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## DISAAIMER

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## CHAPTER X.

## VITAL STATISTICS.

Note.-1. Owing to considerations of space, the tables in this chapter contain only summaries of the principal vital statistics for Australia. They relate, in the main, to the year 1957, except for the totals of marriages, births, deaths and infant deaths, for which it has been possible to include figures for 1958. Comparisons have been restricted, in general, to the individual years 1954 to 1958 and the five-year periods 1931-35 to 1951-55, while age data have been shown in groups. Comparisons over longer periods, together with more detailed figures such as single age distributions and cross-classifications of various characteristics, will be found in the annual bulletin, Demography.
2. Figures for Australia throughout are exclusive of full-blood aboriginals.

## § 1. Provisions for Registration and Compilation of Statistics.

In Australia, vital statistics are compiled from information obtained from the registers of births, deaths and marriages. Each State and Territory has an independent system of registration. Provisions for the civil registration of births, deaths and marriages have been in force in Tasmania from 1839, in Western Australia from 1841, in South Australia from 1842, in Victoria from 1853 and in New South Wales and Queensland (then part of New South Wales) from 1856. Registration in the Territories is administered by the Commonwealth Government, registration in respect of the Northern Territory having been taken over from South Australia in 1911 and in respect of the Australian Capital Territory from New South Wales in 1930. The authority responsible for the registration of births, deaths and marriages occurring within his particular State or Territory is the RegistrarGeneral or the Principal Registrar.

In the Australian Capital Territory and the Northern Territory, information concerning a birth is required to be supplied within 21 days, in South Australia in 42 days, and in all other States 60 days is allowed. In all States, however, provision has been made for the late registration of births. For the registration of a death, the period allowed is 8 days in Tasmania, 10 days in South Australia, 14 days in Western Australia, the Northern Territory and the Australian Capital Territory, 21 days in Victoria and 30 days in New South Wales and Queensland. Provision is made in all States and Territories for the celebration of marriages by ministers of religion registered for that purpose with the Registrar-General or the Principal Registrar of Births, Deaths and Marriages of the State or Territory and also by certain civil officers. In all cases the celebrant, whether minister of religion or civil officer, is required to register particulars of the parties married with the Registrar of the district in which the marriage has taken place. In Vietoria, Western Australia, the Northern Territory and the Australian Capital Territory, registration of a marriage is required immediately following the ceremony, in Tasmania and South Australia witbin 7 days and in New South Wales and Queensland within 30 days.

For all States except Queensland and Tasmania, the registration of stillbirths is compulsory. Western Australia was the first State to introduce compulsory registration in 1908, followed by the Australian Capital Territory in 1930, New South Wales in 1935, South Australia in 1937, Northern Territory in 1949 and Victoria in 1953. No statutory provision bas been made in Queensland or Tasmania for the registration of stillbirths, but provision is made in these States for voluntary registration and it appears likely that nearly all such births are notified to the Registrar-General. In this chapter, stillbirths have been excluded from ail tables of births and deaths and are shown only in those specially relating to stillbirths.

While there is every indication that the registration work of the several States and the Territories is very efficiently carried out, it is clear that in those States with a large area and scattered population, failure to register births and deaths may occur in a few cases.

The data required for the compilation of vital statistics are copied from the registers of births, deaths and marriages in the Registrar-General's Office and forwarded, through the Deputy Commonwealth Statistician in each State, and direct from the Principal Registrars in the two Territories, to the Commonwealth Statistician. The compilation and publication of vital statistics for Australia is a function of the Commonwealth Statistician. The Statisticians in the various States compile and publish statistics relating to their respective States.

## § 2. Marriages.

Note.-See Note at the beginning of this chapter.

1. Number of Marriages.-The number of marriages registered in Australia during the year ended 31st December, 1958 was 74,001 , giving a rate of 7.51 per 1,000 of the mean population for the year. A summary of the number of marriages registered in each State and Territory from 1931 to 1958 is given in the following table. Annual averages for each five-year period from 1861 to 1950 were published in Official Year Book No. 39, page 575. A graph showing the number of marriages in each year from 1860 to 1958 appears on page 333 of this issue.

MARRIAGES.

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Annual Averages. |  |  |  |  |  |  |  |  |  |
| 1931-35 | 18,742 | 12,773 | 6,950 | 3,967 | 3,328 | 1,638 | 29 | 53 | 47,480 |
| 1936-40 | 25,295 | 17,784 | 8,982 | 5,726 | 4,399 | 2,187 | 83 | 85 | 64,541 |
| 1941-45 | 28,506 | 19,450 | 10,563 | 6,517 | 4,668 | 2,097 | 71 | 109 | 71,981 |
| 1946-50 | 30,162 | 20,453 | 10,666 | 6,581 | 5,205 | 2,529 | 114 | 181 | 75,891 |
| 1951-55 | 28,483 | 20,007 | 10,171 | 6,290 | 5,232 | 2,539 | 146 | 234 | 73,102 |
| annual Totals. |  |  |  |  |  |  |  |  |  |
| 1954 | 27,503 | 19,404 | 10,027 | 6,190 | 5,204 | 2,512 | 143 | 246 | 71,229 |
| 1955 | 27,645 | 20,056 | 10,098 | 6,226 | 5,145 | 2,600 | 151 | 251 | 72,172 |
| 1956 | 27,313 | 20,137 | 9,934 | 6,277 | 5,080 | 2,601 | 160 | 278 | 71,780 |
| 1957 | 28,767 | 20,239 | 10,271 | 6,581 | 4,897 | 2,507 | 178 | 256 | 73,696 |
| 1958 | 28,554 | 20,649 | 10,255 | 6,505 | 5,038 | 2,475 | 201 | 324 | 74,001 |

2. Crude Marriage Rates.-The crude marriage rates for each State and Territory from 1931 to 1958 are given hereunder:-

CRUDE MARRIAGE RATES.(a)

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| AvERAGE ANNUAL RATES. |  |  |  |  |  |  |  |  |  |
| $1931-35$ | $\cdots$ | 7.20 | 7.02 | 7.35 | 6.83 | 7.58 | 7.19 | 5.92 | 5.74 |
| $1936-40$ | - | 9.29 | 9.52 | 8.80 | 9.65 | 9.49 | 9.25 | 13.28 | 7.22 |
| $1941-45$ | - | 9.97 | 9.86 | 10.04 | 10.61 | 9.74 | 8.61 | 7.18 | 7.57 |
| $1946-50$ | $\cdots$ | 9.90 | 9.72 | 9.41 | 9.87 | 10.01 | 9.56 | 9.39 | 9.36 |
| $1951-55$ | $\cdots$ | 8.41 | 8.34 | 7.92 | 8.11 | 8.44 | 8.35 | 9.21 | $($ b) 8.22 |

Annual Rates.

|  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1954 | $\cdots$ | 8.02 | 7.91 | 7.64 | 7.77 | 8.13 | 8.07 | 8.82 | $(b) 8.10$ | 7.92 |
| 1955 | $\cdots$ | 7.92 | 7.94 | 7.54 | 7.59 | 7.81 | 8.22 | 8.86 | $(b) 7.74$ | 7.84 |
| 1956 | $\cdots$ | 7.68 | 7.73 | 7.27 | 7.40 | 7.50 | 8.07 | 8.94 | $(b) 8.01$ | 7.61 |
| 1957 | $\cdots$ | 7.94 | 7.57 | 7.38 | 7.53 | 7.08 | 7.59 | 9.50 | $(b) 6.80$ | 7.64 |
| 1958 | $\cdots$ | 7.73 | 7.54 | 7.25 | 7.25 | 7.14 | 7.33 | 10.45 | 7.88 | 7.51 |

(a) Number of marriages per 1,000 of mean population.
(b) Revised rates based on population estimates adjusted in accordance with the June, 1957 Population Count of Canberra are as follows :-1951-55, 8.20; 1954, 8.09; 1955, 7.67; 1956, 7.86; 1957, 6.74.
3. Marriage Rates based on Marriageable Population.-As the marriage rates in some international tabulations are based on the unmarried population aged 15 years and over, the corresponding rates have been calculated for Australia for the eight census periods to 1953-55. The period in each case comprises the census year with the year immediately preceding and the year immediately following, and the figures are as follows,

PERSONS MARRYING PER 1,000 OF UNMARRIED POPULATION: AUSTRALIA.

(a) Average annual number of persons who married per 1,000 unmarried persons, including widowed and divorced, aged 15 years and over.
4. Crude Marriage Rates of Various Countries.-The following table gives the crude marriage rates for Australia in comparison with the rates for various other countries.

CRUDE MARRIAGE RATES $(a)$ : VARIOUS COUNTRIES.

| Country. | $\begin{gathered} 1921- \\ 25 . \end{gathered}$ | $\begin{array}{r} 1926- \\ 30 . \end{array}$ | $\begin{array}{r} 1931- \\ 35 . \end{array}$ | 1957. | Country. | 1921- | $\begin{array}{r} 1926- \\ 30 . \end{array}$ | $\begin{aligned} & \text { 1931- } \\ & 35 . \end{aligned}$ | 1957. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| United States of |  |  |  |  | New Zealand(c) | 8.0 | 7.6 | 7.3 | 8.0 |
| America | 10.6 | 9.9 | 9.2 | 8.9 | United Kingdom | 7.7 | 7.5 | 7.9 | 7.8 |
| Union of South |  |  |  |  | Belgium . | 10.6 | 9.1 | 7.8 | 7.6 |
| Africa(b) | 8.0 | 9.3 | 9.4 | 8.8 | Australia (d) | 8.0 | 7.5 | 7.2 | 7.6 |
| Yugoslavia | 10.6 | 9.5 | 7.8 | 8.6 | Italy .. | 9.0 | 7.3 | 6.8 | 7.5 |
| Japan | 8.8 | 8.0 | 7.6 | 8.5 | Denmark | 7.9 | 7.8 | 8.7 | 7.3 |
| Spain -. | 7.3 | 7.3 | 6.5 | 8.5 | Finland | 7.1 | 7.2 | 7.2 | 7.2 |
| Netherlands | 8.2 | 7.7 | 7.2 | 8.5 | Sweden | 6.3 | 6.7 | 7.3 | 7.0 |
| Switzerland | 7.7 | 7.5 | 7.7 | 8.1 | France | 9.5 | 8.2 | 7.4 | 7.0 |
| Canada | 7.3 | 7.3 | 6.4 | 8.0 | Norway | 6.3 | 6.1 | 6.5 | 6.9 |
| Austria | 9.6 | 7.5 | 6.8 | 8.0 | Ireland, Republic of | 4.9 | 4.6 | 4.6 | 5.0 |

(a) Number of marriages per 1,000 of mean or mid-year population.
(b) White population
only.
(c) Includes Maoris.
(d) Excludes full-blood aboriginals.
5. Age and Conjugal Condition at Marriage.-(i) General. Particulars of age at marriage in age groups and previous conjugal condition of bridegrooms and brides in 1957 are given hereunder. There were 6,563 males under 21 years of age married during 1957, while the corresponding number of females was 26,749. At the other extreme there were 105 bachelors and 60 spinsters in the age group 65 years and over.

AGE AND CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES : AUSTRALIA, 1957.

| Age at Marriage (Years). | Bridegrooms. |  |  |  | Brides. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bachelors. | Widowers. | Divorced. | Total. | Spinsters. | Widows. | Divorced. | Total. |
| Under 20 | 3,073 |  |  | 3,073 | 18,084 | 4 | 5 | 18,093 |
| 20-24 | 30,630 | 13 | 50 | 30,693 | 32,849 | 99 | 240 | 33,188 |
| 25-29 | 20,056 | 64 | 435 | 20,555 | 8,582 | 217 | 963 | 9,762 |
| 30-34 | 7,288 | 148 | 893 | 8,329 | 3,003 | 309 | 1,128 | 4,440 |
| 35-39 | 2,578 | 178 | 852 | 3,608 | 1,300 | 379 | 989 | 2,668 |
| -40-44 | 1,170 | 319 | 734 | 2,223 | 684 | 456 | 692 | 1,832 |
| 45-49 | 696 | 315 | 591 | 1,602 | 407 | 486 | 472 | 1,365 |
| 50-54 | 386 | 406 | 357 | 1,149 | 270 | 404 | 210 | 884 |
| 55-59 | 203 | 450 | 218 | 871 | 145 | 337 | 81 | 563 |
| ,60-64 | 83 | 416 | 84 | 583 | 87 | 307 | 54 | 448 |
| 65 and over. . | 105 | 835 | 70 | 1,010 | 60 | 361 | 32 | 453 |
| Total | 66,268 | 3,144 | 4,284 | 73,696 | 65,471 | 3,359 | 4,866 | 73,696 |

(ii) Proportional Distribution. In the following table the proportional distribution of bridegrooms and brides according to previous conjugal condition is shown in five-yearperiods from 1931 to 1955 and for each of the years 1955 to 1957:-

CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES : PROPORTIONAL. DISTRIBUTION, AUSTRALIA.
(Per Cent.)

(iii) Relative Ages of Bridegrooms and Brides. The relative ages of bridegrooms and brides in 1957 are shown below in age groups of five years.

RELATIVE AGES OF BRIDEGROOMS AND BRIDES : AUSTRALIA, 1957.

| Age of Bridegroom(Years). | Total Bridegrooms. | Age of Bride (Years). |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Under 15. | 15-19. | 20-24. | 25-29. | 30-34. | 35-39. | 40-44. | 45 and over. |
| Under 20 | 3,073 | 17 | 2,486 | 550 | 18 | 1 | 1 |  |  |
| 20-24 | 30,693 | 15 | 11,417 | 17,594 | 1,436 | 190 | 26 | 10 | 5 |
| 25-29 | 20,555 | 2 | 3,449 | 11,474 | 4,364 | 937 | 238 | 62 | 29 |
| 30-34 | 8,329 | 1 | 568 | 2,795 | 2,595 | 1,573 | 569 | 168 | 60 |
| 35-39 | 3,608 | 1 | 93 | 557 | 896 | 940 | 695 | 299 | 127 |
| 40-44 | 2,223 |  | 29 | 157 | 294 | 468 | 514 | 455 | 306 |
| 45-49 | 1,602 |  | 9 | 42 | 112 | 201 | 354 | 373 | 511 |
| 50-54 | 1,149 |  | 6 | 11 | 33 | 84 | 163 | 247 | 605 |
| 55-59 | 871 |  | . | 7 | 10 | 29 | 75 | 125 | 625 |
| 60-64 | 583 |  |  | . | 3 | 9 | 21 | 57 | 493 |
| 65 and over | 1,010 |  |  | 1 | 1 | 8 | 12 | 36 | 952 |
| Total Brides | 73,696 | 36 | 18,057 | 33,188 | 9,762 | 4,440 | 2,668 | 1,832 | 3,713 |

(iv) Average Ages of Bridegrooms and Brides. The average age at marriage of brides has remained fairly constant during recent years at a figure of about $25 \frac{1}{2}$ years. The average ages, in years, of brides for each of the five years to 1957 were:-1953, 25.73 ; 1954, $25.59 ; 1955,25.42 ; 1956,25.34$; and 1957, 25.18. For the following five-year periods the average ages in years were:-1931-35, 25.50; 1936-40, 25.72; 1941-45, 25.68; 1946-50, 25.61; and 1951-55, 25.61. The average ages, in years, of bridegrooms were 28.96 in 1953, 28.82 in 1954, 28.68 in 1955, 28.66 in 1956, and 28.54 in 1957. It follows, therefore, that brides are, generally speaking, a little more than three years younger than bridegrooms. The difference in age was 3.23 in 1953 and 1954, 3.26 in 1955, 3.32 in 1956, and 3.36 in 1957.
6. Previous Conjugal Condition.-The following table shows the relative conjuga! condition of bridegrooms and brides in 1957.

CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES : AUSTRALIA, 1957.

| Conjugal Condition <br> of Bridegrooms. |  |  | Total <br> Bridegrooms. |  | Conjugal Condition of Brides. |  |  |
| :--- | :--- | :--- | ---: | ---: | ---: | ---: | :---: |

7. Birthplaces of Persons Marrying.-A table showing the relative birthplaces of bridegrooms and brides married in each year will be found in the annual bulletin, Demography.
8. Occupation of Bridegrooms.-The distribution of the 73,696 bridegrooms for 1957 amongst classes of occupations was as follows:-craftsmen, 20,065; commercial and clerical, 13,016; operatives, 11,581; rural, fishing and hunting, 7,971; labourers, 7,944; professional and semi-professional, 4,171 ; domestic and protective service, 4,130 ; administrative, 2,761; not gainfully occupied and not stated, 2,057 .
9. Celebration of Marriages.-In all the States, marriages may be celebrated either by ministers of religion who are registered for that purpose with the Registrar-General, or by certain civil officers-in most cases district registrars-but most of the marriages are celebrated by ministers of religion. The registered ministers in 1957 belonged to more than forty different denominations, some of which, however, have only very few adherents. A number of these have been combined under the heading "Other Christian". The figures for 1957 are shown in the following table:-

MARRIAGES IN EACH DENOMINATION, 1957.

| Denomination. | N.S.W. | Vic. | Qld. | S.A. | W.A. | Tas. | N.T. | A.C.T. | Australia. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | No. | Proportion of Total. |
| Church of England | 9,417 | 4,885 | 2,836 | 1,297 | 1,456 | 907 | 34 | 77 | 20,909 | $\begin{gathered} \% \\ 28.37 \end{gathered}$ |
| Roman Catholic | 7,283 | 5,331 | 2,649 | 1,171 | 1,143 | 482 | 50 | 93 | 18,202 | 24.70 |
| Methodist | 2,735 | 2,447 | 1,674 | 1,566 | 588 | 393 | 9 | 12 | 9.424 | 12.79 |
| Presbyterian | 3,113 | 3,308 | 1,845 | 346 | 355 | 135 | 17 | 27 | 9,146 | 12.41 |
| Greck Orthodox | 692 | 962 ! | 95 | 338 | 50 | 4 |  | 5 | 2,146 | 2.91 |
| Baptist | 367 | 280 | 161 | 161 | 77 | 78 |  |  | 1,124 | 1.53 |
| Lutheran | 137 | 237 | 281 | 391 | 27 | $6!$ | 1 | 6 | 1,086 | 1.47 |
| Congregational | 245 | 252 | 73 | 227 | 99 | 421 | 2 |  | 940 | 1.28 |
| Church of Christ | 89 | 355 | 53 | 142 | 87 | 19 | 1 | 2 | 748 | 1.01 |
| Salvation Army | 102 | 102 | 130 | 46 | 23 | 17 | 4 | 1 | 425 | 0.58 |
| Seventh-Day Adventist | 86 |  | 42 | 22 | 18 | 14. |  |  | 211 | 0.29 |
| Unitarian |  | 30 |  |  | 1. |  |  |  | 31 | 0.04 |
| Other Christian | 168 | 175 | 145 | 37 | 142 | 25 | 22 | 1 | 715 | 0.97 |
| Hebrew | 142' | 183 | 1 | 1 | 7 | 6 |  |  | 340 | 0.46 |
| Other Non- <br> christian  |  |  |  | 2 |  |  |  |  | 2 | . |
| Total | 24,576 | 18,576 | 9,985 | 5,747 | 4,073 | 2,128 | 140 | 224 | 65,449 | 88.81 |
| Civil Officers | 4,191 | 1,663 | 286 | 834 | 824 | 379 | 38 | 32 | 8,247 | 11.19 |
| Grand Total | 28,767 | 20,239 | 10,271 | 6,581 | 4,897: | 2,507 | 178 | 256 | 73,696 | 100.00 |

Proportion of Total.
(Per cent.)

| Denominational | 85.43 | , | 97.22 |  |  |  | 65 | . 50 | 88.81 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Civil .. |  |  |  | 12.67 | 83.17 | 15.88 | 21.35 | 12.50 | 11.19 |
| Cis | 14.57, | 8.22 | 2.78 | 12.67 | 16.83 | 15.12 | 21.35 | 12.50 | 11.19 |

## § 3. Divorce.

The number of dissolutions of marriage, nullities of marriage and judicial separations in 1957 was 6,374 . Further information may be found in Chapter XVI.-Public Justice, and detailed tables relating to divorce statistics for 1957 and summary tables for earlier years in Demography, Bulletin No. 75.

