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THE

DECLINE OF HUMAN FERTILITY

IN THE

UNITED KINGDOM AND OTHER COUNTRIES

AS SHOWN BY

CORRECTED BIRTH-RATES.

BY

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AND

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The DECLINE *of* HUMAN FERTILITY *in the* UNITED KINGDOM *and* OTHER COUNTRIES *as shown by* CORRECTED BIRTH-RATES.

By ARTHUR NEWSHOLME, M.D., *Medical Officer of Health of Brighton, and* T. H. C. STEVENSON, M.D., *Assistant Medical Officer to the Education Committee of the London County Council.*

[Read before the Royal Statistical Society, 19th December, 1905. Major PATRICK GEORGE CRAIGIE, C.B., Vice-President, in the Chair.]

IN dealing with birth statistics, one or other of two objects may be desired: to ascertain the rate of natural increase of a community, or to determine its fertility. The first object is achieved by deducting the crude death-rate from the birth-rate as ordinarily stated. The statistics thus obtained are of great importance as indicating the results of the natural forces at work. But they deal with results only, and if the forces themselves are to be made the subject of inquiry, a re-arrangement of the facts and their statement in different terms from those of the crude birth- and death-rates are necessary. The corrected rate measures a force, the crude rate the result of the operation of this force. Thus in the case of death-rates the inherent tendency to mortality is measured, not by the crude, but by the corrected death-rate, the crude death-rate stating the result of the tendency to death acting upon a population of given age and sex constitution. The Registrar-General's reports have accustomed us to the distinction for death-rates, and we should not think of using crude death-rates as an index of mortality in this sense. But for birth-rates it is otherwise. The birth-rate as ordinarily stated, which will be referred to henceforward as the crude birth-rate, is still generally employed as the measure of the tendency of a population to increase by natural means, no other measure being in most cases readily available. That such use is often entirely misleading will be abundantly proved by numerous specific instances in the course of this paper.

If a clue as to the future and an explanation of past experience is required, a method of stating the birth-rate analogous to that by which corrected death-rates are obtained is necessary. Such a birth-rate should be an accurate measure of the tendency of the community to increase, just as the corrected death-rate forms an accurate statement of its tendency to decrease. In other words, the

corrected birth-rate must be a measure of fertility, which operating upon a population of given constitution as to age, sex and marriage, produces as its result the crude birth-rate.

In this paper we propose, first, to refer briefly to the method already described elsewhere by us[1] which we have adopted for obtaining corrected birth-rates; secondly, to give exact birth-statistics for the different parts of the United Kingdom and for other countries in which all causes of non-comparability of data due to different ages at marriage and to number of wives at child-bearing ages shall have been eliminated; and thirdly, to ascertain by a comparison of recent experience with that of twenty to twenty-two years earlier, the changes in fertility which have occurred, and the extent and distribution of these changes in different countries.

METHOD OF CALCULATING CORRECTED BIRTH-RATE.

Many years ago Dr. Farr stated the legitimate birth-rate in proportion to the number of married women aged 15—45 as comprising nearly all the child-bearing years, and in the annual report of the Registrar-General for 1903 this method is again adopted, and the statement is made that—

"The disturbing factor of changing constitution of the population "is mainly, though not entirely, eliminated by calculating the "proportion of births to the number of women living at child-"bearing ages. This method of measuring the birth-rate shows "the amount of the decrease to be far greater than is shown by "the rates based on the total population."[2]

The above method fails, however, to make allowance for the varying fertility of wives at different ages. The magnitude of these differences is shown by the following table, compiled by Körösi:—[3]

[1] "Journal of Hygiene," vol. v, No. 2, April, 1905.

[2] "Report of Registrar-General of England and Wales for 1903," p. xix.

[3] Derived from Abstract of paper by J. Körösi on "Legitimate Natality" ("Journal of the Royal Statistical Society," vol. lvii, part iv, p. 695).

TABLE A.—*Number of Births per Annum per* 1,000 *Wives at each Age-Period.*

Age of Mother.	Edinburgh and Glasgow, 1855.	Alsace-Lorraine, 1872.	Norway, 1874-76.	Finland, 1880-81.
15—20	500	465	413	379
20—25	418	563	579	406
25—30	346	463	430	357
30—35	266	388	360	322
35—40	204	282	300	261
40—45	80	—	181	158
45—50	13	—	33	27
50—55	—	—	—	—

Age of Mother.	Brunswick, 1880-81.	Denmark, 1880-89.	Berlin, 1887-90.	Buda-Pest, 1889-92.	Sweden, 1891.
15—20	581	715	503	428	518
20—25	454	494	456	358	451
25—30	347	405	336	292	375
30—35	268	312	225	206	312
35—40	198	230	145	147	250
40—45	81	114	60	59	142
45—50	11	13	7	7	20
50—55	—	—	0·2	0·7	—

The general law of decline of fertility with advancing age is clearly shown in each of the above communities.

In the following table the same facts are set out in another manner, which enables the relative fertility at different ages in each community to be more easily appreciated. This table cannot, of course, be employed to compare the fertility in different communities.

TABLE B.—*Relative Fertility-Rates of Married Women, the Fertility-Rate for the Age-Period* 20—25 *being taken as* 100.

[The actual fertility-rate per 1,000 married women aged 20—25 is given in brackets for each community.]

