylon	1912–14	9·3	Japan	1909–11	·5
Belgium ...	1910–12	7·6	New South Wales	1913–15	·4
Hungary ...	1910–12	4·5	The Netherlands...	1912–14	·3
United States ...	1912–14	3·6	England and Wales	1912–14	·2
Western Australia	1913–15	3·2	Sweden ...	1909–11	No Deaths.
France	1909–11	2·0	Ireland	1912–14	
Scotland ...	1912–14	1·3	Victoria ...	1913–15	
Switzerland ...	1911–13	1·2	Queensland ...	1913–15	
Roumania ...	1912–14	1·2	South Australia ...	1913–15	
Austria ...	1910–12	·7	Tasmania ...	1913–15	
Prussia	1910–12	·6	New Zealand ...	1912–14	
Ontario ...	1912–14	·6			

Typhoid fever.

The reported cases of typhoid fever for the whole State declined from 288 per 100,000 of population in 1895–9 to 87 per 100,000 in 1911–14, and 67 in 1915, or by 77 per cent. in the intervening years. The death rate from the disease decreased by 80 per cent. during the same period. The deaths per 100 cases were 8·4 on the average of the past five years as against 8·6 in 1905–9, 9·9 in 1900–4, and 10·4 in 1895–9. In Sydney the case mortality rate was equivalent to 10·2 per cent. for the decade 1903–12, in Boston it was 11·8 per cent. for the three-year period 1911–13, and in England and Wales it reached 18·5 per cent. in the years 1911–12. The comparatively low case mortality rate in Victoria evidences the generally mild type of the disease in the State. 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 1889 :—

TYPHOID FEVER IN VICTORIA, 1890 TO 1915.

Period.	Annual Cases Reported.		Annual Deaths.		Deaths per 100 reported Cases.
	Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.	
1890–4	2,932	253·9	381	33·0	13·0
1895–9	3,397	288·4	355	30·1	10·4
1900–4	2,152	178·1	213	17·6	9·9
1905–9	1,569	125·4	135	10·8	8·6
1910	2,124	163·5	139	10·7	6·5
1911	1,303	98·6	95	7·2	7·3
1912	1,122	82·8	98	7·2	8·7
1913	1,127	80·9	95	6·8	8·4
1914	1,195	84·0	106	7·4	8·9
1915	958	67·2	86	6·0	9·0

Typhoid Fever in the Metropolis.

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 past 26 years :—

TYPHOID FEVER IN THE METROPOLIS, 1890 TO 1915.

Period.	Annual Cases Reported.		Annual Deaths.	
	Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.
1890–4	1,645	349·3	205	43·5
1895–9	1,510	327·6	156	33·8
1900–4	701	140·0	74	14·8
1905–9	466	86·7	49	9·1
1910	689	118·5	52	8·9
1911	368	61·9	34	5·7
1912	272	44·3	29	4·7
1913	282	44·1	29	4·5
1914	312	47·1	38	5·7
1915	197	29·0	27	4·0

The cases of, and deaths from, typhoid fever in proportion to population in Greater Melbourne declined by 88 per cent. between 1890–9 and 1912–15. The introduction and the extension of the sewerage system coincide closely with, and in a large measure account for, this great improvement.

Prevalence of typhoid fever in different areas.

The average annual number of cases of typhoid fever during the past six years was equivalent to 5·7 per 10,000 of population in the metropolis, 2·61 in Bendigo, 18·6 in Ballarat, 13·1 in Geelong, and 11·6 in the remainder of the State. The cases in these areas in each of the six years and their proportions to population were as follows :—

PREVALENCE OF TYPHOID FEVER.

Area.	Reported Cases of Typhoid Fever.						Annual Cases per 10,000 of Population, 1910–15.
	1910.	1911.	1912.	1913.	1914.	1915.	
Greater Melbourne ..	689	368	272	282	312	197	5·7
Ballarat and Suburbs	119	81	80	47	75	79	18·6
Bendigo and Suburbs	165	120	88	96	87	65	26·1
Geelong and Suburbs	58	49	28	59	49	10	13·1
Rest of the State ..	1,093	685	654	643	672	607	11·6

Death rates from typhoid fever at different ages.

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 at the last three census periods :—

DEATH RATES FROM TYPHOID FEVER, 1890-2, 1900-2, AND 1910-12.

Age Group.	Deaths per 10,000 of each Sex.					
	Males.			Females.		
	1890–2.	1900–2.	1910–12.	1890–2.	1900–2.	1910–12.
0–15	2·26	0·97	0·38	2·85	1·46	0·44
15–20	5·21	2·65	1·76	5·85	2·23	1·22
20–25	9·21	4·39	1·82	4·77	1·84	1·32
25–35	6·48	3·28	1·71	3·87	2·04	0·82
35–45	3·60	2·25	1·26	2·03	1·21	0·68
45–55	2·24	1·95	0·82	1·29	0·93	0·39
55–65	1·74	0·66	0·20	1·04	0·34	0·50
65 and over	0·99	..	0·10	2·13	0·23	0·19
All ages	4·08	1·95	1·00	3·25	1·49	0·69

The experience of the last three census periods shows that the rate for males exceeds that for females by 29 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.

Typhoid death rates in various countries.

The deaths from typhoid fever per 100,000 of the population in various countries for the latest three-year period for which this information is available are shown in the following table :—

DEATH RATES FROM TYPHOID FEVER IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Servia	1909–11	109·9	Roumania ...	1912–14	10·9
Spain	1912–14	25·8	France ...	1909–11	10·4
Italy	1911–13	24·0	Belgium ...	1910–12	9·8
Western Australia	1912–14	23·2	Tasmania ...	1912–14	7·3
Hungary ...	1910–12	22·1	Victoria ...	1913–15	6·7
Queensland ...	1912–14	20·1	Ireland ...	1912–14	6·1
United States ...	1912–14	16·6	New Zealand ...	1912–14	4·8
Ontario ...	1912–14	16·1	England and Wales	1912–14	4·4
Japan	1909–11	14·2	Scotland ...	1912–14	4·2
New South Wales	1912–14	13·0	German Empire...	1910–12	4·1
Austria... ...	1910–12	12·8	The Netherlands	1912–14	3·7
South Australia ...	1912–14	11·2	Switzerland ...	1911–13	3·6

Scarlet fever.

In 1915 the deaths from scarlet fever numbered 12, which corresponded to a rate of 8 per million of the population, as compared with rates of slightly over 1 in the previous year, 4 in 1913 and 1912, 3 in 1911, 22 in 1910, 33 in 1909, 17 in 1908, and 34 in 1890–2. During the past five years there were 3,474 cases reported. The deaths for the same period numbered 58, which corresponded to a case mortality rate of 1·7 per cent. Death rates from scarlet fever are considerably lower in the Australian States than in European countries. The deaths from this disease per 100,000 of the population in various countries, on the average of the latest three years for which this information is available, are given in the subjoined table :—

DEATH RATES FROM SCARLET FEVER IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Hungary ...	1910–12	54·8	Spain	1912–14	3·9
Roumania ...	1912–14	40·5	France ...	1909–11	2·9
Austria... ...	1910–12	33·3	Switzerland ...	1911–13	2·8
Belgium ...	1910–12	14·9	The Netherlands	1912–14	2·0
Scotland ...	1912–14	13·0	South Australia	1912–14	1·7
Italy	1911–13	10·5	Tasmania ...	1912–14	1·5
German Empire ...	1910–12	10·1	New Zealand ...	1912–14	1·2
Ireland	1912–14	8·9	New South Wales	1912–14	1·0
United States ...	1912–14	7·3	Western Australia	1912–14	·8
England and Wales	1912–14	6·3	Japan	1909–11	·7
Sweden ...	1909–11	5·5	Victoria ...	1913–15	·4
Ontario	1912–14	5·0	Queensland ...	1912–14	·3

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 1915 there were 32 deaths attributed to this cause, representing a rate of 22 per million of the population, as compared with rates of 74 in the previous year, 32 in 1913, 64 in 1912, 56 in 1911, 25 in 1910, 3 in 1909, and 16 in 1908.

