

happening, so that all conscientious workers for sanitary reform will be able to discover at once the direction in which it is most desirable to concentrate attention.

Year by year they will be able to trace the extent to which the rates of mortality due to various causes are falling, and not content with partial success, they will strive towards that ideal which we should ever bear in mind, viz., the complete elimination of all preventable disease.

APPENDIX

A METHOD OF CONSTRUCTING A MORTALITY TABLE

THE PREPARATION OF ANALYSED TABLES.

THE estimated population of England and Wales, and of each of the principal areas, as at the middle of the year 1911, is published in five-yearly age-groups up to age 25, then in ten-yearly groups up to age 85, with a final group for ages 85 and upwards.

The deaths are published in five-yearly age-groups up to age 85, with a final group for ages 85 and upwards.

In order to construct a mortality table, the numbers living and dying are required at *each* age, instead of in groups of ages, and it is necessary, therefore, to make use of some form of mathematical interpolation by means of which the numbers for each age can be estimated from the grouped numbers, which are given by the Registrar-General.

The object of this Appendix is not to explain the theory of interpolation or graduation, but merely to enable anyone to form a mortality table on the lines suggested in the foregoing Chapter.

The method adopted is that known as "Osculatory Interpolation." It has been most clearly explained by Dr. T. B. Sprague (see *Journal of the Institute of Actuaries*, Vol. 22, p. 282), Herr Karup (see Second International Actuarial Congress Transactions, p. 82), and Mr. G. King

(see *Journal of the Institute of Actuaries*, Vol. 41, p. 530).

For those who are interested in higher mathematics, I strongly recommend a perusal of Mr. Geo. King's most interesting paper, but I do not consider it within the scope of this Appendix to attempt any full demonstration. I think, however, that it may be advisable to give the formulæ employed, and to make some few comments thereon, but for those who merely wish to undertake the work of constructing a mortality table in the manner here suggested, it is not absolutely necessary that they should understand these preliminary explanations. In other words, I have given the details of the work at such length that I believe it will be possible for anyone to do the whole of the work without any mathematical appreciation of the reason for the steps employed.

The symbol T_x is used to denote the whole of the population living at a particular age x and all higher ages. Thus, T_{20} represents the numbers living at ages 20, 21, 22, and so on to the oldest age attained.

It will be seen that the Registrar-General's report supplies the data for obtaining T_5 , T_{10} , T_{15} , T_{20} , T_{25} , T_{35} , T_{45} , T_{55} , T_{65} , T_{75} , and T_{85} by merely summing the numbers given in the report, but as the values of T_{30} , T_{40} , T_{50} , T_{60} , and T_{70} are also required, these must be obtained by interpolation. It is possible that in future reports the numbers will be given in five-yearly age-groups throughout and in such circumstances this preliminary interpolation will be obviated. Although this may sacrifice some of the regularity of the rates obtained, it will save a certain amount of work and simplify the method.

It will be noticed that the interpolated value has been obtained for T_{20} , although this can be obtained direct. The reason for this is to obtain a smoother progression.

The value of T_{10} used, however, is the original value, as it is impossible to obtain an interpolated value by the application of the formula.

The method used for obtaining the values of T_{20} , T_{30} , T_{40} , T_{50} , T_{60} and T_{70} is a well-known third difference equation, which may be represented as follows:—

$$T_{20} = \frac{1}{16} \{ 10 (T_{15} + T_{25}) - (T_5 + T_{15} + T_{25} + T_{35}) \}$$

$$T_{30} = \frac{1}{16} \{ 10 (T_{25} + T_{35}) - (T_{15} + T_{25} + T_{35} + T_{45}) \}$$

$$T_{40} = \frac{1}{16} \{ 10 (T_{35} + T_{45}) - (T_{25} + T_{35} + T_{45} + T_{55}) \}$$

and so on.

The *rationale* of this formula can be readily seen by examining a particular case. Thus, for obtaining T_{20} , we have taken ten times T_{15} and ten times T_{25} , and deducted T_5 , T_{15} , T_{25} , and T_{35} . In other words, we have taken nine times T_{15} and nine times T_{25} , and deducted T_5 and T_{35} . This gives us sixteen values of T , and we have, therefore, divided the result by 16. As would naturally be expected, the greatest weight has been given to the two terms nearest to the interpolated values required.

Having performed the necessary arithmetical work, as explained in the method of construction which follows, we then have a complete series of the values of T_x for each quinquennial age from 0—75. To these values the formula of osculatory interpolation has been applied to obtain the values of T_x for the intermediate ages. For this purpose we require four formulæ, *i.e.*, one for each age between the two quinquennial known values. These formulæ, which apply to each set of four intermediate ages throughout the table, are as follows:—

$$T_{x+1} = (.912 T_x + .168 T_{x+5}) - (.064 T_{x-5} + .016 T_{x+10})$$

$$T_{x+2} = (.696 T_x + .424 T_{x+5}) - (.072 T_{x-5} + .048 T_{x+10})$$

$$T_{x+3} = (.424 T_x + .696 T_{x+5}) - (.048 T_{x-5} + .072 T_{x+10})$$

$$T_{x+4} = (.168 T_x + .912 T_{x+5}) - (.016 T_{x-5} + .064 T_{x+10})$$

Applying these formulæ to particular ages we have :—

$$T_{11} = (.912 T_{10} + .168 T_{15}) - (.064 T_5 + .016 T_{20})$$

$$T_{12} = (.696 T_{10} + .424 T_{15}) - (.072 T_5 + .048 T_{20})$$

$$T_{13} = (.424 T_{10} + .696 T_{15}) - (.048 T_5 + .072 T_{20})$$

$$T_{14} = (.168 T_{10} + .912 T_{15}) - (.016 T_5 + .064 T_{20})$$

For the next four ages, we have :—

$$T_{16} = (.912 T_{15} + .168 T_{20}) - (.064 T_{10} + .016 T_{25})$$

$$T_{17} = (.696 T_{15} + .424 T_{20}) - (.072 T_{10} + .048 T_{25})$$

$$T_{18} = (.424 T_{15} + .696 T_{20}) - (.048 T_{10} + .072 T_{25})$$

$$T_{19} = (.168 T_{15} + .912 T_{20}) - (.016 T_{10} + .064 T_{25})$$

and so on.

It will be seen that T_{11} is built up by taking varying proportions of T_5 , T_{10} , T_{15} and T_{20} ; the greatest weight is given to T_{10} , which is nearest to T_{11} , a smaller weight being given to T_{15} , a still smaller weight to T_5 , while the smallest weight is given to T_{20} , which is the most remote from T_{11} .

It will also be noticed that the sum of the coefficients in each case equals unity, thus for T_{11} we have $(.912 + .168) - (.064 + .016) = 1$, and for T_{12} $(.696 + .424) - (.072 + .048) = 1$.

The formulæ given above were obtained by translating Mr. King's third difference formulæ (to which I have already referred) into terms of the original functions. This translation is somewhat similar to the conversion of the ordinary finite difference interpolation formula into the well-known formula of La Grange.

METHOD OF CONSTRUCTION.

In order to explain the *modus operandi*, it will be convenient to take as an example the male population of England and Wales as given by the Registrar-General in his seventy-fourth annual report.

The first operation is to extract the figures from the Registrar-General's return for the various age-groups 5—10, 10—15, 15—20, 20—25, 25—35, 35—45, 85 and upwards, as set out in column (1) of Schedule A, given on p. 114.

The second operation is to combine the first and second groups and the third and fourth groups respectively, so as to have regular groups each embracing ten ages, and then set these figures out for all the groups in column (2) of Schedule A.

The third operation is to obtain the total population living at any particular age and upwards, and place the results against the corresponding ages in column (3). It is convenient to have a symbol, T_x , to represent these results.

As already explained, the figures given by the Registrar-General in his final age-group are for ages 85 and upwards, viz., 22,775; and, therefore, we have merely to copy these into column (3). In symbols, $T_{85} = 22,775$. The male population living between ages 75 and 85 is 184,307, and if this number is added to T_{85} , we obtain T_{75} , that is, 207,082.

Again, the male population living between ages 65 and 75 is 604,220, and, if this number is added to T_{75} , we obtain T_{65} , that is, 811,302.

In exactly the same manner we obtain T_{55} , that is, 1,899,115, and then T_{45} , T_{35} , T_{25} , T_{15} , and, finally, T_5 , viz., 15,549,567.

The fourth operation is to obtain the figures in column (4), which are denoted by the symbols at the head of the column. This operation merely consists of adding successive groups in column (3) and placing the results in column (4). Thus we add T_{15} and T_{25} , that is, 11,945,199 and 8,779,456, and place the result, viz., 20,724,655, against age 20 in column (4).

The fifth operation is to obtain the figures for column (5) in accordance with the symbols set out at the head of the column. Thus we sum the first four groups of figures in column (3), viz., 15,549,567 + 11,945,199 + 8,779,456 + 5,940,302, and place the result, viz., 42,214,524, opposite age 20 in column (5).

The sixth operation is to obtain the figures for column (6), which we do by multiplying the number against each age in column (4) by 10, and deducting from the result the number against the corresponding age in column (5). Thus at age 20 we have :—

Ten times the number in column (4)	= 207,246,550
The number in column (5)	= 42,214,524
By deduction	165,032,026

The seventh operation, by means of which we obtain the figures in column (7), merely consists of dividing the number against each age in column (6) by 16, and placing the result in column (7).

It will be noticed that in column (3) are given values of T_5 , T_{15} , T_{25} , T_{35} , etc., and in column (7) values of T_{20} , T_{30} , T_{40} , etc., so that we now have values of T_{15} , T_{20} , T_{25} , T_{30} , and so on at quinquennial intervals up to age 75. We also have the values of T_5 and T_{85} .

The succeeding operations are shown in full in Schedule B. It is only necessary to state that in column (2), T_{10} , which has not previously been used, must now be obtained by adding the numbers for age groups 10 to 15 in Schedule A, column (1), to T_{15} , given in column (3), Schedule A.

In column (9) of Schedule B are given the final results obtained, which represent the graduated numbers of the male population at each age from 10 to 69 inclusive.

I am quite aware that this method for constructing a

mortality table involves a somewhat considerable amount of arithmetical work, but it has the advantage of being confined to work of the very simplest kind. The factors for multiplication in columns (2), (3), (5), and (6) will remain unchanged whatever table of mortality is being constructed, and moreover the figures in columns (3) and (6) have been obtained in columns (2) and (5). Thus, taking column (2), for ages 11, 12, 13, and 14, the factors, viz., .912, .696, .424, and .168, would still be used if we were constructing a table of female mortality, but in that case the values of T_x would, of course, be different.

The next operation is to obtain the graduated numbers of death at each age. The deaths are given in the Registrar-General's report for quinquennial age-groups from 5 to 85, and it is not absolutely necessary in this case to prepare a preliminary schedule similar to Schedule A. If this is not done, however, it will be found that the resulting rates of mortality will exhibit some irregularity. It is advisable, therefore, that the deaths should be first combined in the ten-yearly age-groups 5—14, 15—24, 25—34, 35—44, 45—54, 55—64, 65—74, 75—84, and 85 and upwards. Schedule A for the deaths, therefore, will be in precisely the same form as that for the living. In the first column will be the deaths in five-yearly age-groups as given in the Registrar-General's report, starting with group 5—9.

In the second column these numbers will be combined to form ten-yearly age-groups. The other columns will be completed in precisely the same manner as that already explained at length for the living.