Age of Mother.	Edinburgh and Glasgow.	Alsace-Lorraine.	Norway.	Finland.	Brunswick.
15—20	120	83	71	94	128
20—25	100	100	100	100	100
	(418)	(563)	(579)	(406)	(454)
25—30	83	82	74	88	76
30—35	64	69	62	79	59
35—40	49	50	52	65	44
40—45	19	—	31	39	18
45—50	3	—	6	7	2

TABLE B.—*Relative Fertility-Rates of Married Women—Contd.*

Age of Mother.	Denmark.	Berlin.	Buda-Pest.	Sweden.	Average, exclusive of Berlin and Buda-Pest.
15—20	145	111	120	115	108
20—25	100 (494)	100 (456)	100 (358)	100 (451)	100
25—30	82	74	82	83	81
30—35	63	50	58	69	66
35—40	47	32	41	56	52
40—45	23	13	17	32	27
45—50	3	2	2	4	4

Figures like the above, if available for every community year by year, would give an exact determination of fertility. This is evident from Tables A and B, and a further example is given in Table C, in which, Sweden being taken as a standard, the course of events in New South Wales can be determined.

TABLE C.—*Legitimate Fertility-Rate of New South Wales compared with that of Sweden*, 1891, *the Fertility-Rate at each Age-Period in Sweden being stated as* 100.*

Age of Mother.	Sweden, 1891.		New South Wales. Proportional Figures.			
	Birth-rate per 1 000 Wives at each Age.	Proportional Figures.	1871.	1881.	1891.	1901.
15—20 ...	518	100	87	89	83	97
20—25	451	100	98	102	93	88
25—30	375	100	109	108	95	80
30—35 ...	312	100	108	109	94	73
35—40 ...	250	100	108	110	94	69
40—45	142	100	95	91	83	62

* The figures for New South Wales are calculated from a table given on p. 7 of "Report of Royal Commission on the Decline of the Birth-rate, &c., in "New South Wales," vol. i, 1904.

Such figures are, however, only available in a few communities. In the United Kingdom our birth-returns unfortunately do not comprise a statement of the age of the father and the mother, of the duration of marriage and of preceding births, which are essential to complete birth-statistics. It is unfortunate also, that owing to the amount of work which the larger schedule involved, the Scottish statistics containing this information for the year 1855 were not continued, and that consequently Matthews Duncan's classical researches could not have a wider basis. Incidentally a comparison of the experience of Edinburgh and Glasgow, 1855, with that of

Sweden, 1891 (Table A) shows a lower fertility in Scotland. This difference was probably owing to the imperfection of registration of births in Scotland in the first year in which such registration was carried out, a conclusion confirmed by the fact that as late as 1881 the corrected birth-rate of Scotland was higher than that of Sweden (Tables I and VI, Appendix).

But even were the additional data indicated above available, the method of comparing fertility-rates at ages 20—25, 25—30, &c., illustrated in Table A, would be cumbrous and difficult, and would render a view *toute ensemble* almost impracticable. Furthermore, it would involve an elaborate annual recalculation, instead of the calculation of a factor of correction holding good for an entire inter-censal period. It is necessary, in short, to have corrected birth-rates, correcting not only for differences of age and sex constitution, as the Annual Summaries of the Registrar-General do for death-rates, but also for differences of marital condition.

We have described a method[4] by which these corrections can be made. Standard fertility-rates, those of Sweden in 1891 being adopted in this paper, are applied to the wives of the community whose true birth-rate is to be ascertained, and the births at each age-period 15—20, 20—25, 25—30, 30—35, 35—40, and 40—45, which according to this standard ought to occur, are thus ascertained. Thus, in Berkshire in 1901, according to the Swedish standard, 8,510 births should have occurred in its population of 283,531, and its standard birth-rate is therefore 30·01. The standard[5] birth-rate of England and Wales in 1901, similarly calculated, is **34·91**, and this is employed throughout the present paper as the standard with which other birth-rates are compared. By this means the exact position of England and Wales in relation to fertility can at once be seen, when comparing it with its past experience, with the experience of its constituent parts, with that of the rest of the British Empire, and of other countries. The factor of correction stating the birth-rate of Berkshire in relation to that of England and Wales $= \frac{34{\cdot}91}{30{\cdot}01} = 1{\cdot}1633$. The legitimate birth-rate of Berkshire recorded in the Registrar-General's report for 1903 being 23·04, its corrected birth-rate becomes $23{\cdot}04 \times 1{\cdot}633 = 26{\cdot}80$.

The standard birth-rate takes into account both the ages and the number of the wives, and the resulting factor therefore corrects for both. By calculating and applying such factors of correction to the recorded or crude birth-rates of the communities dealt with, birth-rates exactly comparable with each other are obtained, which give

[4] *Op. cit.* p. 180.

[5] When not otherwise indicated, "birth-rate" throughout this paper signifies legitimate birth-rate.

the true fertility of each population, after all considerations as to the varying number and varying ages of the wives in each population have been eliminated.

The birth-rates obtained as above are given in detail for a large number of communities in Tables I—VI, Appendix. It is evident that these birth-rates will vary with three conditions:—(1) The proportion of women aged 15—45 in the given population; (2) the proportion of these women who are married; and, (3) to a less extent, the ages of these married women. For the present we omit the consideration of the illegitimate birth-rate, as in regard to illegitimacy it is not, in the main, a problem of fertility. Even in countries with the highest illegitimate birth-rate the limits of fertility are very remote, and all that the corrected figures given in columns 5 to 7 of Tables I—VI, Appendix, can do is to ensure that the comparisons of the results of illicit union have been duly corrected for varying proportions of unmarried women of child-bearing ages.