On the average of the five years 1910 to 1914, 47 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 1910-14 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..	4·02	7·41	4·39	2·04	0·97	0·73	0·06	0·03	0·06	0·55
Females	4·34	4·92	2·44	1·96	1·00	0·72	0·06	0·06	0·10	0·46

The deaths from measles per 100,000 of the population in different countries, for the latest three years for which this information is available, are shown in the next table:—

DEATH RATES FROM MEASLES IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Hungary ..	1910–12	38·6	United States ..	1912–14	8·9
Scotland ..	1912–14	33·6	Switzerland ..	1911–13	8·1
England and Wales	1912–14	29·7	Sweden ..	1909–11	7·6
Belgium ..	1910–12	29·3	New South Wales	1912–14	7·5
Spain ..	1912–14	28·7	Japan ..	1909–11	6·3
Austria ..	1910–12	27·6	Queensland ..	1912–14	6·1
Italy	1911–13	24·9	Victoria ..	1913–15	4·3
Ireland ..	1912–14	20·9	Tasmania ..	1912–14	4·3
The Netherlands	1912–14	19·7	Ontario ..	1912–14	3·6
Germany ..	1910–12	14·9	South Australia	1912–14	3·4
Roumania ..	1912–14	9·1	New Zealand ..	1912–14	2·6
France ..	1909–11	8·9	Western Australia	1912–14	1·5

Whooping cough. There were 97 deaths referred to whooping cough in 1915, which equalled a rate of 68 per million of the population at all ages, as compared with rates of 69 in the previous year, 71 in 1913, 115 in 1912, 32 in 1911, 50 in 1910, 132 in 1909, 54 in 1908, and 103 in 1907. 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 67 of the deaths, or 69 per cent., were of infants under 1 year and, with four exceptions, all the deaths were of children less than 5 years of age. The incidence of this disease is generally about 25 per cent. greater among girls than boys, but in the year under review it was slightly heavier among the latter. The deaths from whooping cough per 100,000 of the population for various countries, during the latest three-year period for which this information is available, are given in the following table :—

DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION IN DIFFERENT COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Austria... ...	1910–12	34·3	Ontario ...	1912–14	11·1
Scotland ...	1912–14	32·3	United States ...	1912–14	9·9
Belgium ...	1910–12	28·7	New South Wales	1912–14	9·5
Roumania ...	1912–14	24·8	Japan	1909–11	8·1
Germany ...	1910–12	20·5	South Australia ..	1912–14	7·9
England and Wales	1912–14	19·9	Queensland ...	1912–14	7·6
Ireland... ...	1912–14	18·4	France ...	1909–11	7·6
Italy	1911–13	17·5	Victoria ...	1913–15	6·9
The Netherlands	1912–14	15·9	New Zealand ...	1912–14	6·6
Sweden ..	1909–11	13·1	Tasmania ...	1912–14	5·1
Spain	1912–14	12·5	Western Australia	1912–14	4·8
Switzerland ...	1911–13	12·1			

On the average of the past three years the mortality rate from whooping cough in Victoria was only slightly more than one-third of that in England and Wales.

Diphtheria. The prevalence of diphtheria throughout the State during the past five years was the most unsatisfactory feature of the statistics of sickness. For the period 1911–15 the yearly average number of cases was 5,021 as against 1,410 in 1905–9, 1,680 in 1900–4, and 1,584 in 1895–9. On the other hand, a very great reduction has taken place from period to period in the proportion of cases which ended fatally. On the average of the past five years the case mortality rate was only 4·6 per cent. as compared with 6·3 per cent. in 1905–9, 9·5 per cent. in 1900–4, and 13·9 per cent. in 1895–9. The corresponding rates for England in 1912, Boston in 1911–13, and Sydney in 1903–12 were 9·7, 6·5, and 4·5 per cent. respectively.

The next 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 1915.

Period.	Annual Cases Reported.		Annual Deaths.		Deaths per 100 Cases Reported.
	Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.	
		VICTORIA.			
1895–9	1,584	134·6	221	18·8	13·9
1900–4	1,680	139·0	159	13·2	9·5
1905–9	1,410	112·6	89	7·1	6·3
1910	2,415	185·9	112	8·6	4·6
1911	5,120	387·5	237	17·9	4·6
1912	5,289	390·5	257	19·0	4·9
1913	5,367	385·2	245	17·6	4·6
1914	4,868	342·3	211	14·8	4·3
1915	4,463	313·0	203	14·2	4·5
		GREATER MELBOURNE.			
1895–9	748	162·1	113	24·6	15·1
1900–4	686	136·9	58	11·6	8·5
1905–9	758	140·8	46	8·5	6·1
1910	1,655	284·6	74	12·7	4·5
1911	3,035	510·7	130	21·9	4·3
1912	2,451	399·0	130	21·2	5·3
1913	2,412	377·1	122	19·1	5·1
1914	2,164	326·6	116	17·5	5.4
1915	2,527	372·2	134	19·7	5·3

Prevalence of Diphtheria in different areas.

According to the experience of the past six years the annual cases of diphtheria per 10,000 of population were 106·5 in Bendigo, 37·8 in Greater Melbourne, 35·8 in Geelong, 30·4 in Ballarat, and 24·7 in the rest of the State. The numbers of cases in these areas for each of the past six years and their proportions to population were as follows :—

CASES OF DIPHTHERIA IN DIFFERENT AREAS.

Area.	Reported Cases of Diphtheria.						Annual Cases per 10,000 of Population, 1910–15.
	1910.	1911.	1912.	1913.	1914.	1915.	
Greater Melbourne ..	1,655	3,035	2,451	2,412	2,164	2,527	37·8
Ballarat and Suburbs	77	133	147	179	167	77	30·4
Bendigo and Suburbs	126	337	474	653	563	376	106·5
Geelong and Suburbs	59	121	122	184	91	130	35·8
Rest of the State ..	498	1,494	2,095	1,939	1,883	1,353	24·7

Death rates from diphtheria at various ages.

Of the 533 males and 529 females who died from diphtheria during the five years 1910–14, 883, or 83 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, 1910–14.

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	2·92	6·30	5·56	9·90	7·50	5·91	1·76	0·36	0·09	1·57
Females	2·68	5·16	6·27	6·43	8·14	6·24	1·68	0·39	0·11	1·54

Diphtheria in various countries.

The deaths from diphtheria and croup per 100,000 of the population for various countries, during the latest three-year period for which this information is available, are given in the following table :—

DEATH RATES FROM DIPHTHERIA AND CROUP IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Servia	1909–11	42·3	South Australia	1912–14	14·8
Hungary ..	1910–12	38·0	Ontario ...	1912–14	14·4
Spain	1912–14	25·3	Sweden ...	1909–11	14·4
Austria... ...	1910–12	24·1	England and Wales	1912–14	13·4
Prussia... ...	1910–12	23·3	Belgium ...	1910–12	13·1
Germany ...	1910–12	22·9	Western Australia	1912–14	13·0
Tasmania ...	1912–14	19·6	Switzerland ...	1911–13	11·0
Roumania ..	1912–14	18·4	Japan	1909–11	10·5
United States ...	1912–14	18·4	Italy	1911–13	10·3
Scotland ...	1912–14	17·7	Ireland ...	1912–14	9·2
New South Wales	1912–14	15·7	France... ...	1909–11	7·7
Victoria ...	1913–15	15·5	The Netherlands	1912–14	6·9
Queensland ...	1912–14	15·1	New Zealand ...	1912–14	5·8

Hydatids. The deaths attributed to hydatids in 1915 numbered 26, being equivalent to a rate of 18 per million of the population, as compared with rates of 20 in the preceding year, 19 in 1913, 20 in 1912, 24 in 1911, 17 in 1910, 26 in 1909, 21 in 1908, and 51 in 1890–2. According to the experience of the past six years the death rate from this disease is 30 per cent. higher among males than females. Hospital returns for the period 1911–15 show that 410 cases of hydatids were treated therein and that 50, or 1 in every 8, ended fatally.

Anæmia, chlorosis, leucæmia. Anæmia, chlorosis, and leucæmia were responsible for 119 deaths in 1915, which corresponded to a rate of 83 per million of the population, as against rates of 100 in the previous year, 76 in 1913, 85 in 1912, 66 in 1911, 80 in 1910, 90 in 1909, and 85 in 1908. Of the 15 persons who died from leucæmia in 1915, 11 were males.