## § 4. Fertility and Reproduction.

Note.-See Note at the beginning of this chapter.

1. Introductory.-Of the two elements of increase in the population, namely, natural increase and net migration, the former has been by far the more important over the past few decades. The level of natural increase depends on the excess of births over deaths and the relation between fertility and mortality determines the rate of reproduction or replacement of the population.
2. Number of Live Births and Confinements.-(i) Year 1957. There are various methods of measuring the fertility of the population by relating the number of births to the numbers in the population. In each the basic data are, of course, the numbers of live births.

The number of live births registered in Australia during 1957 is shown in the following table. The table shows also the number of confinements resulting in one or more live births. The figures exclude cases where the births were of still-born children only.

LIVE BIRTHS AND CONFINEMENTS, 1957.

| Particulars. | N.S.W. | Vic. | Q'land. | S. Aust. | W.A. | Tas. | N.T. | A.C.T. | Aus- <br> tralia. |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Live Births.

| Single births | 77,615 | 59,052 | 33,078 | 19,083 | 16,533 | 8,268 | 628 | 1,113 | 215,370 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Twins | 1,801 | 1,382 | 668 | 453 | 388 | 167 | 18 | 21 | 4,898 |
| Triplets | 40 | 30 | 17 |  | 3 |  |  |  | 90 |
| Quadruplets |  |  |  |  |  |  |  |  |  |
| Males | 40,879 | 30,968 | 17,329 | 10,025 | 8,738 | 4,365 | 337 | 596 | 113,237 |
| Females | 38,577 | 29,496 | 16,434 | 9,511 | 8,186 | 4,070 | 309 | 538 | 107,121 |
| Total | 79,456 | 60,464 | 33,763 | 19,536 | 16,924 | 8,435 | 646 | 1,134 | 220,35 |

Stillbirths Associated with Multiple Births Included Above.

| Twins | $\ldots$ | 53 |  |  |  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Triplets | $\ldots$ | 2 | $\ldots$ | 10 | 1 | $\ldots$ | $\ldots$ | 5 | $\ldots$ |  |

Confinements Resulting in Above Births.

| Nuptial | $\cdots$ | 75,153 | 57,718 | 31,491 | 18,670 | 15,943 | 8,011 | 551 | 1,102 | 208,639 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Ex-nuptial | $\cdots$ | 3,403 | 2,039 | 1,932 | 642 | 790 | 343 | 86 | 22 | 9,257 |
| Total | $\ldots$ | $\mathbf{7 8 , 5 5 6}$ | $\mathbf{5 9 , 7 5 7}$ | $\mathbf{3 3 , 4 2 3}$ | $\mathbf{1 9 , 3 1 2}$ | $\mathbf{1 6 , 7 3 3}$ | $\mathbf{8 , 3 5 4}$ | $\mathbf{6 3 7}$ | $\mathbf{1 , 1 2 4}$ | $\mathbf{2 1 7 , 8 9 6}$ |

[^0](ii) Live Births, Years 1931 to 1958. The average annual number of live births in each State and Territory for each five-year period from 1931 to 1955 and the total number of live births for each year from 1954 to 1958 are given in the following table. Corresponding figures for each five-year period from 1861 to 1950 were published in Official Year Book No. 39, page 583.

## LIVE BIRTHS.

| Period. | N.S.W. | Vic. | Q'land. ${ }^{\text {\| }}$ | S. Aust. ' ${ }^{\text {' }}$ | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Annual Averages. |  |  |  |  |  |  |  |  |  |
| 1931-35 | 44,964 | 28,380. | 17,480 | 8,646 | 8,061 | 4,547 | 79 | 145 | 112,302 |
| 1936-40 | 47,679 | 30,282 | 19,534 | 9,388 | 8,877 | 4,866 | 125 | 221 | 120,972 |
| 1941-45 | 56,583 | 38,002 | 23,431 | 12,546 | 10,409 | 5,418 | 113 | 384 | 146,886 |
| 1946-50 | 68,856 | 47,372 | 28,003 | 16,270 | 13,130 | 7,064 | 289 | 734 | 181,718 |
| 1951-55 | 73,737 | 53,770 | 30,983 | 18,045 | 15,724 | 7,774 | 468 | 922 | 201,423 |
| Annual Totals. |  |  |  |  |  |  |  |  |  |
| 1954 | 73,125 | 54,660 | 31,176 | 18,227 | 15,928 | 7,770 | 513 |  | 202,256 |
| 1955 | 74,407 | 56,336 | 32,352 | 18,494 | 16,623 | 8,089 | 515 | 861 | 207,677 |
| 1956 | 75,714 | 58,393 | 32,409 | 18,964 | 16,916 | 8,104 | 556 | 1,077 | 212,133 |
| 1957 | 79,456 | 60,464 | 33,763 | 19,536 | 16,924 | 8,435 | 646 | 1,134 | 220,358 |
| 1958 | 80,045 | 61,269 | 33,872 | 20,047 | 16,731 | 8,568 | 697 | 1,275 | 222,504 |

A graph showing the number of births in each year from 1860 to 1958 will be found on page 333.
3. Crude Birth Rates.-The oldest and most popular method of measuring fertility is to relate the number of births to the total population, thus obtaining the crude birth rate. The crude birth rate measures the rate per thousand persons (irrespective of age or sex) at which the population has added to its numbers by way of births during a given period. Other methods of measuring fertility are shown on pages 330-337.

Crude birth rates for each five-year period from 1931 to 1955 and for each year from 1954 to 1958 for each State and Territory are set out below:-

CRUDE BIRTH RATES.(a)

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Average Annual Rates. |  |  |  |  |  |  |  |  |  |
| 1931-35 | 17.28 | 15.60 | 18.48 | 14.89 | 18.36 | 19.95 | 15.99 | 15.77 | 16.94 |
| 1936-40 | 17.51 | 16.20 | 19.48 | 15.82 | 19.16 | 20.58 | 19.96 | 18.68 | 17.52 |
| 1941-45 | 19.79 | 19.27 | 22.28 | 20.43 | 21.72 | 22.23 | 11.40 | 26.82 | 20.28 |
| 1946-50 | 22.60 | 22.51 | 24.69 | 24.41 | 25.24 | 26.71 | 23.77 | 37.92 | 23.39 |
| 1951-55 | 21.78 | 22.41 | 24.13 | 23.25 | 25.35 | 25.57 | 29.64 | , 632.30 | 22.85 |
| Annual Rates. |  |  |  |  |  |  |  |  |  |
| 1954 | 21.33 | 22.28 | 23.74 | 22.89 | 24.88 | 24.97 | 31.64 | b28.21 | 22.50 |
| 1955 | 21.31 | 22.30 | 24.16 | 22.55 | 25.23 | 25.59 | 30.22 | b26.56 | 22.57 |
| 1956 | 21.29 | 22.42 | 23.72 | 22.35 | 24.98 | 25.15 | 31.07 | b31.04 | 22.50 |
| 1957 | 21.93 | 22.61 | 24.25 | 22.35 | 24.47 | 25.55 | 34.49 | b30.13 | 22.86 |
| 1958 | 21.67 | 22.36 | 23.95 | 22.35 | 23.71 | 25.37 | 36.25 | 31.01 | 22.59 |

(a) Number of births per 1,000 of mean population.
(b) Revised rates based on population estimates adjusted in accordance with the June, 1957 Population Count of Canberra are as follows:-1951-55, 32.22; 1954, 28.17; 1955, 26.30; 1956, 30.47; 1957, 29.84.

Nore.-The birth rates in the table above are based on live births registered in the respective States and Territories. Prior to 1939, a large proportion of births in respect of which the mother's usual residence was the Australian Capital Territory took place in Queanbeyan, just over the New South Wales border. With improved hospital facilities in the Territory, the position was reversed until tate in 1952, when maternity accommodation was provided at the Queanbeyan District Hospital. The following rates, based on births in respect of which the mother's usual residence was the Australian Capital Territory, are a truer measure of birth rates in the Australian Capital Territory.

| Average | Annual | Rates. |  |  | Annual | Rates. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1931-1935 | .. | .. 19.53 | 1954 |  | Annal |  | (a)28.67 |
| 1936-1940 | . | 19.29 | 1955 |  | . |  | . (a)26.53 |
| 1941-1945 | . | 23.06 | 1956 |  |  |  | . (a) 30.64 |
| 1946-1950 | . | .. 27.13 | 1957 | $\ldots$ |  |  | . (a)29.58 |
| 1951-1955 | . | . . (a)28.39 | 1958 |  |  |  | 31.04 |

(a) Revised rates based on population estimates adjusted in accordance with the June, 1957 Population Count of Canberra are as follows:-1951-55, 28.32; 1954, 28.63; 1955, 26.27; 1956, 30.07; 1957, 29.29.

[^1]A graph showing the birth rate for each year from 1860 to 1958 will be found on page 334.

In the earlier years of the present century the crude birth rate fluctuated somewhat, but from 1912, when 28.60 was recorded, there was an almost continuous decline to the very low figure of 16.39 in 1934. The decline in the depression years was occasioned to some extent by the postponement of marriages and, with subsequent improvement in economic conditions, the rate rose. From 1940 the rate increased quite appreciably, owing to a continued improvement in the economic welfare of the community and the war-time boom in marriages. The latter resulted in an abnormal number of first births, but investigation indicates that rates for births other than first were generally slightly higher than might have been expected from pre-war experience. The improvement in the birth rate has been substantially maintained since the end of the war despite some falling off in marriage rates. The post-war peak of 24.07 was recorded in 1947.
4. Crude Birth Rates, Various Countries.-The following table gives crude birth rates for Australia in comparison with rates for various other countries.

CRUDE BIRTH RATES( $a$ ) : VARIOUS COUNTRIES.

| Country. | $\begin{gathered} 1921- \\ 25 . \end{gathered}$ | $\begin{gathered} 1926- \\ 30 . \end{gathered}$ | $\begin{aligned} & 1931- \\ & 35 . \end{aligned}$ | 1957. | Country. | $\begin{gathered} 1921- \\ 25 . \end{gathered}$ | $\begin{array}{r} 1926- \\ 30 . \end{array}$ | $\begin{gathered} 1931- \\ 35 . \end{gathered}$ | 1957. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Canada | 27.4 | 24.1 | 21.4 | 28.2 | Finland | 24.7 | 22.5 | 19.5 | 20.1 |
| Union of South |  |  |  |  | France | 19.3 | 18.2 | 16.5 | 18.4 |
| Africa(b) | 27.1 | 25.9 | 24.1 | 25.6 | Norway | 22.2 | 18.0 | 15.2 | 18.2 |
| New Zealand(c) | 22.2 | 19.7 | 17.0 | 25.1 | Italy | 29.8 | 26.8 | 23.8 | 18.2 |
| United States of |  |  |  |  | Switzerland | 19.5 | 17.6 | 16.4 | 17.7 |
| America | 22.5 | 19.7 | d16.9 | 25.0 | Japan | 34.6 | 33.5 | 31.6 | 17.2 |
| Yugoslavia | 35.0 | 34.2 | 31.8 | 23.5 | Belgium | 20.4 | 18.6 | 16.8 | 17.0 |
| Australia(e) | 23.9 | 21.0 | 16.9 | 22.9 | Austria | 22.2 | 17.6 | 14.4 | 17.0 |
| Spain .. | 29.8 | 28.5 | 27.1 | 21.7 | Denmark | 22.3 | 19.4 | 17.7 | 16.7 |
| Netherlands | 25.7 | 23.2 | 21.2 | 21.2 | United Kingdom | 20.4 | 17.2 | 15.5 | 16.5 |
| Ireland, Republic of | 20.3 | 20.1 | 19.4 | 21.2 | Sweden | 19.1 | 15.9 | 14.1 | 14.6 |

[^2]5. Fertility Rates.-The principal demographic factors affecting the level of crude birth rates are the proportion of women of child-bearing age in the population and the proportion of such women who are married. These factors may vary considerably at different periods and for different countries, and a population with a higher proportion of married women of child-bearing age will have a much higher crude birth rate than one with a low proportion, although the fertilities of the two populations may be identical.

In order to compare fertilities, births are sometimes related to the number of women of child-bearing age or, alternatively, nuptial births are related to the number of married women of child-bearing age. Thus births are related to potential mothers, giving the fertility rate.

The following table sets out for certain periods, commencing with 1880-82, the number of births per thousand of mean population, the number of births per thousand women of child-bearing age and the number of nuptial births per thousand married women of child-bearing age. For purposes of this table the child-bearing age has been taken to be 15-44 years inclusive, but births to mothers who were stated to be under 15 or over 44 years have been included in the compilations.

CRUDE BIRTH RATES AND FERTILITY RATES: AUSTRALIA.

| Period. |  | Average Annual Rates. |  |  | Index Nos. (Base: $1880-82=100$ ). |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \text { Crude } \\ \text { Birth } \\ \text { Rate.(a) } \end{gathered}$ | Fertility Rates. |  | Crude Birth Rate.(a) | Fertility Rates. |  |
|  |  |  | $\begin{gathered} \text { Births } \\ \text { per } 1,000 \\ \text { Women } \\ \text { aged } 15-44 \\ \text { Years. } \end{gathered}$ | Nuptial Births per 1,000 Married Women aged 15-44 Years. |  | $\begin{gathered} \text { Births } \\ \text { per } 1,000 \\ \text { Women } \\ \text { aged } 15-44 \\ \text { Years. } \end{gathered}$ | Nuptial Births per 1,000 Married Women aged 15-4 Years. |
| 1880-82 | . | 35.3 | 170 | 321 | 100 | 100 | 100 |
| 1890-92 | . | 34.5 | 159 | 332 | 98 | 94 | 103 |
| 1900-02 | $\cdots$ | 27.2 | 117 | 235 | 77 | 69 | 73 |
| 1910-12 | . | 27.2 | 117 | 236 | 77 | 69 | 74 |
| 1920-22 | . | 25.0 | 107 | 197 | 71 | 63 | 61 |
| 1932-34 |  | 16.7 | 71 | 131 | 47 | 42 | 41 |
| 1946-48 | $\cdots$ | 23.6 | 104 | 160 | 67 | 61 | 50 |
| 1953-55 | . | 22.7 | 109 | 149 | 64 | 64 | 46 |

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

The table above shows how increasing proportions both of women of child-bearing age and of married women of child-bearing age inflate the crude birth rate. Thus, while the nuptial birth rate for married women increased by only 22 per cent. over the period 1932-34 to $1946-48$ the crude birth rate rose by 41 per cent., due principally to the greatly increased number of marriages during that period.
6. Age-specific Fertility Rates for Females.-So long as customary ages at marriage do not change drastically, the main demographic factor affecting the number of births is the age composition of the potential mothers in the population. Within the child-bearing group the fertility of women of different ages varies considerably and a clearer view of the fertility of the population can be obtained from an examination of what are known as its age-specific fertility rates, that is, the number of births to women of specified ages per thousand women of those particular ages.

Age-specific fertility rates are more commonly expressed in age groups than in single ages. In the following table, such rates, calculated in terms of female births for the purpose of obtaining the gross and net reproduction rates described in para. 7, are shown in five-year age groups for Australia for the period 1921 to 1957.

AGE-SPECIFIC FERTILITY RATES $(a)$ : AUSTRALIA.

(a) Number of female births per 1,000 women in each age group.

The table shows that in recent years the most fertile age group has been 20-24 years, whereas previously fertility had been highest for the $25-29$ age group. The decline in fertility between 1921 and 1936 was general but was more pronounced in the higher age groups. During the period 1936 to 1957, a rise in fertility occurred in all age groups below 40. The most noticeable increase has been in the 20-24 age group, in which, as mentioned, fertility is now highest, as the result of a marked trend towards earlier marriage.
7. Gross and Net Reproduction Rates for Females.-A single measure of reproduction known as the gross reproduction rate is obtained by adding together the specific fertility rates for each age in the child-bearing group. This measure indicates the number of female children who would be born on the average to women living right through the child-bearing period, if the conditions on which the rate is based continue. The rate is unaffected by the age composition of the potential mothers, and consequently it shows more clearly than the crude birth rate the reproductive propensity of the population. It is, however, an
imperfect measure of reproduction because it does not take into account the females who fail to live from birth to the end of the reproductive period. A more accurate measure of this nature is obtained by multiplying the specific fertility rates by the number of females in the corresponding age group of the stationary or life table population and summing the products. Allowance is thus made for the effect of mortality and the result is known as the net reproduction rate. The net reproduction rate indicates the average number of female children who would be born to women during their lifetime if they were subject at each age to the fertility and mortality rates on which the calculation is based. A constant net reproduction rate of unity indicates that the population will ultimately become stationary. If it continues greater than unity, the population will ultimately increase; if less than unity, it will ultimately decrease. The following table should be read in the light of the comment which follows it and of the index of marriage fertility in paragraph 9, page 337.

GROSS AND NET REPRODUCTION RATES : AUSTRALIA.

|  | Year. |  | Gross Reproduction Rate. | Net Reproduction Rate. |  | Year. |  |  | Gross Reproduction Rate. |  | Net eproaction Rate. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1881(a) |  | .. | 2.65 | (b) | 1.88 | 1947 |  |  | 1.493 | (g) | 1.416 |
| 1891(a) |  | . | 2.30 | (b) | 1.73 | 1951 | . | - | 1.485 | (g) | 1.409 |
| 1901(a) | . | . | 1.74 | (c) | 1.39 | 1953 | . | . . | 1.556 | (g) | 1.477 |
| 1911 |  |  | 1.705 | (d) | 1.421 | 1954 |  |  | 1.558 | (h) | 1.497 |
| 1921 |  | $\ldots$ | 1.511 | (e) | 1.313 | 1955 |  |  | 1.594 | (h) | 1.532 |
| 1931 |  | . | 1.141 | (f) | 1.039 | 1956 |  |  | 1.608 | (h) | 1.546 |
| 1941 |  | $\cdots$ | 1.154 | (f) | 1.053 | 1957 | . |  | 1.662 | (h) | 1.598 |

(a) Approximate only. $\quad$ (b) 1881-1890 mortality experience used. (c) 1891-1900 mortality experience used. (d) 1901-1910 mortality experience used. (e) 1920-1922 mortality experience used. (f) 1932-1934 mortality experience used. (g) 1946-1948 mortality experience used. (h) 1953-1955 mortality experience used.

Nore.-It is not strictly correct to assume, as in the calculations of the rates above, that a particular age-specific fertility rate can be applied to a hypothetical group of women reaching that age, without taking account of previous fertility and marriage experiences. Reproduction rates are therefore unreliable when birth and marriage rates have been changing. The indexes of marriage fertility shown on the next page are also of doubtful reliability in similar circumstances.

