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CHAPTER X.

VITAL STATISTICS.

NOTE.—1. In the Vital Statistics chapter of Official Year Book No. 39, tables covered 1950 and, where possible, 1949. In issue No. 40, totals and rates were shown for births, deaths, marriages and infant deaths for the year 1952, but in most cases an analysis of the figures was not carried beyond 1951. In the present issue tables cover 1953. More detailed figures will be found in *Demography Bulletin* No. 71 unless otherwise specifically indicated.

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 Registrar-General or the Principal Registrar, or, as in the case of Victoria, the Government Statist.

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 length of time varies more considerably, being 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. In all States and Territories provision is made 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 with the Registrar of the district in which the marriage has taken place particulars of the parties married. The length of time allowed for registration of marriage also shows considerable variation as between States and Territories. In Victoria, Western Australia, the Northern Territory and the Australian Capital Territory, registration is required immediately following the ceremony, in Tasmania and South Australia within 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 and Victoria in 1953. No statutory provision has been made in Queensland or Tasmania for the registration of stillbirths. In these States, however, provision is made for voluntary registration and it appears likely that such births are notified to the Registrar-General. In this chapter stillbirths have been excluded from all tables of births and deaths and 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 some cases. It is believed, however, that consequent on the abolition, in 1943, of income limits previously restricting eligibility for maternity allowances, claims for which are checked against birth registers before payment, the proportion of births now occurring which is not registered is very small.

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 Government 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.

1. **Number of Marriages.**—The number of marriages registered in Australia during the year ended 31st December, 1953 was 70,640 giving a rate of 8.01 per 1,000 of the mean population for the year. A summary of the number of marriages registered in each State and Territory from 1926 to 1953 is given in the following table. Annual averages for each five-year period from 1861 will be found in *Official Year Book No. 39*, page 575.

MARRIAGES.

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

ANNUAL AVERAGES.

| | | | | | | | | | |
|------------|--------|--------|--------|-------|-------|-------|-----|-----|--------|
| 1926-30 .. | 19,253 | 12,955 | 6,279 | 4,036 | 3,167 | 1,506 | 23 | 30 | 47,249 |
| 1931-35 .. | 18,742 | 12,773 | 6,950 | 3,967 | 3,328 | 1,638 | 29 | 53 | 47,480 |
| 1936-40 .. | 25,295 | 17,784 | 8,082 | 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 | 2,520 | 114 | 181 | 75,891 |

ANNUAL TOTALS.

| | | | | | | | | | |
|------------|--------|--------|--------|-------|-------|-------|-----|-----|--------|
| 1940 | 28,757 | 20,066 | 10,234 | 6,247 | 4,951 | 2,422 | 130 | 192 | 72,999 |
| 1950 | 30,036 | 20,320 | 10,394 | 6,585 | 5,434 | 2,560 | 144 | 216 | 75,599 |
| 1951 | 30,341 | 21,117 | 10,814 | 6,646 | 5,390 | 2,607 | 143 | 240 | 77,298 |
| 1952 | 29,351 | 20,220 | 10,056 | 6,241 | 5,389 | 2,553 | 137 | 225 | 74,172 |
| 1953 | 27,573 | 19,238 | 9,859 | 6,149 | 5,032 | 2,424 | 154 | 211 | 70,640 |

2. **Crude Marriage Rates.**—The crude marriage rates for each State and Territory from 1926 to 1953 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. |
|---------|--------|------|---------|----------|----------|------|------|--------|-------|
|---------|--------|------|---------|----------|----------|------|------|--------|-------|

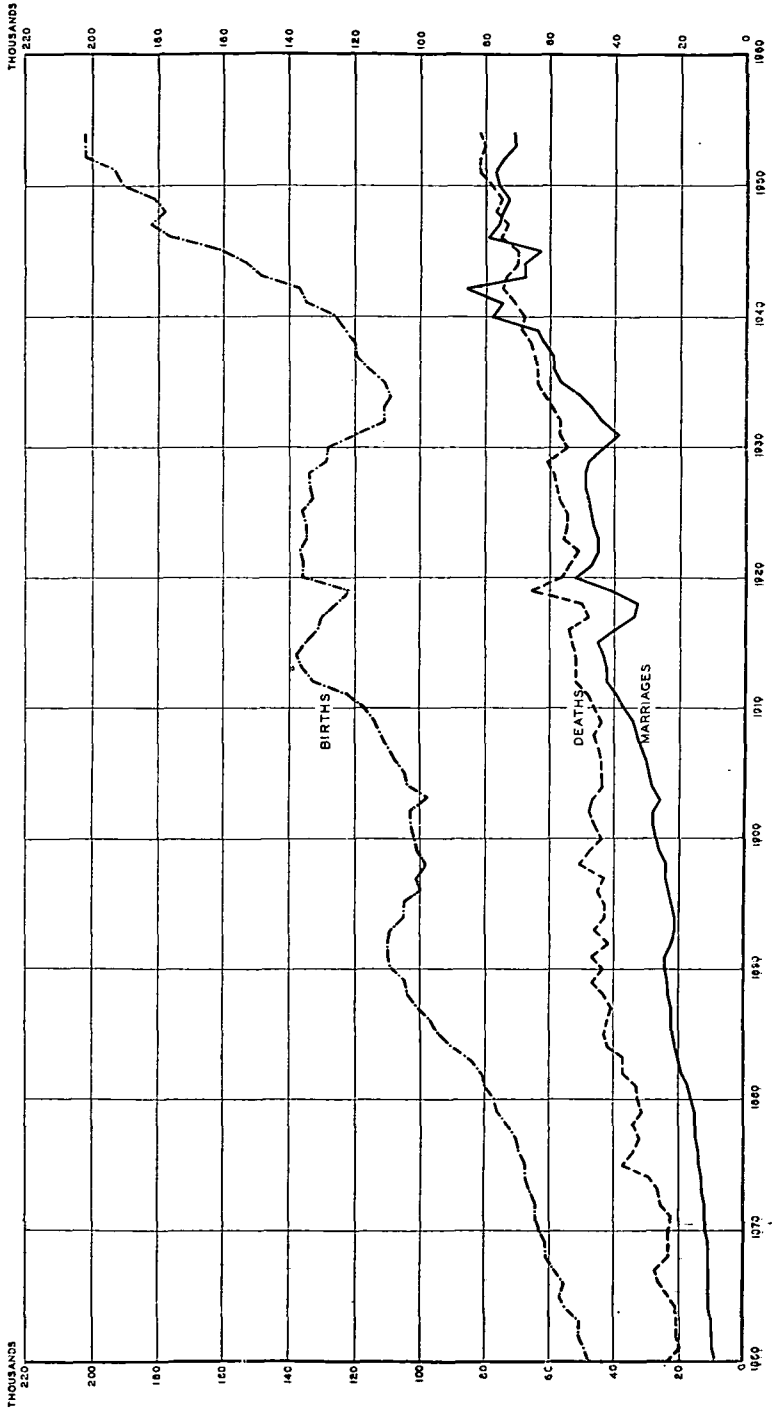
AVERAGE ANNUAL RATES.

| | | | | | | | | | |
|----------------|------|------|-------|-------|-------|------|-------|------|------|
| 1926-30 .. | 7.86 | 7.42 | 7.10 | 7.12 | 7.80 | 6.97 | 5.11 | 3.86 | 7.52 |
| 1931-35 .. | 7.20 | 7.02 | 7.35 | 6.83 | 7.58 | 7.19 | 5.92 | 5.74 | 7.16 |
| 1936-40 .. | 9.29 | 9.52 | 8.80 | 9.65 | 9.49 | 9.25 | 13.28 | 7.22 | 9.35 |
| 1941-45 .. | 9.97 | 9.86 | 10.04 | 10.61 | 9.74 | 8.61 | 7.18 | 7.57 | 9.94 |
| 1946-50 (b) .. | 9.90 | 9.72 | 9.40 | 9.87 | 10.01 | 9.56 | 9.39 | 9.49 | 9.77 |

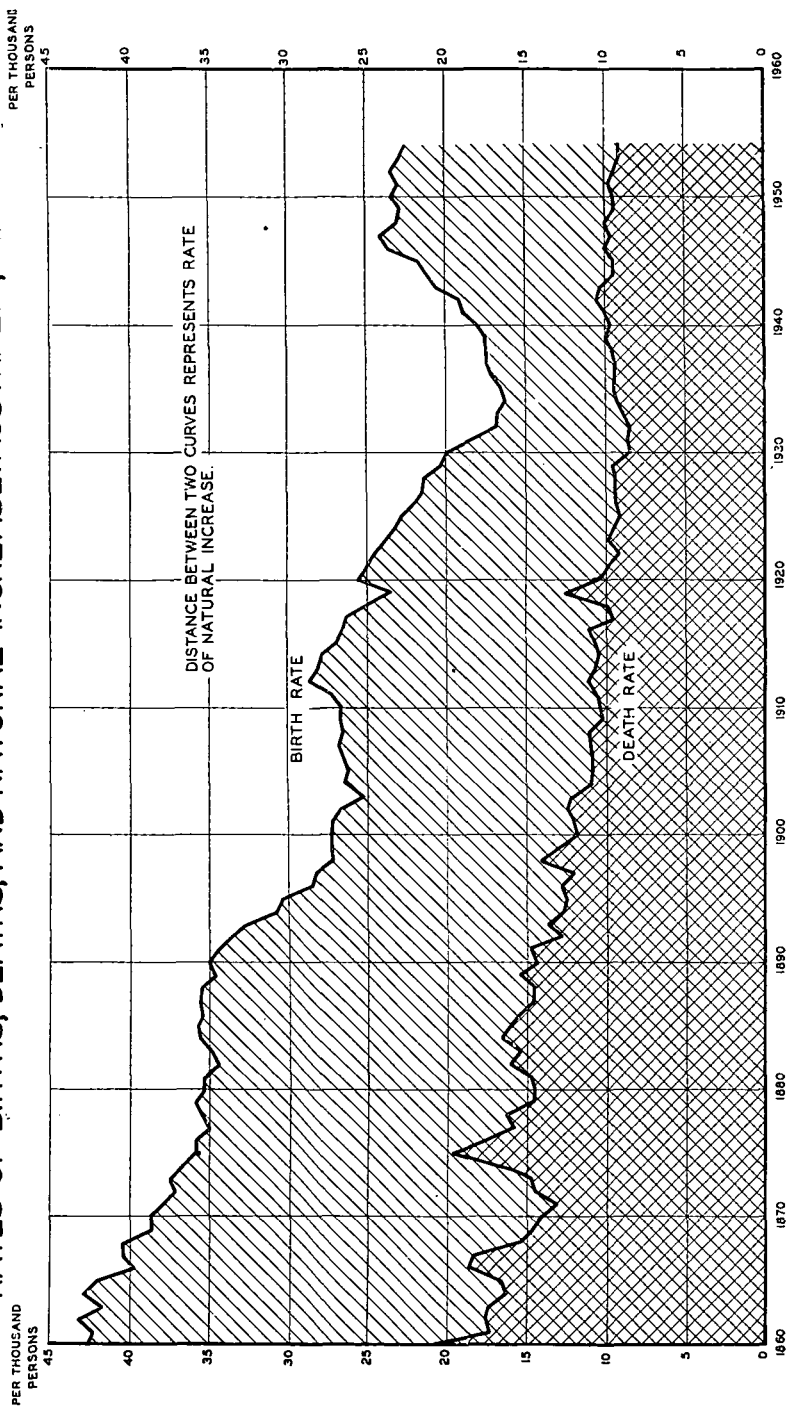
(a) Number of marriages per 1,000 of mean population.
population estimates shown on p. 311.

(b) Rates based on revised mean

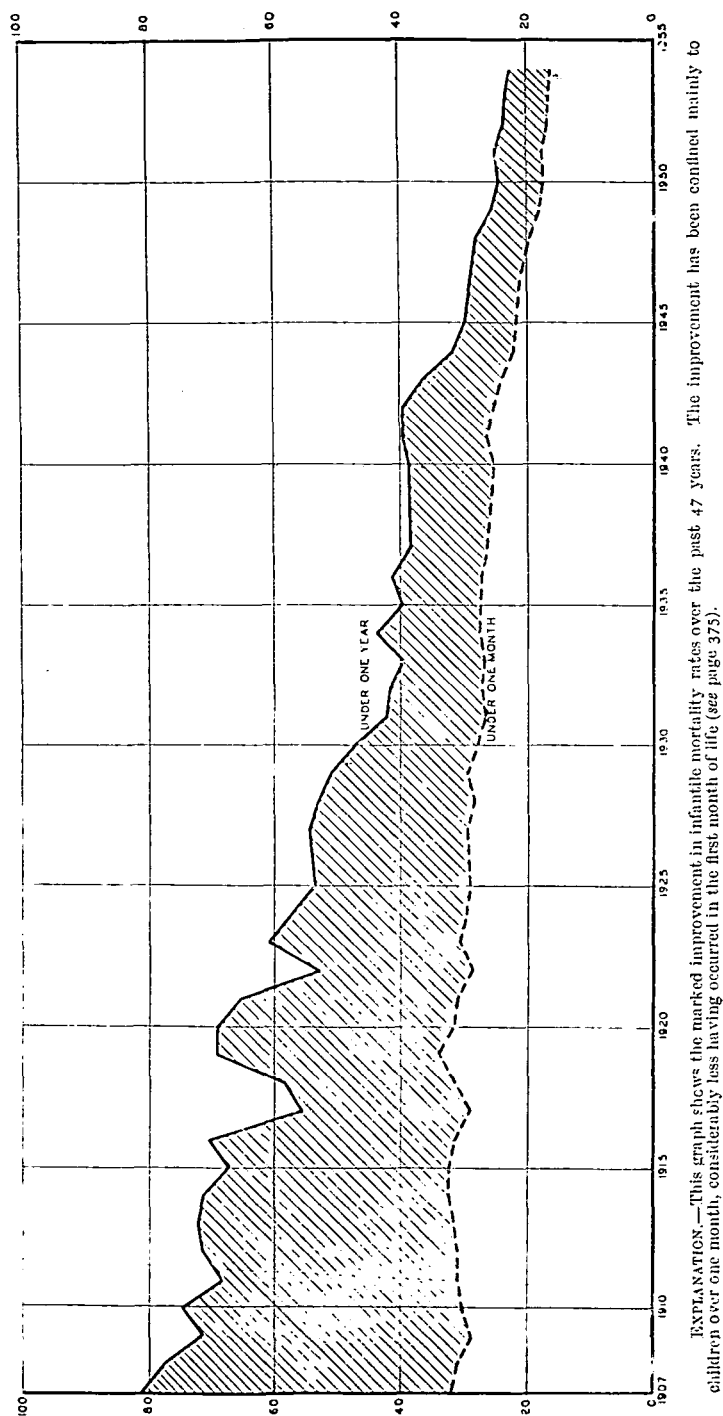
BIRTHS, DEATHS, AND MARRIAGES: AUSTRALIA, 1860 to 1954



RATES OF BIRTHS, DEATHS, AND NATURAL INCREASE: AUSTRALIA, 1860 TO 1954



INFANT MORTALITY RATES: AUSTRALIA, 1907 TO 1954 (INFANT DEATHS PER 1000 LIVE BIRTHS)



EXPLANATION.—This graph shows the marked improvement in infantile mortality rates over the past 47 years. The improvement has been confined mainly to children over one month, considerably less having occurred in the first month of life (see page 375).

CRUDE MARRIAGE RATES—*continued.*

| Period. | N.S.W. | Vic. | Q'land. | S. Au-t. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
|------------------|--------|------|---------|----------|----------|------|-------|--------|-------|
| ANNUAL RATES.(a) | | | | | | | | | |
| 1949 | 9.30 | 9.36 | 8.86 | 9.18 | 9.30 | 8.96 | 9.95 | 9.27 | 9.23 |
| 1950 | 9.40 | 9.20 | 8.65 | 9.28 | 9.74 | 9.18 | 10.07 | 9.44 | 9.24 |
| 1951 | 9.25 | 9.28 | 8.84 | 9.07 | 9.29 | 9.04 | 9.43 | 10.09 | 9.18 |
| 1952 | 8.78 | 8.63 | 8.01 | 8.27 | 8.97 | 8.56 | 9.09 | 8.69 | 8.59 |
| 1953 | 8.14 | 8.03 | 7.66 | 7.92 | 8.10 | 7.91 | 9.92 | 7.43 | 8.01 |

(a) Rates based on revised mean population estimates shown on p. 311.

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 seven census periods to 1946-48. 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.

| Period. | Rate.(a) | Period. | Rate.(a) |
|---------------|----------|---------------|----------|
| 1880-82 | 48.08 | 1920-22 | 56.22 |
| 1890-92 | 45.74 | 1932-34 | 42.88 |
| 1900-02 | 42.14 | 1946-48 | 71.24 |
| 1910-12 | 50.44 | | |

(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. | 1921-25. | 1926-30. | 1931-35. | 1953. | Country. | 1921-25. | 1926-30. | 1931-35. | 1953. |
|-----------------------------|----------|----------|----------|-------|-------------------------|----------|----------|----------|-------|
| United States of America .. | 10.6 | 9.9 | 9.2 | 9.9 | Austria .. | 9.6 | 7.5 | 6.8 | 7.8 |
| Yugoslavia .. | 10.6 | 9.5 | 7.8 | 9.9 | United Kingdom .. | 7.7 | 7.5 | 7.9 | 7.8 |
| Union of South Africa(b) .. | 8.0 | 9.3 | 9.4 | (c) | Denmark .. | 7.9 | 7.8 | 8.7 | 7.7 |
| Canada .. | 7.3 | 7.3 | 6.4 | 9.0 | Belgium .. | 10.6 | 9.1 | 7.8 | 7.7 |
| New Zealand(d) .. | 8.0 | 7.7 | 7.3 | 8.4 | Finland .. | 7.1 | 7.2 | 7.2 | 7.7 |
| Netherlands .. | 8.2 | 7.7 | 7.2 | 8.2 | Switzerland .. | 7.7 | 7.5 | 7.7 | 7.7 |
| Australia(e) .. | 8.0 | 7.5 | 7.2 | 8.0 | Spain .. | 7.3 | 7.3 | 6.5 | 7.6 |
| Norway .. | 6.3 | 6.1 | 6.5 | 7.9 | Sweden .. | 6.3 | 6.7 | 7.3 | 7.4 |
| Japan .. | 8.8 | 8.0 | 7.6 | 7.9 | France .. | 9.8 | 8.2 | 7.4 | 7.1 |
| | | | | | Italy .. | 9.0 | 7.3 | 6.8 | 7.0 |
| | | | | | Ireland, Republic of .. | 4.9 | 4.6 | 4.6 | 5.3 |

(a) Number of marriages per 1,000 of mean population. (b) White population only.
 (c) Not available. (d) Excludes Maoris. (e) Excludes full-blood aboriginals.

5. **Age and Conjugal Condition at Marriage.**—(i) *General.* Age at marriage in single years of age and previous conjugal condition of bridegrooms and brides in 1953 will be found in *Demography Bulletin* No. 71. A summary in age groups is given 2233/54.—11

hereunder. There were 5,107 males aged less than twenty-one years married during 1953 while the corresponding number of females was 21,482. At the other extreme there were 95 bachelors and 53 spinsters in the age group 65 years and over.

