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SEVENTY-THIRD
ANNUAL REPORT
OF THE
REGISTRAR-GENERAL
OF
BIRTHS, DEATHS, AND MARRIAGES
IN ENGLAND AND WALES.
(1910.)

Presented to both Houses of Parliament by Command of His Majesty.



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REPORT

TO

THE RIGHT HONOURABLE JOHN BURNS, M.P.

President of the Local Government Board, &c., &c.

(1910.)

SIR,

I HAVE the honour to submit to you my Report on the estimated population, and on the marriages, births, and deaths registered in England and Wales during the year 1910.

From returns furnished by the registrars acting throughout the country, the provisional numbers of marriages, births, and deaths for the year 1910 have already been published in the "General Abstract," and in somewhat greater detail as regards the causes of death for the counties of England and Wales, and for London and other large towns, in the "Annual Summary," which publication was issued in May, 1911.

The present Report also relates to the year 1910, but the statistics have been compiled from the registers deposited in this office, and they have been analysed in far greater detail than was possible in the Annual Summary.

The Census of 1911 has furnished the means of revising the estimates of population that have been made for the years 1901 to 1910, and of the marriage-, birth-, and death-rates based upon those estimates of population. The population of the country having increased at a somewhat slower rate in the last intercensal period than it did between 1891 and 1901, the population in each of the years 1901 to 1910 has been slightly overestimated, and the corresponding rates slightly underestimated. For the country as a whole the revised birth-rate in the year 1910, when the error of estimation was probably at a maximum, is raised by about 0·3 per 1000 persons living, and the death-rate and marriage-rate by about 0·1 per 1000.

The salient features of the vital statistics of 1910 are as follows :— The marriage-rate was 15·0 per 1000, being 0·6 below the average in the ten years 1900 to 1909, but 0·3 above the rate in 1909. The provisional figures available for the year 1911 show a further slight increase of 0·2 per 1000.

The birth-rate was 25·1 per 1000. This is again the lowest rate on record, and is no less than 2·5 per 1000 below the average in the preceding decennium, and 0·7 below the rate in 1909. The provisional rate in 1911 shows a further fall of 0·7 per 1000.

The death-rate was 13.5 per 1000, and was again the lowest on record. It is interesting to note that lowest records of mortality were successively established in seven of the ten years 1901 to 1910, viz., in 1902, 1903, 1905, 1907, 1908, 1909, and 1910. The death-rate in 1910 was 1.1 per 1000 below that of the preceding year and 2.4 below the average in the preceding decennium. The provisional figures for 1911 show, however, an increase of 1.1 per 1000; this is mainly accounted for by excessive mortality in the third quarter of the year, although the rates in the first two quarters also showed a slight increase.

The improvement in mortality in 1910 upon the low rate in 1909, was shared by each sex at every period of life.

Infantile mortality was equal to 105 per 1000 births registered, and showed a still further improvement upon that in 1909, which was 109, and was far lower than that recorded in any preceding year.

Of the principal epidemic diseases, scarlet fever and enteric fever showed the lowest rates on record, as also did diphtheria if the combined mortality from diphtheria and croup be taken as an indication of the changes of the mortality from that disease. From measles a lower death-rate than that in 1910 has only once been recorded, viz., in 1908, and from whooping-cough only twice, viz., in 1906 and 1909. From phthisis and from other forms of tuberculosis in the aggregate, as well as from bronchitis, the rates were the lowest recorded, while from pneumonia a lower rate than that in 1910 has not been recorded since 1894.

On the other hand, the aggregate death-rate from cancer reached its highest point in 1910, but it is worthy of remark that this increase was confined to the mortality of males, the death-rate of females having shown a slight decline. The death-rate from diabetes has continued to increase.

As the changes in the presentation of the Vital Statistics of this department which I foreshadowed last year are now being introduced, the present Report is the last of a series, dating back to the beginning of registration in this country, which have presented the statistics in relation to registration areas. Future Reports upon natality and mortality will have regard solely to administrative areas, and will also embody the other improvements described in my Report for the year 1909.

The introduction of the new system has involved much expansion of the work of the statistical branch of this office in various directions. It has rendered necessary, for instance, the organisation of a system of distributing to the areas of their usual residence the deaths of persons dying in institutions or elsewhere away from their homes. The method adopted for carrying out this work depends, as mentioned in my last Report, upon the voluntary co-operation of County Medical Officers of Health without whose aid the difficulties of the task would have been greatly increased, if indeed they had not proved insuperable. The system of distribution has been so planned that County and District Medical Officers of Health receive in return for the indispensable help given by them copies of all information under this head affecting their areas, so that a uniform and comprehensive scheme is now in operation which serves local requirements as well as those of this office. With the ever increasing proportion of deaths occurring in institutions for the sick the need for a move in this direction has been constantly growing, and I have no doubt that, with necessary modifications of detail suggested by experience, the scheme which has

now been in operation for a year is capable of yielding results which should be satisfactory to all concerned. It is my duty in this connection to record my high appreciation of the help which I have received from Medical Officers of Health and their staffs, with the sanction of the Sanitary Authorities of the country. The amount of work involved especially in the case of the larger counties has been very considerable, but there can be no doubt that the consequent improvement of the vital statistics of this country, which demand the treatment in question more urgently perhaps than do those of any other, will be more than commensurate to the labour expended.

Another task necessitated by the change in our system of tabulation has been the preparation of a "Manual of the International List of Causes of Death," which was issued in January last in order to standardise as far as possible the first use in England and Wales of the international scheme of tabulation, and to regulate its application to the peculiar requirements and conditions of English mortality records. This publication also supplies information relative to the practice of this office in compiling its mortality returns which is essential to thorough appreciation of their significance. Such information has never before been made available to students of these Reports, and I hope that its publication now will add considerably to their value.

The other increases in the work of the office involved by tabulation under administrative areas are mainly incidental to the very inconvenient system of collecting from one set of areas information which has to be tabulated for different and largely unrelated areas, and need not be described here. It will suffice to say that if by a reform in the law relating to registration the facts dealt with could be collected from the areas for which they are to be presented, the processes of tabulation would not only gain greatly in speed and convenience but also to some extent in accuracy.

The mechanical system of tabulation by cards, which has now been in operation for some months, has already proved its value, and will render possible the introduction of some important improvements in our statistics. A few of these may be mentioned.

1. Details of the cause of death in relation to age and sex for aggregates of large towns (outside of London), of smaller towns, and of rural areas, such as have hitherto only been given for the country as a whole and for London.
2. Double classification of causes of death, both for certain important causes every year, as described on page xi of the "Manual" referred to above, and for all causes in small sections of the list of causes at regularly recurring intervals. It is hoped that by dividing the International List of Causes of Death into ten sections and dealing with one of these sections annually it may be possible to publish details as to the certification of deaths allocated to each heading in the list once in ten years. This has never yet been attempted in England, and should, if the plan can be successfully carried out, throw much fresh light upon the causes of mortality in this country. It will be shown, for instance, how much of the mortality returned as due to acute specific fevers is certified as directly due to the diseases in question and how much to their various complications and sequelæ; while on the other hand the same process will for the first time render it possible to obtain an estimate of the total number of fatal cases of such diseases as bronchitis and pneumonia, many deaths from which

under the ordinary system of classification by single causes of death are necessarily listed to the diseases primarily responsible for these conditions.

It is interesting to note that in his Report on the Nomenclature and Statistical Classification of Diseases, appended to the Annual Report for 1853, Dr. Farr wrote (p. 78) as follows :—

“To render the analysis of the *causes of death* complete it will be necessary to subject a certain number of them to a *second analysis*; showing, for example, the various ways in which *child-birth* is fatal, the circumstances in which *fatal accidents* occur, the cases of *measles* that terminate in *bronchitis* or *pneumonia*, of *scarlatina* that pass into *dropsy*, and the *duration* of each fatal case.”

Except in the case of childbirth it has not been found practicable to carry out this suggestion under the old system of tabulation, but the introduction of tabulation by cards now gives the opportunity for considerable progress in the direction laid down almost sixty years ago. The certification of duration of fatal disease has never been sufficiently complete or reliable to warrant analysis of the information received under this head.

3. Statement, where required, of the nature of the place where death occurred, as private house, hospital, poor law infirmary, &c. A demand for this information has recently arisen in the case of pulmonary tuberculosis as a means of measuring the amount of the protection secured to healthy members of the community by the isolation in institutions of those affected during the final and most infectious stages of the disease. In the case of cancer and some other diseases the same information is required for quite another purpose, namely, in order to distinguish those returns in which the statement of cause of death is presumably most reliable, having as a rule been verified by post mortem examination where required. It is obvious that, when tables can be presented showing the site of fatal cancers certified in hospital practice, an increase may be looked for in the usefulness of the returns hitherto presented in regard to this matter. It may be anticipated also that a knowledge of the extent to which institutional accommodation is provided and used for various forms of fatal disease in different parts of the country and for persons of different occupations will be found of considerable sociological interest.

4. Classification of deaths by date of occurrence. This will not be undertaken generally in much detail, but where the nature of the disease under investigation renders such information of special interest it will be very much more readily obtainable under the new system than under the old.

5. More detailed statement of age distribution of mortality. The distribution of mortality according to age will in future be more fully stated than hitherto; and in the case of females its distribution in relation to marriage will also be shown in cases where this is of special interest.

In the first thirteen Annual Reports of the Registrar-General deaths were classified in age-groups of not more than five years each throughout the whole of life, but from the year 1851 onwards the decennial grouping has been substituted at ages over 25. The reason for the change does not appear to have been recorded, but presumably it was introduced on account of the undue proportion of deaths

registered as occurring at such ages as 40, 50, 60, &c. It has been felt that a system of grouping was unsuitable under which such deaths were necessarily allocated in many instances to an age-group to which they did not properly belong, and that it was better to use a larger group with the points of maximum uncertainty of statement as far as possible removed from the limiting ages.

As a result, however, of study of the returns made as to age at the Census of 1901 it was stated in the General Report upon that Census (page 64) that “the errors that would result from the use of multiples of ten years as the boundaries of age-groups are now less serious than had been supposed.” This opinion was founded upon the tabulation by single years of the ages of about half a million of the enumerated population. All the deaths registered during 1910 have been similarly tabulated, the result being shown in Table XX. Examination of these tables shows that the “heaping up” of deaths at ages which are multiples of 10 is caused mainly by transfer from the next succeeding year of age in each case. This fact is of importance in justifying reversion to the practice of quinquennial grouping, for transfer in registration from true age $10x + 1$ to age $10x$ does not affect the quinquennial group total, whereas transfer from $10x - 1$ to $10x$ would do so.

Additional reasons for the adoption of quinquennial grouping are (1) that it has been in use for the statement of the ages of the living in every Census from 1841 onwards; (2) that if for any purpose decennial grouping is considered preferable it can easily be reverted to by summing together the appropriate quinquennial groups; and (3) that quinquennial grouping will furnish material for comparison of mortality in relation to age with those countries which use decennial age-groups bounded by even multiples of ten, as 30—, 40—, 50—, &c. There has hitherto been difficulty in comparing these groups with our 25—, 35—, 45—, &c.

Table XX showing the number of deaths returned at each individual year of age appears for the first time in this Report. It will be repeated in subsequent issues, as it is hoped that in conjunction with the similar tables to be issued in the Census Report such tables may be of use in connexion with the calculation of life tables.

The delay in the publication of the present Report is due mainly to the pressure of work in connexion with the changes above referred to; but one of the incidental advantages of these changes is that it will be possible, in future, to issue the Annual Report at an earlier date than has been customary in the past.

I cannot conclude without a reference to the recent deaths, on the 12th and 18th of April respectively, of Dr. Ogle and Mr. Waters, both of whom have been intimately connected with the statistical work of this Department. Dr. William Ogle was appointed Superintendent of Statistics in 1880 and, until his retirement in 1893, he carried on with marked ability and energy the work of developing and improving the national system of vital statistics founded by his eminent predecessor Dr. Farr. During this period he was the author of many valuable contributions to sanitary science in the Annual Reports of the Registrar-General and elsewhere, and he was responsible for the Reports on the Censuses of 1881 and 1891 as also for the Decennial Supplement to the Annual Reports for 1871 to 1880 which involved the construction of new English Life Tables and embodied the results of much investigation on the question of occupational mortality. Mr. Alfred Charles Waters, I.S.O., who had served for nearly 46

years in this Office and had been Chief Clerk since 1905, was well known in connexion with several improvements in life table construction and other statistical methods, and took a prominent part in the preparation of the various sections of the Reports on the Census of 1901 as well as in the preparatory work for the Census of 1911. His competence in statistics and mathematics made him a most valuable member of my staff which will be seriously weakened by his unexpected death.

In conclusion, I have to convey my thanks to the various foreign and colonial authorities for the information from which the International Vital Statistics have been compiled, and to Dr. W. N. Shaw, F.R.S., for the Meteorological Report of the year 1910.

I have the honour to be,
Sir,
Your obedient Servant,

BERNARD MALLET,
Registrar-General.

*General Register Office,
Somerset House,
April, 1912.*

REVIEW

OF THE

VITAL STATISTICS OF THE YEAR 1910.

POPULATION.

Since the issue of the last Annual Report a Census has been taken, and the result, subject to final revision, was that on April 3rd, 1911, the population of England and Wales consisted of 36,075,269 persons, as compared with 32,527,843 in 1901. It has therefore become possible to abandon the provisional estimates of population, which had been in use for the middle of 1901 and subsequent years, and to substitute more trustworthy estimates based on the ascertained increase of population in the recently completed intercensal period.

For the country as a whole the population at the middle of each of the years 1901 to 1910 has been calculated on the assumption of uniform increase by geometrical progression. Estimated in this way the population of England and Wales at the middle of the year 1910 was 35,796,289 persons. Allowing for the change between 1901 and 1910 in the proportion of the sexes, as estimated from the result of the recent census, 17,313,221 of these persons were males and 18,483,068 were females. These figures have been used in the calculations of the Marriage, Birth and Death rates for the present Report.

For parts of the country the method adopted in this Report for the calculation of estimates of population is that described in the Annual Report for 1907, pages cxxxii.-cxxxiv.

By this method, P_0 and P_1 being the enumerated population of England and Wales in 1901 and 1911, and π_0 and π_1 the corresponding populations of any part of the country, if P_t be the population (however estimated) of the country as a whole at an intercensal time t , the estimated population π_t of the part of the country at the same time is

$$\frac{P_1 - P_t}{P_1 - P_0} \pi_0 + \frac{P_t - P_0}{P_1 - P_0} \pi_1$$

Representing $\frac{P_1 - P_t}{P_1 - P_0}$ by m and $\frac{P_t - P_0}{P_1 - P_0}$ by n , and assuming the population of England and Wales in the middle of each year to be calculated by geometrical progression, the factors m and n for values of t corresponding to the middle of each of the years 1901 to 1910, are as follows:—

Year.	Factor m .	Factor n .
1901	*07623883	*02376117
1902	*88058609	*11941391
1903	*78393771	*21606229
1904	*68628155	*31371845
1905	*58761057	*41238943
1906	*48791434	*51208566
1907	*38718017	*61281983
1908	*28539623	*71460377
1909	*18255405	*81744595
1910	*07864294	*92135706

Take, for example, the case of London. The population in 1901 was 4,536,267; in 1911 it was (subject to revision) 4,522,961. Multiplying

these numbers by the factors *m* and *n* in the above table corresponding to the year, say, 1908, the sum of the two products gives the estimated population at the middle of that year.

Thus	$4,536,267 \times .28539623 = 1,294,634$
	$4,522,961 \times .71460377 = 3,232,125$
Sum	<u>4,526,759</u>

This estimate, 4,526,759, is the population that has been used for calculating the death-rates in London during 1908 for the purpose of this Report.

The factors in the above table are based upon the unrevised populations of 1911, as shown in the Preliminary Report on the Census and are given here because it was necessary to use the unrevised Census populations for the purpose of this Report.

At a period so close to the date of a Census it may be assumed that estimates of population for the most part approximate very closely to the truth, whatever the method of estimation employed, but the case is different with years nearer the centre of the intercensal period, and when estimates have to be made for years considerably subsequent to the date of the last available Census the uncertainty is still further increased. The methods to be used for estimating populations for dates subsequent to the Census of 1911 are therefore at present receiving careful consideration, in order that errors of estimation, inevitably large in the absence of a quinquennial Census, may be reduced as far as practicable.*

Although the total numbers of males and females can be closely estimated from the results of the recent Census, it is not yet possible

*It may be stated here that for the purposes of the Annual Summary for 1911, and of the Weekly and Quarterly Returns for 1912 the method above referred to has been adopted for estimates of populations at the middle of each of the years 1911 and 1912. In this case, P being greater than P₁ the formula for the population of a district becomes

$$\frac{P_t - P_0}{P_1 - P_0} \pi_1 - \frac{P_t - P_1}{P_1 - P_0} \pi_0$$

Writing $\frac{P_t - P_0}{P_1 - P_0} \pi_1$ in the form $\frac{(P_t - P_1) + (P_1 - P_0)}{P_1 - P_0} \pi_1$ the whole expression becomes

$$\frac{(P_t - P_1) + (P_1 - P_0)}{P_1 - P_0} \pi_1 - \frac{P_t - P_1}{P_1 - P_0} \pi_0$$

$$= \frac{P_t - P_1}{P_1 - P_0} \pi_1 + \frac{P_1 - P_0}{P_1 - P_0} \pi_1 - \frac{P_t - P_1}{P_1 - P_0} \pi_0$$

$$= \pi_1 + \frac{P_t - P_1}{P_1 - P_0} (\pi_1 - \pi_0)$$

Thus the population of each part of the country has been calculated by adding to the population enumerated in 1911 the product of the increase or decrease of population in the last intercensal period multiplied by the factor $\frac{P_t - P_1}{P_1 - P_0}$. The estimates by this method of the population of the several parts of the country, however divided, will sum to the total population of the whole country.

For values of *t* corresponding to the middle of the years 1911, 1912 and 1913, the values of $\frac{P_t - P_1}{P_1 - P_0}$ calculated upon the revised population of England and Wales in 1911 are as follows:—

1911	.02634780
1912	.13242746
1913	.23960799

Thus, the population of the extended City of Birmingham was 759,063 in 1901, and 840,202 in 1911, the increase in the intercensal period having been 81,139. The estimated population of the City at the middle of the year 1912 is therefore $840,202 + 81,139 \times .13242746 = 850,947$.

to extend this calculation to the ages and civil condition of the people in 1910, as the Census tabulation of these matters is not yet complete. For this reason a considerable number of tables relating to marriages and births which have been inserted in recent years, and which involve an assumption of the constitution of the population in regard to age and civil condition, are omitted in this Report. The assumptions hitherto in use can no longer be continued, as a portion of the material requisite for their revision is available, nor can they as yet judiciously be revised, as this material is not yet complete. In the case of deaths, however, the assumptions involved are fewer, condition as to marriage not being taken into consideration, and owing to the great importance of the statement of death-rates in a corrected form it has been deemed advisable to continue the publication of many of these, even under the peculiar circumstances of the present year.

MARRIAGES.

The marriages in England and Wales during the year 1910 numbered 267,721, corresponding to a rate of 15.0 persons married per 1000 of the population at all ages. This rate was 0.3 per 1000 above the corresponding rate in 1909, but 0.6 below the average rate in the ten years 1900–1909.

Complete statistics of the marriages recorded in England and Wales are available only from 1st July, 1837, on which date the Births, Deaths, and Marriages Registration Acts of 1836 came into operation. The proportion to the total population of persons married during the 73 years (1838–1910) has ranged between a maximum of 17.9 per 1000 living in 1853, and a minimum of 14.2 per 1000 in 1886, the mean annual rate in the whole period being 16.0 per 1000.

The discussion of marriage-rates in proportion to numbers of marriageable persons, which has been included in recent Annual Reports, is omitted on this occasion for the reason stated above.

Re-Marriages.—The subjoined table gives a general view of the changes in the proportions of first marriages and re-marriages since the year 1876. It will be observed that the proportion of re-marriages shows an almost continuous decrease.

TABLE I.—ENGLAND AND WALES.—PROPORTIONS OF FIRST MARRIAGES AND RE-MARRIAGES IN 1000 MARRIAGES.

Period.	Men.		Women.		Bachelors who married.		Widowers who married.	
	Bachelors.	Widowers.	Spinsters.	Widows.	Spinsters.	Widows.	Spinsters.	Widows.
	1876–80 ...	864	136	902	98	820	44	82	54
1881–85 ...	874	126	911	89	834	40	77	49
1886–90 ...	881	119	917	83	844	37	73	46
1891–95 ...	887	113	921	79	851	36	70	43
1896–1900 ...	904	96	931	69	871	33	60	36
1901–05 ...	911	89	933	67	877	34	56	33
1906–10 ...	916	84	938	62	884	32	54	30
1906 ...	917	83	938	62	885	32	53	30
1907 ...	916	84	939	61	885	31	54	30
1908 ...	914	86	936	64	881	33	55	31
1909 ...	915	85	939	61	884	31	55	30
1910 ...	916	84	938	62	884	32	54	30

The Divorced.—The numbers of persons divorced annually had been increasing for many years, but were fewer in 1910 than in any other year since 1906. The marriages of persons described as divorced which had also steadily increased until the year 1909 showed a decrease in 1910.

TABLE II.—ENGLAND AND WALES.—AVERAGE ANNUAL **Number** OF PERSONS DIVORCED, AND OF DIVORCED PERSONS WHO RE-MARRIED, 1876-1910.

Period.	Number of Persons divorced.	Number of Divorced persons who re-married.							
		Total.	Men.	Women.	Divorced men and spinsters.	Divorced men and widows.	Divorced men and divorced women.	Divorced women and bachelors.	Divorced women and widowers.
1876-80 ...	554	104	56	48	42	12	2	31	15
1881-85 ...	671	128	68	60	53	12	3	42	15
1886-90 ...	707	169	80	89	65	11	4	65	20
1891-95 ...	744	214	110	104	89	15	6	75	23
1896-1900 ...	980	345	172	173	138	24	10	126	37
1901-05 ...	1126	509	262	247	205	38	19	181	47
1906-10 ...	1247	693	356	337	276	53	27	253	57
1906... ..	1092	676	351	325	268	55	28	227	70
1907... ..	1288	636	309	327	259	31	19	259	49
1908... ..	1276	708	365	343	276	63	26	267	50
1909... ..	1388	737	383	354	287	61	35	260	59
1910... ..	1192	710	372	338	292	54	26	256	56

The number of divorced persons who re-married in 1876-80 was equal to about 19 per cent. of the number divorced during that period, whereas in 1910 the proportion had risen to about 60 per cent. It should be pointed out, however, that in some cases persons who have been divorced abroad re-marry in this country, and also that the figures given in the table refer only to persons described in the marriage register as divorced, and possibly this description is not given in all cases in which it is applicable.

Ages at Marriage.—When civil registration commenced the ages of both parties were stated in only about six per cent. of the marriages. Since then this proportion has gradually risen. The proportions in 1910 were 99·22 per cent. in the case of husbands and 99·14 in that of wives, showing a slight decrease upon the proportions in the preceding year. Unstated ages are more frequent in re-marriages than in first marriages and most frequent of all in re-marriages of widowers.

For the purposes of Table III, the marriages in which the ages were not stated have been distributed to the various ages in the proportions shown in the stated cases, as, although it is probable that the proportion of unstated ages is higher in the later age-groups, there is no means of estimating to what extent this may be the case. The calculations have been restricted to the last three census periods in order to avoid errors which might arise from erroneous estimates of sections of the population for intercensal years.

TABLE III.—ENGLAND AND WALES.—AVERAGE ANNUAL MARRIAGE-RATES OF UNMARRIED and WIDOWED PERSONS at SIX AGE-GROUPS, 1880-2; 1890-2; and 1900-2.

—	Aged 15 years and upwards.*	15-	20-	25-	35-	45-	55 and upwards.
<i>Bachelors.</i>							
1880-2 ...	58·7	4·6	106·8	112·4	40·5	14·3	3·0
1890-2 ...	57·1	3·1	94·7	122·4	43·4	15·2	3·5
1900-2 ...	54·7	2·5	85·9	123·7	44·2	14·6	3·3
<i>Widowers.†</i>							
1880-2 ...	52·9	30·6	192·9	246·5	157·8	76·9	16·0
1890-2 ...	50·7	14·1	153·4	231·7	151·1	74·7	15·5
1900-2 ...	44·4	—	132·6	201·7	134·1	65·3	13·5
<i>Spinsters.</i>							
1880-2 ...	59·0	21·5	121·9	80·6	26·3	10·4	1·6
1890-2 ...	55·7	16·2	112·4	85·7	26·4	10·3	1·7
1900-2 ...	53·0	13·0	104·8	88·5	25·3	9·1	1·5
<i>Widows.†</i>							
1880-2 ...	15·5	56·6	155·3	114·5	50·2	18·6	2·6
1890-2 ...	15·2	49·3	150·4	114·3	50·3	17·8	2·4
1900-2 ...	14·4	54·9	140·7	115·9	48·9	15·6	2·1

* The rates in each period are based on the age-constitution and proportions of these particular sections of the population as enumerated at the Census of 1901, in the same manner as is described in reference to death-rates in the footnote on page xxviii.

† The apparent anomaly, that the rates for widowers and widows at all ages are much lower than those for bachelors and spinsters respectively, while at each separate age-period they are higher, is explained by the fact that the higher rates for the single of both sexes relate to age-periods at which their numbers are comparatively large, while the higher rates for the widowed relate to age-periods at which their numbers are comparatively small.

The table shows that while the marriage rates for widowers in each age-group have steadily declined, those for bachelors have generally increased at ages above 25, below which age there is a large decrease. The rates for women, whether single or widowed, have declined in all age-groups except 25-35. The increase at this period of life clearly shows the effect of the modern tendency towards postponement of marriage.

Tables IV. and V. show the proportions by age of bachelors, spinsters, widowers, and widows who married during the period 1886-1910.

TABLE IV.—ENGLAND AND WALES.—AGE-CONSTITUTION of BACHELORS and SPINSTERS who MARRIED, reduced to 1,000 MARRIAGES at ALL AGES, 1886-1910.

Period.	All Ages.	Minors.			Full Age.									Age not Stated.
		Under 18 Years.	18-	19-	20-	21-	25-	30-	35-	40-	45-	50-	55 and up-wards.	
<i>Bachelors.</i>														
1886-1890	1000	0	4	20	47	424	309	96	33	13	6	3	2	43
1891-1895	1000	0	3	17	43	415	333	108	37	14	6	3	2	19
1896-1900	1000	0	3	15	39	411	346	110	39	15	6	3	2	11
1901-1905	1000	0	3	13	35	390	360	122	41	16	7	3	2	8
1906-1910	1000	0	3	11	30	370	372	132	46	17	8	3	2	6
1906 ..	1000	0	3	12	32	380	368	127	43	16	7	3	2	7
1907 ..	1000	0	2	11	31	379	368	130	44	16	7	3	2	7
1908 ..	1000	0	2	11	30	374	369	132	46	18	7	3	2	6
1909 ..	1000	0	3	12	29	362	373	136	48	18	8	3	2	6
1910 ..	1000	0	3	11	27	356	381	137	48	18	8	3	2	6
<i>Spinsters.</i>														
1886-1890	1000	9	37	72	97	417	219	62	23	10	5	2	1	46
1891-1895	1000	7	31	66	94	425	241	70	25	11	5	2	1	22
1896-1900	1000	6	27	59	89	434	253	74	26	11	5	2	1	13
1901-1905	1000	5	23	53	82	428	272	79	28	12	5	2	1	10
1906-1910	1000	5	21	48	75	420	284	87	30	12	6	2	2	8
1906 ..	1000	5	22	51	77	428	278	83	28	11	6	2	1	8
1907 ..	1000	5	22	48	76	423	281	85	29	12	6	2	2	9
1908 ..	1000	5	21	48	75	419	282	88	31	12	6	3	2	8
1909 ..	1000	5	21	47	72	414	289	90	31	13	6	3	2	7
1910 ..	1000	5	21	45	71	410	293	92	32	13	6	3	2	7

TABLE V.—ENGLAND AND WALES.—AGE-CONSTITUTION of WIDOWERS and WIDOWS who MARRIED, reduced to 1,000 MARRIAGES at ALL AGES, 1886-1910.

Period.	All Ages.	Minors.	Full Age.											Age not Stated.
			21-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70 and up-wards.	
<i>Widowers.</i>														
1886-1890	1000	0	13	81	133	151	139	120	94	70	53	27	15	104
1891-1895	1000	0	12	76	132	153	148	126	106	74	55	29	18	71
1896-1900	1000	0	10	73	131	158	150	136	109	84	56	30	19	44
1901-1905	1000	0	10	68	130	155	152	136	116	83	62	32	20	36
1906-1910	1000	0	8	61	123	153	152	141	119	90	62	37	24	30
1906 ..	1000	0	10	66	125	149	152	143	117	87	60	36	20	35
1907 ..	1000	—	8	63	126	150	155	136	119	91	62	38	22	30
1908 ..	1000	0	8	60	123	154	156	142	118	87	64	37	23	28
1909 ..	1000	0	9	59	119	154	149	143	119	91	64	37	27	29
1910 ..	1000	0	8	56	122	154	149	144	122	93	62	36	26	28
<i>Widows.</i>														
1886-1890	1000	1	30	119	164	173	145	117	73	46	26	10	3	93
1891-1895	1000	1	27	115	170	177	157	119	78	47	29	10	4	66
1896-1900	1000	1	26	113	175	188	157	127	81	50	28	11	3	40
1901-1905	1000	1	28	122	182	190	158	118	78	47	29	11	4	32
1906-1910	1000	1	23	106	177	192	160	129	82	52	30	14	6	28
1906 ..	1000	1	23	113	180	184	162	131	78	48	31	12	4	33
1907 ..	1000	1	25	108	180	192	158	128	82	50	30	14	5	27
1908 ..	1000	1	23	108	174	196	160	131	78	53	31	14	5	26
1909 ..	1000	1	22	101	175	195	162	126	84	55	29	15	7	28
1910 ..	1000	1	22	102	175	194	157	132	86	53	29	16	7	26

Marriages of Minors.—The proportion of marriages under age was at its maximum in the year 1874 both for males and females. It will be seen from Table 9, page 10, that since that year the ratio of such marriages to total marriages has declined continuously.*

Among registration counties with populations exceeding 100,000 persons the highest and lowest proportions in the year 1910 per 1,000 of husbands and of wives under age at marriage were as shown in Table VI. Similar information is stated for all counties in Table 12, page 13.

The highest proportions of marriages of minors were recorded in the mining and manufacturing counties and the lowest in the agricultural counties.

It may be observed that marriages of minors are proportionately more common in Scotland than in England and Wales; while in Ireland the proportion of such marriages is far below the English and Scottish ratios.

* The decreasing tendency to early marriage is more accurately indicated by the proportion of men and women who marry at the earlier ages to the numbers living at those ages. See Table III.

TABLE VI.

Registration Counties.	Highest proportions of minors per 1000 Marriages.	Registration Counties.	Lowest proportions of minors per 1000 Marriages.
<i>Husbands.</i>			
England and Wales, 38.			
Nottinghamshire	67	Gloucestershire	24
Durham	55	Wiltshire	24
Derbyshire	53	Shropshire	22
Leicestershire	52	Hampshire	20
Staffordshire	52	Kent	20
West Riding of Yorkshire	50	Denbighshire	19
Monmouthshire	48	Surrey	17
North Riding of Yorkshire	47	Herefordshire	12
		Carnarvonshire	11
<i>Wives.</i>			
England and Wales, 133.			
Durham	222	Sussex	94
Monmouthshire	209	Berkshire	93
Nottinghamshire	202	Surrey	93
Glamorganshire	187	Middlesex	92
Derbyshire	172	Herefordshire	87
Northumberland	170	Gloucestershire	85
North Riding of Yorkshire	168	Somersetshire	83
Staffordshire	168	Carnarvonshire	46

Mean Age at Marriage.—Although the mean age at marriage is for many purposes a convenient summary of the statement as to age, it must be borne in mind that it forms only a very imperfect measure of changes in the age at which marriage takes place.

The great reduction that has taken place in the disturbing factor of unstated ages, has rendered it possible to measure with approximate accuracy for a series of recent years the mean age at marriage, based on the recorded ages.

TABLE VII.—ENGLAND AND WALES.—MEAN AGES at MARRIAGE 1896-1910 (recorded ages).—HUSBANDS.

Year.	All Husbands.	All Bachelors.	All Widowers.	Bachelors with Spinsters.	Bachelors with Widows.	Widowers with Spinsters.	Widowers with Widows.
1896 ...	28.43	26.59	44.49	26.30	33.93	41.38	49.60
1897 ...	28.38	26.63	44.53	26.35	34.10	41.43	49.73
1898 ...	28.34	26.62	44.70	26.34	33.94	41.82	49.69
1899 ...	28.34	26.65	44.90	26.37	34.29	41.87	49.81
1900 ...	28.41	26.68	45.02	26.39	34.35	42.19	49.75
1901 ...	28.55	26.76	45.18	26.48	33.94	42.43	49.69
1902 ...	28.53	26.88	44.96	26.60	33.94	42.11	49.81
1903 ...	28.49	26.91	44.94	26.63	34.24	42.16	49.72
1904 ...	28.46	26.93	45.03	26.66	34.06	42.25	49.98
1905 ...	28.56	27.01	45.27	26.74	34.26	42.47	50.18
1906 ...	28.56	27.03	45.37	26.76	34.39	42.59	50.25
1907 ...	28.66	27.10	45.62	26.84	34.58	42.85	50.56
1908 ...	28.78	27.19	45.69	26.92	34.57	42.92	50.66
1909 ...	28.88	27.29	45.93	27.02	35.00	43.23	50.85
1910 ...	28.92	27.36	45.93	27.09	34.96	43.14	50.89

Tables VII. and VIII. show that the mean age at marriage has steadily increased during the whole period both for bachelors and for spinsters, and a similar tendency, with slight fluctuations, is noticeable in the case of widowers. In the case of widows the mean age has shown a progressive increase since 1902.

TABLE VIII.—ENGLAND AND WALES.—MEAN AGES at MARRIAGE 1896-1910 (recorded ages).—WIVES.

Year.	All Wives.	All Spinsters.	All Widows.	Spinsters with Bachelors.	Widows with Bachelors.	Spinsters with Widowers.	Widows with Widowers.
1896 ...	26.21	25.08	40.58	24.54	35.69	32.43	44.81
1897 ...	26.18	25.10	40.74	24.59	35.95	32.31	45.00
1898 ...	26.18	25.14	40.59	24.62	35.85	32.68	45.04
1899 ...	26.21	25.16	40.83	24.65	36.12	32.83	45.16
1900 ...	26.29	25.23	40.74	24.71	36.19	32.97	44.95
1901 ...	26.39	25.31	40.43	24.77	35.65	33.04	44.96
1902 ...	26.37	25.36	40.25	24.86	35.62	32.86	44.95
1903 ...	26.35	25.37	40.27	24.89	35.69	32.93	45.01
1904 ...	26.32	25.37	40.35	24.90	35.82	33.03	45.22
1905 ...	26.38	25.43	40.53	24.96	36.02	33.08	45.29
1906 ...	26.41	25.46	40.79	24.99	36.27	33.30	45.53
1907 ...	26.49	25.54	40.91	25.06	36.32	33.43	45.68
1908 ...	26.61	25.63	41.02	25.13	36.43	33.71	45.86
1909 ...	26.69	25.73	41.27	25.22	36.71	33.85	45.98
1910 ...	26.75	25.79	41.33	25.30	36.83	33.85	46.07

The following comparison for the year 1910 between the mean age at marriage in London and the rest of England and Wales may be of interest.