Since 1881, there has been a substantial downward trend in both rates, but the gross rate has fallen considerably more than the net, showing that the decline in fertility has been offset to some extent by a decline in mortality. The net reproduction rate was below unity over the period 1932 to 1939. If such low levels were to be experienced indefinitely, ultimate population decline would be certain. The progressive rise in both gross and net reproduction rates from 1939 to 1947 was due largely to higher marriage rates during the war and early post-war years than had been experienced in the immediate pre-war years. Such fluctuations in marriage rates affect both gross and net reproduction rates substantially. When fluctuations in marriage rates are transient, reproduction rates calculated as above are not valid as indicators of relative fertility nor of the extent to which population will replace itself. Owing to various influences, the number of marriages in each year since 1950 has remained at a relatively high level and the net reproduction rates have been steady at about 1.4 to 1.5 . The fertility of marriages is shown in paragraph 9 below.
8. Gross and Net Reproduction Rates, Various Countries.-In the following table, a comparison is given of the gross and net reproduction rates recorded for various countries in the period 1955 to 1957. These represent the latest available international comparison.

GROSS AND NET REPRODUCTION RATES : VARIOUS COUNTRIES.

| Country. | Period. | Reproduction Rate. |  | Country | Period. | Reproduction Rate. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Gross. | Net . |  |  | Gross. | Net. |
| Canada | 1956 | 1.88 | (a) | France | 1956 | 1.30 | 1.24 |
| New Zealand(b) | 1956 | 1.85 | 1.78 | Norway | 1955 | 1.33 | 1.26 |
| United States of |  |  |  | Switzerland | 1955 | 1.19 | 1.13 |
| America(c) | 1955 | 1.67 | 1.61 | Denmark | 1956 | 1.26 | 1.14 |
| Australia(d) | 1957 | 1.66 | 1.60 | Scotland | 1957 | 1.33 | 1.27 |
| Ireland, Republic of | 1955 | 1.59 | 1.45 | England and Wales | 1956 | 1.15 | 1.11 |
| Netherlands | 1956 | 1.48 | 1.41 | Belgium | 1955 | 1.16 | 1.06 |
| Finland . . | 1955 | 1.42 | 1.34 | Sweden . . . | 1955 | 1.09 | 1.06 |
| Portugal .. | 1955 | 1.40 | 1.20 |  |  |  |  |

[^3]BIRTHS, DEATHS, AND MARRIAGES: AUSTRALIA, 1860 то 1958

RATES OF BIRTHS, DEATHS, AND NATURAL INCREASE
PER THOUSAND

INFANT MORTALITY RATES: AUSTRALIA, 1910 TO 1958


In comparing the reproduction rates of the countries shown above, allowance should be made for any differences in years, as the rates for any one country from year to year are affected by variations in the incidence of marriage.
9. Fertility of Marriages.-Estimates of the fertility of marriages which were published in issues of the Official Year Book prior to No. 36 were calculated by relating the births of one five-year period to the marriages in the preceding five years (see Official Year Book No. 35, p. 329). Since the publication of that issue, an improved method has been formulated for measuring current marriage fertility by relating nuptial confinements in each year to the marriages from which they could have resulted. Confinements of women of a certain number of years duration of marriage are related to the number of marriages taking place that number of years previously. The table below sets out this index of current fertility per marriage in respect of confinements in the individual years shown.

FERTILITY OF MARRIAGES : AUSTRALIA.


Note.-See Nots to table on page 332.
The figure for a particular year gives the estimated number of children which a marriage would produce according to the fertility conditions of that year. There was an almost continuous decline for a number of years to 1942, but a pronounced increase has since occurred. In comparing this index with the net reproduction rate, it is evident that the rise in the latter since 1935 has been caused mainly by a rise in the marriage rate, due firstly to postponed depression marriages, and secondly to war-time and post-war marriages which have resulted in very high proportions of women married, particularly in the most fertile age groups. Only since 1944 has there been an increase in the fertility of marriages compared with pre-war levels.

The figures for 1949 and subsequent years present a somewhat inflated index, as many of the births which have been used to calculate the index relate to marriages of immigrants which took place overseas and are consequently not included in Australian marriage records. Partial investigation suggests that this factor probably overstated the index by very little in 1949, but that the overstatement at present is about 8 per cent.
10. Masculinity of Live Births.-The masculinity of live births, i.e., the number of males born for every 100 female births, has remained fairly stable for Australia at about 105. But when the number of births for which masculinity is being calculated is small (for example, State totals), considerable variation is shown. For 1958, the figures ranged from 99.14 in Northern Territory to 113.93 in the Australian Capital Territory. The averages for the ten years 1941-50 were as follows:-New South Wales, 105.49; Victoria, 105.47; Queensland, 105.49; South Australia, 105.78; Western Australia, 104.27; Tasmania, 104.45; Northern Territory, 100.20; Australian Capital Territory, 104.91; Australia, 105.38. The following table shows the figures for Australia for each ten-year period from 1901 to 1950 and for each of the years 1955 to 1958 :-

MASCULINITY(a) OF LIVE BIRTHS REGISTERED: AUSTRALIA.

| Particulars. | $1901-10$. | $1911-20$. | $1921-30$. | $1931-40$. | $1941-50$. | 1955. | 1956. | 1957. | 1958. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Births | 105.22 | 105.27 | 105.55 | 105.12 | 105.38 | 105.16 | 106.87 | 105.71 | 104.98 |
| Ex-nuptial Births | 104.08 | 105.25 | 105.16 | 105.36 | 105.34 | 104.72 | 107.16 | 102.86 | 104.83 |

(a) Number of males born for every 100 female births.
11. Ex-nuptial Live Births.-(i) General. The highest proportion of ex-nuptial births in any one year since 1901 was recorded in 1905, when there were 6,545 ex-nuptial births, representing 6.24 per cent. of total births. Since then the proportion has declined steadily. The largest number of ex-nuptial births was recorded in 1957, when 9,362 were registered, but this number represented only 4.25 per cent. of total births. The lowest proportion was 3.78 per cent. in 1940.

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The variations in the proportions of ex-nuptial births as between the individual States and Territories for 1957 are shown below.

EX-NUPTIAL LIVE BIRTHS : NUMBER AND PROPORTION, 1957.

| Particulars. | N.S.W. | Vic. | Q'land. | S.A. | W.A. | Tas. | N.T. | A.C.T. | Aust. |
| :---: | :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Number <br> Proportion of | 3,438 | 2,065 | 1,954 | 651 | 799 | 346 | 87 | 22 | 9,362 |
| Total Births $\%$ | 4.33 | 3.42 | 5.79 | 3.33 | 4.72 | 4.10 | 13.47 | 1.94 | 4.25 |

The number and proportion of ex-nuptial births at intervals from 1901 to 1957 are as follows:-

EX-NUPTIAL LIVE BIRTHS : NUMBER AND PROPORTION, AUSTRALIA.

| Particulars. |  |  | Annual Average. |  |  |  |  | 1954. | 1955. | 1956. | 1957. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{aligned} & 1901- \\ & 10 . \end{aligned}$ | $\begin{array}{r} 1911- \\ 20 . \end{array}$ | $\begin{array}{r} 1921- \\ 30 . \end{array}$ | $\begin{gathered} 1931- \\ 40 . \end{gathered}$ | $\begin{gathered} 194 \mathrm{I}- \\ 50 . \end{gathered}$ |  |  |  |  |
| Number |  |  | $\overline{6,498}$ | $\overline{6,836}$ | 6,238 | 5,133 | 6,780 | 8,027 | 8,537 | 8,970 | 9:362 |
| Proportion Births | of | Total \% | 6.05 | 5.22 | 4.66 | 4.40 | 4.13 | 3.97 | 4.11 | 4.23 | 4.25 |

It is, of course, possible that the number of ex-nuptial births is somewhat understated owing to diffidence in proclaiming the fact of ex-nuptiality.
(ii) Rate of Ex-nuptiality. A further comparison is obtained by calculating the number of ex-nuptial births per thousand of the single, widowed and divorced female population aged from 15 to 44 years. On this basis, the number of ex-nuptial births per 1,000 unmarried women of ages 15 to 44 is as follows:- $1880-82,14.49 ; 1890-92,15.93 ; 1900-02,13.30$; $1910-12,12.53 ; 1920-22,10.50 ; 1932-34,6.91$; 1946-48, 11.45 ; and 1953-55, 14.45 . Ex-nuptial births to married women, which are not recorded separately, are included in these figures and it is not possible to determine to what extent they influence the trend shown.
(iii) Comparison of Rates. The following table, showing the relative proportions of ex-nuptial and nuptial births to the total population, discloses a much greater proportional movement in the ex-nuptial birth rate than in the nuptial rate:-

CRUDE EX-NUPTIAL, NUPTIAL, AND TOTAL BIRTH RATES(a) : AUSTRALIA.

| Birth Rate. | Annual Average. |  |  |  |  | 1954. | 1955. | 1956. | 1957. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1901-10. | 1911-20. | 1921-30. | 1931-40. | 1941-50. |  |  |  |  |
| Ex-nuptial | 1.60 | 1.39 | 1.04 | 0.76 | 0.90 | 0.89 | 0.93 | 0.95 | 0.97 |
| Nuptial | 24.91 | 25.18 | 21.40 | 16.47 | 20.99 | 21.61 | 21.64 | 21.55 | 21.89 |
| Total | 26.51 | 26.57 | 22.44 | 17.23 | 21.89 | 22.50 | 22.57 | 22.50 | 22.86 |

(a) Number of births per 1,000 of mean population.
12. Legitimations.-Acts have been passed in the several States to legitimize children born before the marriage of their parents, provided that no legal impediment to the marriage existed at the time of birth. On registration in accordance with the provisions of the Legitimation Acts, any child who comes within the scope of their purposes, born before or after the passing thereof, is deemed to be legitimate from birth by the post-natal union of its parents, and entitled to the status of offspring born in wedlock. During 1957, the number of children legitimized in Australia was 952.
13. Multiple Births.-Because the current Australian birth statistics are based only on those confinements which resulted in a live-born child, the number of confinements for multiple births for Australia is understated-firstly, because in cases where all children of a multiple birth are still-born the confinement is excluded, and secondly, because some cases of multiple births in which only one child was live-born are registered as single births.

During 1957, multiple births recorded on the above basis comprised 2,495 cases of twins and 31 cases of triplets, the resultant numbers of live-born and still-born children being respectively 4,898 and 92 for twins, 90 and 3 for triplets. This represents an average of
11.45 recorded cases of twins and 0.14 recorded cases of triplets per 1,000 confinements or, alternatively, mothers of twins represented 1 in every 87 mothers and mothers of triplets 1 in every 7,029 . Total cases of multiple births represented 11.59 per 1,000 confinements or 1 in every 86 mothers.

The proportion of mothers of multiple births to total mothers does not vary greatly from year to year.
14. Ages of Parents. - The relative ages of the parents of children, whose births were registered in 1957, have been tabulated separately for male and female births, multiple births being distinguished from single births. For total births and for multiple births the relative ages of parents are shown in Demography, Bulletin No. 75. In the present work the exigencies of space allows only the insertion of a table showing, in respect of confinements resulting in one or more live births, the relative ages of parents in groups of five years.

CONFINEMENTS : RELATIVE AGES OF PARENTS, AUSTRALIA, 1957.

(a) Includes four mothers whose ages were not stated.
15. Birthplaces of Parents.-A table showing birthplaces of parents of children whose births were registered during 1957 appears in Demography, Bulletin No. 75.
16. Occupation of Fathers.-A table showing occupations of the fathers of nuptial children whose births were registered in 1957 appears in Demography, Bulletin No. 75.
17. Age, Duration of Marriage and Issue of Mothers.-(i) General. The total number of nuptial confinements resulting in live births in 1957 was 208,639, comprising 206,222 single births, 2,386 cases of twins, and 31 cases of triplets. The tables relating to previous issue exclude the issue of former marriages and still-born children. On the other hand, they include children by the same father who were born to the mother prior to the marriage. Children born at the present confinement are included in the total issue shown.
(ii) Duration of Marriage and Issue of Mothers. The following table shows that, in 1957, the duration of marriage of mothers of nuptial children ranged from less than one year to over 25 years, and that the average family increased fairly regularly with the duration of marriage. The average issue of married mothers who bore children in 1957 was 2.54 , compared with 2.52 in 1956, 2.50 in 1955, 2.48 in 1954, and 2.45 in 1953.

## NUPTIAL CONFINEMENTS : DURATION OF MARRIAGE AND ISSUE OF

 MOTHERS, AUSTRALIA, 1957.| Duration of Marriage (Years). | Total Married Mothers. | Total Issue. | Average Issue. | Duration of Marriage (Years). | Total Married Mothers. | Total Issue. | Average Issue. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-1 | 26,932 | 27,508 | 1.02 | 15-16 | 2,871 | 13,957 | 4.86 |
| 1-2 | 24,310 | 30,327 | 1.25 | 16-17 | 2,074 | 10,714 | 5.17 |
| 2-3 | 23,352 | 40,457 | 1.73 | 17-18 | 1,687 | 9,144 | 5.42 |
| 3-4 | 20,287 | 41,629 | 2.05 | 18-19 | 1,103 | 6,454 | 5.85 |
| 4-5 | 18,097 | 42,721 | 2.36 | 19-20 | 1,861 | 5,423 | 6.30 |
| 5-6 | 16,316 | 43,197 | 2.65 |  |  |  |  |
| 6-7 | 14,224 | 41,672 | 2.93 | 20-21 | 618 | 3,938 | 6.37 |
| 7-8 | 11,971 | 37,999 | 3.17 | 21-22 | 450 | 3,001 | 6.67 |
| 8-9 | 10,050 | 34,470 | 3.43 | 22-23 | 319 | 2,221 | 6.96 |
| 9-10 | 8,818 | 32,241 | 3.66 | 23-24 | 181 | 1,365 | 7.54 |
| 10-11 | 7,574 | 29,439 | 3.89 | 24-25 | 123 | 982 | 7.98 |
| 11-12 | 5,544 | 22,563 | 4.07 |  |  |  |  |
| 12-13 | 4,075 | 17,490 | 4.29 | 25 and over | 158 | 1,383 | 8.75 |
| 13-14 | 3,431 | 15,317 | 4.46 | Total |  |  | 2.54 |
| 14-15 | 13,213 | 14,935 | 4.65 | Total | 208,639 | 530,547 | 2.54 |

(iii) Age and Average Issue of Mothers. The following table shows the average number of children born to mothers of different ages. In the younger ages there is, naturally, little difference in the average number of children to each mother from year to year, but for mothers in the higher age groups the number of issue has fallen until recently in comparison with past years. In 1957, average issue was greater in all age groups under 40 years than in the decade 1941-50. The average issue of mothers of all ages recorded for 1957 (namely, 2.54) is 21.8 per cent. below the average of 3.25 for the years 1911-20.

AGE AND AVERAGE ISSUE OF MOTHERS : AUSTRALIA.

(iv) Previous Issue of Mothers, Various Ages. A classification of mothers by age and previous issue is given for 1957 in the following table:-

NUPTIAL CONFINEMENTS : AGE OF MOTHER AND PREVIOUS ISSUE, AUSTRALIA, 1957.

| Previous Issue. | Age of Mother (Years). |  |  |  |  |  |  | Total Married Mothers. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under 20. | 20-24. | 25-29. | 30-34. | 35-39. | 40-44. | $45 \text { and }$ |  |
| 0 | 9,613 | 30,459 | 16,396 | 6,374 | 2,288 | 631 | 31 | 65,792 |
| 1 | 2,157 | 19,554 | 21,417 | 10,054 | 3,312 | 707 | 34 | 57,235 |
| 2 | 246 | 7,316 | 16,202 | 11,612 | 4,532 | 936 | 37 | 40,881 |
| 3 | 22 | 2,096 | 7,462 | 7,897 | 3.975 | 1,044 | 45 | 22,541 |
| 4 | 2 | 521 | 2,853 | 3,903 | 2,775 | 851 | 51 | 10,956 |
| 5 | . . | 91 | 1,051 | 1,840 | 1,676 | 654 | 45 | 5,357 |
| 6 | . | 17 | 417 | 877 | 923 | 410 | 29 | 2,673 |
| 7 | . . | 2 | 127 | 446 | 542 | 278 | 22 | 1,417 |
| 8 | . | . | 31 | 195 | 397 | 173 | 28 | 824 |
| 9 | . | . | 4 | 87 | 210 | 131 | 11 | 443 |
| 10 and over. . | . | . | 2 | 64 | 190 | 223 | 41 | 520 |
| Total Married Mothers | 12,040 | 60,056 | 65,962 | 43,349 | 20,820 | 6,038 | 374 | 208,639 |

(v) Multiple Births.-Previous Issue of Mothers. Figures regarding the previous issue of married mothers of twins in 1957 show that 610 mothers had no previous issue either living or deceased, 615 had one child previously, 495 had two previous issue, 299 three, 174 four, 89 five, 43 six, 23 seven, 17 eight, 9 nine, 6 ten, 3 eleven, 1 twelve, 1 thirteen and 1 fourteen.

Of the 31 cases of nuptial triplets registered during 1957, 4 mothers had no previous issue 7 had one, 7 had two, 5 had three, 2 had four, 2 had five, 3 had six and 1 had eight.
18. Nuptial First Births.-(i) Duration of Marriage. The following table shows the interval between marriage and first birth for periods since 1911. In cases of multiple births, the first live-born child only is enumerated.

NUPTIAL FIRST BIRTHS: DURATION OF MARRIAGE, AUSTRALIA.

| Duration of Marriage. | Annual Average. |  |  |  | 1955. | 1956. | 1957. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1911-20. | 1921-30. | 1931-40. | 1941-50. |  |  |  |

Number of Nuptial First Births.


Proportion of Total Nuptial First Births.
(Per cent.)


In 1957 the masculinity of nuptial first births was 107.34 and of total births 105.71.
(ii) Age of Mother and Duration of Marriage. A summary showing grouped ages and grouped durations of marriage of mothers of nuptial first-born children is given in the following table:-

NUPTIAL FIRST BIRTHS: AGE OF MOTHER AND DURATION OF MARRIAGE, AUSTRALIA, 1957.

| Duration of Marriage. | Age of Mother (Years). |  |  |  |  |  |  | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Under } \\ & \hline \end{aligned}$ $20 .$ | 20-24. | 25-29. | 30-34. | 35-39. | 40-44. | 45 and over. |  |
| Under 8 months | 5.794 | 5,025 | 1,078 | 417 | 186 | 53 | 1 | 12,554 |
| 8 months | 424 | 1,164 | 413 | 133 | 45 | 11 |  | 2,190 |
|  | 635 | 2,759 | 903 | 335 | 76 | 17 | 1 | 4,726 |
| 10 | 532 | 2,315 | 804 | 257 | 82 | 20 |  | 4,010 |
| 11 | 415 | 1,931 | 603 | 205 | 59 | 15 |  | 3,228 |
| Total under 1 year | 7,800 | 13,194 | 3,801 | 1,347 | 448 | 116 |  | 26.708 |
| 1 year and under 2 years | 1,595 | 10,874 | 4.182 | 1,390 | 508 | 145 | 3 | 18,697 |
| 2 years ., " 3 " | 182 | 3,978 | 2,563 | 792 | 249 | 73 | 7 | 7,844 |
| 3 ", " $\quad{ }_{4}^{4} \quad$ " | 35 | 1,573 | 2,035 | 507 | 180 | 50 | 2 | 4,382 |
| $4{ }_{5}$ " $\quad$ " ${ }^{5}$ | 1 | 555 | 1,488 | 401 | 139 | 38 | 2 | 2,624 |
| 10 " , "10 ", |  | 284 | 2,274 | 1,521 | 425 | 102 | 9 | 4,615 |
| $10^{15} \times \cdots \cdots{ }^{\prime \prime}$ |  | 1 | 53 | 394 | 245 | 52 |  | 745 |
| 15 years and over |  |  |  | 22 | 94 | 55 | 6 | 177 |
| Total | 9,613 | 30,459 | 16,396 | 6,374 | 2,288 | 631 | 31 | 65,792 |

(iii) Nuptial First Births and Subsequent Births. The following table provides a comparison between the numbers of nuptial first births and subsequent births in periods since 1911 and shows also the proportion of first to total nuptial confinements.