Diabetes. During 1915 diabetes was responsible for 74 male and 89 female deaths, representing a rate of 114 per million of the population as compared with rates of 119 in the preceding year, 91 in 1913, 113 in 1912, 117 in 1911, 106 in 1910, 102 in 1909, and 98 in 1908. The deaths from diabetes per 10,000 of each sex in nine age groups for the periods 1890–2, 1900–2, and 1910–12, 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.		
	1890–2.	1900–2.	1910–12.	1890–2.	1900–2.	1910–12.
0–10	·02	·09	·10	:02	·05	·15
10–20	·17	·24	·20	·14	·26	·36
20–30	·29	·17	·64	·14	·36	·30
30–40	·21	·32	·58	·30	·51	·53
40–50	·58	·49	1·11	·49	·42	·78
50–60	1·18	1·38	1·80	1·31	1·42	3·18
60–70	1·49	2·67	5·63	2·49	3·19	8·47
70–80	2·87	4·36	7·34	1·88	5·01	11·54
80 and over	1·65	4·11	7·43	4·44	3·54	6·83
All Ages ...	·40	·56	1·00	·36	·60	1·26

At each age group over 30 the mortality rate from diabetes was considerably higher in 1910–12 than at the previous census period. During 1910–12 the female exceeded the male rate for each age period between 50 and 80, the excess for the twenty years of life 60 to 80 amounting to 54 per cent. For all ages the rate for females was 26 per cent. higher than that for males.

Influenza. The deaths from influenza in 1915 numbered 95, corresponding to a rate of 67 per million of the population, as compared with rates of 106 in the previous year, 67 in 1913, 122 in 1912, 114 in 1911, 92 in 1910, 86 in 1909, 131 in 1908, and 381 in 1890–2. Although this disease has varied in form in different periods it has always proved much more fatal to elderly people than to those of middle or young ages. Fifty-two per cent. of the deaths in 1915 were of persons aged 60 years and upwards. The age incidence of the disease at various periods is shown in the next table, which gives the death rate from influenza per 10,000 of each sex in age groups during the years adjoining five census dates :—

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

Age Group.	1870–2.	1880–2.	1890–2.	1900–2.	1910–12.
Males.					
0—15	·69	·34	2·50	1·10	·40
15—20	...	·07	·64	·34	·24
20—25	...	...	1·20	·59	·21
25—35	·05	·07	1·50	·79	·17
35—45	·05	...	3·04	1·31	·59
45—55	·09	·24	5·12	3·20	·73
55—65	·67	·24	12·65	5·25	2·38
65 and upwards	1·09	2·36	27·13	17·02	12·27
All ages	·33	·25	3·94	2·30	1·10
Females.					
0—15	·52	·34	1·86	1·15	·42
15—20	...	...	·92	·83	·34
20—25	...	...	1·28	·69	·35
25—35	·07	·07	2·35	·89	·22
35—45	...	·08	4·11	1·86	·30
45—55	·17	...	5·39	2·02	·68
55—65	·39	·62	11·46	5·53	1·61
65 and upwards	·84	3·18	35·22	16·02	12·80
All ages	·28	·24	3·72	2·13	1·10

The death rate for the last census period shows a substantial decrease as compared with that for each of the two preceding periods, the rate for 1910–12 being 50 per cent. below that for 1900–2, and nearly 71 per cent. lower than the rate for 1890–2. It is notable that

the decline in the mortality rate from this disease has been associated with very heavy reductions in the death rates from pulmonary tuberculosis and other respiratory diseases.

Respiratory diseases.

In 1915 the deaths from respiratory diseases numbered 1,951, which represented a rate of 1,368 per million of the population, as compared with rates of 1,397 in the previous year, 1,279 in 1913, 1,659 in 1912, 1,470 in 1911, 1,180 in 1910, 1,316 in 1909, and 1,531 in 1908. Of the deaths from complaints of this nature in the year under review, 82 were referred to acute bronchitis, 293 to chronic bronchitis, 479 to broncho-pneumonia, 754 to pneumonia, and 47 to pleurisy. These five diseases accounted for nearly 85 per cent. of the total respiratory mortality. The seasonal incidence of the maladies is evidenced by the deaths in July, August, September, and October which represented 46 per cent. of the total for the whole 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 the death rates in age groups for each sex at five census periods :—

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

Age Group.	1870–2	1880–2	1890–2	1900–2	1910–12
Males.					
0—15	22·65	29·02	28·52	16·53	12·94
15—20	3·05	3·30	2·92	2·70	1·66
20—25	5·70	5·34	4·88	4·85	2·35
25—35	5·69	8·31	6·85	5·94	3·86
35—45	10·28	15·80	13·55	9·49	10·50
45—55	20·43	26·59	25·18	18·04	18·25
55—65	41·79	51·65	56·51	38·37	32·68
65 and upwards	108·11	136·54	141·07	112·38	138·87
All ages	17·29	24·48	24·30	18·66	17·17
Females.					
0–15	18·50	24·18	24·13	13·85	10·50
15—20	1·88	2·02	3·52	2·34	1·56
20—25	3·54	4·23	3·05	3·34	2·48
25—35	4·51	5·72	5·65	3·75	3·55
35—45	7·94	12·53	11·55	7·68	5·85
45—55	7·87	13·63	17·01	11·80	8·28
55—65	22·97	29·15	32·10	27·42	16·64
65 and upwards	73·10	116·12	112·38	86·78	99·81
All ages	12·63	17·08	17·62	13·28	11·81

Compared with the census years 1900–2, the mortality from respiratory diseases for the period 1910–12 shows a decline at each age group up to 35 for males and to 65 for females, the reduction for all ages amounting to 8 per cent. in the rate for the former and 11 per cent. in that for the latter. At each census date the male exceeded the female rate, the average excess for the five census periods being nearly 41 per cent.

Influenza and respiratory diseases (combined).

The annual mortality rates from influenza and respiratory diseases (combined), per 10,000 males and females respectively living at different ages at five census periods, are shown in the following table :—

DEATH RATES FROM INFLUENZA AND RESPIRATORY DISEASES (COMBINED).

Age Group.	1870–2.	1880–2	1890–2.	1900–2.	1910–12.
Males.					
0—15	23·34	29·36	31·02	17·63	13·34
15—20	3·05	3·37	3·56	3·04	1·90
20—25	5·70	5·34	6·08	5·44	2·56
25—35	5·74	8·38	8·35	6·73	4·03
35—45	10·33	15·80	16·59	10·80	11·09
45—55	20·52	26·83	30·30	21·24	18·98
55—65	42·46	51·89	69·16	43·62	35·06
65 and upwards ...	109·20	138·90	168·20	129·40	151·14
All ages ...	17·62	24·73	28·24	20·96	18·27
Females.					
0—15	19·02	24·52	25·99	15·00	10·92
15—20	1·88	2·02	4·44	3·17	1·90
20—25	3·54	4·23	4·33	4·03	2·83
25—35	4·58	5·79	8·00	4·64	3·77
35—45	7·94	12·61	15·66	9·54	6·15
45—55	8·04	13·63	22·40	13·82	8·96
55—65	23·36	29·77	43·56	32·95	18·25
65 and upwards ...	73·94	119·30	147·60	102·80	112·61
All ages ...	12·91	17·32	21·34	15·41	12·91

The mortality rates from influenza and respiratory diseases combined showed a decrease for both sexes at the last census period as compared with the preceding one, such decrease amounting to 13 per cent. in the male and 16 per cent. in the female rate. Excepting the age groups 15–20 at the last three census periods, and the group 20–25 in 1910–12, the proportion of deaths of females from these diseases at the different age periods was lower in every instance than that for males. The difference in favour of the former was somewhat small up to the age of 35, but for subsequent ages it was very considerable.

Cerebro-spinal, Tubercular, and Simple Meningitis

An outbreak of cerebro-spinal meningitis in Victoria was responsible for the deaths of 239 males and 99 females in 1915. The cases reported to the Board of Health during the same year numbered 644, of which 458 were of males and 186 of females. From a comparison of these figures it would appear that 52 per cent. of the male and 53 per cent. of the female cases terminated fatally. During the first six months of 1916 the cases numbered 343 and the deaths 149, the latter representing 43 per

cent. of the cases. The numbers of deaths from cerebro-spinal, tubercular, and simple meningitis during the five and a half years ended on 30th June, 1916, were as follows :—

DEATHS FROM DIFFERENT FORMS OF MENINGITIS, 1911–16.