The three last cols. in Tables I—VI, Appendix, give the figures showing the variations of the first two of these causes of differences of fertility. Thus, taking the example of East Ham: this has a standard birth-rate in 1901 of 44·38, while the standard birth-rate of Bournemouth is 27·41, and that of Connaught is 19·43. East Ham's high standard birth-rate is entirely due to the large number of potential mothers who are married. Its proportion of females aged 15—45 is below the average for England and Wales (249·7 per 1,000), but of these 61·9 per cent. are married as compared with 46·8 per cent. for England and Wales as a whole. The resulting proportion of married women per 1,000 of population is 147·2 as against 117·0 for England and Wales. In Connaught, on the other hand, the low standard birth-rate is due in part to the small proportion of women aged 15—45 (214·2 as against 249·7), but still more to the exceedingly low proportion of these who are married (32·6 against 46·8). Bournemouth, in spite of its extremely large proportion of females 15—45 (366·7 per 1,000), has a low standard birth-rate, due to the fact that only 26·1 per cent. of its females aged 15—45 are married. A study of columns 10—12 in Tables I—VI, Appendix, will give other instances of various combinations, but it is unnecessary to state these in detail.

The above-mentioned method of correction does not eliminate any differences of fertility which may be caused by differences in the duration of marriage before the birth of each child. In England we have no data on this point, and no correction for this source of variation can be made. Were it otherwise, the discrepant experience in the communities, *e.g.*, Budapest and New South Wales, for which the information is available, would leave one in doubt as to whether it is justifiable to use any factor of correction on this account.

TABLE D.—*Budapest.* Number of Children Born Annually to* 100 *Wives at each Age-period.*

Age of Wives	15—20.	20—25.	25—30.	30—35.	35—40.	40—45.
Wives in the first year of marriage	20·4	26·7	30·9	32·9	32·7	20·4
All wives	42·8	35·8	29·2	20·6	14·7	5·9

* Körösi, "Philosophical Transactions, Royal Society," vol. 186 (1895), B., p. 808.

TABLE E.—*New South Wales.* Number of Children born annually to* 100 *Wives at each Age during the Ten Years* 1891-1900.

(Intermediate ages are omitted).

Age at Marriage.....	20.	25.	30.	35.	40.	45.
Wives in the first year of marriage	39·7	36·2	25·6	14·4	5·8	—
Wives with previous issue	—	29·0	27·4	23·4	15·5	3·5

* T. A. Coghlan, Essay on the "Decline in the Birth-rate of New South "Wales," p. 33 (1903).

The fertility of the newly-married wives in Budapest is much lower than that of all wives at ages under 25, about equal to that of all wives 25—30, and higher at ages over 30. In New South Wales the fertility of newly-married women is higher than that of women with previous issue up to the age of 27; after which age it is lower, at first slightly lower, but at the age of 35 and upwards considerably lower. The conditions in the two populations are in fact inverted, and it is clear that if the experience of New South Wales were taken as a standard, any proposed correction of birth-rate for duration of marriage would be in the opposite direction to a correction based on the experience of Budapest.[6]

[6] M. Cauderlier has proposed a system of weighting birth statistics according to the duration of marriage. Thus, if the factor of correction for marriages of less than three years' duration be 1, it will be 0·66 in France and 0·8 in other countries for marriages of three to six years' duration, 0·33 in France, and 0·6 in other countries for marriages of six to nine years' duration, and so on. M. Lucien March, from whose paper in the Transactions of the International Congress of Hygiene and Demography at Brussels in 1903 the preceding statement is derived, gives the following coefficients for Austria :—

Duration of Marriage.

Years.....	0—3.	3—6.	6—9.	9—12.	12—15.	15—18.	18—21.
Weight ...	1	0·86	0·72	0·58	0·44	0·30	01·6

If some other standard fertility-rates than those of Sweden had been chosen, would the factors of correction have been materially different from those given in column 2 of Tables I—VI, Appendix? In the paper already quoted we stated,[7] "as the same measure is "applied to all the populations compared, any convenient fertility-"rates may be employed, so long as they correctly represent the "differences in fertility between the various age-periods. Thus "if in any given example the Swedish rates were increased or "decreased in any given proportion, the resulting factor of "correction would be unchanged, so long as the relation between "the different rates remained unaltered." This remark has been tested somewhat elaborately by applying the fertility-rates given in Table A to test populations, as shown in Table F.

It will be seen that most of the corrected birth-rates in Table F, calculated on whatever basis, are remarkably close to each other, although the instances in this table were—excepting Essex, which was taken at random—specially selected, as likely to show the widest divergencies capable of being found, owing to unusual constitution of population both as to age and married condition. Thus Glamorgan was selected because it has the highest proportion of its potential mothers married of any county in Table II, Appendix; Scotland N., because it has the lowest proportion of wives of any of the divisions of Great Britain; Paris, because its birth-rate is not much more than one-third of what it should be on the Swedish basis.

When calculated by applying four sets of fertility-rates, the corrected birth-rates for the county of Essex only differ in the second place of decimals; those of Sydney only between 21·57 and 21·65; of Paris, between 11·87 and 12·04; of Glamorgan, between 30·94 and 30·43. The corrected birth-rate of Scotland N., when calculated by applying eight different sets of fertility-rates, varies between 33·62 and 35·88, but this is a most exceptional and abnormally constituted population. (See Table I, Appendix, columns 10—12.)

The validity of the Swedish fertility-rates has been further tested by means of the figures in the last column in Table B, in which the rates for Berlin or Buda-Pest are not included, on account of their obviously artificial nature. All the other sets of fertility-rates in the table were compared, age by age, with the average, and the divergencies by way of excess or deficiency added together for each set. When this was done the totals were found to be: Sweden 21, Edinburgh and Glasgow 28, Brunswick 51, Denmark 51,

[7] *Op. cit.*, p. 179.