NUPTIAL FIRST BIRTHS AND SUBSEQUENT BIRTHS: AUSTRALIA.

Period. $\quad$\begin{tabular}{c|c|c|c|c}

First \& Nuptial Confinements. \& \begin{tabular}{c}
Other <br>
Births.

 \& Tirths. \& Total. 

Proportion <br>
of First to <br>
Total Nuptial <br>
Confine- <br>
ments <br>
(Per Cent.).
\end{tabular} <br>

\hline
\end{tabular}

Annual Averages.


Annual Totals.

| 1953 | $\ldots$ | $\ldots$ | .. | . | 63,726 | 128,187 | 191,913 | 33.21 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1954 | $\ldots$ | $\ldots$ | .. | . | 62,029 | 129,989 | 192,018 | 32.30 |
| 1955 | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 62,238 | 134,679 | 196,917 | 31.61 |
| 1956 | $\ldots$ | $\ldots$ | $\ldots$ | . | 63,646 | 137,217 | 200,863 | 31.69 |
| 1957 | $\ldots$ | $\ldots$ | .. | . | 65,792 | 142,847 | 208,639 | 31.53 |

19. Stillbirths.-Registration of stillbirths is not compulsory in all Australian States. It has been compulsory in Western Australia since 14th January, 1908; in the Australian Capital Territory since 1st January, 1930; in New South Wales since 1st April, 1935; in South Australia since 1st May, 1937; in the Northern Territory since 1949; and in Victoria from 1st January, 1953. In Queensland and Tasmania, where registration is not enforced. some information is obtained by notification of stillbirths for various purposes. Because registration is not compulsory in all States, detailed statistics of stillbirths for Australia as a whole have not been compiled.

The number of stillbirths in each State and Territory, as recorded since 1936 by the means outlined above, is shown in the following table:-

STILLBIRTHS.

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Annual Averages.

| 1936-40 |  | 1,409 | 854 | (a) | (b) 274 | 234 | 144 | (a) |  | (a) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1941-45 |  | 1,478 | 966 | (c) 657 | 324 | 248 | 143 | (a) | 9 | de 3,825 |
| 1946-50 |  | 1,405 | 949 | 626 | 368 | 274 | 161 | (a) | 12 | (e) 3,795 |
| 1951-55 | . . | 1,239 | 849 | 581 | 290 | 271 | 139 | 8 | 15 | 3,392 |

Annual Totals.

| 1953 | $\cdots$ | 1,257 | 817 | 585 | 287 | 268 | 141 | 8 | 16 | 3,379 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1954 | $\cdots$ | 1,207 | 794 | 554 | 254 | 270 | 124 | 8 | 19 | 3,230 |
| 1955 | $\ldots$ | 1,243 | 788 | 521 | 271 | 239 | 109 | 7 | 13 | 3,191 |
| 1956 | $\cdots$ | 1,273 | 819 | 556 | 274 | 226 | 122 | 4 | 28 | 3,302 |
| 1957 | $\ldots$ | 1,282 | 870 | 584 | 297 | 273 | 104 | 4 | 9 | 3,423 |

(a) Not available.
(b) Three years 1938-40.
(c) Four years 1942-45.
(d) Excludes Queensland for 1941.
(e) Excludes the Northern Territory.

The incidence of stillbirths in each State and Territory as measured by the rate per 1,000 of all births, both live and still, is as follows:-

PROPORTION OF STILLBIRTHS.(a)

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Average Annual Rates.

| 1936-40 |  | 28.71 | 27.43 | (b) | c27.49 | 25 | 28.7 | (b) | 22.18 | (b) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1941-45 |  | 25.46 | 24.79 | d26.76 | 25.17 | 23.29 | 25.68 | (b) | 22.87 | ef 25.25 |
| 1946-50 |  | 19.99 | 19.64 | 21.87 | 22.12 | 20.46 | 22.26 | (b) | 16.35 | f 20.46 |
| 1951-55 |  | 16.52 | 15.55 | 18.41 | 15.80 | 16.97 | 17.54 | 17.20 | 15.58 | 16.5 |

Annual Rates.

| 1953 | $\cdots$ | 16.51 | 15.02 | 18.65 | 15.56 | 16.62 | 17.90 | 17.09 | 19.90 | 16.43 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1954 | $\cdots$ | 16.24 | 14.32 | 17.46 | 13.74 | 16.67 | 15.71 | 15.36 | 21.69 | 15.72 |
| 1955 | $\cdots$ | 16.43 | 13.79 | 15.85 | 14.44 | 14.17 | 13.30 | 13.41 | 14.87 | 15.13 |
| 1956 | $\cdots$ | 16.54 | 13.83 | 16.87 | 14.24 | 13.18 | 14.83 | 7.14 | 25.34 | 15.33 |
| 1957 | . | 15.88 | 14.18 | 17.00 | 14.98 | 15.87 | 12.18 | 6.15 | 7.87 | 15.30 |

(a) Number of stillbirths per 1,000 of all births (iive and still). (b) Not available. (c) Three years 1938-40. (d) Four years 1942-45. (e) Excludes Queensland for 1941. (f) Excludes the Northern Territory.

## § 5. Mortality.

Note.-See Note at the beginning of this chapter. A detailed analysis for 1957 of causes of death and other characteristics such as issue will be found in Demography, Bulletin No. 75.

1. Number of Deaths.-(i) Year 1958. The following table shows the number of deaths, male and female, registered in each State and Territory during the year. Stillbirths, although registered as both births and deaths in some States, are excluded from the death statistics published herein.

DEATHS, 1958.

| Sex. |  | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. ${ }^{\text {b }}$ | Tas. | N.T. | A.C.T. | Aust. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Males | . | 18,279 | 12,779 | 6,729 | 4,262 | 3,270 | 1,534 | 87 | 110 | 47,050 |
| Females | $\cdots$ | 14,071 | 10,846 | 4,726 | 3,481 | 2,284 | 1,174 | 19 | 72 | 36,673 |
| Persons | . | 32,350 | 23,625 | 11,455 | 7,743 | 5,554 | 2,708 | 106 | 182 | 83,723 |

(ii) Years 1931 to 1958. A summary of the number of deaths in each State and Territory from 1931 to 1958 is given in the following table. Annual averages for each five-year period from 1861 to 1950 were published in Official Year Book No. 39, page 597.

DEATHS.

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AnNuAl Averages. |  |  |  |  |  |  |  |  |  |
| 1931-35 | 22,591 | 17,680 | 8,147 | 5,063 | 3,876 | 2,194 | 67 | 35 | 59,653 |
| 1936-40(a) | 25,735 | 19,361 | 9,107 | 5,540 | 4,270 | 2,342 | 73 | 54 | 66,482 |
| 1941-45(a) | 27,807 | 20,964 | 9,715 | 6,303 | 4,724 | 2,488 | 64 | 71 | 72,136 |
| 1946-50(a) | 29,552 | 21,827 | 10,357 | 6,507 | 4,802 | 2,459 | 76 | 103 | 75,683 |
| 1951-55 | 32,135 | 22,900 | 11,187 | 7,182 | 5,263 | 2,576 | 109 | 131 | 81,483 |
| Annual Totals. |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 1954 | 32,444 | 22,554 | 11,344 | 7,179 | 5,364 | 2,696 | 106 | 118 | 81,805 |
| 1955 | 32,553 | 22,527 | 11,307 | 7,536 | 5,379 | 2,489 | 119 | 126 | 82,036 |
| 1956 | 34,064 | 23,886 | 12,186 | 7,593 | 5,572 | 2,513 | 107 | 167 | 86,088 |
| 1957 | 33,317 | 24,131 | 11,679 | 7,576 | 5,297 | 2,670 | 115 | 168 | 84,953 |
| 1958 | 32,350 | 23,625 | 11,455 | 7,743 | 5,554 | 2,708 | 106 | 182 | 83,723 |

(a) Excludes deaths of defence personnel and of internees and prisoners of war from overseas for the period September, 1939 to June, 1947.

A graph showing the number of deaths in each year from 1860 to 1958 will be found on page 333.
2. Crude Death Rates.-The commonest method of measuring the mortality rate is to relate the number of deaths for a given period to the mean population for that period, thus obtaining the crude death rate. This rate for a given period measures the number per thousand of population by which the population is depleted through deaths during that period. Crude death rates for each State and Territory from 1931 to 1958 are shown in the following table.

CRUDE DEATH RATES. (a)

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Average Annual Rates. |  |  |  |  |  |  |  |  |  |
| 1931-35 | 8.68 | 9.72 | 8.62 | 8.72 | 8.83 | 9.62 | 13.46 | 3.81 | 9.00 |
| 1936-40(b) | 9.45 | 10.36 | 9.08 | 9.33 | 9.22 | 9.91 | 11.69 | 4.54 | 9.63 |
| 1941-45(b) | 9.73 | 10.63 | 9.24 | 10.26 | 9.86 | 10.21 | 6.43 | 4.98 | 9.96 |
| 1946-50(b) | 9.70 | 10.37 | 9.13 | 9.76 | 9.23 | 9.30 | 6.27 | 5.31 | 9.74 |
| 1951-55 | 9.49 | 9.55 | 8.71 | 9.25 | 8.49 | 8.47 | 6.92 | (c) 4.60 | 9.25 |
| Annual Rates. |  |  |  |  |  |  |  |  |  |
| 1954 | 9.46 | 9.19 | 8.64 | 9.01 | 8.38 | 8.67 | 6.54 | 3.88 | 9.10 |
| 1955 | 9.32 | 8.92 | 8.44 | 9.19 | 8.17 | 7.87 | 6.98 | (c) 3.89 | 8.91 |
| 1956 | 9.58 | 9.17 | 8.92 | 8.95 | 8.23 | 7.80 | 5.98 | (c) 4.81 | 9.13 |
| 1957 | 9.20 | 9.03 | 8.39 | 8.67 | 7.66 | 8.09 | 6.14 | (c) 4.46 | 8.81 |
| 1958- |  |  |  |  |  |  |  |  |  |
| Males | 9.87 | 9.26 | 9.29 | 9.37 | 9.03 | 8.78 | 8.03 | 5.00 | 9.45 |
| Females | 7.64 | 7.98 | 6.85 | 7.87 | 6.65 | 7.21 | 2.26 | 3.76 | 7.53 |
| Persons | 8.76 | 8.62 | 8.10 | 8.63 | 7.87 | 8.02 | 5.51 | 4.43 | 8.50 |

[^4]A graph showing the crude death rate for each year from 1860 to 1958 will be found on page 334.
3. Standardized Death Rates.-(i) General. The death rates quoted above are crude rates, i.e., they simply show the number of deaths per thousand of mean population without taking into consideration differences in the sex and age composition of the population. Other conditions being equal, however, the crude death rate of a community will be low if it contains a large proportion of young people (not infants), and conversely it will be relatively high if the population includes a large proportion of elderly people. The foregoing table of crude death rates, therefore, does not indicate comparative incidence of mortality either as between States in the same year or in any one State over a period of years. In order to obtain a comparison of mortality rates on a uniform basis as far as sex and age constitution are concerned, "standardized" death rates may be computed. These are computed by selecting a particular distribution of age and sex as a standard, and then calculating what would have been the general death rate if the death rates for each sex and in each age group had been as recorded, but the age and sex distribution had been the same as in the standard population. For the standardized rates which follow, the standard population compiled by the International Institute of Statistics has been used. This standard is based upon the age distribution according to sex of nineteen European countries at their censuses nearest to the year 1900. Full details of the "Standard Population" were published in Official Year Book No. 22, page 962.
(ii) Death Rates in Age Groups. An examination of the age distribution of deaths and the resultant age-specific death rates is made in paragraph 9, page 354.
(iii) Comparison of Crude and Standardized Death Rates. The relative incidence of mortality as between individual States and as between the years 1921, 1933, 1947 and 1954 is illustrated in the following statement of crude and "standardized" death rates. These years have been chosen for comparison because the census data give essential information as to sexes and ages of the State populations. Crude death rates are shown to indicate the degree to which they disguise the true position.

CRUDE AND STANDARDIZED DEATH RATES.

|  | Particulars. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | Aust. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Crude Death Rate(a)- |  |  |  |  |  |  |  |  |
| 1921 |  | 9.50 | 10.52 | 9.37 | 10.02 | 10.42 | 10.30 | 9.91 |
| 1933 | . | 8.58 | 9.59 | 8.84 | 8.44 | 8.64 | 9.60 | 8.92 |
| 1947 |  | 9.53 | 10.44 | 9.15 | 9.61 | 9.39 | 9.17 | 9.69 |
| 1954 |  | 9.46 | 9.19 | 8.64 | 9.01 | 8.38 | 8.67 | 9.10 |
| Standardized Death Rate(b)- |  |  |  |  |  |  |  |  |
| 1921 | . . . . | 10.35 | 10.79 | 10.24 | 10.38 | 11.88 | 10.83 | 10.58 |
| 1933 | - . | 8.52 | 8.74 | 9.10 | 7.66 | 8.74 | 8.86 | 8.62 |
| 1947 |  | 7.44 | 7.31 | 7.47 | 6.77 | 7.28 | 7.21 | 7.34 |
| 1954 |  | 7.24 | 6.63 | 6.80 | 6.52 | 6.71 | 7.02 | 6.90 |

(a) Total deaths per 1,000 of mean population.
(b) See explanation of standardized death rates in para. 3 (i) above.

The comparisons above relate to individual years in which a census of population was taken and should not be used as the basis for general conclusions as to changes in incidence of mortality for other than those years.
4. True Death Rates.-The main objections to standardized death rates are that the choice of a standard population is arbitrary and that the standardized rates have little value except for comparative purposes, and even then variation of the standard population may make appreciable differences. However a correct measurement of the mortality of the population can be obtained from life tables. A life table represents the number of survivors at each age from a group of newly-born children who are subject to given mortality conditions, and from such a table the complete expectation of life at birth can be calculated. The reciprocal of this figure is known as the true death rate, since, if the complete expectation of life of a person at birth is 50 years, say, then each person will on the average die 50 years after birth, so that in the standard population one person in 50 or 20 per thousand will die each year. The true death rate for a given period is unaffected by the particular age distribution of that period and is determined solely by the mortality experience of the period as manifested in the rate of survivorship from each year of age to the next. The table below sets out complete expectation of life at birth and true death rates for the periods covered by Australian life tables.

COMPLETE EXPECTATION OF LIFE AT BIRTH AND TRUE DEATH RATES : AUSTRALIA.

(a) Number of deaths per 1,000 males in life table or stationary population.
(b) Number of deaths per 1,000 females in life table or stationary population.
5. Crude Death Rates, Various Countries.-The following table gives crude death rates for Australia in comparison with rates for various other countries.

CRUDE DEATH RATES $(a)$ : VARIOUS COUNTRIES.

| Country. | $\begin{gathered} 1921- \\ 25 . \end{gathered}$ | $\begin{gathered} 1926 \\ 30 . \end{gathered}$ | $\begin{gathered} \text { 1931- } \\ 35 . \end{gathered}$ | 1957. | Country. | $\begin{gathered} 1921- \\ 25 . \end{gathered}$ | $\begin{gathered} 1926- \\ 30 . \end{gathered}$ | $\begin{gathered} 1931- \\ 35 . \end{gathered}$ | 1957. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Netherlands | 10.4 | 9.9 | 8.9 | 7.5 | Sweden . . | 12.1 | 12.1 | 11.6 | 9.9 |
| Canada | 11.2 | 11.1 | 9.7 | 8.2 | Spain | 20.2 | 17.9 | 16.4 | 10.0 |
| Japan | 21.8 | 19.3 | 17.9 | 8.3 | Switzerland | 12.5 | 12.1 | 11.8 | 10.0 |
| Norway | 11.5 | 11.0 | 10.4 | 8.6 | Italy | 17.4 | 16.0 | 14.1 | 10.0 |
| Union of South |  |  |  |  | Yugoslavia | 20.2 | 20.0 | 17.9 | 10.5 |
| Africa(b) | 9.7 | 9.7 | 9.8 | 8.8 | United Kingdom. | 12.4 | 12.3 | 12.2 | 11.5 |
| Australia(c) | 9.5 | 9.3 | 9.0 | 8.8 | Ireland, Republic of | 14.6 | 14.4 | 14.0 | 11.9 |
| Denmark | 11.3 | 11.1 | 10.9 | 9.3 | France . . . . | 17.2 | 16.8 | 15.7 | 12.0 |
| New Zealand(d) | 8.6 | 8.6 | 8.2 | 9.4 | Belgium | 13.4 | 13.7 | 12.9 | 12.4 |
| Finland | 15.1 | 14.8 | 13.3 | 9.4 | Austria . | 15.8 | 14.4 | 13.5 | 12.8 |
| United States of America | 11.8 | 11.8 | $e 10.9$ | 9.6 |  |  |  |  |  |

(a) Number of deaths per 1,000 of mean or mid-year population.
(b) White population only. (c) Excludes full-blood aboriginals.
(d) Excludes Maoris.
(e) 1933-35.
6. True Death Rates, Various Countries.-The following table gives true death rates for Australia in comparison with rates for various other countries:-

TRUE DEATH RATES : VARIOUS COUNTRIES.

| Country. | Period. | True Death Rate. |  | Country. | Period. | True Death Rate. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Males. <br> (a) | Females. <br> (b) |  |  | Males. (a) | Females. <br> (b) |
| Netherlands | 1953-55 | 14.1 | 13.5 | Scotland | 1956 | 15.2 | 14.0 |
| Norway | 1951-55 | 14.1 | 13.4 | Northern Ire- |  |  |  |
| Sweden | 1951-55 | 14.2 | 13.6 | land | 1950-52 | 15.3 | 14.5 |
| New Zealand(c) | 1950-52 | 14.6 | 13.8 | Germany, Fed- |  |  |  |
| Denmark | 1951-53 | 14.3 | 13.8 | eral Republic | 1952-53 | 15.4 | 14.5 |
| England Wales and | 1953-55 | 14.8 | 13.7 | Ireland, Republic of | 1950-52 | 15.5 | 14.9 |
| United States of |  |  |  | France | 1950-51 | 15.7 | 14.4 |
| America- |  |  |  | Japan | 1955 | 15.7 | 14.6 |
| Whites | 1956 | 14.9 | 13.6 | Union of South |  |  |  |
| Others | 1956 | 16.4 | 15.2 | Africa(e) | 1945-47 | 15.7 | 14.6 |
| Australia(d) .. | 1953-55 | 14.9 | 13.8 | Finland | 1951-55 | 15.9 | 14.3 |
| Canada | 1950-52 | 15.1 | 14.1 | Belgium | 1946-49 | 16.1 | 14.9 |
| Switzerland | 1948-53 | 15.1 | 14.1 | Austria | 1949-51 | 16.2 | 14.9 |

[^5]7. Australian Life Tables.-(i) Life Tables prior to 1954. It has been the practice at each census from 1911 onwards to prepare Life Tables representative of the mortality experience of Australia. The mortality of the Australian population for the thirty years from 1881 to 1910 inclusive was investigated in 1911 by the Commonwealth Statistician. Tables were compiled for each State and for Australia as a whole in respect of each sex for each of the decennial periods 1881-1890, 1891-1900 and 1901-1910. These compilations furnished a comprehensive view of Australian mortality in respect of sex, of time, and of geographical distribution. and practically superseded all Life Tables prepared in Australia prior to 1911. In addition, monetary tables based on the experience for the whole of Australia for the ten years 1901-1910 were prepared and published.