Year.	Cerebro-spinal Meningitis.		Tubercular Meningitis.		Simple Meningitis.		Total—All Forms of Meningitis.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1911 ..	9	2	41	49	75	51	125	102
1912 ..	4	3	26	44	63	76	93	123
1913 ..	8	4	25	41	85	65	118	110
1914 ..	12	5	42	30	89	63	143	98
1915 ..	239	99	35	35	74	46	348	180
1916 (six months) ..	96	53	15	21	25	16	136	90
Total ..	368	166	184	220	411	317	963	703

Age Incidence of different forms of Meningitis.

The next table shows the incidence of mortality at various ages from different forms of meningitis for the period 1911–15 :—

DEATHS AT DIFFERENT AGES FROM MENINGITIS, 1911–15.

Age Group.	Cerebro-spinal Meningitis.		Tubercular Meningitis.		Simple Meningitis.		Total—All Forms of Meningitis.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Under 5 ..	55	40	84	98	219	177	358	315
5 to 15 ..	23	23	46	44	46	35	115	102
15 „ 25 ..	102	14	11	31	23	30	136	75
25 „ 35 ..	37	6	10	15	20	10	67	31
35 „ 45 ..	23	9	12	3	29	17	64	29
45 „ 55 ..	20	15	4	5	28	15	52	35
55 „ 65 ..	9	5	1	2	8	5	18	12
65 and over	3	1	1	1	13	12	17	14
Total 1911–15	272	113	169	199	386	301	827	613

On the average of the last five years the deaths of children under 5 years of age from cerebro-spinal, tubercular, and simple meningitis represented 25, 49, and 57 per cent. respectively of the total deaths from these diseases. Of the 338 persons who succumbed to cerebro-spinal meningitis in 1915, 74 were under 5 and 107 were under 15 years. Up to the age of 15 years the incidence of the mortality from this disease in the period 1911–15 was practically the same for

both sexes, but for the age group 15 to 45 the rate for males was about six times that for females.

Diseases of the spine. In 1915 locomotor ataxia and other diseases of the spine, excluding infantile paralysis, accounted for 45 male and 38 female deaths, representing a death rate of 58 per million of the population, as compared with rates of 75 in the previous year, 62 in 1913, 70 in 1912, 62 in 1911, 64 in 1910, 75 in 1909, and 80 in 1908. Of the 16 persons who died from locomotor ataxia 12 were males.

Infantile paralysis. Mortality returns show that infantile paralysis was responsible for the deaths of 2 girls in 1915, as against 5 boys and 4 girls in the previous year, 2 boys and 1 girl in 1913, and 4 boys and 2 girls in 1912. Of those who died during the four years 9 were metropolitan and 11 extra metropolitan residents. Four of the victims were under 1 year of age, and 10 or one-half were under 5 years.

Heart disease. During 1915 there were 1,486 deaths ascribed to organic heart disease, 17 to pericarditis, 80 to acute endocarditis, and 34 to angina pectoris. The total—1,617—from these causes represented a rate of 1,134 per million of the population, as compared with 1,278 in the previous year, 1,294 in 1913, 1,427 in 1912, 1,434 in 1911, 1,423 in 1910, 1,517 in 1909, 1,404 in 1908, and 1,264 in 1907. Of the 1,617 persons who died from these diseases in 1915, only 46, or 2·8 per cent., were under 15 years of age. On the average of the three years 1910 to 1912 the deaths from all forms of heart disease per 10,000 of each sex in age periods were as follows :—

DEATH RATES FROM HEART DISEASE AT VARIOUS AGES.

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 ..	1·25	1·81	2·35	3·01	6·71	15·53	49·57	127·50	243·44	15·19
Females ..	1·25	1·66	2·08	2·88	7·10	15·63	36·22	107·21	238·36	13·58

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 6 is due to some form of this disease.

Diseases of the digestive system. In 1915 there were 842 male and 724 female deaths from digestive ailments, representing a proportion of 1,098 per million of the population, as against rates of 1,504 in the previous year, 1,220 in 1913, 1,345 in 1912, 1,233 in 1911, 1,386 in 1910, 1,315 in 1909 and 2,382 in 1890-2. Victorian experience shows

that more than half of the mortality from digestive maladies has been ascribed to diseases of a diarrhœal nature. In 1915 diarrhœal complaints were responsible for 841 deaths which were equivalent to a rate of 590 per million of population, the corresponding rates in previous years being 941 in 1914, 709 in 1913, 752 in 1912, 679 in 1911, 918 in 1910 and 756 in 1909. The age incidence of this disease is heaviest at the extremes of life. Of the 841 deaths in the year under review, 614, or 73 per cent., were of children under 2 years of age and 111, or 13 per cent., were of persons over 65 years of age. There were 68 male and 44 female deaths from cirrhosis of the liver, 54 male and 78 female deaths from other affections of that organ, and 85 male and 70 female deaths from hernia and intestinal obstruction.

Appendicitis. The deaths from appendicitis numbered 102 in 1915, 103 in the previous year, 116 in 1913, 112 in 1912, 107 in 1911, 108 in 1910, 95 in 1909, and 101 in 1908, and corresponded to rates of 72, 72, 83, 83, 83, 83, 74, and 80 per million of the population respectively. Hospital records show that during 1915 there were 1,408 cases treated, and 74, or 5·3 per cent., ended fatally, as compared with fatality rates of 2·8 per cent. in 1914, 4·5 per cent. in 1913, and 6 per cent. in the period 1908-12. According to the experience of the five years, 1910 to 1914, the death rate from appendicitis is approximately 31 per cent. higher among males than females. The mortality rates at various ages for that period were as follows :—

DEATH RATES FROM APPENDICITIS, 1910–14.

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 ..	0·43	1·00	1·24	1·03	1·01	0·97	0·90	1·38	1·05	0·92
Females	0·42	1·43	0·88	0·71	0·59	0·52	0·85	0·58	0·55	0·70

Diseases of urinary system. A very marked increase in the crude mortality rate from diseases of the urinary system has taken place in recent periods. For the five years 1911 to 1915 the average annual death rate was 727 per million of the population, as compared with 408 in 1890–2—there being an increase of 78 per cent. in the intervening years. In 1915 there were 1,015 deaths attributed to these diseases, which corresponded to a rate of 712 per million of the population, as against rates of 670 in the previous year, 724 in 1913, 803 in 1912, 727 in 1911, 628 in 1910, and 644 in 1909. Bright's disease, uræmia, and acute nephritis were responsible for 807 deaths, or 80 per cent., and complaints of the bladder and prostate for 141 deaths, or 14 per cent. of the total referred to maladies of the urinary system. The deaths

per 10,000 of each sex in age groups for the periods 1890–2, 1900–2, and 1910–12 are shown in the following table :—

DEATH RATES FROM DISEASES OF URINARY SYSTEM.

Age Group.	Deaths per 10,000 of each Sex.					
	Males.			Females.		
	1890–2.	1900–2.	1910–12.	1890–2.	1900–2.	1910–12.
0–10	1·16	·93	·67	·97	·59	·79
10–20	·43	·45	·73	·58	·82	·71
20–30	1·45	1·83	1·72	1·82	1·59	1·61
30–40	3·05	3·55	3·03	4·72	4·21	3·76
40–50	7·36	8·12	9·03	6·63	7·26	7·07
50–60	11·90	17·43	18·95	5·91	11·36	13·81
60–70	27·42	39·62	46·63	9·62	21·49	24·44
70–80	58·98	80·68	96·18	14·62	27·70	38·53
80 and over	74·07	128·48	153·04	22·21	27·15	43·70
All Ages ..	5·25	8·05	9·18	2·84	4·28	5·34

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 72 per cent.

Deaths from phthisis at various ages

The ages and sexes of those who died from pulmonary tuberculosis in the decennium ended 1910, and in each of the last three years, are given in the next table :—

DEATHS FROM PULMONARY TUBERCULOSIS AT VARIOUS AGES.