TABLE IX.—MEAN AGE AT MARRIAGE.

Marriages of—	Husbands.		Wives.	
	England and Wales, less London.	London.	England and Wales, less London.	London.
Bachelors	27.24	28.05	25.63	26.10
Widowers	45.74	47.02	38.31	37.88
Spinsters	27.89	28.69	25.74	26.09
Widows	42.77	42.43	41.44	40.76
Bachelors with spinsters	26.98	27.70	25.25	25.62
Bachelors with widows	34.77	35.87	36.75	37.19
Widowers with spinsters	42.85	44.78	33.86	33.82
Widowers with widows	50.84	51.23	46.16	45.54
In all marriages	28.80	29.62	26.70	27.08

NOTE.—The table is to be read as follows:—The mean age of all the bachelors who married was 28.05 years in London, and 27.24 in the rest of the country; the mean age of their wives being 26.10 and 25.63 years respectively. The mean age of all the spinsters who married was 26.09 years in London, and 25.74 in the rest of the country: the mean age of their husbands being 28.69 and 27.89 years respectively.

Signature in Marriage Register.—The proportion of husbands who failed at the time of marriage to sign their names in the marriage register has gradually fallen from 32.6 per cent. in 1841-45 to 1.1 in 1910,

and of wives from 48.9 to 1.2. In the home and the agricultural counties the proportion of illiterate men is higher, and in the mining and industrial counties lower, than that of the opposite sex.

Buildings in which Marriages may be Solemnized.—At the end of the year 1910 the number of churches or chapels of the Established Church, and of registered buildings in which marriages could be legally solemnized were as follows :—

Established Church	...	...	...	...	15,811
All other Religious Denominations	...	...	...	...	15,787
Total	...	...	...	...	<u>31,598</u>

The increase upon the numbers at the end of the previous year was : Established Church 41, other religious denominations 253.

By the Acts 15 and 16 Vict., c. 36, and 18 and 19 Vict., c. 81, it was enacted that all places of religious worship not being churches or chapels of the Established Church should, if the congregations desired, but not otherwise, be certified to the Registrar General ; certification for public worship being a necessary preliminary to the registration of a building for the solemnization of marriages. The number of places of meeting for religious worship on the official register on 31st December, 1910, and the number of buildings registered for the solemnization of marriages appear in the following table :—

TABLE X.

Denomination.	Buildings certified to the Registrar-General as Meeting places for Religious Worship.	Buildings registered for the Solemnization of Marriages.*
Roman Catholics	1,376	1,321
Wesleyan Methodists	7,429	3,628
Congregationalists	3,228	2,887
Baptists	3,004	2,576
Primitive Methodists	4,225	1,618
United Methodist Church	1,945	1,146
Calvinistic Methodists	1,188	875
Presbyterians	436	438
Unitarians	180	197
New Jerusalem Church...	53	56
Catholic Apostolic Church	71	49
Countess of Huntingdon's Connexion	44	43
Salvation Army	1,210	40
Society of Friends	417	—†
Jews	203	—†
All others	2,698	913

* Of these buildings nearly 1000 were certified before 1852, as Places of Meeting for Religious Worship, to some other Authority than the Registrar-General and therefore are not included in the preceding column.

† It is not necessary for buildings to be registered for the Solemnization of Quaker or Jewish Marriages. Under section 31 of the Births, Deaths, and Marriages Registration Act (1836) Registering Officers of the Society of Friends and Secretaries of Jewish Synagogues who have been certified to the Registrar-General record the Marriages in each case.

The Marriage Act, 1898, provided that under specified conditions, marriages might be solemnized in registered buildings in the presence of duly authorised persons without the attendance of a Registrar of Marriages. The governing bodies of some of the registered buildings have availed themselves of this provision, and at the end of the year 1910 the number of such buildings which had been brought under the operation of the Act, and so remained, was 3,075 out of the total of 15,787 ; the numbers of these buildings and the denominations to which they belonged, were as follows :—

1,378	Wesleyan Methodists.
504	Congregationalists.
363	Primitive Methodists.
303	Baptists.
281	United Methodist Church.
75	Calvinistic Methodists.
171	Other Denominations, and Unsectarian.

3,075 Total.

These 3,075 registered buildings were distributed among 497 of the registration districts. In the remaining 137 registration districts there was no registered building under the operation of this Act.

Mode of Solemnization.—The following table shows the changes in the mode of solemnization of marriages that have taken place since 1851.

TABLE XI.

Period.	Of 1000 Marriages.					Civil Marriages in Superintendent Registrars' Offices.
	With Religious Ceremonial.					
	Anglican.	Non-conformist.	Roman Catholic.	Jewish.	Total.	
1851-55	842	62	48	1.7	954	46
1856-60	820	71	46	1.8	939	61
1861-65	788	85	47	1.8	922	78
1866-70	769	96	43	1.8	910	90
1871-75	752	103	41	2.3	898	102
1876-80	727	113	42	2.4	884	116
1881-85	711	114	44	2.7	872	128
1886-90	702	116	42	3.8	864	136
1891-95	692	118	41	4.9	856	144
1896-1900	681	123	40	5.9	850	150
1901-05	650	131	41	7.3	829	171
1906-10	620	132	42	7.1	801	199
1906	631	131	42	8.3	812	188
1907	624	132	42	7.2	805	195
1908	616	132	41	6.6	796	204
1909	614	132	42	6.8	795	205
1910	616	130	42	6.8	795	205

Almost four-fifths of the marriages contracted in England and Wales during 1910 were solemnized with religious ceremonial. This proportion has been steadily decreasing since 1851 owing to the

growing tendency to resort to superintendent registrars' offices for purely civil marriage, and in 1910 it was equal to that in 1909 which was lower than in any previous year. The proportion of Established Church marriages is 2 per 1000 in excess of that in 1909, which was the lowest on record, while that of Nonconformist marriages is 2 per 1000 below the maximum attained in 1909 and some preceding years.

With regard to marriages in the Established Church it will be of further interest to give a statement showing what proportion were by Licence, Banns, and Superintendent Registrar's Certificate respectively.

TABLE XII.

Period.	Proportional Numbers of Marriages according to the Rites of the Established Church.					
	Total.	Special Licence.	Licence.	Banns.	Superintendent Registrar's Certificate.	Not stated.
1851-55	100	0·01	14·94	78·17	2·77	4·11
1856-60	100	0·01	15·54	78·51	3·01	2·93
1861-65	100	0·01	14·56	79·85	3·04	2·54
1866-70	100	0·01	13·29	81·79	2·94	1·97
1871-75	100	0·01	11·50	85·08	2·68	0·73
1876-80	100	0·02	11·12	85·96	2·46	0·44
1881-85	100	0·05	8·84	88·29	2·48	0·34
1886-90	100	0·02	7·26	90·15	2·30	0·27
1891-95	100	0·02	6·23	91·64	1·88	0·23
1896-1900	100	0·01	5·10	93·32	1·40	0·17
1901-05	100	0·02	4·80	93·97	1·09	0·12
1906-10	100	0·02	4·46	94·42	0·99	0·11
1906	100	0·02	4·43	94·41	1·05	0·09
1907	100	0·01	4·41	94·46	1·02	0·10
1908	100	0·02	4·46	94·46	0·96	0·10
1909	100	0·02	4·61	94·26	0·97	0·14
1910	100	0·02	4·40	94·53	0·94	0·11

These figures show that speaking generally while the proportion of marriages by Licence and by Superintendent Registrar's Certificate has steadily declined, the proportion of marriages by Banns has steadily increased.

It has already been stated that under the provisions of the Marriage Act, 1898, marriages may be solemnized in registered buildings in the presence of duly authorised persons without the attendance of a registrar of marriages. The proportions of such marriages per 1000 of the total from the date when the Act came into operation and the proportions of marriages before registrars (including marriages of Roman Catholics, but not those of Quakers) have been as follows:—

TABLE XIII.—PROPORTION PER 1000 OF TOTAL MARRIAGES.

Year.	In Registered Buildings.		Year.	In Registered Buildings.	
	Before Registrar.	Before Authorised Person.		Before Registrar.	Before Authorised Person.
1899 ...	154	11	1905 ...	141	32
1900 ...	146	22	1906 ...	139	33
1901 ...	145	24	1907 ...	138	35
1902 ...	142	26	1908 ...	136	37
1903 ...	143	28	1909 ...	134	40
1904 ...	142	30	1910 ...	128	44

Of the 1811 Jewish marriages contracted in the year 1910 in England and Wales, 1308, or 72 per cent., were registered in London, 160, or 9 per cent., in the city of Manchester, and 116, or 6 per cent., in the city of Leeds. Of the Jewish marriages in London, no fewer than 1059, or 81 per cent., were registered in a group of three registration districts—London City, Whitechapel, and Mile End Old Town.

Table 11 gives particulars as to the forms under which marriages have been contracted in the various counties during 1910.

BIRTHS.

The births registered in the year 1910 numbered 896,962; of these 860,327 were legitimate, and 36,635 were illegitimate.

In proportion to the total population of both sexes and all ages, the total births were equal to a rate of 25·1 per 1,000 living; this rate was 0·7 per 1,000 less than that recorded in 1909, and was no less than 2·5 per 1,000 below the average of the low rates in the ten years 1900-1909.

In the year 1876 the birth-rate in this country attained the highest point on record, viz., 36·3 per 1,000 living, since which date the ratio has, with a few insignificant exceptions, fallen year by year.

The birth-rate, stated in terms of total population (crude birth-rate), must obviously vary with the proportion of females of conceptive ages in the population, and with the proportion of these married, but, for the reasons stated on p. xiii., the present time is unsuitable for any discussion of birth-rates in relation to proportions of potential mothers.

Sex Proportions at Birth.—In 1910 the births of males in England and Wales numbered 457,266 and the births of females 439,696; the male births were therefore to the female births in the proportion of 1040 to 1000. The proportions in successive groups of years 1838-1910 are shown in Table 4, page 6; since the commencement of birth registration the ratios have ranged from 1032 to 1054 per 1000. The proportion of boys to girls at birth is lower in England and Wales than in any European country. The excess in the proportional number of boys in the several counties of England and Wales varies considerably (see Table 13, p. 14); in registration counties with populations exceeding 100,000 the highest and lowest

proportions borne by male to female births during the ten years 1900-1909, were as follows :—

TABLE XIV.

Registration Counties.	Highest proportion of Male to 1000 Female births, 1900-1909.	Registration Counties.	Lowest proportion of Male to 1000 Female births, 1900-1909.
England and Wales, 1038.			
Carnarvonshire ...	1059	Herefordshire ...	1014
Cumberland ...	1058	Shropshire ...	1025
Bedfordshire ...	1057	Hertfordshire ...	1026
Buckinghamshire ...	1055	Nottinghamshire ...	1028
Monmouthshire ...	1054	Berkshire ...	1030
Cambridgeshire ...	1053	Leicestershire ...	1032
North Riding of Yorkshire.	1052	Oxfordshire ...	1033
Denbighshire ...	1052	Worcestershire ...	1033
Surrey ...	1045	Warwickshire ...	1033
		West Riding of Yorkshire.	1033

Illegitimate Births.—The births registered during the year 1910 included 36,635 of illegitimate children.

Illegitimacy is usually stated in the form of the proportion of illegitimate births either to total births or to total population. The first method of statement is however objectionable as expressing one variable (the rate of illegitimacy) in terms of another (the total birth-rate). A four per cent. rate of illegitimacy for instance in a district where the total birth-rate is 30 implies more illegitimacy than a five per cent. rate where the total birth-rate is 20. The second method yields the best expression of illegitimacy at present available for 1910, as for reasons already referred to the birth-rate among unmarried and widowed females aged 15-45 cannot as yet be stated.

Comparing the proportion of illegitimate births in England and Wales in the year 1910 with that obtaining in the quinquennial period 1876-80, it will be seen that the rate of illegitimacy based on total births had decreased by only about 14 per cent., while that based on the total population, showed during the same period a decline of 41 per cent. (Table xv.).

In the section of this report dealing with International Statistics, a table will be found (page lxxxviii) from which a comparison can be made between the proportion of illegitimacy in this country and in certain European and Colonial States. It will be noted from the figures in the table that in 1900-1902 the ratio of illegitimate births in proportion to the unmarried and widowed section of the population aged 15-45 years was in every country (except in the Netherlands and in Ireland) above the proportion recorded in England and Wales.

Illegitimate Births in Counties.—Table XVI. exhibits the rates of illegitimate fertility in the several counties at different periods. It will be noticed that, speaking generally, the rates in certain counties remain consistently high throughout, as in the four northern counties, East Anglia (except Essex, which is largely London) and North Wales. These counties, on the whole, contain few large towns

TABLE XV.—ENGLAND AND WALES.—ILLEGITIMATE BIRTH-RATES, 1876-1910.

Period.	In proportion to total Births.		In proportion to total Population.	
	Rate per 1000.	Compared with rate in 1876-80 taken as 100.	Rate per 1000.	Compared with rate in 1876-80 taken as 100.
1876-1880 ...	47·5	100·0	1·7	100·0
1881-1885 ...	48·0	101·1	1·6	94·1
1886-1890 ...	46·3	97·5	1·5	88·2
1891-1895 ...	42·4	89·3	1·3	76·5
1896-1900 ...	41·0	86·3	1·2	70·6
1901-1905 ...	39·5	83·6	1·1	64·7
1906-1910 ...	40·2	84·6	1·1	64·7
1876... ..	46·8	98·5	1·7	100·0
1877... ..	47·5	100·0	1·7	100·0
1878... ..	47·2	99·4	1·7	100·0
1879... ..	47·9	100·8	1·7	100·0
1880... ..	48·3	101·7	1·6	94·1
1881... ..	48·8	102·7	1·7	100·0
1882... ..	48·5	102·1	1·6	94·1
1883... ..	47·9	100·8	1·6	94·1
1884... ..	47·1	99·2	1·6	94·1
1885... ..	47·9	100·8	1·6	94·1
1886... ..	47·4	99·8	1·6	94·1
1887... ..	47·5	100·0	1·5	88·2
1888... ..	46·3	97·5	1·4	82·4
1889... ..	45·9	96·6	1·4	82·4
1890... ..	44·2	93·1	1·3	76·5
1891... ..	42·4	89·3	1·3	76·5
1892... ..	41·9	88·2	1·3	76·5
1893... ..	42·5	89·5	1·3	76·5
1894... ..	43·1	90·7	1·3	76·5
1895... ..	42·1	88·6	1·3	76·5
1896... ..	42·3	89·1	1·3	76·5
1897... ..	41·7	87·8	1·2	70·6
1898... ..	41·5	87·4	1·2	70·6
1899... ..	40·0	84·2	1·2	70·6
1900... ..	39·7	83·6	1·1	64·7
1901... ..	38·9	81·9	1·1	64·7
1902... ..	39·0	82·1	1·1	64·7
1903... ..	39·3	82·7	1·1	64·7
1904... ..	39·9	84·0	1·1	64·7
1905... ..	40·2	84·6	1·1	64·7
1906... ..	40·0	84·2	1·1	64·7
1907... ..	39·4	82·9	1·0	58·8
1908... ..	39·9	84·0	1·1	64·7
1909... ..	41·0	86·3	1·1	64·7
1910... ..	40·8	85·9	1·0	58·8

TABLE XVI.—ILLEGITIMATE BIRTH-RATES in each REGISTRATION COUNTY, 1870-72 to 1900-02.

Registration Counties.	Illegitimate Births to 1000 Unmarried and Widowed Females, aged 15-45 years.			
	Census periods.			
	1870-72.	1880-82.	1890-92.	1900-02.
England and Wales..	17.0	14.1	10.5	8.5
London	10.3	9.8	8.1	6.9
Surrey	9.5	8.5	6.6	5.9
Kent	14.7	12.1	9.3	7.5
Sussex	13.7	11.5	8.7	7.2
Hampshire ..	13.6	11.8	8.5	7.3
Berkshire ..	16.8	13.4	10.3	8.7
Middlesex ..	9.4	9.4	6.5	5.9
Hertfordshire..	18.4	15.3	10.4	7.0
Buckinghamshire ..	19.0	16.5	12.6	9.1
Oxfordshire ..	19.0	15.4	10.4	9.0
Northamptonshire	18.7	15.9	11.7	9.1
Huntingdonshire	19.8	14.0	12.9	10.9
Bedfordshire ..	21.1	18.0	11.2	8.4
Cambridgeshire ..	19.3	15.6	12.4	9.6
Essex	16.2	12.7	9.1	7.3
Suffolk	22.0	17.8	14.0	12.0
Norfolk	27.3	22.6	16.7	13.4
Wiltshire	17.1	14.7	10.3	9.2
Dorsetshire ..	14.2	13.1	9.6	7.2
Devonshire ..	14.0	10.6	8.1	6.7
Cornwall	16.5	14.8	11.2	8.6
Somersetshire ..	13.3	11.3	7.4	6.0
Gloucestershire ..	12.9	11.6	8.2	6.3
Herefordshire..	21.4	19.0	13.4	11.2
Shropshire	28.2	21.8	16.6	12.8
Staffordshire ..	24.6	19.4	14.5	11.2
Worcestershire ..	16.3	13.7	9.2	7.2
Warwickshire ..	14.9	13.2	9.7	7.6
Leicestershire ..	19.9	16.1	11.4	8.6
Rutlandshire ..	18.1	12.7	7.9	7.2
Lincolnshire ..	22.3	18.5	14.2	12.2
Nottinghamshire ..	24.5	21.7	15.4	12.7
Derbyshire	22.5	17.7	12.8	10.0
Cheshire	17.5	14.2	10.3	7.7
Lancashire	16.2	13.6	10.2	7.9
West Riding ..	20.4	16.1	11.4	9.4
East Riding ..	23.0	18.2	14.3	12.2
North Riding..	27.7	20.2	15.4	12.1
Durham	24.0	18.0	13.8	11.1
Northumberland ..	21.1	17.9	12.4	10.2
Cumberland	29.2	23.9	18.6	12.3
Westmorland..	21.9	17.9	13.1	8.6
Monmouthshire ..	18.6	15.9	11.3	10.2
Glamorganshire ..	17.7	13.5	10.3	8.5
Carmarthenshire ..	18.2	13.9	9.4	7.7
Pembrokeshire ..	21.6	15.9	12.4	8.9
Cardiganshire ..	16.0	14.8	11.8	8.9
Brecknockshire ..	19.9	18.0	12.5	10.4
Radnorshire	41.8	33.2	20.1	14.4
Montgomeryshire ..	29.5	24.3	16.7	13.1
Flintshire	18.7	18.4	13.1	9.7
Denbighshire ..	21.1	17.6	13.4	12.3
Merionethshire ..	24.4	19.5	16.4	13.5
Carnarvonshire ..	18.3	13.9	12.7	10.3
Anglesey	19.7	16.7	15.7	16.1

Natural Increase.—The rate of natural increase, or excess of crude birth-rate over crude death-rate, is seen from Table XVII. to have fallen from 14.56 per 1000 living in the quinquennium 1876-80 to 11.56 in the quinquennium 1906-10, which was also the rate during 1910. Should the birth-rate continue to decrease it is to be feared that the diminution in natural increase may become accelerated, as the comparatively low death-rates now attained offer less scope than formerly for compensation in this direction.

TABLE XVII.

Period.	Mean Annual Birth-rate per 1000 living.	Mean Annual Death-rate per 1000 living.	Mean Annual rate of increase, by excess of Births over Deaths, per 1000 living.
1876-1880	35.35	20.79	14.56
1881-1885	33.51	19.40	14.11
1886-1890	31.44	18.89	12.55
1891-1895	30.48	18.71	11.77
1896-1900	29.27	17.69	11.58
1901-1905	28.17	16.04	12.13
1906-1910	26.25	14.69	11.56
1906	27.23	15.47	11.76
1907	26.46	15.11	11.35
1908	26.75	14.80	11.95
1909	25.81	14.62	11.19
1910	25.06	13.50	11.56

DEATHS.

The deaths of 483,247 persons were registered in England and Wales during the year 1910, 249,016 of these persons being males and 234,231 females.

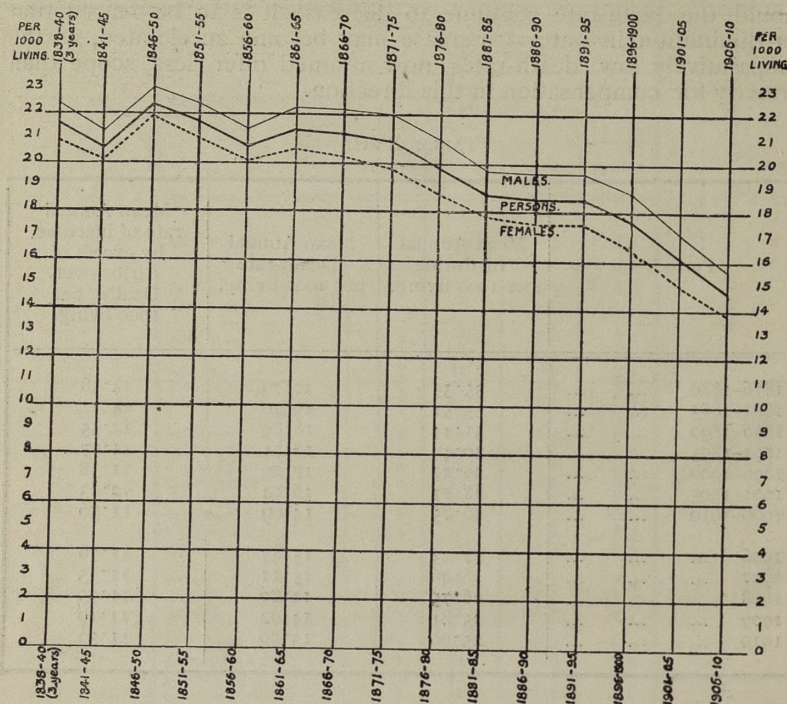
These deaths correspond to a rate of 13.5 per 1000 of the estimated population, or 1.1 per 1000 below that for the year 1909, which was the lowest recorded up to that time. Compared with the average in the ten years 1900-1909, the death-rate in 1910 shows a decrease of 2.4 per 1000.

It is not improbable that favourable climatic conditions—especially the very cool summer—may have contributed to a considerable extent to the production of this unprecedentedly low mortality. A description of these conditions is contained in Dr. Shaw's report upon the Meteorology of the year.

During the first ten years of the present century the death-rate, with slight fluctuations, fell from 16.9 per 1000 in 1901 to 13.5 per 1000 in 1910. In seven of these ten years, viz., 1902, 1903, 1905, 1907, 1908, 1909 and 1910, the rate has been successively the lowest recorded up to the year in question. This remarkable record is in accordance with the general experience of European countries. (See page lxxxviii.)

Looking back over the mortality statistics since the commencement of death registration in 1838, it will be seen from the accompanying diagram and Table XVIII. that, after correction for variations of

DIAGRAM I.—ENGLAND AND WALES.—CORRECTED DEATH-RATES
from ALL CAUSES in QUINQUENNIA, 1838-1910.*



sex and age constitution, the annual rate of mortality reached its highest recorded point for both sexes in the quinquennium 1846-50, when it stood at 22.4 per 1000 persons living. From that time it fell gradually and intermittently till 1891-95, when it stood at 18.5, but since then the fall has been steadier and much more rapid, the total decline since recorded being almost exactly equal to that exhibited during the preceding 45 years. The death-rate in 1910 was 60 per cent. only of that recorded in the later "forties."

* In recent Annual Reports attention has been drawn to the fact that the comparison of mortality rates as ordinarily stated per 1000 population may be very fallacious. The census returns show that the proportion of persons living at each age-group varies considerably in different localities and at different periods in the same locality. As the mortality both from all causes and from individual diseases varies greatly with age, and to a less degree with sex, it follows that crude death-rates at all ages, computed without allowance for these variations, are untrustworthy for the purpose of comparing the records of different localities or of the same locality at considerable intervals of time. For several years past, therefore, the death-rates in these Reports have been reduced to a common standard, showing the rates which would have obtained had the age and sex constitution of the populations in question been similar to that of England and Wales in 1901. In the Annual Report for 1905 (pp. xxxviii-xxxix) a full description was given of two methods used in this office for applying to crude death-rates the correction for differences of age and sex constitution: (1) the "direct" method (when the death-rates at the several age-groups are known) used in the Annual Reports; and (2) the "indirect" method (when the death-rates at the several age-groups are not known) used in the Annual Summaries.

TABLE XVIII.—ENGLAND AND WALES.—ANNUAL RATE OF MORTALITY per 1000 LIVING, 1838-1910, corrected for SEX and AGE CONSTITUTION.

(The figures in this table differ somewhat from those in Table 4, the latter table relating to crude death-rates.)

Period.	Persons.	Males.	Females.	Ratio, Male to Female.*	Period.	Persons.	Males.	Females.	Ratio, Male to Female.*
1838-40 ...	21.6	22.4	20.9	107	1876-80 ...	19.8	21.0	18.7	112
1841-45 ...	20.6	21.3	20.1	106	1881-85 ...	18.7	19.7	17.8	111
1846-50 ...	22.4	23.1	21.9	105	1886-90 ...	18.5	19.6	17.5	112
1851-55 ...	21.7	22.4	21.0	107	1891-95 ...	18.5	19.6	17.5	112
1856-60 ...	20.7	21.4	20.1	106	1896-1900...†	17.6	18.8	16.5	114
1861-65 ...	21.4	22.3	20.6	108	1901-05 ...	16.0	17.1	15.0	114
1866-70 ...	21.2	22.2	20.3	109	1906-10 ...	14.7	15.6	13.8	113
1871-75 ...	20.9	22.0	19.8	111	1910 only ...	13.5	14.4	12.7	113

* *i.e.*, the ratio of the male to the female mortality, the latter taken as 100.

It will be observed that the passing of the Public Health Act in 1875 was followed by a considerable decline in the two succeeding quinquennia; but that this improvement was arrested during the two succeeding periods, only to be renewed, however, with increased vigour, from the period 1896-1900 onwards.†

Mortality of each Sex.—Diagram I. shows that the excess of male over female mortality gradually increased up to about the period 1871-75, since when it has remained approximately constant, the absolute difference between the male and female death-rates in Table XVIII. being as a rule slightly over 2 per 1000 population. The increase in the proportional excess of male mortality has, of course, been greater than that in the actual excess, owing to the fall in both rates which has occurred. Prior to 1861 the percentage excess of the male over the female corrected death-rate was about 6 per cent. (Table XVIII.), whereas from 1896 to 1905 it was as much as 14 per cent., and since that period has been 13 per cent. Since 1838-40 the death-rate of females has shown a decline of 8.2 per 1000 living as against 8.0 per 1000 only in that of males. It is interesting to note that the greater decline in the mortality of females from phthisis more than accounts for the whole of this excess in the decline of female mortality from all causes.

Table XIX. sets forth the causes of death which mainly account for the difference in mortality between the sexes. It shows that the excess of mortality of males in infancy (see page xxxiii), and from phthisis, pneumonia and violence, accounts for the great bulk of the excess in the mortality in the male sex. The mortality of infants from pneumonia, tubercle, and other causes specified in the table is necessarily excluded from the figure inserted for infantile deaths, the excess in infantile mortality from all causes accounting for 48 per

† The small-pox epidemic of 1871-72 appreciably increased the mortality for the years 1871-75, and if the small-pox mortality (see Table 27) be deducted from the calculation, the fall in mortality of the years 1871-75 was about equal to that of 1876-80. Similarly the elimination of mortality due directly or indirectly to influenza lowers the death-rate for the years 1891-95 by an amount which may be very roughly estimated at about 0.7 or more per 1000 living, deducting which the decline of the mortality curve from 1886-90 to 1891-95 would be greater than that from 1891-95 to 1896-1900.

cent. of the total excess among males. The influence of alcohol is probably under-stated in the table. For instance, much of the excess of male mortality from pneumonia may be due to this cause, though the fact does not appear in the certificates.

TABLE XIX.—ANALYSIS by CAUSES of DEATH of the EXCESS of MALE over FEMALE MORTALITY, 1910.

	Male mortality.	Female mortality.	Excess or deficiency of (1) compared with (2).	Per-centage of total male excess.
	(1)	(2)	(3)	(4)
Phthisis	1·186	·855	+ ·331	19·4
Other forms of Tuberculosis ...	·458	·382	+ ·076	4·4
Pneumonia (all forms) ...	1·302	·932	+ ·370	21·6
Alcoholism and Cirrhosis of Liver...	·156	·109	+ ·047	2·7
Cancer (excluding generative and mammary organs).	·841	·644	+ ·197	11·5
Violence	·759	·305	+ ·454	26·6
Infantile deaths not included above	2·594	1·898	+ ·696	40·7
Causes of death not particularised in this table.	7·072	6·949	+ ·123	7·2
Total	14·368	12·074	+ 2·294	134·1
Diseases incident to Pregnancy and Child-bearing.	—	·173	— ·173	10·1
Cancer—generative and mammary	·015	·426	— ·411	24·0
All Causes	14·383	12·673	+ 1·710	100·0

Had it not been for the female mortality from child-bearing and from cancer of the generative organs, which is shared by males either not at all or to a very slight extent, the excess of male over female mortality would have been 34·1 per cent. greater than it actually was.

Mortality at Different Ages.—Discussion of this subject will be omitted in the present report, as, for the reasons stated on page xiii, it will find a much more appropriate place in that for 1911. The rates for 1910, calculated on the assumption of an age-distribution as in 1901 of the total male and female population estimated in the light of the recent census, are given in Tables XXVIII. and 14-19. The numbers of deaths at individual years of age in England and Wales during 1910 are shown in Table XX. (See also p. ix.)

Infantile Mortality.—Of the 483,247 deaths registered during the year in England and Wales, 94,579, or 20 per cent., were those of infants under one year of age, corresponding to a mortality rate of 105 per 1000 births. This rate was 27 per 1000 births, or 20 per cent., below the average in the ten years 1900-1909; and was 4 per 1000 births, or 4 per cent., below the lowest rate previously recorded, that for the immediately preceding year.

To the maintenance of this satisfactory downward tendency the cool and wet summer of 1910 doubtless contributed very materially through its effect in restraint of fatal diarrhoea. The infantile mortality from diarrhoeal diseases was 13 per 1000 births, the same as that in 1909 which was the lowest figure recorded during the past 20 years except in 1894 and 1907, in both of which the

TABLE XX.—ENGLAND and WALES:—DEATHS at each YEAR of AGE registered in the YEAR 1910.

Age.	Persons.	Males.	Females.	Age.	Persons.	Males.	Females.
ALL AGES	483,247	249,016	234,231				
				50 ...	4,630	2,557	2,073
0 ...	94,579	53,155	41,424	51 ...	4,106	2,265	1,841
1 ...	25,390	13,251	12,139	52 ...	4,814	2,641	2,173
2 ...	9,785	5,020	4,765	53 ...	4,803	2,568	2,235
3 ...	5,829	2,950	2,879	54 ...	5,084	2,790	2,294
4 ...	4,263	2,168	2,095	55 ...	4,850	2,722	2,128
5 ...	3,422	1,733	1,689	56 ...	5,438	2,954	2,484
6 ...	2,627	1,284	1,343	57 ...	5,195	2,845	2,350
7 ...	2,067	1,005	1,062	58 ...	5,739	3,093	2,646
8 ...	1,673	814	859	59 ...	6,006	3,234	2,772
9 ...	1,427	714	713	60 ...	6,379	3,442	2,937
10 ...	1,404	706	698	61 ...	5,617	3,086	2,531
11 ...	1,213	600	613	62 ...	6,110	3,300	2,810
12 ...	1,221	606	615	63 ...	6,333	3,377	2,956
13 ...	1,367	639	728	64 ...	6,635	3,443	3,192
14 ...	1,445	682	763	65 ...	7,223	3,833	3,390
15 ...	1,557	753	804	66 ...	6,677	3,512	3,165
16 ...	1,618	798	820	67 ...	6,621	3,425	3,196
17 ...	1,820	935	885	68 ...	7,608	3,853	3,755
18 ...	1,969	1,000	969	69 ...	7,804	3,942	3,862
19 ...	1,939	1,038	901	70 ...	7,894	3,899	3,995
20 ...	2,036	1,074	962	71 ...	7,040	3,347	3,693
21 ...	2,092	1,072	1,020	72 ...	7,882	3,719	4,163
22 ...	2,175	1,157	1,018	73 ...	7,651	3,605	3,986
23 ...	2,217	1,130	1,087	74 ...	7,393	3,461	3,932
24 ...	2,278	1,174	1,104	75 ...	7,074	3,263	3,811
25 ...	2,249	1,123	1,126	76 ...	6,796	3,111	3,685
26 ...	2,325	1,182	1,143	77 ...	6,250	2,866	3,384
27 ...	2,409	1,202	1,207	78 ...	6,119	2,836	3,283
28 ...	2,415	1,235	1,180	79 ...	5,838	2,589	3,249
29 ...	2,612	1,301	1,311	80 ...	5,538	2,374	3,164
30 ...	2,632	1,377	1,255	81 ...	4,378	1,924	2,454
31 ...	2,550	1,273	1,277	82 ...	4,376	1,875	2,501
32 ...	2,897	1,472	1,425	83 ...	3,958	1,665	2,293
33 ...	2,889	1,499	1,390	84 ...	3,644	1,502	2,142
34 ...	3,026	1,565	1,461	85 ...	3,185	1,299	1,886
35 ...	3,093	1,662	1,431	86 ...	2,602	1,045	1,557
36 ...	3,186	1,670	1,516	87 ...	2,169	826	1,343
37 ...	3,261	1,757	1,504	88 ...	1,713	670	1,043
38 ...	3,580	1,834	1,746	89 ...	1,434	563	871
39 ...	3,445	1,808	1,637	90 ...	1,201	418	783
40 ...	3,644	1,949	1,695	91 ...	891	322	569
41 ...	3,134	1,618	1,516	92 ...	600	226	374
42 ...	3,716	1,983	1,733	93 ...	466	150	316
43 ...	3,575	1,898	1,677	94 ...	308	93	215
44 ...	3,648	1,960	1,688	95 ...	229	67	162
45 ...	4,002	2,271	1,731	96 ...	155	58	97
46 ...	3,965	2,155	1,810	97 ...	104	28	76
47 ...	4,042	2,196	1,846	98 ...	60	9	51
48 ...	4,351	2,324	2,027	99 ...	48	12	36
49 ...	4,455	2,458	1,997	100 and over.	65	22	43

The 483,247 deaths at all ages include 1,158 cases (774 males and 384 females) in which the ages were not stated precisely, approximate ages being given in the case of 736 males and of 379 females, while in the remaining 43 cases (38 males and 5 females) the ages were stated to be unknown. The latter cases have been distributed with regard as far as possible to the causes of death.

rate was 12 per 1000. The meteorological conditions of the summer and the downward tendency of infantile mortality experienced in 1910 so closely reproduced those of 1909 that the remarks made in the Report for the former year upon the relation between the two are equally applicable to the year now under review.