Schedule B for the deaths will be in exactly the same form as Schedule B for the living. The interpolated values of T_x for the deaths as obtained in Schedule A are entered in column (1) of Schedule B, and the other columns

are completed in exactly the same way as the corresponding columns for the living, the multiplier shown against each age in Schedule B of the living being used in precisely the same manner.

We have now obtained the numbers living at each age from 10 to 69 inclusive, and also the deaths at the corresponding ages.

The numbers living, however, do not refer to the exact ages, but to mean ages, and in order to obtain the rates of mortality it is, therefore, necessary to make use of the following relationship:—

$$\text{Rate of mortality per unit at age } x = q_x = \frac{2 d_x}{2 L_x + d_x},$$

where L_x represents the number living at the mean age x as given in the last column of Schedule B of the living, and d_x represents the numbers dying as shown in the last column of the corresponding schedule for deaths.

The actual work of obtaining the values of q_x is given in Schedule C, and it will be noticed that in the last column are given the values of p_x , that is, the probability of living for one year at age x .

The next operation is to calculate the rates of mortality for males aged 0—4. We must first obtain from the Registrar-General's returns the male births during the year for which the rates are to be obtained, and also for the five previous years. As in this case we are obtaining the rates for 1911, we must obtain the births for the years 1906—1911. These are set out in column (2) of Schedule D.

The next operation is to take the figures in column (2) and put them in groups of two, as shown in column (3). Thus, against 1911 we put the births for 1911 and 1910, that is, $448,933 + 457,266 = 906,199$.

In column (4) are set out the results obtained by

dividing the figures in column (3) by 2, that is to say, we have the mean of two years' births which we may assume for the purposes of our calculations took place on the central date of the two years, that is, on January 1st.

Thus, 453,099 is the mean of the births for 1910 to 1911, and may be considered as representing a number of children all born on January 1st, 1911, and being those amongst whom, on the average, the deaths registered in 1911 between ages 0 and 1, that is, 63,874, as stated in column (11), have occurred. Similarly, the mean of the births in 1909 and 1910, viz., 461,864, in column (4), may be assumed to have occurred on the average on January 1st, 1910, and, therefore, if we deduct from these the deaths at age 0 to 1 in 1910, viz., 53,155, in column (5), we shall have approximately the survivors at exact age 1 on January 1st, 1911, that is, 408,709, in column (10), amongst whom the deaths between ages 1 and 2, viz., 16,326, in column (11), occurred during the year 1911.

Again, 472,436, in column (4), is the number of births which took place on the average on January 1st, 1909, and, deducting from these the deaths between ages 0 and 1 in 1909, viz., 56,026, in column (5), and the deaths between ages 1 and 2 in 1910, viz., 13,251, in column (6), we have 403,159, which is approximately the number of survivors at exact age 2, amongst whom the deaths between ages 2 and 3, viz., 5,822, in column (11), occurred during the year 1911.

The assumed number of births on January 1st, 1908, is 473,066, in column (4), and from this we deduct $63,594 + 14,146 + 5,020$, that is, the deaths between ages 0 and 1 in 1908, the deaths between ages 1 and 2 in 1909, and the deaths between ages 2 and 3 in 1910, and thus obtain $473,066 - 82,760 = 390,306$, in column (10), which is the assumed number of survivors at age 3 on

January 1st, 1911, amongst whom the deaths between ages 3 and 4 in 1911, viz., 3,449, in column (11), are assumed to have occurred.

The assumed number of births on January 1st, 1907, is 472,333, in column (4), and from this we deduct the deaths between ages 0 and 1 in 1907, viz., 60,926, the deaths between ages 1 and 2 in 1908, viz., 14,895, the deaths between ages 2 and 3 in 1909, viz., 5,941, and the deaths between ages 3 and 4 in 1910, viz., 2,950. That is to say, we deduct 84,712, in column (9), and so obtain 387,621, in column (10), *i.e.*, the number of the assumed survivors at exact age 4 on January 1st, 1911, amongst whom the 2,386 deaths between ages 4 and 5, in column (11), are assumed to have occurred in 1911.

With this explanation, the figures in columns (5), (6), (7), (8), (9), (10), and (11) will, I think, be easily understood.

Column (12) shows the results of dividing the figures in column (11) by those in column (10), and represents the rates of mortality (the symbol for which is q_x) for ages 0 to 4. That is to say, $q_0 = \cdot 14097$, $q_1 = \cdot 03995$, $q_2 = \cdot 01444$, $q_3 = \cdot 00884$, and $q_4 = \cdot 00616$.

The method of obtaining the rates of mortality amongst infants is due to Professor Pell, of the University of Sydney, and is fully described on p. 264, in Vol. 21, of the *Journal of the Institute of Actuaries*.

There now only remain to be found the rates of mortality for ages 5, 6, 7, 8, and 9. These, I suggest, should be obtained by means of what is known as graphic graduation. A piece of specially cross-ruled paper should be used, and the values of q_x already obtained for ages 0 to 4 and 10 to 69 should be plotted out in the same manner as shown in the various diagrams in the preceding pages. When these values have been plotted out, the

result will be a curved line with a break at the five ages 5 to 9.

The general progression of the curve must be observed, and the break filled in so as to join up the curved line. The values of q_5 , q_6 , q_7 , q_8 and q_9 can then be read off.

In Schedule E, column (4), are given all values of q_x from age 0 to age 69. In column (3) the values of p_x are set out, these having been obtained from the relationship $p_x = 1 - q_x$.

In column (1) of Schedule E there are set out the values usually referred to as the life column. This is obtained by assuming 100,000 births, and ascertaining the number of survivors at each successive age, by multiplying by the corresponding values of p_x . This column of figures is useful for many purposes, but it will at once be noticed that it enables us to see at a glance what is the probability of living from age 0 to any other age up to age 69. Thus, the probability of living from age 0 to age 50 is $\cdot 64554$.

In Schedule F is given the corresponding mortality table for females in England and Wales in 1911.

In Schedules G and H are given male and female mortality tables for the city of Liverpool in the year 1911.

CONSTRUCTION OF ANALYSED TABLES.

Having obtained all the rates of mortality from age 0 to age 69, and having set them out in graphic form in the manner indicated, we now proceed to analyse these rates by dividing them into the five divisions referred to in Chapter VI., viz. :—

- A. Tuberculosis, including pulmonary tuberculosis, tuberculous meningitis, and other tuberculous diseases.
- B. Cancer.
- C. Other diseases of known microbic origin.

D. Infantile complaints. This group is confined to ages under 15, after which it is included in Group E.

E. All other causes of death.

In order to explain the method of procedure, it will be convenient to confine the description to the analysis of the rates of mortality amongst males in England and Wales during 1911.

On p. 313 of the Registrar-General's report will be found the numbers of deaths occurring from various diseases in different age-groups.

Our first division, A, consists of the following causes as set out by the Registrar-General:—

Cause 9. Pulmonary tuberculosis.

„ 10. Tuberculous meningitis.

„ 11. Other tuberculous diseases.

Division B consists of:—

Cause 12. Cancer, malignant disease.

Division C consists of:—

Cause 1. Enteric fever.

„ 2. Small-pox.

„ 7. Influenza.

„ 8. Erysipelas.

„ 13. Rheumatic fever.

„ 16. Bronchitis.

„ 17. Pneumonia (all forms).

„ 18. Other respiratory diseases.

„ 23. Puerperal fever.

Division D consists of:—

Cause 3. Measles.

„ 4. Scarlet fever.

„ 5. Whooping cough.

„ 6. Diphtheria and croup.

„ 19. Diarrhoea, etc.

„ 25. Congenital debility, etc.

Division E consists of the diseases mentioned in Division D after age 15 combined with:—

Cause 14. Meningitis.

„ 15. Organic heart disease.

„ 20. Appendicitis and typhlitis.

„ 21. Cirrhosis of liver.

„ 21A. Alcoholism.

„ 22. Nephritis and Bright's disease.

„ 24. Parturition, apart from puerperal fever.

„ 26. Violence, apart from suicide.

„ 27. Suicide.

„ 28. Other defined diseases.

„ 29. Causes ill-defined or unknown.

The deaths occurring from each of these thirty causes are given for age-groups 0—1, 1—2, 2—5, 5—15, 15—25, 25—45, and 45—65.

Dealing first with age-group 0—1, it will be found that the following figures are given on p. 313 of the Registrar-General's report.

Group A	{	Cause 9 . . .	216 deaths.
		„ 10 . . .	600 „
		„ 11 . . .	1,047 „
		Total . . .	<u>1,863</u> „
Group B	{	Cause 12 . . .	<u>13</u> „
Group C	{	Cause 1 . . .	3 deaths.
		„ 2 . . .	1 „
		„ 7 . . .	120 „
		„ 8 . . .	63 „
		„ 13 . . .	15 „
		„ 16 . . .	4,083 „
		„ 17 . . .	4,994 „
		„ 18 . . .	353 „
		„ 23 . . .	<i>nil</i> „
		Total . . .	<u>9,622</u> „

Group D	Cause 3	. . .	1,527 deaths.
	„ 4	. . .	42 „
	„ 5	. . .	1,676 „
	„ 6	. . .	128 „
	„ 19	. . .	17,552 „
	„ 25	. . .	19,691 „
	Total	. . .	<u>40,616</u> „
Group E	Cause 14	. . .	858 deaths.
	„ 15	. . .	8 „
	„ 20	. . .	2 „
	„ 21	. . .	4 „
	„ 21A	. . .	<i>nil</i> „
	„ 22	. . .	74 „
	„ 24	. . .	<i>nil</i> „
	„ 26	. . .	847 „
	„ 27	. . .	<i>nil</i> „
	„ 28	. . .	9,832 „
	„ 29	. . .	135 „
	Total	. . .	<u>11,760</u> „

The totals given above appear in column (1) of Schedule I, and it will be seen that the deaths from all thirty causes amounted to 63,874.

In column (3) of Schedule I, the rates of mortality from all causes is given, viz., .1410, which is the rate shown against age 0 in Schedule E.

In order to obtain the rate of mortality at age 0 from the causes in Group A, we have the following relationship :—

$$\left(\frac{\text{Rate of mortality}}{\text{from all causes}} \right) \times \frac{\text{Group A deaths}}{\text{Total deaths}} = \left(\frac{\text{Rate of mortality from}}{\text{Group A causes}} \right).$$

Translating this into figures we have—

$$\cdot 1410 \times \frac{1863}{63874} = \cdot 0041 = \left\{ \begin{array}{l} \text{Rate of mortality per unit} \\ \text{from Group A causes.} \end{array} \right.$$

In the same way we have—

$$\cdot 1410 \times \frac{9622}{63874} = \cdot 0212 = \left\{ \begin{array}{l} \text{Rate of mortality per unit} \\ \text{from Group C causes.} \end{array} \right.$$

$$\cdot 1410 \times \frac{40616}{63874} = \cdot 0897 = \left\{ \begin{array}{l} \text{Rate of mortality per unit} \\ \text{from Group D causes.} \end{array} \right.$$

$$\cdot 1410 \times \frac{11760}{63874} = \cdot 0260 = \left\{ \begin{array}{l} \text{Rate of mortality per unit} \\ \text{from Group E causes.} \end{array} \right.$$

It will be noticed that in Schedule I, column (3), the rate of mortality for Group B causes is given as *nil*, the reason for this being that the number of deaths is so insignificant that the rate shown is less than .5 per 10,000.

Precisely the same method is used for age-group 1—2, the figures for which are given in Schedule K.