TABLE F.—*Comparison of Fertility-Rates for Wives aged* 15—45 *by the Application of Various Sets of Rates to Certain Populations.*

1 Population.	2 Fertility-Rates forming Basis of Correction.	3 Standard Legitimate Birth-Rate based on the Experience of Wives aged 15—45.	4 Factor of Correction based on 3.	5 Crude Legitimate Birth-Rate.	6 Corrected Legitimate Birth-Rate based on 4.	7 Standard Birth-Rate based on the Experience of Wives aged 15—50.	8 Factor of Correction based on 7.	9 Legitimate Birth-Rate corrected by the Factor 8.
England and Wales, 1901	Sweden, 1891	34·91	1	—	—	35·27	—	—
	Finland, 1880-81	34·62	1	—	—	35·11	—	—
	Norway, 1874-76	41·55	1	—	—	42·15	—	—
	Denmark, 1880-89	35·33	1	—	—	35·57	—	—
	Brunswick, 1880-81	30·35	1	—	—	30·55	—	—
	Edinburgh and Glasgow, 1855	29·84	1	—	—	30·08	—	—
	Berlin, 1887-90	26·99	1	—	—	27·12	—	—
	Budapest, 1889-92	23·91	1	—	—	24·04	—	—
Essex registration county, 1901	Sweden, 1891	36·91	0·9458	29·42	27·83	37·27	0·9463	27·84
	Norway	43·92	0·9460	29·42	27·83	44·51	0·9470	27·86
	Edinburgh and Glasgow	31·55	0·9458	29·42	27·83	31·78	0·9465	27·85
	Budapest	25·26	0·9466	29·42	27·85	25·39	0·9468	27·85
Sydney, 1901	Sweden	36·31	0·9614	22·45	21·58	—	—	—
	Norway	43·08	0·9645	22·45	21·65	—	—	—
	Edinburgh and Glasgow	31·05	0·9610	22·45	21·57	—	—	—
	Budapest	24·87	0·9614	22·45	21·58	—	—	—
Paris, 1901	Sweden	44·26	0·7887	15·19	11·98	—	—	—
	Norway	52·44	0·7923	15·19	12·04	—	—	—
	Edinburgh and Glasgow	38·03	0·7846	15·19	11·92	—	—	—
	Budapest	30·59	0·7816	15·19	11·87	—	—	—
Scotland N., 1901*	Sweden	20·04	1·7420	19·57	34·09	20·37	1·7315	33·89
	Finland	20·15	1·7181	19·57	33·62	20·49	1·7135	33·53
	Norway	23·88	1·7399	19·57	34·65	24·42	1·7260	33·78
	Denmark	19·90	1·7754	19·57	34·74	20·11	1·7688	34·62
	Brunswick	16·94	1·7916	19·57	35·06	17·12	1·7845	34·92
	Edinburgh and Glasgow	16·75	1·7815	19·57	34·86	16·96	1·7736	34·71
	Berlin	14·72	1·8336	19·57	35·88	14·83	1·8287	35·79
	Budapest	13·29	1·7991	19·57	35·21	13·40	1·7910	35·05
Glamorgan, 1901	Sweden	38·78	0·9002	34·31	30·89	39·11	0·9018	30·94
	Norway	46·08	0·9017	34·31	30·94	—	—	—
	Edinburgh and Glasgow	33·46	0·8918	34·31	30·60	—	—	—
	Budapest	26·96	0·8869	34·31	30·43	—	—	—

* For explanation of meaning of Scotland N., see p. 40.

Norway 54, Finland 62, and Alsace-Lorraine (four opportunities of divergence only), 31. This test, though a rough one, points to the Swedish rates being the most suitable of the series for standard purposes.

When comparing the Swedish rates with other rates in Table B, their most striking feature appears to be that the decline in fertility with advancing age is somewhat more gradual than that of most of the others. If this decline were too gradual to represent the normal state of matters, the effect would be to yield an unduly high standard birth-rate, and therefore an unduly low correction factor, in a population, such as that of Scotland N., with a high average age of wives aged 15—45; and, conversely, a low factor in a population, such as Glamorgan, where the wives marry young. These effects may be studied in Table F by comparing the correction factors obtained on the Swedish basis with those obtained on the basis of Edinburgh and Glasgow, where the diminution in fertility with advancing age is seen in Table B to be more rapid. But in this connection it must be noted that Table C shows that in New South Wales in 1871 and 1881, before artificial conditions had appeared in that country, the decline with advancing age was on the whole quite as gradual as in Sweden. The Swedish figures then, in spite of this peculiarity, appear to be perfectly applicable to the British race. Nor are they alone in manifesting this characteristic, which is exhibited to a much greater degree by the rates for Finland (Table B).

Two further points require to be noted in this preliminary consideration of methods. First, as to the non-inclusion of married women over 45. The English census figures for 1881 only gave facts as to marriage for women over 25 in ten-yearly age-groups, 25—35, &c., and in 1901 the same holds good for towns.[8] Hence the number of wives aged 45—50 could not be ascertained. In Table F, column 9, are shown the results obtained by including wives aged 45—50 in the case of Essex and Scotland N. In Essex, the greatest difference produced in the birth-rate is only 0·03; in Scotland N. the greatest difference is only 0·27.