At the Census of 1921, Life Tables were prepared by the Commonwealth Statistician from the population recorded and the deaths in the three years 1920 to 1922. In 1933 and 1947, Life Tables based on the census population and the deaths in the years 1932 to 1934 and 1946 to 1948 respectively were comp.led by the Commonwealth Actuany.
(ii) Life Tables of Census of 1954. On the occasion of the 1954 Census, the seventh in the series of Life Tables were compiled by the Commonwealth Actuary. These were based on the population recorded at the Census, adjusted to allow for variation in the net movement into Australia over the years 1953 to 1955, and deaths during these years. Full particulars of the data used, the method of construction and the tabulations of these Life Tables will be found in the report of the Commonwealth Actuary which was published by the Commonwealth Statıstician in 1958. This report will also appear in Volume VIII of the detailed tables of the 1954 Census.

The main features of the tables, including comparisons with earlier Australian tables and the latest experience in the United Kingdom and New Zealand are set out in the following summary tables.

COMPARATIVE TABLES.

1. RATES OF MORTALITY $\left(q_{x}\right)$ AT REPRESENTATIVE AGES.

2. RATES OF MORTALITY FOR ONE PERIOD AS A PROPORTION OF THE RATES FOR THE PRECEDING PERIOD.


## 3. RATES OF MORTALITY FOR PERIODS SINCE 1901-10.

 AS A PROPORTION OF THE RATES FOR THE PERIOD 1901-10| Age. |  | Males. |  |  |  | Females. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1920-22 | 1932-34 | 1946-48 | 1953-55 | 1920-22 | 1932-34 | 1946-48 | 1953-55 |
|  |  | 1901-10. | 1901-10. | 1901-10. | 1901-10. | 1901-10. | 1901-10. | 1901-10. | 1901-10. |
| 0 |  | . 75 | . 48 | . 34 | . 27 | . 70 | . 46 | . 32 | . 25 |
| 10 |  | . 87 | . 66 | . 40 | . 31 | . 80 | . 55 | . 31 | . 22 |
| 20 |  | . 77 | . 59 | . 46 | . 50 | . 77 | . 56 | . 28 | . 19 |
| 30 |  | . 75 | . 52 | . 36 | . 33 | . 75 | . 54 | . 32 | . 18 |
| 40 |  | . 76 | . 56 | . 41 | . 36 | . 73 | . 56 | . 40 | . 30 |
| 50 |  | . 83 | . 69 | . 66 | . 59 | . 85 | . 78 | . 67 | . 55 |
| 60 |  | . 93 | . 86 | . 88 | . 86 | . 82 | . 76 | . 71 | . 63 |
| 70 |  | . 86 | . 82 | . 85 | . 86 | . 86 | . 80 | . 76 | . 68 |
| 80 |  | . 97 | . 92 | . 87 | . 87 | . 99 | . 89 | . 88 | . 82 |

4. NUMBER OF SURVIVORS $\left(l_{x}\right)$ AT SELECTED AGES OUT OF 100,000 BIRTHS.

| $\begin{aligned} & \text { Age } \\ & (x) . \end{aligned}$ |  | Males. |  |  |  | Fernales. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1920-22. | 1932-34. | 1946-48. | 1953-55. | 1920-22. | 1932-34. | 1946-48. | 1953-55. |
| 0 |  | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 |
| 10 |  | 89,389 | 93,193 | 95,619 | 96,488 | 91,314 | 94,424 | 96,549 | 97,228 |
| 20 |  | 87,697 | 91,797 | 94,562 | 95,460 | 89,906 | 93,341 | 95,953 | 96,774 |
| 30 |  | 84,743 | 89,566 | 92,967 | 93,801 | 87,086 | 91,174 | 94,740 | 96,055 |
| 40 |  | 80,813 | 86,539 | 90,823 | 91,861 | 83,279 | 88,175 | 92,758 | 94,715 |
| 50 |  | 74,330 | 81,061 | 85,946 | 87,553 | 78,313 | 83,680 | 89,011 | 91,573 |
| 60 |  | 63,386 | 69,950 | 74,251 | 76,256 | 70,150 | 75,565 | 81,257 | 84,665 |
| 70 |  | 44,332 | 50,086 | 52,230 | 54,054 | 54,771 | 59,629 | 65,398 | 69,613 |
| 80 |  | 18,614 | 22,223 | 22,785 | 23,658 | 27,170 | 31,539 | 35,401 | 39,633 |
| 90 |  | 2,141 | 2,935 | 3,144 | 3,507 | 4,238 | 5,808 | 6,556 | 8,087 |

5. COMPLETE EXPECTATION OF LIFE ( $\dot{e}_{x}$ ) AT SELECTED AGES.

| $\begin{aligned} & \text { Age } \\ & (x) \end{aligned}$ |  | Males. |  |  |  | Females. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1920-22. | 1932-34. | 1946-48. | 1953-55. | 1920-22. | 1932-34. | 1946-48. | 1953-55. |
| 0 |  | 59.15 | 63.48 | 66.07 | 67.14 | 63.31 | 67.14 | 70.63 | 72.75 |
| 10 |  | 56.01 | 58.02 | 59.04 | 59.53 | 59.20 | 61.02 | 63.11 | 64.78 |
| 20 |  | 46.99 | 48.81 | 49.64 | 50.10 | 50.03 | 51.67 | 53.47 | 55.06 |
| 30 |  | 38.44 | 39.90 | 40.40 | 40.90 | 41.48 | 42.77 | 44.08 | 45.43 |
| 40 |  | 30.05 | 31.11 | 31.23 | 31.65 | 33.14 | 34.04 | 34.91 | 35.99 |
| 50 |  | 22.20 | 22.83 | 22.67 | 22.92 | 24.90 | 25.58 | 26.14 | 27.03 |
| 60 |  | 15.08 | 15.57 | 15.36 | 15.47 | 17.17 | 17.74 | 18.11 | 18.78 |
| 70 |  | 9.26 | 9.60 | 9.55 | 9.59 | 10.41 | 10.98 | 11.14 | 11.62 |
| 80 |  | 5.00 | 5.22 | 5.36 | 5.47 | 5.61 | 6.01 | 6.02 | 6.30 |

6. RATES OF MORTALITY $\left(q_{x}\right)$ AT SELECTED AGES FROM 1953-55 EXPERIENCE COMPARED WITH RECENT RATES OF MORTALITY FOR THE UNITED KINGDOM AND NEW ZEALAND.

|  | $\begin{aligned} & \text { Age } \\ & (x) \end{aligned}$ |  | Males. |  |  | Females. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Australia 1953-55. | $\begin{aligned} & \text { United } \\ & \text { Kingdom } \\ & 1950-52 . \end{aligned}$ | $\begin{aligned} & \text { New } \\ & \text { Zealand } \\ & 1950-52 . \end{aligned}$ | Australia 1953-55. | United <br> Kingdom 1950-52. | $\begin{aligned} & \text { New } \\ & \text { Zealand } \\ & \text { 1950-52. } \end{aligned}$ |
| 0 |  |  | . 02521 | . 03266 | . 02499 | . 01989 | . 02510 | . 01995 |
| 10 |  |  | . 00056 | . 00052 | . 00050 | . 00035 | . 00035 | . 00028 |
| 20 |  |  | . 00186 | . 00129 | . 00161 | . 00064 | . 00083 | . 00068 |
| 30 |  |  | . 00170 | . 00157 | . 00160 | . 00096 | . 00127 | . 00110 |
| 40 |  |  | . 00297 | . 00290 | . 00268 | . 00217 | . 00227 | . 00209 |
| 50 | . |  | . 00819 | . 00850 | . 00727 | . 00530 | . 00524 | . 00552 |
| 60 |  |  | . 02221 | . 02369 | . 01951 | . 01203 | . 01271 | . 01316 |
| 70 |  |  | . 05315 | . 05651 | . 04723 | . 03250 | . 03532 | . 03282 |
| 80 | . |  | . 11958 | . 13629 | . 11260 | . 09314 | . 10466 | . 09334 |

7. RATES OF MORTALITY FROM 1953-55 AUSTRALIAN EXPERIENCE, AS A PROPORTION OF THE RATES FOR THE UNITED KINGDOM AND NEW ZEALAND.

|  | $\begin{aligned} & \text { Age } \\ & (x) . \end{aligned}$ | Males. |  | Females. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Australia 1953-55 | Australia 1953-55 | Australia 1953-55 | Australia 1953-55 |
|  |  | United Kingdom 1950-52. | $\begin{aligned} & \text { New Zealand } \\ & 1950-52 . \end{aligned}$ | United Kingdom 1950-52. | $\begin{aligned} & \text { New Zealand } \\ & 1950-52 . \end{aligned}$ |
| 0 | . | . 77 | 1.01 | . 79 | 1.00 |
| 10 |  | 1.08 | 1.12 | 1.00 | 1.25 |
| 20 |  | 1.44 | 1.16 | . 77 | . 94 |
| 30 |  | 1.08 | 1.06 | . 76 | . 87 |
| 40 |  | 1.02 | 1.11 | . 96 | 1.04 |
| 50 | . | . 96 | 1.13 | 1.01 | . 96 |
| 60 |  | . 94 | 1.14 | . 95 | . 91 |
| 70 |  | . 94 | 1.13 | . 92 | . 99 |
| 80 | $\cdots$ | . 88 | 1.06 | . 89 | 1.00 |
|  |  |  |  |  |  |

The main features of the mortality rates are:-
(a) Male Mortality. With the exception of ages 16 to 26 inclusive, and 69 to 73 inclusive, the 1953-55 mortali'y rates are less than those for 1946-48. The most significant reduction has occurred at age 0 , where the mortality rate is 79 per cent. of the corresponding rate for 1946-48, and only 27 per cent. of the experience for the period 1901-1910.

The most disturbing feature of the current experience has been the increase in mortality which has occurred in the $16-26$ age group. This is the result of heavier mortality from accidents of all types, which has more than counterbalanced a decrease in the rates of mortality due to other causes.

At advanced ages, the experience suggests that only a slight improvement in male mortality has occurred since 1946-48.
(b) Female Mortality. The comparative tables above show that very substantial decreases in female mortality rates have occurred over the whole range of ages since the 1946-48 experience. This improvement has been considerably greater overall than that for males.

Accident mortality among females, which bas never been as significant as among males has increased very slightly but this increase has been more than offset by the reduction in the mortality from other causes. There is a notable disparity between the high male accident rate and the low female rate.

In the 1946-48 experience, female mortality from causes other than accident was, in the age range 20 to 39 years, heavier than the corresponding male mortality. For 1953-55, however, the position has been reversed. At high ages the female mortality rates have shown substantially greater improvement since 1946-48 than the male rates.
8. Infant Deaths and Death Rates.-(i) States. (a) Under One Year. For each State and Territory the number of deaths under one year of age and the rates of infant mortality during the period 1931 to 1958 were as follows:-

INFANT MORTALITY: UNDER ONE YEAR.

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.c.t. | Aust. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Annual Averages. |  |  |  |  |  |  |  |  |  |
| 1931-35 | 1,885 | 1,214 | 690 | 304 | 329 | 202 | 6 | 5 | 4,635 |
| 1936-40 | 1,963 | 1,139 | 718 | 311 | 352 | 201 | 6 | 5 | 4,695 |
| 1941-45 | 2,034 | 1,311 | 804 | 413 | 347 | 213 | 7 | 7 | 5,136 |
| 1946-50 | 1,990 | 1,129 | 770 | 431 | 370 | 187 | 11 | 14 | 4,902 |
| 1951-55 | 1,852 | 1,113 | 730 | 407 | 384 | 184 | 17 | 14 | 4,701 |
| Annual Totals. |  |  |  |  |  |  |  |  |  |
| 1954 | 1,850 | 1,055 | 695 | 388 | 359 | 186 | 9 | 4 | 4,546 |
| 1955 | 1,850 | 1,035 | 656 | 431 | 373 | 189 | 26 | 12 | 4,572 |
| 1956 | 1,777 | 1,128 | 737 | 377 | 384 | 170 | 24 | 11 | 4,608 |
| 1957 | 1,804 | 1,219 | 732 | 403 | 357 | 170 | 22 | 10 | 4,717 |
| 1958 | 1,704 | 1,178 | 657 | 449 | 360 | 167 | 22 | 23 | 4,560 |
| Average annual Rates. (a) |  |  |  |  |  |  |  |  |  |
| 1931-35 | 41.92 | 42.76 | 39.46 | 35.12 | 40.81 | 44.47 | 80.60 | 34.48 | 41.27 |
| 1936-40 | 41.18 | 37.63 | 36.75 | 33.08 | 39.70 | 41.23 | 44.80 | 21.78 | 38.81 |
| 1941-45 | 35.95 | 34.50 | 34.30 | 32.95 | 33:30 | 39.31 | 61.73 | 18.72 | 34.97 |
| 1946-50 | 28.91 | 23.82 | 27.49 | 26.50 | 28.15 | 26.53 | 37.37 | 19.89 | 26.98 |
| 1951-55 | 25.11 | 20.70 | 23.58 | 22.55 | 24.41 | 23.67 | 36.28 | 15.40 | 23.34 |
| Annual Rates.(a) |  |  |  |  |  |  |  |  |  |
| 1954 | 25.30 | 19.30 | 22.29 | 21.29 | 22.54 | 23.94 | 17.54 | 4.67 | 22.48 |
| 1955 | 24.86 | 18.37 | 20.28 | 23.30 | 22.44 | 23.37 | 50.49 | 13.94 | 22.01 |
| 1956 | 23.47 | 19.32 | 22.74 | 19.88 | 22.70 | 20.98 | 43.17 | 10.21 | 21.72 |
| 1957 | 22.70 | 20.16 | 21.68 | 20.63 | 21.09 | 20.15 | 34.06 | 8.82 | 21.41 |
| 1958 | 21.29 | 19.23 | 19.40 | 22.40 | 21.52 | 19.49 | 31.56 | 18.04 | 20.49 |

(a) Number of deaths of children aged under one year per 1,000 live births registered.
(b) Under Four Weeks. The following table shows infant mortality rates under four weeks of age in each State and Territory during the period 1931 to 1957.

INFANT MORTALITY RATES ( $a$ ): UNDER FOUR WEEKS.

(a) Number of deaths of children aged under four weeks per 1,000 live births registered.
(c) Four Weeks and under One Year. Infant mortality rates for children aged four weeks and under one year are shown in the following table for the period 1931 to 1957.

INFANT MORTALITY RATES( $a$ ) : FOUR WEEKS AND UNDER ONE YEAR.

average annual Rates.

| 1931-35 |  | 14.30 | 14.98 | 11.55 | 12.13 | 15.70 | 14.38 | 45.34 | 11.03 | 14.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1936-40 | . | 13.55 | 11.69 | 10.60 | 11.46 | 17.08 | 11.67 | 16.00 | 5.45 | 12.62 |
| 1941-45 |  | 11.77 | 10.33 | 10.14 | 12.34 | 12.77 | 12.30 | 22.40 | 6.21 | 11.27 |
| 1946-50 |  | 8.38 | 6.27 | 7.54 | 8.12 | 8.62 | 7.19 | 15.92 | 4.09 | 7.64 |
| 1951-55 | . | 7.77 | 5.52 | 6.49 | 7.60 | 7.14 | 7.33 | 16.65 | 4.12 | 6.89 |
| Annual Rates. |  |  |  |  |  |  |  |  |  |  |
| 1953 |  | 7.48 | 5.45 | 7.18 | 6.66 | 7.38 | 7.37 | 15.22 | 7.61 | 6.82 |
| 1954 |  | 7.60 | 4.88 | 5.48 | 6.04 | 6.47 | 7.47 | 9.74 | 1.17 | 6.29 |
| 1955 |  | 7.55 | 4.88 | 5.44 | 9.19 | 6.44 | 6.56 | 17.48 | 2.33 | 6.51 |
| 1956 |  | 6.50 | 5.19 | 6.39 | 6.33 | 6.80 | 6.42 | 12.59 | 2.79 | 6.12 |
| 1957 |  | 6.31 | 5.14 | 6.46 | 6.86 | 5.96 | 6.52 | 15.48 | 1.76 | 6.05 |

(a) Number of deaths of children aged four weeks and under one year per 1,000 live hirths registered.
(ii) Australia. (a) Under One Year. The universal experience that during the first few years of life the higher death rate of male infants tends to counteract the excess of male births is confirmed by the fact that out of 536,330 male infants born from 1953 to 1957 , 13,170 (24.56 per 1,000) died during the first year of life, while of 508,329 female infants only 9,986 ( 19.65 per 1,000 ) died during the first year. Stillbirths, for which masculinity is also higher, are not included in any of the tables relating to deaths.

As shown by the following table, the disparity is greater during the first four weeks of life, termed the neonatal period, than during the remainder of the first year of life, or the post-neonatal period.

INFANT DEATHS AND MORTALITY RATES : AUSTRALIA.

(a) Number of deaths per 1,000 male or female live births registered.
(b) Under Four Weeks. The following table shows particulars of infant deaths in the first four weeks of life, or the neonatal period, from 1931 to 1957. It will be seen that, for both males and females, the risk of death is very much greater during the first day of life than subsequently.

INFANT DEATHS AND MORTALITY RATES-UNDER FOUR WEEKS : AUSTRALIA.

(a) Number of deaths per 1,000 live births registered.
(b) Not available.
(c) Includes under one day.

The foregoing tables indicate the decrease in infant mortality in Australia, the mortality rate of children aged under one year per 1,000 live births for 1957 being 52 per cent. of the average rate for 1931-35. The improvement was due largely to the decrease in deaths from preventable causes, the mortality rate for children aged one week but under one year of age declining by 58 per cent., while that for children aged under one week declined by only 40 per cent.

A graph showing infant mortality rates for each year from 1910 to 1958 will be found on page 335 .
(iii) Statistical Divisions. The total numbers of births and of deaths of children under one year of age in each statistical division are shown in the annual bulletin, Demography.
(iv) Various Countries. Compared with other countries Australia occupies a favourable position in respect of infant mortality. In 1957, only New Zealand, Sweden and the Netherlands recorded a lower rate than Australia.

## INFANT MORTALITY RATES : VARIOUS COUNTRIES.


(a) Number of deaths under one year per 1,000 live births registered.
(b) Number of live births per 1,000 of mean or mid-year population. (c) Excludes Maoris. (d) 1935-39. (e) Excludes full-blood aboriginals. (f) White population only. (g) 1935-38. (h) Not available.
(v) Causes of Death: Children under one Year. Causes of death of children under one year of age should be considered in relation to age at death, because the emphasis on various causes changes rapidly as age at death varies. In 1957, congenital malformations ( 12.4 per cent.) and certain diseases of early infancy ( 84.8 per cent.) accounted for 97.2 per cent. of deaths in the first week of life. These causes accounted for 88.5 per cent. of the deaths in the second, third and fourth weeks of life ( 38.9 per cent. and 49.6 per cent. respectively). Of the remaining deaths in the first year of life, these causes only accounted for 31.1 per cent. ( 26.4 per cent. and 4.7 per cent. respectively), the emphasis having shifted to respiratory and digestive diseases ( 42.3 per cent.), accidents and violence ( 7.7 per cent.), infective and parasitic diseases ( 6.7 per cent.) and diseases of the nervous system ( 6.5 per cent.). A summary for 1957 of deaths of children under one year of age, classified according to principal causes of death and age at death, is given in the following table.