The first two age-groups consist of single ages, but the third group, viz., 2—5, consists of three ages, and here it will be found that the rate of mortality from all causes is taken as the central age of the group, viz., age 3.

By reference to Schedule E, it will be seen that $q_3 = \cdot 0088$. We now assume that the following relationship holds good :—

$$\left(\frac{\text{Rate of mortality}}{\text{from all causes}} \right) \times \frac{\text{Group A deaths at ages 2—5}}{\text{Total deaths at ages 2—5}} = \left(\frac{\text{Rate of mortality}}{\text{from Group A}} \right) \left. \begin{array}{l} \text{causes at age 3} \end{array} \right).$$

By reference to Schedule L, column (3), it will be seen that :—

[	Rate of mortality at age 3 for Group A causes	=	·0011
	„ „ „ B „	=	<i>nil</i>
	„ „ „ C „	=	·0021
	„ „ „ D „	=	·0037
	„ „ „ E „	=	·0019

One example will suffice to show how these rates were obtained, thus :—

$$\cdot 0088 \times \frac{1520}{11657} = \cdot 0011.$$

The next age-group given by the Registrar-General is for ages 5—15, that is, ten ages. The central age of this group is $9\frac{1}{2}$, but for all practical purposes it will be sufficient to deal with the mortality rate as at age 10.

From Schedule E it will be seen that the rate of mortality from all causes at age 10 is .0024.

The Registrar-General gives the total number of deaths for this age-group from all causes as 9,985. The numbers of deaths for the five separate groups A, B, C, D and E are given in Schedule M, column (1), and the rates of mortality in column (3) have been obtained in precisely the same manner as those in Schedule L.

The rates of mortality, as given in column (3) of Schedules N, O and P, have all been obtained in the manner already explained, the central ages having been taken as 20, 35, and 55, respectively.

In Diagram 18 it will be seen that separate curves have been drawn for each group of causes, A, B, C, D and E. In order to obtain these, the points for ages 0, 1, 3, 10, 20, 35 and 55 were plotted out and a freehand curve drawn passing through these points, so as to indicate the general nature of the mortality rates.

In column (2) of Schedules I to P the deaths amongst males in Liverpool during 1911 for the five groups of causes A, B, C, D and E are set out. These figures were obtained from p. 357 of the Registrar-General's report, and were dealt with in the same manner as above explained in reference to the figures for England and Wales.

In column (4) of Schedules I to P the rates of mortality from the separate causes are set out, and in column (5) are given the ratios of the Liverpool rates to those for England and Wales.

The figures relating to females, which are given on the lower half of each Schedule I to P, as well as the graphs in Diagrams 24 and 25, were obtained in precisely the same manner as in the case of males.

The methods suggested for sub-dividing the total

rates of mortality from all causes into their component parts, as indicated by the five groups A, B, C, D and E, may be open to some theoretical objections. After careful investigation, however, I am convinced that the rates obtained so closely approximate to those which would be obtained by more elaborate methods, that I have no hesitation in recommending their use for the suggested purposes of comparison.

SCHEDULE C.

ENGLAND AND WALES. ESTIMATED MALE POPULATION AT
30TH JUNE, 1911.

x	$2l_x$	d_x	$2l_x + d_x$	$2d_x$	$\frac{\text{Col. 4} - \text{Col. 3}}{2d_x}$	$\frac{2l_x + d_x}{-d_x} p_x = 1 - q_x$	q_x
	(1)	(2)	(3)	(4)	(5)	(6)	
0						.8590	0
1						.9600	1
2						.9856	2
3						.9912	3
4						.9938	4
5						.9954	5
6						.9961	6
7						.9966	7
8						.9970	8
9						.9973	9
10	717,560	870	718,430	1,740	.0024	.9976	10
11	710,246	697	710,943	1,394	.0020	.9980	11
12	701,898	610	702,508	1,220	.0017	.9983	12
13	692,528	637	693,165	1,274	.0018	.9982	13
14	682,120	770	682,890	1,540	.0023	.9977	14
15	670,890	922	671,812	1,844	.0027	.9973	15
16	660,342	1,004	661,346	2,008	.0030	.9970	16
17	651,042	1,058	652,100	2,116	.0032	.9968	17
18	642,972	1,086	644,058	2,172	.0034	.9966	18
19	636,148	1,091	637,239	2,182	.0034	.9966	19
20	628,310	1,089	629,399	2,178	.0035	.9965	20
21	619,648	1,103	620,751	2,206	.0036	.9964	21
22	612,500	1,127	613,627	2,254	.0037	.9963	22
23	606,870	1,160	608,030	2,320	.0038	.9962	23
24	602,764	1,200	603,964	2,400	.0040	.9960	24
25	599,898	1,239	601,137	2,478	.0041	.9959	25
26	596,020	1,271	597,291	2,542	.0043	.9957	26
27	590,278	1,308	591,586	2,616	.0044	.9956	27
28	582,666	1,347	584,013	2,694	.0046	.9954	28
29	573,192	1,390	574,582	2,780	.0048	.9952	29
30	564,440	1,429	565,869	2,858	.0051	.9949	30
31	556,934	1,468	558,402	2,936	.0053	.9947	31
32	548,340	1,508	549,848	3,016	.0055	.9945	32
33	538,656	1,557	540,213	3,114	.0058	.9942	33
34	527,884	1,610	529,494	3,220	.0061	.9939	34
35	517,658	1,662	519,320	3,324	.0064	.9936	35
36	508,156	1,709	509,865	3,418	.0067	.9933	36
37	497,838	1,759	499,597	3,518	.0070	.9930	37
38	486,706	1,812	488,518	3,624	.0074	.9926	38
39	474,756	1,870	476,626	3,740	.0078	.9922	39
40	463,756	1,923	465,679	3,846	.0083	.9917	40
41	453,304	1,976	455,280	3,952	.0087	.9913	41
42	441,420	2,030	443,450	4,060	.0092	.9908	42
43	428,118	2,089	430,207	4,178	.0097	.9903	43
44	413,386	2,153	415,539	4,306	.0104	.9896	44

SCHEDULE E.—ENGLAND AND WALES. 1911. MALES.

<i>r.</i>	<i>l.</i> (1)	<i>d.</i> (2)	<i>p.</i> (3)	<i>q.</i> (4)
0	100,000	14,100	·8590	·1410
1	85,900	3,436	·9600	·0400
2	82,464	1,187	·9856	·0144
3	81,277	716	·9912	·0088
4	80,561	499	·9938	·0062
5	80,062	368	·9954	·0046
6	79,694	311	·9961	·0039
7	79,383	270	·9966	·0034
8	79,113	238	·9970	·0030
9	78,875	212	·9973	·0027
10	78,663	189	·9976	·0024
11	78,474	157	·9980	·0020
12	78,317	133	·9983	·0017
13	78,184	141	·9982	·0018
14	78,043	180	·9977	·0023
15	77,863	210	·9973	·0027
16	77,653	233	·9970	·0030
17	77,420	248	·9968	·0032
18	77,172	262	·9966	·0034
19	76,910	261	·9966	·0034
20	76,649	269	·9965	·0035
21	76,380	275	·9964	·0036
22	76,105	281	·9963	·0037
23	75,824	288	·9962	·0038
24	75,536	303	·9960	·0040
25	75,233	308	·9959	·0041
26	74,925	322	·9957	·0043
27	74,603	328	·9956	·0044
28	74,275	342	·9954	·0046
29	73,933	355	·9952	·0048
30	73,578	375	·9949	·0051
31	73,203	388	·9947	·0053
32	72,815	401	·9945	·0055
33	72,414	420	·9942	·0058
34	71,994	439	·9939	·0061

SCHEDULE E—continued.

<i>r.</i>	<i>l.</i> (1)	<i>d.</i> (2)	<i>p.</i> (3)	<i>q.</i> (4)
35	71,555	458	·9936	·0064
36	71,097	476	·9933	·0067
37	70,621	494	·9930	·0070
38	70,127	519	·9926	·0074
39	69,608	543	·9922	·0078
40	69,065	574	·9917	·0083
41	68,491	595	·9913	·0087
42	67,896	625	·9908	·0092
43	67,271	653	·9903	·0097
44	66,618	692	·9896	·0104
45	65,926	726	·9890	·0110
46	65,200	769	·9882	·0118
47	64,431	805	·9875	·0125
48	63,626	847	·9867	·0133
49	62,779	891	·9858	·0142
50	61,888	935	·9849	·0151
51	60,953	975	·9840	·0160
52	59,978	1,025	·9829	·0171
53	58,953	1,079	·9817	·0183
54	57,874	1,140	·9803	·0197
55	56,734	1,209	·9787	·0213
56	55,525	1,277	·9770	·0230
57	54,248	1,345	·9752	·0248
58	52,903	1,407	·9734	·0266
59	51,496	1,458	·9717	·0283
60	50,038	1,511	·9698	·0302
61	48,527	1,572	·9676	·0324
62	46,955	1,639	·9651	·0349
63	45,316	1,717	·9621	·0379
64	43,599	1,792	·9589	·0411
65	41,807	1,898	·9546	·0454
66	39,909	2,004	·9498	·0502
67	37,905	2,062	·9456	·0544
68	35,843	2,075	·9421	·0579
69	33,768	2,043	·9395	·0605

SCHEDULE F.—ENGLAND AND WALES. 1911. FEMALES.

<i>x.</i>	<i>l_x</i> (1)	<i>d_x</i> (2)	<i>p_x</i> (3)	<i>q_x</i> (4)
0	100,000	11,640	.8836	.1164
1	88,360	3,313	.9625	.0375
2	85,047	1,225	.9856	.0144
3	83,822	729	.9913	.0087
4	83,093	499	.9940	.0060
5	82,594	372	.9955	.0045
6	82,222	287	.9965	.0035
7	81,935	246	.9970	.0030
8	81,689	229	.9972	.0028
9	81,460	212	.9974	.0026
10	81,248	195	.9976	.0024
11	81,053	162	.9980	.0020
12	80,891	145	.9982	.0018
13	80,746	154	.9981	.0019
14	80,592	177	.9978	.0022
15	80,415	201	.9975	.0025
16	80,214	217	.9973	.0027
17	79,997	232	.9971	.0029
18	79,765	231	.9971	.0029
19	79,534	239	.9970	.0030
20	79,295	238	.9970	.0030
21	79,057	237	.9970	.0030
22	78,820	244	.9969	.0031
23	78,576	252	.9968	.0032
24	78,324	258	.9967	.0033
25	78,066	273	.9965	.0035
26	77,793	280	.9964	.0036
27	77,513	287	.9963	.0037
28	77,226	301	.9961	.0039
29	76,925	308	.9960	.0040
30	76,617	322	.9958	.0042
31	76,295	328	.9957	.0043
32	75,967	342	.9955	.0045
33	75,625	355	.9953	.0047
34	75,270	376	.9950	.0050

SCHEDULE F—continued.