Secondly. As to the method of obtaining the corrected

[8] It follows from the above statement that standard birth-rates were calculated in 1881 from the fertility-rates for 25—35, 25—45, instead of 25—30, 30—35, &c. These were derived from the Swedish rates for quinquennial periods by ascertaining the births yielded by the latter in the population of England and Wales (1901) in the age-periods 25—35 and 35—45, and from these numbers calculating the fertility-rates of the decennial age-periods. They were found to be 343 per 1,000 for 25—35 and 200 per 1,000 for 35—45. The error introduced by this larger grouping is very small. (See "Journal of Hygiene," 1905, p. 181.)

illegitimate birth-rates (column 7, Tables I—VI, Appendix), and thence by addition, the corrected total birth-rates (column 9). The proportion per 1,000 of population of women, not wives, aged 15—45, was ascertained for each community,[9] and the proportion, 132·7 per 1,000 in England and Wales, 1901, was taken as a standard. The crude illegitimate birth-rate per 1,000 of total population in each community was then reduced or increased in accordance with the excess or deficiency of the proportion of women not wives at child-bearing ages. In this case it will be noted that the correction, as in Dr. Farr's method on p. 3, is only for numbers and not also for age; the proportion of the total birth-rate affected is so small that the further correction is an unnecessary refinement.

ILLUSTRATIONS OF NECESSITY FOR CORRECTED METHOD.

We next proceed to consider the changes effected by the application of the above method. Tables I—VI, Appendix, give a comparison for the United Kingdom and different parts of it between the birth-rate in 1881 and that in 1903 (Scotland, 1902), and for other countries as nearly as possible between the same years, a comparison of recent experience with that of twenty-two years earlier being thus secured. There are special reasons for selecting 1881 as the earlier limit of comparison. It is a census year, and it is near the year 1876, in which the highest recorded birth-rate of England and Wales occurred, and the year 1875, in which the registration of birth became compulsory.[10]

It must be remembered that by the method of calculation adopted in this paper, the influence of differences in the proportion of wives and in the ages of these wives has been eliminated, and we are thus enabled to separate between what we may call the *arithmetical* and the *pathological causes* of decline in the birth-rate. France is the best instance of a pathological birth-rate. The term ("natalité "pathologique") is used by Dr. Jacques Bertillon, the head of the Statistical Bureau of the City of Paris. France has rather a larger number of wives aged 15—45 than England and Wales per 1,000 of total population. But its corrected legitimate birth-rate is 29 per cent. lower, and its total corrected birth-rate 24 per cent. lower than that of England and Wales. Ireland, on the other hand, has a low crude birth-rate, which becomes one of the highest in Europe when correction is made for the fact that only 76·5 per 1,000 of

[9] By subtracting in Tables I—VI the figure in column 11 from that in column 10.

[10] Census Report, 1901, p. 48.

population, as compared with 117·0 in England and Wales, are wives at child-bearing age, only 32·5 per cent. of the women aged 15—45 being married, as compared with 46·8 per cent. in England and Wales.

Illustrations of the changes produced by correction may be taken from the different countries represented in Tables IV and VI, Appendix.[11]

Divisions of the United Kingdom.—It will be noted that both in 1881 and 1901 England and Wales had a population constituted so as to favour a higher birth-rate than that of other parts of the United Kingdom, Scotland, and more particularly South Scotland[12] and Scotland S.W. coming next, and Ireland and Scotland W. and Scotland N.W. having a population which necessitates a low birth-rate. The selected urban counties both in 1881 and 1901, and all the urban districts of England and Wales in the aggregate in 1901, had standard birth-rates favouring a high birth-rate, and the selected rural counties and all the rural districts in the aggregate had standard birth-rates favouring a low birth-rate. A study of columns 3 and 4 in Table I, Appendix, shows the importance of the use of factors of correction. Thus in 1881, Scotland N. had the lowest crude birth-rate of all the divisions of the United Kingdom given in the table, the correction removing it to a place next to the highest of all. Again, comparing 1881 with 1902-03, every crude birth-rate shows a decline, the least decline being 1 per cent. in Ulster, and the greatest 14 per cent. in Scotland N. and N.W. The corrected legitimate birth-rates, however, show an increased birth-rate of 7 per cent. in the corrected legitimate birth-rate of Munster, 13 per cent. in that of Connaught, 1 per cent. in those of Ulster and Leinster, and 3 per cent. in that of Ireland.

Counties of England and Wales.—Durham had the highest crude birth-rate among the counties in 1881; it occupied the eleventh place for corrected birth-rate. Worcester occupies the forty-first place instead of the seventeenth. Similarly in 1903, Shropshire is twentieth in order of crude birth-rates, but shares with Durham the second position among the corrected birth-rates. In 1881, fifteen of the forty-one counties had a crude birth-rate higher than that for the whole of England and Wales, while the corrected rates show that thirty of the counties are above the average, and it was the remaining eleven, including Lancashire, Yorkshire, and London, which produced the low average birth-rate. Generally speaking, industrial counties with large populations

[11] All the instances cited in this section relate to legitimate birth-rates.

[12] Refer to footnote to Table I, Appendix, for meaning of these divisions.

correct down, and agricultural counties with small populations correct up (Table II, Appendix, column 2).

Again, when 1903 is compared with 1881, the birth-rate of Monmouth is 2 per cent. lower instead of being 6 per cent. higher, as indicated by the crude birth-rate. In Glamorgan a reduction of 5 per cent. becomes 10 per cent., and so on. In twenty-two counties of England the true exceeds the apparent decline, and in seventeen the apparent exceeds the true; in two the apparent is the true decline.