Ages.	Males.				Females.			
	Ten years— 1901 to 1910.	Year.			Ten years— 1901 to 1910.	Year.		
		1913.	1914.	1915.		1913.	1914.	1915.
0–10 ...	66	6	9	2	86	6	2	5
10–15 ...	50	4	7	2	142	7	4	10
15–20 ...	323	26	17	19	551	52	46	32
20–25 ...	579	52	54	48	777	78	70	66
25–30 ...	742	51	60	51	863	83	83	77
30–35 ...	761	61	72	53	767	60	61	44
35–40 ...	854	67	67	66	731	55	57	44
40–45 ...	775	60	58	51	478	47	40	40
45–50 ...	674	71	56	72	353	32	35	23
50–55 ...	531	59	64	58	195	28	20	32
55–60 ...	423	48	36	41	170	12	24	20
60–65 ...	397	22	26	27	128	5	9	5
65–70 ...	431	23	19	21	124	11	8	6
70 and over	436	16	16	16	121	10	11	11
Total ...	7,042	566	561	527	5,486	486	470	415

Notwithstanding the great increase in population the deaths from phthisis in 1915 were at nearly every age below the annual average of the decennium 1901–1910. The decreases from period to period are dealt with in subsequent paragraphs.

Death rates from phthisis.

The deaths from phthisis in 1915 numbered 942—527 being of males and 415 of females—and equalled a rate of 661 per million of the population, as compared with rates of 724 in the previous year, 755 in 1913, 803 in 1912, 839 in 1911, 830 in 1910, 848 in 1909, 955 in 1908, 958 in 1907, and 1,365 in 1890–2. The improvement in the death rate from this cause since 1890–2 was equivalent to the saving of 1,000 lives during 1915. The rates are more fully shown in the following table, which gives the mortality per 10,000 of the population of each sex, in age groups, at six census periods :—

DEATH RATES IN VICTORIA FROM PHTHISIS IN AGE GROUPS AT THE LAST SIX CENSUS PERIODS.

Age Group.	Annual Mortality from Phthisis per 10,000 of each Sex.					
	1860–2.	1870–2.	1880–2.	1890–2.	1900–2.	1910–12.
Males.						
0 to 15	2·55	1·22	1·74	·90	·38	·46
15 " 20	7·72	5·71	6·88	5·41	5·06	3·71
20 " 25	12·23	18·75	21·19	18·29	14·35	8·45
25 " 35	16·53	22·21	30·33	23·70	20·31	13·11
35 " 45	21·63	21·83	25·11	28·28	22·07	15·63
45 " 55	23·14	22·24	28·65	31·17	25·05	18·07
55 " 65	25·63	27·86	31·41	36·48	35·75	18·88
65 and upwards ...	23·20	19·56	18·08	25·40	31·07	13·55
All Ages ...	13·33	12·89	15·33	15·73	13·51	8·98
Females.						
0 to 15	3·70	·98	1·76	1·43	·93	·97
15 " 20	14·07	12·37	12·50	9·51	8·18	7·62
20 " 25	18·95	19·28	21·00	18·49	12·79	12·68
25 " 35	24·76	22·02	26·56	21·77	18·15	14·03
35 " 45	25·62	21·65	24·06	22·53	17·74	11·51
45 " 55	25·01	19·60	20·72	16·13	14·41	8·18
55 " 65	22·59	10·51	14·26	12·35	12·52	7·47
65 and upwards ...	18·03	12·61	13·12	8·25	8·18	5·29
All Ages ...	14·46	10·62	12·75	11·51	9·72	7·61

A comparison of the mortalities from pulmonary tuberculosis at the last two census periods shows that, except among boys and girls under 15, lower death rates obtained at each age group during 1910–12 than in 1900–2, and that the improvement was greater among males than females. An analysis of the figures discloses the fact that at certain ages the decrease was very slight in the female rate, while in the male rate it was very considerable at all ages over 15. Taking three important periods of life, 15–20, 20–25, and 25–35, it is found that between the last two censuses the rates for males declined by 26, 41, and 35 per cent. respectively, as compared with reductions of only 7, 1, and 22 per cent. in the rates for females. The heavy decline in the death rate from phthisis among men between 20 and 35 years of age is very striking, especially as it is co-incident with a reduction of 43 per cent. in the mortality rate from other diseases of the respiratory system. By combining the death rates from pulmonary tuberculosis, as shown above, with those from other forms of tubercular disease, given in a subsequent page, it appears that the section of the community represented by females aged 15 to 25 was the only one which experienced no relief from tubercular diseases in 1910–12, as compared with the preceding census period. It is probable that this result is partly due to the increased proportion of females engaged in manufacturing industries. Comparing the number of females aged 15 to 25 employed in factories with the total females of similar age in the community, it is found that between the 1901 census and that of 1911 there was an increase of 78 per cent. in the proportion exposed to the greater tubercular infection of factory employment.

Phthisis in various countries.

Death rates from pulmonary tuberculosis, per 10,000 of the population, in various countries, for the latest year for which this information is available, are given below :—

DEATH RATES FROM PULMONARY TUBERCULOSIS IN VARIOUS COUNTRIES.

Country.	Year.	Deaths per 10,000 of Population.	Country	Year.	Deaths per 10,000 of Population.
Servia	1911	32·4	England and Wales	1914	10·5
France	1911	18·0	Scotland ...	1914	10·4
Ireland	1914	16·3	Belgium ...	1912	9·3
Japan	1911	15·6	Western Australia	1914	7·0
Sweden ...	1911	15·5	Victoria ...	1915	6·6
Switzerland ...	1913	14·1	South Australia...	1914	6·4
German Empire ...	1912	13·1	New South Wales	1914	6·1
United States ...	1914	12·8	New Zealand ...	1914	5·3
Spain	1914	12·3	Tasmania ...	1914	4·5
Holland ...	1914	10·7	Queensland ...	1914	4·3

The Victorian death rate from phthisis is considerably below that shown for European countries, and is only about one-half of the rate prevailing in the United States.

Tubercular death rates in Melbourne, Ballarat, and Bendigo.

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 amongst miners is very considerably in excess of that among farmers and graziers and, as mining occupations predominate in Bendigo and suburbs and farming and grazing occupations in the rural districts, 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 past five years the tubercular death rate of Bendigo exceeded the rates of Ballarat and Melbourne by 49 and 66 per cent. respectively. The rates in these localities from phthisis and other tubercular diseases are given in the following table for the periods 1891–1900 and 1901–5, and for each of the last ten years :—

DEATH RATES FROM TUBERCULAR DISEASES IN MELBOURNE, BALLARAT, AND BENDIGO, 1891-1915.

Period.	Deaths per 10,000 of the Population.								
	Phthisis.			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
1901–1905 ..	13·9	15·3	22·7	4·2	4·0	4·7	18·1	19·3	27·4
1906 ..	11·5	13·2	21·7	3·9	2·3	2·5	15·4	15·5	24·2
1907 ..	11·6	10·5	20·2	3·4	1·8	2·0	15·0	12·3	22·2
1908 ..	11·5	13·3	18·4	2·6	2·1	1·3	14·1	15·4	19·7
1909 ..	9·7	9·4	22·9	2·6	1·9	3·2	12·3	11·3	26·1
1910 ..	9·7	11·0	22·8	2·4	2·5	1·1	12·1	13·5	23·9
1911 ..	9·9	9·4	19·5	2·6	3·3	2·5	12·5	12·7	22·0
1912 ..	10·0	10·0	17·7	2·0	1·7	2·1	12·0	11·7	19·8
1913 ..	8·8	10·9	20·0	2·2	2·8	2·3	11·0	13·7	22·3
1914 ..	8·9	11·2	11·8	2·0	·9	1·0	10·9	12·1	12·8
1915 ..	7·7	10·2	13·6	1·7	2·1	2·4	9·4	12·3	16·0
Average of 1911–15 ..	9·1	10·3	16·5	2·1	2·2	2·1	11·2	12·5	18·6

The death rate from pulmonary tuberculosis was lower for Melbourne and Ballarat, and higher for Bendigo in 1915 than in the preceding year. In each of these areas the proportionate mortality from phthisis shows a substantial reduction as compared with fairly recent

periods, the deaths per 10,000 of population having been fewer by 6·2 in Melbourne, 5·1 in Ballarat, and 9·1 in Bendigo during 1915 than in 1901-5.

Prevalence of phthisis in different areas.

Relatively to population cases of pulmonary tuberculosis are fewer in country districts than in urban areas. The cases reported and their proportions to population in five divisions of the State are given in the subjoined table for the period 1910-15 :—

PHTHISIS IN DIFFERENT AREAS.