<i>x.</i>	<i>l_x</i> (1)	<i>d_x</i> (2)	<i>p_x</i> (3)	<i>q_x</i> (4)
35	74,894	397	.9947	.0053
36	74,497	410	.9945	.0055
37	74,087	430	.9942	.0058
38	73,657	449	.9939	.0061
39	73,208	469	.9936	.0064
40	72,739	487	.9933	.0067
41	72,252	513	.9929	.0071
42	71,739	531	.9926	.0074
43	71,208	555	.9922	.0078
44	70,653	580	.9918	.0082
45	70,073	609	.9913	.0087
46	69,464	632	.9909	.0091
47	68,832	668	.9903	.0097
48	68,164	695	.9898	.0102
49	67,469	742	.9890	.0110
50	66,727	781	.9883	.0117
51	65,946	818	.9876	.0124
52	65,128	860	.9868	.0132
53	64,268	906	.9859	.0141
54	63,362	963	.9848	.0152
55	62,399	1,017	.9837	.0163
56	61,382	1,074	.9825	.0175
57	60,308	1,134	.9812	.0188
58	59,174	1,201	.9797	.0203
59	57,973	1,270	.9781	.0219
60	56,703	1,327	.9766	.0234
61	55,376	1,395	.9748	.0252
62	53,981	1,474	.9727	.0273
63	52,507	1,564	.9702	.0298
64	50,943	1,666	.9673	.0327
65	49,277	1,789	.9637	.0363
66	47,488	1,900	.9600	.0400
67	45,588	1,974	.9567	.0433
68	43,614	2,015	.9538	.0462
69	41,599	2,021	.9514	.0486

SCHEDULE G.—LIVERPOOL. 1911. MALES.

<i>x.</i>	<i>l_x</i> (1)	<i>d_x</i> (2)	<i>p_x</i> (3)	<i>q_x</i> (4)
0	100,000	16,350	·8365	·1635
1	83,650	6,098	·9271	·0729
2	77,552	2,024	·9739	·0261
3	75,528	1,133	·9850	·0150
4	74,395	685	·9908	·0092
5	73,710	457	·9938	·0062
6	73,253	388	·9947	·0053
7	72,865	350	·9952	·0048
8	72,515	326	·9955	·0045
9	72,189	289	·9960	·0040
10	71,900	237	·9967	·0033
11	71,663	158	·9978	·0022
12	71,505	121	·9983	·0017
13	71,384	136	·9981	·0019
14	71,248	192	·9973	·0027
15	71,056	256	·9964	·0036
16	70,800	297	·9958	·0042
17	70,503	325	·9954	·0046
18	70,178	344	·9951	·0049
19	69,834	342	·9951	·0049
20	69,492	347	·9950	·0050
21	69,145	353	·9949	·0051
22	68,792	364	·9947	·0053
23	68,428	390	·9943	·0057
24	68,038	415	·9939	·0061
25	67,623	440	·9935	·0065
26	67,183	464	·9931	·0069
27	66,719	480	·9928	·0072
28	66,239	503	·9924	·0076
29	65,736	526	·9920	·0080
30	65,210	541	·9917	·0083
31	64,669	563	·9913	·0087
32	64,106	583	·9909	·0091
33	63,523	604	·9905	·0095
34	62,919	629	·9900	·0100

SCHEDULE G.—continued.

<i>x.</i>	<i>l_x</i> (1)	<i>d_x</i> (2)	<i>p_x</i> (3)	<i>q_x</i> (4)
35	62,290	654	·9895	·0105
36	61,636	678	·9890	·0110
37	60,958	707	·9884	·0116
38	60,251	735	·9878	·0122
39	59,516	762	·9872	·0128
40	58,754	787	·9866	·0134
41	57,967	824	·9858	·0142
42	57,143	851	·9851	·0149
43	56,292	884	·9843	·0157
44	55,408	925	·9833	·0167
45	54,483	975	·9821	·0179
46	53,508	1,022	·9809	·0191
47	52,486	1,061	·9798	·0202
48	51,425	1,105	·9785	·0215
49	50,320	1,147	·9772	·0228
50	49,173	1,186	·9759	·0241
51	47,987	1,228	·9744	·0256
52	46,759	1,281	·9726	·0274
53	45,478	1,337	·9706	·0294
54	44,141	1,395	·9684	·0316
55	42,746	1,466	·9657	·0343
56	41,280	1,540	·9627	·0373
57	39,740	1,594	·9599	·0401
58	38,146	1,625	·9574	·0426
59	36,521	1,636	·9552	·0448
60	34,885	1,650	·9527	·0473
61	33,235	1,682	·9494	·0506
62	31,553	1,710	·9458	·0542
63	29,843	1,716	·9425	·0575
64	28,127	1,718	·9389	·0611
65	26,409	1,751	·9337	·0663
66	24,658	1,780	·9278	·0722
67	22,878	1,771	·9226	·0774
68	21,107	1,723	·9184	·0816
69	19,384	1,628	·9160	·0840

SCHEDULE H.—LIVERPOOL. 1911. FEMALES.

<i>x.</i>	<i>l.</i> (1)	<i>d.</i> (2)	<i>p.</i> (3)	<i>q.</i> (4)
0	100,000	14,270	.8573	.1427
1	85,730	5,590	.9348	.0652
2	80,140	2,155	.9731	.0269
3	77,985	1,069	.9863	.0137
4	76,916	700	.9909	.0091
5	76,216	533	.9930	.0070
6	75,683	447	.9941	.0059
7	75,236	391	.9948	.0052
8	74,845	352	.9953	.0047
9	74,493	313	.9958	.0042
10	74,180	281	.9962	.0038
11	73,899	252	.9966	.0034
12	73,647	235	.9968	.0032
13	73,412	228	.9969	.0031
14	73,184	242	.9967	.0033
15	72,942	255	.9965	.0035
16	72,687	261	.9964	.0036
17	72,426	261	.9964	.0036
18	72,165	267	.9963	.0037
19	71,898	273	.9962	.0038
20	71,625	273	.9962	.0038
21	71,352	270	.9962	.0038
22	71,082	278	.9961	.0039
23	70,804	283	.9960	.0040
24	70,521	303	.9957	.0043
25	70,218	302	.9957	.0043
26	69,916	315	.9955	.0045
27	69,601	327	.9953	.0047
28	69,274	340	.9951	.0049
29	68,934	358	.9948	.0052
30	68,576	370	.9946	.0054
31	68,206	382	.9944	.0056
32	67,824	407	.9940	.0060
33	67,417	432	.9936	.0064
34	66,985	469	.9930	.0070

SCHEDULE H.—continued.

<i>x.</i>	<i>l.</i> (1)	<i>d.</i> (2)	<i>p.</i> (3)	<i>q.</i> (4)
35	66,516	512	.9923	.0077
36	66,004	554	.9916	.0084
37	65,450	589	.9910	.0090
38	64,861	616	.9905	.0095
39	64,245	643	.9900	.0100
40	63,602	674	.9894	.0106
41	62,928	705	.9888	.0112
42	62,223	734	.9882	.0118
43	61,489	763	.9876	.0124
44	60,726	789	.9870	.0130
45	59,937	821	.9863	.0137
46	59,116	845	.9857	.0143
47	58,271	886	.9848	.0152
48	57,385	930	.9838	.0162
49	56,455	971	.9828	.0172
50	55,484	1,015	.9817	.0183
51	54,469	1,062	.9805	.0195
52	53,407	1,117	.9791	.0209
53	52,290	1,176	.9775	.0225
54	51,114	1,242	.9757	.0243
55	49,872	1,332	.9733	.0267
56	48,540	1,412	.9709	.0291
57	47,128	1,485	.9685	.0315
58	45,643	1,533	.9664	.0336
59	44,110	1,571	.9644	.0356
60	42,539	1,612	.9621	.0379
61	40,927	1,670	.9592	.0408
62	39,257	1,723	.9561	.0439
63	37,534	1,760	.9531	.0469
64	35,774	1,782	.9502	.0498
65	33,992	1,819	.9465	.0535
66	32,173	1,859	.9422	.0578
67	30,314	1,861	.9386	.0614
68	28,453	1,836	.9355	.0645
69	26,617	1,786	.9329	.0671

SCHEDULE I.

COMPARATIVE TABLE OF ANALYSED RATES OF MORTALITY.

Age-group 0—1.

Males.

Cause of Death.	Number of Deaths at age 0—1.		Rate of Mortality per 10,000.		Rate of Mortality Liverpool ÷ Rate of Mortality England and Wales (5)
	England and Wales. (1)	Liverpool. (2)	England and Wales. (3)	Liverpool. (4)	
Tuberculosis . . .	1,863	41	41	35	.85
Cancer	13				
Other microbic diseases	9,622	302	212	259	1.22
Infantile diseases . .	40,616	1,136	897	976	1.09
All other causes . . .	11,760	425	260	365	1.40
All causes	63,874	1,904	1,410	1,635	1.16

Females.

Tuberculosis	1,490	36	34	32	.94
Cancer	9				
Other microbic diseases	7,393	274	170	247	1.45
Infantile diseases . .	32,984	928	757	836	1.10
All other causes . . .	8,850	347	203	312	1.54
All causes	50,726	1,585	1,164	1,427	1.23

SCHEDULE K.

COMPARATIVE TABLE OF ANALYSED RATES OF MORTALITY.

Age-group 1—2.

Males.

Cause of Death.	Number of Deaths at age 1—2.		Rate of Mortality per 10,000.		Rate of Mortality Liverpool ÷ Rate of Mortality England and Wales. (5)
	England and Wales. (1)	Liverpool. (2)	England and Wales. (3)	Liverpool. (4)	
Tuberculosis	1,422	45	35	44	1.26
Cancer	10				
Other microbic diseases	4,377	173	108	171	1.58
Infantile diseases . .	7,845	376	192	371	1.93
All other causes . . .	2,672	145	65	143	2.20
All causes	16,326	739	400	729	1.82

Females.

Tuberculosis	1,218	38	30	38	1.27
Cancer	12	1	—	1	
Other microbic diseases	3,833	157	95	158	1.66
Infantile diseases . .	7,635	331	190	334	1.76
All other causes . . .	2,371	120	60	121	2.00
All causes	15,069	647	375	652	1.74

SCHEDULE L.

COMPARATIVE TABLE OF ANALYSED RATES OF MORTALITY.

Age-group 2—5.

Males.

Cause of Death.	Number of Deaths at ages 2—5.		Rate of Mortality per 10,000 (at age 3).		Rate of Mortality Liverpool ÷ Rate of Mortality England and Wales. (5)
	England and Wales. (1)	Liverpool. (2)	England and Wales. (3)	Liverpool. (4)	
Tuberculosis . . .	1,520	53	11	17	1.55
Cancer	41				
Other microbic diseases	2,717	118	21	37	1.76
Infantile diseases .	4,863	206	37	65	1.76
All other causes . .	2,516	97	19	31	1.63
All causes	11,657	474	88	150	1.70

Females.

Tuberculosis	1,364	40	10	12	1.20
Cancer	29				
Other microbic diseases	2,508	113	19	33	1.74
Infantile diseases . .	5,234	217	41	64	1.56
All other causes . . .	2,283	96	17	28	1.64
All causes	11,418	466	87	137	1.57

SCHEDULE M.

COMPARATIVE TABLE OF ANALYSED RATES OF MORTALITY.

Age-group 5—15.

Males.

Cause of Death.	Number of Deaths at ages 5—15.		Rate of Mortality per 10,000 (at age 10).		Rate of Mortality Liverpool ÷ Rate of Mortality England and Wales. (5)
	England and Wales. (1)	Liverpool. (2)	England and Wales. (3)	Liverpool. (4)	
Tuberculosis	1,903	64	5	7	1.40
Cancer	90	3			
Other microbic diseases	1,550	64	4	7	1.75
Infantile diseases . .	2,133	81	5	8	1.60
All other causes . . .	4,309	114	10	11	1.10
All causes	9,985	326	24	33	1.42

Females.