Towns of the United Kingdom.—In Table III, Appendix, the statistics of three metropolitan boroughs and of thirty-seven other towns are given, which, it is believed, will suffice to indicate all possible variations of conditions. The most remarkable contrast of crude and corrected birth-rates is displayed by Aberdeen in 1881, this city heading the list in corrected birth-rate, while it is thirtieth in crude birth-rate. Bethnal Green's 40·6 is reduced to 34·4, West Ham's 41·4 to 34·1; while at the bottom of the scale Hampstead's 23·6 becomes 29·8, Kensington's 25·3 becomes 27·5, and the low rates of Huddersfield, Halifax, and Bradford are still further lowered. In 1901 Dublin's corrected birth-rate is 34·6 instead of 30·5. Comparing 1903 with 1881, the crude birth-rates show a decline in every town, but the corrected rate of Dublin shows an increase of 9 per cent. The birth-rate of Bethnal Green has declined 8 per cent. instead of 14 per cent., that of Liverpool 4 per cent. instead of 11 per cent., that of Aberdeen 12 per cent. instead of 7 per cent., that of Leicester 26 per cent. instead of 28 per cent., of Derby 27 per cent. instead of 30 per cent. The general result of the corrections is to lower the birth-rates of large towns, except in Scotland and Ireland, where the rates are raised (see column 2 of Table III).

Australasia.—The effect of correction is to bring Victoria in 1881 much nearer to an equality with New South Wales and New Zealand than before. The correction converts a decline in crude birth-rate of 22 per cent. in Victoria into 25 per cent., of 31 per cent. in New Zealand into 18 per cent., of 35 per cent. in New South Wales into 33 per cent. (Table V).

Foreign Countries and Cities.—In 1881 the corrected legitimate birth-rate of Bavaria was 6·69 per 1,000 of population (*i.e.*, 20 per cent.) higher than that of Austria; their crude birth-rates were almost identical; the crude birth-rate of Belgium was 6·1 per 1,000 (*i.e.*, 17 per cent.) lower than that of Italy, while the corrected birth-rate was 4·66 per 1,000 (*i.e.*, 14 per cent.) higher (Table VI).

In 1902 the crude birth-rate of Norway was 2·52 per 1,000 of population (*i.e.*, 9 per cent.) lower than that of Saxony in 1903, while

its corrected birth-rate was 9·02 per 1,000 of population (*i.e.*, 34 per cent.) higher than that of Saxony. The correction for the three foreign cities increases the difference between Paris and the two German cities both in 1881 and in 1901, except the difference between Berlin and Paris in 1881, which is diminished by the correction.

Comparison of Fertility of the Same Communities in 1881 and 1903, and of Different Communities with each other.

So far we have been concerned with describing a correct method of stating fertility, and with a study of the differences in results obtained by the use of this method. A complete review of the facts relating to the communities enumerated in Tables I—VI, Appendix, can now be taken without any disturbing arithmetical considerations. The survey of such an enormous array of facts can be rendered less confusing by expressing the corrected birth-rate of each community in its ratio to that of one community taken as a standard. As the corrections made have been based on the fertility of Sweden in 1891, this has been taken as the standard, and a Figure of Merit is calculated for each community which expresses the relationship of its corrected legitimate birth-rate to the Swedish standard. This may be calculated in two ways, each giving the same result:—

1. The crude legitimate birth-rate of a community is stated as a percentage of its standard birth-rate; or

2. The corrected legitimate birth-rate of a community is stated as a percentage of the standard birth-rate of England and Wales. Thus if the county of Durham is taken as an example:—

Durham, crude birth-rate in 1903	= 34·25
„ standard „	= 38·04
„ corrected „	= 31·43
England and Wales, standard birth-rate in 1901	= 34·91

Then $\frac{3143}{3491} = \frac{3425}{3804} = 0{\cdot}90$.

If the standard = 100, the Figure of Merit for Durham = 90. The Figure of Merit represents the proportion of potentiality to actuality, assuming—which is scarcely open to doubt—that the capacities for child-bearing are as high in the British as in the Swedish population. That this is so is indicated by the fact that the corrected Irish birth-rate is higher in 1903 than that of Sweden in 1891, and that of Scotland was so in 1881, and there is no reason to suppose that the potential birth-rate is higher in Scotland and Ireland than in England. Confirmation of this is furnished by the county figures given in the table on next page. It will

be seen that in 1881 Rutland, Cumberland, Stafford, Cornwall, Westmorland, and Oxfordshire all had corrected legitimate birth-rates above the Swedish standard (compare also Table C).

In the following pages communities will be compared among themselves (1) in 1881 and (2) in 1901-03. Contrast will then be made between 1881 and 1901-03.

It is convenient in the first instance to enumerate all the communities which both in 1881 and in 1901-03 were above the Swedish standard. They are as follows:—

Communities above the Swedish Standard of* 1891 = 100.

	1881.	1901-03.		1881.	1901-03.
Scotland N.W.	117·4	103·8	Cumberland	103·1	—
Bavaria	113·3	101·9	Scotland S.W.	103·0	—
Scotland N.	112·4	—	Munster	102·9	109·9
Belgium	109·0	—	South Scotland	102·6	—
Norway	107·7	102·0	Sweden	101·9	—
North Scotland	107·5	—	Cornwall	101·6	—
South Wales (excluding Glamorgan)	105·1	—	Stafford	101·5	—
			Westmorland	101·2	—
Prussia	104·7	—	Denmark	101·0	—
New South Wales	104·6	—	Saxony	100·4	—
Scotland	104·5	—	Oxfordshire	100·4	—
German Empire	104·4	—	Connaught	—	108·8
Rutland	104·2	—	Ireland	—	101·9

It will be observed that only three countries, and a part of a fourth, remain above the Swedish standard of 1891, as against ten in 1881. Sweden itself has fallen 7 per cent. below its birth-rate in 1881.