Area.	Reported Cases of Pulmonary Tuberculosis.						Annual Cases per 10,000 of Population 1910-15.
	1910.	1911.	1912.	1913.	1914.	1915.	
Greater Melbourne ..	928	879	803	780	856	972	13·8
Ballarat and Suburbs	59	55	58	56	60	63	13·7
Bendigo and Suburbs	129	106	82	64	53	59	20·8
Geelong and Suburbs	36	26	33	31	18	20	8·5
Rest of the State ..	305	341	351	445	423	395	6·0
Whole State ..	1,457	1,407	1,327	1,376	1,410	1,509	10·4

The proportion of residents of any large area reported as suffering from phthisis represents fairly closely the degree of infection of that centre. While this may be taken as true when applied to the metropolis as a whole, it cannot be accepted as definitely correct for each of its parts, as the place of residence of a large proportion of the people differs from their place of work or business. The prevalence of the disease in the principal metropolitan municipalities is shown in the next table for the two and a half years ended June, 1911, which is the latest period for which this information has been tabulated :—

PHTHISIS IN METROPOLITAN MUNICIPALTIES.

Municipality.	Annual Cases per 10,000 of the Population.	Municipality.	Annual Cases per 10,000 of the Population.
Preston Shire ...	20·2	Richmond City ...	12·1
Port Melbourne Town	18·7	Brighton Town ...	10·4
Melbourne City ...	18·1	Hawthorn City ...	10·3
Fitzroy City ...	17·3	Northcote City ...	10·0
Brunswick City ...	17·1	Essendon City ...	9·8
Coburg Town ...	15·4	Kew Town ...	9·8
South Melbourne City	15·2	Footscray City ...	9·2
Camberwell City ...	14·0	St. Kilda City ...	6·7
Prahran City ...	13·4	Malvern City ...	6·6
Collingwood City ...	12·5	Caulfield City ...	5·2
Williamstown Town...	12·2		

Other phases of phthisis.

The results of an investigation of 3,198 cases of pulmonary tuberculosis which occurred in the State during the two and a half years ended June, 1911, are given in the 1913–14 edition of this work. The matters dealt with were the sex and ages of the patients, their usual place of residence, the chances of metropolitan and extra metropolitan residents contracting the disease at different ages, the time elapsing from the commencement of the complaint to the date on which medical advice is obtained, and the probability of recovering from the disease. In the issue referred to the medical and economic results of sanatorium treatment of tuberculosis of the lungs in Germany are shown for a series of years.

Tubercular diseases (phthisis excepted).

In 1915 there were in Victoria 193 deaths from tubercular diseases (excluding phthisis), which corresponded to a rate of 135 per million, as compared with rates of 140 in the previous year, 156 in 1913, 154 in 1912, 186 in 1911, 176 in 1910, 192 in 1909, 200 in 1908, 209 in 1907, and 379 in 1890–2. The death rates in various age groups are shown in the following table for five census periods :—

DEATH RATES FROM TUBERCULAR DISEASES (PHTHISIS EXCEPTED) IN AGE GROUPS.

Age Group.	Deaths per 10,000 of each Sex.				
	1870-2.	1880-2.	1890-2.	1900-2.	1910-12.
Males.					
0—15 ...	7·53	7·98	10·36	5·64	2·75
15—20 ...	·64	·81	1·17	1·12	1·12
20—25 ...	1·80	1·23	·89	1·77	1·23
25—35 ...	·70	·66	·84	1·91	1·71
35—45 ...	·77	·88	·77	1·39	1·38
45—55 ..	·95	·85	·67	1·64	·82
55—65 ..	·88	1·07	·78	2·40	1·29
65 and over	1·09	2·36	·56	1·17	·59
All ages	3·46	3·55	4·02	2·99	1·70
Females.					
0—15 ...	5·89	7·28	8·43	5·33	2·12
15—20 ...	·82	1·30	1·27	1·95	2·34
20—25 ...	·52	·69	1·23	2·09	2·59
25—35 ..	·54	·41	·88	1·98	1·81
35—45 ...	1·04	·70	·42	1·77	1·33
45—55 ...	·17	·67	·34	1·01	·93
55—65 ...	·39	·62	·69	·71	1·11
65 and over	1·69	1·19	·64	·71	·29
All ages	3·10	3·39	3·58	2·91	1·76

As compared with the period 1900–2 the proportion of persons under 15 years of age who died from tubercular diseases (excluding phthisis) during 1910–12 represents a decline of 51 per cent. for males and of 60 per cent. for females. The most important increase occurred in the rate for females aged 15–25.

Tubercular diseases—deaths of recent arrivals from.

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. In 1915 ·3 per cent. of the persons who died were born outside and resident less than one year in Australia, and 3·4 per cent. had resided in the continent for a shorter period than five years.

Cancer—deaths at various ages.

The numbers dying from cancer at different age groups in each of the last three years, and the yearly average at the same ages for the period 1901–10, are given below :—

DEATHS FROM CANCER AT VARIOUS AGE GROUPS.

Age Group.	Males.				Females.			
	Yearly Average, 1901–10.	1913.	1914.	1915.	Yearly Average, 1901–10.	1913.	1914.	1915.
0–15	5	9	1	6	3	5	6	3
15–25	6	6	4	3	4	1	6	6
25–35	9	11	10	16	13	19	15	17
35–45	34	41	30	28	59	61	64	67
45–55	79	120	105	86	90	139	135	126
55–65	107	133	160	144	102	131	163	151
65–75	159	140	140	166	121	128	139	136
75–85	81	101	103	86	60	95	72	81
85 and over ..	12	11	18	21	9	17	11	15
Total ..	492	572	571	556	461	596	611	602

The widely different social and economic effects produced by the prevalence of and deaths from the two important diseases—cancer and phthisis—are evidenced by the ages of their victims. For the year 1915 the average age of those who died from cancer was 63·0 years for males, and 59·9 years for females, whilst the corresponding averages for phthisis were 42·4 years for males and 35·1 years for females.

Cancer—death rates at different ages.

Deaths from cancer in 1915 numbered 1,158, and represented a death rate of 812 per million of the whole population, as compared with rates of 830 in the previous year, 838 in 1913, 905 in 1912, 833 in 1911, 832 in 1910, 802 in 1909, and 794 in 1908. Cancer 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 persons of the same sex living 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.			
	1880–2.	1890–2.	1900–2.	1910-12.
Males.				
Under 5 ...	·29	·18	·30	·73
5 to 10 ..	·24	·10	·42	·25
10 „ 15 ...	·18	·11	·20	·16
15 „ 20 ...	·07	·17	·22	·15
20 „ 25 ...	·25	·32	·33	·71
25 „ 35 ...	·80	·81	1·26	·96
35 „ 45 ...	4·12	4·29	3·69	3·16
45 „ 55 ..	10·16	14·83	14·14	16·03
55 „ 65 ..	22·01	31·92	36·00	36·36
65 „ 75 ...	34·55	52·75	59·04	74·15
75 and over	45·12	53·55	74·04	88·40
All ages	4·29	6·16	7·52	8·50
Females.				
Under 5 ...	·12	·09	·26	·19
5 to 10 ...	·12	·10	·04	·10
10 „ 15 ...	·06	·06	—	·27
15 „ 20 ...	·26	·12	·28	·44
20 „ 25 ...	·39	·22	·23	·41
25 „ 35 ...	2·65	1·68	1·61	1·39
35 „ 45 ...	7·32	7·43	6·05	7·26
45 „ 55 ...	15·07	18·00	18·13	17·87
55 „ 65 ...	29·35	31·79	33·05	38·03
65 „ 75 ...	32·68	53·96	51·18	61·66
75 and over	27·56	49·55	62·70	86·19
All ages	4·27	5·57	6·64	8·76

Deaths from cancer occurred 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. A comparison of the figures for the last two census periods, which would not be appreciably affected by differences in the diagnosis of the disease, shows that at ages under 45 an increase occurred in the rate for females, and a slight reduction in that for males. At the next age period, 45–55, the male rate increased by nearly 13 per cent., while the female rate declined very slightly. At the period, 55–65, the mortality rate for men remained almost stationary, but that for women exhibited a very marked increase. Among both males and females aged 65 and upwards the death rate was considerably heavier in 1910–12 than in 1900–2. From the figures for the two periods mentioned it would appear that there was a slight but definite increase in the death rate from cancer among persons under 65, and a heavy increase among persons over that age and, further, that on the whole the increase was much greater among females than males.

Seat of cancer. The following table shows the seat of cancer in persons who died from this disease in 1915 :—

SEAT OF CANCER.