Tuberculosis	2,491	89	6	11	1.83
Cancer	56	1			
Other microbic diseases	1,566	71	4	8	2.00
Infantile diseases . .	2,349	60	6	7	1.17
All other causes . . .	3,431	98	8	12	1.50
All causes	9,893	319	24	38	1.58

V.S.

K

SCHEDULE N.

COMPARATIVE TABLE OF ANALYSED RATES OF MORTALITY.

Age-group 15—25.

Males.

Cause of Death.	Number of Deaths at ages 15—25.		Rate of Mortality per 10,000 (at age 20).		Rate of Mortality Liverpool ÷ Rate of Mortality England and Wales. (5)
	England and Wales. (1)	Liverpool. (2)	England and Wales. (3)	Liverpool. (4)	
Tuberculosis . . .	4,053	106	13	17	1.33
Cancer	155	2	1		
Other microbic diseases	1,709	67	6	11	1.83
All other causes . . .	4,923	134	15	22	1.47
All causes	10,840	309	35	50	1.43

Females.

Tuberculosis	4,437	127	13	18	1.38
Cancer	119				
Other microbic diseases	1,492	50	4	7	1.75
All other causes . . .	3,928	93	13	13	1.00
All causes	9,976	270	30	38	1.27

SCHEDULE O.

COMPARATIVE TABLE OF ANALYSED RATES OF MORTALITY.

Age-group 25—45.

Males.

Cause of Death.	Number of Deaths at ages 25—45.		Rate of Mortality per 10,000 (at age 35).		Rate of Mortality Liverpool ÷ Rate of Mortality England and Wales. (5)
	England and Wales. (1)	Liverpool. (2)	England and Wales. (3)	Liverpool. (4)	
Tuberculosis	10,664	400	21	38	1.81
Cancer	1,295	37	3	4	1.33
Other microbic diseases	5,712	236	11	22	2.00
All other causes . . .	15,439	435	29	41	1.41
All causes	33,110	1,108	64	105	1.64

Females.

Tuberculosis	8,463	278	15	24	1.60
Cancer	2,585	58	5	5	1.00
Other microbic diseases	4,595	194	8	17	2.13
All other causes . . .	13,907	365	25	31	1.24
All causes	29,550	895	53	77	1.45

SCHEDULE P.

COMPARATIVE TABLE OF ANALYSED RATES OF MORTALITY.

Age-group 45—65.

Males.

Cause of Death.	Number of Deaths at ages 45—65.		Rate of Mortality per 10,000 (at age 55).		Rate of Mortality Liverpool
	England and Wales. (1)	Liverpool. (2)	England and Wales. (3)	Liverpool. (4)	
Tuberculosis	6,714	260	25	52	2.08
Cancer	7,528	187	28	37	1.32
Other microbic diseases	10,322	442	38	88	2.32
All other causes . . .	32,665	830	122	166	1.36
All causes	57,229	1,719	213	343	1.61

Females.

Tuberculosis	3,639	138	12	25	2.08
Cancer	9,485	205	32	38	1.19
Other microbic diseases	7,501	380	25	70	2.80
All other causes . . .	28,248	730	94	134	1.43
All causes	48,873	1,453	163	267	1.64

(For order of entering names see Examples on back of Schedule.)

No one else must be included elsewhere.

(2) arrived in this dwelling on the morning of Monday, April 3rd, not having been enumerated elsewhere.

(1) passed the night of Sunday, April 2nd, 1911, in this dwelling and was alive at midnight, or

Boarder, or Servant, who

of every Person, whether Member of Family, Visitor, Boarder, or Servant, who

NAME AND SURNAME

OF PER

The contents of the Schedule will not persons of the paper.

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put under

is required in order to ascertain for each industry or distinct occupation. Thus, for instance, for breweries it is the brewery, as well as the numbers actually engaged in by central or local government authorities, whether in in which entries should be made in Column 11 as well

Column 11. Industry or Service with which worker is connected.	Column 10. Personal Occupation.	Column 11. Industry or Service with which worker is connected.
Confidential.		
rapery Warehouse.	Ship Fitter	Harbour Board.
eneral Engineer.	Solicitor	Insurance Company.
ove, Grate Maker.	Typefounder	Type Foundry.
ovt. Dockyard.	Typefounder	General Printers.
ement Works.	Wooden Box Maker	Glass Bottle Works.
altster.	Wood Sawyer	Joinery Works.
rewer.	Wood Sawyer	Pianoforte Works.
rewer.	Wood Sawyer	Rly. Co.'s Carriage Wks.

T,
-General.

S,
President.

CENSUS
OF
ENGLAND AND WALES,
1911.



SCHEDULE.

Prepared pursuant to the Census (Great Britain) Act, 1910.

THIS SPACE TO BE FILLED UP BY THE ENUMERATOR.

Number of Registration District _____
 Number of Registration Sub-District _____
 Number of Enumeration District _____

Name of Head of Family or Separate Occupier: _____

Postal Address: _____

NOTICE.

This Schedule must be filled up and signed by, or on behalf of, the Head of the Family or other person in occupation, or in charge, of the dwelling (house, tenement or apartment).

If a house be let or sub-let to two or more occupiers each occupier of a part of the house must fill up a Schedule for his part of the house. Boarders are not to be considered as separate occupiers.

In the case of Hotels, Boarding Houses, Clubs, and other similar establishments, the Keeper, Manager, or other person in charge must fill up a Schedule with respect to all the inmates.

The Schedule will be called for on MONDAY, APRIL 3rd, by the appointed Enumerator; in order that he may not be delayed it must be ready with the answers written in the proper columns early on the morning of that day.

If the answers are incomplete or inaccurate, the Enumerator may ask any questions necessary to enable him to correct the Schedule.

If any person whose duty it is to give information refuses to do so, or wilfully gives false information as to any of the required particulars, he will be liable on conviction to a fine not exceeding FIVE POUNDS.

If the Head of the Family or other person responsible is unable to deliver the Schedule personally to the Enumerator, he may instruct another person to do so. If desired it may be put under

EXAMPLES OF THE MODE OF FILLING UP THE SCHEDULE.

Name and Surname.	Relation to Head of Family.	Age (last birthday) and Sex.		Particulars as to Marriages.	Number of Years Married.	Number of Children.			Personal Occupation.	Industry or Service with which Worker is connected.	Whether Employer, Worker, or Working on own Account.	Whether Working at Home.	Birthplace.	Nation, Race, or Foreign Birth.
		Males.	Females.			Living.	Dead.							
Henry Chapman	Head	68	60	Married	38	4	4	0	Bookmaker (Dealer) assisting in the business.	Chocolate Manuf.	Employer	At Home	Sussex, Brighton	Brit. born
Richard Chapman	Wife	38	38	Married	—	—	—	—	Assisting in the business.	Chocolate Manuf.	Worker	At Home	India, Bombay (Resident)	Brit. born
George Roberts	Assistant	25	25	Single	—	—	—	—	Boat Repairer	Boat Repairing	Worker	At Home	Wiltshire, Marlborough	Brit. born
Emily Dart	Servant	—	20	Single	—	—	—	—	General Servant (Domestic)	General Servant (Domestic)	Worker	At Home	Wiltshire, Marlborough	Brit. born
Robert Taylor	Head	38	46	Widower	—	—	—	—	Bricklayer	Cotton Spinning	Worker	At Home	Yorkshire, Leeds	Brit. born
Jessie Taylor	Sister	—	18	Single	—	—	—	—	Dressmaker	Cotton Spinning	Worker	At Home	Yorkshire, Leeds	Brit. born
Margaret Taylor	Daughter	7	18	Single	—	—	—	—	School part time, Worsted Spinner	Cotton Spinning	Worker	At Home	Yorkshire, Leeds	Brit. born
Andrew Lindsay	Head	48	40	Married	24	5	4	1	Farmer	Farming	Employer	At Home	Yorkshire, Leeds	Brit. born
Florence Lindsay	Wife	22	22	Married	—	—	—	—	Farmer's Son working on Farm.	Farming	Worker	At Home	Yorkshire, Leeds	Brit. born
Thomas Lindsay	Son	22	16	Single	—	—	—	—	Farmer's Daughter, Dairy Work	Farming	Worker	At Home	Yorkshire, Leeds	Brit. born
Elizabeth Lindsay	Daughter	32	28	Single	—	—	—	—	Wagoner on Farm.	Farming	Worker	At Home	Yorkshire, Leeds	Brit. born
Samuel Make	Servant	—	38	Single	—	—	—	—	General Servant (Domestic)	General Servant (Domestic)	Worker	At Home	Yorkshire, Leeds	Brit. born
Mary Clarke	Servant	—	38	Single	—	—	—	—	General Servant (Domestic)	General Servant (Domestic)	Worker	At Home	Yorkshire, Leeds	Brit. born
Daniel Sullivan	Head	55	—	Widower	—	—	—	—	Night Watchman	Chemical Manuf.	Worker	At Home	Kerry, Tralee (Resident)	Brit. born
Richard Croft	Head	42	40	Married	22	6	4	2	Coal Miner, Hewer	Coal Mining	Worker	At Home	Yorkshire, Leeds	Brit. born
Elizabeth Croft	Wife	18	14	Single	—	—	—	—	Colliery Horsekeeper (below ground)	Coal Mining	Worker	At Home	Yorkshire, Leeds	Brit. born
Ada Croft	Daughter	—	14	Single	—	—	—	—	Colliery Horsekeeper (below ground)	Coal Mining	Worker	At Home	Yorkshire, Leeds	Brit. born
Green Wood	Head	65	47	Married	7	None	—	—	Boarding House Keeper	Boarding House Keeping	Employer	At Home	London, Paddington	Brit. born
Harold Simpson	Boarder	38	—	Single	—	—	—	—	Accountant	Accounting	Worker	At Home	London, Paddington	Brit. born
Charles Howard	Boarder	22	—	Single	—	—	—	—	Manager of Railway Co.	Management	Worker	At Home	London, Paddington	Brit. born
John Manohar	Boarder	22	—	Single	—	—	—	—	Law Student	Law	Worker	At Home	India, Madras (Visitor)	Foreign born
John Vincent	Visitor	30	—	Single	—	—	—	—	Gold Embroiderer	Gold Embroidering	Worker	At Home	India, Madras (Visitor)	Foreign born
Samuel Webb	Servant	35	—	Single	—	—	—	—	Cook (Boarding House)	Cooking	Worker	At Home	India, Madras (Visitor)	Foreign born
Sophia Cox	Servant	27	—	Single	—	—	—	—	Housemaid (Boarding House)	Housekeeping	Worker	At Home	India, Madras (Visitor)	Foreign born
Carlo Stefani	Servant	—	—	Single	—	—	—	—	Walker (Boarding House)	Walking	Worker	At Home	Italy (Resident)	Foreign born
Morris Goldman	Head	32	31	Married	—	—	—	—	Tailor (Maker)	Tailoring	Worker	At Home	Russian Poland (Resident)	Foreign born
Dinah Goldman	Wife	10	—	Single	—	—	—	—	Sewing Machinist, Tailoring	Tailoring	Worker	At Home	Russian Poland (Resident)	Foreign born
David Goldman	Son	—	—	Single	—	—	—	—	School	School	Worker	At Home	Russian Poland (Resident)	Foreign born
Jacob Goldman	Son	—	—	Single	—	—	—	—	School	School	Worker	At Home	Russian Poland (Resident)	Foreign born

APPENDIX

SCHEDULE P.