Table 37 contrasts the mortality of 1910 with the average for the five preceding years, and Table XXI. presents an analysis of the fall of 13 per cent. shown.

TABLE XXI.—INFANTILE MORTALITY.—ENGLAND AND WALES, 1910.—
Percentage reduction as compared with 1905-09.

Cause of Death.	Under 3 Months.		3-6 Months.		6-12 Months.		Under 1 Year.	
	Males.	Fe-males.	Males.	Fe-males.	Males.	Fe-males.	Males.	Fe-males.
All Causes	9	19	17	13	17	13	13	11
Common Infectious Diseases	16*	1	10	5	10	5	10	5
Diarrhoeal Diseases	29	38	37	35	37	35	37	35
Developmental and Wasting Diseases	5	11	4	5	4	5	4	5
Tuberculous Diseases	28	18	12	16	12	16	12	16
Convulsions	18	21	14	18	14	18	14	18
Bronchitis and Pneumonia	13	10	11	11	11	11	11	11

* Increase.

The mortalities in each portion of the first year of life were the lowest on record. That for the first three months, 58.50, is 9 per cent. lower than the average for the five preceding years, while the corresponding fall at ages 3-6 months is no less than 19 per cent., and at 6-12 months 17 per cent., the resultant mortalities being respectively 18.77 and 28.17 per 1000 births. If these rates are compared with those of ten years ago, *i.e.*, the year 1900, we find falls of 21, 43 and 40 per cent. respectively, for the three age-periods, so that the mortality at ages over three months is not very much more than half what it was then.

All the important causes of death except whooping-cough and congenital defects contributed to the decline shown in Table 37. The greatest fall was that from diarrhoeal diseases, 35 per cent., and next to it convulsions, 18 per cent., tuberculous diseases, 16 per cent., the principal respiratory diseases (bronchitis and pneumonia), 11 per cent., and the common infectious diseases as a whole, 5 per cent., the small reduction under the last heading being due to increased mortality from whooping-cough, which mainly accounts for the increase of 16 per cent. in mortality under three months of age from infectious diseases shown in Table XXI. The large group of developmental and wasting diseases, which find their victims almost entirely amongst young infants, shows a reduction of 5 per cent. only. This accounts for the comparative smallness of the reduction from all causes at 0-3 months, as from most other causes, except infectious diseases, the reduction at this age compares not unfavourably with those at the later periods. The deaths from developmental and wasting diseases formed 61 per cent. of all deaths at this age, so it is evident that without a substantial improvement under this head comparatively little reduction can be looked for in the mortality at this period, which is so much the most important of the three, as contributing more than half the total mortality. Even here, however, it is satisfactory to note that the tendency to increased mortality displayed up to about

the year 1900 has been replaced by a more decided tendency towards diminution.

TABLE XXII.—INFANTILE MORTALITY.—ENGLAND AND WALES, 1910.—
MORTALITY OF MALE AND FEMALE INFANTS.

Cause of Death.	Under 3 Months.			3 to 6 Months.			6 to 12 Months.			Under 1 Year.		
	Proportion per 1000 Births.		Ratio.*	Proportion per 1000 Births.		Ratio.*	Proportion per 1000 Births.		Ratio.*	Proportion per 1000 Births.		Ratio.*
	Males.	Fe-males.		Males.	Fe-males.		Males.	Fe-males.		Males.	Fe-males.	
All Causes	65.58	51.14	128	20.50	16.98	121	30.17	26.09	116	116.25	94.21	123
Whooping-cough	0.97	1.27	76	1.03	1.25	82	2.27	2.75	83	4.27	5.27	81
Diarrhoeal Diseases	4.46	3.13	142	4.54	3.65	124	5.05	4.38	115	14.05	11.16	126
Premature Birth	21.28	17.43	122	0.16	0.17	94†	0.03	0.04	75†	21.47	17.64	122
Congenital Defects	6.68	5.21	128	0.48	0.41	117	0.27	0.30	90†	7.43	5.92	126
Atrophy, Debility, Marasmus, Tuberculous Diseases	11.34	8.33	136	2.39	2.16	111	1.45	1.48	98	15.18	11.97	127
Convulsions	0.59	0.47	126	1.35	1.00	135	2.47	1.93	128	4.41	3.40	130
Bronchitis and Pneumonia	5.64	4.20	134	1.89	1.63	116	1.56	1.27	123	10.37	7.93	131

* *i.e.*, the ratio of Male to Female mortality, the latter taken as 100.

† These ratios are of little or no significance owing to the paucity of the data upon which the rates are founded.

Table XXII. contrasts the mortality of male with that of female infants, and shows that the mortality of males was 23 per cent. above that of females, and that all the principal causes of death except whooping-cough display the same feature, and on the whole to a very uniform extent. The features of this table—excess of male mortality of almost 25 per cent. from all causes, and from each of the principal groups of causes, excess of female mortality from whooping-cough, and the decrease with advancing age of the excess in male mortality—reproduce themselves with curious fidelity from year to year.

TABLE XXIII.—INFANTILE MORTALITY.—ENGLAND AND WALES, 1910.—
MORTALITY OF LEGITIMATE AND ILLEGITIMATE INFANTS.—ALL CAUSES.

Age.	England and Wales.			Urban Counties.			Rural Counties.		
	All Infants.	Legitimate.	Illegitimate.	All Infants.	Legitimate.	Illegitimate.	All Infants.	Legitimate.	Illegitimate.
Under 1 year	105.44	101.64	194.84	115.31	111.35	213.27	87.43	84.15	145.55
Under 3 months	58.50	56.34	109.67	61.55	59.36	115.71	53.18	51.20	88.55
3-6 months	18.77	17.88	39.49	21.12	20.18	44.36	14.72	14.03	26.75
6-12 months	28.17	27.42	45.68	32.64	31.81	53.20	19.53	18.92	30.25

Tables 38 and 39 and Table XXIII. compare the mortality of legitimate and illegitimate infants, showing an excess for the latter of no less than 92 per cent. As in the four preceding years this excess was more marked in the urban than in the rural group of counties*, in the first than in the second six months of life, and in the female sex. The excess is greatest in the case of diarrhoeal, tuberculous and wasting diseases.

The mortality of infants in the urban and the rural groups of counties is compared in Tables 35, 36, 38, and 39, as well as in the following summary table:—

TABLE XXIV.—INFANTILE MORTALITY IN URBAN AND RURAL COUNTY GROUPS, 1910.

Cause of Death.	Under 3 Months.			3 to 6 Months.			6 to 12 Months.			Under 1 Year.		
	Proportion to 1000 Births.		Ratio.†	Proportion to 1000 Births.		Ratio.†	Proportion to 1000 Births.		Ratio.†	Proportion to 1000 Births.		Ratio.†
	Urban.	Rural.		Urban.	Rural.		Urban.	Rural.		Urban.	Rural.	
All Causes	61'55	53'18	116	21'12	14'72	143	32'64	19'53	167	115'31	87'43	132
Whooping-cough ..	1'10	0'89	124	1'15	0'93	124	2'86	1'69	169	5'11	3'51	146
Diarrhoeal Diseases ..	4'51	2'50	180	5'00	2'23	224	5'79	2'17	267	15'30	6'90	222
Premature Birth ..	19'89	17'81	112	0'17	0'13	131†	0'05	0'02	250†	20'11	17'96	112
Congenital Defects ..	6'28	5'08	124	0'50	0'45	111	0'30	0'25	120†	7'08	5'78	122
Atrophy, Debility, Marasmus.	9'89	10'31	96	2'48	1'85	134	1'72	1'02	169	14'09	13'18	107
Tuberculous Diseases ..	0'59	0'43	137	1'32	0'81	163	2'51	1'27	198	4'42	2'51	176
Convulsions	6'29	6'38	99	1'85	1'88	98	1'49	1'53	97	9'63	9'79	98
Bronchitis and Pneumonia.	5'53	3'61	153	5'09	3'29	155	10'05	6'15	163	20'67	13'05	158

† i.e., the ratio of Urban to Rural mortality, the latter taken as 100.
 ‡ These ratios are of little or no significance owing to the paucity of the data upon which the rates are founded.

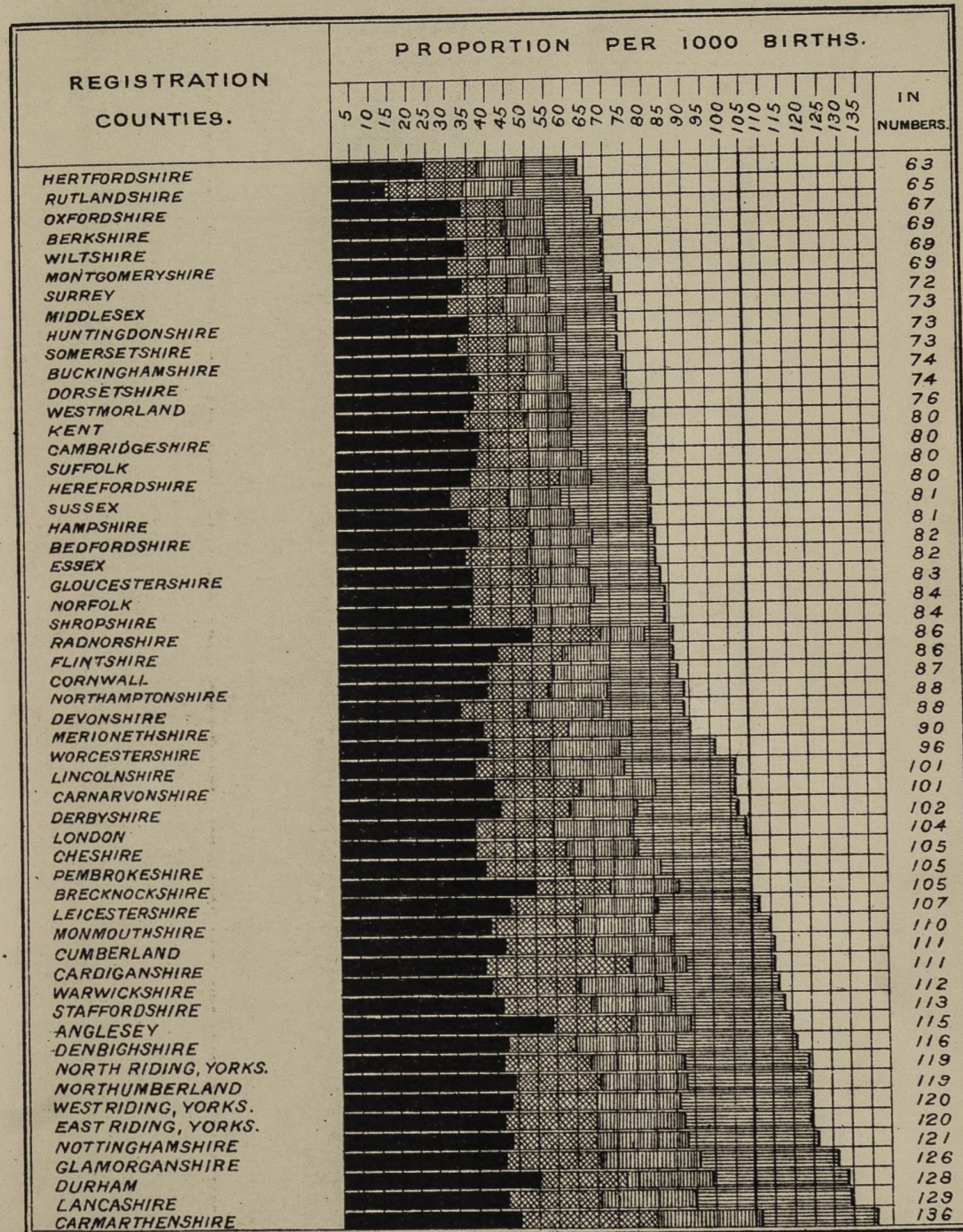
These tables as usual show considerable excess of urban mortality, and great increase of this excess as age advances. For the first month of life, during which over one-third of the total infant mortality occurs, the urban excess is usually only about 8 per cent. In the year 1910 it rose to 10 per cent., mainly owing to greater diminution of mortality from wasting diseases in the rural than in the urban area. It would seem that at birth the urban infant is almost as healthy as the rural, but that the adverse post-natal influences of town life soon diminish its relative chances of survival. This is well shown in Diagram II. from which it may be seen that the differences in mortality during the first month of life between counties of high and low infantile mortality are very much less than at higher ages.

Infantile Mortality in Registration Counties.—The incidence of infantile mortality in the several Registration Counties may be seen from the figures in Table XXV.; from that table and the accompanying diagram it will be observed that the rates differ widely in different counties, and that these differences are not merely casual is shown by

* See page xxxvi.

DIAGRAM II.—INFANTILE MORTALITY IN EACH REGISTRATION COUNTY OF ENGLAND & WALES, 1910.

■ = 0-1 mo. ▨ = 1-3 mos. ▩ = 3-6 mos. ▪ = 6-12 mos.



NOTE:—THE THICK VERTICAL LINE MARKS THE PROPORTION OF DEATHS UNDER ONE YEAR OF AGE TO 1000 BIRTHS IN ENGLAND AND WALES AS A WHOLE.

TABLE XXV.—INFANTILE MORTALITY RATES in each REGISTRATION COUNTY in QUINQUENNIAL PERIODS 1876-1910, and in the YEAR 1910.

Registration Counties.	Deaths of Children under 1 year to 1000 Births.								Increase (+) or Decrease (-) per cent. in each County between the period 1876-80 and 1910.
	Quinquennial Periods.							Year.	
	1876-1880.	1881-1885.	1886-1890.	1891-1895.	1896-1900.	1901-1905.	1906-1910.			1910.
England and Wales	145	139	145	151	156	138	117	105	-27.6
England, excluding Monmouthshire.	146	139	145	150	156	137	116	104	-28.8
Wales, including Monmouthshire.	129	128	141	153	157	145	126	117	-9.3
London	154	150	154	156	163	140	116	104	-32.5
Surrey	115	110	109	116	127	105	87	72	-37.4
Kent	123	114	119	123	135	118	92	80	-35.0
Sussex	114	107	111	115	121	101	87	81	-28.9
Hampshire ..	116	108	116	122	132	110	90	81	-30.2
Berkshire ..	117	102	108	110	118	101	84	69	-41.0
Middlesex ..	130	127	130	130	146	121	94	73	-43.8
Hertfordshire ..	115	108	109	109	111	92	80	63	-45.2
Buckinghamshire ..	129	115	117	113	114	98	82	74	-42.6
Oxfordshire ..	125	109	116	114	113	99	82	67	-46.4
Northamptonshire ..	141	129	134	134	132	115	94	88	-37.6
Huntingdonshire ..	121	107	106	120	116	95	82	73	-39.7
Bedfordshire ..	146	130	131	124	128	106	96	82	-43.8
Cambridgeshire ..	135	120	123	124	124	107	93	80	-40.7
Essex	125	124	128	132	150	127	99	82	-34.4
Suffolk	123	112	116	121	121	111	93	80	-35.0
Norfolk	147	131	138	141	143	128	104	84	-42.9
Wiltshire	108	101	104	103	102	91	77	69	-36.1
Dorsetshire ..	107	97	96	100	103	92	80	74	-30.8
Devonshire ..	126	116	125	128	134	118	101	88	-30.2
Cornwall	145	133	142	144	137	117	98	87	-40.0
Somersetshire ..	119	110	110	114	115	95	84	73	-38.7
Gloucestershire ..	135	123	125	132	131	114	98	83	-38.5
Herefordshire ..	117	104	114	115	108	101	86	80	-31.6
Shropshire	124	114	120	115	114	105	93	84	-32.3
Staffordshire ..	155	152	160	168	176	151	131	113	-27.1
Worcestershire ..	135	129	139	141	141	124	106	96	-28.9
Warwickshire ..	152	145	154	160	178	152	127	112	-26.3
Leicestershire ..	169	161	168	167	161	140	119	107	-36.7
Rutlandshire ..	120	110	113	113	108	97	83	65	-45.8
Lincolnshire ..	135	127	136	141	144	131	112	101	-25.2
Nottinghamshire ..	159	154	155	156	170	153	134	121	-23.9
Derbyshire ..	137	131	138	144	148	133	114	102	-25.5
Cheshire	140	137	146	155	157	138	115	105	-25.0
Lancashire ..	165	161	170	177	181	161	140	129	-21.8
West Riding ..	158	152	160	164	165	152	129	120	-24.1
East Riding (with York).	156	147	152	164	168	149	123	120	-23.1
North Riding ..	135	132	138	144	149	140	128	119	-11.9
Durham	153	150	154	166	169	158	138	128	-16.3
Northumberland ..	142	139	146	155	167	151	128	119	-16.2
Cumberland ..	131	120	125	128	132	127	120	111	-15.3
Westmorland ..	107	102	99	109	104	89	85	76	-29.0
Monmouthshire ..	133	132	148	149	154	142	121	110	-17.3
Glamorganshire ..	138	143	159	173	175	158	137	126	-8.7
Carmarthenshire ..	117	115	124	141	143	142	125	136	+16.2
Pembrokeshire ..	115	111	120	124	122	116	105	105	-8.7
Cardiganshire ..	99	93	100	120	119	119	111	111	+12.1
Brecknockshire ..	128	124	137	140	134	124	106	105	-18.0
Radnorshire ..	124	115	113	125	114	105	93	86	-30.6
Montgomeryshire ..	111	104	108	106	114	103	85	69	-37.8
Flintshire	120	106	112	120	126	101	99	86	-28.3
Denbighshire ..	134	123	131	139	153	136	124	116	-13.4
Merionethshire ..	129	120	122	141	152	130	110	90	-30.2
Carnarvonshire ..	132	122	118	135	138	136	114	101	-23.5
Anglesey	114	113	120	115	128	131	111	115	+0.9

their being repeated with great persistency year after year. Speaking generally, the rates are lowest in the purely agricultural counties and highest in the counties with mining, textile, and pottery industries. The diagram shows that the excess in the latter as compared with the former increases progressively throughout the first year of life.

Among counties with populations of more than 100,000 persons the highest and lowest proportions of deaths of children under one year to 1000 births were as follows :—

TABLE XXVI.

Registration Counties with Highest Rates of Infantile Mortality.	Deaths of Children under 1 year to 1000 Births.	Registration Counties with Lowest Rates of Infantile Mortality.	Deaths of Children under 1 year to 1000 Births.
England and Wales	105.		
Carmarthenshire	136	Middlesex	73
Lancashire	129	Somersetshire	73
Durham	128	Surrey	72
Glamorganshire	126	Berkshire	69
Nottinghamshire	121	Wiltshire	69
West Riding of Yorkshire	120	Oxfordshire	67
East Riding of Yorkshire ...	120	Hertfordshire	63

Centenarians.—Among the deaths registered during the year there were 65 of reputed centenarians, 22 of whom were males and 43 females. In the preceding three years the numbers had been 59, 64, and 61, respectively.

Mortality in Urban and Rural Districts.—In order to show the incidence of mortality in the chief centres of industry as compared with that of the rural areas, the selection from the English and Welsh counties, first made in 1901, has been retained since that date. The counties in each selected group are enumerated at foot.*

Table XXVII. states the annual rates of mortality at all ages and from all causes in the year 1910, side by side with the corresponding average rates for the quinquennium, 1905-09, for these two groups

* (i) Urban Registration Counties.

Glamorgan.
Lancaster.
London.
Middlesex.
Monmouth.
Northumberland.
Nottingham.
Stafford.
Warwick.
East Riding } Yorks.
West Riding }

Estimated population of Urban Counties,
middle of 1910—19,243,636.

(ii) Rural Registration Counties.

Buckingham.
Cambridge.
Cornwall.
Hereford.
Huntingdon.
Lincoln.
Norfolk.
Oxford.
Rutland.
Salop.
Somerset.
Suffolk.
Welsh Division (less Monmouth and Glamorgan).
Westmorland.
Wilts.

Estimated population of Rural Counties,
middle of 1910—4,521,084.

TABLE XXVII.

All Causes.	Crude Rates.		Corrected Rates.*			
	Mortality per Thousand Living at All Ages.		Average 1905-09.	Year 1910.	Ratio.†	
Both Sexes	England and Wales.	15·056	13·500	15·056	13·500	90
	Urban Counties ...	15·822	14·121	16·608	14·889	90
	Rural Counties ...	14·464	13·354	12·579	11·493	91
Males	England and Wales.	16·018	14·383	16·018	14·383	90
	Urban Counties ...	16·915	15·141	17·741	15·960	90
	Rural Counties ...	15·088	13·166	13·187	12·045	91
Females	England and Wales.	14·154	12·673	14·154	12·673	90
	Urban Counties ...	14·797	13·910	15·547	13·885	89
	Rural Counties ...	13·878	12·830	12·009	10·976	91

* See footnote, p. xxviii.

† i.e., the ratio of the corrected death-rates in 1910 to those in 1905-09, the latter taken as 100.

TABLE XXVIII.

All Causes.	Mortality at Age-groups, per Thousand Living.	Average 1905-1909.			Year 1910.		
		England and Wales.	Urban Counties.	Rural Counties.	England and Wales.	Urban Counties.	Rural Counties.
Both Sexes	0—	41·876	47·831	30·309	34·191	39·533	24·724
	5—	3·371	3·675	2·750	2·923	3·254	2·456
	10—	2·001	2·147	1·818	1·808	1·953	1·663
	15—	2·794	2·848	2·825	2·492	2·586	2·443
	20—	3·532	3·476	3·971	3·144	3·078	3·416
	25—	5·058	5·164	5·047	4·496	4·608	4·616
	35—	8·504	9·291	7·104	7·796	8·406	6·719
	45—	14·858	16·807	11·591	13·856	15·594	11·350
	55—	29·208	33·305	23·040	27·263	30·892	22·020
	65—	89·016	95·201	83·064	85·614	91·083	80·730
Males	0—	45·767	52·138	33·523	37·480	43·304	27·382
	5—	3·319	3·627	2·708	2·899	3·191	2·557
	10—	1·943	2·100	1·736	1·758	1·901	1·599
	15—	2·903	3·009	2·734	2·557	2·690	2·395
	20—	3·853	3·766	4·222	3·459	3·380	3·755
	25—	5·518	5·618	5·262	4·834	4·865	4·904
	35—	9·365	10·180	7·686	8·530	9·186	7·172
	45—	16·786	19·041	12·925	15·763	17·763	12·930
	55—	33·219	38·173	25·926	31·514	36·045	24·691
	65—	94·183	101·708	86·961	91·344	98·773	84·150
Females	0—	37·997	43·556	27·068	30·910	35·790	22·035
	5—	3·424	3·723	2·791	2·946	3·317	2·353
	10—	2·059	2·194	1·901	1·859	2·004	1·729
	15—	2·688	2·694	2·921	2·429	2·487	2·492
	20—	3·245	3·216	3·746	2·862	2·808	3·113
	25—	4·644	4·750	4·859	4·192	4·373	4·362
	35—	7·698	8·446	6·569	7·108	7·663	6·300
	45—	13·069	14·699	10·388	12·087	13·546	9·919
	55—	25·690	29·045	20·500	23·533	26·381	19·661
	65—	85·027	90·378	79·914	81·189	85·381	77·956

of counties, and Table XXVIII. shows the death-rates of each sex per 1000 living at several groups of ages in the same areas.

As the age distribution of the populations assumed in these tables is that of 1901, and as it will be possible next year to publish corresponding tables with ages distributed as at the recent census for the aggregates of actual urban and rural districts, thereby representing urban and rural mortality much more accurately than the present tables can, it seems inadvisable to consider these tables in detail in the present report.

CAUSES OF DEATH.

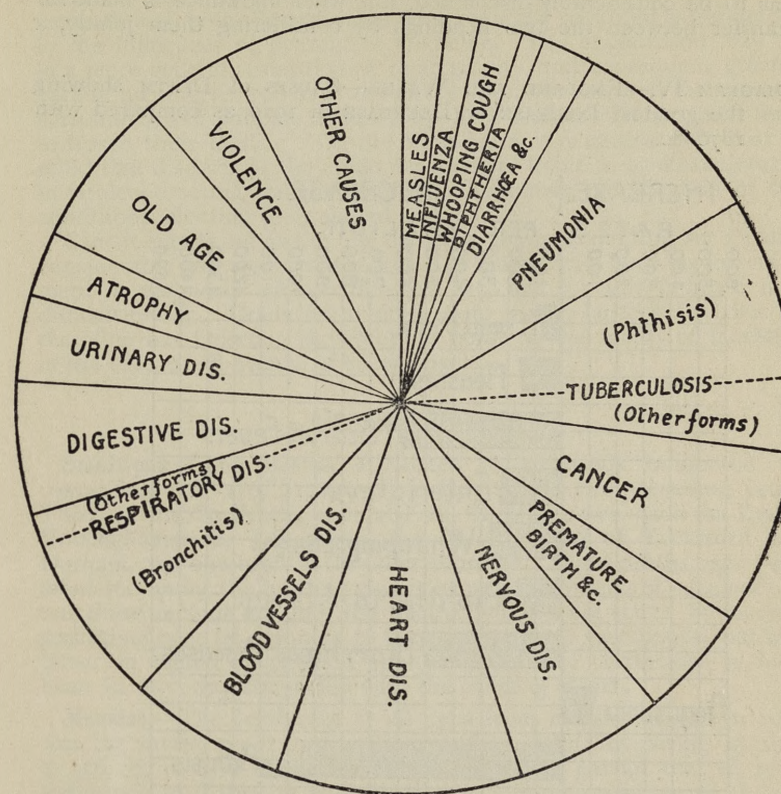
As in previous Annual Reports, the causes of death of males and females at specified age-groups will be found in the abstracts (see pages 288 to 307 of the present volume); and in the tables on pages 22 to 63 the deaths are shown at all ages, from the same causes, for a series of 20 years. In the lower part of these tables the facts have been reduced to rates per million living of the respective sexes. On page 21 Table 20 is continued from previous reports; it shows the average mortality from certain causes in each of seven quinquennia, beginning with the year 1876. On page 64 Table 27 is likewise continued from previous reports; this table traces back the annual mortality from the principal epidemic diseases during a period of 50 years.

The proportions in which the more prevalent diseases contribute to the death roll are shown by Diagram III., in which the whole area of the circle represents deaths from all causes, and the various segments deaths from particular causes or groups of causes. It will be noted what a large proportion of the whole number of deaths is attributed to a few of the more important diseases, especially tuberculosis, pneumonia, bronchitis, and cancer, which together contribute one-third of the total mortality.

It has already been mentioned that the death-rate from all causes was lower during 1910 than in any previous year. The same remark holds good of the death-rates from tuberculosis of all forms, pulmonary tuberculosis, enteric fever, and scarlet fever. The mortality from measles, whooping-cough and diarrhoea was also exceptionally low, though lower rates had been recorded in one or two previous years. The death-rate from bronchitis was lower than any hitherto recorded, while that from pneumonia was lower than in any year since 1894. The mortality from diphtheria was the lowest experienced since 1880, and was the lowest on record if the deaths ascribed to diphtheria and croup are considered conjointly as representing most nearly the true mortality due to this disease. The main factor in the reduction of the total death-rate was, as in several recent years, the unprecedentedly low mortality of children under five years of age, but at every age-group and in both sexes mortality from all causes was lower in 1910 than in 1909, itself a year of unprecedentedly low death-rate. On the other hand, cancer and diabetes caused increased mortality during the year, the death-rates from both of these being once more the highest recorded.

It is desirable to extend the comparison so as to indicate which diseases have contributed most to the great fall in mortality of recent years. Diagram IV. does this for a period of about 30 years, comparison being made with the average for the quinquennium 1876-80, when the Public Health Act had just come into force. It will be seen that the principal contribution to the general decrease comes from the mortality attributed to bronchitis, but reasons were given in the

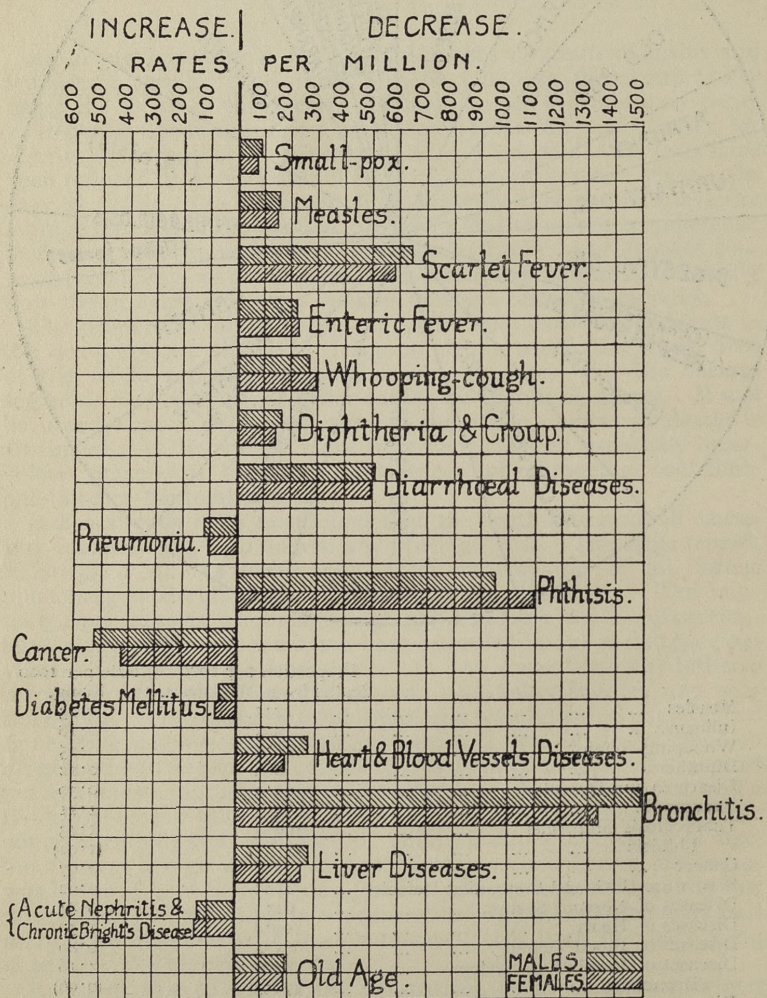
DIAGRAM III.—ENGLAND AND WALES.—PROPORTIONS OF DEATHS FROM THE PRINCIPAL CAUSES TO TOTAL DEATHS, 1910.



	Proportion per 1000 deaths from All Causes.	Rate per 1000 living.
Measles	17.2	0.23
Influenza	13.5	0.18
Whooping-cough	18.2	0.25
Diphtheria	8.9	0.12
Diarrhoea and Dysentery	22.2	0.30
Pneumonia	82.3	1.11
Tuberculosis (all forms)	106.2	1.43
Phthisis	(75.2)	(1.02)
Cancer	71.6	0.97
Premature Birth and Congenital Defects	46.3	0.62
Diseases of Nervous System	62.3	0.84
Diseases of Heart	100.8	1.36
Diseases of Blood Vessels	65.7	0.89
Diseases of Respiratory System	85.6	1.16
Bronchitis	(71.3)	(0.96)
Diseases of Digestive System	55.5	0.75
Diseases of Urinary System	35.8	0.48
Atrophy, Debility	27.0	0.36
Old Age	65.5	0.89
Violence	38.7	0.52
Other Causes	76.7	1.04
All Causes	1000.0	13.50

Report for 1909 for believing this to be largely due to transfer of many of these deaths to pneumonia. But although the increase under pneumonia is probably fictitious, and the decrease under bronchitis has to be considerably discounted, still, when allowance is made for transfer between the two headings by considering them jointly, a

DIAGRAM IV.—ENGLAND AND WALES.—CAUSES OF DEATH showing the greatest INCREASE OR DECREASE in 1910, as compared with 1876-80.



very large balance remains on the side of diminution in mortality from inflammation of the lungs and bronchi. The most notable diminutions, however, are those from the diseases against which the efforts of sanitarians have been chiefly directed—phthisis, diarrhoeal diseases, scarlet and enteric fevers especially. The decrease in

diarrhoeal mortality is largely due to the accident of a cool wet summer, but in the other three cases the improvement is regularly sustained from year to year. There has been considerable improvement in mortality from both whooping-cough and measles of late years, though both diseases have been generally regarded as refractory to the influences of preventive medicine. The explanation may lie in a more general realisation of their gravity, and consequent greater care in nursing, as well as in the effect of improvement of the sanitary surroundings of patients attacked by these diseases which would tend to lessen their fatality. On the other hand, it is necessary to bear in mind that diseases of the epidemic type are liable to cyclical changes in virulence acting independently of any known modification of the conditions affecting their spread and course.

Cancer stands out as the one cause of death accounting for a really considerable and significant increase of mortality. How far improvement in diagnosis and certification accounts for this increase it is difficult to say. Doubtless it does so to a very large extent, but on the other hand, certain facts seem to point to the reality of increase, in the case, at all events, of some organs.

GENERAL DISEASES.

Small-pox.—The deaths attributed to small-pox numbered 19, comparing with 116, 21, 10, 12, and 21 in the five preceding years. Three of the 19 deaths occurred in Cheshire, two each in Essex, Nottinghamshire, Lancashire, the East Riding of Yorkshire and Durham, and one each in six other counties. Eight deaths have been tabulated under the heading cow-pox and other effects of vaccination; but these include not only the deaths which were stated by medical practitioners or by coroners to have been due to vaccination, but also those in which vaccination appeared from the certificates to have been in any way connected with the cause of death.

Measles.—The death-rate at all ages from measles, which in 1908 was the lowest on record, 228 per million, after increasing in 1909 to 356, fell in 1910 to 232, the lowest on record except that of 1908. Reference to Table 27 will show that alternation of years of high and low mortality is somewhat characteristic of measles, though, on the whole, the death-rate attributed to this disease has been considerably lower since the commencement of the present century than in previous years.

Dealing with children under five years of age, who furnished no less than 93 per cent. of the deaths at all ages, Table 37 shows that the mortality, 1.88 per 1000 living at that age, was considerably below the average for the preceding quinquennium. The urban rate, 2.53 (Table 35), was considerably, and that in the rural group of counties, 0.99 (Table 36), slightly below the quinquennial average. It may be assumed that the contrast in mortality between the purely urban and the purely rural areas is still more remarkable than that shown by these groups of counties. The highest county rates among children were experienced by Glamorganshire, 3.20 per 1000, Monmouthshire, 3.44, London, 3.80, and Denbighshire, 6.99. In all these counties the mortality was above the average in the preceding quinquennium, the rate in Denbighshire being more than twice the average. The deaths under one year of age numbered 1,879, and the distribution of this mortality throughout the year, as well as the mortality of each year of the first quinquennium of life, is set out in Table 32. As in many previous years, measles was most destructive to infants during the

second year of life, the mortality for which amounted to 4·14 per 1000 living. Infantile mortality from measles in the several counties is shown in Table 40, where the deaths under one year appear in terms of the total births.