Seat of Disease.	Males.	Females.	Total.
Cancer of the buccal cavity (mouth, &c.)	73	7	80
,, the stomach and liver	224	198	422
,, the peritoneum, the intestines, and the rectum	78	70	148
,, the female genital organs	...	92	92
,, the breast	...	98	98
,, the skin	34	11	45
,, other and unspecified organs	147	126	273
Total Deaths	556	602	1,158

Thirty-six per cent. of the persons who died from cancer were affected in the stomach or liver. Of the total females who died from the disease slightly less than one-third were affected in the genital organs or the breast.

Death Rates from cancer in various countries. Deaths from cancer per 10,000 of the population in various countries, for the latest year for which this information is available, are given in the next table :—

DEATH RATES FROM CANCER IN VARIOUS COUNTRIES.

Country.	Year.	Deaths per 10,000 of Population.	Country.	Year.	Deaths per 10,000 of Population.
Switzerland	1913	12·7	France	1911	8·0
Scotland	1914	11·4	United States	1914	7·9
Sweden	1911	11·0	New South Wales	1914	7·4
Holland	1914	10·7	Tasmania	1914	7·4
England and Wales	1914	10·7	Belgium	1912	7·1
German Empire	1912	9·0	Italy	1913	6·7
Ireland	1914	8·7	Queensland	1914	6·5
South Australia	1914	8·4	Japan	1911	6·5
New Zealand	1914	8·3	Spain	1914	5·6
Austria	1912	8·1	Western Australia	1914	5·0
Victoria	1915	8·1			

Victoria showed a lower death rate from cancer than nine of the above countries, but a higher one than any other Australian State except South Australia.

Senile decay. During the year 1915, the deaths of 914 men and 773 women aged 65 years and over were ascribed to senile decay. The deaths at these ages from all causes during the year numbered 5,707—3,118 of men and 2,589 of women. It is thus seen that 29·6 per cent. of the deaths of persons aged 65 years and upwards were due to senile decay. The mortality rates of elderly persons in several age groups have been computed, taking the average of the three years 1910–12, when the numbers of persons within those groups were accurately known. These show that of every 100 persons

in the respective age groups, there died within a year, from all causes, 4·21 aged 65 to 70, 6·63 aged 70 to 75, 10·71 aged 75 to 80, 16·36 aged 80 to 85, and 27·30 aged 85 and upwards.

Accidental violence.

Death rates from accidental violence have been lower in later 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 1915 there were 527 male and 174 female deaths attributed to accidents and negligence, which represented a rate of 492 per million of the population. This proportion was almost identical with the average rate—494—for the previous five years, but it was 39 per cent. lower than the ratio—811—for 1890–2. The deaths from different accidents in 1915 are given in the appended table :—

DEATHS FROM ACCIDENTAL VIOLENCE, 1915.

Nature or Place of Accident.	Males.	Females.	Total.
Poisoning by Food	5	4	9
Snake-bite	1	..	1
Other Acute Poisonings	13	9	22
Burns (including Conflagrations)	26	38	64
Absorption of Poisonous Gases	6	3	9
Suffocation	10	8	18
Overlying of Infants	1	4	5
Drowning	123	24	147
Firearms	18	3	21
Falls	48	9	57
In Mines and Quarries	16	..	16
Machines	4	2	6
Vehicular Accidents—			
On Railways	47	9	56
Motor Car	24	8	32
Motor Cycle	6	1	7
Motor Bus	2	..	2
Motor Lorry	3	..	3
Bicycle	6	..	6
Tram Car	6	6	12
Vehicle drawn by Horses	18	4	22
Vehicle, Undefined	4	3	7
Injuries by Animals	8	1	9
Starvation	2	..	2
Effects of Heat	9	6	15
Excessive Cold	1	2	3
Lightning	1	..	1
Electricity	1	..	1
Fractures, Unspecified	45	16	61
Other Violence	73	14	87
Total	527	174	701

On the average of the past five years the female mortality rate from accidents was slightly less than one-third of the rate for males.

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 that age. The deaths per 10,000 males at certain ages from drowning, sunstroke, and other accidents for the period 1909–13 were as follows :—

DEATH RATES FROM ACCIDENT—MALES, 1909–13.

—	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	1·74	1·19	1·15	1·40	1·89	2·57	3·64	1·72
Sunstroke	..	..	·08	·10	·27	·18	·96	·16
Other Accidents ..	3·68	5·19	4·68	5·90	7·51	10·06	16·54	6·56
Total Accidents..	5·42	6·38	5·91	7·40	9·67	12·81	21·14	8·44

For men aged 20 to 35 the death rate from accidental violence is less than one-third of that for men over age 65 and slightly less than one half of the rate for those aged 55 to 65. The death rates in the above table agree fairly closely with English experience, which shows that the annual deaths from accidents per 10,000 males were 5·33 at the age group 15–20, 5·71 at 20–25, 6·64 at 25–35, 8·62 at 35–45, 11·12 at 45–55, 13·99 at 55–65, and 18·85 at 65 and upwards.

Occupations of men dying from accidents.

During the year 1915, 401 males aged seventeen years and upwards died from the results of accidents. The numbers for the different occupations were as follows :—

Occupation.	Deaths from Accidents, 1915.	Occupation.	Deaths from Accidents 1915.
Labourer (undefined) ..	107	Quarryman	4
Farmer, grazier	50	Grocer	4
Miner	18	Commercial traveller ..	3
Soldier	17	Butcher..	3
Railway employee (except clerk)	13	Hairdresser	3
Driver, carter, carrier ..	12	Steward, waiter	3
Seaman	11	Bricklayer	3
Builder, contractor ..	10	Tailor	3
Clerk	10	Saddler	3
Old-age pensioner ..	9	Cook	2
Wharf labourer	9	Baker	2
Carpenter	8	Horse trainer, jockey, groom	2
Engineer	7	Ropemaker	2
Market gardener	6	Watchman	2
Sawyer, sawmiller ..	6	Motor-driver	2
Bootmaker	5	Stonemason	2
Blacksmith	5	Draper	1
Engine-driver, fireman ..	5	Plumber	1
Painter	4	Others (specified) ..	20
Agent	4	Unspecified	12
Dealer	4	Total	401
Storeman	4		

Of the 401 deaths of males over 17 years of age which resulted from accidents in 1915, 81 were due to drowning.

Suicide. In the year 1915, 113 males and 37 females took their own lives. The deaths represented a rate of 105 per million of the population as compared with rates of 90 in the preceding year, 103 in 1913, 112 in 1912, 114 in 1911, 101 in 1910, 92 in 1909 and 1908, and 109 in 1890–2. The rate in the year under review was considerably below that for Australia—131—but slightly above that for England and Wales—101—in 1914. A much lower rate from suicide obtains among females than males, the rate for the former being two-sevenths of that for the latter on the average of the past five years.

Homicide. The deaths ascribed to homicide in 1915 numbered 24 of which 13 were of males and 11 of females. These represented a rate of 17 per million of the population as against rates of 16 in the previous year, 18 in 1913, 21 in 1912, 18 in 1911, 31 in 1910, 12 in 1909, 15 in 1908, and 34 in 1890–2.

Deaths of married women in childbed. The experience of the decade 1906–15 shows that the death rate of women in childbed varies considerably at different ages, and is less at younger than at older age periods. The number of married mothers, the deaths in childbed, and the death rates for various age groups are shown for the ten years 1906–15 in the following table :—

DEATH RATES OF MARRIED MOTHERS IN CHILDBED IN AGE GROUPS, 1906–1915.

Age Group.	Married Mothers.		
	Confinements.	Deaths.	Deaths per 1,000 Confinements.
Under 20 years	8,474	23	2·71
20 to 25 "	64,625	184	2·85
25 " 30 "	90,628	326	3·60
30 " 35 "	72,846	334	4·59
35 " 40 "	50,455	346	6·86
40 and over	22,616	156	6·90

For the age period 35 years and upwards the deaths of mothers in childbed were 69 per 10,000 as against 37 per 10,000 for those under

35 years of age. During the last ten years the number of deaths per 1,000 married women in first confinements was 5·57, as against an average of 4·04 for other confinements.

Deaths in childbed.