ANALYSED RATES OF MORTALITY.

Group 45-65.

Males.

Number of Deaths ages 45-65.	Rate of Mortality per 10,000 (at age 55).		Rate of Mortality England and Wales.
	England and Wales.	Liverpool.	
14	25	52	2.08
528	28	37	1.32
322	38	88	2.32
665	122	166	1.36
229	213	343	1.61

Females.

639	138	12	25	2.08
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1. DESCRIPTION OF PERSONAL OCCUPATION which living is mainly earned.

2. DEALERS, SHOPKEEPERS OR SHOP ASSISTANTS leave no doubt whether they are Dealers or Manufacturers. "Jewellers," "Chemists," "Bakers," "Seedsmen," "Shopkeeper," or "Shop Assistant" should be chiefly Maker, or "Dealer," if chiefly Dealer.

3. OUT OF WORK.—If out of work or discharged.

4. THE OCCUPATIONS OF WOMEN engaged must be fully stated. No entry should be made.

5. CHILDREN AT SCHOOL AND STUDENTS.—schools, or other instructional classes, or received as "Student," "Medical Student."

If attending school or other classes he also engaged in any employment as Roving Frame Doffer."

6. RETIRED OR PENSIONED.—If retired Pensioner," &c. The present occupation, if any.

7. PRIVATE MEANS.—For persons neither allowances, write "Private Means."

8. VAGUE OR INDEFINITE TERMS MUST NOT Labourer, Machinist, Manager, Manufacturer, "Pottery Enameller," "Watch-dial Enameller Rivetter, as a "Boiler Rivetter," "Ship Plate

(a) ARMY, NAVY, CIVIL SERVICE, MUNICIPAL SERVICE rank or grade.

(b) CLERGYMAN, PRIEST, MINISTER. State whether "Roman Catholic Priest," "Wesleyan Methodist Minister," "Schoolmaster," "Preacher, the ordinary occupation only should be given.

(c) LEGAL PROFESSION. State whether "Barrister at Law," "Law Clerk," &c.

(d) AGENT, BROKER, BUYER, MERCHANT, SALESMAN, particular kind of business or trade, as "Cycle Agent," "Commercial Traveller, Millinery."

(e) CLERK. State whether "Bank Clerk," "Insurance Clerk," "Hotel Clerk," "Railway Clerk," "Theatrical Clerk," &c.

(f) ENGINEERING AND METAL TRADES. State precise operation, as "Engineer's Pattern Maker," "Ship Pattern Maker," too indefinite; state whether employed at Blast Furnace &c.

(g) ENGINEER, ENGINE-DRIVER, STOKER, FIREMAN, Stoker," "Traction Engine Driver," "Stationary Engine Driver," "Stoker at Potteries," &c.

(h) COTTON, WOOL, SILK OR OTHER TEXTILE OPERATIONS, the material and the precise occupation, as "Bobbin Winder," "Silk Throwster's Piecer," "Plaiter in Cotton Finishing."

(j) MINER, QUARRYMAN. State kind of mine or quarry, as "Coal Miner," "Colliery Horsekeeper (below ground)," "Colliery Labourer (above ground)," "Cage Boy," "Stone Quarry," "Rockman in Slate Quarry."

9. INDUSTRY OR SERVICE WITH WHICH COUNTRY, how many persons are employed therein desired to know how many coopers, blacksmiths, brewing processes. Further, it is desired to know administration or in undertakings such as tramways as in Column 10.

CENSUS

OF

ENGLAND AND WALES,

1911.



SCHEDULE.

pursuant to the Census (Great Britain) Act, 1910.

PLACE TO BE FILLED UP BY THE ENUMERATOR.

Registration District
 Registration Sub-District
 Enumeration District

NOTICE.

must be filled up and signed by, or on behalf of, Family or other person in occupation, or in charge, (house, tenement or apartment).

et or sub-let to two or more occupiers each occupier house must fill up a Schedule for his part of the s are not to be considered as separate occupiers.

Hotels, Boarding Houses, Clubs, and other similar the Keeper, Manager, or other person in charge hchedule with respect to all the inmates.

will be called for on MONDAY, APRIL 3rd, by the erator; in order that he may not be delayed it must e answers written in the proper columns early on the ay.

rs are incomplete or inaccurate, the Enumerator uestions necessary to enable him to correct the

whose duty it is to give information refuses to do gives false information as to any of the required ill be liable on conviction to a fine not exceeding S.

f the Family or other person responsible is unable Schedule personally to the Enumerator, he may r person to do so. If desired it may be put under

INSTRUCTIONS

For filling up the Columns headed "Profession or Occupation."

COLUMN 10.

1. DESCRIPTION OF PERSONAL OCCUPATION.—Describe the Occupation fully in Column 10. If more than one Occupation is followed, state that by which living is mainly earned.

2. DEALERS, SHOPKEEPERS OR SHOP ASSISTANTS as distinct from MAKERS, PRODUCERS OR REPAIRERS.—All such persons should be so described as to leave no doubt whether they are Dealers or Makers. In many cases "Tailors," "Bootmakers," "Hatters," "Watchmakers," "Goldsmiths," "Silversmiths," "Jewellers," "Chemists," "Bakers," "Seedsmen," "Florists," &c., and their Assistants are not Makers or Producers; in such cases the word "Dealer," "Shopkeeper," or "Shop Assistant" should be added to the occupational name. A person who both makes and deals should be described as "Maker," if chiefly Maker, or "Dealer," if chiefly Dealer.

3. OUT OF WORK.—If out of work or disengaged at the time of the Census, the usual occupation must be stated.

4. THE OCCUPATIONS OF WOMEN engaged in any business or profession, including women regularly engaged in assisting relatives in trade or business, must be fully stated. No entry should be made in the case of wives, daughters, or other female relatives wholly engaged in domestic duties at home.

5. CHILDREN AT SCHOOL AND STUDENTS.—For all persons over ten years of age attending school write "School," and for those attending colleges, evening schools, or other instructional classes, or receiving instruction privately, write "Student." If studying for any profession, state the profession, as "Law Student," "Medical Student."

If attending school or other classes half time or part time only, write "School part time," or "Student part time."

If also engaged in any employment state the employment, as "School, Newsboy"; "School, Grocer's Errand Boy"; "School part time, Cotton Roving Frame Doffer."

6. RETIRED OR PENSIONED.—If retired or pensioned state the fact, and add former Occupation, as "Retired Farmer," "Retired Butcher," "Police Pensioner," &c. The present occupation, if any, of pensioners should also be stated in all cases, as "Army Pensioner, Bank Porter," &c.

7. PRIVATE MEANS.—For persons neither following nor having followed a profession or occupation, but deriving their income from private sources, or allowances, write "Private Means."

8. VAGUE OR INDEFINITE TERMS MUST NOT BE USED ALONE, such for example as Apprentice, Assistant, Canvasser, Collector, Contractor, Foreman, Inspector, Labourer, Machinist, Manager, Manufacturer, Mechanic, Millhand, Overlooker, Superintendent (see also paragraphs a to r below). Care should be taken that no occupational name common to different industries is used without a full and distinctive description; an Enameller should be described as a "Pottery Enameller," "Watch-dial Enameller," "Cycle Enameller," &c.; a Painter as a "Painter (Artist)," "Ship Painter," "House Painter," &c.; a Rivetter, as a "Boiler Rivetter," "Ship Plate Rivetter," "Boot Rivetter," &c.

(a) ARMY, NAVY, CIVIL SERVICE, MUNICIPAL SERVICE, &c. State the service and rank or grade.

(b) CLERGYMAN, PRIEST, MINISTER. State whether "Clergyman (Established Church)," "Roman Catholic Priest," "Wesleyan Methodist Minister," &c. Clergymen who are also Schoolmasters should be returned as Schoolmasters. In the case of Local or Occasional Preachers, the ordinary occupation only should be given.

(c) LEGAL PROFESSION. State whether "Barrister," "Solicitor," "Solicitor's Articled Clerk," "Law Clerk," &c.

(d) AGENT, BROKER, BUYER, MERCHANT, SALESMAN, COMMERCIAL TRAVELLER. State particular kind of business or trade, as "Cycle Agent," "Sugar Broker," "Coal Merchant," "Commercial Traveller, Millinery."

(e) CLERK. State whether "Bank Clerk," "Insurance Clerk," "Law Clerk," "Book-stall Clerk," "Hotel Clerk," "Railway Clerk," "Theatre Clerk," &c.

(f) ENGINEERING AND METAL TRADES. State precise branch of trade and nature of operation, as "Engineer's Pattern Maker," "Ship Plater's Helper," "Iron Worker" is too indefinite; state whether employed at Blast Furnace, Puddling Furnace, Iron Foundry, &c.

(g) ENGINEMAN, ENGINE-DRIVER, STOKER, FIREMAN. State whether "Railway Engine Stoker," "Traction Engine Driver," "Stationary Engineman," "Gas Stoker," "Furnace Stoker at Potteries," &c.

(h) COTTON, WOOL, SILK OR OTHER TEXTILE OPERATIVE, DYER, BLEACHER, &c. State the material and the precise occupation, as "Bobbin Carrier in Cotton Spinning Room," "Silk Throwster's Piecer," "Plaiter in Cotton Finishing Works."

(j) MINER, QUARRYMAN. State kind of mine or quarry, and nature of work, as "Coal Miner, Hewer," "Colliery Horsekeeper (below ground)," "Colliery Lamp Examiner (above ground)," "Colliery Labourer (above ground)," "Cager-on in Ironstone Mine," "Delver in Stone Quarry," "Rockman in Slate Quarry."

(k) FARMER. State whether "Farmer," "Grazier," or "Farm Bailiff." Farmers' sons or other relatives assisting in the work of the farm should be returned as "Farmer's Son working on Farm," "Farmer's Brother working on Farm," "Farmer's Daughter, Dairy work," &c.

(l) FARM SERVANT. State nature of work, and indicate if mainly in charge of horses, cattle, &c., as "Horseman on Farm," "Waggoner on Farm," "Cowman on Farm," "Shepherd." A Labourer on a Farm whose work is of a general character should be described as "Farm Labourer," not simply as a Labourer.

(m) LABOURER, PORTER, &c. State nature of employment, as "Bricklayer's Labourer," "Dock Labourer," "Railway Contractor's Labourer," "Farm Labourer," "General Labourer," "Coal Porter," "Railway Porter," &c. The terms "Labourer," "Porter," should never be used alone.

(n) DOMESTIC SERVICE. State nature of service, as "Cook (Domestic)," "Housemaid (Domestic)," "Gardener (Domestic)," "Coachman (Domestic)," "Nursery Governess."

(o) SERVANTS, WAITERS, &c., IN HOTELS, CLUBS, RESTAURANTS AND BOARDING HOUSES. State nature of employment and service in which engaged, as "Hotel Cook," "Hall Porter at Club," "Hotel Waiter," "Restaurant Waitress."

(p) NURSE. State whether "Nurse (Domestic)," "Monthly Nurse," "Sick Nurse," &c.

(q) GARDENER. State whether "Gardener (Domestic)," "Market Gardener," "Jobbing Gardener," "Nurseryman," &c.

(r) COACHMAN, GROOM, MOTOR-CAR DRIVER. State whether employed in Cab, Omnibus, Domestic, or other service, as "Coachman (Domestic)," "Chauffeur (Domestic)," "Motor-Bus Driver," "Tramway Motor Man."

COLUMN 11.