## CAUSES OF DEATH : CHILDREN UNDER ONE YEAR OF AGE, AUSTRALIA, 1957.

| Cause of Death. | Age at Death. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Weeks. |  |  |  | Months. |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { Un- } \\ & \text { der } \\ & \text { Ono } \\ & \text { Year. } \end{aligned}$ |
|  | $\begin{gathered} \text { Un } \\ \text { der } \\ 1 . \end{gathered}$ | 1. | 2. | 3. | $\stackrel{1}{(a)}$ | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. |  |
| Tuberculosis |  | 2 | $\cdots$ | 1 | 5 | 2 | $\because$ | 4 | 1 |  | $\begin{aligned} & 1 \\ & 1 \end{aligned}$ | 2 | 1 | 1 | 3 | 25 |
| Septicaemia and py |  | 2 |  | 1 | 5 | 2 |  | 4 |  |  |  | 2 |  |  |  |  |
| Whooping cough |  |  |  |  | 2 | 1 | 1 | 2 | 1 |  |  |  |  |  |  | 7 |
| Meningococcal infections | 1 | $\cdots$ | .. | $\because$ | 2 | 1 | 4 | 5 |  | . | 1 | . | 2 | 2 | 2 | 24 |
| Measles |  |  |  |  |  |  | 1 | , |  |  |  |  |  | 1 |  | 4 |
| Other infective and parasitic diseases | 1 | 2 |  |  | 2 | $\frac{1}{4}$ |  | 1 |  |  |  |  |  | 2 |  | 14 |
| Neoplasms ${ }_{\text {Allergic }}$ endocrine system, etc.- | 3 |  | 1 | $\cdots$ | 2 | 4 | 1 | 1 |  |  |  | 3 | 3 | 3 | 3 | 26 |
| Allergic, endocrine system, etc., diseases |  | $\cdots$ | 1 | 1 | . | 1 | .. | 1 |  |  | 2 | 1 | 2 | 1 |  | 14 |
| Diseases of the blood | 4 |  | .. | . | 4 |  | . |  |  |  |  |  | 4 |  |  |  |
| Mental, etc., disorders $\quad \therefore \quad \ldots$ | 4 | 2 |  |  | 15 | 1 |  | 2 |  |  |  | 2 |  |  | 1 | 22 |
| Meningitis ${ }_{\text {Intracranial and }} \times \ddot{\text { intraspinal abscess }}$ | 7 | 3 | 4 | 2 | 15 | 2 | 7 | 4 |  |  | 2 | 5 | 4 | 2 | 3 | 67 |
| Encephalitis .. ... | . | . | . |  | .. | 1 | . |  | 1 |  | 1 | $\cdots$ |  |  | i |  |
| Otitis media and mastoiditis .. | . | . | . . | 1 | .. | 2 | $\cdots$ | 1 | 1 |  | 1 | . . | 1 | 1 | . | 8 |
| Other diseases of the nervous system, etc... |  |  |  | $\cdots$ | 1 | 3 | 7 | 1 |  |  | 1 | 3 | 1 | 3 |  | 24 |
| Diseases of the circulatory system | $\cdots$ | 1 |  |  |  | 1 | 1 | 3 |  |  |  | 18 | 1 | 1 | 1 | 13 |
| Pneumonia, age four weeks and over |  | . |  | $\cdots$ | 51 | 46 | 54 | 37 | 30 | 30 | 15 | 18 | 21 | 7 | 14 | 323. |
| Bronchitis $\cdots$, $\because \cdot \square$ | 1 | . | 1 | $\cdots$ | 3 | 2 | 6 | 3 | 3 |  |  | 1 | 3 | 3 | 4 | 34 |
| Other diseases of the respiratory | 1 |  | 2 | 1 | 13 | 13 | 11 | 7 | 3 |  | 7 | 6 | 3 | 4 | 5 | 86 |
| Hernia and intestinal obstruction .. | 21 | 1 |  | 1 | 7 | 1 | 1 | 2 | 5 |  |  | 1 | 4 | 3 |  | 49 |
| Gastro-enteritis and colitis, age four weeks and over |  |  |  |  |  | 8 | 8 | 14 | 6 |  | 5 | 13 | 9 | 9 | 6 | 90 |
| Other diseases of the digestive system | 6 | 3 | 1 | 1 | , | 1 | 2 |  | 3 |  |  | 2 | 1 |  | 1 | 25 |
| Diseases of the genito-urinary system Diseases of the skin and cellular | - | $\cdots$ | $\cdots$ | 1 | 1 | 1 | 3 | 1 |  |  | 1 |  | . | 2 | .. | 11 |
| Dissue tisue |  |  | 2 | 1 | 3 |  | 1 | 1 |  |  |  | 1 |  | 1 |  | 13 |
| Diseases of the bones and organs of movement |  |  |  |  | 2 |  |  |  |  |  |  |  |  |  | 2 | 11 |
| Congenital malformations $\because \because$ | 370 | 83 | 50 | 27 | 86 | 48 | 57 | 39 | 32 | 27 | 15 | 13 | 9 | 13 | 13 | 882 |
| Certain diseases of early infancy $(b)$ - Without mention of immaturity $(b)$ | 809 | 65 | 39 | 27 | 10 | 8 | 10 | 6 |  |  | 2 | 1 | 3 | 1 | 2 | 994 |
| With immaturity $(b)$. ${ }^{\text {a }}$, | 1,710 | 51 | 14 | 8 | 2 | 1 | 1 |  |  |  |  |  |  |  | 1 | 1,791 |
| Symptoms and ill-defined conditions | 12 |  |  |  |  | 16 | 11 |  |  |  | 10 |  | 4 |  | ${ }_{3}^{1}$ | 17 |
| Accidents, poisonings and violence |  | 3 | 3 | 4 | 15 | 16 |  | 11 |  |  | 10 | 5 | 4 | 7 | 3 | 129 |
| All Causes | 2,973 | 2171 | 118 | 76 | 234 | 171 | 188 |  | 123 | 104 | 71 | 81 | 79 | 67 | 66 | 4,717 |

(a) Age four weeks and under two months.
(b) For further detail of this group of causes see next table.

The individual categories representing the causes of death which come within Class XV.-Certain Diseases of Early Infancy are designed to show the effect of immaturity in such causes of infant death. In 1957, 68 per cent. of deaths in this class during the first week of life and 35 per cent. of those in the next three weeks of life were due, directly or indirectly, to immaturity. The relationship between immaturity and each of the individual categories of Class XV. is shown for the year 1957 in the following table.

DEATHS OF CHILDREN UNDER ONE YEAR OF AGE FROM CERTAIN DISEASES OF EARLY INFANCY: AUSTRALIA, 1957.

| Cate- | Cause of Death. | Without Mention of Immaturity. |  |  | With Immaturity. |  |  | Total. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { gory } \\ & \text { No. } \end{aligned}$ |  | Males. | Females. | Persons. | Males. | $\mathrm{Fe}-$ males. | Persons. | Males. | $\mathrm{Fe}-$ males. | Persons. |
| 760 | Intracranial and spinal injury at birth | 185 | 108 | 293 | 90 | 71 | 161 | 275 | 179 | 454 |
| 761 | Other birth injury . | 64 | 39 | 103 | 96 | 71 | 167 | 160 | 110 | 270 |
| 762 | Post-natal asphyxia and atelectasis | 121 | 107 | 228 | 161 | 107 | 268 | 282 | 214 | 496 |
| 763 | Pneumonia of the newborn | 67 | 44 | 111 | 14 | 15 | 29 | 81 | 59 | 140 |
| 764 | Diarrhoea of the newborn . . | 6 | 2 | 8 |  | 1 | 1 | 6 | 3 | 9 |
| 765 | Ophthalmia neonatorum .. | . |  | . . |  | . . | . . | $\cdots$ |  | . |
| 766 | Pemphigus neonatorum . | . |  |  |  | . |  |  |  |  |
| 767 | Umbilical sepsis .. | 4 | 4 | 8 |  | . |  | 4 | 4 | 8 |
| 768 | Other sepsis of newborn ... | 10 | 8 | 18 | $\cdots$ | . |  | 10 | 8 | 18 |
| 769 | Neonatal disorders arising from maternal toxaemia. . | 16 | 13 | 29 | 34 | 27 | 61 | 50 | 40 | 90 |
| 770 | Haemolytic disease of newborn (erythroblastosis) | 61 | 45 | 106 | 14 | 16 | 30 | 75 | 61 | 136 |
| 771 | Haemorrhagic disease of newborn | 22 | 17 | 39 | 6 | 4 | 10 | 28 | 21 | 49 |
| 772 | Nutritional maladjustment | 11 | 7 | 18 |  | 1 | 1 | 11 | 8 | 19 |
| 773 | 111-defined diseases peculiar to early infancy | 21 |  | 33 | 30 | 28 | 58 | 51 | 40 | 91 |
| 774 | Immaturity with mention of any other subsidiary condition |  |  |  | 18 | 5 | 23 | 18 | 5 | 23. |
| 775 | Immaturity subsidiary to some other cause |  |  |  |  |  |  |  |  |  |
| 776 | Immaturity unqualified |  |  | . | 569 | 413 | 982 | 569 | 413 | 982 |
|  | Total, Class XV. . . | 588 | 406 | 994 | 1,032 | 759 | 1,791 | 1,620 | 1,165 | $\underline{2,785}$ |

(vi) Deaths of Ex-muptial Children under one Year of Age. Distinction between nuptial and ex-nuptial children in death statistics for Australia as a whole has been made since 1925. Results show that death rates during infancy were higher for ex-nuptial children than for nuptial children, but in recent years there has been no significant difference.

Detailed information for Australia as to the age at which ex-nuptial children died from each cause of death will be found in the annual bulletin, Demography. Because of the small number of ex-nuptial deaths involved in each case, it is difficult to assess the real significance of the differences between the numbers of nuptial and ex-nuptial deaths from each individual cause.
9. Age Distribution.-(i) Number of Deaths. Age at death is recorded for statistical purposes in days for the first week of life, in weeks for the first four weeks, in months for the first two years and in completed years of life thereafter. These ages are usually combined in groups for publication, the most common being weeks for the first four weeks, months or groups of months for the first year, single years of age for the first five years and thereafter the five-year groups 5-9 years, $10-14$ years, etc. A summary in this form for Australia is given in the following table for the year 1957.

AGE AT DEATH : AUSTRALIA, 1957.

| Age at Death. | Males. | $\begin{gathered} \mathrm{Fe}- \\ \text { males. } \end{gathered}$ | Per- sons. |  | e at | ath |  | Males. | Females. | PerSons. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Under 1 week <br> 1 week and under 2 weeks.. <br> 2 weeks and under 3 weeks. . <br> 3 weeks and under 4 weeks. . | 1,706 | 1,267 | 2,973 | 5-9 | ears | - |  | 293 | 188 | 481 |
|  | 142 | 75 | 217 | 10-14 |  |  |  | 237 | 152 | 389 |
|  | 64 | 54 | $118!$ | 15-19 |  |  |  | 492 | 179 | 671 |
|  | 41 | 35 | 76 | 20-24 |  |  |  | 568 | 186 | 754 |
|  |  |  |  | 25-29 |  |  |  | 602 | 264 | 866 |
|  |  |  |  | 30-34 |  |  |  | 771 | 393 | 1,164 |
| Total under 4 weeks. . | 1,953 | 1,431 | 3,384! | 35-39 | ", |  |  | 828 | 535 | 1,363 |
|  |  | 1,431 |  | 40-44 | " |  |  | 1,176 | 804 | 1,980 |
| 4 weeks and under 3 months 3 months and under 6 | 242 | 163 | 405 | 45-49 $50-54$ | " |  |  | 1,818 2,609 | 1,098 | 2,916 |
|  | 238 | 222 | 460 | 50-54 $55-59$ | ", |  |  | 2,609 3,662 | 1,316 1,924 | 3,925 5,586 |
| 6 months and under 12 ., | 260 | 208 | 468 | 60-64 | ", |  |  | 3,709 | 2,803 | 7,512 |
|  |  |  | --1 | 65-69 |  |  |  | 6.365 | 4,141 | 10,506 |
| Total under 1 year . |  |  |  | 70-74 |  |  |  | 6,640 | 5.046 | 11,686 |
|  | 2.693 | 2,024 | 4,717 | 75-79 | " |  |  | 5,879 | 5,539 | 11,418 |
|  |  |  |  | 80-84 | " |  |  | 4,080 | 5,046 | 9,126 |
| $1 \begin{aligned} & 1 \text { year } \\ & 2 \text { years }\end{aligned}$ |  |  |  | 85-89 | " |  |  | 2,511 | 3,453 | 5,964 |
|  | 268 | 222 | 490 | 90-94 | , |  |  | 874 | 1,401 | 2,275 |
|  | 162 | 124 | 286 | 95-99 | , |  |  | 180 | 290 | 470 |
| 3 " | 103 | 77 | 180 | 100 year | and |  |  | 21 | 30 | 51 36 |
| 4 " | 94 | 47 | 141 | Age not | tated |  |  | 24 | 12 | 36 |
| Total under 5 years. . | 3,320 | 2,494 | 5,814 | Total, All Ages |  |  |  | 47,659 | 37,294 | 84,953 |

There are different mortality rates at various stages of life and the actual number of deaths in any period depends upon the impact of these rates on the numbers living at the respective stages. Changes in the number of deaths from one period to another are caused by changes in the rate of mortality in the various age groups and by the changed proportions of persons living in the different groups.

In Australia, during the last fifty years, there has been a steady decline in the rate of mortality at all ages. This has been most pronounced at ages under one year. The increased length of life due to this factor coupled with the long-term decline in the birth rate and the effects of past and present migration, has been a significant cause in changing the age distribution of the population and consequently the age distribution of deaths, thus obscuring the effects of declining mortality rates.

The combined effect of these various influences can be seen from the following table which shows the proportion of deaths in various age groups in ten-year periods from 1901 to 1950 and for the year 1957.

PROPORTION OF DEATHS IN EACH AGE GROUP : AUSTRALIA.
(Per Cent.)

| Period. | Age at Death (Years). |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under 1. | 1-4. | 5-19. | 20-39. | 40-59. | 60-64. | $65 \text { and }$ over. | Unspeci fied. | Total. |
| 1901-10 | 20.51 | 6.45 | 6.37 | 14.99 | 17.99 | 5.31 | 28.26 | 0.12 | 100.00 |
| 1911-20 | 16.66 | 6.09 | 5.49 | 14.44 | 20.32 | 6.19 | 30.68 | 0.13 | 100.00 |
| 1921-30 | 13.10 | 4.51 | 4.85 | 12.12 | 20.55 | 8.26 | 36.53 | 0.08 | 100.00 |
| 1931-40 | 7.40 | 2.56 | 3.83 | 9.36 | 20.54 | 8.36 | 47.92 | 0.03 | 100.00 |
| 1941-50 | 6.79 | 1.71 | 2.26 | 6.01 | 19.04 | 9.33 | 54.84 | 0.02 | 100.00 |
| 1957- |  |  |  |  |  |  |  |  |  |
| Males | 5.65 | 1.32 | 2.14 | 5.81 | 19.44 | 9.88 | 55.71 | 0.05 | 100.00 |
| Females | 5.43 | 1.26 | 1.39 | 3.69 | 13.79 | 7.52 | 66.89 | 0.03 | 100.00 |
| Persons | 5.55 | 1.29 | 1.82 | 4.88 | 16.96 | 8.84 | 60.62 | 0.04 | 100.00 |

A table showing these proportions for males and females separately for the period 1901 to 1950 was published in Official Year Book No. 39, page 614.
(ii) Age-specific Death Rates. In previous issues of the Official Year Book, average annual age-specific death rates were given for each State and Australia for the periods 1932-34, 1946-48 and 1953-55 (see Official Year Books, No. 37, page 778; No. 39, pages 615-6 and No. 44, pages 640-1). These rates were based on the age distribution of the population at the relevant censuses.

Intercensal estimates of the age distribution of the population are available only for Australia as a whole and not for the individual States. As a consequence age specific death rates for States are not available. The following table shows age-specific death rates for Australia for the years 1955, 1956 and 1957.

AGE-SPECIFIC DEATH RATES( $a$ ): AUSTRALIA.

(a) Average number of deaths per 1,000 of population in each age group.
10. Causes of Death.-The classification of causes of death adopted for Australia by the Commonwealth Bureau of Census and Statistics at the inception of its mortality statistics in 1907 was that introduced by the International Institute of Statistics in 1893, reviewed by that Institute in 1899 and revised by an International Commission in 1900. This classification became known as the International List of Causes of Death and further international revisions in 1909 (Second), 1920 (Third), 1929 (Fourth), 1938 (Fifth) and 1948 (Sixth) were successively adapted for use in Australian statistics.

The Sixth Revision of the International Statistical Classification of Diseases, Injuries and Causes of Death has been used in Australia since 1950. For the first time in connexion with the International List, international rules were laid down for a uniform method of selecting the main cause to be tabulated, if more than one cause is stated on the death certificate. Prior to 1950, the rules adopted in Australia for the selection of the cause of death to be tabulated were those laid down in the United States Manual of Joint Causes of Death, first published in 1914 and revised to conform with successive revisions of the International List.

The adoption of the new method marked a fundamental change in Australian cause of death statistics, with emphasis now placed on the underlying cause of death as indicated by the certifying practitioner. The introduction of this method required the adoption by all States of a form of medical certificate substantially identical with the International Form of Medical Certificate of Cause of Death as laid down in Article 9 of the World Health Organization Regulations No. 1. By 1950, all States had adopted satisfactory forms of certificate and it was possible to apply the new principles uniformly to all State cause of death records.

This change in principle affects the comparability of the statistics for 1950 and subsequent years with those for earlier years. For convenience in assessing the extent of the change and in accordance with a recommendation of the Sixth Decennial Revision Conference, causes of death for Australia for 1950 were also classified according to the detailed classification of the Fifth Revision, 1938, on the joint cause rules current for that revision. A complete detailed classification according to both the Fifth and Sixth Revisions was shown in Demography, Bulletin No. 68. Commencing with 1951, the classification is according to the Sixth Revision only.

In order to facilitate the briefer presentation of cause of death statistics, the present International Classification provides two special lists of causes for tabulation-the Intermediate List of 150 causes and the Abbreviated List of 50 causes. The latter has been used for the cause of death tabulations $\mathbf{A}$ to $\mathbf{C}$ which follow. Tables A and B show deaths of males and females, respectively, for 1957 and Table $C$ shows the numbers of persons who died and the death rates and proportion per 10,000 deaths for the years 1956 and 1957.

## A.-CAUSES OF DEATH : MALES, 1957.

## Abbreviated List of 50 Causes (Based on the Sdxth Revision of the International List).


(a) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138.