The death rate of women in childbed is usually ascertained by comparing the number of deaths of parturient women with the total number of births. The proportions which prevailed in the last five 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 Septicæmia.)	Puerperal Septicæmia.	Total.	
1871–1880 ..	127	46	173	64·38
1881–1890 ..	121	64	185	59·19
1891–1900 ..	117	66	183	56·01
1901–1905 ..	126	58	184	60·92
1906–1910 ..	101	46	147	47·17
1911 ..	86	62	148	44·79
1912 ..	92	61	153	42·72
1913 ..	112	65	177	49·20
1914 ..	97	61	158	43·62
1915 ..	91	40	131	37·42

In recent years a marked reduction has taken place in the death rate of women in childbed. The deaths of mothers per 10,000 children born alive were 43·5 in 1911–15, as compared with 47·2 in 1906–10 and 60·9 in 1901–5.

Puerperal Septicæmia.

In 1915 there were 40 deaths of married and unmarried mothers from puerperal septicæmia, which corresponded to a death rate of 11·4 per 10,000 births, as against 16·8 in the previous year, 18·1 in 1913, 17·0 in 1912, 18·8 in 1911, 17·2 in 1910, 11·4 in 1909, 15·4 in 1908, and 18·1 in 1901–7.

NATURAL INCREASE.

Natural increase per 1,000 of population in Australasia.

The natural increase, *i.e.*, the excess of births over deaths, per 1,000 of the population, in the various Australian States and New Zealand, for the period 1902–6 and for each of the last nine years, is shown in the following table :—

NATURAL INCREASE PER 1,000 OF THE POPULATION, AUSTRALIAN STATES AND NEW ZEALAND.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1902–6	12·30	15·76	15·41	13·28	18·04	18·12	14·68	16·94
1907	13·43	16·58	16·52	13·95	18·15	18·46	15·58	16·35
1908	12·11	16·64	16·48	14·75	18·16	18·85	15·29	17·88
1909	13·35	17·58	17·55	15·76	18·47	19·89	16·30	18·07
1910	12·86	18·09	17·61	16·17	17·80	18·56	16·30	16·46
1911	13·49	18·34	17·01	17·07	18·05	18·51	16·60	16·58
1912	14·20	19·04	18·74	18·37	17·79	19·80	17·42	17·61
1913	14·71	17·90	19·87	18·30	20·04	19·16	17·48	16·67
1914	13·85	18·80	19·49	18·62	19·01	20·66	17·52	16·68
1915	13·45	17·81	18·35	16·14	18·69	19·21	16·57	16·27
Mean '11–15	13·94	18·38	18·69	17·70	18·72	19·47	17·12	16·76

The mean natural increase in the Australian States for the period 1911–15 was 17·12 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. It has been shown in a previous paragraph that the Victorian death rates at nearly all periods of life are below those of England and Wales. The Australian annual rate of increase due to excess of births over deaths—17·12—would enable a population to double itself in 41 years, whilst at the Victorian rate of 13·94 per 1,000 of population a period of 50 years would be required.

Natural increase per 1,000 of population in various countries.

The rate of natural increase in Australia for 1911–15 is higher than that in Japan and all European countries, except Bulgaria and Roumania, on the average of the latest five years for which this information is available. The rates for various countries are given below :—

NATURAL INCREASE PER 1,000 OF THE POPULATION IN VARIOUS COUNTRIES.

Country.	Natural Increase per 1,000 of Population.	Country.	Natural Increase per 1,000 of Population.
Tasmania	19·5	Japan	12·7
Western Australia ...	18·7	Germany	12·7
Queensland	18·7	Norway	12·2
New South Wales ...	18·4	Hungary	11·7
Bulgaria	17·7	Ontario	10·9
South Australia ...	17·7	Austria	10·7
Roumania	17·4	Scotland	10·6
Australia	17·1	Sweden	9·8
New Zealand ...	16·8	England and Wales ...	9·4
Russia	16·1	Switzerland	9·3
The Netherlands ...	15·2	Spain	8·9
Victoria	13·9	Belgium	7·9
Servia	13·6	Ireland	6·3
Denmark	13·5	France	·5
Italy	12·8		

The rate of natural increase in Victoria is lower than in the other States and New Zealand, but higher than in seventeen of the countries enumerated in the above table.

Excess of births over deaths in Australasia.

The following table shows the excess per cent. of births over deaths in each of the Australian States and New Zealand for the period 1902–6, and for each of the last nine years:—

EXCESS PER CENT. OF BIRTHS OVER DEATHS, AUSTRALIAN STATES AND NEW ZEALAND.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1902–6	98	147	144	125	150	165	129	174
1907	116	157	160	141	164	164	144	149
1908	97	164	161	150	169	164	140	187
1909	119	176	181	166	181	199	158	196
1910	113	181	182	158	176	164	156	170
1911	117	178	160	174	177	182	155	177
1912	116	175	171	179	161	185	155	190
1913	132	164	191	169	214	176	162	176
1914	120	186	195	174	202	214	166	179
1915	121	170	167	151	201	190	155	179
Mean 1911–15	121	175	177	169	191	189	159	182

Taking the average of the period 1911–15, it is seen that the least excess in Australasia was in Victoria, and the greatest in Western Australia. To every hundred deaths that occurred there were 221 births in Victoria, 275 in New South Wales, 277 in Queensland, 269 in South Australia, 291 in Western Australia, 289 in Tasmania, 259 in Australia, and 282 in New Zealand.

Excess of births over deaths in districts.

The excess per cent. of births over deaths varies very considerably in different portions of the State, being greater in areas which have been settled at a comparatively recent date than in old-established districts. This is specially noticeable in the excess rates for the Mallee, Wimmera, and Gippsland districts, where for every 100 deaths there were 486, 288, and 258 births respectively, as against 207 births in the Metropolitan, 197 in the North Eastern, and 190 in the North Central districts. The subjoined table shows the excess per cent. of births over deaths in nine divisions of the State for the period 1905–7 and for each of the last eight years :—

EXCESS PER CENT. OF BIRTHS OVER DEATHS IN DISTRICTS.

District.	Excess per cent. of Births over Deaths.								
	1905–7.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Metropolitan...	81	74	94	85	91	96	119	106	107
Central ...	121	96	113	112	127	119	133	117	141
North Central	87	87	95	99	102	98	90	82	90
Western ..	110	101	118	118	120	119	131	116	122
Wimmera ...	179	175	210	184	223	182	222	170	188
Mallee ..	305	331	336	295	340	313	410	345	386
Northern ...	122	113	134	141	133	133	146	118	135
North Eastern	133	114	173	161	148	124	100	136	97
Gippsland ..	235	205	258	233	208	219	215	222	158
State ...	108	97	119	113	117	116	132	120	121

The very favorable position of the Mallee, Wimmera, and Gippsland districts in respect of their excess of births over deaths is almost wholly due to their low death rates.

Excess of births over deaths in various countries.

Although the excess per cent. of births over deaths is lower in Victoria than in the other States and New Zealand, it is higher than in any of the other countries in the following table, on the average of the latest five years for which this information is available :—

EXCESS PER CENT. OF BIRTHS OVER DEATHS IN AUSTRALASIA AND OTHER COUNTRIES.

Country.	Excess per cent. Births over Deaths.	Country.	Excess per cent. Births over Deaths.
Western Australia ...	191	Sweden	71
Tasmania	189	Scotland	69
New Zealand	182	Italy	67
Queensland	177	England and Wales ...	67
New South Wales ...	175	Switzerland... ...	62
South Australia ...	169	Japan	60
Australia	159	Servia	58
Victoria	121	Russia (European) ...	55
The Netherlands ...	117	Belgium	50
Denmark	105	Austria	49
Norway	91	Hungary	48
Ontario	86	Spain	40
Germany	78	Ireland	38
Bulgaria	75	France	3
Roumania	71		

The very favorable position of Australasia as regards the excess of births over deaths is wholly due to its low death rate. Very much higher birth rates prevailed in some of the above countries, especially Russia, Bulgaria, Roumania, Servia, Austria, and Spain, than in Australia, but this advantage was more than counterbalanced by their higher death rates. On the average of five years, the loss caused by every 100 deaths was compensated by 259 births in Australia, as compared with 217 in The Netherlands, 205 in Denmark, 191 in Norway, 178 in Germany, 169 in Scotland, 167 in England and Wales, 160 in Japan, 155 in Russia, 149 in Austria, and only 103 in France, which had the lowest excess rate of all the countries shown.