Scarlet Fever.—The deaths referred to scarlet fever in the year 1910 numbered 2,370 at all ages and of both sexes, and corresponded to a rate of 66 per million living. This rate is 25 per million below the rate in the preceding year, and is the lowest on record, the smallest mortality previously met with having been in 1908. During the four years from 1907 onwards the mortality has been below 100 per million, whereas until that date so low a rate as 100 had not once been recorded. Tables 20 and 27 show a steady and very large decrease in the mortality from scarlet fever from the time when separate tabulation of the disease commenced—the death-rate in 1906–10 being little more than one-eighth of that in 1876–80.

In the report for 1910 of the Metropolitan Asylums Board, which mainly relates to London, there appears a table showing the case-fatality among the admissions for scarlet fever in each of the years since the opening of the first hospital in 1870. If the period of 35 years last ended be divided into quinquennia, the following data may be derived from that table:—

TABLE XXIX.

Scarlet Fever. (Quinquennia.)	Metropolitan Asylums Board Hospitals.			County of London.
	Admissions.	Deaths.	Fatality. (Ratio per cent. of deaths to admissions.)	Mean Annual Mortality per 1000 living.
1876–1880 ...	5,247	688	13·1	0·62
1881–1885 ...	8,445	955	11·3	0·42
1886–1890 ...	23,143	2,017	8·7	0·24
1891–1895 ...	55,772	3,495	6·1	0·24
1896–1900 ...	66,853	2,465	3·7	0·14
1901–1905 ...	67,500	2,287	3·4	0·11
1906–1910 ...	84,492	2,247	2·7	0·10

Although the mortality and the hospital fatality in London have declined to the striking and very similar extents shown, so that the decline in mortality would seem from the table to be due principally to that in fatality, it should be borne in mind that in earlier years the cases admitted were for the most part severe, with high fatality; whereas in recent years most of the known cases, including the milder ones, have been treated in hospital. In future years it will be possible to state in a similar way the ratio of deaths to cases notified throughout the whole country, as from the year 1911 onwards tabulation of all notified cases of infectious disease has been undertaken by the Local Government Board.

The local distribution of mortality from scarlet fever varies widely. Table 31 shows that among the several counties with populations exceeding 100,000, the highest crude death-rates at all ages in 1910 were 124 per million in Cumberland, 138 in Staffordshire and in Lancashire, and 139 in Warwickshire. The county rates in this table have not been adjusted for deaths in public institutions, otherwise the death-rate in Middlesex would be lower, and that in London would be raised from 41 to 47 per million.

The deaths among children under five years of age amounted to 57 per cent. of the total, and yielded a mortality of 0·44 per 1,000 living at this age in the urban counties, as against only 0·15 in the rural (Tables 35 and 36). The mortality was greatest in the fourth year of life (Table 32). Table 41 shows the incidence of fatal scarlet fever upon children under five years of age in the several registration counties of England and Wales.

Influenza.—From 1890, the year in which influenza reappeared as a serious factor in English mortality, onwards, the death-rate has averaged 281 annually per million living. It was 182 per million in 1910, and was, as usual, about equal for each sex, namely 188 per million for males and 176 for females. The previously noted excess in influenza mortality of the rural as compared with the urban counties is again observable, the crude death-rate in the former group being as much as 94 per cent. above that in the latter. Among counties containing populations exceeding 100,000, the highest rates were 397 per million in Denbighshire, 403 in Shropshire, and 502 in Carnarvonshire; while the lowest were 125 in Middlesex, 130 in Cheshire, and 133 in Lancashire.

Whooping-cough.—The death-rate from whooping-cough at all ages was 246 per million and was 43 per million above the rate in 1909, which was much the lowest on record. The rate in 1910 was, however, 9 per million below the average of the preceding five years, and was lower than the rate in any other year on record except 1906 and 1909.

About 97 per cent. of the total deaths occurred among children under the age of five years. The mortality per 1,000 children of this age was 2·08, being slightly below the average of the previous five years. As usual, the mortality amongst females has exceeded that amongst males, the death-rate having been 1·84 for boys and 2·32 for girls, and the mortality in the urban group of counties has been considerably greater than that in the rural, though the relative excess is not nearly so great as in the cases of measles and scarlet fever. Table 41 shows that among counties containing more than 100,000 inhabitants at all ages, the highest death-rates from this disease in each 1,000 children under five years of age were 2·71 in London, 3·09 in Lancashire, and 3·55 in Carmarthenshire. The rate in each of these counties was above the quinquennial average, the rate in Carmarthenshire being more than twice the average. Table 32 shows that this disease is especially destructive to children in the first two years of life.

Diphtheria and Croup.—Owing to the probability that a large proportion of the deaths certified as due to croup were really caused by diphtheria it has been the custom in these Reports to study the mortality ascribed to the two diseases conjointly as representing more accurately than any other figure the total sacrifice of life from diphtheria.

On this occasion the opportunity arises of stating more precisely than has been possible hitherto the true nature of the 261 deaths registered during 1910 as due to croup. Inquiries addressed to the practitioners certifying these deaths elicited further information which resulted in the transfer of 123 of them to laryngitis, 42 to diphtheria, and 18 to laryngismus stridulus, reducing the number finally classified to croup to 73 as against 241 in 1909. The number as recently as 1891 had been no less than 2638.

Although it would seem that in 1910 the deaths certified as due to croup were really caused by laryngitis much more than by diphtheria,

the diminution in mortality ascribed to croup in recent years cannot well have been caused by transfer to laryngitis, as the mortality from the latter cause has diminished by 50 per cent. during the last 20 years. Indeed it is very possible that a considerable part of the diminution in mortality from laryngitis may be due to transfer to diphtheria. It is obvious that no study of diphtheria mortality could be adequate which left out of account the large numbers of deaths certified not many years ago as due to croup, and on the whole the most satisfactory way of meeting the difficulty seems to be by considering the mortality from the two causes together, as has been the practice hitherto.

The death-rate from diphtheria and croup in 1910—122 per million—is much the lowest recorded since 1855, when diphtheria was first shown separately from scarlet fever in the tables, and in this connexion it must be borne in mind that the effect of increasing accuracy in diagnosis is probably to minimize the fall in mortality. If the mortalities from "diphtheria" only are compared, as in Table 27, that for 1910 is by no means the lowest, though we have to go back to 1880 to find a lower, but when the croup deaths are added the advantage of the earlier year disappears.

Tables XXX. and XXXI. show in detail the diminution in mortality from diphtheria and croup in 1910 as compared with the preceding quinquennium, but for the reasons stated on page xxxviii comment on these tables, and on similar tables dealing with other causes of death, is omitted on this occasion.

TABLE XXX.

Diphtheria and Croup.		Crude Rates.		Corrected Rates.*		
		Average 1905-09.	Year 1910.	Average 1905-09.	Year 1910.	Ratio.†
Mortality per Million Living at all Ages.						
Both Sexes	England and Wales	173	122	173	122	71
	Urban Counties ...	179	124	177	123	69
	Rural Counties ...	150	109	153	111	73
Males ...	England and Wales	174	120	174	120	69
	Urban Counties ...	182	122	181	121	67
	Rural Counties ...	148	110	149	111	74
Females ...	England and Wales	171	123	171	123	72
	Urban Counties ...	176	126	174	125	72
	Rural Counties ...	153	109	156	111	71

* See footnote, page xxviii.

† *i.e.*, the ratio of the corrected death-rates in 1910 to those in 1905-09, the latter taken as 100.

Table XXXII., condensed from a more extended table in the last report of the Metropolitan Asylums Board, shows the alteration in case-fatality among patients admitted to hospital for diphtheria and in the general London mortality from that disease in the four quinquennia that have elapsed since 1890. As in the case of scarlet fever (Table XXIX.), there has been a very great decline in the ratio of diphtheria deaths to admissions, and also in the general London mortality from the disease—both being about 70 per cent. lower in 1906-10 than in 1891-95, *i.e.*, less than one-third of the earlier figure.

TABLE XXXI.

Diphtheria and Croup.	Average 1905-1909.			Year 1910.			
	England and Wales.	Urban Counties.	Rural Counties.	England and Wales.	Urban Counties.	Rural Counties.	
Both Sexes	0—	893	996	617	605	664	442
	5—	523	478	564	399	369	421
	10—	84	67	123	59	46	85
	15—	17	12	32	11	9	23
	20—	9	7	15	7	6	13
	25—	8	7	10	4	2	12
	35—	7	7	11	4	4	2
	45—	6	5	8	3	2	5
	55—	7	7	8	4	6	6
	65—	5	5	5	5	4	3
Males ...	0—	908	1,013	654	621	680	448
	5—	478	445	488	334	302	380
	10—	80	68	103	55	44	78
	15—	17	12	25	11	11	26
	20—	10	8	14	6	4	11
	25—	7	6	4	3	1	13
	35—	7	6	13	4	3	4
	45—	5	3	8	5	4	10
	55—	6	7	5	4	6	7
	65—	5	6	6	5	3	7
Females ...	0—	878	979	580	589	648	437
	5—	569	511	642	464	435	462
	10—	87	67	145	63	47	92
	15—	18	12	38	12	8	18
	20—	8	6	15	8	7	15
	25—	8	8	14	5	2	12
	35—	7	8	9	4	5	—
	45—	7	7	8	1	1	—
	55—	7	8	11	4	5	6
	65—	5	5	4	4	5	—

TABLE XXXII.

Diphtheria. (Quinquennia.)	Metropolitan Asylums Board Hospitals.			County of London.
	Admissions.	Deaths.	Fatality. (Ratio per cent. of deaths to admissions.)	Mean Annual Mortality per 1000 living.
1891-1895 ...	13,470	3,700	27.5	0.53
1896-1900 ...	33,296	5,096	15.3	0.45
1901-1905 ...	28,040	2,908	10.4	0.20
1906-1910 ...	24,651	2,214	9.0	0.14

It is pointed out in the Annual Report of the Metropolitan Asylums Board for 1910 (page 139) that the London mortality from diphtheria reached a maximum in 1893, since when the rate has fallen greatly, "and this fall has been coincident with the introduction and "increasing use of the antitoxic serum treatment of diphtheria."

Of the 4357 deaths at all ages from diphtheria and croup, 2475, or 57 per cent., occurred within the first five years of life. These deaths correspond to a rate of 0.61 per 1000 children living at that age, or 0.28 per 1000 below the average in the previous quinquennium (Table 37). In the year 1910, the mortality steadily increased from birth to the fifth year of age (Table 32). Table 41 shows the distribution of the mortality from these deaths in the several counties of England and Wales. Among counties containing more than 100,000 inhabitants at all ages, the highest death-rates in each 1000 children were 0.81 in Lancashire and in Carmarthen-shire, 0.86 in Cheshire, 0.91 in Cumberland, and 1.11 in the North Riding of Yorkshire.

Cerebro-spinal Fever.—To this disease there were ascribed in the year under notice 132 deaths, 88 of which were eventually referred to this heading as the result of medical inquiry respecting deaths originally certified as from cerebro-spinal meningitis. In the preceding five years the deaths classed to cerebro-spinal fever averaged 121 annually.

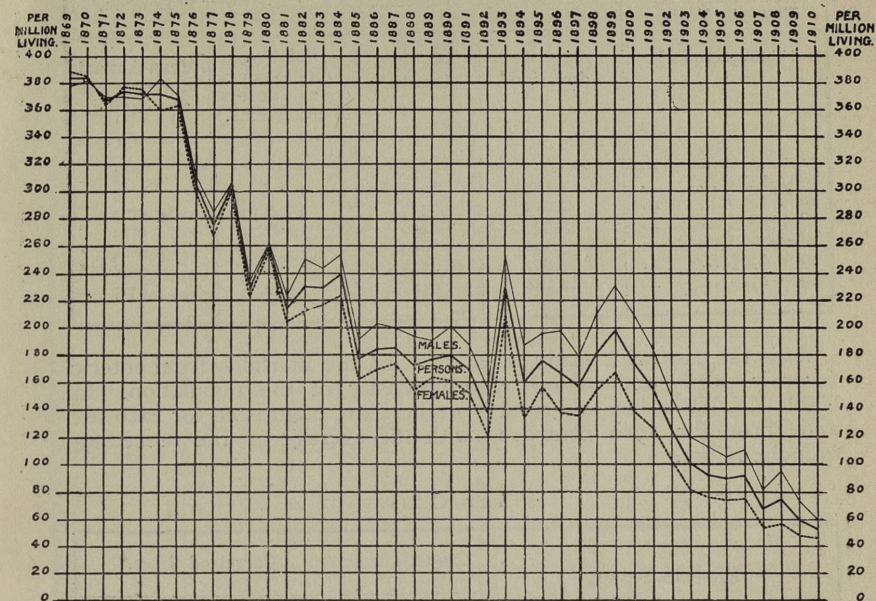
Enteric (Typhoid) Fever.—In the course of the year 1910 the deaths of 1889 persons at all ages and of both sexes were ascribed to enteric fever. These deaths correspond to a rate of 53 per million persons living, which is the lowest on record, and is 24 per million below the average for the quinquennium immediately preceding. Among males the death-rate was equal to 60 per million, and among females to 46 per million (Table XXXIV.). During the 42 years which have elapsed since the disease was first differentiated in these reports enteric fever mortality has fallen to less than a seventh of its former amount, namely, from a rate of 390 per million in 1869 to 53 per million in 1910 (Table 27).

The progress of this great decline can be traced in Diagram V. It will be seen that the statistical history of enteric fever mortality can be divided into three main periods, two of decline, from 1869 to 1885 inclusive, and from 1900 to the present date, and one showing no decline, from 1886 to 1899. The first period, however, may be subdivided into two portions, that prior to and including 1875, the date of the Public Health Act, which shows very slight decline, and that from 1876 to 1885 inclusive, which shows a sudden and relatively enormous reduction in the mortality. The decline in the ten years following the passage of the Public Health Act was from 371 to 175 per million persons living, a reduction equal to 196 deaths annually per million living, or 53 per cent. of the earlier total. The fourteen years of arrested decline which followed increased the death-rate slightly, from 175 to 198 per million persons, though it may be noted that this increase was almost wholly confined to males. The second period of eleven years decline has reduced the mortality by 145 per million persons, from 198 to 53 per million, a reduction of no less than 73 per cent.

The arrest in the decline of mortality from enteric fever during the last years of the nineteenth century may be compared with that shown in Diagram I. to have occurred at about the same time in mortality from all causes. It will be seen also from Table 27 that the same period was one of increasing infantile mortality, and that the present period of decline in mortality from enteric fever corresponds precisely with the similar period of recent improvement in regard to infantile mortality, both commencing with the year 1900.

While, however, the experience of this country in regard to infantile mortality has been paralleled by that of most other European countries,

DIAGRAM V.—ENGLAND AND WALES.—ENTERIC FEVER.
CORRECTED DEATH-RATES at ALL AGES, 1869-1910.*



* The death-rates throughout the entire period are based upon the sex and age constitution of the population as enumerated in 1901. For method of correction, see page xxviii.

in that considerable declines in them also have dated from about the same year, there is no such parallelism in the case of enteric fever. Continuous decline in mortality has been the prevailing rule in the more progressive countries of Europe, and the interruption in the line of descent during the last fifteen years or so of the last century finds no place in the curves of their mortality. It is, on the other hand, well marked in the Scottish curve, though the cessation of decline was not absolute (Table LXXVIII), while in Ireland the mortality actually increased up to the period 1896-1900, since when the fall has been greater than in either England or Scotland.

Diagram V. also shows the changes which have taken place in the sex incidence of enteric fever mortality. Prior to 1881 the mortality of both sexes was about equal, but since then that of males has been uniformly and, at times, very much higher. The maximum of actual excess is shown by the diagram to have been reached about the year 1900, when the relative excess was 51 per cent. In 1910, the relative excess was only 30 per cent., although in 1908 it had been as high as 67 per cent.

In Table XXXIII., which is condensed from a more extended table in the last report of the Metropolitan Asylums Board, the ratio of deaths to admissions on account of enteric fever, and the general London mortality from that disease are given for the period 1876-1910. This table shows that the diminished mortality is due in the main to diminished prevalence rather than diminished fatality of the disease.

TABLE XXXIII.

Enteric Fever. (Quinquennia.)	Metropolitan Asylums Board Hospitals.			County of London.
	Admissions.	Deaths.	Fatality. (Ratio per cent. of deaths to admissions.)	Mean Annual Mortality per 1,000 living.
1876-1880 ...	1,777	355	20.0	0.23
1881-1885 ...	2,129	398	18.7	0.23
1886-1890 ...	2,012	314	15.6	0.14
1891-1895 ...	2,924	496	17.0	0.13
1896-1900 ...	5,396	848	15.7	0.14
1901-1905 ...	4,852	735	15.1	0.08
1906-1910 ...	2,588	382	14.8	0.05

As is the case with many other diseases, the mortality from enteric fever is partly determined by the density of the population. In Table XXXIV. urban and rural mortalities are contrasted for each sex and those for 1910 compared with the average of the preceding quinquennium.

TABLE XXXIV.

Enteric Fever.	Crude Rates.		Corrected Rates.*			
	Average 1905-09.	Year 1910.	Average 1905-09.	Year 1910.	Ratio.†	
Both Sexes	England & Wales ...	77	53	77	53	69
	Urban Counties ...	87	63	86	63	73
	Rural Counties ...	58	29	60	29	48
Males	England & Wales ...	93	60	93	60	65
	Urban Counties ...	106	71	104	71	68
	Rural Counties ...	68	33	70	34	49
Females	England & Wales ...	61	46	61	46	75
	Urban Counties ...	70	56	69	56	81
	Rural Counties ...	49	24	51	25	49

* See footnote, p. xxviii.

† *i.e.*, the ratio of the corrected death-rates in 1910 to those in 1905-09, the latter taken as 100.

Taking both sexes together the mortality in the urban group of counties in 1905-09 exceeded that in the rural by 43 per cent. Among males the excess was 49 per cent., whilst among females it amounted to only 35 per cent.

From Table 31 it appears that among registration counties with populations exceeding 100,000, the highest crude death-rates† from enteric fever were 98 per million in Lancashire, 85 in the North Riding of Yorkshire, and 84 in Hampshire. Compared with the respective decennial averages, these three counties in common with

† In the case of enteric fever, correction does not greatly modify the death-rates.

all but two of the 55 registration counties, showed considerable decreases.

In Table XXXV. the sex and age incidence of the mortality from enteric fever in recent years is shown for England and Wales and for the urban and rural groups of counties, but as in the case of other similar tables comment is omitted on this occasion.

TABLE XXXV.

Enteric Fever.	Average 1905-1909.			Year 1910.			
	Mortality at Age-groups, per Million Living.	England and Wales.	Urban Counties.	Rural Counties.	England and Wales.	Urban Counties.	Rural Counties.
Both Sexes	0-	24	29	16	12	13	14.7
	5-	44	51	27	28	28	16.4
	10-	60	72	48	44	56	31
	15-	93	99	81	63	74	38
	20-	105	107	107	67	76	21
	25-	119	130	90	77	91	47
	35-	104	123	67	78	91	28.1
	45-	81	95	58	59	77	33
	55-	59	67	55	45	62	31
	65-	26	30	29	22	33	16
	Males	0-	25	30	16	14	17	8
5-		41	49	21	22	22	12
10-		58	66	48	37	48	25
15-		111	118	94	68	76	31
20-		137	139	117	77	84	28
25-		157	171	105	96	108	70
35-		132	155	92	100	116	39
45-		102	120	76	72	90	45
55-		73	85	65	59	78	39
65-		32	41	41	27	35	21
Females		0-	23	28	15	10	9	20
	5-	46	53	32	33	35	20
	10-	63	77	48	52	65	38
	15-	77	80	66	59	73	46
	20-	77	77	98	58	68	15
	25-	85	93	76	60	75	26
	35-	77	92	43	59	67	18
	45-	61	72	42	48	65	23
	55-	46	52	46	32	47	23
	65-	21	22	20	18	31	12

Diarrhoeal Diseases.—This term includes the following headings of the extended list of causes of death (Tables 21-26 and pages 290-303 &c.) :

- (1) Diarrhoea due to food ;
- (2) Infective Enteritis, Epidemic Diarrhoea ;
- (3) Diarrhoea not otherwise defined (including Gastro-intestinal Catarrh) ;
- (4) Ulceration of intestines ;
- (5) Enteritis ;
- (6) Gastro-enteritis.

It practically corresponds to the "diarrhoea and enteritis" of the International List of Causes of Death.*

The number of deaths at all ages ascribed to these causes during 1910 was 18,163, corresponding to a rate of 507 per million living, or 237 per million below the average rate in the preceding quinquennium.

More than four-fifths of these deaths occurred among children under five years of age. The following table shows the mortality per 1000 children living at this age:—

TABLE XXXVI.—MORTALITY FROM DIARRHOEAL DISEASES among CHILDREN aged 0-5 years.

—		England and Wales.	Urban Counties.	Rural Counties.
Both Sexes	1910 ...	3·64	4·60	1·73
	1905-09 ...	5·62	6·94	2·69
Males	1910 ...	4·08	5·14	1·92
	1905-09 ...	6·14	7·55	2·98
Females	1910 ...	3·22	4·07	1·55
	1905-09 ...	5·11	6·34	2·40

From this table it will be seen that in the year 1910, as compared with the quinquennium 1905-09, the diarrhoeal mortality of children under five years declined by about 35 per cent. both in England and Wales as a whole and in the urban and rural areas. The same table shows that the child mortality during 1910 in the urban group of counties was more than twice as great as that in the rural group. Table 41 shows that among counties with populations above 100,000 the lowest death-rates from diarrhoeal diseases were 0·65 per 1,000 children living in Wiltshire, 1·00 in Hertfordshire, and 1·10 in Dorsetshire. The highest death-rates were 5·85 in the North Riding of Yorkshire, 5·96 in Lancashire, and 6·51 in the East Riding of Yorkshire.

Rabies (Hydrophobia).—One death from hydrophobia was registered during 1910. This death was that of a private soldier and resulted from a dog bite in Gibraltar. No deaths from this disease had been reported in any of the seven years immediately preceding. In the course of the last twelve years only three deaths from hydrophobia have been reported in England and Wales. In the closing ten years of the nineteenth century the deaths from this disease averaged seven annually.

Pyæmia, Septicæmia, Septic Intoxication.—The deaths of 65 males and 53 females were referred to pyæmia, and the deaths of 173 males and 127 females to septicæmia, in the year under notice; the deaths of females from puerperal affections of this nature being excluded from this heading. Before the commencement of the present century the deaths from pyæmia were included with those from septicæmia in the returns of the Registrar-General.

Puerperal Fever.—The deaths referred to one or other of the definite headings comprised under this term (*i.e.*, puerperal septicæmia and septic intoxication, puerperal pyæmia, and phlegmasia alba dolens) numbered 1113. In addition to these 161 deaths were indefinitely

* For an account of the changes made in the grouping of these diseases see Annual Report, 1908, pages xcv-xcvi. In addition to the alterations there described it has been found necessary to include deaths from intestinal ulceration under the heading diarrhoeal diseases.

certified as due to "Puerperal Fever" (variety unspecified); a term no longer recognised by the Royal College of Physicians as adequate for the description of the cause of any individual death. The total number, 1274, is 155 below that so returned in 1909. The number of deaths certified as due to "puerperal fever" (161) is 29 below that in 1909, and compares with 478 so recently as 1901. It is much to be hoped that this satisfactory improvement in certification will continue.

Of the 1274 deaths referred to puerperal septic affections 186 were further complicated; the complicating cause was stated to be scarlet fever in 4 cases, influenza in 4, pneumonia in 81, tuberculous disease in 3, anæmia in 3, diseases of the heart in 13, cerebral hæmorrhage in 3, embolism or thrombosis in 31, pleurisy in 6, liver disease in 2, and kidney disease in 8 cases. In addition to the 1274 mentioned above there occurred in connexion with pregnancy or childbirth 3093 other deaths, of which particulars are given in Tables LI. and LII.

Pneumonia.—In the year under notice the deaths assigned to pneumonia in its various forms numbered 39,760, 22,541 being deaths of males and 17,219 of females. Of these deaths 5277 were referred to lobar pneumonia, 17,547 to broncho-pneumonia, and 9 to epidemic pneumonia, while in the case of the remaining 16,927 "pneumonia" was returned as the cause of death without further qualification.

The deaths from pneumonia of all forms were equal to a rate of 1110 per million of the population at all ages, 1302 per million among males, and 932 per million among females, the corresponding rates during the preceding quinquennium having been 1273 per million persons, 1483 per million males, and 1077 per million females. The total pneumonia death-rate was lower in 1910 than in any year since 1894, a fact which acquires increased significance in view of the reasons given in last year's Report for believing that many deaths formerly ascribed to bronchitis are now certified as due to pneumonia.

If we examine the distribution of pneumonia deaths under the principal headings to which they have been classified from the year 1901 onwards we find evidence of improved certification, for whereas, with some fluctuations, the death-rate from lobar pneumonia rose from 69 per million persons living in 1901 to 147 in 1910, and that from broncho-pneumonia from 460 to 490, the rate from undefined pneumonia fell from 615 to 473 per million. These changes of mortality suggest transference from the undefined to the definite headings. The proportions of total deaths from pneumonia have varied as follows:—

TABLE XXXVII.

—	Proportion per cent. of total pneumonia mortality.		
	Lobar Pneumonia.	Broncho-Pneumonia.	Pneumonia Undefined.
1901...	6·3	40·1	53·6
1902...	7·5	40·1	52·4
1903...	7·9	42·8	49·3
1904...	9·0	44·8	46·2
1905...	11·0	42·4	46·6
1906...	11·9	41·3	46·8
1907...	11·5	45·4	43·1
1908...	11·5	45·6	42·9
1909...	13·2	42·9	43·9
1910...	13·3	44·1	42·6

It will be seen from these figures that taking the total mortality from pneumonia as 100 throughout the period seven per cent. of this mortality has been transferred from the less definite heading "pneumonia" to lobar, and four per cent. to broncho-pneumonia.

It might perhaps be conjectured from the nature of the transference which has been in progress that the majority of the large proportion of deaths still certified as due to pneumonia without further qualification are caused by lobar pneumonia. This view is strongly confirmed on examination of the age and sex distribution of the three groups of deaths. Table XXXVIII. compares the mortalities recorded during the years 1901-1910 for both sexes at various ages for the three classes of pneumonia deaths, those for bronchitis being also stated for purposes of comparison. The table also shows the percentage distribution at different ages of the mortality from each of these diseases. It shows that the age-distribution of the less defined group of deaths approximates much more closely to that of lobar than of broncho-pneumonia. As is perhaps to be expected the number of cases in which the exact type of disease is left unstated is greater at the extremes of life than at other ages; making allowance for this the age-distribution of "pneumonia not otherwise defined," with its considerable incidence upon the ages 25-75 in both sexes, conforms pretty closely to that of lobar, and contrasts sharply with that of broncho-pneumonia, which is mainly fatal to infants and young children.

The same lesson is taught even more clearly by comparison of the distribution between the two sexes of mortality from these diseases at different ages. The materials for this comparison are furnished by Table XXXIX. and by Diagram VI., which graphically compares the proportions stated in this table. Lobar contrasts with broncho-pneumonia by exhibiting a very great excess of mortality amongst males during early and middle adult life. In this respect it is closely followed by "pneumonia not otherwise defined"; whereas broncho-pneumonia, with its relatively small excess of male mortality at any age, and its excess of female mortality at ages 5-15 and over 75, conforms much more closely to the sex distribution of bronchitis than of either of the other pneumonia groups. The tables and curves in fact suggest that the group of deaths certified only as "pneumonia" consists mainly of deaths from lobar pneumonia with some admixture of broncho-pneumonia. The resemblance between the sex distribution at various ages of deaths from broncho-pneumonia and from bronchitis is also noticeable and suggests that, as is indeed to be expected, the transference of deaths from bronchitis to pneumonia, shown in last year's Report to have occurred of late years, has been a transference chiefly of deaths now certified as due to broncho-pneumonia.

The probable constitution of the less defined group of pneumonia deaths is a matter of importance both as profoundly affecting the true mortality of such an important and distinctive disease as lobar pneumonia, and because of its bearing upon international comparisons of pneumonia mortality. The International List of Causes of Death, by grouping together deaths from lobar pneumonia and from pneumonia not otherwise defined, may be said to assume that "pneumonia" unqualified generally means lobar pneumonia. If this were not so, no comparison of mortality from lobar pneumonia in the different countries using the International List would be possible at the present time. The evidence however appears to show that the assumption holds good in this country at least, but the distinction hitherto made here between the more and the less definitely certified cases will be maintained when the International List is in use.

TABLE XXXVIII.—MORTALITY FROM PNEUMONIA AND BRONCHITIS, 1901-10.

	Death-rates per Million Living.*				Percentage of Deaths to those at All Ages.				
	Lobar Pneumonia.	Broncho-Pneumonia.	Pneumonia (not defined).	Bronchitis.	Lobar Pneumonia.	Broncho-Pneumonia.	Pneumonia (not defined).	Bronchitis.	
Both Sexes	All Ages	130	539	585	1,165	100·0	100·0	100·0	100·0
	0—	258	8,027	2,790	10,302	5·4	40·5	13·0	24·0
	1—	126	2,189	959	1,245	8·7	36·5	14·7	9·6
	5—	30	117	158	53	2·5	2·3	2·9	0·5
	10—	18	23	79	14	1·5	0·4	1·4	0·1
	15—	41	19	139	18	3·2	0·4	2·4	0·2
	20—	60	22	185	23	4·5	0·4	3·0	0·2
	25—	95	36	283	52	11·9	1·1	7·8	0·7
	35—	165	79	512	195	15·5	1·8	10·8	2·1
	45—	228	168	782	706	15·6	2·8	11·9	5·4
	55—	328	405	1,264	2,545	15·1	4·5	12·8	13·1
	65—	449	876	2,114	7,704	11·4	5·4	12·0	21·9
	75—	447	1,483	2,985	17,181	4·2	3·3	6·2	17·8
	85—	445	2,294	4,422	34,574	0·5	0·6	1·1	4·4
Males	All Ages	167	592	707	1,175	100·0	100·0	100·0	100·0
	0—	302	9,000	3,149	11,408	5·2	43·6	12·8	27·8
	1—	139	2,269	1,021	1,262	7·7	35·5	13·4	9·9
	5—	32	111	166	51	2·1	2·1	2·6	0·5
	10—	18	22	81	14	1·2	0·4	1·2	0·1
	15—	52	20	173	18	3·2	0·3	2·5	0·2
	20—	85	22	246	25	4·8	0·4	3·3	0·2
	25—	130	38	369	57	12·3	1·0	8·3	0·8
	35—	229	88	685	200	16·8	1·8	11·9	2·1
	45—	329	190	1,085	766	17·4	2·9	13·5	5·8
	55—	448	452	1,688	2,763	15·5	4·4	13·7	13·6
	65—	554	905	2,552	7,947	10·1	4·6	11·0	20·5
	75—	525	1,477	3,371	17,057	3·3	2·6	5·0	15·2
	85—	540	2,175	4,847	33,914	0·4	0·4	0·8	3·3
Females	All Ages	95	489	471	1,155	100·0	100·0	100·0	100·0
	0—	212	7,017	2,418	9,154	5·8	37·0	13·3	20·5
	1—	113	2,109	897	1,229	10·4	37·6	16·7	9·3
	5—	28	124	150	56	3·1	2·6	3·3	0·5
	10—	19	24	77	15	2·0	0·5	1·6	0·1
	15—	30	19	106	17	3·1	0·4	2·2	0·1
	20—	38	21	131	21	3·9	0·4	2·7	0·2
	25—	64	35	205	48	11·1	1·2	7·2	0·7
	35—	104	70	350	191	13·5	1·8	9·1	2·0
	45—	135	147	500	651	12·7	2·7	9·5	5·1
	55—	223	363	893	2,354	14·4	4·6	11·7	12·6
	65—	365	852	1,763	7,510	13·7	6·2	13·3	23·1
	75—	391	1,488	2,706	17,271	5·6	4·1	7·8	20·3
	85—	389	2,365	4,172	34,962	0·7	0·9	1·6	5·5

* The mortality under one year is calculated per million births, that at other ages per million living.

DIAGRAM VI.—PNEUMONIA and BRONCHITIS: MALE MORTALITY per cent. of FEMALE MORTALITY at each AGE-GROUP, 1901-1910.

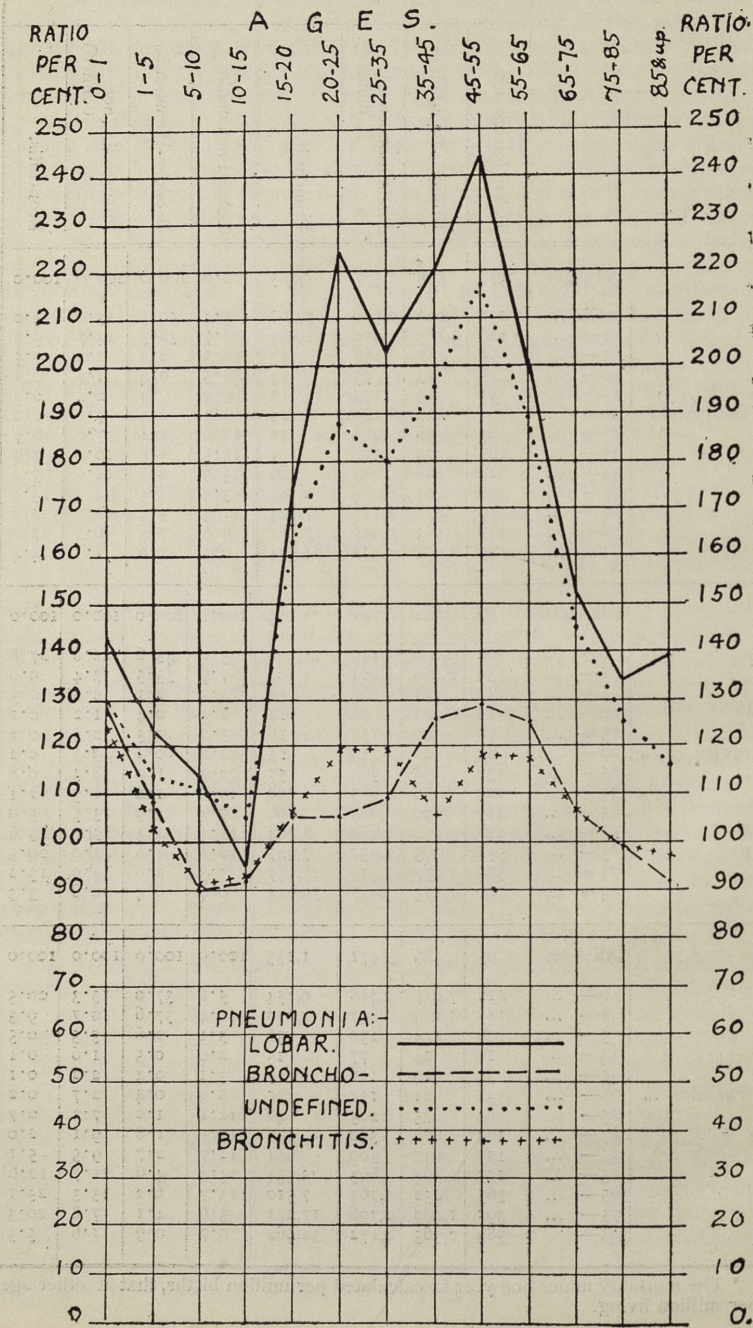


TABLE XXXIX.—PNEUMONIA AND BRONCHITIS: MALE MORTALITY PER CENT. OF FEMALE MORTALITY AT EACH AGE-GROUP, 1901-1910.