1881.

Countries and Divisions of Countries in Order of Figure of Merit, 1881.

Those above the standard are enumerated above.

The following were within 5 *per cent. of the standard*:—*

New Zealand	99·9	North Wales	97·2
Ireland	99·1	Leinster	96·8
Ulster	98·1	Connaught	96·2
Victoria	98·1	Italy	95·7
Selected rural counties of England and Wales	97·7		

The following were 5—10 *per cent. below the standard*:—*

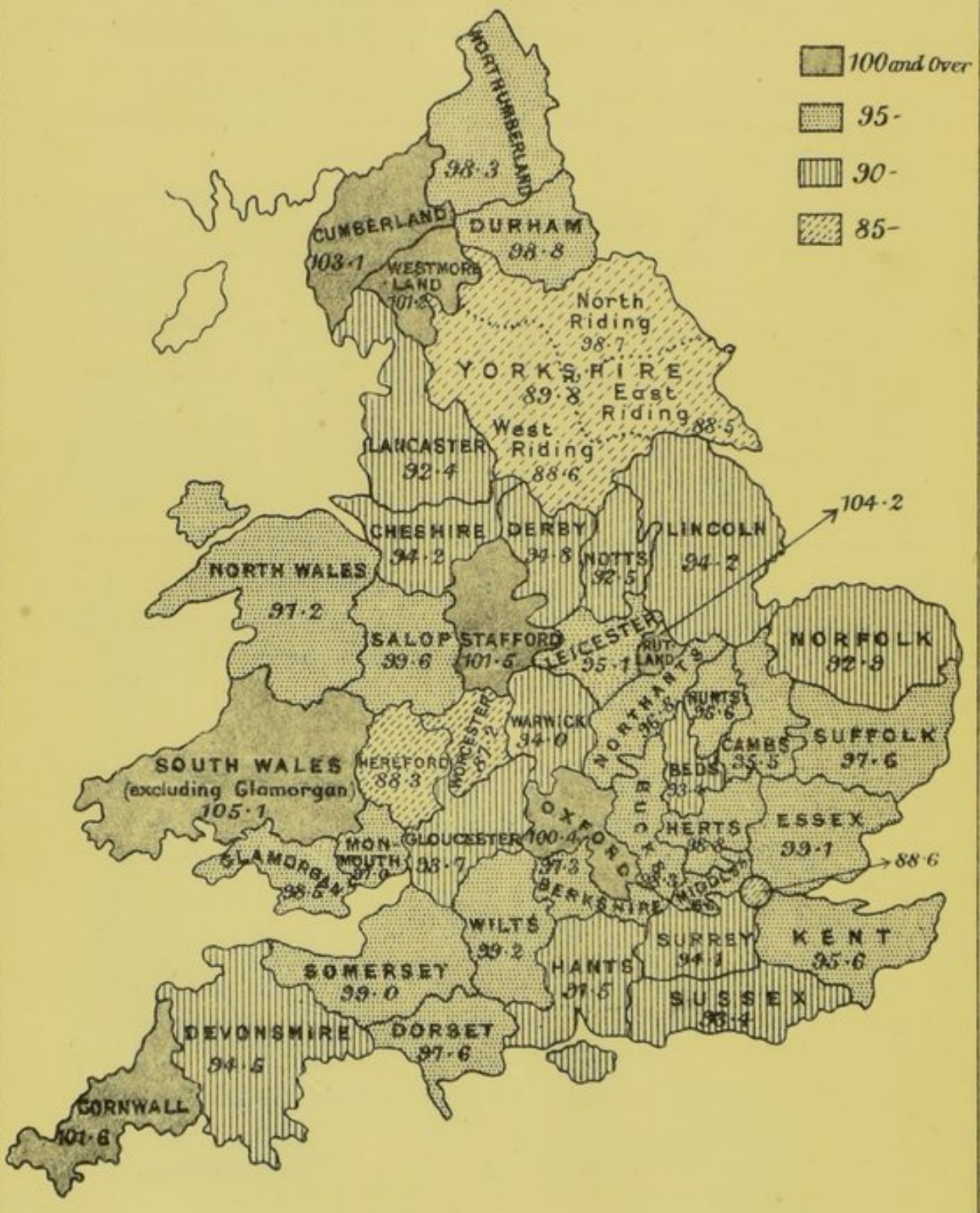
Austria	94·1	Selected urban counties of England and Wales	92·0
England and Wales	93·8		

* For method of obtaining the Figures of Merit given in this and the following tables, see p. 6, &c.

"Figures of Merit."

1881.

(England & Wales = 93·8)



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Then comes a long blank, followed by—

France ..... 65·1

Thus in 1881 every part of Scotland dealt with had a fertility well over the standard. Ireland, as a whole, was near the standard, the greatest difference from it in any part of Ireland being under 4 per cent. France in 1881 was the only country which had produced a great decline of its birth-rate, but England and Wales showed a deficiency of 6·2 per cent. (the distribution of which will be seen later), Austria had a deficiency of 5·9 per cent., and Italy of 4·3 per cent. The English colonies were still up to or near the standard.

Counties in Order of Merit, 1881.