**AGE AND CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES : AUSTRALIA.
1953.**

| Age at Marriage (Years). | Bridegrooms. | | | | Brides. | | | |
|-----------------------------|---------------|--------------|--------------|---------------|---------------|--------------|--------------|---------------|
| | Bachelors. | Widowers. | Divorced. | Total. | Spinsters. | Widows. | Divorced. | Total. |
| Under 20 .. | 2,284 | .. | .. | 2,284 | 14,527 | 13 | 8 | 14,548 |
| 20-24 .. | 28,861 | 15 | 54 | 28,930 | 31,308 | 86 | 309 | 31,703 |
| 25-29 .. | 19,091 | 87 | 606 | 19,784 | 9,678 | 210 | 1,149 | 11,037 |
| 30-34 .. | 6,415 | 180 | 980 | 7,575 | 3,118 | 360 | 1,347 | 4,825 |
| 35-39 .. | 2,703 | 259 | 1,078 | 4,040 | 1,434 | 480 | 1,031 | 2,945 |
| 40-44 .. | 1,434 | 343 | 885 | 2,662 | 833 | 490 | 733 | 2,056 |
| 45-49 .. | 732 | 395 | 609 | 1,736 | 472 | 464 | 413 | 1,349 |
| 50-54 .. | 417 | 414 | 399 | 1,230 | 257 | 366 | 213 | 836 |
| 55-59 .. | 206 | 455 | 216 | 877 | 150 | 331 | 102 | 583 |
| 60-64 .. | 114 | 467 | 93 | 674 | 83 | 267 | 47 | 397 |
| 65 and over | 95 | 689 | 64 | 848 | 53 | 288 | 20 | 361 |
| Total .. | 62,352 | 3,304 | 4,984 | 70,640 | 61,913 | 3,355 | 5,372 | 70,640 |

(ii) *Proportional Distribution.* In the following table the proportional distribution of bridegrooms and brides according to previous conjugal condition is shown in five-year periods from 1926 to 1950 and for each year 1951 to 1953 :—

**CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES : PROPORTIONAL
DISTRIBUTION, AUSTRALIA.**

(Per Cent.)

| Period. | Bridegrooms. | | | | Brides. | | | |
|------------|--------------|-----------|-----------|--------|------------|---------|-----------|--------|
| | Bachelors. | Widowers. | Divorced. | Total. | Spinsters. | Widows. | Divorced. | Total. |
| 1926-30 .. | 92.31 | 5.03 | 1.76 | 100.00 | 93.46 | 4.55 | 1.00 | 100.00 |
| 1931-35 .. | 92.63 | 5.30 | 1.08 | 100.00 | 94.37 | 3.53 | 2.10 | 100.00 |
| 1936-40 .. | 92.59 | 4.82 | 2.59 | 100.00 | 93.91 | 3.38 | 2.68 | 100.00 |
| 1941-45 .. | 91.44 | 4.77 | 3.79 | 100.00 | 92.11 | 3.93 | 3.96 | 100.00 |
| 1946-50 .. | 88.82 | 4.74 | 6.44 | 100.00 | 88.71 | 4.74 | 6.55 | 100.00 |
| 1951 .. | 88.49 | 4.65 | 6.86 | 100.00 | 87.94 | 4.97 | 7.09 | 100.00 |
| 1952 .. | 88.91 | 4.65 | 6.44 | 100.00 | 88.14 | 4.76 | 7.10 | 100.00 |
| 1953 .. | 88.27 | 4.68 | 7.05 | 100.00 | 87.65 | 4.75 | 7.60 | 100.00 |

(iii) *Relative Ages of Bridegrooms and Brides.* The relative ages of bridegrooms and brides in 1953 are shown in single years in *Demography Bulletin* No. 71. A summary in age groups of five years is given below.

RELATIVE AGES OF BRIDEGROOMS AND BRIDES : AUSTRALIA, 1953.

| 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.. | 2,284 | 8 | 1,753 | 488 | 31 | 2 | 1 | 1 | .. |
| 20-24 .. | 28,030 | 5 | 9,510 | 17,200 | 1,880 | 194 | 36 | 12 | 3 |
| 25-29 .. | 19,784 | 4 | 2,702 | 10,710 | 4,971 | 1,071 | 238 | 63 | 25 |
| 30-34 .. | 7,575 | .. | 426 | 2,374 | 2,511 | 1,506 | 558 | 158 | 42 |
| 35-39 .. | 4,040 | 1 | 90 | 596 | 1,036 | 1,020 | 792 | 356 | 149 |
| 40-44 .. | 2,662 | .. | 32 | 177 | 398 | 612 | 633 | 544 | 266 |
| 45-49 .. | 1,736 | .. | 9 | 45 | 128 | 265 | 385 | 405 | 499 |
| 50-54 .. | 1,230 | 1 | 5 | 11 | 55 | 98 | 174 | 276 | 610 |
| 55-59 .. | 877 | .. | 2 | 4 | 21 | 38 | 91 | 144 | 577 |
| 60-64 .. | 674 | .. | .. | 3 | 4 | 13 | 24 | 63 | 567 |
| 65 and over | 848 | .. | .. | 5 | 2 | 6 | 13 | 34 | 788 |
| Total | | | | | | | | | |
| Brides .. | 70,640 | 19 | 14,529 | 31,703 | 11,037 | 4,825 | 2,945 | 2,056 | 3,526 |

(iv) *Average Ages of Bridegrooms and Brides.* The age at marriage of brides has remained fairly constant during recent years at an average of about 25½ years, although in the period 1937-39 the average rose to almost 26 years. The average ages, in years, of brides for each of the five years to 1953 were:—1949, 25.65; 1950, 25.73; 1951, 25.71; 1952, 25.61; and 1953, 25.73. For the following five-year periods the average ages in years were:—1911-15, 25.76; 1916-20 26.05; 1921-25, 25.76; 1926-30, 25.57; 1931-35, 25.50; 1936-40, 25.72; 1941-45, 25.68; and 1946-50, 25.61. The average ages, in years, of bridegrooms were 28.91 in 1949, 28.99 in 1950, 28.92 in 1951, 28.79 in 1952 and 28.96 in 1953. It follows, therefore, that brides are, generally speaking, a little more than three years younger than bridegrooms. The average ages of brides and bridegrooms for the years 1940-46 showed the effects of war-time conditions. The proportion of young persons marrying during those years increased, thereby causing decreases in the average ages of both brides and bridegrooms. The difference in age between brides and bridegrooms was 3.26 years in 1949, 3.26 in 1950, 3.21 in 1951, 3.18 in 1952 and 3.23 in 1953.

6. *Previous Conjugal Condition.*—The number of bachelors and spinsters, widowed and divorced persons who married during 1953 is shown in the table on page 356. The following table shows the relative conjugal condition of the contracting parties.

CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES : AUSTRALIA, 1953.

| Conjugal Condition of Bridegrooms. | Total Bridegrooms. | Conjugal Condition of Brides. | | |
|------------------------------------|--------------------|-------------------------------|---------|-----------|
| | | Spinsters. | Widows. | Divorced. |
| Bachelors | 62,352 | 57,630 | 1,474 | 3,248 |
| Widowers | 3,304 | 1,420 | 1,262 | 622 |
| Divorced | 4,984 | 2,863 | 619 | 1,502 |
| Total Brides .. | 70,640 | 61,913 | 3,355 | 5,372 |

7. *Birthplace of Persons Marrying.*—A table showing the relative birthplaces of bridegrooms and brides married in each year will be found in the *Demography Bulletin*.

8. *Occupation of Bridegrooms.*—The distribution of the 70,640 bridegrooms for 1953 amongst classes of occupations was as follows:—Craftsmen, 18,036; Operatives, 12,130; Commercial and Clerical, 12,031; Rural, Fishing and Hunting, 8,909; Labourers, 6,241; Domestic and Protective Service, 5,296; Professional and Semi-Professional, 3,563; Administrative, 2,522; and Not Gainfully Occupied and Not Stated, 1,912.

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 1953 belonged to more than forty different denominations, some of which, however, have only very few adherents. A number of these have been bracketed under the heading "Other Christian". The figures for 1953 are shown in the following table.

MARRIAGES IN EACH DENOMINATION, 1953.

| Denomination. | N.S.W. | Vic. | Qld. | S.A. | W.A. | Tas. | N.T. | A.C.T. | Australia. | |
|--------------------------|--------|--------|-------|-------|-------|-------|------|--------|------------|----------------------|
| | | | | | | | | | No. | Proportion of Total. |
| | | | | | | | | | | % |
| Church of England | 9,856 | 5,140 | 2,624 | 1,316 | 1,508 | 898 | 24 | 81 | 21,447 | 30.36 |
| Roman Catholic .. | 6,305 | 4,380 | 2,419 | 958 | 1,019 | 416 | 47 | 61 | 15,605 | 22.09 |
| Presbyterian .. | 3,211 | 3,691 | 1,977 | 319 | 424 | 136 | 18 | 23 | 9,799 | 13.87 |
| Methodist .. | 2,870 | 2,682 | 1,526 | 1,635 | 679 | 358 | 13 | 7 | 9,770 | 13.83 |
| Baptist .. | 375 | 306 | 188 | 155 | 55 | 66 | .. | 3 | 1,148 | 1.63 |
| Congregational .. | 292 | 315 | 100 | 248 | 122 | 67 | .. | 2 | 1,146 | 1.62 |
| Lutheran .. | 116 | 212 | 270 | 426 | 24 | 15 | 2 | 7 | 1,072 | 1.52 |
| Church of Christ .. | 66 | 319 | 56 | 154 | 68 | 14 | .. | 1 | 678 | 0.96 |
| Greek Orthodox .. | 173 | 101 | 37 | 29 | 50 | .. | .. | .. | 390 | 0.55 |
| Salvation Army .. | 106 | 107 | 94 | 30 | 19 | 21 | 8 | .. | 385 | 0.55 |
| Seventh-Day Adventist .. | 84 | 26 | 28 | 17 | 21 | 10 | .. | .. | 186 | 0.26 |
| Other Christian .. | 154 | 194 | 141 | 54 | 93 | 34 | .. | .. | 670 | 0.95 |
| Hebrew .. | 151 | 212 | 5 | 2 | 12 | 1 | .. | .. | 383 | 0.54 |
| Total .. | 23,759 | 17,685 | 9,465 | 5,343 | 4,094 | 2,036 | 112 | 185 | 62,679 | 88.73 |
| Civil Officers .. | 3,814 | 1,553 | 394 | 806 | 938 | 388 | 42 | 26 | 7,961 | 11.27 |
| Grand Total .. | 27,573 | 19,238 | 9,859 | 6,149 | 5,032 | 2,424 | 154 | 211 | 70,640 | 100.00 |

PROPORTION OF TOTAL.

(Per cent.)

| | | | | | | | | | |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Denominational .. | 86.17 | 91.93 | 96.00 | 86.89 | 81.36 | 83.99 | 72.73 | 87.68 | 88.73 |
| Civil .. | 13.83 | 8.07 | 4.00 | 13.11 | 18.64 | 16.01 | 27.27 | 12.32 | 11.27 |

10. Divorces.—Chapter XII.—Public Justice shows details of the number of marriages dissolved annually by divorce, nullity of marriage and judicial separation. The number dissolved by decrees for divorce and nullity of marriage made absolute and by judicial separation in 1953 was 8,041 or 11.4 per cent. of the number of marriages celebrated during the year. Detailed tables relating to divorce statistics for 1953 and summary tables for earlier years are shown also in *Demography Bulletin* No. 71, 1953.

§ 2. Fertility and Reproduction.

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 1953.* 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 1953 is shown in the table below. 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, 1953.

| Particulars. | N.S.W. | Vic. | Q'land. | S. Aust. | W.A. | Tas. | N.T. | A.C.T. | Australia. |
|---------------|--------|--------|---------|----------|--------|-------|------|--------|------------|
| LIVE BIRTHS. | | | | | | | | | |
| Single births | 73,126 | 52,168 | 30,060 | 17,717 | 15,516 | 7,562 | 454 | 770 | 197,373 |
| Twins .. | 1,746 | 1,378 | 719 | 436 | 343 | 165 | 6 | 18 | 4,811 |
| Triplets .. | 14 | 15 | 3 | 3 | 3 | 9 | .. | .. | 47 |
| Quadruplets | 4 | .. | .. | .. | .. | .. | .. | .. | 4 |
| Males .. | 38,315 | 27,368 | 15,842 | 9,347 | 8,056 | 3,893 | 261 | 417 | 103,199 |
| Females .. | 36,575 | 26,193 | 14,940 | 8,809 | 7,806 | 3,843 | 199 | 371 | 98,736 |
| Total .. | 74,890 | 53,561 | 30,782 | 18,156 | 15,862 | 7,736 | 460 | 788 | 202,235 |

STILLBIRTHS ASSOCIATED WITH MULTIPLE BIRTHS INCLUDED ABOVE.

| | | | | | | | | | |
|-------------|----|----|----|----|----|----|----|----|-----|
| Twins .. | 58 | 22 | 17 | 8 | 19 | 5 | .. | .. | 129 |
| Triplets .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 |

CONFINEMENTS RESULTING IN ABOVE BIRTHS.

| | | | | | | | | | |
|---------------|--------|--------|--------|--------|--------|-------|-----|-----|---------|
| Nuptial .. | 71,046 | 51,048 | 28,936 | 17,342 | 14,598 | 7,368 | 407 | 768 | 191,913 |
| Ex-nuptial .. | 2,988 | 1,825 | 1,493 | 598 | 700 | 282 | 50 | 11 | 7,947 |
| Total .. | 74,034 | 52,873 | 30,429 | 17,940 | 15,698 | 7,650 | 457 | 779 | 199,860 |

NOTE.—In Queensland and Tasmania the registration of stillbirths is not compulsory and 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. This applies particularly to South Australia, where registration practice for twins when one is live-born and one still-born is to treat each child as a single birth, and for triplets with one still-born, to treat the two live-born as twins, and so on.

(ii) *Live Births, Years 1926 to 1953* The average annual number of live births in each State and Territory for each five-year period from 1926 to 1950 and the total number of live births in each State and Territory for each year from 1949 to 1953 are given in the following table. Corresponding figures for each five-year period from 1861 will be found in Official Year Book No 39, p. 583.

LIVE BIRTHS.

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

ANNUAL AVERAGES.

| | | | | | | | | | |
|------------|--------|--------|--------|--------|--------|-------|-----|-----|---------|
| 1926-30 .. | 53,308 | 34,333 | 19,361 | 11,006 | 8,748 | 4,819 | 70 | 118 | 131,763 |
| 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 |

ANNUAL TOTALS.

| | | | | | | | | | |
|---------|--------|--------|--------|--------|--------|-------|-----|-------|---------|
| 1949 .. | 68,812 | 46,873 | 27,748 | 16,042 | 13,511 | 7,110 | 346 | 819 | 181,261 |
| 1950 .. | 71,592 | 40,830 | 29,028 | 17,306 | 14,228 | 7,242 | 411 | 954 | 190,591 |
| 1951 .. | 72,069 | 50,553 | 29,652 | 17,463 | 14,794 | 7,357 | 407 | 1,003 | 193,208 |
| 1952 .. | 74,196 | 53,738 | 30,053 | 17,884 | 15,413 | 7,916 | 418 | 1,102 | 201,650 |
| 1953 .. | 74,890 | 53,561 | 30,782 | 18,156 | 15,862 | 7,736 | 460 | 788 | 202,235 |

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.

Crude birth rates for each five-year period from 1926 to 1950 and for each year from 1949 to 1953 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. |
|------------|--------|-------|---------|----------|----------|-------|-------|--------|-------|
| 1926-30 .. | 21.76 | 19.65 | 21.90 | 19.41 | 21.54 | 22.29 | 15.60 | 14.96 | 20.98 |
| 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(b) | 22.60 | 22.51 | 24.69 | 24.41 | 25.24 | 26.71 | 23.77 | 38.46 | 23.39 |

AVERAGE ANNUAL RATES.

| | | | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1926-30 .. | 21.76 | 19.65 | 21.90 | 19.41 | 21.54 | 22.29 | 15.60 | 14.96 | 20.98 |
| 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(b) | 22.60 | 22.51 | 24.69 | 24.41 | 25.24 | 26.71 | 23.77 | 38.46 | 23.39 |

ANNUAL RATES.

| | | | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1949 | 22.24 | 21.88 | 24.01 | 23.58 | 25.37 | 26.30 | 26.49 | 39.52 | 22.92 |
| 1950 | 22.42 | 22.56 | 24.37 | 24.39 | 25.50 | 25.98 | 28.73 | 41.69 | 23.31 |
| 1951 | 21.97 | 22.21 | 24.23 | 23.84 | 25.49 | 25.52 | 26.83 | 42.17 | 22.96 |
| 1952 | 22.20 | 22.93 | 24.64 | 23.68 | 25.66 | 26.53 | 29.71 | 42.57 | 23.35 |
| 1953 | 22.11 | 22.36 | 23.91 | 23.38 | 25.54 | 25.25 | 29.64 | 27.76 | 22.93 |

(a) Number of births per 1,000 of mean population.
estimates shown on p. 311.

(b) Rates based on revised mean population

NOTE.—The birth rates in the table above are based on live births registered in the respective States and Territories. Some years ago 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, but with improved hospital facilities in the Territory the movement to outside hospitals rapidly diminished and has been reversed since 1939. The following rates, based on births in respect of which the mother's usual residence is the Australian Capital Territory and on revised population figures, are a truer measure of birth rates in the Australian Capital Territory :—

| Annual Average. | | | Year. | | |
|-----------------|----|-------|---------|----|-------|
| 1926-1930 .. | .. | 22.45 | 1949 .. | .. | 27.99 |
| 1931-1935 .. | .. | 19.53 | 1950 .. | .. | 30.55 |
| 1936-1940 .. | .. | 19.29 | 1951 .. | .. | 29.55 |
| 1941-1945 .. | .. | 23.06 | 1952 .. | .. | 31.91 |
| 1946-1950 .. | .. | 27.51 | 1953 .. | .. | 27.94 |

The variations similarly caused in the birth rates for the States and 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 1953 :—New South Wales, 22.04 ; Victoria, 22.41 ; Queensland, 24.00 ; South Australia, 23.30 ; Western Australia, 25.57 ; Tasmania, 25.34 ; and Northern Territory, 30.35.

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 to some extent occasioned by the postponement of marriages, and with subsequent improvement in economic conditions the rate rose. Since 1940 the rate has 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 maintained since the end of the war despite some falling off in marriage rates.

4. Crude Birth Rates of Various Countries.—The following table gives the crude birth rates for Australia in comparison with the rates for various other countries.

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

| Country. | 1921-25. | 1926-30. | 1931-35. | 1953. | Country. | 1921-25. | 1926-30. | 1931-35. | 1953. |
|--------------------------------------|----------|----------|----------|-------|-------------------------|----------|----------|----------|-------|
| Yugoslavia .. | 35.0 | 34.2 | 31.8 | 28.3 | Ireland, Republic of .. | 20.3 | 20.1 | 19.4 | 21.1 |
| Canada .. | 27.4 | 24.1 | 21.4 | 27.9 | Spain .. | 29.8 | 28.5 | 27.1 | 20.6 |
| Union of South Africa(<i>b</i>) .. | 27.1 | 25.9 | 24.1 | 25.7 | Norway .. | 22.2 | 18.0 | 15.2 | 18.8 |
| United States of America .. | 22.5 | 19.7 | 16.9 | 24.7 | France .. | 19.3 | 18.2 | 16.5 | 18.6 |
| New Zealand(<i>d</i>) .. | 22.2 | 19.7 | 17.0 | 24.1 | Denmark .. | 22.3 | 19.4 | 17.7 | 17.7 |
| Australia(<i>c</i>) .. | 23.9 | 21.0 | 16.9 | 22.9 | Italy .. | 29.8 | 26.8 | 23.8 | 17.4 |
| Finland .. | 24.7 | 22.5 | 19.5 | 21.4 | Switzerland .. | 19.5 | 17.6 | 16.4 | 17.0 |
| Netherlands .. | 25.7 | 23.2 | 21.2 | 21.8 | Belgium .. | 20.4 | 18.6 | 16.8 | 16.6 |
| Japan .. | 34.6 | 33.5 | 31.6 | 21.5 | United Kingdom .. | 20.4 | 17.2 | 15.5 | 15.9 |
| | | | | | Sweden .. | 19.1 | 15.9 | 14.1 | 15.4 |
| | | | | | Austria .. | 22.2 | 17.6 | 14.4 | 14.5 |

(*a*) Number of births per 1,000 of mean population.(*b*) White population only.(*c*) 1933-35.(*d*) Excludes Maoris.(*e*) Excludes full-blood aboriginals.

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 high 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). | | |
|------------|------------------------------|--|--|------------------------------------|--|--|
| | Crude Birth Rate(<i>a</i>) | Fertility Rates. | | Crude Birth Rate(<i>a</i>) | Fertility Rates. | |
| | | Births per 1,000 Women aged 15-44 Years. | Nuptial Births per 1,000 Married Women aged 15-44 Years. | | Births per 1,000 Women aged 15-44 Years. | Nuptial Births per 1,000 Married Women aged 15-44 Years. |
| 1880-82 .. | 35.3 | 170 | 321 | 100 | 100 | 100 |
| 1890-92 .. | 34.5 | 159 | 332 | 98 | 94 | 103 |
| 1900-02 .. | 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 .. | 23.6 | 104 | 167 | 67 | 61 | 52 |

(*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 27 per cent. over the period 1932-34 to 1946-48 the crude birth rate rose by 41 per cent., owing 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 single ages. The following table sets out age-specific fertility rates for Australia over the period 1921 to 1953 in five-year age groups.