Ages.	Lobar Pneumonia.	Broncho-Pneumonia.	Pneumonia Undefined.	Bronchitis.
All Ages ...	176	121	150	102
0-1 ...	142	128	130	125
1-5 ...	123	108	114	103
5-10 ...	114	90	111	91
10-15 ...	95	92	105	93
15-20 ...	173	105	163	106
20-25 ...	224	105	188	119
25-35 ...	203	109	180	119
35-45 ...	220	126	196	105
45-55 ...	244	129	217	118
55-65 ...	201	125	189	117
65-75 ...	152	106	145	106
75-85 ...	134	99	125	99
85 and upwards ...	139	92	116	97

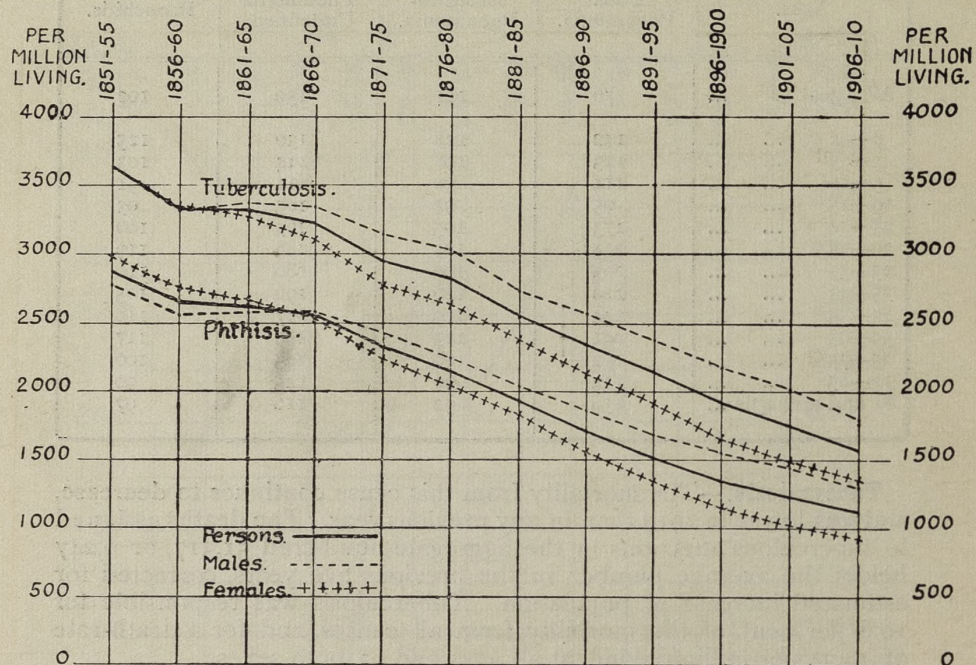
Tuberculosis.—The mortality from this cause continues to decrease, and was lower in 1910 than in any previous year. The deaths assigned to tuberculous affections in the aggregate numbered 51,317, or 6,247 below the average number in the previous five years, corrected for estimated increase of population. Tuberculosis was responsible for 10.6 per cent. of the mortality from all causes, and for a death-rate of 1,434 per million living, at all ages and of both sexes.

Diagram VII. shows the incidence of the mortality in each sex, both from all forms of the disease and from phthisis, in each quinquennium since 1851. It will be apparent from the diagram that although there has been a steady decrease in the mortality from tuberculosis in both sexes, the decrease has been much greater among females than males. In the first quinquennium the rates were the same in each sex (3,637 per million), but in the last the rate among females had fallen to 1,350 per million, or 25 per cent. lower than that for the males, 1,798 per million. In the case of phthisis it will be seen that the mortality among females did not fall below that of males till a later period (1866-70), but that since then the excess in decrease of female mortality has been more marked than in the case of tuberculosis generally, the death-rate from phthisis among females during the last quinquennium being 29 per cent. lower than that among males.

Among counties containing populations above 100,000 the highest uncorrected death-rates from tuberculosis in 1910 were 1739 in Carmarthenshire, 1772 in Northumberland, and 2072 in Carnarvonshire.

Phthisis (including tuberculous laryngitis).—In the year under notice tuberculous phthisis accounted for the deaths of 20,792 persons, and "phthisis" not otherwise defined, for the deaths of 15,542 persons, at all ages and of both sexes. Together these deaths were equal to 71 per cent. of the total deaths from tuberculosis, and to a rate of 1015 per million of the population, or 7.5 per cent. of the total death-rate. This rate is the lowest on record, as were those also of 1908 and 1909. It is 10 per cent. below the average for the five years 1905-09.

DIAGRAM VII.—ENGLAND AND WALES.—TUBERCULOSIS (all forms) and PHTHISIS. CORRECTED DEATH-RATES at ALL AGES, in quinquennia 1851-1910.*



* The death-rates throughout the entire period are based upon the sex and age constitution of the population as enumerated in 1901. For method of correction, see p. xxviii.

TABLE XL.

Phthisis.	Mortality per Million Living at all Ages.	Crude Rates.		Corrected Rates.*		
		Average 1905-09.	Year 1910.	Average 1905-09.	Year 1910.	Ratio.†
Both Sexes	England & Wales ...	1,133	1,015	1,133	1,015	90
	Urban Counties ...	1,216	1,073	1,212	1,072	88
	Rural Counties ...	1,039	961	1,069	983	92
Males	England & Wales ...	1,332	1,186	1,332	1,186	89
	Urban Counties ...	1,473	1,290	1,470	1,290	88
	Rural Counties ...	1,124	1,047	1,153	1,069	93
Females	England & Wales ...	946	855	946	855	90
	Urban Counties ...	975	870	970	868	89
	Rural Counties ...	960	879	990	903	91

* See foot-note, page xxviii.

† i.e., the ratio of the corrected death-rates in 1910 to those in 1905-09, the latter taken as 100.

The phthisis mortality has fallen during the past half century by nearly 60 per cent. at all ages, and by about 70 per cent. at ages 0-25.

From that age onwards the fall has been considerably less marked, and has been more pronounced in females than in males.

TABLE XLI.

Phthisis.	Average 1905-1909.			Year 1910.			
	England and Wales.	Urban Counties.	Rural Counties.	England and Wales.	Urban Counties.	Rural Counties.	
Both Sexes	0-	305	364	223	287	339	183
	5-	159	180	123	126	141	102
	10-	264	271	273	260	273	271
	15-	829	816	912	744	736	807
	20-	1,274	1,181	1,640	1,131	1,058	1,359
	25-	1,689	1,653	1,861	1,486	1,433	1,699
	35-	2,002	2,200	1,669	1,776	1,896	1,630
	45-	2,043	2,398	1,489	1,794	2,062	1,432
	55+	1,709	2,050	1,300	1,601	1,919	1,150
	65-	975	1,205	775	971	1,139	851
	Males	0-	326	392	220	323	380	206
5-		129	148	93	100	115	97
10-		157	168	143	161	182	147
15-		712	727	701	624	614	662
20-		1,392	1,286	1,736	1,256	1,194	1,427
25-		1,946	1,923	2,019	1,687	1,642	1,829
35-		2,480	2,771	1,942	2,173	2,378	1,893
45-		2,802	3,360	1,936	2,454	2,859	1,868
55-		2,464	3,073	1,700	2,260	2,809	1,449
65-		1,350	1,790	961	1,340	1,693	1,082
Females		0-	285	336	225	250	298	159
	5-	188	211	152	153	167	106
	10-	372	374	405	358	362	399
	15-	944	901	1,131	861	853	958
	20-	1,168	1,088	1,554	1,020	936	1,298
	25-	1,458	1,407	1,722	1,307	1,243	1,585
	35-	1,554	1,657	1,417	1,404	1,438	1,387
	45-	1,340	1,490	1,086	1,182	1,309	1,088
	55-	1,047	1,154	948	1,022	1,140	886
	65-	685	771	625	685	727	664

In Tables 29, 30 and 31, the crude rates of mortality from phthisis in 1910 are shown in the several registration counties of England and Wales. Among counties with populations exceeding 100,000 the highest rates among persons of both sexes were 1223 per million in London, 1289 in Carmarthenshire, and 1506 in Carnarvonshire.

Tuberculous Meningitis.—The deaths classified under this heading during 1910 numbered 5471 at all ages, being fewer by 655 than the average number in the previous five years, after allowance for increase of population. As the deaths from simple meningitis were also below the quinquennial average, there appears no reason to doubt the reality of the decrease in the mortality from meningeal tuberculosis.

The Tables on pages 294-295 illustrate the fact that tuberculous meningitis is, for the most part, a disease of early life. Of the deaths at all ages registered during 1910 3512, or 64 per cent., occurred within the first five years of life—a number corresponding to a rate of 86 per 100,000 living at that age. The deaths under one year were equal to 131 in every 100,000 infants born.

The following table shows the mortality of young children from tuberculous meningitis and tuberculous peritonitis since the year 1847, before which there are no data available for comparison:—

TABLE XLII.—TUBERCULOUS MENINGITIS and TUBERCULOUS PERITONITIS.—DEATH-RATES per 100,000 among CHILDREN under 5 years of age.

Quinquennia.	Tuberculous Meningitis.			Tuberculous Peritonitis.		
	Boys.	Girls.	Both Sexes.	Boys.	Girls.	Both Sexes.
1847-1850 (4 years) ...	305	231	268	162	139	150
1851-1855 ...	311	233	272	179	153	166
1856-1860 ...	275	202	239	172	148	160
1861-1865 ...	277	196	236	190	163	176
1866-1870 ...	242	176	209	210	181	196
1871-1875 ...	223	158	191	215	182	199
1876-1880 ...	227	155	191	226	191	209
1881-1885 ...	175	126	150	205	166	185
1886-1890 ...	163	119	141	196	157	176
1891-1895 ...	155	118	137	176	144	160
1896-1900 ...	141	114	127	147	117	132
1901-1905 ...	118	103	110	118	94	106
1906-1910 ...	103	89	96	84	66	75

Note.—The figures for tuberculous meningitis are not strictly comparable throughout. Previous to 1881 deaths from chronic hydrocephalus were classed to tuberculous meningitis.

The continuous decline in the mortality attributed to tuberculous meningitis is striking, notwithstanding the alteration in classification mentioned in the footnote to Table XLII., which does not appear to have affected the figures very profoundly.

The malady is generally more destructive to young children in the town than in the country. Tables 35 and 36 show that in the selected urban counties the mortality of children under five years of age was equal in 1910 to a rate of 97, and in the rural counties to a rate of 49 per 100,000 living at this age.

Tuberculous Peritonitis (including *Tabes Mesenterica*).—Under this head during 1910 there were returned 4,345 deaths at all ages, or fewer by 556 than the corrected average number in the preceding five years. Of this total 3,554 were definitely ascribed to tuberculous peritonitis, the remaining 791 being indefinitely assigned to *tabes mesenterica*.* The deaths of children under five years amounted to 62 per cent. of the total mortality. Among 100,000 boys living at this age the deaths were 75 in number, while among the same number of girls living, the deaths numbered 58.

The mortality ascribed to tuberculous peritonitis is seen from Table XLII. to have displayed since 1876-80 a continuous decline, which since 1891-95 has become remarkably rapid. This is the more noteworthy in contrast with the tendency to increase up to about 1880. The death-rate of boys has exceeded that of girls by about 25 per cent. of late years, as against 15-20 per cent. in the earlier periods dealt with in the table.

* In the year 1901 more than half of the deaths under this head were thus indefinitely returned.

From Tables 35 and 36 it will be seen that as in previous years the mortality among young children from tuberculous peritonitis (as from tuberculous meningitis) is far higher in the town than in the country. In the year 1910 the death-rate from this disease among children under five years of age was 78 per 100,000 living in the urban counties, and 35 in the rural counties.

Other Tuberculous Diseases.—The deaths at all ages returned under this head were 5,167 in number, and corresponded to a rate of 145 per million living, which is 22 per million below the average rate in the preceding five years (see Table 22). This total consists of 2,884 deaths from general tuberculosis, and of 2,283 deaths from scrofula and the local tuberculous affections, such as lupus and tuberculous diseases of the bones and joints, not dealt with in the preceding sections. Of the 5,167 deaths at all ages from "other tuberculous diseases," 1,500 were those of children under five years of age (see pages 294 and 295).

Of the decrease of 755 deaths from general tuberculosis as compared with the preceding year, 385 are accounted for by transference to other tuberculous headings as the result of inquiries addressed to medical practitioners with regard to deaths certified as due to tuberculosis without further qualification, and which in previous years had been assigned without inquiry to general tuberculosis. The majority (222) of these were transferred to pulmonary tuberculosis.

The 2,188 deaths from "tubercle of other organs" (pp. 24, 294 and 295) show an increase of 320 over the corresponding figure for the previous year. This is largely due to transference to this heading of deaths previously classed to caries and to spinal curvature. These 2,188 deaths comprise 760 cases of spinal disease, 550 of joint disease, and 878 of disease of other organs.

Alcoholism and Cirrhosis of Liver.—The deaths of 1,490 persons, 862 males and 628 females, were returned in 1910 under the heading "Alcoholism, delirium tremens"; of this total, 59 had been originally certified as from hæmatemesis, hæmoptysis, peritonitis, dropsy, or some other indefinite cause, the true nature of the fatal malady having been ascertained subsequently in each case by correspondence with the medical attendant. Among males the deaths at all ages were equal to a rate of 50 per million, and among females to a rate of 34 per million, or 31 and 28 per cent., respectively, below the average in the preceding five years. Nine-tenths of the deaths directly ascribed to alcoholism occur within the main working period of life, i.e., at ages from 25 to 65 years.

The mortality ascribed to alcoholism and cirrhosis of the liver, which had been increasing for many years, and especially in the years 1896-1900, reached its highest point in the last year of that quinquennium. Since that year there has been a steady decline in the mortality ascribed to these causes.

Rheumatic Fever (Acute and Sub-acute Rheumatism).—The deaths referred to this disease numbered 1,680, corresponding to a death-rate of 46 per million among males and 48 per million among females. Few deaths of young children are ascribed to rheumatic fever, but after the age of five years or so there is comparatively little variation in the death-rate at different ages. The maximum mortality occurs in later childhood, and about this period of life females suffer more than males, the reverse being generally the case at other ages.

Cancer.—The deaths ascribed to cancer or malignant disease during 1910 numbered 34,607, of which 20,320 were referred to

carcinoma, 2,073 to sarcoma, and 12,214 to "cancer" not otherwise defined. The latter number remains about stationary year by year, but the deaths ascribed to carcinoma are rapidly increasing, while those ascribed to sarcoma are also increasing, although less rapidly. The mortality among males was 856 per million living as compared with 833 in 1909, and that among females 1,070 as compared with 1,082. The total mortality from cancer in 1910 was the highest on record, the increase among males more than counterbalancing the decrease among females. Diagram VIII. shows that from 1861 to about 1880 the increase in female mortality was greater than that in the mortality of males; but that since 1890 the reverse has been the case, male mortality (as recorded) having increased by 333 and female by 218 per million living.

Table XLIII., which shows the increase of mortality from cancer during 1910 as compared with the average of the preceding five years, indicates cancer to be more destructive in the urban than in the rural group of counties, although the crude rates would seem to show the reverse. It must be borne in mind, however, that the figures upon which this table is based are uncorrected for deaths in institutions. A considerable number of cancer patients die in hospitals; these are situated mainly in large towns but draw their patients from rural as well as urban counties. The death-rates for urban counties may be slightly overstated and those for rural correspondingly understated on this account. This source of error, it may be remarked, will be eliminated in future Reports.

TABLE XLIII.

Cancer.	Mortality per Million Living at all Ages.	Crude Rates.		Corrected Rates.*		
		Average 1905-09.	Year 1910.	Average 1905-09.	Year 1910.	Ratio.†
Both Sexes	England and Wales ...	924	967	924	967	105
	Urban Counties ...	888	934	974	1026	105
	Rural Counties ...	1,066	1,120	846	887	105
Males	England and Wales ...	799	856	799	856	107
	Urban Counties ...	768	845	850	935	110
	Rural Counties ...	928	958	723	745	103
Females	England and Wales ...	1,041	1,070	1,041	1,070	103
	Urban Counties ...	1,000	1,019	1,089	1,111	102
	Rural Counties ...	1,196	1,272	962	1,021	106

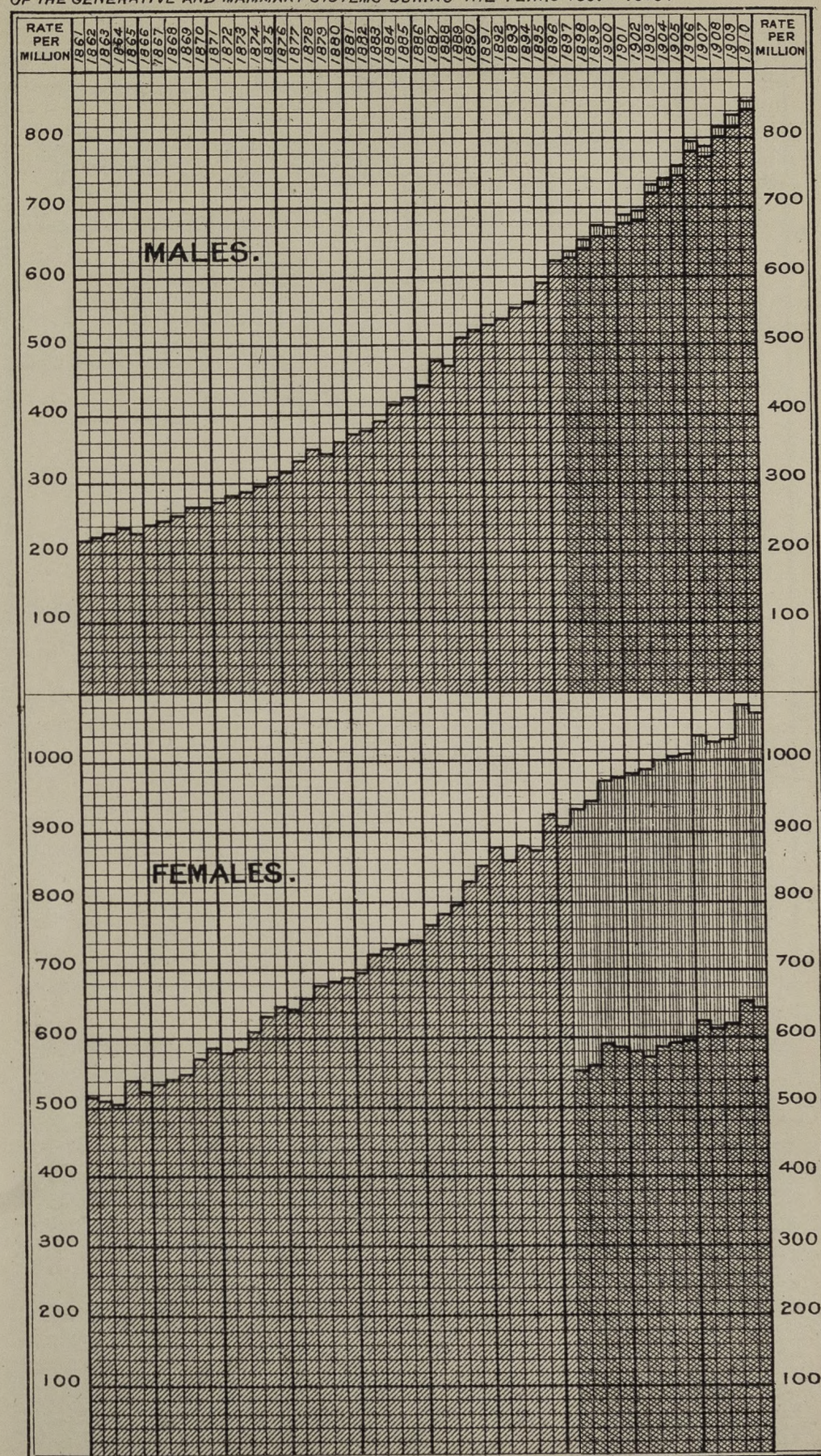
* See footnote, p. xxviii.

† i.e., the ratio of the corrected death-rates in 1910 to those in 1905-09, the latter taken as 100.

Contrary to the general tendency, pointed out in last year's Report, for cancer mortality to remain stationary of late years among women under 55 years of age, Table XLIV. appears to indicate increase over the average for the previous quinquennium at all ages over 25. In view of what has been said on page xxxviii, however, as to the reliability of such tables in the present Report conclusions of this nature must be received with caution.

DIAGRAM VIII.— ENGLAND & WALES — CANCER; CORRECTED DEATH-RATES AT ALL AGES 1861-1910.*

NOTE:— THE PORTION SHADED VERTICALLY REPRESENTS THE MORTALITY ASCRIBED TO CANCER OF THE GENERATIVE AND MAMMARY SYSTEMS DURING THE YEARS 1897-1910.



* THE DEATH-RATES THROUGHOUT THE ENTIRE PERIOD ARE BASED UPON THE AGE CONSTITUTION OF THE POPULATION AS ENUMERATED IN 1901. FOR METHOD OF CORRECTION SEE PAGE XXVIII.

TABLE XLIV.

Cancer.	Average 1905-1909.			Year 1910.			
	England and Wales.	Urban Counties.	Rural Counties.	England and Wales.	Urban Counties.	Rural Counties.	
Mortality at Age-groups, per Million Living.	0—	30	32	28	33	32	37
	5—	15	17	14	18	24	18
	10—	16	17	14	15	18	19
	15—	29	32	32	28	32	32
	20—	46	48	46	46	41	53
	25—	142	153	131	152	169	151
	35—	666	719	600	689	737	614
	45—	2,056	2,224	1,783	2,145	2,366	1,847
	55—	4,411	4,729	3,944	4,526	4,810	4,045
	65—	7,374	7,593	7,089	7,876	8,318	7,420
75—	8,412	8,281	7,994	8,885	8,731	8,809	
Both Sexes	0—	33	36	27	35	30	32
	5—	18	20	16	18	26	12
	10—	18	20	11	16	18	16
	15—	32	39	33	35	41	44
	20—	53	56	47	54	51	57
	25—	115	121	118	123	131	143
	35—	438	474	395	471	510	397
	45—	1,650	1,833	1,365	1,808	2,079	1,479
	55—	4,198	4,556	3,719	4,380	4,863	3,520
	65—	7,433	7,696	7,030	8,203	8,881	7,181
75—	8,277	8,205	7,928	8,688	8,581	8,951	
Males	0—	23	29	29	32	35	41
	5—	12	13	12	15	23	25
	10—	14	14	18	19	17	21
	15—	27	26	30	21	24	18
	20—	40	41	45	39	32	51
	25—	166	181	142	178	204	158
	35—	878	953	789	894	952	814
	45—	2,433	2,593	2,169	2,459	2,637	2,180
	55—	4,598	4,881	4,142	4,655	4,765	4,509
	65—	7,327	7,513	7,138	7,614	7,883	7,621
75—	8,508	8,330	8,045	9,024	8,829	8,701	
Females	0—	23	29	29	32	35	41
	5—	12	13	12	15	23	25
	10—	14	14	18	19	17	21
	15—	27	26	30	21	24	18
	20—	40	41	45	39	32	51
	25—	166	181	142	178	204	158
	35—	878	953	789	894	952	814
	45—	2,433	2,593	2,169	2,459	2,637	2,180
	55—	4,598	4,881	4,142	4,655	4,765	4,509
	65—	7,327	7,513	7,138	7,614	7,883	7,621
75—	8,508	8,330	8,045	9,024	8,829	8,701	

Tables XLV. and XLVI. show, for males and females respectively, the deaths attributed during 1901-10 to cancer of the various parts of the body. It is probable, however, that in many cases the organ mentioned in the certificate was not the primary seat of disease. The excess of female over male mortality is accounted for by the enormously greater frequency with which the female generative and mammary organs are affected than are those of men. In the decennium ending with 1910 the recorded deaths of males from cancer, other than that of the generative and mammary organs, were equal to a rate of 760 per million, whilst the corresponding deaths of females amounted only to 610 per million. In the same period the death-rate from cancer of all parts of the body was 773 per million among males against 1,027 among females. Mortality from cancer of the generative and mammary organs is represented by distinctive shading in Diagram VIII. The information upon which this distinction is based was not regularly abstracted prior to 1897.

In Tables XLVII. and XLVIII. the mortalities per million living from cancer of different parts of the body are set forth. These tables afford a ready means of studying the differences in mortality from cancer of the same organ at different ages and in the two sexes, while Table XLIX. shows the relative frequency of deaths from cancer of the more important organs in persons of the same sex and age.

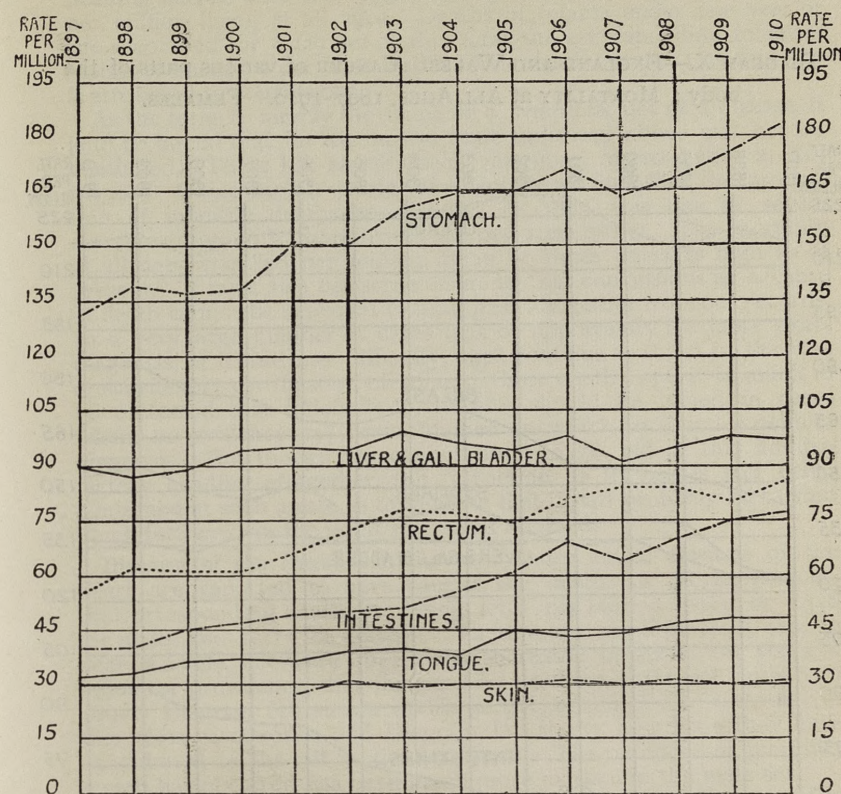
TABLE XLIX.—ENGLAND and WALES.—CANCER: PARTS OF BODY, 1901-10.—PERCENTAGE OF DEATHS at each AGE-GROUP to TOTAL DEATHS FROM CANCER in the same SEX and AGE-GROUP.

	0-35	35-	45-	55-	65-	75-	85 and upwards.	All Ages.
MALES.								
Face	0.8	1.4	1.2	1.2	1.8	4.2	10.7	1.8
Lip	0.1	0.6	0.8	1.1	1.8	4.1	9.3	1.6
Stomach	8.8	20.9	21.6	22.5	23.0	20.1	12.8	21.4
Intestines	6.4	8.0	7.2	7.6	9.0	9.1	6.9	8.1
Rectum	7.1	8.7	9.0	10.3	11.1	11.4	9.6	10.1
Breast	0.1	0.1	0.2	0.2	0.2	0.3	0.5	0.2
Esophagus	0.7	4.9	8.1	8.0	6.1	4.8	3.3	6.6
Liver and Gall Bladder	6.8	10.6	11.0	13.0	13.7	13.1	12.0	12.4
Bladder and Urethra ...	1.3	2.0	2.4	2.9	4.0	4.0	4.2	3.1
Tongue	0.8	5.6	7.7	6.2	4.8	4.1	3.1	5.5
Mouth	0.6	1.5	1.9	1.8	1.8	1.7	2.1	1.8
Jaw	2.3	2.9	3.5	3.0	2.6	2.8	2.1	2.9
Other organs	64.2	32.8	25.4	22.2	20.1	20.3	23.4	24.5
FEMALES.								
Face	0.5	0.3	0.4	0.5	1.0	2.5	6.0	0.9
Lip	0.1	0.0	0.0	0.0	0.1	0.3	0.6	0.1
Stomach	6.3	9.0	11.5	15.4	17.9	16.7	11.3	14.2
Intestines	5.2	4.6	5.9	7.9	9.9	10.1	8.6	7.8
Rectum	5.5	4.6	4.9	6.2	6.8	7.1	6.2	6.0
Uterus	22.2	35.4	29.4	21.5	15.0	11.4	9.5	21.8
Breast	9.2	19.9	19.5	15.9	14.4	17.6	27.0	16.8
Esophagus	1.9	1.9	1.4	1.3	1.6	1.8	1.3	1.5
Liver and Gall Bladder	5.0	6.8	10.5	15.0	16.8	15.7	11.0	13.2
Bladder and Urethra ...	0.4	0.5	0.6	0.9	1.2	1.4	1.6	0.9
Tongue	0.9	0.5	0.4	0.4	0.5	0.7	0.6	0.5
Mouth	0.4	0.2	0.1	0.2	0.2	0.2	0.3	0.2
Jaw	1.4	0.6	0.6	0.7	0.7	0.9	0.8	0.7
Other organs	41.0	15.7	14.8	14.1	13.9	13.6	15.2	15.4

This Table shows that amongst males cancer of the stomach, and next to it, cancer of the liver, cause most deaths at each age-period after 35. Cancer of the rectum takes third place except at the latest age-period, when cancer of the face causes rather more deaths. Amongst women the uterus is the principal seat of fatal cancer up to 65, the stomach from 65 to 75, and the breast after 75. The breast comes second up to 65, but only fourth from 65 to 75. Apart from the reproductive system the stomach and liver come first, as in men.

The changes in mortality at all ages from cancer of the different organs during the last 14 years are contrasted in Diagrams IX. and X., which also indicate the relative amount of mortality in each case.

DIAGRAM IX.—ENGLAND AND WALES.—CANCER of various parts of the body; MORTALITY at ALL AGES, 1897-1910. MALES.



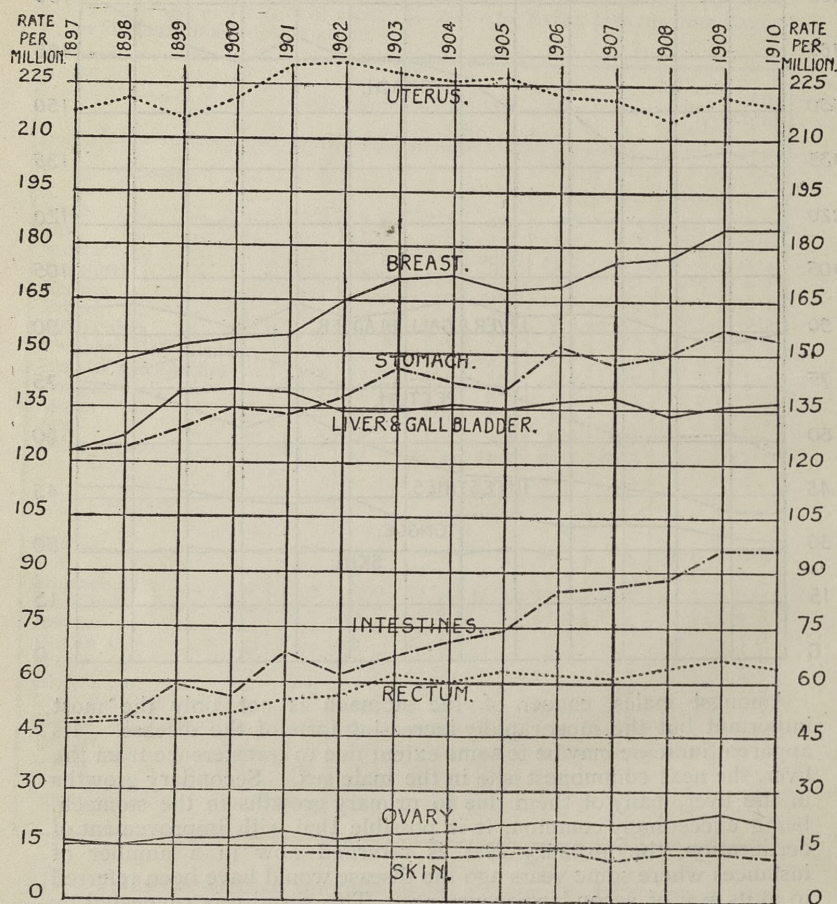
Amongst males, cancer of the stomach is not only the most important but the most rapidly increasing form of the disease. Its apparent increase may be to some extent due to transference from the liver, the next commonest site in the male sex. Secondary growths in the liver, many of them due to primary growths in the stomach, being exceedingly common, it is possible that with improvement of certification the primary seat is returned now in a number of instances where some years ago the disease would have been referred to in its seat of secondary occurrence. This surmise is suggested by the fact that the returns of cancer of the stomach are rapidly increasing in both sexes, whereas those from cancer of the liver show little increase of recent years.

There is also a marked contrast in this respect between the two chief seats of the disease in the female sex, the uterus and the breast. Cancer of the former organ shows little or no increase during the 14 years, but the mortality from mammary cancer has increased by about 29 per cent., notwithstanding lives saved by improved methods of operation.

In both sexes the greatest relative increase, and in the female sex the greatest absolute increase, has been that from cancer of the intestines, the mortality attributed to which amongst women has

practically doubled during the last 14 years. Doubtless this is very largely due to improved diagnosis. In the case of rectal cancer on the other hand, the increase has been greater amongst men.

DIAGRAM X.—ENGLAND AND WALES. CANCER of various parts of the body; MORTALITY at ALL AGES, 1897-1910. FEMALES.



Diabetes Mellitus was the certified cause of death in 3,937 instances in the year under notice—this number being in excess of the quinquennial average, corrected for increase of population, by 394. Nearly three-quarters (72 per cent.) of the total mortality occurred at ages above 45 years. From a table published in the Annual Report for 1905, it appears that in recent years there has been an increase in the loss of life from this disease, which has been greatest among women; and that in both sexes the increase has been mainly at ages beyond mid-life. The mortality in each sex in 1910 was the highest on record.