## B.-CAUSES OF DEATH : FEMALES, 1957. <br> Abbreviated List of 50 Causes (Based on the Sixth Revision of the <br> International List).

| Cause of Death. | Detailed List Numbers. | N.S.W. | Vic. | Qld. | S.A. | W.A. | Tas. | N.T. | A.C.T. | Aust. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B 1 Tuberculosis of respiratory system | 001-008 | 46 | 36 | 14 | 8 | 7 | 2 |  | 1 | 114 |
| B 2 Tuberculosis, other forms .. | 010-019 | 6 | 3 | 3 | 2 | 1 |  |  |  | 15 |
| B 3 Syphilis and its sequelae | 020-029 | 9 | 9 | 5 | 3 | 1 | 1 |  |  | 28 |
| B 4 Typhoid fever .. | 040 |  | . . | . |  | . . | . | . | . |  |
| B 5 Cholera . ${ }^{\text {a }}$. | 043 |  |  | 3 | 1 | . |  |  | . |  |
| B 6 Dysentery, all forms .. | 045-048 | 1 |  | 3 | 1 |  | 1 | $\ldots$ | . | 6 |
| B 7 Scarlet fever and streptococcal sore throat | 050, 051 |  |  |  |  |  |  |  | . |  |
| B 8 Diphtheria $\quad \cdots \quad$. | 055 | 1 | 1 | 1 | 1 | $\cdots$ | 1 | . | . | 5 |
| B 9 Whooping cough | 056 | 2 |  | 3 |  |  |  |  |  | 5 |
| B10 Meningococcal infections | 057 | 9 | 6 | 1 | 2 | 3 | 2 | $\ldots$ |  | 23 |
| B11 Plague Actic. | 058 | 2 | . . | . | . | 1 |  | $\cdots$ |  | 3 |
| B12 Acute poliomyelitis | 080 | 2 | . | . . | . | 1 |  | $\cdots$ |  | 3 |
| B13 Smalipox . ${ }_{\text {B14 }}$ Measles . | 084 |  | 3 | . | . | $\ldots$ |  |  |  |  |
| B15 Typhus and other rickettsial diseases | 085 $100-108$ | 2 | 3 | . | . |  |  |  |  | 5 1 |
| B16 Malaria .. $\quad$. | $110-117$ | . |  |  |  |  |  | $\cdots$ |  |  |
| B17 All other diseases classified as infective and parasitic | (a) | 57 | 36 | 12 | 12 | 10 | 2 | 1 | 1 | 131 |
| B18 Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues . . | 140-205 | 2,234 | 1,811 | 728 | 592 | 325 | 173 | 1 | 14 | 5,878 |
| B19 Benign and unspecified neoplasms | 210-239 | 56 | 43 | 19 | 12 | 6 | 2 |  |  | 138 |
| B20 Diabetes mellitus .. | 260 | 266 | 271 | 71 | 46 | 47 | 29 |  |  | 730 |
| B21 Anaemias | 290-293 | 77 | 68 | 31 | 16 | 7 | 8 | . | 1 | 208 |
| B22 Vascular lesions affecting central nervous system | 330-334 | 2,652 | 1,862 | 772 | 584 | 341 | 214 | 3 | 12 | ,440 |
| B23 Non-meningococcal meningitis | 340 | 13 | 14 | 11 | 8 | 7 | 1 | . | . | 54 |
| B24 Rheumatic fever | 400-402 | 5 | 6 | 4 | 1 | 2 | $\cdots$ | $\cdots$ | $\cdots$ | 18 |
| B25 Chronic rheumatic heart disease. . .. .. | 410-416 | 127 | 147 | 51 | 49 | 28 | 10 | . | 1 | 413 |
| B26 Arteriosclerotic and degenerative heart disease | 420-422 | 3,711 | 2,652 | 939 | 903 | 565 | 265 | 1 | 12 | 9,048 |
| B27 Other diseases of heart | 430-434 | 488 | 310 | 151 | 87 | 30 | 40 | 2 | 2 | 1,110 |
| B28 Hypertension with heart disease | 440-443 | 454 | 311 | 164 | 80 | 75 | 24 |  | . . | 1,108 |
| B29 Hypertension without mention | 444-447 | 208 | 165 | 91 | 38 | 33 | 25 | 1 |  |  |
| B30 Influenza .. . | 480-483 | 47 | 66 | 19 | 17 | 11 | 8 | 2 |  | 170 |
| B31 Pneumonia | 490-493 | 591 | 343 | 189 | 189 | 92 | 53 | 3 | 1 | 1,461 |
| B32 Bronchitis | 500-502 | 77 | 61 | 35 | 17 | 10 | 10 | .. | 3 | 213 |
| B33 Ulcer of stomach and duodenum | 540, 541 | 85 | 52 | 24 | 10 | 9 | 3 | $\cdots$ | . | 183 |
| 834 Appendicitis | 550-553 | 24 | 8 | 9 | 3 | 7 | 6 | . | . | 57 |
| B35 Intestinal obstruction and hernia . . | 560, 561, 570 | 108 | 45 | 41 | 23 | 12 | 5 | $\cdots$ | 3 | 237 |
| B36 Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the newborn | 543, 571, 572 | 79 | 55 | 28 | 27 | 16 | 3 | 3 | 1 | 212 |
| B37 Cirrhosis of liver ... .. | 543, 581. | 49 | 53 | 20 | 21 | 15 | 5 | $\ldots$ | 1 | 164 |
| B38 Nephritis and nephrosis .. | 590-594 | 235 | 134 | 124 | 31 | 27 | 19 | . | . | 570 |
| B40 Complications of pregnancy, childbirth and the puerperium | $\left\{\begin{array}{l} 640-652, \\ 670-689 \end{array}\right.$ | $\} 64$ | 27 | 21 | 12 | 11 | 2 | . | 1 | 138 |
| B41 Congenital malformations .. | 750-759 | 182 | 174 | 75 | 53 | 38 | 26 | 1 |  | 549 |
| B42 Birth injuries, post-natal asphyxia and atelectasis | 760-762 | 161 | 179 | 67 | 39 | 40 | 16 | 1 | 1 | 504 |
| B43 Infections of the newborn .. | 763-768 | 25 | 19 | 16 | 8 | 3 | 2 | .. | 1 | 74 |
| B44 Other diseases peculiar to early infancy, and immaturity unqualified | 769-776 | 252 | 131 | 102 | 45 | 42 | 14 | 2 | 1 | 589 |
| B45 Senility without mention of psychosis, ill-defined and unknown causes | 780-795 | 306 | 98 | 110 | 70 | 17 | 12 |  | 2 | 615 |
| B46 All other diseases :. | Residual | 1:224 | 1,303 | 530 | 270 | 219 | 114 | 3 | 4 | 3,667 |
| BE47 Motor vehicle accidents .. | E810-E835 | 172 | 140 | 53 | 53 | 32 | 17 | . | 3 | 470 |
| BE48 All other accidents $\quad\{$ | E800-E802, | \} 323 | 314 | 170 | 106 | 51 | 34 | 6 | $\ldots$ | 1,004 |
| BE49 Suicide and self-inflicted injury . | $\begin{aligned} & \text { E963, } \\ & \text { E970-E979 } \end{aligned}$ | \{ 135 | 85 | 46 | 31 | 22 | 7 | . |  | 326 |
| BE50 Homicide and operations of $\{$ | $\begin{aligned} & \text { E964, E965, } \\ & \text { E980-E999 } \end{aligned}$ | $\} \quad 17$ | 6 | 13 | 5 | 8 |  |  |  | 49 |
| All Causes .. | . | 14,583 | 11,047 | 4,766 | 3,475 | 2,171 | 1,156 | 30 | 66 | 37,294 |

(a) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138.

## C.-CAUSES OF DEATH : PERSONS, AUSTRALIA.

## Abbreviated List of 50 Causes (Based on the Sixth Revision of the International List).

| Cause of Death. | $\begin{aligned} & \text { Detailed } \\ & \text { List } \\ & \text { Numbers. } \end{aligned}$ | Number of Deaths. |  | Rate per 1,000,000 of Mean Population. |  | Proportion per 10,000 Deaths. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1956. | 1957. | 1956. | 1957. | 1956. | 1957. |
| B 1 Tuberculosis of respiratory system | 001-008 | 663 | 543 | 70 | 56 | 77 | 64 |
| B 2 Tuberculosis, other forms | 010-019 | 61 | 42 | 7 | 4 | 7 | 5 |
| B 3 Syphilis and its sequelae | 020-029 | 174 | 154 | 18 | 16 | 20 | 8 |
| 84 Typhoid fever | 40 | 2 |  |  |  |  |  |
|  | 045-048 | 15 | 12 | 2 | 1 | 2 | 1 |
| B 7 Scarlet fever and streptococcal | 50, |  | 12 3 | 1 |  | 1 |  |
| B 8 Diphtheria | 055 | 12 | 9 | 1 | 1 | 1 | 1 |
| B 9 Whooping cough | 056 | 10 | 7 | 1 |  | 1 |  |
| B10 Meningococcal infections | 057 | 66 | 61 | 7 | 6 | 8 | 7 |
| B11 Plague $\because$ | 058 |  |  |  |  |  |  |
| B12 Acute poliomyelitis | 80 | 57 |  | 6 | 1 | 7 | 1 |
| ${ }_{\text {B14 }}$ B13 Measles ${ }^{\text {a }}$ Smalipox | 084 085 | 44 | 15 | 5 | 2 | 5 | 2 |
| B15 Typhus and other rickettsial | 100-10 |  |  |  |  |  |  |
| B16 Malaria ... | 110-11 | 2 | 1 |  |  |  |  |
| B17 All other diseases classified as infective and parasitic | (a) | 329 |  | 35 | 32 | 38 | 37 |
| B18 Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues | 140-205 | ' 12,281 | 12,679 | 1,303 | 1,315 | . 427 | ,493 |
| B19 Benign and unspecified neoplasms | 210-239 | 264 | 250 | 28 | 26 | 31 | 29 |
| B20 Diabetes mellitus | 260 | 1,212 | 1,151 | 129 | 119 | 141 | 136 |
| B21 Anaemias .. | 290-293 | 336 | 300 | 36 | 31 | 39 | 35 |
| B22 Vascular lesions affecting central nervous system | 330-334 | 11,562 | 11,477 | 1,226 | 1,191 | 1,343 | 1,351 |
| B23 Non-meningococcal meningitis | 340 | 133 | 135 | 14 |  |  | 16 |
| B24 Rheumatic fever | 400-402 | 53 | 58 | 6 | ${ }^{6}$ | 6 | 7 |
| B25 Chronic rheumatic heart disease | 410-416 | 782 + | 748 | 83 | 78 | 91 | 88 |
| B26 Arteriosclerotic and degenerative heart disease | 420-422 | 23,913 | 22,813, | 2,537 | 2,366 | 2,778 | 2,685 |
| B27 Other diseases of heart | 430-434 | 2,634 | 2,505 | 279 | 260 | 306 | 295 |
| B28 Hypertension with heart disease | 440-443 | 2,190 | 2,087 | 232 | 217 | 254 | 246 |
| B29 Hypertension without mention of heart | 444-447 | 1,201 | 1,074. | 127 | 112 | 139 | 26 |
| B30 Influenza $\quad . \quad$. | 480-483 | 182 | 445 | 19 | 46 | 21 |  |
| B31 Pneumonia | 490-493 | 3,108 | 3,245 | 330 | 337 | 361 | 382 |
| B32 Bronchitis | 500-502 | 1,055 | 976 | 112 | 101 | 123 | 115 |
| B33 Ulcer of stomach and duodenum | 540, 541 | 687 | 710 | 73 | 74 | 80 | 84 |
| B34 Appendicitis | 550-553 | 155 | 155 | 16 55 | 16 | 18 | 18 |
| B35 Intestinal obstruction and hernia | 560, 561, 570 | 516 | 522 | 55 | 54 | 60 | 61 |
| B36 Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the newborn |  | 414 | 408 | 44 | 42 | 48 | 48 |
| B37 Cirrhosis of liver | 543, 581, | 470 | 435 | 50 | 45 | 55 | 51 |
| B38 Nephritis and nephrosis | 590-594 | 1,291 | 1,239 | 137 | 129 | 150 | 146 |
| B39 Hyperplasia of prostate | 610 | 543 | 556 | 58 | 58 | 63 | 66 |
| B40 Complications af pregnancy, child birth and the puerperium | $\left\{\begin{array}{l} 640-652, \\ 670-689 \end{array}\right\}$ | 119 | 138 | 13 | 14 | 14 | 16 |
| B41 Congenital malformations | 750-759 | 1,172 | 1,176 | 124 | 122 | 136 | 138 |
| B42 Birth injuries, post-natal asphyxia and atelectasis | 760-762 | 1,084 | 1,221 | 115 | 127 | 26 | 44 |
| B43 Infections of the newborn | 763-768 | 167 | 175; | 18 | 18 | 19 | 21 |
| B44 Other diseases peculiar to early infancy, and immaturity unqualified .. | 769-776 | 1,490 | 1,392 | 158 | 144 | 173 | 164 |
| B45 Senility without mention of psychosis, ill-defined and un- |  |  |  |  |  |  |  |
| k46 known causes .. | 780-795 | 1,285 | 1,150 | 136 | 119 | 149 | 135 |
| B46 All other diseases <br> BE47 Motor vehicle accidents | $\begin{array}{r} \text { Residual } \\ \text { E810-E835 } \end{array}$ | $\begin{aligned} & 8,021 \\ & \mathbf{2 , 2 1 9} \end{aligned}$ | $\begin{aligned} & \mathbf{7 , 9 1 8} \\ & \mathbf{2 , 2 9 3} \end{aligned}$ | 851 <br> 235 | 821 <br> 238 | $\begin{aligned} & 932 \\ & 258 \end{aligned}$ | 932 270 |
| BE48 All other accidents | 800-E802 | 2,948 | 3,052 | 313 | 317 | 342 | 359 |
| BE49 Suicide and self-inflicted injury | $\left.\begin{array}{l} \text { E963-E979 } \end{array}\right\}$ | 1,02! | 1,170 | 108 | 121 | 119 | 138 |
| BE50 $\underset{\text { war }}{\text { Homicide }}$.. | $\left.\begin{array}{l} \text { E964, E965 } \\ \text { E980-E999 } \end{array}\right\}$ | 135 |  | 14 | 14 | 16 | 16 |
| All Causes .. |  | 86,088 | 84,953 | 9,132 | 8,812 | 10,000 | 10,000 |

(a) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138.
11. Deaths from Principal Causes.-(i) General. In the preceding tables, particulars have been given for each of the causes of death comprising the Abbreviated Classification according to the Sixth Revision of the International List. Certain important causes are treated in detail hereunder. The Abbreviated Classification numbers used in tables A to $\mathbf{C}$ (pp. 357-9) are indicated in parentheses for each cause or group of causes.
(ii) All Forms of Tuberculosis (B1, B2). (a) General. The total number of deaths classified to all forms of tuberculosis in 1957 was 585 , consisting of 456 males and 129 females. In comparing any of the figures for 1950 and subsequent years with those for 1949 and earlier years, consideration should be given to the effect of the change in basis from the Fifth to the Sixth Revision of the International List. This was discussed in Official Year Book No. 39, page 626.
(b) Age at Death. The following table shows the age groups of males and females who were classified as dying from tuberculosis in 1957, together with figures for 1921, 1931, 1941 and 1951.

TUBERCULOSIS (ALL FORMS) : DEATHS IN AGE GROUPS, AUSTRALIA.

(c) Death Rates. The reduction in mortality from tuberculosis is shown by the decline in the crude death rate from tubercular diseases, which fell from 68 per 100,000 of mean population in 1921 (males, 78; females, 56) to 18 in 1951 (males, 25; females, 11) and still further to 6 in 1957 (males 9; females, 3). The crude death rate does not reveal the even more striking fall in the number of deaths in the younger age groups, which can be seen from the table above.
(d) Death Rates, Various Countries. A comparison of the death rates from tuberculosis for Australia with those for various other countries, made on the latest figures available, shows that Australia, with a rate of 6 deaths per 100,000 of mean population, occupies a favourable position as regards this disease. Whereas the rate for Denmark is only 5, rates range as high as 63 for Portugal. For various other countries rates are as follows:Netherlands, 6; Canada, 8; New Zealand, 11; Union of South Africa and United States of America, 9; United Kingdom, 12; Switzerland, 22; Italy, 23; France, 29; Finland, 38; and Japan, 49.
(iii) Malignant Neoplasms, including Neoplasms of Lymphatic and Haematopoietic Tissues (B18). (a) General. It was shown in Official Year Book No. 39, page 628, that deaths classified under this heading according to the Sixth Revision of the International List are not directly comparable in total with those on the Fifth Revision basis and comparability ratios were given to enable comparison to be made on an adjusted basis. This change must be kept in mind in considering the comparisons shown in the following pages.
(b) Type and Seat of Disease. Tables showing the type and seat of disease in conjunction with age and conjugal condition of the persons dying from malignant neoplasms in 1957 will be found in Demography, Bulletin No. 75. A summary regarding type and seat of disease for 1957 is given below. It may be pointed out that the significance of the number of deaths shown for the various types of neoplasms enumerated hereunder is doubtful, owing to the fact that, in the absence of a post-mortem, it is impracticable for the certifying doctor in the majority of cases to make an accurate diagnosis as to type in the detail required for the following classification.

DEATHS FROM MALIGNANT NEOPLASMS AND NEOPLASMS OF LYMPHATIC AND HAEMATOPOIETIC TISSUES: TYPE AND SEAT OF DISEASE, AUSTRALIA, 1957.

(c) Age at Death. The ages of males and females who died from malignant neoplasms in 1957 are given below, together with figures for 1921, 1931, 1941 and 1951. The increase in the number of deaths from malignant neoplasms in the years since 1921 is principally due to the increase in the number of people in the higher age groups, at which ages the risks of cancer are much greater. While the total population increased by about 77 per cent. between 1921 and 1957, the number of people over 55 years of age increased by about 158 per cent. The increase in the number of deaths in the lower age groups from 1951 is partly due to the inclusion of neoplasms of lymphatic and haematopoietic tissues, also it is probable that a proportion of the increased number of deaths from cancer recorded in recent years has been due to improved diagnosis and certification on the part of the medical profession.

MALIGNANT NEOPLASMS( $a$ ): NUMBER OF DEATHS IN AGE GROUPS, AUSTRALIA.

(a) Includes neoplasms of lymphatic and haematopoietic tissues.
(d) Death Rates. The death rates from malignant neoplasms have continued to rise over recent years. The rates are crude death rates representing the number of deaths from malignant neoplasms per 100,000 of mean population and do not take account of changes in the age constitution of the population, and to a substantial extent reflect the increasing age of the population rather than the true change in mortality from malignant neoplasms (see previous paragraph). In 1921, the rate for Australia was 87 (males, 88; females, 87) ; in 1931 it was 101 (males, 105; females, 97); in 1941 it was 119 (males, 119; females, 120) and in 1951 it had risen to 126 (males, 129; females, 122). Figures for 1957 show that a further rise has taken place, the rate being 132 (males, 139; females, 124).
(e) Death Rates, Various Countries. Death rates from malignant neoplasms per 100,000 of mean population for Australia and for various other countries are as follows:Portugal, 84; Japan, 91 ; Italy, 128 : Canada, 130; Union of South Africa, 131 ; Australia, 132; Finland, 146; United States of America, 147; New Zealand, 154; Netherlands, 158; France, 183; Switzerland, 190, and United Kingdom, 208. The rates are for the latest available year in each case.
(iv) Diseases of the Heart (B25 to B28). The number of deaths classified to diseases of the heart in 1957 was 28.153 ( 16,474 males and 11,679 females). This class is the largest amongst causes of death, the rate having increased from 112 per 100,000 of mean population in 1911-15 to 292 in 1957. The increase in the number of deaths recorded from heart diseases has been particularly pronounced during the past twenty years. The rapid increase in mortality is partly a reflection of the ageing of the population, but the figures have been influenced mainly by improved diagnosis and certification by medical practitioners.