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

| Age Group (Years). | 1921. | 1926. | 1931. | 1936. | 1941. | 1946. | 1950. | 1951. | 1952. | 1953. |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 15-19.. | 12.83 | 14.02 | 13.08 | 12.18 | 11.90 | 12.63 | 18.11 | 18.59 | 19.07 | 18.45 |
| 20-24.. | 65.45 | 60.23 | 53.08 | 50.33 | 59.42 | 73.52 | 84.32 | 85.84 | 90.93 | 94.53 |
| 25-29.. | 82.24 | 76.82 | 62.47 | 62.02 | 70.78 | 80.51 | 90.53 | 90.24 | 91.53 | 94.73 |
| 30-34.. | 68.50 | 61.90 | 51.25 | 46.33 | 49.72 | 65.03 | 60.31 | 59.16 | 61.51 | 61.17 |
| 35-39.. | 49.48 | 43.55 | 33.23 | 28.89 | 28.69 | 37.43 | 33.80 | 32.29 | 32.61 | 31.87 |
| 40-44.. | 21.66 | 17.63 | 13.61 | 10.19 | 9.52 | 11.87 | 10.35 | 9.97 | 9.95 | 9.77 |
| 45-49.. | 2.10 | 1.90 | 1.45 | 1.11 | 0.80 | 1.03 | 0.73 | 0.80 | 0.83 | 0.67 |

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

The table above indicates that the most fertile age group is 25-29 years. The decline in fertility between 1921 and 1936 was general but was more pronounced in the older age groups. During the period 1936 to 1953 a rise in fertility occurred in all age groups below 40.

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 fertility in paragraph 9 hereof.

GROSS AND NET REPRODUCTION RATES : AUSTRALIA.

| Year. | Gross Reproduction Rate. | Net Reproduction Rate. | Year. | Gross Reproduction Rate. | Net Reproduction Rate. | |
|----------|--------------------------|------------------------|---------|--------------------------|------------------------|-------|
| | | | | | (f) | (g) |
| 1881 (a) | 2.65 | (b) 1.88 | 1947 .. | 1.493 | 1.364 | 1.416 |
| 1891 (a) | 2.30 | (b) 1.73 | 1948 .. | 1.451 | .. | 1.376 |
| 1901 (a) | 1.74 | (c) 1.39 | 1949 .. | 1.457 | .. | 1.382 |
| 1911 .. | 1.705 | (d) 1.421 | 1950 .. | 1.491 | .. | 1.415 |
| 1921 .. | 1.511 | (e) 1.313 | 1951 .. | 1.485 | .. | 1.409 |
| 1931 .. | 1.141 | (f) 1.039 | 1952 .. | 1.547 | .. | 1.468 |
| 1941 .. | 1.154 | (f) 1.053 | 1953 .. | 1.556 | .. | 1.477 |

(a) Approximate only. (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) 1946-48 mortality experience used.

NOTE.—It is not strictly correct to assume, as 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, somewhat 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, and if the low level of those years were to continue, 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 1948 has remained at a relatively high level and the net reproduction rates have been steady at about 1.4. The fertility of marriages is measured in paragraph 9 below.

8. **Gross and Net Reproduction Rates of Various Countries.**—In the following table a comparison is given of the gross and net reproduction rates recorded for various countries in the period 1947 to 1949. These have been taken mainly from the United Nations *Demographic Year Book*, 1949-50 and represent the latest available international comparison. More recent Australian rates are shown in the table above.

GROSS AND NET REPRODUCTION RATES : VARIOUS COUNTRIES.

| Country. | Period. | Reproduction Rate. | | Country. | Period. | Reproduction Rate. | |
|--------------------------------|---------|--------------------|------|----------------------|---------|--------------------|------|
| | | Gross. | Net. | | | Gross. | Net. |
| Canada .. | 1948 | 1.67 | (a) | France .. | 1947 | 1.46 | 1.31 |
| New Zealand(b) | 1949 | 1.62 | 1.51 | Denmark .. | 1947 | 1.40 | 1.27 |
| United States of America(c) .. | 1948 | 1.54 | 1.46 | Switzerland .. | 1946 | 1.29 | 1.16 |
| Netherlands .. | 1949 | 1.56 | 1.43 | Sweden .. | 1947 | 1.21 | 1.13 |
| Finland .. | 1948 | 1.67 | 1.40 | Portugal .. | 1949 | 1.55 | 1.13 |
| Ireland, Republic of .. | 1945-47 | 1.63 | 1.38 | Norway .. | 1948 | 1.23 | 1.13 |
| Australia(d) | 1949 | 1.46 | 1.38 | England and Wales .. | 1948 | 1.16 | 1.07 |
| Scotland .. | 1947 | 1.50 | 1.35 | Belgium .. | 1948 | 1.19 | 1.00 |

(a) Not avail. ble.
full-blood aboriginals.

(b) Excludes Maoris.

(c) White population only.

(d) Excludes

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.**—In issues of the Official Year Book prior to No. 36 estimates of the fertility of marriages were published. These 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.

| Year. | Nuptial Confinements per Marriage. | Year. | Nuptial Confinements per Marriage. | Year. | Nuptial Confinements per Marriage. |
|-----------|------------------------------------|-----------|------------------------------------|-----------|------------------------------------|
| 1939.. .. | 2.20 | 1944.. .. | 2.28 | 1949.. .. | 2.45 |
| 1940.. .. | 2.18 | 1945.. .. | 2.36 | 1950.. .. | 2.56 |
| 1941.. .. | 2.19 | 1946.. .. | 2.55 | 1951.. .. | 2.55 |
| 1942.. .. | 2.12 | 1947.. .. | 2.55 | 1952.. .. | 2.63 |
| 1943.. .. | 2.21 | 1948.. .. | 2.44 | 1953.. .. | 2.66 |

NOTE.—See Note at foot of p. 362.

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. It will be noted that there was an almost continuous decline to 1942, but a pronounced increase from 1943 to 1946. Comparing this index with the net reproduction rate it is evident that the rise in the latter since 1935 has been caused by a rise in the marriage rate, due firstly to the postponed depression marriages, and secondly to war-time marriages, and only in the last six years to any increase in the fertility of marriages. 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 may overstate the index by as much as 6 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 1953 the figures ranged from 97.36 in the Northern Territory to 108.87 in Tasmania. 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; Australia, 105.38. The following table shows the figures for Australia for each ten-year period from 1901 to 1950 and for each year 1950 to 1953:—

MASCULINITY(a) OF LIVE BIRTHS REGISTERED : AUSTRALIA.

| Particulars. | 1901–10. | 1911–20. | 1921–30. | 1931–40. | 1941–50. | 1950. | 1951. | 1952. | 1953. |
|-------------------|----------|----------|----------|----------|----------|--------|--------|--------|--------|
| Total Births .. | 105.22 | 105.27 | 105.55 | 105.12 | 105.38 | 105.46 | 105.86 | 105.20 | 102.44 |
| Ex-nuptial Births | 104.08 | 105.25 | 105.16 | 105.36 | 105.34 | 105.38 | 105.30 | 99.57 | 105.69 |

(a) Number of males born for every 100 female births.

11. Ex-nuptial Live Births.—(i) *General.* Since 1901 the highest proportion of ex-nuptial births recorded in any one year was 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 1953 when 8,032 were registered, but this number represented only 3.97 per cent. of total births. The lowest proportion was 3.78 per cent. in 1940.

The variations in the proportions of ex-nuptial births as between the individual States and Territories for 1953 are shown below. Corresponding figures for 1952 may be obtained from *Demography Bulletin* No. 70.

EX-NUPTIAL LIVE BIRTHS : NUMBER AND PROPORTION, 1953.

| Particulars. | N.S.W. | Vic. | Q'land. | S.A. | W.A. | Tas. | N.T. | A.C.T. | Aust. |
|-----------------------------|--------|-------|---------|------|------|------|-------|--------|-------|
| Number .. | 3,013 | 1,843 | 1,513 | 607 | 709 | 286 | 50 | 11 | 8,032 |
| Proportion of Total Births% | 4.02 | 3.44 | 4.92 | 3.34 | 4.47 | 3.70 | 10.87 | 1.40 | 3.97 |

The number and proportion of ex-nuptial births at intervals from 1901 to 1953 are as follows:—

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

| Particulars. | Annual Average. | | | | | 1950. | 1951. | 1952. | 1953. |
|---------------------------------|-----------------|----------|----------|----------|----------|-------|-------|-------|-------|
| | 1901–10. | 1911–20. | 1921–30. | 1931–40. | 1941–50. | | | | |
| Number .. | 6,498 | 6,836 | 6,238 | 5,133 | 6,780 | 7,324 | 7,555 | 7,842 | 8,032 |
| Proportion of Total Births .. % | 6.05 | 5.22 | 4.66 | 4.40 | 4.13 | 3.84 | 3.91 | 3.89 | 3.97 |

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 between the ages of 15 and 45 years. On this basis the number of ex-nuptial births per 1,000 unmarried women of ages 15 to 45 has been found to be 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; and 1946-48, 11.45.

(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 reduction 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. | | | | | 1950. | 1951. | 1952. | 1953. |
|-------------|-----------------|----------|----------|----------|----------|-------|-------|-------|-------|
| | 1901-10. | 1911-20. | 1921-30. | 1931-40. | 1941-50. | | | | |
| Ex-nuptial | 1.60 | 1.39 | 1.04 | 0.76 | 0.90 | 0.90 | 0.90 | 0.91 | 0.91 |
| Nuptial .. | 24.01 | 25.18 | 21.40 | 16.47 | 20.99 | 22.39 | 22.03 | 22.41 | 21.09 |
| Total .. | 26.51 | 26.57 | 22.44 | 17.23 | 21.89 | 23.31 | 22.96 | 23.35 | 22.93 |

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

12. *Legitimations.*—In the several States Acts have been passed 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 1953 the number of children legitimized in Australia was 954.

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 of differences in registration practice where stillbirths are involved, from which it is evident, in recent years, that in Victoria and Queensland, some, and in South Australia, all, cases of multiple births in which only one child was live-born have been registered as single births. It is estimated that the deficiency due to this second cause is about 50 cases per annum. During 1953 multiple births recorded on the above basis comprised 2,470 cases of twins, 16 cases of triplets and one case of quadruplets, the resultant numbers of live-born and still-born children being respectively 4,811 and 129 for twins and 47 and 1 for triplets. The four quadruplet children were live-born. This represents an average of 12.36 recorded cases of twins and 0.08 recorded cases of triplets per 1,000 confinements or, alternatively, mothers of twins represented one in every 81 mothers and mothers of triplets one in every 12,500. Total cases of multiple births represented 12.44 per 1,000 confinements or one in every 80 mothers.

The proportion of mothers of multiple births to total mothers does not vary greatly from year to year.

Detailed statistics of multiple births will be found in the *Demography Bulletin*.

14. *Ages of Parents.*—The relative ages of the parents of children registered in 1953 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. 71. In the present work the exigencies of space allow only the insertion of a table showing, in respect of all confinements, the relative ages of parents in groups of five years.

CONFINEMENTS : RELATIVE AGES OF PARENTS, AUSTRALIA, 1953.

| Age of Father (Years), and Type of Birth. | Total. | Age of Mother (Years). | | | | | | | | |
|---|-------------|------------------------|--------|--------|--------|--------|--------|--------|-----------------|---------------|
| | | Under 15. | 15-19. | 20-24. | 25-29. | 30-34. | 35-39. | 40-44. | 45 and over. | Not Stated |
| Under 20 .. | 1,143 | .. | 884 | 244 | 12 | 2 | .. | 1 | .. | .. |
| 20-24 .. | 28,073 | 4 | 5,815 | 19,126 | 2,853 | 241 | 30 | 4 | .. | .. |
| 25-29 .. | 61,717 | 2 | 1,951 | 26,207 | 29,010 | 4,129 | 377 | 31 | 1 | .. |
| 30-34 .. | 49,090 | .. | 308 | 6,916 | 21,805 | 17,191 | 2,363 | 202 | 5 | .. |
| 35-39 .. | 29,020 | .. | 70 | 1,436 | 6,307 | 12,132 | 8,228 | 834 | 13 | .. |
| 40-44 .. | 15,030 | .. | 18 | 399 | 1,836 | 4,400 | 5,948 | 2,376 | 62 | .. |
| 45-49 .. | 5,458 | .. | 7 | 111 | 472 | 1,184 | 2,046 | 1,495 | 143 | .. |
| 50-54 .. | 1,720 | 1 | 3 | 33 | 149 | 317 | 609 | 529 | 79 | .. |
| 55-59 .. | 429 | .. | 1 | 12 | 29 | 76 | 158 | 129 | 24 | .. |
| 60-64 .. | 130 | .. | 1 | 2 | 9 | 26 | 52 | 44 | 5 | .. |
| 65 and over .. | 85 | .. | 1 | 3 | 10 | 20 | 22 | 24 | 5 | .. |
| Mothers of Nuptial Children | Single | 189,516 | 7 | 8,986 | 54,017 | 61,736 | 39,372 | 19,480 | 5,586 | 332 |
| | Twins | 2,381 | .. | 73 | 469 | 762 | 642 | 347 | 83 | 5 |
| | Triplets | 15 | .. | .. | 3 | 3 | 4 | 5 | .. | .. |
| | Quadruplets | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| | Total .. | 191,913 | 7 | 9,059 | 54,489 | 62,501 | 40,018 | 19,833 | 5,669 | 337 |
| Mothers of Ex- nuptial Children | Single | 7,857 | 26 | 1,702 | 2,379 | 1,764 | 1,038 | 686 | 233 | 16 |
| | Twins | 89 | .. | 8 | 25 | 23 | 16 | 14 | 3 | .. |
| | Triplets | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| | Quadruplets | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| | Total .. | 7,947 | 26 | 1,710 | 2,404 | 1,788 | 1,054 | 700 | 236 | 16 |
| Total Mothers | Single | 197,373 | 33 | 10,688 | 56,396 | 63,500 | 40,410 | 20,166 | 5,819 | 348 |
| | Twins | 2,470 | .. | 81 | 494 | 785 | 658 | 361 | 86 | 5 |
| | Triplets | 16 | .. | .. | 3 | 4 | 4 | 5 | .. | .. |
| | Quadruplets | 1 | .. | .. | .. | .. | .. | 1 | .. | .. |
| | Total .. | 199,860 | 33 | 10,769 | 56,893 | 64,289 | 41,072 | 20,533 | 5,905 | 353 |

15. Birthplaces of Parents.—A table showing birthplaces of parents of children whose births were registered during 1953 appears in *Demography Bulletin* No. 71.

16. Occupation of Fathers.—A table showing occupations of the fathers of all nuptial children registered in 1953 appears in *Demography Bulletin* No. 71.

17. Age, Duration of Marriage and Issue of Mothers.—(i) *General.* The total number of nuptial confinements resulting in live births in 1953 was 191,913, comprising 189,516 single births, 2,381 cases of twins, 15 cases of triplets and 1 case of quadruplets. 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.

The tables below are shown in summarized form, more detailed statistics for 1953 being given in *Demography Bulletin* No. 71.

(ii) *Duration of Marriage and Issue of Mothers.* The following table shows that in 1953 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 1953 was 2.45 compared with 2.42 in 1952, 2.40 in 1951, 2.39 in 1950 and 2.37 in 1949.

**NUPTIAL CONFINEMENTS : DURATION OF MARRIAGE AND ISSUE OF MOTHERS.
AUSTRALIA, 1953.**

| Duration of Marriage (Years). | Total Married Mothers. | Total Issue. | Average Issue. | Duration of Marriage (Years). | Total Married Mothers. | Total Issue. | Average Issue. |
|-------------------------------|------------------------|--------------|----------------|-------------------------------|------------------------|--------------|----------------|
| 0-1 .. | 24,183 | 24,608 | 1.02 | 14-15 .. | 2,443 | 11,554 | 4.73 |
| 1-2 .. | 23,124 | 27,679 | 1.20 | 15-16 .. | 2,118 | 10,708 | 5.06 |
| 2-3 .. | 22,116 | 37,064 | 1.68 | 16-17 .. | 1,550 | 8,295 | 5.35 |
| 3-4 .. | 20,136 | 40,185 | 2.00 | 17-18 .. | 1,245 | 6,942 | 5.58 |
| 4-5 .. | 17,574 | 40,197 | 2.29 | 18-19 .. | 936 | 5,568 | 5.95 |
| 5-6 .. | 15,600 | 40,237 | 2.58 | 19-20 .. | 729 | 4,709 | 6.46 |
| 6-7 .. | 13,445 | 38,630 | 2.87 | 20-21 .. | 548 | 3,594 | 6.56 |
| 7-8 .. | 10,691 | 33,364 | 3.12 | 21-22 .. | 349 | 2,429 | 6.96 |
| 8-9 .. | 7,719 | 25,491 | 3.30 | 22-23 .. | 284 | 2,064 | 7.27 |
| 9-10 .. | 6,443 | 22,560 | 3.50 | 23-24 .. | 180 | 1,476 | 8.20 |
| 10-11 .. | 6,417 | 23,343 | 3.64 | 24-25 .. | 114 | 976 | 8.56 |
| 11-12 .. | 5,839 | 22,625 | 3.87 | 25 and over | 194 | 1,648 | 8.55 |
| 12-13 .. | 4,307 | 17,908 | 4.16 | | | | |
| 13-14 .. | 3,629 | 16,415 | 4.52 | Total .. | 191,913 | 470,269 | 2.45 |

(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 with the increase of the age of the mother the number of issue has fallen in comparison with past years. The average issue of mothers of all ages recorded for 1953 (namely, 2.45) is 24.6 per cent. below the average of 3.25 for the years 1911-20.

AGE AND AVERAGE ISSUE OF MOTHERS: AUSTRALIA.

| Period. | Age of Mother (Years). | | | | | | | All Ages. |
|------------|------------------------|--------|--------|--------|--------|--------|--------------|-----------|
| | Under 20. | 20-24. | 25-29. | 30-34. | 35-39. | 40-44. | 45 and over. | |
| 1911-20 .. | 1.21 | 1.75 | 2.61 | 3.74 | 5.11 | 6.69 | 8.16 | 3.25 |
| 1921-30 .. | 1.20 | 1.71 | 2.46 | 3.48 | 4.80 | 6.27 | 7.74 | 3.04 |
| 1931-40 .. | 1.20 | 1.68 | 2.30 | 3.19 | 4.41 | 5.89 | 7.40 | 2.71 |
| 1941-50 .. | 1.17 | 1.56 | 2.15 | 2.85 | 3.67 | 4.79 | 6.19 | 2.37 |
| 1953 .. | 1.22 | 1.67 | 2.33 | 3.03 | 3.72 | 4.60 | 5.54 | 2.45 |

(iv) *Previous Issue of Mothers, Various Ages.* A classification of mothers by age group and previous issue is given for 1953 in the following table. Complete detailed figures appear in *Demography Bulletin No. 72*.

NUPTIAL CONFINEMENTS : AGE OF MOTHER AND PREVIOUS ISSUE, AUSTRALIA, 1953.

| Previous Issue. | Age of Mother (Year). | | | | | | | Total Married Mothers. |
|-----------------------|-----------------------|--------|--------|--------|--------|--------|--------------|------------------------|
| | Under 20. | 20-24. | 25-29. | 30-34. | 35-39. | 40-44. | 45 and over. | |
| 0 .. | 7,317 | 29,128 | 17,486 | 6,573 | 2,546 | 645 | 31 | 63,726 |
| 1 .. | 1,579 | 17,315 | 22,061 | 10,263 | 3,621 | 742 | 40 | 55,621 |
| 2 .. | 159 | 6,026 | 13,843 | 10,718 | 4,414 | 915 | 31 | 36,106 |
| 3 .. | 11 | 1,570 | 5,777 | 6,519 | 3,700 | 926 | 44 | 18,547 |
| 4 .. | .. | 367 | 2,188 | 3,078 | 2,280 | 769 | 50 | 8,732 |
| 5 .. | .. | 69 | 769 | 1,455 | 1,208 | 505 | 29 | 4,125 |
| 6 .. | .. | 10 | 238 | 761 | 798 | 327 | 27 | 2,161 |
| 7 .. | .. | 4 | 97 | 359 | 477 | 272 | 22 | 1,231 |
| 8 .. | .. | .. | 29 | 160 | 296 | 200 | 19 | 704 |
| 9 .. | .. | .. | 6 | 81 | 206 | 127 | 10 | 430 |
| 10 and over | .. | .. | 7 | 51 | 197 | 241 | 34 | 530 |
| Total Married Mothers | 9,066 | 54,489 | 62,501 | 40,018 | 19,833 | 5,669 | 337 | 191,913 |

The masculinity of nuptial first births in 1953 was 105.29 compared with 102.44 for total births.