9. INDUSTRY OR SERVICE WITH WHICH CONNECTED.—The information asked for in this column is required in order to ascertain for each industry or service how many persons are employed therein, or in connection therewith, although following a distinct occupation. Thus, for instance, for breweries it is desired to know how many coopers, blacksmiths, bricklayers, &c., are in the direct employment of the brewery, as well as the numbers actually engaged in brewing processes. Further, it is desired to ascertain the number of persons directly employed by central or local government authorities, whether in administration or in undertakings such as tramways, gasworks, &c. Following are examples of cases in which entries should be made in Column 11 as well as in Column 10.

Column 11.	Column 11.	Column 11.	Column 11.
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APPENDIX

SCHEDULE P.
ANALYSED RATES OF MORTALITY.

Group 45-65.

Males.

Number of Deaths ages 45-65.	Rate of Mortality per 10,000 (at age 55).		Rate of Mortality Liverpool	
	Liverpool.	England and Wales.	Liverpool.	Rate of Mortality England and Wales.
14	260	25	52	2.08
28	187	28	37	1.32
22	442	38	88	2.32
65	830	122	166	1.36
29	1,719	213	343	1.61

Females.

639	138	12	25	2.08
185	205	32	38	1.19
501	380	25	70	2.80
248	730	94	134	1.43
373	1,453	163	267	1.64

EXAMPLES OF THE MODE OF FILLING UP THE SCHEDULE.

Number of Years Married.	Number of Children of present Marriage.			Personal Occupation.	Industry or Service with which worker is connected.	Whether employed, working, or on own account.	Whether working at home.	Birthplace.	Nationality of every person born in a Foreign Country.	Infirmity.
	Total.	Living.	Dead.							
11	2	2	0	Tailor (Maker) Sewing Machine, Tailoring School.	.....	Worker	At Home	Russian Poland (Resident) London, Whitechapel London, Whitechapel London, Whitechapel	Natd. Brit. sub. (1900) ..	.....
7	None	.....	.....	Boarding House Keeper Accountant of Railway Co. Law Student Gold Embroiderer Cook (Boarding House) Housemaid (Boarding House) Walter (Boarding House) School.	.....	Employer	.....	London, Paddington London, Chelsea U.S. of America (Visitor) India, Madras (Visitor) Malia (Visitor) Lincoln, Louth Wills, Devizes Italy (Resident)	.....	.....
22	6	4	2	Coal Miner, Hewer. Colliery Horsekeeper (below ground) ..	.....	Worker	.....	London, Tottenham London, Tottenham London, Tottenham London, Tottenham	.....	Totally blind, 5 yrs. old
24	5	4	1	Farmer Farmer's Son, living on Farm. Farmer's Daughter, Dairy Work. Waggoner on Farm. General Servant (Domestic).	.....	Employer	.....	Kerry, Tralee (Resident) ..	.....	Totally deaf from birth
38	4	4	0	Bricklayer. Dressmaker. School part time, Worked Spinner	.....	Worker	At Home	Essex, Halesend Essex, Halesend Essex, Halesend Suffolk, Sudbury	.....	.....
6	7	8	9	Bookbinder (Dealer) Assisting in the business. Confectionery Sugar Dealer. Boot Repairer. General Servant (Domestic).	.....	Employer	.....	Essex, Barking (Resident) ..	.....	.....
.....
.....
.....
.....
.....

Number of Registration Sub-District

Number of Enumeration District

Name of Head of Family or Separate Occupier. }

Postal Address

NOTICE.

This Schedule must be filled up and signed by, or on behalf of, the Head of the Family or other person in occupation, or in charge, of the dwelling (house, tenement or apartment).

If a house be let or sub-let to two or more occupiers each occupier of a part of the house must fill up a Schedule for his part of the house. Boarders are not to be considered as separate occupiers.

In the case of Hotels, Boarding Houses, Clubs, and other similar establishments, the Keeper, Manager, or other person in charge must fill up a Schedule with respect to all the inmates.

The Schedule will be called for on MONDAY, APRIL 3rd, by the appointed Enumerator; in order that he may not be delayed it must be ready with the answers written in the proper columns early on the morning of that day.

If the answers are incomplete or inaccurate, the Enumerator may ask any questions necessary to enable him to correct the Schedule.

If any person whose duty it is to give information refuses to do so, or wilfully gives false information as to any of the required particulars, he will be liable on conviction to a fine not exceeding FIVE POUNDS.

If the Head of the Family or other person responsible is unable to deliver the Schedule personally to the Enumerator, he may instruct another person to do so. If desired it may be put under cover.

The contents of the Schedule will be treated as strictly confidential.

BERNARD MALLETT,
Registrar-General.

Approved by the Local Government Board,

JOHN BURNS,
President.

If attending school or other classes
If also engaged in any employment
Roving Frame Doffer."

6. RETIRED OR PENSIONED.—If retired Pensioner," &c. The present occupation, if any

7. PRIVATE MEANS.—For persons neither allowances, write "Private Means."

8. VAGUE OR INDEFINITE TERMS MUST NOT Labourer, Machinist, Manager, Manufacturer, that no occupational name common to different "Pottery Enameller," "Watch-dial Enameller," Rivetter, as a "Boiler Rivetter," "Ship Plate

(a) ARMY, NAVY, CIVIL SERVICE, MUNICIPAL rank or grade.

(b) CLERGYMAN, PRIEST, MINISTER. State whether "Roman Catholic Priest," "Wesleyan Methodist Minister," "Schoolmasters should be returned as Schoolmasters. Preachers, the ordinary occupation only should be given

(c) LEGAL PROFESSION. State whether "Barrister at Law," "Law Clerk," &c.

(d) AGENT, BROKER, BUYER, MERCHANT, SALESPERSON. State particular kind of business or trade, as "Cycle Agent," "Commercial Traveller, Millinery."

(e) CLERK. State whether "Bank Clerk," "Inspector of Factories," "Hotel Clerk," "Railway Clerk," "Theatrical

(f) ENGINEERING AND METAL TRADES. State particular kind of operation, as "Engineer's Pattern Maker," "Ship Fitter," too indefinite; state whether employed at Blast Furnace &c.

(g) ENGINEMAN, ENGINE-DRIVER, STOKER, FIREMAN, Stoker," "Traction Engine Driver," "Stationary Engine Driver at Potteries," &c.

(h) COTTON, WOOL, SILK OR OTHER TEXTILE OPERATOR. State the material and the precise occupation, as "Bobbin Winder," "Silk Throwster's Piecer," "Plaiter in Cotton Finish

(j) MINER, QUARRYMAN. State kind of mine or quarry, as "Miner, Hewer," "Colliery Horsekeeper (below ground)," "Colliery Labourer (above ground)," "Cage Roper," "Stone Quarry," "Rockman in Slate Quarry."

9. INDUSTRY OR SERVICE WITH WHICH WORKER IS CONNECTED. State how many persons are employed therefrom, and how many are desired to know how many coopers, blacksmiths, brewers, brewing processes. Further, it is desired to know how many persons are employed therefrom in administration or in undertakings such as tramways, &c. as in Column 10.

Column 10. Personal Occupation.	Column 11. Industry or Service with which worker is connected.	Column 12. Persons Employed.
Blacksmith's Striker ..	Loco. Dept. Rly. Co.	Copper
Bricklayer ..	Blast Furnace.	Cotton
Cardboard Box Maker ..	Soap Manufacture.	Tent
Carter ..	General Carrier.	Head of Family
Carter ..	Railway Company.	Hotel
Carter on Sewage Farm	Urban Dist. Council.	House
Clay Miner ..	Pottery Manufacture.	House
Coal Porter, Gasworks ..	Borough Council.	House

ation District _____
 ation Sub-District _____
 ration District _____

schools, or other instructional classes, or receiving instruction privately, write "Student." If studying for any profession, state the profession, as "Law Student," "Medical Student."

If attending school or other classes half time or part time only, write "School part time," or "Student part time."

If also engaged in any employment state the employment, as "School, Newsboy"; "School, Grocer's Errand Boy"; "School part time, Cotton Roving Frame Doffer."

6. RETIRED OR PENSIONED.—If retired or pensioned state the fact, and add former Occupation, as "Retired Farmer," "Retired Butcher," "Police Pensioner," &c. The *present occupation*, if any, of pensioners should also be stated in all cases, as "Army Pensioner, Bank Porter," &c.

7. PRIVATE MEANS.—For persons neither following nor having followed a profession or occupation, but deriving their income from private sources, or allowances, write "Private Means."

8. VAGUE OR INDEFINITE TERMS MUST NOT BE USED ALONE, such for example as Apprentice, Assistant, Canvasser, Collector, Contractor, Foreman, Inspector, Labourer, Machinist, Manager, Manufacturer, Mechanic, Millhand, Overlooker, Superintendent (*see also paragraphs a to r below*). Care should be taken that no occupational name common to different industries is used without a full and distinctive description; an Enameller should be described as a "Pottery Enameller," "Watch-dial Enameller," "Cycle Enameller," &c.; a Painter as a "Painter (Artist)," "Ship Painter," "House Painter," &c.; a Rivetter, as a "Boiler Rivetter," "Ship Plate Rivetter," "Boot Rivetter," &c.

(a) ARMY, NAVY, CIVIL SERVICE, MUNICIPAL SERVICE, &c. State the service and rank or grade.

(b) CLERGYMAN, PRIEST, MINISTER. State whether "Clergyman (Established Church)," "Roman Catholic Priest," "Wesleyan Methodist Minister," &c. Clergymen who are also Schoolmasters should be returned as Schoolmasters. In the case of Local or Occasional Preachers, the ordinary occupation only should be given.

(c) LEGAL PROFESSION. State whether "Barrister," "Solicitor," "Solicitor's Articled Clerk," "Law Clerk," &c.

(d) AGENT, BROKER, BUYER, MERCHANT, SALESMAN, COMMERCIAL TRAVELLER. State particular kind of business or trade, as "Cycle Agent," "Sugar Broker," "Coal Merchant," "Commercial Traveller, Millinery."

(e) CLERK. State whether "Bank Clerk," "Insurance Clerk," "Law Clerk," "Book-stall Clerk," "Hotel Clerk," "Railway Clerk," "Theatre Clerk," &c.

(f) ENGINEERING AND METAL TRADES. State precise branch of trade and nature of operation, as "Engineer's Pattern Maker," "Ship Plater's Helper," "Iron Worker" is too indefinite; state whether employed at Blast Furnace, Puddling Furnace, Iron Foundry, &c.

(g) ENGINEMAN, ENGINE-DRIVER, STOKER, FIREMAN. State whether "Railway Engine Stoker," "Traction Engine Driver," "Stationary Engineman," "Gas Stoker," "Furnace Stoker at Potteries," &c.

(h) COTTON, WOOL, SILK OR OTHER TEXTILE OPERATIVE, DYER, BLEACHER, &c. State the material and the precise occupation, as "Bobbin Carrier in Cotton Spinning Room," "Silk Throwster's Piecer," "Plaiter in Cotton Finishing Works."

(j) MINER, QUARRYMAN. State kind of mine or quarry, and nature of work, as "Coal Miner, Hewer," "Colliery Horsekeeper (below ground)," "Colliery Lamp Examiner (above ground)," "Colliery Labourer (above ground)," "Cager-on in Ironstone Mine," "Delver in Stone Quarry," "Rockman in Slate Quarry."

(k) FARMER. State whether "Farmer," "Grazier," or "Farm Bailiff." Farmers' sons or other relatives assisting in the work of the farm should be returned as "Farmer's Son working on Farm," "Farmer's Brother working on Farm," "Farmer's Daughter, Dairy work," &c.