DISEASES OF PARTICULAR ORGANS.

Convulsions.—The number of deaths referred to this indefinite heading during 1910 was 9,396, corresponding to a mortality of 262 per million living at all ages. Deaths of infants under one year of age accounted for 8,229 out of this total, the corresponding infantile mortality being 9.2 per 1000 births. One death out of 11 at this age is attributed to convulsions.

As the term is merely the name of a symptom, not of a disease, it is to be hoped that its use on the scale indicated above will not be continued. There has already been very great improvement in this respect. Going back a quarter of a century we find that the proportion of infantile deaths so certified in 1885 was one in seven, corresponding to a mortality of 20 per 1000 births. The mortality at all ages was 808 per million living, or three times as high as at present. It must also be borne in mind that convulsions as a cause of death cannot be expected to disappear altogether from our records. In a very large number of cases lack of opportunity for more exact diagnosis, or its intrinsic difficulty, must continue to stand in the way of satisfactory certification of some of these deaths, and it is much to be preferred that indefinite certificates should be issued in cases where no evidence has been obtained on which to found a definite diagnosis. But though we cannot hope to get rid of this unsatisfactory heading altogether, the restriction of its use is still being continued at such a rate as to indicate that it will probably be carried much further than the point at present attained.

Diseases of the Heart.—In the year under notice diseases of the heart are reported to have caused the deaths of 48,724 persons, the corresponding death-rate being 1,361 per million living, or 1,348 for males and 1,373 for females. These rates vary little from year to year as a rule, but were appreciably increased in the earlier years of influenza prevalence, that for persons reaching 1,701 per million in 1891. Diagram III. shows the large proportion of all deaths due to this class of diseases, and Diagram IV. shows how little they have contributed to the fall in the death-rate. The reduction of mortality which has occurred has been much more marked in the male sex.

According to the experience of the last ten years the mortality from valvular disease of the heart has been greater in the female than the male sex up to the age of 55 years, whilst after that age the reverse has been the case. During the first twenty years of life the mortality increases gradually, and from the 35th year onward very rapidly.

Tables 21 and 22 indicate that valvular disease, including endocarditis, has been in recent years the most frequent of all the definite forms of this malady. The fact that the mortality from valvular affections and also from angina pectoris, dilatation, and fatty degeneration of the heart is apparently increasing from year to year must be considered in relation to the associated fact that the death-rate from less definite forms of heart disease is decreasing.

Diseases of the Blood Vessels.—About four-fifths of the deaths under this heading are referred to cerebral hæmorrhage or to its symptoms apoplexy or hemiplegia. On the average of the last ten years the deaths at all ages from cerebral hæmorrhage (together with apoplexy and hemiplegia) correspond to a rate of 668 per million for males, and of 765 per million for females. The mortality from this cause is low until after the age of puberty, but at the age-group 35 years and upwards it accounts for the deaths of 2,096 in a million men, and of 2,306

in a million women. In the 20 years intervening between the 35th and the 55th year women fall victims to this disease in greater proportion than do men, whilst at ages above 55 years the mortality is higher among men.

Laryngitis.—During 1910 883 deaths at all ages were referred to laryngitis; membranous laryngitis, not ascertained upon inquiry to be diphtheritic, being responsible for 18 of these deaths.

Table 22 shows that in proportion to population the deaths referred to "laryngitis" are at the present time fewer than they were 20 years ago. But it must not be inferred that the mortality from laryngitis is correspondingly less now than it was formerly, as improved diagnosis, particularly in the case of diphtheria, may not improbably account for a part of the decrease. It has been pointed out in previous reports that the age distribution of laryngitis corresponds somewhat closely to that of diphtheria and "croup," and this was the case in the year 1910, when about two-thirds of the deaths from laryngitis were those of children under the age of five years.

Bronchitis.—In nearly all years previous to that under notice more deaths were assigned to this than to any other single cause of death, but in 1910 the mortality from phthisis and from cancer exceeded that attributed to bronchitis, which was lower in 1910 than in any previous year. For the past nine years the deaths referred to the various forms of pneumonia have exceeded those assigned to bronchitis.

The age and sex distribution of mortality from bronchitis is referred to in connexion with that of pneumonia on pages lii-iv.

Gastric Ulcer.—The number of deaths from gastric ulcer varies little from year to year. In the year 1910 the deaths so returned amounted to 1,825, against 1,713 and 1,728, respectively, in the two years immediately preceding. Ninety-five of the deaths now classed to gastric ulcer had originally been certified as from hæmatemesis, peritonitis or some other indefinite cause, but were transferred to this heading after correspondence with the medical attendants.

In the ten years ended 1910 the death-rate at all ages from gastric ulcer averaged 37 per million for males, and 63 per million for females, but the difference between the rates for the two sexes has been diminishing throughout the period. Among women seven-tenths of the deaths occur at ages from 15 to 45 years, whilst among men at the same ages the proportion is only four-tenths. Women experience the highest mortality from gastric ulcer at ages from 20 to 25, when it accounts for the deaths of 106 in each million living, or nearly six times the rate experienced by men at the same time of life. At all ages after the 45th year the male death-rate exceeds the female, the mortality among men attaining its maximum at ages from 65 to 75 years.

Appendicitis.—The mortality for this disease prior to 1901 cannot be stated. The recorded death-rate has increased from 38 per million in 1901 to 66 in 1910 (77 in males and 55 in females). Disregarding the ages above 75 years, when the rates are of doubtful value, the period of highest mortality in both sexes appears to be that of later childhood and adolescence.

Peritonitis.—The 554 deaths attributed to peritonitis would have been considerably more numerous but for inquiries addressed to medical practitioners respecting the cause of this condition. In all cases where peritonitis is known to depend on hernial or other obstruction, on ulceration of the stomach or intestines, on appendicitis,

puerperal septic infection, or other definite cause, the death is referred to that cause, and not to peritonitis. Fortunately the precision of certification in these cases is increasing.

The deaths ultimately referred to peritonitis in the year under notice were equal to a rate of 15 per million living, or little more than a quarter of the rate recorded even so recently as the year 1900. The mortality was 13 per million among males and 18 per million among females. It may be presumed that many of the deaths which ten years ago would have been ascribed to peritonitis are now referred to gastric ulcer, appendicitis, or some other definite disease.

Diseases of the Liver.—To these diseases in the aggregate there were ascribed in the year under notice 5,107 deaths, corresponding to a rate of 143 per million living at all ages and of both sexes. Tables 24 and 26 show that at the present time among both men and women the mortality ascribed to liver diseases is much lower than it was twenty years ago. In the year 1891, for example, the rates were 311 per million living among males, and 266 among females; whereas in 1910 they were only 149 and 138 respectively.

Acute Nephritis, Chronic Nephritis or Bright's Disease.—These conditions together account for the greater part of the mortality from diseases of the urinary system. In the year under notice 13,947 deaths were referred to this heading—a number corresponding to a rate of 389 per million living, without distinction of age or of sex. Diagram IV. shows that this rate represents a considerable increase on those prevalent thirty years ago.

Diseases and Accidents of Pregnancy and Childbirth.—From Table L. it will be seen that, apart from 1,274 deaths from puerperal fever, 1,917 deaths were attributed to diseases and accidents of pregnancy and childbirth. Particulars of these deaths will be found in Table LI., and of 1,086 other deaths not assigned to, but definitely stated to have been connected with pregnancy and parturition, in Table LII.

TABLE L.—SUMMARY of DEATHS of WOMEN in ENGLAND and WALES during 1910 either caused by or associated with PREGNANCY and CHILDBEARING.

	All Ages.	Ages.				
		15—	20—	25—	35—	45 and up-wards.
Diseases and Accidents of Pregnancy and Childbearing (Table LI.)	1,917	57	259	853	720	28
Puerperal Fever*	1,274	39	224	635	368	8
Other Diseases associated with, but not classed to, Pregnancy and Childbirth (Table LII.)	1,086	29	141	516	384	16
Total	4,277	125	624	2,004	1,472	52

* For secondary causes associated with puerperal fever, see page li.

TABLE LI.—DEATHS of WOMEN in ENGLAND and WALES during 1910, other than those due to SEPSIS, which were definitely returned as caused by PREGNANCY and CHILDBEARING.

(Deaths classed to Diseases and Accidents of Pregnancy and Childbirth in Tables 25 and 26, and on page 305.)

Cause of Death.	All Ages.	Ages.				
		15—	20—	25—	35—	45 and up-wards.
Abortion, Miscarriage	78	—	7	35	32	4
Placenta Prævia, Flooding	612	7	39	264	295	7
Ectopic Gestation	78	2	7	39	28	2
Prolapsus Uteri	2	—	—	1	1	—
Rupture of Uterus	28	—	1	11	16	—
Inversion of Uterus	8	—	5	3	—	—
Rigidity of Os Uteri	2	—	—	—	2	—
Rupture of Vagina	2	—	1	—	1	—
Contracted Pelvis	31	1	6	13	11	—
Instrumental Delivery	3	—	—	2	1	—
Adherent Placenta	3	—	1	2	—	—
Cæsarean Section	15	—	1	8	6	—
Craniotomy	7	—	—	4	3	—
Malpresentation	16	—	3	8	3	2
Hydrocephalic Fœtus	4	—	1	1	2	—
Monstrosity	1	—	—	—	—	1
Molar Pregnancy	2	—	—	1	—	1
Hydramnios	2	—	—	1	1	—
Embolism, Thrombosis	334	7	42	146	135	4
Puerperal Mania	48	1	13	15	19	—
Puerperal Convulsions	439	34	99	197	107	2
Vomiting	38	2	6	20	10	—
Administration of Chloroform	4	—	—	3	1	—
Pregnancy and Childbirth, apart from the above complications:—						
(a) With Secondary Causes as follows:—						
Diarrhœa	2	—	—	2	—	—
Anæmia	10	—	—	7	3	—
Inflammation of Brain	6	—	2	3	1	—
Neuritis	2	—	1	—	—	1
Valvular Disease, Endocarditis	2	—	1	1	—	—
Pericarditis	1	—	—	1	—	—
Dilatation of Heart	3	—	1	1	1	—
Heart Disease	2	—	1	—	1	—
Cerebral Hæmorrhage	6	1	—	3	2	—
Bronchitis	8	—	—	5	2	1
Asthma	1	—	—	—	1	—
Pleurisy	4	—	1	2	1	—
Other Diseases of Respiratory System	7	—	3	—	4	—
Gastric Catarrh	2	—	—	1	1	—
Other Diseases of Stomach	2	—	—	1	1	—
Enteritis	5	—	—	4	1	—
Gastro-enteritis	3	—	3	—	—	—
Appendicitis	1	—	—	—	1	—
Obstruction	1	—	1	—	—	—
Paralysis of Intestines	1	—	—	1	—	—
Other Diseases of Liver	1	—	1	—	—	—
Other Diseases of Bladder	1	—	—	1	—	—
Ulcer, Bedsores	1	—	—	—	1	—
(b) Without stated Secondary Cause	88	2	12	46	25	3
Total	1,917	57	259	853	720	28

TABLE LII.—DEATHS of WOMEN in ENGLAND and WALES during 1910, definitely returned as associated with PREGNANCY and CHILDBEARING. (Deaths not classed to Diseases and Accidents of Pregnancy and Childbirth in Tables 25 and 26, and page 305.)

Cause of Death.	All Ages.	Ages.				
		15—	20—	25—	35—	45 and up-wards.
Small-pox	1	—	—	—	—	1
Measles	2	—	—	—	—	2
Scarlet Fever	10	1	3	5	1	—
Influenza	36	3	7	13	13	—
Whooping-cough	1	—	—	—	—	1
Mumps	1	1	—	—	—	—
Diphtheria	1	—	—	1	—	—
Enteric Fever	16	2	—	12	2	—
Diarrhœa	6	1	—	4	1	—
Syphilis	3	1	—	1	1	—
Gonorrhœa	3	—	2	1	—	—
Infective Endocarditis	5	1	1	3	—	—
Lobar Pneumonia	47	—	6	21	20	—
Broncho-pneumonia	36	—	4	19	12	1
Pneumonia (not defined)	167	4	23	88	49	3
Tuberculous Phthisis	70	1	11	40	18	—
Phthisis (not otherwise defined)	32	1	3	14	14	—
Tuberculous Peritonitis and Tabes Mesenterica.	3	—	1	1	1	—
Other Tuberculous Diseases	20	—	5	10	5	—
Alcoholism	4	—	—	2	2	—
Rheumatic Fever, Rheumatism of Heart	14	—	4	8	2	—
Cancer	17	—	2	7	8	—
Anæmia	27	—	2	14	11	—
Diabetes Mellitus	3	—	1	—	2	—
Meningitis, Inflammation of Brain	7	—	2	3	2	—
Chorea	3	—	1	2	—	—
Epilepsy	13	1	4	3	5	—
Other Diseases of Nervous System	2	—	—	1	1	—
Valvular Disease, Endocarditis	89	2	10	41	35	1
Pericarditis	2	—	—	2	—	—
Angina Pectoris	2	—	—	—	2	—
Dilatation of Heart	8	—	1	3	4	—
Fatty Degeneration of Heart	17	—	—	5	10	2
Other Diseases of Heart	91	—	10	39	39	3
Cerebral Hæmorrhage, Apoplexy, Hemiplegia.	4	—	—	—	4	—
Varicose Veins	3	—	—	2	1	—
Bronchitis	15	2	1	6	4	2
Emphysema, Asthma	5	—	—	3	2	—
Pleurisy	7	—	1	2	4	—
Other Diseases of Respiratory System	2	—	1	1	—	—
Gastric Ulcer	13	—	2	5	5	1
Gastric Catarrh, Gastritis	7	—	1	4	2	—
Other Diseases of Stomach	1	—	—	—	1	—
Enteritis, Gastro-enteritis, Ulceration of Intestines.	7	—	—	5	2	—
Appendicitis	11	2	1	5	3	—
Intestinal Obstruction	3	—	—	2	1	—
Other Diseases of Intestines	2	—	—	2	—	—
Diseases of Liver	13	—	1	8	4	—
Diseases of Thyroid Body	3	—	—	1	2	—
Diseases of Supra Renal Capsules	1	—	—	—	1	—
Acute Nephritis	101	3	17	51	30	—
Chronic Bright's Disease	91	2	9	41	37	2
Other Urinary Diseases	5	1	—	3	1	—
Ovarian Tumour	3	—	—	3	—	—
Uterine Tumour and other Diseases of Uterus.	15	—	2	1	11	1
Violence	9	—	2	3	4	—
Other Causes	6	—	—	5	1	—
Total	1,086	29	141	516	384	16

The total deaths assigned to pregnancy or childbirth numbered 3,191, and corresponded to a rate of 3.56 per 1000 births. In the ten years immediately preceding the average rate had been 4.13. Inclusion of the 1,086 deaths in Table LII. raises the rate in 1910 to 4.77 per 1000 births. The mortality amongst women aged 15-45 years from all the causes included in Table L. was 473 per million living, or 41 per million less than in the preceding year.

CAUSES OF DEATH ILL-DEFINED OR NOT SPECIFIED.

In the year 1910 the deaths of 45,951 persons, or 9.5 per cent. of the total deaths, were referred to the headings in the list of causes of death grouped under the above title. This number, however, does not include all deaths from ill-defined causes, since many others can be referred to the system attacked by disease, though the disease itself is unstated.

As in previous years inquiries have been sent to medical practitioners asking for further information respecting deaths certified as due to some indefinite condition. The number of replies received was 5,549.

The inquiries chiefly related to certificates of peritonitis, tumours of various organs, septicæmia, pyæmia, hydrocephalus, cerebro-spinal meningitis, paralysis, croup, tuberculosis (unqualified), and hæmatemesis.

The 576 replies respecting deaths from peritonitis resulted in the transference of 121 deaths to appendicitis, 50 to tuberculous peritonitis, 29 to generative diseases, 39 to gastric ulcer, 29 to ulcer of intestines, 44 to other diseases of the digestive system, 27 to puerperal sepsis, 26 to cancer, and 45 to other definite causes. The 711 replies respecting tumours of various organs led to the transference of 431 deaths to cancer, 55 to tuberculous diseases, 39 to syphilis, and 63 to other definite headings. The 288 replies respecting septicæmia, pyæmia, and other septic diseases resulted in the transference of 33 deaths to puerperal sepsis and 141 to other headings. The 221 replies respecting croup led to the addition of 42 deaths to diphtheria, 18 to laryngismus stridulus, and 123 to laryngitis. The 208 replies respecting hydrocephalus led to the addition of 129 deaths to congenital hydrocephalus and 46 to tuberculous meningitis. The 170 replies respecting cerebro-spinal meningitis led to the addition of 88 deaths to cerebro-spinal fever, 33 to posterior basal meningitis, and 22 to tuberculous meningitis. The 155 replies respecting paralysis led to the addition of 76 deaths to cerebral hæmorrhage, 43 to diseases of the spinal cord, and 20 to other definite causes. The 177 replies respecting hæmatemesis led to the addition of 42 deaths to gastric ulcer, 11 to cirrhosis of liver, 26 to cancer, 22 to alcoholism, and 33 to other definite headings.

Inquiries were also sent relating to deaths described as due to cancer, in which no mention was made of the organ or part affected, and as a result this information was supplied in 504 out of 509 cases.

The total additions to certain definite headings resulting from these inquiries were as follows:—To tuberculous diseases 1,094, to cancer 651, to congenital defects 139, to venereal diseases 138, to appendicitis 138, to laryngitis 127, to cerebral hæmorrhage 105, to gastric ulcer 95, to puerperal septic diseases 96, to cerebro-spinal fever 88, and to diphtheria 74.

VIOLENCE.

The deaths caused by different forms of accident or negligence are enumerated in the abstracts on pages 306 and 307, and also in the special Tables relating to violent deaths on pages 441 to 459. These tables show that 14,853 deaths were referred to this heading during the year 1910, corresponding to a rate of 414 per million living. Among males the deaths numbered 10,289, and were equal to a rate of 595 per million; the deaths of females numbered 4,564, and were equal to 249 per million. Of the 10,289 deaths of males from accident, 1,987 were stated to be caused by vehicles and horses; 1,871 by drowning; 1,282 by falls other than those in mines, quarries, &c., on railways, in ships, boats, and docks, and during building operations; 1,299 by accidents in mines, quarries, and excavations; and 995 by conflagrations, burns, scalds, and explosions other than those in mines, &c., on railways, and in ships, boats, and docks. Of the deaths of females due to accident, 1,330 were caused by conflagrations, burns, scalds, and explosions, and 1,074 by falls. It will be seen that, as in previous years, the deaths of males exceeded those of females under every heading except that of burns, and the exception under this heading is considerably modified if account is taken of the burns, scalds, and explosions occurring in mines, railways, ships, boats, and docks. The deaths caused by vehicles and horses on railways numbered 743, being 688 of males and 55 of females; those caused by "vehicles other than railway" numbered 1,653, being 1,299 of males and 354 of females. The different kinds of vehicles are shown on pages 444-5 and 454-5, together with the number of deaths caused by each. The coroners' certificates do not in all cases show whether the vehicles were mechanically propelled or not, but simply state that death was caused by "tramcar," "omnibus," "wagon, &c." These deaths have consequently been included in the class of "other and undefined vehicles." The tables show that 524 deaths were caused by vehicles (other than railway) propelled by mechanical power, 494 deaths were caused by horse-drawn vehicles and horses, and 635 were caused by other and undefined vehicles.

The deaths from violence (apart from those attributed to homicide) of infants under the age of one month numbered 653, *viz.*, 328 males and 325 females. Of the 653 deaths, the number attributed to suffocation in bed was 336, to other forms of suffocation 85, and to neglect 194. The number of infants at this age returned as "found drowned" was 19.

In the case of 14,593 out of the 14,853 deaths stated to be due to accident or negligence, coroners' inquests were held; the causes of 199 deaths were certified by medical practitioners, and in 61 cases the causes remained uncertified; 1 of these was not reported to the coroner.

The deaths at all ages of 2,680 men and 887 women were attributed to suicide, details of which will be found on pages 460 and 461.

Of the 287 deaths by homicide, 140 were those of males and 147 of females. The Tables on pages 462 to 465 show that 181 of these were returned by coroners' juries as murder, and 106 as manslaughter (of which 2 were returned as justifiable homicide). The 287 deaths due to homicide include 67 of infants under one month, 58 of which were described as murder and 9 as manslaughter.

There were 16 executions (all males) during the year, the numbers in the preceding three years having been 10, 12 and 19 respectively.

CERTIFICATION OF CAUSES OF DEATH.

Of the 483,247 deaths registered in England and Wales during the year 1910, the causes of 441,480, or 91.35 per cent., were certified by registered medical practitioners; inquests were held respecting 35,109, or 7.27 per cent.; whilst the causes of the remaining 6,658, or 1.38 per cent., were uncertified. This proportion of uncertified deaths is slightly above that recorded in 1909.

Of the 6,658 uncertified deaths, only 617, or 9.3 per cent., were not reported to coroners, as compared with 690, or 9.8 per cent., in the year 1909.

The subjoined table shows the changes in the proportion to total deaths of certified deaths, inquest cases, and uncertified deaths in the course of the ten years 1901-1910:—

TABLE LIII.

Year.	Proportion per 100 Deaths.				
	Certified by Registered Medical Practitioners.	Inquest Cases.	Uncertified Deaths.		
			Total.	Reported to Coroners.	Not reported to Coroners.
1901...	91.52	6.67	1.81	1.50	0.31
1902...	91.52	6.68	1.80	1.54	0.26
1903...	91.40	6.91	1.69	1.47	0.22
1904...	91.85	6.53	1.62	1.42	0.20
1905...	91.52	6.86	1.62	1.43	0.19
1906...	91.64	6.83	1.53	1.36	0.17
1907...	91.59	6.96	1.45	1.29	0.16
1908...	91.52	7.04	1.44	1.30	0.14
1909...	91.61	7.03	1.36	1.23	0.13
1910...	91.35	7.27	1.38	1.25	0.13

In five English counties—Cumberland, Herefordshire, Shropshire, Durham, and Derbyshire, and in six Welsh counties—Carnarvonshire, Cardiganshire, Montgomeryshire, Pembrokeshire, Radnorshire, and Anglesey, the proportions of uncertified deaths were especially high, ranging from 2.91 to 5.63 per cent. of the total deaths, compared with 1.38 per cent. in the whole of England and Wales (Table LIV).

An analysis of the uncertified deaths shows that in the English counties the average proportion of such deaths registered without previous reference to coroners was 8 per cent., as against 34 per cent. in the Welsh counties.

Table LV. shows the uncertified deaths registered during 1910, arranged according to sex, age, and assigned cause of death, distinguishing the cases reported from those not reported to coroners.

It will be noted that about one-fourth of the uncertified cases which were referred to coroners, and about one-half of those which were not so referred were of infants under three months of age, and that premature birth, convulsions and debility were the assigned causes of most of these deaths.

TABLE LIV.—CERTIFIED DEATHS, INQUEST CASES, and UNCERTIFIED DEATHS IN 1910, PROPORTIONS per 100 DEATHS in each REGISTRATION COUNTY.

REGISTRATION COUNTY.	Certified by Registered Medical Practitioners.	Inquest Cases.	Uncertified Deaths.		
			Total.	Reported to Coroners.	Not Reported to Coroners.
England and Wales	91.35	7.27	1.38	1.25	0.13
London { North of Thames ..	88.38	11.59	0.03	0.02	0.01
{ South of Thames ..	90.85	8.97	0.18	0.16	0.02
Surrey	91.68	7.75	0.57	0.44	0.13
Kent	91.60	6.07	2.33	2.24	0.09
Sussex	92.24	7.30	0.46	0.42	0.04
Hampshire	91.29	7.70	1.01	0.94	0.07
Berkshire	90.97	6.42	2.61	2.52	0.09
Middlesex	90.79	8.91	0.30	0.23	0.07
Hertfordshire	93.28	5.55	1.17	1.11	0.06
Buckinghamshire	90.53	8.26	1.21	1.21	—
Oxfordshire	93.22	5.64	1.14	1.02	0.12
Northamptonshire	92.56	5.15	2.29	1.83	0.46
Huntingdonshire	90.82	6.33	2.85	2.53	0.32
Bedfordshire	93.11	5.00	1.89	1.76	0.13
Cambridgeshire	92.43	5.28	2.29	2.29	—
Essex	90.96	6.99	2.05	2.00	0.05
Suffolk	91.56	5.98	2.46	2.38	0.08
Norfolk	91.80	6.15	2.05	1.70	0.35
Wiltshire	92.33	6.50	1.17	1.05	0.12
Dorsetshire	93.10	5.32	1.58	1.54	0.04
Devonshire	91.55	7.44	1.01	0.95	0.06
Cornwall	91.84	7.45	0.71	0.54	0.17
Somersetshire	92.93	6.46	0.61	0.51	0.10
Gloucestershire	91.63	7.61	0.76	0.65	0.11
Herefordshire	91.29	5.72	2.99	2.73	0.26
Shropshire	91.00	5.96	3.04	2.96	0.08
Staffordshire	90.90	7.38	1.72	1.58	0.14
Worcestershire	92.58	5.85	1.57	1.48	0.09
Warwickshire	91.50	5.95	2.55	2.50	0.05
Leicestershire	92.17	6.76	1.07	0.73	0.34
Rutlandshire	95.06	4.12	0.82	0.82	—
Lincolnshire	92.84	5.21	1.95	1.81	0.14
Nottinghamshire	92.48	5.87	1.65	1.49	0.16
Derbyshire	89.53	6.68	3.79	3.60	0.19
Cheshire	92.14	7.36	0.50	0.41	0.09
Lancashire	92.00	6.23	1.77	1.70	0.07
West Riding of Yorkshire	91.62	7.54	0.84	0.77	0.07
East Riding of Yorkshire	90.69	8.53	0.78	0.77	0.01
North Riding of Yorkshire	92.01	7.24	0.75	0.34	0.41
Durham	91.01	5.64	3.35	2.96	0.39
Northumberland	91.71	6.95	1.34	1.30	0.04
Cumberland	88.53	8.55	2.92	2.90	0.02
Westmorland	92.20	5.16	2.64	2.64	—
Monmouthshire	91.20	7.64	1.16	0.85	0.31
Glamorganshire	91.17	8.54	0.29	0.09	0.20
Carmarthenshire	92.20	5.42	2.38	1.90	0.48
Pembrokeshire	89.86	6.08	4.06	3.36	0.70
Cardiganshire	93.09	3.81	3.10	1.97	1.13
Brecknockshire	92.00	6.14	1.77	1.18	0.59
Radnorshire	92.18	3.70	4.12	2.47	1.65
Montgomeryshire	90.16	6.52	3.32	3.08	0.24
Flintshire	92.36	5.91	1.73	1.63	0.10
Denbighshire	93.52	4.85	1.63	1.18	0.45
Merionethshire	94.75	4.22	1.03	0.93	0.10
Carnarvonshire	93.25	3.84	2.91	1.83	1.08
Anglesey	91.81	2.56	5.63	1.19	4.44

TABLE LV.—UNCERTIFIED DEATHS REGISTERED in 1910 ARRANGED according to SEX, AGE, and ASSIGNED CAUSE OF DEATH.

Assigned Cause of Death.	Total.	Whether Reported to Coroners.				AGES.											
		Reported.		Not Reported.		Under 3 months	3 months and under 1 year.	YEARS.						65 and upwards.			
		Males.	Females.	Males.	Females.			1—	5—	15—	25—	45—					
Small-pox ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Measles ..	42	14	25	2	1	—	9	30	3	—	—	—	—	—	—	—	
Scarlet Fever ..	2	—	1	—	1	—	—	1	1	—	—	—	—	—	—	—	
Whooping-cough	32	13	13	3	3	4	18	9	1	—	—	—	—	—	—	—	
Diphtheria ..	10	4	4	—	2	—	1	2	7	—	—	—	—	—	—	—	
Enteric Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Diarrhoea ..	62	32	24	2	4	7	15	25	4	—	—	—	3	8	—	—	
Pneumonia ..	99	43	38	8	10	6	29	31	8	5	6	7	7	—	—	—	
Tuberculous Diseases.	147	67	57	10	13	2	12	19	16	29	48	19	2	—	—	—	
Alcoholism ..	6	4	1	1	—	—	—	—	—	—	2	4	—	—	—	—	
Cancer ..	33	10	16	4	3	—	—	—	—	—	3	15	15	—	—	—	
Premature Birth and Congenital Defects.	788	353	237	113	75	774	8	4	2	—	—	—	—	—	—	—	
Dentition ..	89	47	35	5	2	1	55	33	—	—	—	—	—	—	—	—	
Epilepsy ..	106	45	57	2	2	—	2	6	12	10	33	32	11	—	—	—	
Convulsions ..	1074	527	467	50	30	574	350	148	1	—	1	—	—	—	—	—	
Other Nervous Diseases.	76	39	30	6	1	1	5	3	9	5	5	24	24	—	—	—	
Cerebral Hæmorrhage and Apoplexy, Hemiplegia.	257	132	112	4	9	—	—	—	5	3	16	102	131	—	—	—	
Other Circulatory Diseases.	1633	856	712	38	27	—	—	12	27	44	223	801	526	—	—	—	
Bronchitis ..	351	152	171	15	13	21	57	46	8	—	12	78	129	—	—	—	
Other Respiratory Diseases.	97	51	33	2	11	1	5	10	2	1	20	28	30	—	—	—	
Digestive Diseases.	120	51	53	5	11	13	16	11	8	6	15	29	22	—	—	—	
Childbirth ..	23	—	22	—	1	—	—	—	—	2	21	—	—	—	—	—	
Violence ..	61	42	18	1	—	14	2	—	3	4	13	9	16	—	—	—	
Atrophy, Debility, &c.	278	126	104	27	21	210	53	13	—	1	1	—	—	—	—	—	
Old Age ..	804	368	398	20	18	—	—	—	—	—	—	4	800	—	—	—	
Other stated Causes.	401	197	167	24	13	89	25	26	13	12	27	104	105	—	—	—	
Causes not stated	67	28	35	2	2	13	6	5	—	2	4	18	19	—	—	—	
All Causes ..	6658	3211	2830	341	273	1730	668	434	130	124	450	1277	1845	—	—	—	
All Causes	Reported to Coroners.	Males ..		3211	800	349	197	42	59	217	680	867	—	—	—	—	
		Females		2830	602	284	203	72	53	200	542	874	—	—	—	—	—
		Not Reported to Coroners.		Males ..		344	197	16	15	7	3	20	36	50	—	—	—
		Females		273	131	19	19	9	9	13	19	54	—	—	—	—	—
Total ..	..	..	..	6658	1730	668	434	130	124	450	1277	1845	—	—	—	—

DEATHS IN PUBLIC INSTITUTIONS.

Of the 483,247 deaths registered during the year, 99,194 or 20.53 per cent. occurred in Workhouses and Workhouse Infirmaries, in Hospitals, or in Asylums for the Insane, the proportion during the 10 years immediately preceding having averaged 17.33 per cent.

Thus the present figures confirm those of previous reports to the effect that the proportion of deaths occurring in public Institutions has a distinct tendency to increase. The following table shows the proportions of deaths occurring in Workhouses, Hospitals, and Lunatic Asylums (a) to total deaths, and (b), to total population.

TABLE LVI.

Public Institutions.	Percentage of Total Deaths.		Rate per 1,000 living.	
	Ten years, 1900-1909.	1910.	Ten years, 1900-1909.	1910.
Workhouses and Workhouse Infirmaries.	9.26	10.91	1.46	1.47
Hospitals	6.24	7.50	0.98	1.01
Lunatic and Idiot Asylums	1.83	2.12	0.29	0.29

A table showing the names and descriptions of the several institutions and the numbers of deaths occurring therein is given on pages 225 to 276 of this Report.

UNITED KINGDOM.

Population.

The first complete Census of the United Kingdom was taken in 1821, when the population numbered 20,893,584 persons; during the ninety years, 1821-1911, the population more than doubled itself, the numbers enumerated at the beginning of April, 1911, amounting to 45,216,665 persons.

The method adopted, in the absence of precise information as to migration, for estimating the population of England and Wales, has been described on p. xi. The populations of the several divisions of the United Kingdom are provisionally estimated as follows:—

TABLE LVII.—POPULATION ESTIMATED to the MIDDLE of the YEAR 1910.

	Persons.	Males.	Females.
England and Wales	35,796,289	17,313,221	18,483,068
Scotland*	4,737,268	2,297,286	2,439,982
Ireland*	4,377,789	2,183,474	2,194,315
United Kingdom	44,911,346	21,793,981	23,117,365

* Furnished by the Registrars-General of these parts of the United Kingdom.

Marriages.

The marriages in the United Kingdom during the year 1910 numbered 320,699, corresponding to a rate of 14·3 persons married per 1000 of the population at all ages.

This rate was 0·2 per 1000 above the corresponding rate in 1909 but 0·5 below the average rate in the ten years, 1900-1909.

TABLE LVIII.

—	Marriages, 1910.	Persons married to 1000 living.	
		Ten years, 1900-1909.	1910.
England and Wales	267,721	15·6	15·0
Scotland	30,866	14·0	13·0
Ireland	22,112	10·3	10·1
United Kingdom	320,699	14·8	14·3

Births.

The births registered in the United Kingdom in the year 1910 numbered 1,122,925 and were in the proportion of 25·0 per 1000 of the population at all ages.

This rate was 0·7 per 1000 below the corresponding rate in 1909, and 2·3 below the average rate in the ten years 1900-1909.

TABLE LIX.

—	Births, 1910.	Births to 1000 living.	
		Ten years, 1900-1909.	1910.
England and Wales	896,962	27·6	25·1
Scotland	124,000	28·7	26·2
Ireland	101,963	23·2	23·3
United Kingdom	1,122,925	27·3	25·0

Deaths.

The deaths registered in the United Kingdom in the year 1910 numbered 630,386, and were in the proportion of 14·0 per 1000 of the population at all ages.

This rate was 1·0 per 1000 below the corresponding rate in 1909 and 2·2 below the average rate in the ten years 1900-1909.

TABLE LX.

—	Deaths, 1910.	Deaths to 1000 living.	
		Ten years, 1900-1909.	1910.
England and Wales	483,247	15·9	13·5
Scotland	72,245	16·9	15·3
Ireland	74,894	17·7	17·1
United Kingdom	630,386	16·2	14·0

Infantile Mortality.

The following Table shows the proportion of deaths of infants under one year of age to 1000 births in each division of the United Kingdom. At the time of going to press the figures for Scotland relating to the year 1910 were not available.

TABLE LXI.

—	Deaths under 1 year to 1000 Births.	
	1900-1909.	1910.
England and Wales	132	105
Scotland	118	108*
Ireland	98	95
United Kingdom	128	—

* This proportion relates to the year 1909.

In Tables 56-59, pages 112-115, the population, marriages, births, deaths and principal causes of death are given for each of the years 1881-1910 for the United Kingdom and for each of its three divisions.

MORTALITY IN THE ARMY.