(ii) *Age of Mother and Duration of Marriage.* A tabulation showing the individual ages of mothers of nuptial first-born children in conjunction with full detail of duration of marriage is given in *Demography Bulletin* No. 71 for 1953. A summary showing grouped ages and grouped durations is given in the following table.

FIRST BIRTHS : AGE OF MOTHER AND DURATION OF MARRIAGE, AUSTRALIA, 1953.

| Duration of Marriage. | Age Group of Mother (Years). | | | | | | | Total. |
|-----------------------|------------------------------|--------|--------|--------|--------|--------|--------------|--------|
| | Under 20. | 20-24. | 25-29. | 30-34. | 35-39. | 40-44. | 45 and over. | |
| Under 8 months .. | 4,201 | 4,201 | 1,179 | 450 | 226 | 62 | 3 | 10,322 |
| 8 months .. | 385 | 1,060 | 337 | 134 | 47 | 10 | .. | 1,982 |
| 9 " .. | 506 | 2,633 | 985 | 308 | 85 | 20 | .. | 4,537 |
| 10 " .. | 404 | 2,248 | 867 | 267 | 93 | 16 | .. | 3,895 |
| 11 " .. | 345 | 1,907 | 715 | 201 | 90 | 18 | 2 | 3,278 |
| Total under 1 year .. | 5,841 | 12,050 | 4,083 | 1,360 | 541 | 120 | 5 | 24,014 |
| 1-2 years .. | 1,324 | 10,766 | 4,677 | 1,445 | 568 | 136 | 4 | 18,920 |
| 2-3 " .. | 122 | 3,982 | 2,973 | 890 | 313 | 104 | 9 | 8,393 |
| 3-4 " .. | 25 | 1,526 | 2,181 | 641 | 206 | 51 | 3 | 4,637 |
| 4-5 " .. | 4 | 561 | 1,472 | 502 | 147 | 46 | 2 | 2,734 |
| 5-10 " .. | .. | 233 | 2,047 | 1,393 | 421 | 72 | 5 | 4,171 |
| 10-15 " .. | .. | 2 | 47 | 336 | 287 | 71 | 1 | 744 |
| 15 years and over .. | .. | .. | 3 | 6 | 63 | 39 | 2 | 113 |
| Total .. | 7,317 | 21,118 | 17,186 | 6,573 | 2,546 | 645 | 31 | 63,726 |

(iii) *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. | Nuptial Confinements. | | | Proportion of First to Total Nuptial Confinements (Per Cent.). |
|------------------|-----------------------|------------------|---------|--|
| | First Births. | Other Births. | Total. | |
| ANNUAL AVERAGES. | | | | |
| 1911-20 | 33,595 | 88,997 | 122,592 | 27.40 |
| 1921-30 | 38,120 | 88,086 | 126,206 | 30.20 |
| 1931-40 | 39,243 | 71,136 | 110,379 | 35.55 |
| 1941-50 | 58,818 | 96,994 | 155,812 | 37.75 |

| | | | | |
|-----------------------|--------|---------|---------|-------|
| ANNUAL TOTALS. | | | | |
| 1949 .. | 60,927 | 111,080 | 172,007 | 35.42 |
| 1950 .. | 62,081 | 119,101 | 181,182 | 34.26 |
| 1951 .. | 62,078 | 121,594 | 183,672 | 33.80 |
| 1952 .. | 65,238 | 126,432 | 191,670 | 34.04 |
| 1953 .. | 63,726 | 128,187 | 191,913 | 33.21 |

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; and in Victoria from 1st January, 1953. In Victoria, independently of compulsory registration, and 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. | Aust. |
|---------|--------|------|---------|----------|----------|------|------|--------|-------|
|---------|--------|------|---------|----------|----------|------|------|--------|-------|

ANNUAL AVERAGES.

| | | | | | | | | |
|------------|-------|-----|-------------|-----|-----|-----|-----|-------------------|
| 1936-40 .. | 1,409 | 854 | (a) (b) 274 | 234 | 144 | (a) | 5 | (a) |
| 1941-45 .. | 1,478 | 966 | (c) 657 | 324 | 248 | 143 | (a) | 9 <i>de</i> 3,825 |
| 1946-50 .. | 1,405 | 949 | 626 | 363 | 274 | 161 | (a) | 12 (e) 3,795 |

ANNUAL TOTALS.

| | | | | | | | | | |
|---------|-------|-----|-----|-----|-----|-----|----|----|-------|
| 1949 .. | 1,279 | 907 | 581 | 338 | 268 | 159 | 8 | 14 | 3,554 |
| 1950 .. | 1,406 | 963 | 607 | 325 | 240 | 138 | 6 | 11 | 3,696 |
| 1951 .. | 1,291 | 929 | 651 | 316 | 297 | 166 | 5 | 15 | 3,670 |
| 1952 .. | 1,195 | 919 | 596 | 320 | 283 | 154 | 13 | 10 | 3,490 |
| 1953 .. | 1,256 | 899 | 562 | 287 | 268 | 141 | 8 | 16 | 3,437 |

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

The incidence of stillbirth 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. | Aust. |
|---------|--------|------|---------|----------|----------|------|------|--------|-------|
|---------|--------|------|---------|----------|----------|------|------|--------|-------|

AVERAGE ANNUAL RATES.

| | | | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-----|-------|-----------------|
| 1936-40 .. | 28.71 | 27.43 | (b) | 27.49 | 25.70 | 28.75 | (b) | 22.18 | (b) |
| 1941-45 .. | 25.46 | 24.79 | 26.76 | 25.17 | 23.29 | 25.68 | (b) | 22.87 | <i>ef</i> 25.25 |
| 1946-50 .. | 19.99 | 19.64 | 21.87 | 22.12 | 20.46 | 22.26 | (b) | 16.35 | (f) 20.46 |

ANNUAL RATES.

| | | | | | | | | | |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1949 ... | 18.25 | 18.98 | 20.94 | 20.03 | 19.45 | 21.87 | 22.60 | 16.81 | 19.23 |
| 1950 ... | 19.26 | 18.96 | 20.48 | 18.43 | 16.59 | 18.70 | 14.39 | 11.40 | 19.02 |
| 1951 .. | 17.60 | 18.05 | 21.48 | 17.77 | 19.68 | 22.07 | 12.14 | 14.73 | 18.63 |
| 1952 .. | 15.85 | 16.81 | 18.89 | 17.58 | 18.03 | 19.08 | 28.20 | 8.99 | 17.01 |
| 1953 .. | 16.49 | 16.51 | 17.93 | 15.56 | 16.62 | 17.90 | 17.09 | 19.90 | 16.71 |

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

§ 3. Mortality.

1. Number of Deaths.—(i) Year 1953. 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, 1953.

| Sex. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
|------------|--------|--------|---------|----------|----------|-------|------|--------|--------|
| Males .. | 17,871 | 12,168 | 6,414 | 3,771 | 3,008 | 1,414 | 96 | 80 | 44,822 |
| Females .. | 13,836 | 10,482 | 4,592 | 3,191 | 2,064 | 1,137 | 20 | 44 | 35,366 |
| Persons .. | 31,707 | 22,650 | 11,006 | 6,962 | 5,072 | 2,551 | 116 | 124 | 80,188 |

(ii) Years 1926 to 1953. A summary of the number of deaths in each State and Territory from 1926 to 1953 is given in the following table. Annual averages for each five-year period from 1861 will be found in Official Year Book No. 39, p. 597.

DEATHS.

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

ANNUAL AVERAGES.

| | | | | | | | | | |
|------------|--------|--------|--------|-------|-------|-------|----|-----|--------|
| 1926-30 | 22,677 | 16,698 | 8,007 | 5,008 | 3,617 | 2,040 | 71 | 42 | 53,160 |
| 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 |

ANNUAL TOTALS.

| | | | | | | | | | | |
|------|----|--------|--------|--------|-------|-------|-------|-----|-----|--------|
| 1949 | .. | 29,364 | 21,991 | 10,161 | 6,373 | 4,790 | 2,389 | 92 | 100 | 75,260 |
| 1950 | .. | 30,965 | 22,341 | 10,369 | 6,740 | 5,058 | 2,466 | 96 | 122 | 78,187 |
| 1951 | .. | 31,932 | 23,446 | 11,105 | 7,184 | 5,288 | 2,567 | 117 | 149 | 81,788 |
| 1952 | .. | 32,038 | 23,322 | 11,171 | 7,050 | 5,209 | 2,579 | 89 | 139 | 81,597 |
| 1953 | .. | 31,707 | 22,650 | 11,006 | 6,962 | 5,072 | 2,551 | 116 | 124 | 80,188 |

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

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 numbers per thousand of population by which the population is depleted through deaths during that period. Crude death rates for each State and Territory from 1926 to 1953 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.

| | | | | | | | | | |
|---------------|------|-------|------|-------|------|-------|-------|------|------|
| 1926-30 | 9.26 | 9.56 | 9.06 | 8.83 | 8.90 | 9.44 | 15.84 | 5.49 | 9.26 |
| 1931-35 | 8.68 | 9.72 | 8.61 | 8.72 | 8.82 | 9.62 | 13.45 | 3.81 | 9.00 |
| 1936-40(b) | 9.45 | 10.36 | 9.08 | 9.33 | 9.21 | 9.91 | 11.76 | 4.50 | 9.62 |
| 1941-45(b) | 9.73 | 10.63 | 9.24 | 10.27 | 9.86 | 10.21 | 6.51 | 4.98 | 9.96 |
| 1946-50(b)(c) | 9.70 | 10.37 | 9.13 | 9.76 | 9.23 | 9.30 | 7.71 | 5.38 | 9.74 |

ANNUAL RATES.(c)

| | | | | | | | | | | |
|---------|----|-------|-------|------|------|------|------|------|------|-------|
| 1949 | .. | 9.49 | 10.26 | 8.79 | 9.37 | 8.99 | 8.84 | 7.04 | 4.83 | 9.52 |
| 1950 | .. | 9.70 | 10.11 | 8.73 | 9.50 | 9.07 | 8.85 | 6.71 | 5.33 | 9.56 |
| 1951 | .. | 9.73 | 10.30 | 9.07 | 9.81 | 9.11 | 8.90 | 7.71 | 6.26 | 9.71 |
| 1952 | .. | 9.59 | 9.95 | 8.89 | 9.34 | 8.67 | 8.64 | 5.90 | 5.37 | 9.45 |
| 1953— | | | | | | | | | | |
| Males | .. | 10.48 | 10.11 | 9.70 | 9.60 | 9.39 | 9.05 | 9.71 | 5.38 | 10.04 |
| Females | .. | 8.22 | 8.79 | 7.33 | 8.32 | 6.87 | 7.57 | 3.55 | 3.25 | 8.12 |
| Persons | .. | 9.36 | 9.45 | 8.55 | 8.97 | 8.33 | 7.47 | 4.37 | 9.09 | |

(a) Number of deaths per 1,000 of mean population. (b) Excludes deaths of defence personnel from September, 1939 to June, 1947. (c) Rates based on revised mean population estimates shown on page 311.

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 were as recorded, but the age and sex distribution were 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" are given in Official Year Book No. 22, p. 962.

(ii) *Death Rates in Age Groups.* An examination of the age distribution of deaths and the resultant age-specific mortality rates is made in paragraph 9, p. 379.

(iii) *Comparison of Crude and Standardized Death Rates.* The relative incidence of mortality as between individual States and as between the years 1921, 1933 and 1947 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 | 9.62 | 9.39 | 9.17 | 9.69 |
| 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 |

(a) Total deaths per 1,000 of mean population.
in para. 3 (i) above.

(b) See explanation of standardized death rates

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.

(iv) *Standardized Death Rates, Australia, 1949-1953.* The standardized death rates for Australia for 1949 and later years were as follows:—1949, 7.18; 1950, 7.23; 1951, 7.45; 1952, 7.25; and 1953, 6.96.

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. A correct measurement of the mortality of the population can be obtained, however, from life tables. A life table represents the number of survivors at each age from a selected 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.**

| Period. | Complete Expectation of Life at Birth (Years). | | True Death Rate. | |
|------------------|---|----------|------------------|-------------|
| | Males. | Females. | Males.(a) | Females.(b) |
| 1881-1890.. .. . | 47.20 | 50.84 | 21.19 | 19.67 |
| 1891-1900.. .. . | 51.08 | 54.76 | 19.58 | 18.26 |
| 1901-1910.. .. . | 55.20 | 58.84 | 18.12 | 17.00 |
| 1920-1922.. .. . | 59.15 | 63.31 | 16.91 | 15.80 |
| 1932-1934.. .. . | 63.48 | 67.14 | 15.75 | 14.89 |
| 1946-1948.. .. . | 66.07 | 70.63 | 15.14 | 14.16 |

(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 of Various Countries.**—The following table gives the crude death rates for Australia in comparison with the rates for various other countries.

CRUDE DEATH RATES(a) : VARIOUS COUNTRIES.

| Country. | 1921- 25. | 1926- 30. | 1931- 35. | 1953. | Country. | 1921- 25. | 1926- 30. | 1931- 35. | 1953. |
|--------------------------------|--------------|--------------|--------------|-------|-------------------------|--------------|--------------|--------------|-------|
| Netherlands .. | 10.4 | 9.9 | 8.9 | 7.7 | Finland .. | 15.1 | 14.8 | 13.3 | 9.6 |
| Norway .. | 11.5 | 11.0 | 10.4 | 8.3 | Sweden .. | 12.1 | 12.1 | 11.6 | 9.7 |
| Canada .. | 11.2 | 11.1 | 9.7 | 8.6 | Spain .. | 20.2 | 17.9 | 16.4 | 9.7 |
| New Zealand(b) .. | 8.6 | 8.6 | 8.2 | 8.8 | Italy .. | 17.4 | 16.0 | 14.1 | 10.0 |
| Union of South Africa(c) .. | 9.7 | 9.7 | 9.8 | 8.9 | Switzerland .. | 12.5 | 12.1 | 11.8 | 10.6 |
| Japan .. | 21.8 | 19.3 | 17.9 | 8.9 | United Kingdom .. | 12.4 | 12.3 | 12.2 | 11.4 |
| Denmark .. | 11.3 | 11.1 | 10.9 | 9.0 | Ireland, Republic of .. | 11.6 | 14.4 | 14.0 | 11.8 |
| Australia(d) .. | 9.5 | 9.3 | 9.0 | 9.1 | Austria .. | 15.8 | 14.4 | 13.5 | 11.9 |
| United States of America .. | 11.8 | 11.8 | 10.9 | 9.6 | Belgium .. | 13.4 | 13.7 | 12.9 | 12.1 |
| | | | | | Yugoslavia .. | 20.2 | 20.6 | 17.9 | 12.4 |
| | | | | | France .. | 17.2 | 16.8 | 15.7 | 12.8 |

(a) Number of deaths per 1,000 of mean population. (b) Excludes Maoris. (c) White population only. (d) Excludes full-blood aborigines. (e) 1933-35.

6. **True Death Rates of Various Countries.**—The following table gives the true death rates for Australia in comparison with the rates for various other countries :—

TRUE DEATH RATES : VARIOUS COUNTRIES.

| Country. | Period. | True Death Rate. | | Country. | Period. | True Death Rate. | |
|------------------------------|---------|------------------|-----------------|--------------------------------|---------|------------------|-----------------|
| | | Males. (a) | Females. (b) | | | Males. (a) | Females. (b) |
| Netherlands .. | 1947-49 | 14.4 | 14.0 | Germany .. | 1949-51 | 15.5 | 14.6 |
| Norway .. | 1945-48 | 14.7 | 13.9 | Union of South Africa(e) .. | 1945-47 | 15.7 | 14.6 |
| Denmark .. | 1946-50 | 14.7 | 14.3 | Switzerland .. | 1939-44 | 16.0 | 14.9 |
| Sweden .. | 1941-45 | 14.9 | 14.3 | Belgium .. | 1946-49 | 16.1 | 14.9 |
| England and Wales .. | 1951 | 15.2 | 14.1 | France .. | 1946-49 | 16.2 | 14.8 |
| Australia(c) .. | 1946-48 | 15.1 | 14.2 | Austria .. | 1949-51 | 16.2 | 14.9 |
| United States of America— | | | | Ireland, Re- public of .. | 1945-47 | 16.5 | 16.0 |
| Whites .. | 1950 | 15.0 | 13.8 | Northern Ire- land .. | 1936-38 | 17.3 | 16.9 |
| Others .. | 1950 | 16.9 | 15.8 | Japan .. | 1949-50 | 17.8 | 16.8 |
| Canada .. | 1947 | 15.3 | 14.5 | Finland .. | 1941-45 | 18.3 | 16.4 |
| New Zealand(d) .. | 1934-38 | 15.3 | 14.6 | Italy .. | 1930-32 | 18.6 | 17.9 |
| Scotland .. | 1952 | 15.3 | 14.4 | | | | |

(a) Number of deaths per 1,000 males in life table or stationary population (see explanation on p. 372).
(b) Number of deaths per 1,000 females in life table or stationary population (see explanation on p. 372).
(c) Excludes full-blood aborigines. (d) Excludes Maoris. (e) White population only.

7. **Australian Life Tables.**—(i) *Life Tables prior to 1947.* It has been the practice at each Census from 1911 onwards to prepare Life Tables representative of the mortality experience of Australia. In 1911 the mortality of the Australian population for the thirty years from 1881 to 1910 inclusive was investigated 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 decennium 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 1920–22. Similarly in 1933 the Life Tables, which were prepared by Mr. F. W. Barford, M.A., A.I.A., were based on the Census population and the deaths in the calendar years 1932–34.

(ii) *Life Tables of Census of 1947.* On the occasion of the 1947 Census, Life Tables representing the sixth in the series were compiled by the Commonwealth Actuary, Mr. W. C. Balmford, O.B.E., F.I.A. These were based on the population recorded, in conjunction with the deaths during 1946, 1947 and 1948, as it was considered undesirable to take into account deaths occurring prior to 1946 owing to the possible effects on the civilian population of conditions arising from the 1939–45 War. Full particulars of the data used, the methods 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 Statistician in 1950. This report also appeared in Volume III. of the Census of the Commonwealth of Australia, 1947. Monetary tables for both single and joint lives have also been prepared by the Commonwealth Actuary.

Comparative tables showing the number of survivors (l_x) out of 100,000 births, rates of mortality (q_x) and probability of surviving ten years ($_{10}p_x$), at selected ages, in respect of the Australian Life Tables of 1920–22, 1932–34 and 1946–48, together with a summary of the main characteristics of the tables, were published in Official Year Book No. 39, pp. 602–3. The expectation of life at selected ages taken from these three Life Tables is as follows:—

**AUSTRALIAN LIFE TABLES : COMPLETE EXPECTATION OF LIFE (e_x) AT
SELECTED AGES.**

| Age (x). | Males. | | | Females. | | |
|-------------|----------|----------|----------|----------|----------|----------|
| | 1920–22. | 1932–34. | 1946–48. | 1920–22. | 1932–34. | 1946–48. |
| 0 | 59.15 | 63.48 | 66.07 | 63.31 | 67.14 | 70.63 |
| 10 | 56.01 | 58.02 | 59.04 | 59.20 | 61.02 | 63.11 |
| 20 | 46.90 | 48.81 | 49.64 | 50.03 | 51.67 | 53.47 |
| 30 | 38.44 | 39.90 | 40.40 | 41.48 | 42.77 | 44.08 |
| 40 | 30.05 | 31.11 | 31.23 | 33.14 | 34.04 | 34.91 |
| 50 | 22.20 | 22.83 | 22.67 | 24.90 | 25.58 | 26.14 |
| 60 | 15.08 | 15.57 | 15.36 | 17.17 | 17.74 | 18.11 |
| 70 | 9.26 | 9.60 | 9.55 | 10.41 | 10.98 | 11.14 |

8. **Infant Deaths and Death Rates.**—(i) *Australia, 1926 to 1953.* 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 496,857 male infants born from 1949 to 1953, 13,469 (27.11 per 1,000) died during the first year of life, while of 472,178 female infants only 10,172 (21.54 per 1,000) died during the first year. Stillbirths are not included in any of the tables relating to deaths.