(l) FARM SERVANT. State nature of work, and indicate if mainly in charge of horses, cattle, &c., as "Horseman on Farm," "Waggoner on Farm," "Cowman on Farm," "Shepherd." A Labourer on a Farm whose work is of a general character should be described as "Farm Labourer," *not simply as a Labourer.*

(m) LABOURER, PORTER, &c. State nature of employment, as "Bricklayer's Labourer," "Dock Labourer," "Railway Contractor's Labourer," "Farm Labourer," "General Labourer," "Coal Porter," "Railway Porter," &c. *The terms "Labourer," "Porter," should never be used alone.*

(n) DOMESTIC SERVICE. State nature of service, as "Cook (Domestic)," "Housemaid (Domestic)," "Gardener (Domestic)," "Coachman (Domestic)," "Nursery Governess."

(o) SERVANTS, WAITERS, &c., IN HOTELS, CLUBS, RESTAURANTS AND BOARDING HOUSES. State nature of employment and service in which engaged, as "Hotel Cook," "Hall Porter at Club," "Hotel Waiter," "Restaurant Waitress."

(p) NURSE. State whether "Nurse (Domestic)," "Monthly Nurse," "Sick Nurse," &c.

(q) GARDENER. State whether "Gardener (Domestic)," "Market Gardener," "Jobbing Gardener," "Nurseryman," &c.

(r) COACHMAN, GROOM, MOTOR-CAR DRIVER. State whether employed in Cab, Omnibus, Domestic, or other service, as "Coachman (Domestic)," "Chauffeur (Domestic)," "Motor-Bus Driver," "Tramway Motor Man."

NOTICE.

be filled up and signed by, or on behalf of, or other person in occupation, or in charge, tenement or apartment).

let to two or more occupiers each occupier must fill up a Schedule for his part of the to be considered as separate occupiers.

Boarding Houses, Clubs, and other similar per, Manager, or other person in charge with respect to all the inmates.

alled for on **MONDAY, APRIL 3rd**, by the in order that he may not be delayed it must s written in the proper columns early on the

incomplete or inaccurate, the Enumerator s necessary to enable him to correct the

duty it is to give information refuses to do use information as to any of the required liable on conviction to a fine not exceeding

family or other person responsible is unable e personally to the Enumerator, he may to do so. If desired it may be put under

chedule will be treated as strictly confidential.

BERNARD MALLET,
Registrar-General.

Government Board,

JOHN BURNS,
President.

COLUMN 11.

9. INDUSTRY OR SERVICE WITH WHICH CONNECTED.—The information asked for in this column is required in order to ascertain for each industry or service how many persons are employed therein, or in connection therewith, although following a distinct occupation. Thus, for instance, for breweries it is desired to know how many coopers, blacksmiths, bricklayers, &c., are in the direct employment of the brewery, as well as the numbers actually engaged in brewing processes. Further, it is desired to ascertain the number of persons directly employed by central or local government authorities, whether in administration or in undertakings such as tramways, gasworks, &c. Following are examples of cases in which entries should be made in Column 11 as well as in Column 10.

Column 10. Personal Occupation.	Column 11. Industry or Service with which worker is connected.	Column 10. Personal Occupation.	Column 11. Industry or Service with which worker is connected.	Column 10. Personal Occupation.	Column 11. Industry or Service with which worker is connected.	Column 10. Personal Occupation.	Column 11. Industry or Service with which worker is connected.
Blacksmith's Striker ..	Loco. Dept. Rly. Co.	Copper Roller Engraver	Calico Printer.	Housekeeper	Drapery Warehouse.	Ship Fitter	Harbour Board.
Bricklayer	Blast Furnace.	Cotton Drawing Frame	Carpet Manufac- ture.	Iron Founder	General Engineer.	Solicitor	Insurance Company.
Cardboard Box Maker ..	Soap Manufacture.	Tenter.	County Council.	Iron Founder	Stove, Grate Maker.	Typefounder	Type Foundry.
Carter	General Carrier.	Head Teacher	Railway Company.	Iron Founder	Govt. Dockyard.	Typefounder	General Printers.
Carter	Railway Company.	Hotel Manager	Builder.	Lighterman	Cement Works.	Wooden Box Maker	Glass Bottle Works.
Carter on Sewage Farm	Urban Dist. Council.	House Painter	Chemical Manufac.	Maltster's Labourer ..	Maltster.	Wood Sawyer	Joinery Works.
Clay Miner	Pottery Manufacture	House Painter	Hotel Company.	Maltster's Labourer ..	Brewer.	Wood Sawyer	Pianoforte Works.
Coal Porter, Gasworks ..	Borough Council.	House Painter		Railway Engine Driver	Brewer.	Wood Sawyer	Rly. Co.'s Carriage Wks.

CENSUS OF ENGLAND AND WALES, 1911.

Number of Schedule
(To be filled up by the Enumerator
after collection.)

Each schedule please read the Examples and the Instructions given on the other side of the paper, as well as the headings of the Columns. The entries should be written in Ink.

Every care will be taken that no information is disclosed with regard to individual persons. The returns are not to be used for proof of age, as in connection with Old Age Pensions, or for any other purpose than the preparation of Statistical Tables.

PARTICULARS AS TO MARRIAGE.					PROFESSION OR OCCUPATION OF PERSONS AGED TEN YEARS AND UPWARDS.				BIRTHPLACE OF EVERY PERSON.	NATIONALITY OF EVERY PERSON BORN IN A FOREIGN COUNTRY.	INFIRMITY.
5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Write "Single," "Married," "Widower," or "Widow," opposite the names of all persons aged 15 years and upwards.	State, for each Married Woman entered on this Schedule, the number of :-				Personal Occupation. The reply should show the precise branch of Profession, Trade, Manufacture, &c. If engaged in any Trade or Manufacture, the particular kind of work done, and the Article made or Material worked or dealt in should be clearly indicated. (See Instructions 1 to 8 and Examples on back of Schedule.)	Industry or Service with which worker is connected. This question should generally be answered by stating the business carried on by the employer. If this is clearly shown in Col. 10 the question need not be answered here. No entry needed for Domestic Servants in private employment. If employed by a public body (Government, Municipal, etc.) state what body. (See Instruction 9 and Examples on back of Schedule.)	Whether Employer, Worker, or Working on Own Account. Write opposite the name of each person engaged in any Trade or Industry, (1) "Employer" (that is employing persons; other than domestic servants), or (2) "Worker" (that is working for an employer), or (3) "Own Account" (that is neither employing others nor working for a trade employer).	Whether Working at Home. Write the words "At Home" opposite the name of each person carrying on Trade or Industry at Home.	(1) If born in the United Kingdom, write the name of the County, and Town or Parish. (2) If born in any other part of the British Empire, write the name of the Dependency, Colony, etc., and of the Province or State. (3) If born in a Foreign Country, write the name of the Country. (4) If born at sea, write "At Sea." <i>Note.</i> —In the case of persons born elsewhere than in England or Wales, state whether "Resident" or "Visitor" in this Country.	State whether :- (1) "British subject by parentage." (2) "Naturalised British subject," giving year of naturalisation. Or (3) If of foreign nationality, state whether "French," "German," "Russian," etc.	If any person included in this Schedule is :- (1) "Totally Deaf," or "Deaf and Dumb," (2) "Totally Blind," (3) "Lunatic," (4) "Imbecile," or "Feeble-minded," state the infirmity opposite that person's name, and the age at which he or she became afflicted.
	Completed years the present Marriage has lasted. If less than one year write "under one."	Children born alive to present Marriage. (If no children born alive write "None" in column 7.)										Total Children Born Alive.	Children still Living.	Children who have Died.

(2) arrived in this dwelling on the morning of Monday, April 3rd, not having been enumerated elsewhere.

No one else must be included
(For order of entering names see Examples on back of Schedule.)

"Wife," "Son," "Daughter," or other Relative, "Visitor," "Boarder," or "Servant."

"one month," etc.

"Widower," or "Widow," opposite the names of all persons aged 15 years and upwards.

Completed years the present Marriage has lasted. If less than one year write "under one."

Children born alive to present Marriage. (If no children born alive write "None" in column 7.)

Trade, Manufacture, &c.

If engaged in any Trade or Manufacture, the particular kind of work done, and the Article made or Material worked or dealt in should be clearly indicated.

(See Instructions 1 to 8 and Examples on back of Schedule.)

carried on by the employer. If this is clearly shown in Col. 10 the question need not be answered here.

No entry needed for Domestic Servants in private employment. If employed by a public body (Government, Municipal, etc.) state what body. (See Instruction 9 and Examples on back of Schedule.)

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

(TO BE FILLED UP BY THE ENUMERATOR.)

(TO BE FILLED UP BY, OR ON BEHALF OF, THE HEAD OF THE DWELLING.)

I certify that:—

(1) All the ages on this Schedule are entered in the proper sex columns.

(2) I have counted the males and females in Columns 3 and 4 separately, and have compared their sum with the total number of persons.

(3) After making the necessary enquiries I have completed all entries on the Schedule which appeared to be defective, and have corrected such as appeared to be erroneous.

Initials of Enumerator _____

Total.		
Males.	Females.	Persons.

Write below the Number of Rooms in this Dwelling (House, Tenement, or Apartment). Count the Kitchen as a room but do not count scullery, landing, lobby, closet, bathroom; nor warehouse, office, shop.

I declare _____

completed years, the present Marriage has lasted less than one year write "under one."
Children born alive to present Marriage. (If no children born alive write "None" in column 7.)

Trade, Manufacture, &c.
If engaged in any Trade or Manufacture, the particular kind of work done, and the Article made or Material worked or dealt in should be clearly indicated.
(See Instructions 1 to 8 and Examples on back of Schedule.)

this is clearly shown in Col. 10 the question need not be answered here.
No entry needed for Domestic Servants in private employment. If employed by a public body (Government, Municipal, etc.) state what body. (See Instruction 9 and Examples on back of Schedule.)

(1) "Employer" (that is employing persons other than domestic servants), or
(2) "Worker" (that is working for an employer), or
(3) "Own Account" (that is neither employing others nor working for a trade employer).

Write the words "At Home" opposite the name of each person carrying on Trade or Industry at Home.

(3) If born in a Foreign Country, write the name of the Country.
(4) If born at sea, write "At Sea."
Note.—In the case of persons born elsewhere than in England or Wales, state whether "Resident" or "Visitor" in this Country.

Or
(3) If of foreign nationality, state whether "French," "German," "Russian," etc.

(4) "Imbecile," or "Feeble-minded," state the infirmity opposite that person's name, and the age at which he or she became afflicted.

6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.

(TO BE FILLED UP BY, OR ON BEHALF OF, THE HEAD OF THE FAMILY OR OTHER PERSON IN OCCUPATION, OR IN CHARGE, OF THIS DWELLING.)

<p>Write below the Number of Rooms in this Dwelling (House, Tenement, or Apartment). Count the Kitchen as a room but do not count scullery, landing, lobby, closet, bathroom; nor warehouse, office, shop.</p>	<p>I declare that this Schedule is correctly filled up to the best of my knowledge and belief.</p>
<p>_____</p>	<p>Signature _____</p>
<p>_____</p>	<p>Postal Address _____</p>

14.	15.	16.

IN OCCUPATION, OR IN CHARGE, OF THIS DWELLING.)

filled up to the best of my knowledge and belief.