The average regimental strength of the British Army at home and abroad during the year 1910 was 250,942, and the deaths during the year numbered 844, giving a death-rate of 3·4 per 1000, as compared with 4·7, 4·8, and 3·9 per 1000, respectively, in the three preceding years. The mortality in the Army abroad was 4·3 per 1000, against 6·4, 6·9, and 4·8 in the three preceding years; whilst the mortality in the Army at home was 2·5 per 1000, against 3·1, 2·6, and 3·1 (Table 46).

MORTALITY IN THE NAVY.

The average strength of the service afloat during the year 1910 was 113,530, and the deaths during the year numbered 358, being in the proportion of 3.15 per 1000 of the strength, against an average of 3.50 per 1000 in the five years immediately preceding. Of the 358 deaths in 1910, 241 were caused by disease and 117 by violence; the death-rate from disease was therefore 2.12 per 1000, and that from violence 1.03 per 1000. Of the 117 deaths by violence, 64 were due to drowning, and 2 to heatstroke, while 11 were cases of suicide.

BIRTHS AND DEATHS AT SEA.

Marine Register Book.—In accordance with the Births and Deaths Registration Act of 1874 and the Merchant Shipping Act of 1894, Commanding Officers of Ships trading to or from British Ports are required, under penalty, to transmit returns of all births and deaths occurring on board their ships to the Registrar-General of Shipping and Seamen, who furnishes certified copies of such returns to the Registrars-General of Births and Deaths for England, Scotland, and Ireland. Similar returns are furnished to the Registrars-General of Births and Deaths by Officers in charge of His Majesty's Ships. These returns of births and deaths at sea constitute the "Marine Register Book." During the year 1910, this register was increased by the addition of 172 entries of birth and 2,695 entries of death.

Mercantile Marine.—A Return received from the Marine Department of the Board of Trade shows the number of, and the mortality among, masters and seamen employed in sea-going vessels (excluding fishing vessels and yachts) registered in the United Kingdom and the Isle of Man under the Merchant Shipping Act in the years 1891-1910. At the end of the year 1909 the number employed was 241,499, of whom 21,470 were employed in sailing vessels, being 2008 fewer than in the preceding year, and 220,029 in steam vessels, being 318 more than in the preceding year.

The reported deaths from all causes in sailing or steam vessels during the year ended 30th June, 1910, numbered 2095, of which 1042 resulted from disease, suicide, &c., 579 from wreck or casualty to ship, and 474 from accident other than wreck or casualty to ship, showing a death-rate from all causes of 8.7 per 1000 of the strength; this rate was 0.9 per 1000 below the mean rate in the previous five years. (Table 48.)

INTERNATIONAL VITAL STATISTICS.

The information given in this section of the Report is based on returns courteously furnished by the Registrars-General of Scotland and Ireland, by the several Colonial Authorities, and by the Presidents of the several Foreign Statistical Bureaux.

Marriages.—Table LXII. compares the crude marriage rates (persons married annually stated in terms of total population) in the several countries and states dealt with from the years 1881-85 onwards. In the first period, 1881-85, the position of this country was twelfth out of 25 in the list; in 1896-1900 the position had risen to tenth out of 26; but in 1901-05 it had fallen to fourteenth out of 26.

TABLE LXII.—ANNUAL MARRIAGE-RATES per 1000 persons living, 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
Bulgaria	17.9	17.4	16.4	16.6	19.8	—	18.3	—
Servia	22.1	21.6	20.2	19.9	19.7	—	18.7	—
Ontario, Province of ...	14.2	13.5	13.2	13.9	17.5	19.6	20.0	20.7
Hungary	20.4	17.8	18.0	17.0	17.4	18.1	17.4	17.3
Russia (European) ...	18.0	17.1	17.9	17.8	16.6	—	—	—
Japan	—	16.6	17.0	18.1	16.3	—	17.6	—
New Zealand	13.6	12.0	12.2	14.2	16.3	17.1	16.7	16.6
Roumania	17.9	15.1	15.8	15.2	16.3	19.3	18.7	18.4
Belgium	13.7	14.2	15.1	16.6	16.1	—	15.3	—
German Empire... ..	15.4	15.8	15.9	16.8	16.1	—	15.5	—
Prussia	15.9	16.2	16.1	16.9	16.1	16.0	15.6	15.5
Spain	12.6	13.3	16.2	15.3	16.1	14.2	13.3	14.2
Austria	15.8	15.5	15.8	16.2	15.7	15.3	15.1	15.1
England and Wales... ..	15.2	14.7	15.1	16.1	15.6	15.3	14.7	15.0
France	15.0	14.4	15.0	15.1	15.3	15.8	15.7	15.8
Switzerland	13.7	14.1	14.5	15.5	14.9	—	14.9	—
The Netherlands ...	14.3	14.0	14.5	14.9	14.9	14.5	14.1	14.3
Italy	16.1	15.5	14.8	14.3	14.7	15.7	15.5	15.5
Denmark	15.4	14.0	13.9	15.0	14.3	14.9	14.7	14.6
Australian Common- wealth.	16.2	15.5	13.1	13.7	14.2	15.8	15.8	16.7
Scotland	13.8	13.0	13.6	14.6	14.0	13.6	12.8	13.0
Finland	14.9	14.5	13.0	14.9	13.0	13.2	12.8	12.2
Norway	13.4	12.8	12.9	13.7	12.3	12.1	12.0	12.4
Sweden	12.8	12.2	11.5	12.2	11.8	12.2	11.9	12.0
Ireland	8.7	8.7	9.5	9.9	10.4	10.3	10.3	10.1
Chili	12.6	7.4	9.2	9.3	10.4	12.2	11.8	11.5

TABLE LXIII.—MARRIAGE RATES PER 1000 OF THE UNMARRIED AND WIDOWED POPULATION AGED 15 YEARS AND UPWARDS.

Countries (Arranged in order of rates in 1900-2).	Approximate periods.		
	1880-82.	1890-92.	1900-02.
Servia	—	118.7	119.4
Bulgaria	—	—	87.3
Hungary	80.9	73.1	73.1
Spain... ..	—	41.1	59.3
Prussia	50.5	53.7	56.5
German Empire	48.7	51.6	55.0
Belgium	40.3	41.6	50.0
Austria	46.6	44.3	49.1
Italy	48.5	—	48.8
England and Wales	51.5	49.8	48.7
France	45.4	43.9	47.7
Denmark	47.9	45.0	46.2
The Netherlands	48.6	43.7	46.2
New Zealand	49.8	40.0	44.2
Finland	46.6	45.5	43.3
Switzerland	38.1	39.7	42.2
Australian Commonwealth	49.0	45.7	42.1
Norway	46.5	40.6	41.9
Scotland	40.7	40.1	39.7
Sweden	36.6	35.6	35.3
Ireland	21.9	22.0	23.0

Table LXIII. sets forth the relative positions when the number of persons married annually is stated in proportion to total marriageable persons. Calculated in this way the relative position of England and Wales in 1900-02 is much the same as in Table LXII.

In England and Wales and in the Netherlands there was a decline of about 5 per cent. in the twenty years; in Denmark, Sweden and Scotland the decline was slightly less, but it amounted to 7 per cent. in Finland, to 10 per cent. in Norway and in Hungary, to 11 per cent. in New Zealand, and to 14 per cent. in the Australian Commonwealth. On the other hand, Ireland, France, and Austria each showed an increase of 5 per cent., Switzerland of 11 per cent., the German Empire of 13 per cent., and Belgium of 24 per cent.

Births.—In several previous Reports attention has been drawn to the general decline in the birth-rate that has taken place in the principal European countries.

If the average crude birth-rates in the quinquennium 1901-05 are compared with those recorded twenty years earlier (1881-85), it will be seen from Table LXIV. that, with few exceptions, the fall has been very marked. While the decline did not exceed 3 per cent. in Switzerland, in Ireland, and in Spain, it reached 14 per cent. in France and in Italy, 16 per cent. in Serbia, in England and Wales, and in Hungary, 25 per cent. in the Australian Commonwealth, and 27 per cent. in New Zealand.

TABLE LXIV.—ANNUAL BIRTH-RATES per 1000 persons living, 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
	Russia (European) ...	49·1	48·2	48·2	49·3	47·7	—	—
Bulgaria ...	37·2	35·9	37·5	41·0	40·6	—	40·6	—
Roumania ...	41·8	40·9	41·0	40·2	39·4	40·3	41·7	39·8
Jamaica ...	—	36·8	38·6	38·9	39·0	37·5	37·8	38·6
Ceylon ...	—	30·3	31·7	37·2	38·8	37·5	37·5	39·0
Servia ...	46·3	43·7	43·3	40·1	38·7	—	36·5	—
Hungary ...	44·6	43·7	41·7	39·4	37·4	36·7	37·7	35·7
Chili ...	39·1	35·5	37·0	35·0	36·4	38·3	38·8	38·4
Austria ...	38·2	37·8	37·4	37·3	35·6	33·6	33·4	32·5
Spain ...	36·4	36·0	35·3	34·3	35·3	33·6	33·5	33·1
Prussia ...	37·4	37·3	36·9	36·5	34·8	32·3	31·7	30·5
German Empire... ..	37·0	36·5	36·3	36·0	34·3	—	31·1	—
Italy ...	38·0	37·5	36·0	34·0	32·6	32·4	32·4	32·9
Japan ...	—	28·5	28·6	31·1	31·7	—	34·2	—
The Netherlands ...	34·8	33·6	32·9	32·1	31·5	29·6	29·1	28·6
Finland ...	35·5	34·5	31·8	32·6	31·3	31·0	31·3	30·2
Scotland ...	33·3	31·4	30·5	30·0	29·2	27·6	27·3	26·2
Denmark ...	32·4	31·4	30·4	30·0	29·0	28·2	28·2	27·5
Norway ...	31·2	30·8	30·2	30·1	28·6	26·3	26·1	26·1
England and Wales...	33·5	31·4	30·5	29·3	28·2	26·2	25·8	25·1
Switzerland ...	28·6	27·5	27·7	28·5	27·8	—	25·5	—
Belgium ...	30·7	29·3	28·9	28·9	27·7	—	23·7	—
New Zealand ...	36·3	31·2	27·7	25·7	26·6	27·1	27·3	26·2
Australian Commonwealth	35·2	35·2	32·4	27·7	26·4	26·7	26·7	26·7
Sweden ...	29·4	28·8	27·4	26·9	26·1	25·5	25·6	24·8
Ireland ...	23·9	22·8	23·0	23·3	23·1	23·4	23·5	23·3
Ontario, Province of ...	22·4	22·0	19·9	20·1	21·8	23·7	24·3	24·9
France ...	24·7	23·1	22·3	21·9	21·2	19·9	19·6	19·7

Taking as a standard the average crude birth-rate recorded in England and Wales in the quinquennium 1901-05, viz., 28·2 per 1000, it will be seen that twelve Continental countries had rates above, and only four (Switzerland, Belgium, Sweden, and France) had rates below this standard.

Since the quinquennium ending 1905 there has been a further decline in the birth-rate in most of the European countries, but in Ireland, Bulgaria and Roumania, as well as in Australia and New Zealand, slight increases are recorded.

Legitimate Fertility.—In order to eliminate the more serious inequalities of circumstance which render crude birth-rates unsuitable for purposes of comparison, the basis of fertility of married women is adopted in Table LXV. On this basis England and Wales occupies a still lower position, the recorded fertility in 1890-92 and 1900-02 being below that of any other European country except France. Ireland, on the other hand, occupies a position near the top of the list, whereas in Table LXIV. it stands almost last.

TABLE LXV.—LEGITIMATE FERTILITY. PROPORTION OF LEGITIMATE BIRTHS per 1000 WIVES aged 15-45 YEARS.

Countries (Arranged in order of rates in 1900-02).	Approximate periods.			Increase (+) or Decrease (—) per cent. in Fertility during 20 years.
	1880-82.	1890-92.	1900-02.	
The Netherlands	347·5	338·8	314·6	— 9·5
Norway	314·5	306·8	302·8	— 3·7
Prussia	312·6	307·6	290·4	— 7·1
Ireland	282·9	287·6	289·4	+ 2·3
German Empire	310·2	300·9	284·2	— 8·4
Austria	281·4	292·4	283·7	+ 0·8
Scotland	311·5	296·4	271·8	— 12·7
Italy	276·2	—	269·4	— 2·5
Sweden	293·0	280·0	260·0	— 8·2
Switzerland	284·1	274·0	265·9	— 6·4
Denmark	287·1	278·1	259·1	— 9·8
Spain	257·7	263·9	258·7	+ 0·4
Belgium	312·7	285·1	250·7	— 19·8
New Zealand	322·1	277·5	243·2	— 24·5
Australian Commonwealth ...	321·0	332·0	235·8	— 26·5
England and Wales	286·0	263·8	235·5	— 17·7
France	196·2	173·5	157·5	— 19·7

Illegitimate Fertility.—Table LXVI. presents the same information with regard to illegitimate as Table LXV. with regard to legitimate fertility. Except in the cases of the German Empire, Sweden, France, Belgium, and the Australian Commonwealth, the falls shown in illegitimate fertility are greater than the corresponding falls in legitimate fertility.

During the period 1900-02, the ratio of illegitimate births per 1000 single and widowed women aged 15-45 years was only 3·8 in Ireland, 6·8 in the Netherlands, 8·5 in England and Wales, and 8·9 in New Zealand, but the proportion reached 24·2 per 1000 in Denmark, 24·3 in Sweden, 27·4 in the German Empire, and 40·1 in Austria.

There is probably no single explanation of the wide variations in the rates of illegitimacy, but differences of religion, of social conditions, of race, and of the marriage laws—particularly in regard to the possibility of legitimization by subsequent marriage—must all be taken into account.

TABLE LXVI.—ILLEGITIMATE FERTILITY. PROPORTION OF ILLEGITIMATE BIRTHS per 1000 UNMARRIED and WIDOWED WOMEN aged 15-45 YEARS.

Countries (Arranged in order of rates in 1900-02).	Approximate periods.			Increase (+) or Decrease (-) per cent. in illegitimacy during 20 years.
	1880-82.	1890-92.	1900-02.	
Austria	43.4	42.7	40.1	- 7.6
German Empire	29.6	28.7	27.4	- 7.4
Sweden	22.6	22.9	24.3	+ 7.5
Denmark	26.9	24.5	24.2	- 10.0
Prussia	25.8	25.1	23.7	- 8.1
Italy	25.4	—	19.4	- 23.6
France	17.6	17.7	19.1	+ 8.5
Belgium	20.0	20.6	17.8	- 11.0
Norway	19.7	16.9	17.2	- 12.7
Spain	16.0	17.5	15.5	- 3.1
Scotland	21.4	17.1	13.4	- 37.4
Australian Commonwealth	14.5	15.9	13.2	- 9.0
Switzerland	10.8	10.0	9.8	- 9.3
New Zealand	13.4	9.0	8.9	- 33.6
England and Wales	14.1	10.5	8.5	- 39.7
The Netherlands	9.7	9.0	6.8	- 29.9
Ireland	4.4	3.9	3.8	- 13.6

Deaths.—During the last five years the crude death-rates have been, on the whole, lower than in any of the earlier periods shown in Table LXVII. In England and Wales the rates in successive quinquennia since 1881-85 show a continuous decrease. All the principal countries of Europe have experienced lower death-rates during the present century than were ever recorded for them before. In the case of England and Wales and the Netherlands this has happened in no less than seven out of the ten years; Spain has had six "lowest death-rates on record" since 1900; Denmark, Prussia, Austria, and Belgium, five; Norway, Switzerland, and Italy, four; Scotland, Sweden, Hungary, and France, three; and Russia and Finland, two each. The countries showing the greatest declines are Prussia and Spain, while Norway shows the least. The lowest death-rate recorded for Ireland was that for the year 1896.

In view of the wide variations in the sex and age constitution of the several populations (see Table 54), corrected death-rates have been calculated for the periods indicated in Table LXVIII, for all countries that were able to furnish the requisite data. In these calculations the population of England and Wales at the census of 1901 has been adopted as a standard and the corrected death-rates for the various countries have been calculated on the rates of mortality in the eleven age-groups specified in Tables LXIX. and LXX.

TABLE LXVII.—ANNUAL CRUDE DEATH-RATES per 1000 persons living, 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
Russia (European) ...	35.4	33.2	35.8	31.9	30.9	—	—	—
Chili	26.9	35.2	32.6	28.8	30.2	31.3	31.5	32.5
Ceylon	—	25.1	28.3	27.0	26.7	30.8	31.0	27.3
Hungary	33.1	32.1	31.8	27.9	26.4	25.0	25.6	23.6
Spain	32.6	30.9	30.1	28.8	26.0	24.3	24.0	23.3
Roumania	26.2	28.7	31.0	27.4	25.5	26.0	27.8	25.2
Austria	30.1	28.9	27.9	25.6	24.2	22.3	22.9	21.2
Jamaica	—	23.5	22.0	22.1	22.6	24.4	21.7	23.1
Bulgaria	17.7	18.9	27.8	23.9	22.5	—	26.6	—
Servia	24.5	25.9	28.9	24.8	22.4	—	29.3	—
Italy	27.3	27.2	25.5	22.9	21.9	21.0	21.5	19.6
Japan	—	20.6	21.1	20.7	20.9	—	22.0	—
German Empire	25.3	24.4	23.3	21.2	19.9	—	17.2	—
France	22.2	22.0	22.3	20.7	19.6	19.2	19.3	17.9
Prussia	25.4	24.0	22.8	21.0	19.6	17.3	17.0	16.0
Finland	22.2	20.0	20.5	19.0	18.6	17.4	16.7	16.6
Ireland	18.0	17.9	18.5	18.1	17.6	17.3	17.1	17.1
Switzerland	21.3	20.4	19.8	18.1	17.5	—	16.1	—
Belgium	20.6	20.2	20.1	18.1	17.0	—	15.8	—
Scotland	19.6	18.8	19.0	18.0	17.0	16.1	15.9	15.3
England and Wales ...	19.4	18.9	18.7	17.7	16.0	14.7	14.6	13.5
The Netherlands ...	21.4	20.5	19.6	17.2	16.0	14.3	13.7	13.6
Sweden	17.5	16.4	16.6	16.1	15.5	14.3	13.7	14.0
Denmark	18.4	18.7	18.6	16.4	14.8	13.7	13.2	12.9
Norway	17.2	17.0	16.8	15.6	14.5	13.8	13.4	13.5
Ontario, Province of ...	11.4	11.0	10.6	11.6	13.0	14.0	14.6	14.0
Australian Commonwealth ...	15.7	14.8	13.3	12.7	11.7	10.7	10.3	10.4
New Zealand	10.9	9.9	10.1	9.6	9.9	9.7	9.2	9.7

It will be observed from the figures in Table LXVIII. that while the death-rates of the several countries are very diversely affected by differences of sex and age constitution, no other European population was ten years ago so favourably constituted, with regard to mortality, as that of this country. In every instance the crude death-rate has to be diminished by correction in order to secure fair comparison with that of England and Wales. The reverse holds good of Australasia, but this is due to the small proportion of aged persons in the Australasian population (see Table 54, p. 108), which, in that respect, is affected by the large immigration of earlier years.

The exceptionally favourable constitution of the population of this as compared with other European countries in 1900-1902 was largely due to the exceptionally high proportion in it of young adults, with mortalities below the average for persons of all ages, together with its very moderate proportion of children under five years of age and of old people (see Table 54).

TABLE LXVIII.—MEAN ANNUAL CRUDE and CORRECTED DEATH-RATES* per 1000 living in ENGLAND and WALES and in certain EUROPEAN COUNTRIES and BRITISH COLONIES.

COUNTRIES (arranged in order of their Corrected Death-rates—Persons).	Deaths to 1000 living.						Comparative Mortality Figures (Persons), England and Wales, taken as 1000 (Corrected Death-rates).	Mean age of population. Persons.†
	Persons.		Males.		Females.			
	Corrected Death-rates.	Crude Death-rates.	Corrected Death-rates.	Crude Death-rates.	Corrected Death-rates.	Crude Death-rates.		
Russia (European) (1896-8) ..	28'61	32'80	29'80	34'59	27'49	31'09	1607	25'50
Spain (1900-02)	26'53	27'63	27'37	28'97	25'74	26'36	1546	28'48
Hungary (1899-01)	24'87	26'34	24'96	26'87	24'79	25'81	1449	26'98
Austria (1899-01)	23'12	24'83	23'86	25'80	22'42	23'90	1347	27'50
Bulgaria (1899-01)	20'92	23'26	20'89	23'47	20'96	23'03	1219	25'72
Italy (1900-02)	20'23	22'72	20'09	23'13	20'36	22'31	1179	28'53
Prussia (1899-01)	19'70	21'08	21'03	22'42	18'45	19'77	1148	26'84
German Empire (1901)	19'52	20'84	20'78	22'10	18'34	19'61	1138	27'14
Finland (1899-01)	19'12	20'54	19'98	21'26	18'32	19'84	1114	27'58
Scotland (1900-02)	17'61	17'91	18'56	18'50	16'73	17'36	1026	27'20
France (1900-02)	17'50	20'80	18'56	21'95	16'51	19'69	1020	32'28
England and Wales (1900-02)	17'16	17'16	18'37	18'37	16'04	16'04	1000	27'50
Switzerland (1899-01)	16'86	18'22	17'57	18'99	16'20	17'48	983	28'90
Belgium (1899-01)	16'78	18'53	17'80	19'55	15'82	17'52	978	28'69
Ireland (1900-02)	16'59	18'27	16'25	18'31	16'90	18'23	967	29'22
The Netherlands (1898-00)	15'40	17'32	16'03	18'06	14'81	16'60	897	27'74
Sweden (1899-01)	13'88	16'78	14'45	17'24	13'36	16'35	809	29'83
Denmark (1900-02)	13'63	15'80	14'41	16'66	12'90	14'98	794	28'38
Australian Commonwealth (1900-02)	12'99	12'18	13'98	13'56	12'07	10'66	757	26'02
New Zealand (1900-02)	10'80	10'01	11'12	11'05	10'51	8'86	629	26'41

* See footnote, p. xxviii.
† Excluding cases in which the age was not stated.

TABLE LXIX.—MALES :—DEATH-RATES per 1000 living at ELEVEN GROUPS of AGES in ENGLAND and WALES and in certain EUROPEAN COUNTRIES and BRITISH COLONIES.

COUNTRIES (arranged in order of their Corrected Death-rates at all Ages—Persons).	Deaths to 1000 living—MALES.											
	All Ages.*	Under 5 years.	5—	10—	15—	20—	25—	35—	45—	55—	65—	75 years and upwards.
Russia (European) (1896-8) ..	29'80	144'25	12'88	5'37	5'59	7'45	8'14	11'18	18'44	32'31	65'66	116'59
Spain (1900-02)	27'37	109'85	8'49	4'03	6'93	10'07	9'07	11'76	18'04	35'07	80'43	210'22
Hungary (1899-01)	24'96	98'40	11'13	4'90	5'98	8'55	7'61	10'78	17'80	34'00	70'69	169'05
Austria (1899-01)	23'86	93'95	6'88	3'52	4'89	7'47	7'85	11'10	18'68	34'54	72'53	170'53
Bulgaria (1899-01)	20'89	80'45	12'74	5'94	6'67	10'15	8'67	10'55	16'06	23'87	41'35	85'58
Italy (1900-02)	20'09	76'86	5'98	3'15	4'68	6'73	6'73	8'44	13'59	26'99	65'56	177'30
Prussia (1899-01)	21'03	79'84	4'94	2'69	4'19	5'74	6'13	10'38	18'32	33'28	69'47	164'11
German Empire (1901)	20'78	80'33	4'47	2'59	4'06	5'57	6'16	10'10	17'69	32'49	67'56	161'97
Finland (1899-01)	19'98	68'02	11'18	5'24	5'45	7'48	7'34	9'27	14'30	27'96	64'28	152'00
Scotland (1900-02)	18'56	52'13	4'34	2'82	4'64	6'14	7'55	11'68	19'50	37'95	71'61	159'22
France (1900-02)	18'56	51'74	4'69	3'00	5'08	8'10	8'19	11'56	17'54	31'50	69'50	183'78
England and Wales (1900-02)	18'37	58'29	4'06	2'28	3'49	4'77	6'38	10'94	18'67	34'80	70'25	158'18
Switzerland (1899-01)	17'57	50'62	3'80	2'39	3'90	5'75	6'58	10'40	18'83	34'30	70'79	160'83
Belgium (1899-01)	17'80	59'39	4'02	2'19	3'72	5'64	6'17	9'14	16'37	30'11	66'52	162'40
Ireland (1900-02)	16'25	39'36	3'90	2'86	4'83	7'19	8'96	10'62	15'63	29'52	63'07	169'19
The Netherlands (1898-00)	16'03	55'43	3'59	2'28	3'96	5'82	5'70	7'60	12'92	25'40	59'15	142'15
Sweden (1899-01)	14'45	40'30	5'62	3'52	4'96	6'93	6'91	8'28	12'42	21'95	48'98	134'95
Denmark (1900-02)	14'41	42'13	3'67	2'52	3'55	5'34	5'52	8'10	13'54	24'71	55'43	148'53
Australian Commonwealth (1900-02)	13'98	34'18	2'40	2'06	3'49	5'44	6'39	9'13	14'91	28'41	60'56	143'21
New Zealand (1900-02)	11'12	25'02	2'35	1'72	2'89	3'90	4'55	6'88	11'94	22'04	51'34	137'86

* Corrected Death-rates. See footnote, p. xxviii.

Tables LXIX. and LXX. enable detailed comparisons to be made of the mortality in different countries of persons of the same age and sex, of the mortality of the two sexes at various ages in the different countries, of ages at which mortality is relatively high or low in one country as compared with others, &c.

TABLE LXX.—FEMALES :—DEATH-RATES per 1000 living at ELEVEN GROUPS of AGES in ENGLAND and WALES and in certain EUROPEAN COUNTRIES and BRITISH COLONIES.

COUNTRIES (arranged in order of their Corrected Death-rates at all Ages —Persons).	Deaths to 1000 living—FEMALES.											
	All Ages.*	Under 5 years.	5—	10—	15—	20—	25—	35—	45—	55—	65—	75 years and upwards.
Russia (European) (1896-8) ..	27.49	125.05	12.61	5.48	6.04	7.74	8.81	11.10	16.07	32.54	66.52	116.88
Spain (1900-02)	25.74	98.29	8.70	4.60	7.31	8.70	9.38	10.60	13.99	30.02	76.36	211.06
Hungary (1899-01)	24.79	85.54	11.40	6.25	7.73	9.42	9.75	11.36	15.86	34.11	74.36	172.10
Austria (1899-01)	22.42	79.59	7.43	4.33	5.57	7.46	8.66	10.62	14.96	31.18	72.51	165.83
Bulgaria (1899-01)	20.96	73.19	12.31	6.60	7.58	11.04	11.53	12.61	14.18	22.12	43.75	93.80
Italy (1900-02)	20.36	72.93	6.55	3.76	5.43	6.92	7.77	8.87	11.24	24.13	65.72	182.17
Prussia (1899-01)	18.45	68.08	5.06	2.94	3.71	4.76	6.23	8.11	11.79	25.37	62.16	156.19
German Empire (1901)	18.34	68.07	4.58	2.75	3.72	4.86	6.43	8.24	11.73	25.13	60.60	154.67
Finland (1899-01)	18.32	59.44	10.97	5.93	5.95	6.69	7.37	8.78	10.74	21.54	56.07	141.87
Scotland (1900-02)	16.73	43.91	4.77	3.23	4.69	5.59	7.25	10.04	15.56	30.47	60.17	142.78
France (1900-02)	16.51	43.55	4.81	3.55	5.27	6.88	7.75	9.08	12.72	24.35	58.81	163.58
England and Wales (1900-02)	16.04	48.76	4.16	2.40	3.21	3.94	5.44	8.84	14.26	27.45	59.03	143.48
Switzerland (1899-01)	16.20	41.50	3.87	2.71	4.45	5.62	6.61	8.46	12.80	28.32	68.85	160.35
Belgium (1899-01)	15.82	50.11	4.14	2.49	4.08	5.49	6.24	7.76	11.25	22.70	54.98	149.89
Ireland (1900-02)	16.90	35.01	4.82	3.92	5.99	6.65	8.58	10.81	14.98	29.65	67.15	168.01
The Netherlands (1898-00) ..	14.81	47.01	3.59	2.52	3.71	4.42	5.86	7.82	10.29	21.69	52.22	139.31
Sweden (1899-01)	13.36	34.58	5.75	4.21	5.24	6.00	6.52	7.51	9.78	17.35	42.71	126.30
Denmark (1900-02)	12.90	34.21	3.69	3.25	4.21	4.52	5.53	7.09	10.05	18.74	46.36	133.97
Australian Commonwealth (1900-02)	12.07	29.56	2.21	1.77	2.84	4.09	5.74	7.99	10.66	20.32	45.55	126.46
New Zealand (1900-02)	10.51	21.36	1.93	1.80	2.97	3.74	4.74	6.56	10.11	18.95	43.48	122.87

* Corrected Death-rates. See footnote, p. xxviii.

The position occupied by England and Wales in relation to the other 19 countries included in these Tables is as follows :—

TABLE LXXI.

—	All Ages.	Under 5 years.	5—	10—	15—	20—	25—	35—	45—	55—	65—	75—
Males	12	11	13	16	18	19	14	6	4	3	6	12
Females	14	11	14	18	18	19	19	11	6	8	11	11

The figure 12 relating to males at all ages indicates that the corrected death-rate amongst males at all ages in this country is the twelfth highest (*i.e.*, that 11 of the 20 countries in the list had a higher, and 8 had a lower corrected death-rate); and similarly in other cases.

The high mortality of men between 35 and 75 and of women between 45 and 65 in this country as compared with others is remarkable, and is in sharp contrast to its favourable position in regard to mortality of young persons.

Natural Increase.—Assuming the registration of births and deaths in the countries dealt with to be reasonably complete, the rates of natural increase of population in the several States can be compared by taking the difference between the birth- and death-rates.

The average annual rate in England and Wales in the quinquennium 1906-1910 was 11.5 per 1000 of the total population. This rate is compared with that experienced by other countries in Table LXXII.

TABLE LXXII.—NATURAL INCREASE.—Mean Annual rate of increase, by excess of Births over Deaths, per 1000 living, 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
Bulgaria	19.5	17.0	9.7	17.1	18.1	—	14.0	—
Russia (European) ...	13.7	15.0	12.4	17.4	16.8	—	—	—
New Zealand	25.4	21.3	17.6	16.1	16.7	17.4	18.1	16.5
Servia	21.8	17.8	14.4	15.3	16.3	—	7.2	—
The Netherlands ...	13.4	13.1	13.3	14.9	15.5	15.3	15.4	15.0
Prussia	12.0	13.3	14.1	15.5	15.2	15.0	14.7	14.5
Australian Common- wealth.	19.5	20.4	19.1	14.9	14.7	16.0	16.4	16.3
German Empire	11.7	12.1	13.0	14.8	14.4	—	13.9	—
Denmark	14.0	12.7	11.8	13.6	14.2	14.5	15.0	14.6
Norway	14.0	13.8	13.4	14.5	14.1	12.5	12.7	12.6
Roumania	15.6	12.2	10.0	12.8	13.9	14.3	13.9	14.6
Finland	13.3	14.5	11.3	13.6	12.7	13.6	14.6	13.6
England & Wales ...	14.1	12.5	11.8	11.6	12.2	11.5	11.2	11.6
Scotland	13.7	12.6	11.5	12.0	12.2	11.5	11.4	10.9
Austria	8.1	8.9	9.5	11.7	11.4	11.3	10.5	11.3
Hungary	11.5	11.6	9.9	11.5	11.0	11.7	12.1	12.1
Japan	—	7.9	7.5	10.4	10.8	—	12.2	—
Belgium	10.1	9.1	8.8	10.8	10.7	—	7.9	—
Italy	10.7	10.3	10.5	11.1	10.7	11.4	10.9	13.3
Sweden	11.9	12.4	10.8	10.8	10.6	11.2	11.9	10.8
Switzerland	7.3	7.1	7.9	10.4	10.3	—	9.4	—
Spain	3.8	5.1	5.2	5.5	9.3	9.3	9.5	9.8
Ontario, Province of ...	11.0	11.0	9.3	8.5	8.8	9.7	9.7	10.9
Chili	12.2	0.3	4.4	6.2	6.2	7.0	7.3	5.9
Ireland	5.9	4.9	4.5	5.2	5.5	6.1	6.4	6.2
France	2.5	1.1	0.0	1.2	1.6	0.7	0.3	1.8

Infantile Mortality.—Table LXXIII. shows the relative incidence of infantile mortality in those countries that have been able to furnish returns, although the comparison is to a certain extent vitiated by differences of practice in regard to the registration of stillbirths. With few exceptions the countries in which a high rate of infantile mortality prevails are those in which a high birth-rate obtains. Austria, Hungary, Prussia, and Spain come under this category; while France appears to be a notable exception, the birth-rate being low and the infantile mortality comparatively high.

In Ireland, Norway, Sweden, and Australasia the rates of infantile mortality are exceptionally low.

TABLE LXXIII.—INFANTILE MORTALITY.—DEATHS of children under one year to 1000 births, 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
	Chili	—	264	336	333	306	315	315	313
Russia (European)	271	264	276	261	—	—	—	—
Austria	—	—	—	226	215	—	—	—
Hungary	—	—	250	219	212	204	212	194
Prussia	207	208	205	201	190	168	164	157
Jamaica	—	170	171	175	174	191	174	188
Spain	193	—	—	—	173	—	—	—
Ceylon	—	158	160	168	171	189	202	176
Italy	—	—	185	168	168	—	155	—
Japan	—	—	147	153	154	—	166	—
Servia	157	158	172	159	149	—	—	—
Belgium	156	163	164	158	148	—	137	—
Bulgaria	—	—	140	143	148	—	—	—
France	167	166	171	159	139	—	120	—
England & Wales	139	145	151	156	138	117	109	105
The Netherlands	181	175	165	151	136	114	99	108
Switzerland	171	159	155	143	134	—	115	—
Finland	162	144	145	139	131	117	111	118
Scotland	117	121	126	129	120	—	108	—
Denmark	135	136	138	132	119	—	98	—
Ontario, Province of	—	—	—	—	114	127	131	123
Ireland	94	95	102	106	98	94	92	95
Australian Common-wealth.	125	119	109	112	97	78	72	75
Sweden	116	105	103	101	91	—	72	—
Norway	99	96	98	96	81	—	72	—
New Zealand	90	84	87	80	75	70	62	68

Mortality from certain Epidemic Diseases.—The accompanying tables give some indication of the incidence of measles, scarlet fever, diphtheria, whooping-cough, and enteric fever in the several countries.

In comparing the rates of mortality from these diseases it must be borne in mind that methods of classification vary, and that the certification of causes of death is more complete or more accurate in some states than in others: also that differences in the age-constitution of the several populations affect the comparison of the figures. In the case of measles, scarlet fever, diphtheria, and whooping-cough, diseases mainly confined to childhood, it will be noted from the tables that in several instances considerable fluctuations occur in the mortality rates; doubtless this is due to cycles of greater or lesser prevalence of these disorders. Generally speaking, however, appreciable reductions in the rates of mortality from these diseases have taken place in many European countries.