INFANT DEATHS AND DEATH RATES : AUSTRALIA.

| Period. | Number of Deaths under One Year. | | | Rate of Infant Mortality.(a) | | |
|------------------|----------------------------------|----------|--------|------------------------------|----------|--------|
| | Males. | Females. | Total. | Males. | Females. | Total. |
| ANNUAL AVERAGES. | | | | | | |
| 1926-30 .. | 3,909 | 2,942 | 6,851 | 57.66 | 45.99 | 51.99 |
| 1931-35 .. | 2,649 | 1,986 | 4,635 | 46.00 | 36.29 | 41.27 |
| 1936-40 .. | 2,679 | 2,016 | 4,695 | 43.23 | 34.16 | 38.81 |
| 1941-45 .. | 2,921 | 2,215 | 5,136 | 39.11 | 31.18 | 35.24 |
| 1946-50 .. | 2,808 | 2,094 | 4,902 | 30.09 | 23.70 | 26.98 |
| ANNUAL TOTALS. | | | | | | |
| 1949 | 2,624 | 1,903 | 4,587 | 28.29 | 22.18 | 25.31 |
| 1950 | 2,661 | 2,004 | 4,665 | 27.20 | 21.60 | 24.47 |
| 1951 | 2,749 | 2,129 | 4,878 | 27.66 | 22.67 | 25.24 |
| 1952 | 2,774 | 2,024 | 4,798 | 26.83 | 20.60 | 23.79 |
| 1953 | 2,661 | 2,052 | 4,713 | 25.71 | 20.78 | 23.30 |

(a) Number of deaths of children aged under one year per 1,000 live births registered.

(ii) *States, 1926 to 1953.* For each State and Territory the rates of infant mortality during the period 1926 to 1953 were as follows:—

INFANT MORTALITY RATES(a) : UNDER ONE YEAR.

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
|-----------------------|--------|-------|---------|----------|----------|-------|-------|--------|-------|
| AVERAGE ANNUAL RATES. | | | | | | | | | |
| 1926-30 .. | 54.74 | 52.34 | 47.41 | 46.95 | 49.27 | 53.37 | 66.09 | 71.31 | 51.99 |
| 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 .. | 36.29 | 34.73 | 34.55 | 33.20 | 33.37 | 39.54 | 55.97 | 18.75 | 35.24 |
| 1946-50 .. | 28.91 | 23.82 | 27.49 | 26.50 | 28.15 | 26.53 | 37.37 | 19.89 | 26.98 |
| ANNUAL RATES. | | | | | | | | | |
| 1949 .. | 27.29 | 21.89 | 24.72 | 27.68 | 26.42 | 23.91 | 37.57 | 15.87 | 25.31 |
| 1950 .. | 27.04 | 20.09 | 24.77 | 24.04 | 27.13 | 23.75 | 36.50 | 20.96 | 24.47 |
| 1951 .. | 26.29 | 22.61 | 25.66 | 24.51 | 28.73 | 26.64 | 44.23 | 11.96 | 25.24 |
| 1952 .. | 24.50 | 22.29 | 24.94 | 23.09 | 24.91 | 21.73 | 31.25 | 23.59 | 23.79 |
| 1953 .. | 24.65 | 21.15 | 24.98 | 20.65 | 23.82 | 22.88 | 39.13 | 21.57 | 23.30 |

(a) Number of deaths of children aged under one year per 1,000 live births registered.

INFANT MORTALITY RATES(a) : UNDER ONE MONTH.

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
|-----------------------|--------|-------|---------|----------|----------|-------|-------|--------|-------|
| AVERAGE ANNUAL RATES. | | | | | | | | | |
| 1926-30 .. | 29.63 | 29.75 | 27.66 | 26.84 | 25.10 | 33.12 | 14.37 | 28.86 | 28.96 |
| 1931-35 .. | 27.62 | 27.78 | 27.91 | 22.99 | 25.11 | 30.09 | 35.26 | 23.45 | 27.27 |
| 1936-40 .. | 27.63 | 25.94 | 26.15 | 21.62 | 22.62 | 29.56 | 28.80 | 16.33 | 26.19 |
| 1941-45 .. | 24.52 | 24.40 | 24.41 | 20.86 | 20.60 | 27.24 | 33.57 | 12.54 | 23.97 |
| 1946-50 .. | 20.53 | 17.55 | 19.95 | 18.38 | 19.53 | 19.34 | 21.45 | 15.80 | 19.34 |
| ANNUAL RATES. | | | | | | | | | |
| 1949 .. | 19.24 | 16.28 | 17.44 | 18.39 | 19.24 | 17.02 | 26.01 | 12.21 | 18.02 |
| 1950 .. | 18.77 | 14.71 | 18.43 | 17.57 | 18.41 | 16.02 | 19.46 | 16.77 | 17.41 |
| 1951 .. | 18.01 | 16.04 | 18.21 | 16.38 | 20.08 | 18.35 | 14.74 | 8.97 | 17.50 |
| 1952 .. | 16.56 | 16.39 | 17.96 | 15.04 | 17.97 | 14.65 | 17.86 | 17.24 | 16.64 |
| 1953 .. | 17.17 | 15.70 | 17.80 | 13.09 | 16.45 | 15.51 | 23.91 | 13.96 | 16.48 |

(a) Number of deaths of children aged under one month per 1,000 live births registered.

INFANT MORTALITY RATES(a) : ONE MONTH AND UNDER ONE YEAR.

| Period. | N.S.W. | Vic. | Q'land. | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
|-----------------------|--------|-------|---------|----------|----------|-------|-------|--------|-------|
| AVERAGE ANNUAL RATES. | | | | | | | | | |
| 1926-30 .. | 25.11 | 22.59 | 19.75 | 20.11 | 24.17 | 20.25 | 51.72 | 42.45 | 23.03 |
| 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 |
| ANNUAL RATES. | | | | | | | | | |
| 1949 .. | 8.05 | 5.61 | 7.28 | 9.29 | 7.18 | 6.89 | 11.56 | 3.66 | 7.29 |
| 1950 .. | 8.27 | 5.38 | 6.34 | 6.47 | 8.72 | 7.73 | 17.04 | 4.19 | 7.06 |
| 1951 .. | 8.28 | 6.57 | 7.45 | 8.13 | 8.65 | 8.29 | 29.49 | 2.99 | 7.74 |
| 1952 .. | 7.94 | 5.90 | 6.08 | 8.05 | 6.94 | 7.08 | 13.39 | 6.35 | 7.15 |
| 1953 .. | 7.48 | 5.45 | 7.18 | 6.66 | 7.38 | 7.37 | 15.22 | 7.61 | 6.82 |

(a) Number of deaths of children aged one month and under one year per 1,000 live births registered.

These tables indicate the striking decrease in infant mortality in Australia, the mortality rate of children aged under one year per 1,000 live births for 1953 being slightly less than one-half of the average rate for 1926-30. The tables above reveal the fact that this improvement was due largely to the decrease in deaths from preventable causes, the mortality rate for children aged one month but under one year declining by 75 per cent. while that for children aged under one month declined by only 43 per cent.

(iii) *Statistical Divisions.* The total numbers of births and of deaths of children under one year of age for 1953 are shown in *Demography Bulletin* No. 71 for each of the sixty-six statistical divisions for which vital statistics have been tabulated.

(iv) *Various Countries and Cities.* Compared with other countries Australia occupies a very favourable position in respect of infant mortality. In 1953 only New Zealand, Sweden and the Netherlands recorded a lower rate than Australia.

A study of the respective rates shows that a high birth rate is often, though not invariably, accompanied by a high infant death rate.

INFANT MORTALITY RATES : VARIOUS COUNTRIES.

| Country. | Infant Mortality Rate.(a) | | | | | | Crude Birth Rate (b) 1953. |
|------------------------------|---------------------------|----------|----------|----------|-------|----------|----------------------------|
| | 1921-25. | 1926-30. | 1931-35. | 1936-40. | 1952. | 1953. | |
| Sweden | 60 | 58 | 50 | 42 | 20 | 19 | 15.4 |
| New Zealand (c) | 43 | 37 | 32 | 32 | 22 | 20 | 24.1 |
| Netherlands | 64 | 56 | 45 | 37 | 22 | 22 | 21.8 |
| Australia (d) | 58 | 52 | 41 | 39 | 24 | 23 | 22.9 |
| Denmark | 82 | 82 | 71 | 60 | 29 | 27 | 17.9 |
| Norway | 52 | 49 | 45 | (e) 40 | 24 | (f) 18.8 | |
| United States of America .. | 74 | 68 | 59 | 51 | 29 | 28 | 24.7 |
| United Kingdom | 78 | 70 | 65 | 59 | 29 | 28 | 15.9 |
| Switzerland | 65 | 54 | 48 | 45 | 29 | 30 | 17.0 |
| Union of South Africa (g) .. | 73 | 67 | 63 | 53 | 35 | 34 | 25.7 |
| Finland | 96 | 88 | 72 | 72 | 31 | 34 | 21.9 |
| Canada | 98 | 93 | 75 | 64 | 38 | 36 | 27.9 |
| France | 95 | 89 | 73 | 70 | 41 | 38 | 18.7 |
| Ireland, Republic of | 69 | 70 | 68 | 69 | 41 | 39 | 21.1 |
| Belgium | 100 | 95 | 82 | 77 | 45 | 43 | 16.6 |
| Japan | 150 | 137 | 120 | (h) 112 | 48 | 48 | 21.5 |
| Austria | 136 | 117 | 90 | 81 | 52 | 50 | 14.5 |
| Spain | 143 | 124 | 113 | 121 | 54 | 54 | 20.6 |
| Italy | 127 | 119 | 105 | 103 | 64 | 59 | 17.2 |
| Yugoslavia | (e) | 151 | 153 | (h) 141 | 125 | 117 | 28.3 |

(a) Number of deaths under one year per 1,000 live births registered. (b) Number of live births per 1,000 of mean population. (c) Excludes Maoris. (d) Excludes full-blood aboriginals. (e) 1935-39. (f) Not available. (g) White population only. (h) 1935-38.

(v) *Causes of Death: Children under one Year.* Causes of deaths 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 1953, 2,754 (96.8 per cent.) of the deaths occurring during the first week of life were caused by congenital malformations (10.5 per cent.) and certain diseases of early infancy (86.3 per cent.). Of the latter, 64.6 per cent. were associated with immaturity (*see table below*). At ages one week and under four weeks the proportions were 25.6 per cent. and 60.0 per cent. respectively. Of deaths of children over four weeks and under one year of age, 23.2 per cent. were caused by congenital malformations and only 5.7 per cent. by diseases of early infancy, the emphasis having shifted to respiratory and digestive diseases (40.9 per cent.), infective and parasitic diseases (8.9 per cent.), diseases of the nervous system (7.3 per cent.) and accidents and violence (8.6 per cent.). A summary for 1953 of the 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.

Deaths from each cause in the detailed list of titles adopted for publication, classified according to age at death, will be found in *Demography Bulletin* No. 71. Causes of infant deaths in each State and Territory in 1953 will also be found therein.

CAUSES OF DEATH: CHILDREN UNDER ONE YEAR OF AGE, AUSTRALIA, 1953.

| Cause of Death. | Age at Death. | | | | | | | | | | | | | | | Under One Year. |
|---|---------------|-----|-----|----|---------|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----------------|
| | Weeks. | | | | Months. | | | | | | | | | | | |
| | Under 1. | 1. | 2. | 3. | 1. (n) | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | |
| Tuberculosis | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | 1 | 1 | 2 | .. | 1 | 8 | |
| Septicæmia and pyæmia | .. | 1 | 1 | .. | 4 | 3 | 2 | 1 | 4 | 2 | 2 | .. | 3 | 1 | 25 | |
| Diphtheria | .. | .. | .. | .. | .. | 7 | 1 | 1 | 3 | 1 | 1 | 2 | 2 | 1 | 4 | |
| Whooping cough | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 19 | |
| Meningococcal infections | .. | .. | .. | 1 | 2 | 4 | 4 | 3 | 4 | 7 | 5 | 7 | 4 | 1 | 46 | |
| Measles | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 | .. | 1 | 4 | |
| Other infective and parasitic diseases | 1 | .. | 1 | .. | 2 | 4 | 2 | 1 | 2 | 1 | 5 | 1 | 1 | 2 | 3 | 26 |
| Neoplasms | 1 | .. | .. | .. | 2 | 1 | 1 | .. | 3 | 1 | 1 | 2 | 1 | 4 | 1 | 18 |
| Allergic, endocrine system, etc., diseases | 5 | 1 | 1 | .. | 4 | 2 | 3 | 3 | 4 | 4 | 3 | 2 | 1 | .. | 2 | 35 |
| Diseases of the blood | 2 | 2 | .. | .. | 1 | 1 | 1 | .. | 1 | .. | 1 | 1 | .. | .. | .. | 10 |
| Mental, etc., disorders | 4 | 3 | 1 | 1 | 3 | 1 | 2 | 1 | 1 | .. | 1 | 3 | .. | 1 | 22 | 51 |
| Meningitis | 2 | 4 | 4 | 5 | 2 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 51 |
| Encephalitis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | .. | .. | .. | 6 |
| Erythroderma polynurica | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 2 | .. | 4 |
| Otitis media and mastoiditis | .. | .. | 1 | .. | .. | 4 | .. | 2 | 1 | 3 | .. | .. | .. | .. | 1 | 12 |
| Other diseases of the nervous system, etc. | .. | .. | .. | .. | 2 | 1 | 1 | .. | .. | 1 | 4 | 2 | .. | 1 | 1 | 13 |
| Diseases of the circulatory system | 2 | .. | .. | .. | 3 | 2 | 3 | .. | 2 | .. | .. | 1 | .. | .. | 2 | 15 |
| Pneumonia, age four weeks and over | .. | .. | .. | .. | 41 | 40 | 36 | 30 | 26 | 29 | 23 | 28 | 24 | 19 | 19 | 315 |
| Bronchitis | .. | .. | 1 | 1 | 2 | 3 | 3 | 5 | 1 | 3 | 1 | 3 | 2 | 4 | 1 | 30 |
| Other diseases of the respiratory system | 3 | 2 | 2 | 1 | 5 | 3 | 4 | 6 | 3 | 5 | 4 | 2 | 5 | 1 | 1 | 47 |
| Hernia and intestinal obstruction | 27 | 2 | 4 | 2 | 2 | 4 | 3 | 2 | 4 | 3 | 1 | 1 | 1 | .. | .. | 56 |
| Gastro-enteritis and colitis, age four weeks and over | .. | .. | .. | .. | 16 | 11 | 15 | 11 | 15 | 10 | 11 | 12 | 8 | 9 | 11 | 129 |
| Other diseases of the digestive system | 2 | .. | 4 | 1 | 9 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 29 |
| Diseases of the genito-urinary system | .. | 1 | 2 | 1 | 1 | .. | .. | 1 | .. | 2 | .. | .. | 1 | 2 | .. | 11 |
| Diseases of the skin and cellular tissue | 1 | .. | .. | 1 | 1 | .. | .. | .. | 1 | 1 | .. | .. | 2 | .. | 2 | 9 |
| Diseases of the bones and organs of movement | 1 | .. | .. | .. | .. | 2 | 2 | .. | .. | 3 | .. | .. | 1 | .. | .. | 9 |
| Congenital malformations | 299 | 64 | 40 | 31 | 71 | 54 | 45 | 30 | 27 | 30 | 22 | 15 | 15 | 10 | 14 | 767 |
| Certain diseases of early infancy (b) — | 867 | 80 | 39 | 30 | 16 | 13 | 11 | 6 | 4 | 4 | .. | 5 | 2 | 4 | 3 | 1,102 |
| Without mention of immaturity (b) | 1,588 | 99 | 18 | 9 | 12 | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | 1,730 |
| With immaturity (b) | 28 | .. | .. | .. | 1 | 3 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | 34 |
| Symptoms and ill-defined conditions | 11 | 5 | 2 | 1 | 12 | 11 | 11 | 19 | 10 | 5 | 7 | 7 | 7 | 9 | 10 | 127 |
| Accidents, poisoning and violence | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| All Causes | 2,814 | 273 | 121 | 94 | 215 | 182 | 156 | 127 | 121 | 123 | 101 | 101 | 94 | 80 | 81 | 4,713 |

(a) Age 4 weeks and under 2 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 1953, 65 per cent. of deaths during the first week of life and 43 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 1953 in the following table:—

DEATHS FROM CERTAIN DISEASES OF EARLY INFANCY : AUSTRALIA, 1953.

| Category No. | Cause of Death. | Without Mention of Immaturity. | | | With Immaturity. | | | Total. | | |
|--------------|--|--------------------------------|-----------|-----------|------------------|-----------|-----------|--------|-----------|-----------|
| | | Males. | Fe-males. | Per-sons. | Males. | Fe-males. | Per-sons. | Males. | Fe-males. | Per-sons. |
| 760 | Intracranial and spinal injury at birth .. | 181 | 114 | 295 | 58 | 14 | 72 | 239 | 128 | 367 |
| 761 | Other birth injury .. | 46 | 45 | 91 | 74 | 67 | 141 | 120 | 112 | 232 |
| 762 | Post-natal asphyxia and atelectasis .. | 140 | 112 | 252 | 169 | 129 | 298 | 309 | 241 | 550 |
| 763 | Pneumonia of the newborn .. | 88 | 70 | 158 | 31 | 12 | 43 | 119 | 82 | 201 |
| 764 | Diarrhoea of the newborn .. | 3 | 4 | 7 | 3 | 1 | 4 | 6 | 5 | 11 |
| 765 | Ophthalmia neonatorum .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 766 | Perimphig neonatorum .. | .. | 1 | 1 | .. | .. | .. | .. | 1 | 1 |
| 767 | Umbilical sepsis .. | 1 | .. | 1 | 3 | .. | 3 | 4 | .. | 4 |
| 768 | Other sepsis of newborn .. | 3 | 3 | 6 | 1 | .. | 1 | 4 | 3 | 7 |
| 769 | Neonatal disorders arising from maternal toxæmia .. | 20 | 19 | 39 | 48 | 39 | 87 | 68 | 58 | 126 |
| 770 | Hæmolytic disease of newborn (erythroblastosis) .. | 78 | 49 | 127 | 18 | 13 | 31 | 96 | 62 | 158 |
| 771 | Hæmorrhagic disease of newborn .. | 29 | 21 | 50 | 10 | 4 | 14 | 39 | 25 | 64 |
| 772 | Nutritional maladjustment .. | 14 | 14 | 28 | .. | 2 | 2 | 14 | 16 | 30 |
| 773 | Ill-defined diseases peculiar to early infancy .. | 25 | 22 | 47 | 32 | 24 | 56 | 57 | 46 | 103 |
| 774 | Immaturity with mention of any other subsidiary condition .. | .. | .. | .. | 20 | 16 | 36 | 20 | 16 | 36 |
| 775 | Immaturity subsidiary to some other cause .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 776 | Immaturity unqualified .. | .. | .. | .. | 506 | 436 | 942 | 506 | 436 | 942 |
| | Total, Class XV. .. | 628 | 474 | 1,102 | 973 | 757 | 1,730 | 1,601 | 1,231 | 2,832 |

(vi) *Deaths of Ex-nuptial Children under one Year of Age.* Distinction between nuptial and ex-nuptial children in death statistics for Australia as a whole has been made only since 1925. Results show that death rates during infancy are generally much higher for ex-nuptial children than for nuptial children, but the disparity has become smaller in recent years. The following table shows the number of deaths of children under one year of age and the infant mortality rates for nuptial, ex-nuptial and all children in five-year periods since 1926 and for each year from 1949 to 1953.