The death rates for heart diseases for various years from 1921 were as follows:-1921, 93 (males, 102; females, 83); 1931, 159 (males, 178; females, 142); 1941, 269 (males, 306; females, 231); 1951, 314 (males, 367; females, 259); and 1957, 292 (males, 337; females, 246). Deaths from heart diseases in 1957 represented 33 per cent. of the total deaths.
(v) Puerperal Causes ( $B 40$ ). It was shown in Official Year Book No. 39, page 634, that the changes introduced with the Sixth Revision of the International List did not significantly affect the comparability of the total number of deaths from puerperal causes. The death rate from these causes (including criminal abortion) has fallen rapidly during recent years and in 1957 the rate was 0.6 per 1,000 live births, compared with a rate of 6 per 1,000 in 1936. The 138 deaths in 1957 correspond to a death rate of 2.9 per 100,000 females. The death rate may be expressed in other terms by stating that 1 of every 1,579 women giving birth to a live child in 1957 died from puerperal causes; the corresponding ratios for married women were 1 in every 1,669 , and for single women 1 in every 712.

The death rate per 1,000 live births from puerperal causes in various countries for the latest available years is as follows:-New Zealand and Denmark, 0.4; United States of America, 0.5; France, United Kingdom and the Netherlands, 0.6; Canada, 0.8 ; Finland and Switzerland, 1.0; South Africa, 1.2; Italy, 1.3; and Japan, 1.8.

The total number of children left by the 125 married mothers who died from puerperal causes in 1957 was 323 , an average of 2.5 children per mother.

One of the mothers who died had been married less than one year, 11 between one and two years, and 6 between two and three years. The duration of marriage ranged up to 28 years. Tabulations distinguishing the ages at marriage and at death will be found in Demography, Bulletin No. 75, which also includes a table showing in combination the duration of marriage and previous issue.
(vi) Congenital Malformations and Diseases of Early Infancy (B4I to B 44). This combined group embraces two complete classes of the International List of Causes of Death which relate more specifically to infant deaths and they have already been presented in detail in the section devoted to causes of infant death (see pp. 353 and 354).
(vii) Accidents, Poisonings and Violence (BE 47 to BE 50). (a) General. Deaths in this class are classified according to external cause and not according to nature of injury. The classification provides sub-groups for accidents, including adverse reactions to prophylactic inoculations, therapeutic misadventures and late effects of accidental injury; suicide; homicide and injuries purposely inflicted by other persons; and injury resulting from operations of war, including late effects.

The following table, showing the death rates in the main sub-groups per 100,000 of mean population, indicates that the death rate from violence is generally about three times as great for males as for females. It can be seen also that in 1957 the proportion of deaths caused by violence was 7.83 per cent., compared with 6.76 per cent. in 1931-35.

The low level of the rates and proportions for the years 1941-45 is due largely to the exclusion of deaths of defence personnel from accidents, suicide and homicide, though the rates have been based on total mean population (including defence personnel). A further contributing factor is the decrease during this period in the number of automobile accidents. From July, 1947, deaths of defence personnel from accidents, etc., have again been included.

ACCIDENTS, POISONINGS AND VIOLENCE : DEATH RATES.(a)

| Period. | Death Rate(a) from- |  |  |  |  |  |  |  |  |  |  |  | All Violence. Proportion per 10,000 Deaths. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Accidents.(b) |  |  | Suicide. |  |  | Homicide.(c) |  |  | Total Violence. |  |  |  |  |  |
|  | M. | F. | P. | M. | F. | P. | M. | F. | P. | M. | F. | P. | M. | F. | P. |
| 1931-35.. | 71 | 22 | 47 | 19 | 5 | 12 | 2 | 1 | 2 | 92 | 28 | 61 | 929 | 353 | 676 |
| 1936-40.. | 86 | 28 | 58 | 17 | 5 | 11 | 2 | 1 | 1 | 105 | 34 | 70 | 979 | 399 | 724 |
| 1941-45.. | 67 | 26 | 46 | 11 | 4 | 8 | 1 | 1 | 1 | 79 | 31 | 55 | 730 | 348 | 558 |
| 1946-50.. | 76 | 27 | 51 | 14 | 5 | 10 | 1 | 1 | 1 | 91 | 33 | 62 | 844 | 383 | 640 |
| 1951-55.. | 82 | 31 | 57 | 15 | 5 | 10 | 2 | 1 | 1 | 99 | 37 | 68 | 964 | 453 | 740 |
| 1953 | 79 | 30 | 56 | 16 | 6 | 11 | 2 | 1 | 1 | 97 | 37 | 68 | 969 | 463 | 746 |
| 1954 | 79 | 30 | 55 | 16 | 5 | 11 | 2 | 1 | 1 | 97 | 36 | 67 | 965 | 448 | 737 |
| 1955 | 79 | 31 | 56 | 15 | 5 | 10 | 2 | 1 | 1 | 96 | 37 | 67 | 969 | 472 | 752 |
| 1956 | 76 | 33 | 55 | 16 | 6 | 11 | 2 | 1 | 1 | 94 | 40 | 67 | 930 | 486 | 735 |
| 1957 | 79 | 31 | 55 | 17 | 7 | 12 | 2 | 1 | 1 | 98 | 39 | 68 | 1,007 | 496 | 783 |

(a) Number of deaths per 100,000 of mean population.
(b) Includes "open verdict". (c) Includes late effects of injuries due to operations of war.
(b) Accidents ( $B E$ 47, BE 48). In 1957, the total number of deaths from accidental causes was 5,345 ( 3,871 males and 1,474 females). Half of the accidental deaths were the result of transport accidents. Of these, the numbers attributable to the major causes, and the percentages of the total accidental deaths in each case, were as follows:-Motor vehicle traffic accidents, 2,202 ( 41.20 per cent.); motor vehicle non-traffic accidents, 91 ( 1.70 per cent.); other road vehicle accidents, 114 ( 2.13 per cent.); railway accidents, 140 ( 2.62 per cent.); water transport accidents, 84 ( 1.57 per cent.); aircraft accidents, 40 ( 0.75 per cent.); a total of 2,671 ( 49.97 per cent.). Other important causes were accidental falls, 991 ( 18.54 per cent.); accidental drowning, 494 ( 9.24 per cent.); and accidents caused by fire and explosion of combustible material, 202 ( 3.78 per cent.).
(c) Suicide (BE 49). (i) Modes Adopted. Deaths from suicide in 1957 numbered 1,170 (males, 844; females, 326). Firearms and explosives were used in 316 cases ( 27.01 per cent. of total deaths by suicide). Other important modes adopted, together with the mumbers and relevant percentages, were as follows:-Poisoning other than by gases, 279 ( 23.85 per cent.); poisoning by gases, 175 ( 14.96 per cent.); hanging or strangulation, 225 (19.23 per cent.); submersion (drowning), 65 ( 5.55 per cent.); other modes, 110 ( 9.40 per cent.).

Of the 844 males who committed suicide, 298 ( 35.31 per cent.) used firearms or explosives. For females the most common mode was poisoning (other than by gases). This was used in 125 cases ( 38.34 per cent.).
(ii) Age at Death. From the following table, which shows the age of persons who committed suicide in 1957, it will be seen that both young and very old people took their lives during this year.

AGE OF PERSONS WHO COMMITTED SUICIDE : AUSTRALIA, 1957.

| Age Groups (Years). | Males. | Females.' | Persons. | Age Group (Ye |  | Males. | Females. | Persons. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10-14 | 2 | 1 | 3 | 60-64 |  | 74 | 33 | 107 |
| 15-19 | 18 | 5 | 23 | 65-69 |  | 54 | 27 | 81 |
| 20-24 | 36 | 11 | 47 | 70-74 | . | 37 | 22 | 59 |
| 25-29 | 57 | 20 | 77 | 75-79 | . | 25 | 7 | 32 |
| 30-34 | 70 | 24 | 94 | 80-84 |  | 15 | 2 | 17 |
| 35-39 | 91 | 29 ! | 120 | 85-89 |  | 3 | 1 | 4 |
| 40-44 | 82 | 28 | 110 | 90-94 .. |  | 2 |  | 2 |
| 45-49 | 98 | 47 | 145 | Not stated | . | 2 |  | 2 |
| 50-54 | 94 | 30 | 124 |  |  |  |  |  |
| 55-59 .. .. | 84 | 39 | 123 | Total Deaths | $\ldots$ | 844 | 326 | 1,170 |

(d) Homicide and Operations of War (BE 50). In 1957, there were 127 deaths from homicide and injury purposely inflicted by other persons (not in war), of which non-accidental poisonings caused 4 deaths, assault by firearms and explosives 50 , assault by cutting and piercing instruments 15 , assault by other means 54 and injury by intervention of police 4. Deaths from injury resulting from the operations of war numbered 6 , but all were deaths from late effects of such injuries.
12. Age at Death and Average Issue of Deceased Married Males and Females.Demography, Bulletin No. 75, contains a number of tables showing, in combination with the issue, the age at marriage, age at death and occupation of married (including widowed or divorced) persons who died in Australia in 1957. Deaths of married males in 1957 numbered 35,554 , and of married females, 29,167 . The tables which follow deal, however, with only 35,153 males and 29,001 females, the information regarding issue in the remaining 567 cases being incomplete. The total number of children in the families of the 35,153 males was 109,498 and of the 29,001 females, 96,650 . The average number of children is shown for various age groups in the following table.

AGE AT DEATH AND AVERAGE ISSUE OF DECEASED MARRIED(a) MALES AND FEMALES: AUSTRALIA.

| Age at Death (Years). | Average Issue. |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males. |  |  |  |  | Females. |  |  |  |  |
|  | 1921. | 1931. | 1941. | 1951. | 1957. | 1921. | 1931. | 1941. | 1951. | 1957. |
| Under 20 |  | 0.75 |  | 0.43 | 0.25 | 0.77 | 0.66 | 0.79 | 0.83 | 0.66 |
| 20-24.. | 0.84 | 0.81 | 0.73 | 0.96 | 0.95 | 1.22 | 1.13 | 0.95 | 0.86 | 1.32 |
| 25-29.. | 1.29 | 1.33 | 1.12 | 1.29 | 1.38 | 1.86 | 1.81 | 1.45 | 1.61 | 1.69 |
| 30-34.. | 2.06 | 1.79 | 1.76 | 1.79 | 2.06 | 2.45 | 2.34 | 1.91 | 1.98 | 1.85 |
| 35-39.. | 2.58 | 2.13 | 2.11 | 2.12 | 2.21 | 3.29 | 2.89 | 2.30 | 2.49 | 2.44 |
| 40-44. | 3.23 | 2.77 | 2.49 | 2.30 | 2.29 | 3.66 | 3.29 | 2.77 | 2.39 | 2.34 |
| 45-49. | 3.48 | 3.10 | 2.68 | 2.51 | 2.45 | 3.76 | 3.55 | 2.93 | 2.59 | 2.34 |
| 50-54.. | 3.76 | 3.46 | 2.96 | 2.56 | 2.52 | 4.23 | 3.60 | 3.29 | 2.76 | 2.53 |
| 55-59.. | 4.41 | 3.69 | 3.28 | 2.71 | 2.55 | 4.69 | 4.01 | 3.55 | 3.03 | 2.65 |
| 60-64. | 4.98 | 4.02 | 3.55 | 3.07 | 2.71 | 5.39 | 4.21 | 3.79 | 3.29 | 2.80 |
| 65-69.. | 5.50 | 4.41 | 3.73 | 3.25 | 2.98 | 5.86 | 4.82 | 4.01 | 3.63 | 3.15 |
| 70-74. | 6.06 | 5.06 | 4.17 | 3.58 | 3.26 | 6.30 | 5.41 | 4.29 | 3.64 | 3.37 |
| 75-79. | 6.66 | 5.65 | 4.56 | 3.83 | 3.48 | 6.56 | 6.02 | 4.85 | 3.96 | 3.55 |
| 80-84. | 6.89 | 6.17 | 4.93 | 4.30 | 3.84 | 6.76 | 6.26 | 5.39 | 4.19 | 3.80 |
| 85-89.. | 7.18 | 6.59 | 5.70 | 4.63 | 4.08 | 6.93 | 6.57 | 5.85 | 4.68 | 4.06 |
| 90-94. | 7.21 | 6.94 | 6.57 | 5.06 | 4.46 | 6.53 | 6.73 | 6.11 | 5.08 | 4.42 |
| 95-99. | 6.97 | 6.69 | 7.04 | 5.78 | 5.27 | 6.05 | 7.10 | 6.34 | 5.76 | 4.78 |
| 100 and over | 9.20 | 7.00 | 8.69 | 5.71 | 4.92 | 5.11 | 8.20 | 6.73 | 7.72 | 4.41 |
| Age not stated | 5.36 | 5.00 |  | 8.00 | 0.33 | 5.80 | 5.00 | . . | 5.50 | 2.33 |
| All Ages . . | 4.97 | 4.44 | 3.91 | 3.39 | 3.11 | 5.05 | 4.72 | 4.22 | 3.68 | 3.33 |

[^6]The figures in the preceding table include the issue both living and dead. The proportion of living to deceased issue, taking males and females together, is almost seven to one. The totals for 1957 are shown in the following table:-
ISSUE OF DECEASED MARRIED(a) MALES AND FEMALES : AUSTRALIA, 1957.

| Issue of Married Males. |  |  |  | Issue of Married Females. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Issue. | Males. | Females. | Total. | Issue. | Males. | Females. | Total. |
| Living | 49,424 | 48,081 | 97,505 | Living | 40,742 | 41,268 | 82,010 |
| Dead | 7,121 | 4,872 | 11,993 | Dead | 8,779 | 5,861 | 14,640 |
| Total | 56,545 | 52,953 | 109,498 | Total | 49,521 | 47,129 | 96,650 |

(a) Includes widowed or divorced.
13. Age at Marriage of Deceased Males and Females, and Issue.-While the table giving the average issue of married males and females naturally shows an increase in the averages with advancing age at death, the following table, which gives the average issue of males and females according to the age at marriage of the deceased parent, shows a corresponding decrease in the averages as the age at marriage advances.

AGE AT MARRIAGE AND AVERAGE ISSUE OF DECEASED MALES
AND FEMALES: AUSTRALIA.

| Age $\underset{\text { (Years). }}{\stackrel{\text { at }}{\text { Marriage }}}$ | Average Issue. |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males. |  |  |  |  | Females. |  |  |  |  |
|  | 1921. | 1931. | 1941. | 1951. | 1957. | 1921. | 1931. | 1941. | 1951. | 1957. |
| Under 15 |  |  |  |  |  | 7.60 | 6.36 | 7.80 | 4.88 | 5.56 |
| 15-19.. | 6.32 | 6.15 | 5.40 | 4.63 | 4.45 | 6.97 | 6.79 | 6.10 | 5.41 | 4.93 |
| 20-24. . | 6.05 | 5.56 | 4.89 | 4.23 | 3.87 | 5.50 | 5.23 | 4.80 | 4.28 | 3.87 |
| 25-29. | 5.17 | 4.70 | 4.21 | 3.65 | 3.29 | 4.09 | 3.79 | 3.51 | 3.14 | 2.95 |
| 30-34. | 4.45 | 3.96 | 3.41 | 3.00 | 2.79 | 2.66 | 2.42 | 2.35 | 2.23 | 2.06 |
| 35-39. . | 3.90 | 3.14 | 2.80 | 2.45 | 2.22 | 1.61 | 1.40 | 1.26 | 1.16 | $1.14{ }^{1}$ |
| 40-44. . | 2.67 | 2.36 | 2.01 | 1.69 | 1.65 | 0.62 | 0.39 | 0.35 | 0.36 | 0.33 |
| 45-49. . | 2.20 | 1.96 | 1.52 | 1.33 | 1.04 | 0.03 | 0.12 | 0.01 | 0.07 | 0.13 |
| 50-54.. | 1.70 | 1.60 | 1.05 | 0.80 | 0.63 | .. | . | . . | . | . . |
| 55-59.. | 1.30 | 0.95 | 0.79 | 0.49 | 0.50 | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ |  |
| 60-64. . | 0.33 | 0.63 | 0.29 | 0.24 | 0.26 | . | . | $\cdots$ | - |  |
| 65 and over | 0.25 | 0.18 | 0.01 | 0.29 | 0.21 |  |  |  |  |  |
| Age not stated | 4.93 | 3.64 | 2.95 | 2.81 | 2.49 | 5.41 | 3.96 | 2.45 | 3.17 | 2.65 |
| All Ages . . | 4.97 | 4.44 | 3.91 | 3.39 | 3.11 | 5.05 | 4.72 | 4.22 | 3.68 | 3.33 |

## § 6. Vital Statistics of External Territories.

Because of the outbreak of hostilities in the Pacific during the 1939-45 War, civil administration in the external territories was suspended on 11 th February, 1942, and registration of births, deaths and marriages was not resumed until 1946. The following table for the year 1957 shows the number of marriages, births and deaths registered in the external territories under the control of Australia, namely:-Norfolk Island; Papua; the Trust Territory of New Guinea; and the Trust Territory of Nauru. More detailed information will be found in a series of tables in Demography, Bulletin No. 75.

VITAL STATISTICS : EXTERNAL TERRITORIES, 1957.
(Excluding Indigenous Population.)

| Territory. | Marriages. | Births. |  |  | Deaths. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Males. | Females. | Persons. | Males. | Females. | Persons. |
| Norfolk Island | 4 | 9 | 6 | 15 | 7 | 10 | 17 |
| Papua . | 92 | 95 | 62 | 157 | 21 | 2 | 23 |
| Trust Territory of New Guinea | 77 | 253 | 246 | 499 | 55 | 18 | 73 |
| Trust Territory of Nauru .. | 2 | 14 | 10 | 24 | 3 | . . | 3 |

Nore.-Information for Cocos (Keeling) Islands is not available.


[^0]:    Note.-Owing to the registration procedure adopted in some States, it is possible that in some cases where one child only of a multiple pregnancy is live-born the confinement has been treated as a single birth. However, the numbers of multiple births are not significantly affected. See also para. 13.

[^1]:    The variations similarly caused in the birth rates for the States and the Northern Territory by referring the birth registrations to the State or Territory in which the mother was usually resident are shown by the following corrected rates for 1958:-New South Wales, 21.65; Victoria, 22.36; Queensland, 24.02; South Australia, 22.29; Western Australia, 23.74; Tasmania, 25.46; and Northern Territory, 36.15.

[^2]:    (a) Number of births per 1,000 of mean or mid-year population.
    (b) White population only. $\begin{array}{lll}\text { (c) Excludes Maoris. } & \text { (d) 1933-35. } & \text { (e) Excludes full-blood aboriginals. }\end{array}$

[^3]:    (a) Not available.
    (b) Excludes Maoris.
    (c) White population only.
    (d) Excludes

[^4]:    (a) Number of deaths per 1,000 of mean population. (b) Excludes deaths of defence personnel from September, 1939 to June, 1947. (c) Revised rates based on population estimates adjusted in accordance with the June, 1957 Population Count of Canberra are as follows:-1951-55, 4.58; 1955, 3.85; 1956, 4.72; 1957, 4.42.

[^5]:    (a) Number of deaths per 1,000 males in life table or stationary population (see explanation on p. 345)
    $\begin{array}{lll}\text { (b) Number of deaths per } & \text { (d) Excludes fult-blood aboriginals. } & \text { (e) Whatis. }\end{array}$

[^6]:    (a) Includes widowed or divorced.