TABLE LXXIV.—MEASLES.—DEATH-RATES per 1000 persons living, 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
	Spain	—	—	—	—	0.67	0.39	0.40	0.35
Hungary	—	—	—	0.43*	0.41	0.44	0.40	0.45
Belgium	0.52	0.58	0.60	0.40	0.37	—	0.36	—
The Netherlands	0.26	0.38	0.20	0.17	0.37	0.23	0.17	0.20
Austria	0.48	0.56	0.42	0.38	0.34	0.33	0.44	0.35
England & Wales	0.41	0.47	0.41	0.42	0.33	0.29	0.36	0.23
Scotland	0.36	0.41	0.51	0.43	0.32	—	0.19	—
Roumania	—	0.13	0.18	0.17	0.26	0.16	0.10	0.21
Prussia	0.42	0.42	0.27	0.26	0.25	0.19	0.17	0.18
Italy	—	0.61*	0.42	0.25	0.21	—	0.32	—
Switzerland	0.11	0.14	0.16	0.13	0.19	—	0.10	—
Ireland	0.18	0.20	0.17	0.18	0.16	0.14	0.10	0.19
Sweden	0.21	0.18	0.13	0.11	0.08	—	0.04	—
New Zealand	0.09	0.03	0.16	0.06	0.07	0.03	0.03	0.00
Australian Common-wealth.	0.09	0.03	0.14	0.11	0.04	0.02	0.01	0.03
Ontario, Province of	0.06	0.07	?	0.04	0.04	0.07	0.07	0.14

* 4 years.

TABLE LXXV.—SCARLET FEVER.—DEATH-RATES per 1000 persons living, 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
	Servia	—	—	—	—	0.99	—	—
Hungary	—	—	—	0.56*	0.67	0.54	0.52	0.51
Austria	0.62	0.56	0.54	0.56	0.45	0.47	0.57	0.48
Roumania	—	0.15	0.32	0.26	0.45	0.64	1.08	0.77
Prussia	0.58	0.30	0.23	0.27	0.30	0.20	0.21	0.15
Belgium	0.27	0.17	0.15	0.22	0.13	—	0.16	—
England & Wales	0.44	0.24	0.18	0.13	0.13	0.09	0.09	0.07
Ontario, Province of	0.22	0.08	?	0.08	0.13	0.07	0.09	0.11
Scotland	0.35	0.22	0.20	0.17	0.09	—	0.12	—
Sweden	0.57	0.44	0.28	0.09	0.09	—	0.05	—
Spain	—	—	—	—	0.06	0.10	0.09	0.08
Italy	—	0.31*	0.20	0.11	0.05	—	0.08	—
New Zealand	0.12	0.03	0.01	0.00	0.05	0.03	0.03	0.01
Switzerland	0.09	0.09	0.07	0.02	0.05	—	0.05	—
Ireland	0.27	0.14	0.10	0.09	0.04	0.03	0.03	0.04
The Netherlands	0.15	0.07	0.04	0.03	0.03	0.04	0.03	0.02
Australian Common-wealth.	0.08	0.05	0.04	0.04	0.02	0.01	0.02	0.01

* 4 years.

TABLE LXXVI.—DIPHTHERIA and CROUP.—DEATH-RATES per 1000 persons living 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
Servia	—	—	—	—	0·66	—	—	—
Hungary	—	—	—	0·67*	0·47	0·41	0·45	0·42
Austria	1·46	1·34	1·22	0·80	0·43	0·28	0·29	0·26
Prussia	1·72	1·57	1·34	0·59	0·40	0·25	0·25	0·24
Sweden	0·85	0·52	0·61	0·44	0·34	—	0·13	—
Ontario, Province of ...	0·70	0·65	0·44	0·34	0·30	0·19	0·19	0·19
Spain	—	—	—	—	0·25	0·20	0·22	0·22
Belgium	0·78	0·66	0·49	0·27	0·21	—	0·15	—
Switzerland	0·64	0·34	0·46	0·29	0·21	—	0·16	—
England & Wales† ...	0·16	0·17	0·25	0·27	0·20	0·15	0·15	0·12
Scotland†	0·21	0·22	0·22	0·16	0·15	—	0·18	—
Italy	—	0·74*	0·51	0·24	0·14	—	0·17	—
Roumania	—	0·19	0·20	0·29	0·13	0·06	0·05	0·10
Australian Common- wealth.	0·43	0·52	0·36	0·15	0·10	0·10	0·10	0·13
The Netherlands† ...	0·12	0·15	0·16	0·10	0·10	0·06	0·06	0·05
Japan	0·03	0·04	0·07	0·13	0·09	—	0·11	—
Ireland†	0·06	0·08	0·07	0·08	0·08	0·08	0·09	0·08
New Zealand†	0·20	0·18	0·17	0·08	0·04	0·06	0·07	0·08

* 4 years.

† Excluding Croup.

TABLE LXXVII.—WHOOPING-COUGH.—DEATH-RATES per 1000 persons living, 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
Servia	—	—	2·42*	2·27	1·96	—	—	—
Scotland	0·60	0·61	0·52	0·51	0·49	—	0·47	—
Austria	1·10	0·97	0·71	0·53	0·44	0·36	0·30	0·30
Hungary	—	—	—	0·59*	0·42	0·36	0·34	0·31
Belgium	0·68	0·63	0·55	0·48	0·38	—	0·28	—
Prussia	0·52	0·51	0·45	0·42	0·36	0·26	0·25	0·23
England & Wales ...	0·46	0·44	0·40	0·36	0·30	0·25	0·20	0·25
Ireland	0·30	0·28	0·26	0·27	0·24	0·24	0·27	0·30
Spain	—	—	—	—	0·23	0·19	0·18	0·13
The Netherlands ...	0·35	0·30	0·32	0·26	0·21	0·19	0·17	0·18
Italy	—	0·37*	0·26	0·23	0·20	—	0·15	—
Switzerland	0·24	0·22	0·19	0·17	0·20	—	0·23	—
Sweden	0·19	0·17	0·17	0·20	0·18	—	0·14	—
Roumania	—	0·04	0·12	0·17	0·16	0·23	0·16	0·28
Australian Common- wealth.	0·16	0·17	0·17	0·13	0·10	0·11	0·06	0·11
New Zealand	0·22	0·15	0·23	0·07	0·08	0·12	0·04	0·15
Ontario, Province of ...	0·10	0·09	?	0·07	0·08	0·10	0·12	0·08
Japan	—	—	—	—	0·05	—	0·07	—

* 4 years.

TABLE LXXVIII.—ENTERIC FEVER.—DEATH-RATES per 1000 persons living 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
Servia	—	—	1·53	1·13	0·68	—	—	—
Spain	—	—	—	—	0·44	0·32	0·28	0·24
Italy	—	0·79*	0·51	0·50	0·35	—	0·28	—
Hungary	—	—	—	0·38*	0·29	0·27	0·31	0·24
Australian Common- wealth.	0·55	0·51	0·28	0·36	0·21	0·16	0·15	0·15
Ontario, Province of ...	0·27	0·24	?	0·21	0·20	0·31	0·30	0·32
Austria	0·73	0·58	0·44	0·27	0·19	0·14	0·13	0·13
Belgium	0·56	0·40	0·34	0·24	0·17	—	0·09	—
Ireland	0·16	0·17	0·17	0·21	0·13	0·08	0·07	0·06
Roumania	—	—	0·16	0·12	0·13	0·20	0·29	0·16
England & Wales ...	0·22	0·18	0·17	0·17	0·11	0·07	0·06	0·05
Scotland	0·27	0·19	0·18	0·16	0·11	—	0·06	—
The Netherlands† ...	0·18	0·13	0·12	0·10	0·09	0·06	0·05	0·05
Prussia	0·46	0·25	0·17	0·13	0·09	0·05	0·05	0·05
Sweden†	0·27	0·23	0·20	0·15	0·09	—	0·04	—
New Zealand	0·23	0·22	0·17	0·14	0·08	0·07	0·06	0·06
Switzerland	0·29	0·16	0·11	0·08	0·06	—	0·03	—

* 4 years.

† Including Typhus.

‡ Including Brain Fever and acute Poliomyelitis.

Pulmonary Tuberculosis.—Disregarding variations in the methods of classification of the deaths, as well as in the sex and age constitution of the populations, it is possible to make a rough comparison among several countries as regards mortality from this disease. Several states were unable to furnish complete returns of mortality under this heading. For example, in France, Denmark, Sweden, Roumania, or Bulgaria the statistics have been limited to towns only; again in Austria, in Hungary, in Prussia, and in Ontario the returns comprise deaths from all forms of tuberculosis, while in Italy deaths from general tuberculosis are included under pulmonary tuberculosis.

In Prussia, Scotland, the Netherlands, England and Wales, and Belgium a marked diminution in the rate of mortality has taken place in recent years. In proportion to the total population the death-rate from pulmonary tuberculosis in England and Wales in the quinquennium 1906-10 was 1·11 per 1000 living as compared with 1·22 in the preceding period. The latter rate was exceeded in four continental countries, while in only two others (Belgium and Italy) were the average rates below that recorded in this country.

TABLE LXXIX.—PULMONARY TUBERCULOSIS, &C.—DEATH-RATES per 1000 persons living, 1881-1910.

Countries (Arranged in Order of Rates in 1901-5).	Quinquennial Periods.						Years.	
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1909.	1910.
Pulmonary Tuberculosis:								
Servia	—	—	2.51*	2.31	2.80	—	—	—
Ireland	2.08	2.12	2.14	2.13	2.15	1.91	1.84	1.72
Switzerland	2.09	2.13	1.99	1.90	1.87	—	1.63	—
Spain	—	—	—	—	1.48	1.35	1.27	1.25
Japan	—	1.01	1.36	1.45	1.46	—	1.66	—
Scotland	2.11	1.89	1.74	1.65	1.46	—	1.27	—
The Netherlands	—	—	1.80	1.65	1.33	1.25	1.23	1.18
England & Wales...	1.83	1.64	1.46	1.32	1.22	1.11	1.09	1.02
Belgium	—	—	1.56	1.42	1.18	—	1.02	—
Australian Common- wealth.	1.22	1.21	1.07	0.94	0.89	0.75	0.73	0.68
New Zealand	0.91	0.84	0.81	0.78	0.70	0.62	0.61	0.55
Pulmonary and General Tuberculosis:								
Italy	—	1.37*	1.29	1.25	1.16	—	1.22	—
Tuberculosis (all forms):								
Hungary	—	—	—	3.64*	3.97	3.74	3.69	3.48
Austria†	3.90	3.80	3.60	3.45	3.40	3.05	3.03	2.88
Prussia	3.12	2.90	2.47	2.08	1.91	1.62	1.55	1.51
England & Wales...	2.54	2.32	2.12	1.91	1.74	1.57	1.54	1.43
Ontario, Province of ...	1.25	1.16	1.14	1.41	1.29	1.13	1.07	1.02

* 4 years.

† The deaths for the years 1881-1894 relate to pulmonary tuberculosis.

Cancer.—Table LXXX. shows that the mortality from cancer recorded in England and Wales exceeds that of almost all other

TABLE LXXX.—CANCER.—DEATH-RATES per 1000 persons living, 1881-1910.

Countries (Arranged in Order of crude rates in 1901-5).	Crude Rates.						Corrected Rates.		
	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1905.	1906- 1910.	1906- 1910.	1909.	1910.
Switzerland	1.03	1.14	1.22	1.27	1.28	—	—	1.07	—
The Netherlands	0.60	0.70	0.81	0.92	0.97	1.03	0.90	0.90	0.93
England & Wales	0.55	0.63	0.71	0.80	0.87	0.94	0.94	0.96	0.97
Scotland	0.54	0.62	0.69	0.77	0.85	—	—	1.00	—
Austria	0.44	0.50	0.59	0.69	0.74	0.78	0.73	0.73	0.73
Ireland	0.38	0.43	0.49	0.58	0.69	0.79	0.64	0.65	0.68
New Zealand	0.30	0.42	0.52	0.59	0.67	0.72	0.81	0.82	0.84
Prussia	0.34	0.41	0.50	0.57	0.65	0.74	0.73	0.74	0.77
Australian Common- wealth.	0.36	0.42	0.49	0.57	0.63	0.70	0.83	0.85	0.87
Belgium	—	—	—	—	0.58†	—	—	0.54	—
Italy	—	0.43*	0.44	0.51	0.55	—	—	0.53	—
Ontario, Province of	0.21	0.29	?	0.44*	0.52	0.65	—	—	—
Spain	—	—	—	—	0.44	0.50	0.44	0.44	0.45
Hungary	—	—	—	0.30*	0.39	0.44	0.43	0.44	0.45
Servia	—	—	0.06*	0.08	0.10	—	—	—	—

* 4 years.

† 3 years.

countries. In all the countries from which returns have been received the mortality has shown a general tendency to increase in recent years.

PROGRESS OF REGISTRATION.

The names in the alphabetical indexes of births, deaths, and marriages recorded in the national registers of England and Wales were increased during the year 1910 by 1,915,651, this addition raising the total of names in the indexes, which at the end of 1910 embraced a period of 73½ years, to 120,611,255.

The following statements as to the number of prosecutions for offences against the Registration Acts and searches in the Registers in connexion with Old Age Pensions have been prepared by the Chief Clerk:—

OFFENCES AGAINST THE REGISTRATION ACTS.

In 1910, 39 persons, on prosecution by order of the Registrar-General, were convicted of different offences against the Registration Acts. The offences for which convictions were obtained were as under:—

For failing to comply with a requisition to register a birth or death	2
For giving a false place of birth in order to avoid vaccination	5
For giving a false age when registering the death of an old-age pensioner	14
For otherwise giving false information to the registrar when registering a birth or death ...	7
For falsifying certificate of birth or death and using same as true	8
For causing the body of a live-born child to be buried as still-born	2
For falsifying a certificate of cause of death and using the same as true	1

Proceedings were taken by the Public Prosecutor in several cases of false notice and declaration for marriage, and of forged consent for marriage.

SEARCHES AND CERTIFICATES.

Besides the certified copies of the registered births, deaths, and marriages kept in England and Wales pursuant to the Registration Acts, a large number of other registers and records are deposited in this Office under statute or other arrangement. A list of these various registers and records will be found on pages xxix.-xxxii. of the Annual Report for 1895. Searches may be made in any of these registers, and certificates obtained on payment of the prescribed fees.

During the 52 weeks ended 31st December, 1910, the total number of searches was 75,369, and of certificates issued 57,015. The total amount received in fees was 10,939*l.* 5*s.* 6*d.*

TABLE LXXXI.

Years.	Total Searches.	Certificates Issued.	Amount Received.
1866 (52 weeks)... ..	12,135	10,017	£ 1,860 15 6
1875 (52 weeks)... ..	20,356	20,282	3,879 15 6
1885 (52 weeks)... ..	36,450	27,682	5,317 13 6
1895 (52 weeks)... ..	53,289	35,727	7,200 12 6
1896 (53 weeks)... ..	57,444	37,435	7,600 0 6
1897 (52 weeks)... ..	58,664	37,485	7,686 8 6
1898 (52 weeks)... ..	63,825	41,143	8,450 19 6
1899 (52 weeks)... ..	57,670	44,793	8,551 19 6
1900 (52 weeks)... ..	57,895	45,479	8,658 9 6
1901 (52 weeks)... ..	58,445	45,254	8,645 10 0
1902 (53 weeks)... ..	61,437	48,262	9,177 15 0
1903 (52 weeks)... ..	63,519	49,469	9,437 9 6
1904 (52 weeks)... ..	62,270	48,658	9,274 12 0
1905 (52 weeks)... ..	65,142	50,310	9,611 9 0
1906 (52 weeks)... ..	64,340	49,429	9,458 6 0
1907 (52 weeks)... ..	69,249	53,058	10,194 9 0
1908 (53 weeks)... ..	72,370	54,870	10,550 8 0
1909 (52 weeks)... ..	73,543	54,674	10,568 8 0
1910 (52 weeks)... ..	75,369	57,015	10,939 5 6

Table LXXXI. affords an indication of the extent to which the records in this Office have been utilized by the public for legal evidence of births, deaths, and marriages since 1866.

In addition to the above 51,347 searches have been made free of charge for the purpose of verifying the ages of persons claiming Old Age Pensions.

T. H. C. STEVENSON.

METEOROLOGY OF THE YEAR 1910.

REMARKS ON THE CONSPICUOUS METEOROLOGICAL OCCURRENCES IN THE BRITISH ISLES IN 1910.

(Prepared in the Meteorological Office under the direction of
W. N. Shaw, Esq., LL.D., Sc.D., F.R.S.)

Official reports and communications, daily, weekly and monthly returns, records supplied by numerous rainfall observers in all parts of the British Isles, and logs kept at lighthouses and lightships have been utilised in the preparation of the following summary of the principal meteorological events of the year 1910:—

1. *Gales.*—Though the year as a whole was rather breezy, it was, like several of its immediate predecessors, marked by comparatively few severe gales affecting any considerable portion of the country. In January the force of a gale was felt at one or more of the telegraphic reporting stations on as many as 21 days. The passage of a very deep cyclonic system on a North-Easterly course between Scotland and Iceland was marked by wild stormy conditions over the country generally between the 9th and 12th, a Southerly to Westerly strong gale (force 9 on the Beaufort scale) being experienced in very numerous localities, a whole gale (force 10) at many places on the south-western, western and northern coasts, a storm (force 11) at Barra Head, Deerness and Sule Skerry, and a hurricane (force 12) at North Unst. The gale was maintained through 64 consecutive hours at Rathlin O'Birne, 69 hours at Inchkeith, 82 hours at Skerryvore, and 94 hours at Pladda. In a less widely felt gale on the 24th and 25th a whole gale from West, North or North-East blew at some places on the western and eastern coasts of England and Ireland, a North-East storm at Flamborough Head. On the 28th and 29th the same coasts were again affected, the North-East storm being repeated at Flamborough, where the gale was continuous through 52 hours. During February, gale force was attained on 19 days, the severe instances being more numerous than those of January. On the 14th the Southerly and South-Westerly wind rose to a whole gale on the western, southern and eastern coasts of England, while on the 17th the Irish and English coasts were involved in a South-Westerly to Westerly gale, storm force being registered at Strumble Head, a hurricane at the North-West Light ship (Mersey). The worst of the gales of the opening months of the year occurred on February 19th to the 21st, when a large number of places in England and Ireland had a whole gale from Southerly to Westerly points. At Tearaght, Bardsey, Start Point, Portland Bill and Flamborough Head storm force was reported, and at the Fastnet, the Coningbeg Lightship, and at Caldy a hurricane. The gale lasted more than 50 hours in various localities, 56 hours at St. John's Point, 57 at Flamborough, 60 at Bardsey and Caldy, and 63 hours at Strumble Head. Practically this was the end of the winter storms, the month of March proving unusually quiet, the wind rarely exceeding the force of a strong or high wind. Disturbances were rather numerous in April, and the month generally was breezy, but the only gales of note occurred in the north of Scotland, a whole gale in some exposed

situations on the 13th to 15th, and 18th to 21st, a Westerly storm at Tarbet Ness on the 18th. An occasional gale was felt during the summer months, a strong gale at isolated situations between May 3rd and 8th, on July 23rd and 26th, and August 1st and 26th to 28th. September was an abnormally quiet month, quieter than the month of the vernal equinox, the telegraphic stations affording only two instances of gale force. With October the conditions assumed a more disturbed type, and from the 2nd to the 4th South-Westerly to North-Westerly gales were experienced in many localities, a whole gale at Portland Bill, a storm at Scilly. A strong to a whole North-Easterly gale over southern England on the 13th and 14th was associated with the existence of an area of very high pressure, the barometer standing at $30\frac{3}{4}$ in. in Scotland, against 30 in. on the Bay of Biscay. On the last day of the month a disturbance coming down from the Iceland region started a spell of very disturbed weather, which was maintained generally until the end of the year. A whole Westerly gale blew at Malin Head and Spurn Head on October 31st. November had 20 days and December 25 days on which the wind rose to gale force. Between November 1st and 4th Portland Bill had a whole North-Westerly gale, Malin Head a whole South-Westerly and North-Westerly gale, and Scilly a whole Westerly gale to a North-Westerly storm. From the 6th to the 18th hard gales were felt daily—on the 7th a whole gale from North-West at Holyhead, from West at Malin Head, Scilly and Portland Bill, and an Easterly storm at Wick; on the 10th a whole Southerly gale at Spurn Head; on the 13th an Easterly storm at Sumburgh Head; on the 14th a whole Northerly gale at Sumburgh Head, and a storm at Malin Head; on the 15th a whole Westerly gale at Scilly, and on the 18th from North at Spurn Head. From December 7th to the 17th was another stormy period—a whole South-Easterly gale at Roche's Point and Scilly on the 7th; at Malin Head and Roche's Point on the 8th, and at Scilly on the 9th; a South-Westerly storm at Scilly on the 12th; a whole Southerly gale at Portland Bill on the 13th; from South or South-West at Dungeness and Scilly on the 15th, and at Oxford, Pembroke and Scilly on the 16th, a storm at Portland Bill; and a South-Westerly whole gale at Dungeness, and a storm at Dover on the 17th. Strong gales from South-West to North-West occurred daily from the 22nd to the 28th, a whole South-Westerly gale at Malin Head on the 24th. Self-registering anemometers at 26 stations disclosed the following instances of mean hourly velocities of 60 or more miles of wind:—

February 18–19th, Pendennis, 60; 20th–21st, Pendennis, 62.

„ 21st, Southport, 63.

December 16th, Pendennis, 63.

In gusts the highest velocities attained were 87 miles per hour at Pendennis on February 18th–19th, and 86 miles per hour at Scilly on the 20th–21st. (For more detailed records, see Appendix III. of the Weekly Weather Report.)

2. *Rainfall.*—The year's precipitation was rather irregularly distributed, and this was more noticeable in Scotland and Ireland than over England. In Scotland Glencarron returned a deficiency of 10.4 in., and Fort William of 9.5 in., while several localities had an excess of 5 in. and upwards, Cargen an excess of 12.7 in. In Ireland there was an excess of 11.5 in. at Markree Castle, and 7.4 at Dublin, against a deficiency of 5.7 in. at Roche's Point. Over England generally the totals were above the average, the excess being greatest in the south, 10.2 in. at Jersey, 10.7 in. at Salisbury, 10.8 in. at Polapit Tamar Launceston, 11.1 in. at Cullompton, and 12.7 in. at Dungeness. The

aggregate totals ranged from 134.3 in. at Seathwaite, 83 in. at Loch Torridon, 78.8 in. at Glencarron, 77.1 in. at Sheepstor, 69.1 in. at Fort William, 61.6 in. at Whitechurch, 61.1 in. at Arlington, 60.6 in. at Darwen, and 60.4 in. at Eskdalemuir to 23.4 in. at Westminster, 22.8 in. at Cambridge, 22.5 in. at Hawarden Bridge, 22 in. at Southend, 21.5 in. at Clacton-on-Sea, 21.1 in. at Shoeburyness, and 20.6 in. at Spurn Head. Greenwich had nearly 5 in. more than Westminster. As a rule the frequency of precipitation was considerably in excess of the normal, rain being measured on more than 200 days at the great majority of stations, Foynes 294 days, Roche's Point 277, Stornoway 275, Killarney 270, Valencia 268, and Balta Sound 260. The frequency was least in the south-east, 170 days at Yarmouth, 169 at Rugby, 163 at Clacton-on-Sea, and 156 at Tottenham. In several months falls of an inch and upwards in a day were very numerous, those of 2 in. or more being the following:—January 13th, Kinlochewe (Rossshire), 2.4 in.; 15th, Stonyhurst, 2.1 in.; March 1st, Killarney, 2.5 in.; 2nd, Caragh Lake, 2.5 in.; June 5th, Abergavenny (Mon.), 2 in.; Cardiff and Salisbury (west), 2.1 in.; Salisbury (east), 3.5 in.; 7th, Old Windsor, 2.5 in.; Stow-on-the-Wold, 3.6 in.; 9th, Kidmore End, Reading and Wheatley, Oxon, 5.5 in.; 20th, Mount Mellick, 2 in.; July 20th, Bethesda, 2 in.; August 1st, Newcastle, Wicklow, 2.2 in.; 24th, Crieff, 2.4 in.; 25th, Markree Castle, 2.3 in.; 26th, Stornoway, 2.2 in.; October 20th, Dover, 2.4 in., and Dover Waterworks, 2.2 in.; 31st, Kinlochewe, 2.2 in., Cruachan (Loch Awe), Glencarron and Fort William, 2 in.; December 1st, Ruthin, 2.4 in. There were several very heavy falls in short periods, the most striking being 0.71 in. in 14 minutes (3 in. per hour) during a terrific thunderstorm at Abergavenny on May 16th; 3.2 in. in an hour at Kidmore End, on June 9th, when 2.7 in. fell at Wheatley, Oxon, in 48 minutes (3.4 in. per hour), and 1.7 in. in another 20 minutes (5.1 in. per hour); 0.15 in. in $1\frac{1}{2}$ minutes (6 in. per hour) at Epsom on June 25th. At the same place on September 14th, 0.3 in. in $2\frac{1}{2}$ minutes (7.2 in. per hour); and on October 1st, 0.25 in. in 4 minutes ($3\frac{3}{4}$ inches per hour). Nearly the whole of the 3.5 in. at Salisbury on June 5th fell in 3 hours.

3. *Snowstorms.*—The snowfalls of the year were unusually rare. The most important occurred towards the end of January, 15 in. at Oban on the 26th; 12 in. at Bradford on the 28th, and an accumulation of 17 in. at Marchmont as the result of a week's falls to the 29th. Snow showers were noted as late as May, and the earliest reference in the autumn was a sharp shower at Epsom on September 19th, when the temperature was at 52°. During the remainder of the year, however, slight showers were almost wholly limited to November, there being a singular freedom from snow in December.

4. *Thunderstorms.*—The opening months were remarkable for the abnormal frequency of electrical disturbances. There were at least 23 days in January on which lightning, thunder or thunderstorms were observed. At Gruline, Mull, thunder was reported on eight successive days; and at Markree Castle, between the 8th and the 16th, lightning was registered on one day and thunderstorms on seven days. They were not so general during February, excepting on the 20th, when the southern half of England was affected. March, on the other hand, produced not a single thunderstorm, only four observers reporting thunder. With April the records became fairly numerous again in many parts of the kingdom, and during May and June they were very numerous and widespread, reported by one or more observers on 55 days. Many of the storms of this period were very severe, and occasioned considerable material damage and some loss of life. A peculiarity

of many of these storms was that in numerous places they produced only small quantities of rain, or none at all, while others brought with them tropical downpours. The disturbed electrical conditions were maintained until July 3rd. After this date there was a great falling off both in the frequency and the severity of the storms. Many neighbourhoods were visited on August 3rd, 4th, 5th, 14th and 15th, but September was almost as barren as March. On October 1st there were numerous records over the area from Yorkshire to the Isle of Wight and the Channel Islands, the remainder of the year being marked by only a few sporadic cases.

5. *Dry Periods.*—Notwithstanding the unusually frequent rainfalls, the year had several spells of dry weather. In many parts of England a rainless period set in about the middle of March and lasted into the opening days of April. A large number of places had no rain for 16 or more days, Worcester Lodge, Forest of Dean, 22 days, and Cuckfield 24 days. Numerous other stations had only one or two trifling showers during this period. The second half of May was marked over a considerable area by either no rain or only a slight shower or two in 10 to 12 days. In spite of the numerous thunderstorms of June there was little or no rain over a wide area in the first three weeks, none on 14 days at Bethesda, 15 days at Lincoln, 18 days at Skegness, and 19 days at Hovingham Hall. There was a similar experience between July 5th and 22nd, when many parts of Wales, Ireland and Scotland had magnificent weather, 14 rainless days in succession. Deerness, Orkney, had only 0·1 in. in 19 days, and Shetland $\frac{3}{4}$ in. during the month. September was a record month for dryness, many observers measuring a little rain on only two or three days, so that a large proportion totalled less than 0·2 in. for the month, Portsmouth less than 0·1 in. Even Seathwaite, the wettest station in the kingdom, had only 1·4 in. or 10 in. less than the average. At Prestwich there were 22 consecutive rainless days. This dry spell continued in many localities until October 10th, at Armagh and York until the 16th.

6. *Temperature.*—During the year there were few maximum temperatures of 80° and above. On May 20th Lincoln, Norwich and Rauceby touched 80°, and Hillington 83°. The warmest days were June 19th and 20th, when Hillington and Raunds rose to 83°, and Camden Square and Maidenhead to 84°. July 13th and 14th had some isolated instances of 80° and 81°. The most remarkable warmth of the year occurred in Shetland on August 6th, when the thermometer touched 77° at Balta Sound, and 82° at Sumburgh Head, the latter being 12° above the previous highest recorded in the locality. The Orkneys were not affected by this singular local visitation.

Over practically the whole kingdom the coldest period was January 26th to 28th, when temperature fell below 20° at the majority of stations, to 10° and under at a considerable number, to 0° at Kilmarnock; -5° at West Linton, and -10° at Balmoral. Scilly had a minimum of 35° on April 4th, the only other stations that did not pass below 32° being Falmouth, Penzance and Guernsey.

At Balmoral the range of temperature amounted to 90°, and at Kilmarnock and West Linton to 80°, against 39° at Falmouth, Scilly and Deerness. For the entire year the mean temperature in nearly all places differed less than $\frac{1}{2}$ ° from the normal.

7. *Bright Sunshine.*—The duration of bright sunshine was variable. At Blackpool there was an excess of 218 hours, at Fort Augustus of 127, at Stornoway of 112, and at Llandudno of 108, whereas at Jersey

there was a deficiency of 188 hours, at Cirencester and Southampton of 148, at Hillington of 144, and at some other stations of more than 100 hours. The largest aggregate totals were in Guernsey, 1,794 hours (41 per cent. of the possible) at Villa Carey, and 1,773 hours (40 per cent.) at Brooklyn, several other southern stations between Newquay and Felixstowe returning more than 1,700 hours. Some urban stations had less than 25 per cent. of the possible, Manchester City 982 hours, and Whitworth Park 976 hours (22 per cent.), and Newcastle-on-Tyne 933 hours (21 per cent.). One of the principal sunshine features of the year was the exceptional dulness of July over a great part of England, Margate returning 102 hours of sunshine, Geldeston 112, Greenwich 123 less than the average. Ireland, western Scotland and north-western England at the same time had brilliant weather, Armagh an excess of 61 hours, Phoenix Park 63, and Markree Castle 86 hours.

8. *Fog.*—The diminution in the frequency and intensity of inland fog, so noticeable in recent years, was maintained during 1910, there being no reports of any unusual visitations. In November it was fairly frequent in some localities, while neighbouring observers noted uncommon freedom from it.

On the coasts it was rather frequent in all seasons, and at times very dense, interfering with navigation. During a very dense fog on the south-western coasts between April 17th and 19th, the Atlantic liner *Minnehaha* ran on the rocks at Scilly.

9. *Barometer.*—The mean pressure for the year was everywhere below the normal, by 0·02 in. at Scilly, and 0·04 in. at Stornoway, but by as much as 0·08 in. in some places, 0·09 in. at Dungeness. The values indicated a low pressure area from Shetland across to Iceland, barometer below 29·75 in., and a relatively high area on the Continent, above 29·95 in. Only in October did the mercury rise to or above 30 $\frac{3}{4}$ in., touching 30·81 in. at Sumburgh Head on the 14th. There were numerous instances of readings below 29 in., the lowest, 28·14 in., being recorded at Blacksod Point on February 20th. At some Channel stations the range of pressure was 1 $\frac{3}{4}$ in., but at most stations it exceeded 2 in., 2·5 in. at Malin Head and Blacksod Point. On December 16th a barometric fall of 0·22 in. was registered at Bidston Observatory in half-an-hour; and at Stonyhurst Observatory 0·07 in. in 20 minutes, and 0·07 in. in the next 10 minutes.

10. *Floods.*—Owing to the very persistent wet weather of February, rain falling on 25 to 28 days at a large number of stations, much land was under water in many parts of the country. Much damage was occasioned by a flood in the Esk Valley, Yorkshire, as the result of a tropical downpour in a thunderstorm of terrific violence on May 8th. In County Clare a great flood was caused by a heavy rainstorm on July 28th, when 1·5 in. of rain fell at Mount Callan, most of it in about an hour. Between August 23rd and 28th serious floods were reported in Scotland, following very heavy rains. Nearly all rivers in the southern half of England overflowed their banks consequent upon the almost daily rains of November and December, the flooded areas being unusually extensive.

12. *Earthquakes.*—A slight shock of earthquake was felt at Oban on July 27th; a heavy shock at Scilly at 8.2 a.m. on October 30th. In the middle of December the influence of severe earthquakes in distant countries was felt in this country on the 13th and 14th, at Cardiff, West Bromwich, Glasgow, &c.

13. *Aurora Borealis*.—Aurora was most frequently reported during March, one of the least windy months of the year. It was moderately frequent in January, October and November; rarely observed in other months.

14. *Black Rain*.—At St. Asaph, North Wales, on June 4th, the rain collected, 0·4 in., was very black.

15. *Observations in the Upper Air*.—In the Weekly Weather Report details have been published of 174 ascents of kites or captive balloons, 29 pilot balloons, and 85 registering balloons. Of the latter, 70 reached the advective region. The greatest heights attained were, with kites 1,700 metres from Brighton on August 28th, with pilot balloons 17 kilometres from Pyrton Hill on March 16th, and with registering balloons 22 kilometres from Manchester on April 14th. The lowest temperature observed was 205° A. or -68° C. at 13 and 14·4 kilometres on January 6th, in an ascent from Pyrton Hill.

In continuation of the remarks given in previous annual reports, the following notes refer exclusively to the stations, the results from which are included in the tables already printed in the Quarterly Returns:—

The highest temperatures of the air were at Tottenham, 86°; Camden Square, 84°; and at Hillington, 83°.

The lowest temperatures were at Buxton, 1°; Llangammarch Wells, 8°; and at Durham and Wakefield, 10°.

The heaviest totals of rain at any of the stations were at Llangammarch Wells, 58·8 in.; Bettws-y-Coed, 58·7 in.; and at Stonyhurst, 53·3 in.

The least falls of rain were at Spurn Head, 20·6 in.; Clacton, 21·5 in.; and at Cambridge, 22·8 in.

The greatest number of days of rain were at Cromer, 255; Llangammarch Wells, 239; and at Salisbury, 235.

The least number of days of rain were at Tottenham, 156; Clacton, 163; and at Wakefield, Portsmouth and Lowestoft, 172.

The highest temperatures in the sun were at the Royal Observatory, Greenwich, 145°; and at Bettws-y-Coed, 143° and 142°.

The lowest temperatures on the grass were at Buxton, -9°; at Durham and Llangammarch Wells, 4°; and at Sheffield, 5°.

The greatest number of days of temperature on the grass at 30° or below were at Sheffield, 137; and at Cambridge and Llangammarch Wells, 136.