DEATHS UNDER ONE YEAR OF AGE : NUPTIAL AND EX-NUPTIAL, AUSTRALIA.

| Period. | Nuptial Children. | | Ex-Nuptial Children. | | | All Children. | |
|------------|-------------------|---------------------------|----------------------|---------------------------|------------------------------------|-------------------|---------------------------|
| | Number of Deaths. | Infant Mortality Rate.(a) | Number of Deaths. | Infant Mortality Rate.(b) | | Number of Deaths. | Infant Mortality Rate.(c) |
| | | | | Actual. | Ratio to Nuptial Rate. (Per Cent.) | | |
| 1926-30 .. | 31,367 | 49.96 | 2,888 | 93.38 | 187 | 34,255 | 51.99 |
| 1931-35 .. | 21,460 | 40.09 | 1,713 | 65.37 | 163 | 23,173 | 41.27 |
| 1936-40 .. | 21,792 | 37.59 | 1,680 | 66.87 | 178 | 23,472 | 38.81 |
| 1941-45 .. | 24,053 | 34.20 | 1,627 | 52.39 | 153 | 25,680 | 34.97 |
| 1946-50 .. | 23,139 | 20.54 | 1,373 | 37.37 | 141 | 24,512 | 26.98 |
| 1949 .. | 4,333 | 24.92 | 254 | 34.45 | 138 | 4,587 | 25.31 |
| 1950 .. | 4,444 | 24.25 | 221 | 30.17 | 124 | 4,665 | 24.47 |
| 1951 .. | 4,687 | 25.23 | 191 | 25.28 | 100 | 4,878 | 25.24 |
| 1952 .. | 4,609 | 23.78 | 188 | 23.97 | 101 | 4,797 | 23.79 |
| 1953 .. | 4,515 | 23.25 | 108 | 24.65 | 106 | 4,713 | 23.20 |

(a) Number of deaths under one year of age per 1,000 nuptial live births registered. (b) Number of deaths under one year of age per 1,000 ex-nuptial live births registered. (c) Number of deaths under one year of age per 1,000 total live births registered.

The ex-nuptial rates are higher at all ages under one year but the difference is greatest several months after birth. For the five years 1949-53 the ratio of the ex-nuptial to the nuptial rate at various ages was as follows:—Under one month, 113 per cent.; one month, 129 per cent.; 2 months, 106 per cent.; 3 months, 126 per cent.; 4 months, 114 per cent.; 5 months, 148 per cent.; under one year, 114 per cent.

Full particulars of the causes of deaths of ex-nuptial children who died in 1953, aged under four weeks and under one year, are given for each State and Territory in *Demography Bulletin* No. 71. Detailed information for Australia as to the age at which ex-nuptial children died from each cause of death will also be found therein. It is difficult to assess the real significance of the differences between the numbers of nuptial and ex-nuptial deaths from each individual cause because of the small number of ex-nuptial deaths involved in each case.

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. Owing to exigencies of space these ages are usually combined in groups for publication, the most common grouping being in weeks for the first four weeks, in months or groups of months for the first year, in single years of age for the first five years and thereafter in 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 1953.

AGE AT DEATH : AUSTRALIA, 1953.

| Age at Death. | Males. | Fe- males. | Per- sons. | Age at Death. | Males. | Fe- males. | Per- sons. |
|------------------------------|--------|---------------|---------------|--------------------|--------|---------------|---------------|
| Under 1 week .. | 1,608 | 1,236 | 2,844 | Total 5-9 years .. | 339 | 233 | 572 |
| 1 week and under 2 weeks .. | 157 | 116 | 273 | " 10-14 .. | 230 | 108 | 338 |
| 2 weeks and under 3 weeks .. | 70 | 51 | 121 | " 15-19 .. | 446 | 186 | 632 |
| 3 weeks and under 28 days .. | 54 | 40 | 94 | " 20-24 .. | 604 | 221 | 825 |
| | | | | " 25-29 .. | 607 | 306 | 913 |
| Total under 28 days .. | 1,889 | 1,443 | 3,332 | " 30-34 .. | 621 | 370 | 991 |
| | | | | " 35-39 .. | 318 | 554 | 1,372 |
| 28 days and under 3 months | 254 | 143 | 397 | " 40-44 .. | 1,177 | 726 | 1,903 |
| 3 months and under 6 .. | 221 | 183 | 404 | " 45-49 .. | 1,684 | 1,088 | 2,772 |
| 6 months and under 12 .. | 297 | 283 | 580 | " 50-54 .. | 2,490 | 1,526 | 4,016 |
| | | | | " 55-59 .. | 3,392 | 2,034 | 5,426 |
| Total under 1 year .. | 2,661 | 2,052 | 4,713 | " 60-64 .. | 4,905 | 2,929 | 7,834 |
| | | | | " 65-69 .. | 5,672 | 3,730 | 9,402 |
| 1 year .. | 268 | 246 | 514 | " 70-74 .. | 5,937 | 4,554 | 10,491 |
| 2 years .. | 172 | 132 | 304 | " 75-79 .. | 5,121 | 4,984 | 10,105 |
| 3 .. | 125 | 88 | 213 | " 80-84 .. | 4,066 | 4,598 | 8,664 |
| 4 .. | 97 | 77 | 174 | " 85-89 .. | 2,463 | 3,113 | 5,576 |
| | | | | " 90-94 .. | 703 | 1,239 | 2,002 |
| Total under 5 years .. | 3,323 | 2,595 | 5,918 | " 95-99 .. | 141 | 242 | 383 |
| | | | | " 100 and over .. | 8 | 23 | 31 |
| | | | | Age not stated .. | 15 | 7 | 22 |
| | | | | Total, All Ages .. | 44,822 | 35,366 | 80,188 |

The number of deaths in 1953 at each year of life is shown in *Demography Bulletin* No. 71.

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 improvement in the rate of mortality at all ages, thus tending to reduce the number of deaths. 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 improved 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 periods of ten years from 1901 to 1950 and for the year 1953.

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

| Period. | Age Group (Years). | | | | | | | | Total. |
|---------------|--------------------|------|-------|--------|--------|--------|--------------|--------------|--------|
| | Under 1. | 1-4. | 5-19. | 20-39. | 40-59. | 60-64. | 65 and over. | Unspecified. | |
| 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 | 30.63 | 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 |
| 1953—Males .. | 5.94 | 1.48 | 2.26 | 5.91 | 19.51 | 10.94 | 53.93 | 0.03 | 100.00 |
| Females .. | 5.80 | 1.54 | 1.49 | 4.10 | 15.20 | 8.28 | 63.57 | 0.02 | 100.00 |
| Persons .. | 5.88 | 1.50 | 1.92 | 5.11 | 17.61 | 9.77 | 58.18 | 0.03 | 100.00 |

A table showing these proportions for males and females separately for the period 1901 to 1950 will be found in Official Year Book No. 39, p. 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 for Australia for the years 1932-34 and 1946-48 (see No. 37, p. 778 and No. 39, pp. 615-6). A table showing the rates in the age groups used for calculating the standardized death rate for each State for the year 1947 appeared in Official Year Book No. 39, p. 599. Estimates of the age distribution of the population in each State are not available to enable a similar comparison to be made for later years.

Estimates of the age distribution of the population of Australia as a whole have been used to calculate the following age-specific death rates for the years 1951, 1952 and 1953.

AGE-SPECIFIC DEATH RATES(a) : AUSTRALIA.

| Age Group (Years). | 1951. | 1952. | 1953. | Age Group (Years). | 1951. | 1952. | 1953. |
|--------------------|-------|-------|-------|--------------------|--------|--------|--------|
| 0-4 | 6.62 | 6.39 | 6.18 | 50-54 | 8.93 | 8.91 | 8.60 |
| 5-9 | 0.69 | 0.64 | 0.67 | 55-59 | 14.39 | 13.87 | 13.28 |
| 10-14 | 0.64 | 0.55 | 0.51 | 60-64 | 21.75 | 22.07 | 21.11 |
| 15-19 | 1.17 | 1.08 | 1.10 | 65-69 | 34.23 | 33.98 | 31.79 |
| 20-24 | 1.57 | 1.40 | 1.33 | 70-74 | 53.51 | 51.45 | 50.66 |
| 25-29 | 1.45 | 1.42 | 1.29 | 75-79 | 88.88 | 81.93 | 83.31 |
| 30-34 | 1.72 | 1.61 | 1.44 | 80-84 | 136.79 | 136.23 | 127.56 |
| 35-39 | 2.36 | 2.28 | 2.11 | 85-89 | 241.46 | 232.25 | 236.98 |
| 40-44 | 3.39 | 3.34 | 3.11 | 90 and over .. | 353.50 | 352.43 | 343.67 |
| 45-49 | 5.63 | 5.62 | 5.20 | | | | |

(a) Average number of deaths per 1,000 of population in each age group.

10. *Birthplaces of Persons who Died.*—A table showing the birthplaces of persons whose deaths were registered in each year will be found in the *Demography Bulletin*. Tabulations were discontinued for the years 1941 to 1945 inclusive, but were revived for 1946. Details for 1953 appear in *Demography Bulletin* No. 71.

11. **Occupation of Males who Died.**—A table showing occupations of males who died during 1953 appears in *Demography Bulletin* No. 71.

12. **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 revisions by International Commissions in 1909 (Second), 1920 (Third), 1929 (Fourth) and 1938 (Fifth) were successively adapted for use in Australian statistics.

Proposals for the Fourth and Fifth revisions were drafted by a "Mixed Commission" of representatives of the International Statistical Institute and the Health Organization of the League of Nations and the final revision was carried out by the International Conference for the Revision of the International List of Causes of Death. Preparatory work in connexion with the Sixth Revision was entrusted by the International Health Conference in 1946 to the Interim Commission of the World Health Organization. As a result of this arrangement the World Health Organization compiled the International Statistical Classification of Diseases, Injuries and Causes of Death, which in its final stages was unanimously approved by the International Conference for the Sixth Revision of the International Lists of Diseases and Causes of Death in April, 1948. This classification was adopted by the First World Health Assembly, which also issued Regulations to guide member states in its application. Australia adopted the classification, together with the rules for using it, for use commencing with the year 1950.

For the first time in connexion with the International List, international rules for a uniform method of selecting the main cause to be tabulated, if more than one cause is stated on the death certificate, have been laid down, as well as the new classifications of causes of death. 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 of 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 is shown in *Demography Bulletin* No. 68. Commencing with 1951 the classification is according to the Sixth Revision only and detailed figures on this basis for 1953 are shown in *Demography Bulletin* No. 71.

In order to facilitate the limited 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 A to C which follow. Tables A and B show deaths of males and females, respectively, for 1953 and Table C shows the numbers of persons who died and the death rates and proportion per 10,000 deaths for the years 1952 and 1953.

A.—CAUSES OF DEATH : MALES, 1953.

ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SIXTH REVISION OF THE 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 | 294 | 174 | 118 | 36 | 37 | 13 | 2 | 1 | 675 |
| B 2 Tuberculosis, other forms | 010-019 | 20 | 18 | 7 | 3 | 2 | 1 | .. | .. | 51 |
| B 3 Syphilis and its sequelæ | 020-029 | 62 | 48 | 22 | 12 | 4 | 3 | .. | 2 | 153 |
| B 4 Typhoid fever | 040 | 3 | .. | .. | .. | .. | .. | .. | .. | 3 |
| B 5 Cholera | 043 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| B 6 Dysentery, all forms | 045-048 | 8 | 3 | 1 | 2 | .. | .. | .. | .. | 14 |
| B 7 Scarlet fever and streptococcal sore throat | 050, 051 | 1 | 1 | 1 | 1 | .. | .. | .. | .. | 4 |
| B 8 Diphtheria | 055 | 17 | 3 | 7 | 1 | .. | 1 | .. | .. | 29 |
| B 9 Whooping cough | 056 | 3 | 2 | 1 | 2 | 3 | 2 | .. | .. | 13 |
| B10 Meningococcal infections | 057 | 18 | 10 | 7 | 5 | 3 | 8 | .. | .. | 51 |
| B11 Plague | 058 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| B12 Acute poliomyelitis | 080 | 35 | 11 | 5 | 13 | 2 | 7 | 1 | .. | 74 |
| B13 Smallpox | 084 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| B14 Measles | 085 | 4 | 3 | 1 | 1 | 1 | 2 | .. | .. | 12 |
| B15 Typhus and other rickettsial diseases | 100-108 | 1 | .. | .. | .. | .. | .. | .. | .. | 1 |
| B16 Malaria | 110-117 | 1 | .. | .. | .. | .. | .. | .. | .. | 1 |
| B17 All other diseases classified as infective and parasitic | (a) | 72 | 36 | 41 | 13 | 14 | 9 | 3 | .. | 188 |
| B18 Malignant neoplasms, including neoplasms of lymphatic and hæmatopoietic tissues | 140-205 | 2,381 | 1,675 | 827 | 485 | 411 | 177 | 4 | 10 | 5,970 |
| B19 Benign and unspecified neoplasms | 210-239 | 72 | 41 | 33 | 7 | 11 | 4 | .. | .. | 168 |
| B20 Diabetes mellitus | 260 | 143 | 129 | 40 | 18 | 18 | 16 | .. | .. | 364 |
| B21 Anæmias | 290-293 | 26 | 30 | 15 | 11 | 7 | 6 | .. | 3 | 98 |
| B22 Vascular lesions affecting central nervous system | 330-334 | 1,892 | 1,272 | 634 | 430 | 246 | 125 | 5 | 8 | 4,612 |
| B23 Non-meningococcal meningitis | 340 | 19 | 28 | 13 | 5 | 5 | 2 | 1 | .. | 73 |
| B24 Rheumatic fever | 400-402 | 17 | 12 | 12 | 5 | 1 | .. | .. | .. | 47 |
| B25 Chronic rheumatic heart disease | 410-416 | 116 | 103 | 67 | 36 | 27 | 7 | 1 | 1 | 358 |
| B26 Arteriosclerotic and degenerative heart disease | 420-422 | 5,280 | 3,573 | 1,542 | 1,106 | 924 | 424 | 9 | 19 | 12,877 |
| B27 Other diseases of heart | 430-434 | 627 | 274 | 223 | 81 | 23 | 26 | 1 | 1 | 1,256 |
| B28 Hypertension with heart disease | 440-443 | 523 | 254 | 182 | 96 | 84 | 40 | .. | .. | 1,179 |
| B29 Hypertension without mention of heart | 444-447 | 255 | 169 | 114 | 58 | 47 | 17 | .. | 1 | 661 |
| B30 Influenza | 480-483 | 38 | 25 | 16 | 3 | 14 | 3 | .. | .. | 99 |
| B31 Pneumonia | 490-493 | 588 | 348 | 208 | 133 | 126 | 54 | 1 | 3 | 1,463 |
| B32 Bronchitis | 500-502 | 198 | 201 | 71 | 35 | 34 | 24 | 1 | 2 | 566 |
| B33 Ulcer of stomach and duodenum | 540, 541 | 216 | 131 | 81 | 36 | 32 | 15 | 1 | 2 | 514 |
| B34 Appendicitis | 550-553 | 49 | 14 | 20 | 7 | 4 | 2 | 1 | .. | 97 |
| B35 Intestinal obstruction and hernia | 560, 561, 570 | 109 | 77 | 49 | 39 | 24 | 10 | 3 | 1 | 312 |
| B36 Gastritis, duodenitis, enteritis and colitis, except diarrhœa of the newborn | 543, 571, 572 | 101 | 50 | 47 | 21 | 14 | 5 | 1 | 1 | 240 |
| B37 Cirrhosis of liver | 581 | 99 | 63 | 36 | 29 | 23 | 5 | 3 | 1 | 259 |
| B38 Nephritis and nephrosis | 590-594 | 330 | 218 | 176 | 62 | 46 | 32 | 2 | 1 | 867 |
| B39 Hyperplasia of prostate | 610 | 178 | 215 | 99 | 57 | 48 | 21 | .. | .. | 618 |
| B41 Congenital malformations | 750-759 | 233 | 164 | 97 | 54 | 39 | 18 | .. | 2 | 607 |
| B42 Birth injuries, post-natal asphyxia and atelectasis | 760-762 | 244 | 181 | 108 | 47 | 56 | 27 | 3 | 2 | 668 |
| B43 Infections of the newborn | 763-768 | 45 | 51 | 17 | 10 | 10 | .. | .. | .. | 133 |
| B44 Other diseases peculiar to early infancy, and immaturity unqualified | 769-776 | 338 | 166 | 135 | 65 | 56 | 33 | 5 | 3 | 801 |
| B45 Senility without mention of psychosis, ill-defined and unknown causes | 780-795 | 301 | 191 | 107 | 56 | 19 | 14 | 6 | 3 | 697 |
| B46 All other diseases | Residual | 1,250 | 1,131 | 533 | 319 | 236 | 115 | 9 | 4 | 3,606 |
| BE47 Motor vehicle accidents | E810-E835 | 575 | 434 | 214 | 136 | 147 | 49 | 15 | 3 | 1,573 |
| BE48 All other accidents | E800-E802, E840-E962 | 767 | 467 | 339 | 167 | 157 | 80 | 15 | 3 | 1,995 |
| BE49 Suicide and self-inflicted injury | E963, E970-E979 | 280 | 157 | 137 | 57 | 47 | 15 | 2 | 3 | 698 |
| BE50 Homicide and operations of war | E980-E999 | 33 | 15 | 11 | 9 | 6 | 2 | 1 | .. | 77 |
| All Causes | .. | 17,871 | 12,168 | 6,414 | 3,771 | 3,008 | 1,414 | 96 | 80 | 44,822 |

(a) 030-039, 041, 042, 044, 049, 051-054, 059-074, 081-083, 086-096, 120-138.

B.—CAUSES OF DEATH : FEMALES, 1953.

ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SIXTH REVISION OF THE 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 | 80 | 67 | 33 | 8 | 6 | 9 | .. | I | 204 |
| B 2 Tuberculosis, other forms | 010-019 | 16 | 20 | 4 | 2 | I | I | .. | .. | 44 |
| B 3 Syphilis and its sequelæ | 020-029 | 19 | 17 | 4 | 3 | I | 4 | .. | .. | 48 |
| B 4 Typhoid fever | 040 | 3 | I | .. | .. | .. | .. | .. | .. | 4 |
| B 5 Cholera | 043 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| B 6 Dysentery, all forms | 045-048 | .. | 7 | 2 | I | .. | .. | .. | .. | 10 |
| B 7 Scarlet fever and streptococcal sore throat | 050, 051 | 3 | .. | .. | 2 | .. | .. | .. | .. | 5 |
| B 8 Diphtheria | 055 | 16 | .. | 5 | .. | I | .. | .. | .. | 22 |
| B 9 Whooping cough | 056 | 4 | I | 3 | .. | 5 | .. | .. | .. | 13 |
| B10 Meningococcal infections | 057 | 20 | 18 | 10 | 4 | 3 | 6 | .. | .. | 61 |
| B11 Plague | 058 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| B12 Acute poliomyelitis | 080 | 17 | 3 | 7 | 9 | I | 4 | .. | .. | 41 |
| B13 Smallpox | 084 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| B14 Measles | 085 | 6 | 7 | I | I | .. | .. | .. | .. | 15 |
| B15 Typhus and other rickettsial diseases | 100-108 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| B16 Malaria | 110-117 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| B17 All other diseases classified as infective and parasitic | (a) | 70 | 31 | 17 | 12 | 5 | 4 | I | .. | 140 |
| B18 Malignant neoplasms, including neoplasms of lymphatic and hæmatopoietic tissues | 140-205 | 2,164 | 1,692 | 677 | 501 | 327 | 169 | .. | 7 | 5,537 |
| B19 Benign and unspecified neoplasms | 210-239 | 85 | 34 | 37 | 15 | 13 | 6 | .. | .. | 190 |
| B20 Diabetes mellitus | 260 | 260 | 284 | 89 | 46 | 27 | 23 | .. | 2 | 740 |
| B21 Anæmia | 290-293 | 75 | 67 | 23 | 17 | 7 | 8 | .. | .. | 197 |
| B22 Vascular lesions affecting central nervous system | 330-334 | 2,457 | 1,799 | 717 | 568 | 330 | 187 | I | 4 | 6,063 |
| B23 Non-meningococcal meningitis | 340 | 23 | 13 | 5 | 2 | 5 | 3 | .. | .. | 51 |
| B24 Rheumatic fever | 400-402 | 22 | 12 | 9 | 3 | 4 | 2 | .. | I | 53 |
| B25 Chronic rheumatic heart disease | 410-416 | 151 | 139 | 50 | 33 | 32 | 13 | .. | .. | 418 |
| B26 Arteriosclerotic and degenerative heart disease | 420-422 | 3,357 | 2,521 | 868 | 816 | 548 | 243 | I | 6 | 8,360 |
| B27 Other diseases of heart | 430-434 | 364 | 234 | 137 | 75 | 17 | 25 | I | I | 854 |
| B28 Hypertension with heart disease | 440-443 | 443 | 310 | 176 | 87 | 71 | 48 | I | 2 | 1,138 |
| B29 Hypertension without mention of heart | 444-447 | 251 | 201 | 100 | 40 | 39 | 22 | .. | 2 | 655 |
| B30 Influenza | 480-483 | 19 | 22 | 20 | 7 | 13 | 3 | .. | .. | 84 |
| B31 Pneumonia | 490-493 | 510 | 311 | 118 | 102 | 63 | 55 | .. | 4 | 1,163 |
| B32 Bronchitis | 500-502 | 77 | 60 | 34 | 14 | 13 | 10 | .. | .. | 217 |
| B33 Ulcer of stomach and duodenum | 540, 541 | 46 | 37 | 25 | 20 | 10 | 6 | .. | .. | 144 |
| B34 Appendicitis | 550-553 | 28 | 7 | 10 | 2 | 3 | 3 | I | .. | 54 |
| B35 Intestinal obstruction and hernia | 560, 561, 570 | 97 | 63 | 47 | 23 | 14 | 2 | .. | .. | 246 |
| B36 Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the newborn | 543, 571, 572 | 101 | 53 | 44 | 27 | 10 | 10 | I | I | 247 |
| B37 Cirrhosis of liver | 581 | 38 | 40 | 11 | 8 | 6 | .. | .. | .. | 112 |
| B38 Nephritis and nephrosis | 590-594 | 251 | 197 | 149 | 50 | 30 | 25 | .. | I | 703 |
| B40 Complications of pregnancy, childbirth and the puerperium | 640-652, 670-680 | 48 | 27 | 22 | 12 | 9 | 7 | .. | I | 126 |
| B41 Congenital malformations | 750-759 | 166 | 144 | 69 | 36 | 30 | 13 | .. | I | 459 |
| B42 Birth injuries, post-natal asphyxia and atelectasis | 760-762 | 172 | 148 | 85 | 33 | 29 | 11 | I | 2 | 481 |
| B43 Infections of the newborn | 763-768 | 33 | 23 | 13 | 12 | 9 | I | .. | .. | 91 |
| B44 Other diseases peculiar to early infancy and immaturity unqualified | 769-776 | 255 | 136 | 108 | 55 | 68 | 32 | 3 | 2 | 659 |
| B45 Senility without mention of psychosis, ill-defined and unknown causes | 780-795 | 320 | 249 | 127 | 90 | 22 | 20 | 4 | 2 | 843 |
| B46 All other diseases | Residual | 1,061 | 1,127 | 448 | 286 | 187 | 122 | 4 | 3 | 3,238 |
| BE47 Motor vehicle accidents | E810-E835 | 142 | 99 | 55 | 28 | 40 | 11 | .. | .. | 375 |
| BE48 All other accidents | E800-E802, E840-E962 | 413 | 174 | 187 | 107 | 45 | 25 | I | I | 953 |
| BE49 Suicide and self-inflicted injury | E963, E970-E979 | 122 | 59 | 42 | 18 | 16 | 4 | .. | .. | 261 |
| BE50 Homicide and operations of war | E980-E985, E980-E999 | 22 | 10 | 4 | 7 | 4 | .. | .. | .. | 47 |
| All Causes | .. | 13,836 | 10,482 | 4,592 | 3,191 | 2,064 | 1,137 | 20 | 44 | 35,366 |

(*) 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. | Detailed List Numbers. | Number of Deaths. | | Rate per 1,000,000 of Mean Population. | | Proportion per 10,000 Deaths. | |
|---|--------------------------|-------------------|--------|--|-------|-------------------------------|--------|
| | | 1952. | 1953. | 1952. | 1953. | 1952. | 1953. |
| B 1 Tuberculosis of respiratory system .. | 001-008 | 1,165 | 879 | 135 | 100 | 143 | 110 |
| B 2 Tuberculosis, other forms .. | 010-019 | 125 | 95 | 14 | 11 | 15 | 12 |
| B 3 Syphilis and its sequelæ .. | 020-029 | 204 | 201 | 24 | 23 | 25 | 25 |
| B 4 Typhoid fever .. | 040 | 5 | 7 | 1 | 1 | 1 | 1 |
| B 5 Cholera .. | 043 | .. | .. | .. | .. | .. | .. |
| B 6 Dysentery, all forms .. | 045-048 | 42 | 24 | 5 | 3 | 5 | 3 |
| B 7 Scarlet fever and streptococcal sore throat .. | 050, 051 | 8 | 9 | 1 | 1 | 1 | 1 |
| B 8 Diphtheria .. | 055 | 33 | 51 | 4 | 6 | 4 | 6 |
| B 9 Whooping cough .. | 056 | 23 | 26 | 3 | 3 | 3 | 3 |
| B 10 Meningococcal infections .. | 057 | 136 | 112 | 16 | 13 | 17 | 14 |
| B 11 Plague .. | 058 | .. | .. | .. | .. | .. | .. |
| B 12 Acute poliomyelitis .. | 080 | 109 | 115 | 13 | 13 | 13 | 14 |
| B 13 Smallpox .. | 084 | .. | .. | .. | .. | .. | .. |
| B 14 Measles .. | 085 | 32 | 27 | 4 | 3 | 4 | 3 |
| B 15 Typhus and other rickettsial diseases .. | 100-108 | 4 | 1 | 1 | .. | 1 | .. |
| B 16 Malaria .. | 110-117 | 10 | 1 | 1 | .. | 1 | .. |
| B 17 All other diseases classified as infective and parasitic .. | (a) | 289 | 328 | 33 | 37 | 35 | 41 |
| B 18 Malignant neoplasms, including neoplasms of lymphatic and hæmatopoietic tissues .. | 140-205 | 11,137 | 11,507 | 1,289 | 1,305 | 1,365 | 1,435 |
| B 19 Benign and unspecified neoplasms .. | 210-239 | 357 | 358 | 41 | 41 | 44 | 45 |
| B 20 Diabetes mellitus .. | 260 | 1,085 | 1,104 | 126 | 125 | 133 | 138 |
| B 21 Anæmia .. | 290-293 | 322 | 295 | 37 | 33 | 39 | 37 |
| B 22 Vascular lesions affecting central nervous system .. | 330-334 | 10,798 | 10,675 | 1,250 | 1,211 | 1,323 | 1,331 |
| B 23 Non-meningococcal meningitis .. | 340 | 145 | 124 | 17 | 14 | 18 | 15 |
| B 24 Rheumatic fever .. | 400-402 | 114 | 100 | 13 | 11 | 14 | 12 |
| B 25 Chronic rheumatic heart disease .. | 410-416 | 814 | 776 | 94 | 88 | 100 | 97 |
| B 26 Arteriosclerotic and degenerative heart disease .. | 420-422 | 21,784 | 21,237 | 2,522 | 2,408 | 2,670 | 2,648 |
| B 27 Other diseases of heart .. | 430-434 | 2,019 | 2,110 | 234 | 230 | 247 | 263 |
| B 28 Hypertension with heart disease .. | 440-443 | 2,242 | 2,317 | 256 | 263 | 271 | 289 |
| B 29 Hypertension without mention of heart .. | 444-447 | 1,408 | 1,316 | 163 | 149 | 173 | 164 |
| B 30 Influenza .. | 480-483 | 219 | 183 | 25 | 21 | 27 | 23 |
| B 31 Pneumonia .. | 490-493 | 2,793 | 2,626 | 323 | 298 | 342 | 327 |
| B 32 Bronchitis .. | 500-502 | 823 | 783 | 95 | 89 | 101 | 98 |
| B 33 Ulcer of stomach and duodenum .. | 540, 541 | 591 | 658 | 68 | 75 | 72 | 82 |
| B 34 Appendicitis .. | 550-553 | 174 | 151 | 20 | 17 | 21 | 19 |
| B 35 Intestinal obstruction and hernia .. | 560, 561, 570 | 541 | 558 | 63 | 63 | 66 | 70 |
| B 36 Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the newborn .. | 543, 571, 572 | 478 | 487 | 55 | 55 | 59 | 61 |
| B 37 Cirrhosis of liver .. | 581 | 408 | 371 | 47 | 42 | 50 | 46 |
| B 38 Nephritis and nephrosis .. | 590-594 | 1,611 | 1,570 | 187 | 178 | 197 | 196 |
| B 39 Hyperplasia of prostate .. | 610 | 653 | 618 | 76 | 70 | 80 | 77 |
| B 40 Complications of pregnancy, childbirth and the puerperium .. | 640-652 | 190 | 126 | 22 | 14 | 23 | 16 |
| B 41 Congenital malformations .. | 670-689 | 1,090 | 1,066 | 126 | 121 | 134 | 133 |
| B 42 Birth injuries, post-natal asphyxia and atelectasis .. | 760-762 | 1,162 | 1,149 | 135 | 130 | 142 | 143 |
| B 43 Infections of the newborn .. | 763-768 | 195 | 224 | 23 | 25 | 24 | 28 |
| B 44 Other diseases peculiar to early infancy, and immaturity unqualified .. | 769-776 | 1,497 | 1,460 | 173 | 166 | 184 | 182 |
| B 45 Senility without mention of psychosis, ill-defined and unknown causes .. | 780-795 | 1,731 | 1,540 | 200 | 175 | 212 | 192 |
| B 46 All other diseases .. | Residual | 7,004 | 6,844 | 811 | 776 | 858 | 854 |
| BE 47 Motor vehicle accidents .. | E810-E835 | 2,080 | 1,948 | 241 | 221 | 255 | 243 |
| BE 48 All other accidents .. | E800-E802 E840-E962 | 2,922 | 2,948 | 338 | 334 | 358 | 368 |
| BE 49 Suicide and self-inflicted injury .. | E963, E970-E979 | 919 | 959 | 106 | 109 | 113 | 120 |
| BE 50 Homicide and operations of war .. | E964, E965, E980-E990 | 136 | 124 | 16 | 14 | 17 | 15 |
| All Causes .. | .. | 81,597 | 80,188 | 9,447 | 9,094 | 10,000 | 10,000 |

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

13. 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. The more important of these causes are treated in detail hereunder. The Abbreviated Classification number used in tables A to C is 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 1953 was 974 consisting of 726 males and 248 females, compared with 1,290 (954 males and 336 females) in 1952. 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, p. 626.

(b) *Age at Death*. The following table shows the age groups of males, females and persons who were classified as dying from this disease in 1953 together with figures for 1931, 1941 and 1951.

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

| Age Group (Years). | 1931. | | | 1941. | | | 1951. | | | 1953. | | |
|-----------------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| | Males. | Fe- males. | Per- sons. | Males. | Fe- males. | Per- sons. | Males. | Fe- males. | Per- sons. | Males. | Fe- males. | Per- sons. |
| Under 5 .. | 57 | 47 | 104 | 42 | 28 | 70 | 17 | 29 | 46 | 14 | 11 | 25 |
| 5-9 .. | 14 | 14 | 28 | 12 | 10 | 22 | 3 | 4 | 7 | 1 | .. | 1 |
| 10-14 .. | 19 | 20 | 39 | 9 | 16 | 25 | 3 | 2 | 5 | 2 | 3 | 5 |
| 15-19 .. | 45 | 105 | 150 | 30 | 52 | 82 | 6 | 4 | 10 | 2 | .. | 2 |
| 20-24 .. | 113 | 183 | 296 | 69 | 91 | 160 | 15 | 28 | 43 | 7 | 3 | 10 |
| 25-29 .. | 136 | 199 | 335 | 63 | 132 | 195 | 25 | 36 | 61 | 13 | 13 | 26 |
| 30-34 .. | 191 | 164 | 355 | 125 | 129 | 254 | 29 | 46 | 75 | 16 | 17 | 33 |
| 35-39 .. | 187 | 156 | 343 | 144 | 111 | 255 | 44 | 47 | 91 | 41 | 25 | 66 |
| 40-44 .. | 207 | 102 | 309 | 159 | 79 | 238 | 62 | 49 | 111 | 42 | 25 | 67 |
| 45-49 .. | 197 | 83 | 280 | 180 | 76 | 256 | 92 | 31 | 123 | 63 | 30 | 93 |
| 50-54 .. | 185 | 62 | 247 | 216 | 64 | 280 | 146 | 40 | 186 | 75 | 20 | 95 |
| 55-59 .. | 164 | 57 | 221 | 210 | 52 | 262 | 148 | 25 | 173 | 86 | 17 | 103 |
| 60-64 .. | 128 | 50 | 178 | 187 | 59 | 246 | 184 | 30 | 214 | 112 | 13 | 125 |
| 65-69 .. | 110 | 38 | 148 | 137 | 39 | 176 | 130 | 23 | 153 | 92 | 24 | 116 |
| 70-74 .. | 52 | 31 | 83 | 74 | 41 | 115 | 97 | 29 | 126 | 87 | 11 | 98 |
| 75-79 .. | 27 | 16 | 43 | 48 | 18 | 66 | 47 | 16 | 63 | 54 | 22 | 76 |
| 80 and over .. | 4 | 4 | 8 | 20 | 12 | 32 | 32 | 18 | 50 | 18 | 14 | 32 |
| Not Stated .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | .. | 1 |
| Total .. | 1,836 | 1,331 | 3,167 | 1,725 | 1,009 | 2,734 | 1,080 | 458 | 1,538 | 726 | 248 | 974 |

(c) *Occupation at Death, Males*. A summary of the main groups of occupations of males who died from tuberculosis during 1953 is given in *Demography Bulletin* No. 71.

(d) *Length of Residence in Australia*. The length of residence in Australia of persons who died from tuberculosis in 1953 is given in relation to age at death in *Demography Bulletin* No. 71.

(e) *Death Rates*. The improvement which has taken place in the incidence of tuberculosis in recent years is shown by the fall in the death rate, for Australia, from tubercular diseases. The death rate represents the number of deaths from tuberculosis per 100,000 of mean population. In 1931 the rate was 49 (males, 55; females, 42). In 1941 it was 38 (males, 48; females, 29) and by 1951 had fallen to 18 (males, 25; females, 11). Figures for 1953 show that the rate has declined still further, to 11 per 100,000 of mean population (males, 16; females, 6).

(f) *Proportion of Total Deaths*. A table showing the number of deaths from tuberculosis per 10,000 deaths from all causes in each State and Territory during 1911-20, 1921-30, 1931-40 and 1941-50 was given in Official Year Book No. 39, p. 627.

(g) *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 11 deaths per 100,000 of mean population occupies a favourable position as regards this disease. Whereas the rate for Denmark is only 10, rates range as high as 91 for Japan. For various other countries rates are

as follows:—Netherlands, 10; New Zealand, 12; United States of America, 13; Union of South Africa, 16; Canada, 20; United Kingdom, 24; France, 36; Italy, 42; Finland, 45; and Portugal, 63.

(iii) *Malignant Neoplasms, including Neoplasms of Lymphatic and Haematopoietic Tissues* (B18). (a) *General*. It was shown in Official Year Book No. 39, p. 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 on an adjusted basis to be made. This change must be kept in mind in considering the comparisons between 1951, 1941 and 1931 which are 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 1953 will be found in *Demography Bulletin* No. 71. A summary regarding type and seat of disease for 1953 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 HAEMATOPHOETIC TISSUES: TYPE AND SEAT OF DISEASE, AUSTRALIA, 1953.

| Type of Disease. | Males. | Females. | Persons. | Seat of Disease. | Males. | Females. | Persons. |
|---|--------------|--------------|---------------|---|--------------|--------------|---------------|
| Malignant Neoplasms— | | | | Malignant Neoplasms— | | | |
| Cancer and Carcinoma (other than skin) .. | 4,929 | 4,736 | 9,665 | Buccal Cavity and Pharynx .. | 189 | 51 | 240 |
| Skin Cancer .. | 65 | 35 | 100 | Digestive Organs and Peritoneum— | | | |
| Sarcoma and Myeloid Sarcoma .. | 118 | 98 | 216 | Oesophagus .. | 186 | 73 | 259 |
| Myeloma .. | .. | .. | .. | Stomach .. | 1,131 | 760 | 1,900 |
| Lioma .. | 81 | 48 | 129 | Small Intestine .. | 18 | 17 | 35 |
| Endothelioma .. | 2 | 2 | 4 | Large Intestine .. | 599 | 775 | 1,374 |
| Melanoma and Melanotic Sarcoma .. | 76 | 61 | 137 | Other .. | 757 | 626 | 1,383 |
| Hypernephroma .. | 38 | 15 | 53 | Respiratory System .. | 970 | 236 | 1,206 |
| Teratoma .. | 19 | 2 | 21 | Breast .. | 7 | 1,081 | 1,088 |
| Malignant Disease and Malignant Tumor n.o.s. | 176 | 188 | 364 | Uterus .. | .. | 593 | 593 |
| | | | | Other Female Genital Organs .. | .. | 360 | 360 |
| Total. Malignant Neoplasms .. | 5,504 | 5,185 | 10,689 | Male Genital Organs .. | 732 | .. | 732 |
| | | | | Urinary Organs .. | 362 | 164 | 526 |
| Neoplasms of Lymphatic and Haematopoietic Tissues— | | | | Skin .. | 160 | 92 | 252 |
| Lymphosarcoma and Reticulosarcoma .. | 97 | 64 | 161 | Other and Unspecified Organs .. | 393 | 348 | 741 |
| Hodgkin's Disease .. | 82 | 45 | 127 | Total. Malignant Neoplasms .. | 5,504 | 5,185 | 10,689 |
| Other forms of Lymphoma (Reticulosis) .. | 15 | 7 | 22 | Neoplasms of Lymphatic and Haematopoietic Tissues .. | 466 | 352 | 818 |
| Multiple Myeloma (Plasmacytoma) .. | 26 | 23 | 49 | | | | |
| Leukaemia and Aleukaemia .. | 245 | 213 | 458 | | | | |
| Mycosis Fungoides .. | 1 | .. | 1 | | | | |
| Total. Neoplasms of Lymphatic, etc., Tissues .. | 466 | 352 | 818 | | | | |
| Grand Total .. | 5,970 | 5,537 | 11,507 | Grand Total .. | 5,970 | 5,537 | 11,507 |

(c) *Age at Death*. The ages of persons who died from malignant neoplasms in 1953, together with figures for 1931, 1941 and 1951 are given below. Inferences drawn from the great increase in the number of deaths from malignant neoplasms in 1953 compared with 1931 need qualification in view of the altered age constitution of the population since the earlier year. The number of people over 55 years of age, at which level cancer risks are greatest, nearly doubled between 1931 and 1953, whilst those in the age group

75 years and over more than doubled. It is only in this extreme old age group from 75 onwards that the rate of mortality, as distinct from the number of deaths, has increased. For groups up to age 75 there has been no increase in mortality rates since 1931; indeed, in some age groups the rates have actually declined. It is also probable that a proportion of the increased number of deaths from cancer recorded in recent years has been due to better diagnosis and certification on the part of medical practitioners rather than to any actual increase in the disease itself.

MALIGNANT NEOPLASMS : NUMBER OF DEATHS IN AGE GROUPS, AUSTRALIA.

| Age Group (Years). | 1931. | | | 1941. | | | 1951. | | | 1953. | | |
|-----------------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| | Males. | Fe- males. | Per- sons. | Males. | Fe- males. | Per- sons. | Males. | Fe- males. | Per- sons. | Males. | Fe- males. | Per- sons. |
| Under 15 .. | 25 | 23 | 48 | 21 | 25 | 46 | 91 | 71 | 162 | 113 | 94 | 207 |
| 15-19 .. | 12 | 11 | 23 | 10 | 10 | 20 | 28 | 14 | 42 | 31 | 16 | 47 |
| 20-24 .. | 12 | 14 | 26 | 15 | 13 | 28 | 33 | 17 | 50 | 40 | 18 | 58 |
| 25-29 .. | 19 | 13 | 32 | 24 | 22 | 46 | 42 | 45 | 87 | 54 | 54 | 108 |
| 30-34 .. | 26 | 55 | 81 | 28 | 45 | 73 | 65 | 74 | 139 | 62 | 74 | 136 |
| 35-39 .. | 59 | 98 | 157 | 56 | 106 | 162 | 96 | 122 | 218 | 101 | 124 | 225 |
| 40-44 .. | 111 | 173 | 284 | 92 | 193 | 285 | 114 | 191 | 305 | 155 | 206 | 361 |
| 45-49 .. | 149 | 261 | 410 | 149 | 282 | 431 | 210 | 274 | 484 | 275 | 308 | 583 |
| 50-54 .. | 261 | 287 | 548 | 316 | 403 | 719 | 374 | 418 | 792 | 360 | 413 | 773 |
| 55-59 .. | 349 | 344 | 693 | 425 | 435 | 860 | 541 | 538 | 1,079 | 532 | 556 | 1,088 |
| 60-64 .. | 519 | 400 | 919 | 558 | 491 | 1,049 | 793 | 642 | 1,435 | 836 | 693 | 1,529 |
| 65-69 .. | 662 | 478 | 1,140 | 670 | 558 | 1,228 | 904 | 663 | 1,567 | 947 | 721 | 1,668 |
| 70-74 .. | 609 | 410 | 1,019 | 753 | 623 | 1,376 | 844 | 741 | 1,585 | 919 | 780 | 1,729 |
| 75-79 .. | 397 | 294 | 691 | 676 | 512 | 1,188 | 700 | 604 | 1,304 | 743 | 692 | 1,435 |
| 80-84 .. | 187 | 152 | 339 | 331 | 330 | 661 | 438 | 417 | 855 | 468 | 472 | 940 |
| 85 and over .. | 87 | 92 | 179 | 131 | 175 | 306 | 242 | 273 | 515 | 304 | 316 | 620 |
| Not Stated .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total .. | 3,484 | 3,105 | 6,589 | 4,255 | 4,223 | 8,478 | 5,515 | 5,104 | 10,619 | 5,970 | 5,537 | 11,507 |

(d) *Occupation at Death, Males.* A table showing main groups of occupations of males who died from malignant neoplasms and neoplasms of lymphatic and haematopoietic tissues during 1953 appears in *Demography Bulletin* No. 71.

(e) *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 para. 13 (iii) (c) p. 386). In 1931 the rate for Australia 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 1953 show that a further rise has taken place, the rate being 130 (males, 133; females, 127).

(f) *Proportion of Total Deaths.* A table showing the number of deaths from malignant neoplasms per 10,000 deaths from all causes in each State and Territory during 1911-20, 1921-30, 1931-40 and 1941-50 was given in *Official Year Book* No. 39, p. 631.

(g) *Death Rates, Various Countries.* Death rates from malignant neoplasms for Australia and for various other countries are as follows:—Portugal, 70; Spain, 75; Japan, 78; Union of South Africa, 125; Canada, 127; Australia, 130; United States of America, 139; New Zealand, 149; France, 176; Switzerland, 192; and United Kingdom, 196. 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 1953 was 26,440 (15,670 males and 10,770 females). Details for each individual category within the group may be obtained from *Demography Bulletin* No. 71. This class is the largest amongst causes of death, the death rate having increased from 102 per 100,000 of mean population in 1911-15 to 300 in 1953. 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 the years 1931, 1941, 1951 and 1953 were as follows—1931, 159 (males, 178; females, 142); 1941, 269 (males, 306; females, 231); 1951, 314 (males, 367; females, 259); and 1953, 300 (males, 351; females, 247). In 1953 deaths from heart diseases represented 33 per cent. of the total deaths.

(v) *Diarrhoea and Enteritis (Children under two years of age)*. Figures published in Official Year Book No. 39, p. 634, show that deaths in this category declined from a rate of 22.8 per 1,000 children born for the period 1911-15 to 1.5 for the period 1946-50, from which it is evident that this cause of death is no longer the scourge that it was in earlier years.

Owing to changes in classification it is not possible to continue the tables in the same form for 1953.

(vi) *Puerperal Causes (B40)*. It was shown in Official Year Book No. 39, p. 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 1953 the rate was 0.62 per 1,000 live births as compared with a rate of 6 per 1,000 in 1936. The 126 deaths in 1953 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 1,605 women giving birth to a live child in 1953 died from puerperal causes; the corresponding ratios for married women were 1 in every 1,618, and for single women 1 in every 1,339. More detailed information will be found in a series of tables in *Demography Bulletin* No. 71.

The death rate per 1,000 live births from puerperal causes in various countries for the latest available years is as follows:—Australia, 0.6; Denmark, 0.6; New Zealand, 0.7; France and United States of America, 0.8; United Kingdom, Union of South Africa and Canada, 0.9; Switzerland and Spain, 1.1; Portugal, 1.6; and Japan, 1.7.

A tabulation of puerperal causes for Australia according to age at death for married and single women separately will be found in *Demography Bulletin* No. 71.

The total number of children left by the 120 married mothers who died from puerperal causes in 1953 was 308, an average of 2.6 children per mother.

Four of the mothers who died had been married less than one year, 12 between one and two years, and 9 between two and three years. The duration of marriage ranged up to 24 years. Tabulations distinguishing the ages at marriage and at death will be found in *Demography Bulletin* No. 71, which also includes a table showing in combination the duration of marriage and previous issue.

(vii) *Congenital Malformations and Diseases of Early Infancy (B41-B44)*. 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. 377 and 378).

(viii) *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 accident, 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 number of deaths in 1953 for each of these sub-groups is shown on pp. 382-384. Full details for each individual category in this class will be found in *Demography Bulletin* No. 71.

The following table, showing the death rates in the main sub-groups per 100,000 of mean population and the proportion of deaths caused by violence during the period 1926-53, indicates that the death rate from violence is generally about twice as great for males as for females. It can be seen also that in 1953 the percentage of deaths caused by violence was 7.46, which was higher than in any year since 1939.

The low level of the rates and proportions for the years 1941-45 is attributable mainly to the fact that deaths of defence personnel have been excluded but the rates

have been based on total mean population (including defence personnel). A contributing factor is the decrease during this period in the number of automobile accidents which resulted from the war-time restrictions on travel. From 1st July, 1947, deaths of defence personnel have again been included and the rates and proportions have since risen fairly steadily.

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

| Period. | Death Rate(a) from— | | | | | | | | | | | | All Violence. Proportion per 10,000 Deaths. | | |
|-----------|---------------------|----|----|----------|----|----|--------------|----|----|-----------------|----|----|---|-----|-----|
| | Accident.(b) | | | Suicide. | | | Homicide.(c) | | | Total Violence. | | | | | |
| | M. | F. | P. | M. | F. | P. | M. | F. | P. | M. | F. | P. | M. | F. | P. |
| 1926-30.. | 84 | 24 | 54 | 20 | 4 | 13 | 2 | 2 | 2 | 106 | 30 | 69 | 1,039 | 365 | 746 |
| 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 |
| 1949 .. | 75 | 25 | 50 | 15 | 4 | 10 | 1 | 1 | 1 | 91 | 30 | 61 | 863 | 360 | 642 |
| 1950 .. | 80 | 27 | 54 | 14 | 5 | 9 | 1 | 1 | 1 | 95 | 33 | 64 | 893 | 387 | 670 |
| 1951 .. | 86 | 31 | 59 | 14 | 5 | 10 | 2 | 1 | 1 | 102 | 37 | 70 | 918 | 429 | 721 |
| 1952 .. | 83 | 32 | 57 | 16 | 5 | 11 | 2 | 1 | 2 | 101 | 38 | 70 | 907 | 454 | 742 |
| 1953 .. | 79 | 30 | 56 | 16 | 6 | 11 | 2 | 1 | 1 | 97 | 37 | 68 | 969 | 463 | 746 |

(a) Number of deaths per 100,000 of mean population.

(b) Includes "open verdict".

(c) Includes "war wounds".

(b) *Accident* (BE 47, BE 48). In 1953 the total number of deaths from accidental causes was 4,896 (3,568 males and 1,328 females). Slightly less than 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, 1,873 (38.26 per cent.); motor vehicle non-traffic accidents, 75 (1.53 per cent.); other road vehicle accidents, 148 (3.02 per cent.); railway accidents, 138 (2.82 per cent.); water transport accidents, 71 (1.45 per cent.); aircraft accidents, 18 (0.37 per cent.); a total of 2,323 (47.45 per cent). Other important causes were accidental falls, 1,038 (21.20 per cent.); accidental drowning, 450 (9.19 per cent.); and accidents caused by fire and explosion of combustible material, 157 (3.21 per cent.). Full details of the number of deaths caused by the various types of accidents are given in *Demography Bulletin* No. 71.

(c) *Suicide* (BE 49). (i) *Modes Adopted*. Deaths from suicide in 1953 numbered 959 (males, 698; females, 261). Firearms and explosives were used in 246 cases (25.65 per cent. of total deaths by suicide). Other important modes of death, together with the numbers and relevant percentages, were as follows:—Poisoning other than gases, 207 (21.59 per cent.); hanging or strangulation, 171 (17.83 per cent.); poisoning by gases, 133 (13.87 per cent.); submersion (drowning), 78 (8.13 per cent.); other modes, 124 (12.93 per cent.).

Of the 698 males who committed suicide, 227 (32.54 per cent.) used firearms and explosives. For females the most common means was poison (other than gases). This was used in 88 cases (33.72 per cent.).

(ii) *Death Rates*. The death rates from suicide for Australia in five-year periods since 1926 and for each of the years 1949 to 1953 are shown in the table above. Further details will be found in *Demography Bulletin* No. 71.

(iii) *Age at Death*. From the following table which shows the age of persons who committed suicide in 1953 it will be seen that both young and extremely old people took their lives during this year.

AGE OF PERSONS WHO COMMITTED SUICIDE : AUSTRALIA, 1953.

| Age Group (Years). | Males. | Females. | Persons. | Age Group (Years). | Males. | Females. | Persons. |
|--------------------|--------|----------|----------|--------------------|--------|----------|----------|
| 10-14 .. | 2 | .. | 2 | 00-04 .. | 84 | 27 | 111 |
| 15-19 .. | 12 | 6 | 18 | 05-09 .. | 64 | 13 | 77 |
| 20-24 .. | 41 | 5 | 46 | 70-74 .. | 35 | 11 | 46 |
| 25-29 .. | 50 | 18 | 68 | 75-79 .. | 22 | 5 | 27 |
| 30-34 .. | 52 | 19 | 71 | 80-84 .. | 11 | 3 | 14 |
| 35-39 .. | 62 | 22 | 84 | 85-89 .. | 5 | 1 | 6 |
| 40-44 .. | 59 | 33 | 92 | 90-94 .. | 1 | .. | 1 |
| 45-49 .. | 69 | 28 | 97 | Not stated .. | 1 | .. | 1 |
| 50-54 .. | 71 | 48 | 119 | | | | |
| 55-59 .. | 57 | 22 | 79 | Total Deaths | 698 | 261 | 959 |

(iv) *Occupation at Death, Males.* A table showing main groups of occupations of males who committed suicide during 1953 appears in *Demography Bulletin* No. 71.

(d) *Homicide and Operations of War (BE 50).* In 1953 there were 115 deaths from homicide and injury purposely inflicted by other persons (not in war), of which non-accidental poisoning caused 1 death: assault by firearms and explosives, 33; assault by cutting and piercing instruments, 20; assault by other means, 59; injury by intervention of police, 1; and execution, 1. Deaths from injury resulting from the operations of war numbered 9, but all were deaths from late effects of such injuries.

14. *Age at Death of Deceased Married Males and Females, and Issue.*—*Demography Bulletin* No. 71 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 1953. Deaths of married males in 1953 numbered 32,790, and of married females, 27,440. The tabulations which follow deal, however, with only 32,342 males and 27,225 females, the information regarding issue in the remaining 663 cases being incomplete. The total number of children in the families of the 32,342 males was 106,125 and of the 27,225 females, 96,742. 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 Group (Years). | Average Issue. | | | | | | | | | |
|--------------------|----------------|-------|-------|-------|-------|----------|-------|-------|-------|-------|
| | Males. | | | | | Females. | | | | |
| | 1921. | 1931. | 1941. | 1951. | 1953. | 1921. | 1931. | 1941. | 1951. | 1953. |
| Under 20 .. | .. | 0.75 | .. | 0.43 | 0.50 | 0.77 | 0.60 | 0.74 | 0.83 | 0.54 |
| 20-24 .. | 0.84 | 0.81 | 0.73 | 0.96 | 0.72 | 1.22 | 1.13 | 0.95 | 0.86 | 0.98 |
| 25-29 .. | 1.20 | 1.33 | 1.12 | 1.29 | 1.40 | 1.86 | 1.81 | 1.45 | 1.61 | 1.58 |
| 30-34 .. | 2.06 | 1.79 | 1.76 | 1.79 | 1.83 | 2.45 | 2.34 | 1.91 | 1.98 | 1.87 |
| 35-39 .. | 2.58 | 2.13 | 2.11 | 2.12 | 2.06 | 3.29 | 2.89 | 2.30 | 2.49 | 2.26 |
| 40-44 .. | 3.23 | 2.77 | 2.49 | 2.30 | 2.34 | 3.66 | 3.29 | 2.77 | 2.39 | 2.37 |
| 45-49 .. | 3.48 | 3.10 | 2.68 | 2.51 | 2.38 | 3.76 | 3.55 | 2.93 | 2.54 | 2.50 |
| 50-54 .. | 3.76 | 3.46 | 2.96 | 2.56 | 2.49 | 4.23 | 3.60 | 3.29 | 2.76 | 2.62 |
| 55-59 .. | 4.41 | 3.69 | 3.28 | 2.71 | 2.70 | 4.69 | 4.01 | 3.55 | 3.03 | 2.86 |
| 60-64 .. | 4.98 | 4.02 | 3.55 | 3.07 | 2.92 | 5.39 | 4.21 | 3.79 | 3.29 | 3.15 |
| 65-69 .. | 5.50 | 4.41 | 3.73 | 3.25 | 3.17 | 5.86 | 4.82 | 4.01 | 3.63 | 3.45 |
| 70-74 .. | 6.06 | 5.06 | 4.17 | 3.58 | 3.48 | 6.30 | 5.41 | 4.29 | 3.64 | 3.60 |
| 75-79 .. | 6.66 | 5.65 | 4.56 | 3.83 | 3.72 | 6.56 | 6.02 | 4.85 | 3.96 | 3.85 |
| 80-84 .. | 6.89 | 6.17 | 4.93 | 4.30 | 4.10 | 6.76 | 6.26 | 5.39 | 4.19 | 4.02 |
| 85-89 .. | 7.18 | 6.59 | 5.70 | 4.63 | 4.49 | 6.93 | 6.57 | 5.85 | 4.68 | 4.37 |
| 90-94 .. | 7.21 | 6.94 | 6.57 | 5.06 | 4.88 | 6.53 | 6.73 | 6.11 | 5.08 | 5.03 |
| 95-99 .. | 6.97 | 6.69 | 7.04 | 5.78 | 5.27 | 6.05 | 7.10 | 6.34 | 5.76 | 5.34 |
| 100 and over .. | 9.20 | 7.00 | 8.69 | 5.71 | 5.86 | 5.11 | 8.20 | 6.73 | 7.72 | 5.95 |
| Age not stated .. | 5.36 | 5.00 | .. | 8.00 | .. | 5.80 | 5.00 | .. | 5.55 | .. |
| All Ages .. | 1.07 | 1.41 | 1.07 | 2.20 | 2.58 | 1.72 | 1.72 | 1.41 | 1.41 | 1.55 |

(a) Includes widowed or divorced.

The figures in the preceding table include the issue both living and dead, the proportion between them, taking the issue of deceased males and females together, being about five to one. The totals for 1953 are shown in the following table :—

ISSUE OF DECEASED MARRIED(a) MALES AND FEMALES : AUSTRALIA. 1953.

| Issue of Married Males. | | | | Issue of Married Females. | | | |
|-------------------------|--------|----------|---------|---------------------------|--------|----------|--------|
| Issue. | Males. | Females. | Total. | Issue. | Males. | Females. | Total. |
| Living .. | 46,633 | 45,989 | 92,622 | Living .. | 39,596 | 40,210 | 79,806 |
| Dead .. | 8,010 | 5,493 | 13,503 | Dead .. | 9,952 | 6,984 | 16,936 |
| Total .. | 54,643 | 51,482 | 106,125 | Total .. | 49,548 | 47,194 | 96,742 |

(a) Includes widowed or divorced.

15. 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 OF DECEASED MALES AND FEMALES, AND AVERAGE ISSUE : AUSTRALIA.

| Age Group (Years). | Average Issue. | | | | | | | | | |
|-----------------------|----------------|-------|-------|-------|-------|----------|-------|-------|-------|-------|
| | Males. | | | | | Females. | | | | |
| | 1921. | 1931. | 1941. | 1951. | 1953. | 1921. | 1931. | 1941. | 1951. | 1953. |
| Under 15 .. | .. | .. | .. | .. | .. | 7.60 | 6.36 | 7.80 | 4.88 | 7.09 |
| 15-19 .. | 6.32 | 6.15 | 5.40 | 4.63 | 4.58 | 6.97 | 6.79 | 6.10 | 5.41 | 5.30 |
| 20-24 .. | 6.05 | 5.56 | 4.89 | 4.23 | 4.10 | 5.50 | 5.23 | 4.80 | 4.28 | 4.11 |
| 25-29 .. | 5.17 | 4.70 | 4.21 | 3.05 | 3.50 | 4.09 | 3.70 | 3.51 | 3.14 | 3.13 |
| 30-34 .. | 4.45 | 3.96 | 3.41 | 3.00 | 2.95 | 2.66 | 2.42 | 2.35 | 2.23 | 2.11 |
| 35-39 .. | 3.90 | 3.14 | 2.80 | 2.45 | 2.37 | 1.61 | 1.40 | 1.26 | 1.16 | 1.14 |
| 40-44 .. | 2.67 | 2.36 | 2.01 | 1.69 | 1.73 | 0.62 | 0.39 | 0.35 | 0.36 | 0.39 |
| 45-49 .. | 2.20 | 1.96 | 1.52 | 1.33 | 1.15 | 0.03 | 0.12 | 0.01 | 0.07 | 0.18 |
| 50-54 .. | 1.70 | 1.60 | 1.05 | 0.80 | 0.81 | .. | .. | .. | .. | .. |
| 55-59 .. | 1.30 | 0.95 | 0.79 | 0.49 | 0.48 | .. | .. | .. | .. | .. |
| 60-64 .. | 0.33 | 0.63 | 0.29 | 0.24 | 0.38 | .. | .. | .. | .. | .. |
| 65 and over .. | 0.25 | 0.18 | 0.01 | 0.29 | 0.22 | .. | .. | .. | .. | .. |
| Age not stated | 4.93 | 3.64 | 2.95 | 2.81 | 2.70 | 5.41 | 3.96 | 2.45 | 3.17 | 2.86 |
| All Ages .. | 4.97 | 4.44 | 3.91 | 3.39 | 3.28 | 5.05 | 4.72 | 4.22 | 3.68 | 3.55 |

16. Occupation of Deceased Married Males, and Issue.—A summary of the main groups of occupations of married (including widowed and divorced) males who died during 1953, together with issue, appears in *Demography Bulletin* No. 71.

§ 4. 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 11th February, 1942, and registration of births, deaths and marriages was not resumed until 1946. The following table for the year 1953 shows the number of births, deaths and marriages registered in the external territories under the control of Australia, namely:—Norfolk Island; Papua; Trust Territory of New Guinea; and Trust Territory of Nauru. More detailed information will be found in a series of tables in *Demography Bulletin* No. 71.

VITAL STATISTICS : EXTERNAL TERRITORIES, 1953.

(EXCLUDING INDIGENOUS POPULATION.)

| Territory. | Marriages. | Births. | | | Deaths. | | |
|-------------------------------------|------------|---------|----------|----------|---------|----------|----------|
| | | Males. | Females. | Persons. | Males. | Females. | Persons. |
| Norfolk Island .. | 5 | 6 | 6 | 12 | 7 | 7 | 14 |
| Papua | 63 | 48 | 61 | 109 | 19 | 5 | 24 |
| Trust Territory of New Guinea | 64 | 165 | 171 | 336 | 34 | 4 | 38 |
| Trust Territory of Nauru | 2 | 3 | 6 | 9 | 1 | .. | 1 |