Rutland, Cumberland, Cornwall, Stafford, Westmorland, and Oxfordshire, as already seen, were over the standard. The following were *within* 5 *per cent. of the standard* :—[13]

Shropshire	99·6	Suffolk	97·6
Wiltshire	99·2	Berks	97·3
Essex	99·1	North Wales	97·2
Somerset	99·0	Monmouth	97·0
Durham	98·8	Northamptonshire	96·8
Herts	98·8	Middlesex	96·6
Yorks, North Riding	98·7	Hunts	95·6
Glamorgan	98·5	Kent	95·6
Northumberland	98·3	Cambridgeshire	95·5
Bucks	98·3	Leicestershire	95·1
Dorset	97·6		

The following were 5—10 *per cent. below the standard* :—

Derbyshire	94·8	Bedfordshire	93·4
Devonshire	94·5	Sussex	93·4
Cheshire	94·2	Norfolk	92·9
Lincolnshire	94·2	Nottinghamshire	92·5
Surrey	94·1	Lancashire	92·4
Warwickshire	94·0	Hants	91·5
Gloucestershire	93·7		

The following were *over* 10 *per cent. below the standard* :—

Yorkshire	89·8	Yorks, East Riding	88·5
London	88·6	Herefordshire	88·3
Yorks, West Riding	88·6	Worcestershire	87·2

Thus in at least three counties besides London the birth-rate in 1881 was so much below the standard, as to make one suspect that the deficiency was not a merely physiological variation.

[13] Refer to footnote on p. 16.

Towns in Order of Figure of Merit, 1881.[14]

None of these, either in 1881 or 1903, were above the standard. In 1881 the following were *within* 5 *per cent. below the standard* :—

Aberdeen	98·7	Blackburn	95·7
Bethnal Green	98·5	Glasgow	95·6
West Ham	97·7	Newcastle-on-Tyne	95·6
Belfast	96·4	Dundee	95·1
Preston	95·8		

The following were 5 *to* 10 *per cent. below the standard* :—

Edinburgh	94·3	Bolton	92·3
Northampton	93·8	Cardiff	91·4
Burnley	93·8	Leicester	91·2
Birmingham	93·2	Norwich	90·7
Derby	93·2	Salford	90·7
Bristol	92·7	Dublin	90·5

The following were 10 *to* 15 *per cent. below the standard* :—

Hamburg	89·8	Sheffield	87·8
Liverpool	89·0	Nottingham	87·4
London	88·6	Portsmouth	86·3
Leeds	88·5	Hampstead	85·3
Manchester	88·3	Oldham	85·1

The following were 15 *to* 20 *per cent. below the standard* :—

Halifax	83·4	Huddersfield	81·2
Brighton	83·2	Berlin	81·0
Hull	83·1	Bradford	80·8

Only two urban communities in our list were 20 *per cent. below the standard* :—

Kensington	78·8	Paris	47·1

It is evident that the birth-rate in towns was commonly lower in 1881 than in the countries or counties in which they are situate. It is interesting to inquire how far their birth-rate is intentionally[15] lowered. The case of Dublin is important, as indicating that in a population which is chiefly Roman Catholic, among whom the artificial prevention of pregnancy is banned, there may be a deficiency of 9·5 per cent. below a moderate standard, without, so far as can be surmised, a very considerable use of such measures. That this surmise is correct is confirmed by the fact that in 1903 the corrected birth-rate of Dublin was only 1 per cent. below the

[14] Refer to footnote on p. 16.

[15] It is scarcely necessary to say that the word "intentionally" does not include postponement of marriage, as this and other automatic causes of change in the birth-rate have already been eliminated.

standard. Belfast, on the other hand, in 1881 was 3·6, and in 1903 was 4·8 per cent. below the standard. The experience of Dublin in 1881 is probably exceptional. It may have been caused by special local circumstances. The fact that the birth-rate of Dublin in 1903 was within 1 per cent. of the standard, does not appear to favour the view that urban are normally lower than rural birth-rates.

The last eight in the above list of towns are especially interesting. The social position of these towns vary greatly. Thus Huddersfield, Halifax, and Bradford form one group, Berlin a second, Brighton and Kensington a third, and Paris stands alone. Berlin in 1881 (19 per cent. below the standard) may advantageously be compared with Prussia (4·7 per cent. above it). Some cause was operating in Berlin, and to a less extent in Hamburg, which was not felt in Prusssia as a whole. Edinburgh, 5·7 per cent. below, as compared with Scotland, 4·5 per cent. above the standard, and London, 11·4 per cent. below, as compared with England and Wales, 6·2 per cent. below the standard, show the same phenomenon in a minor degree. The selected rural counties had a birth-rate, 2·3 per cent., and the selected urban counties 8 per cent. below the standard; and, speaking generally, the corrected birth-rate in towns in 1881 was lower than that of countries as a whole, and therefore still less than that of rural districts.

1901-03.

Countries and Divisions of Countries in Order of Figure of Merit, 1901-03.

We have already seen that Norway, Bavaria, and Ireland, and Scotland, N.W., were still over the standard.

The following were *within* 5 *per cent. below the standard*:—

Ulster	98·8	Leinster	97·4
Scotland, N.	97·7		

The following were 5 to 10 *per cent. below the standard*:—

Sweden	94·2	German Empire	91·7
Austria	94·1	North Scotland	91·5
Prussia	93·7	Scotland	90·7
Scotland, S.W.	92·7	South Scotland	90·1
South Wales (excluding Glamorgan)	92·5		

The following were 10 *to* 20 *per cent. below the standard*:—

Italy	89·3	New Zealand	81·5
Denmark	85·8	Selected Rural Counties of England and Wales	80·3
North Wales	84·4		
Belgium	82·9		

The following were over 20 *per cent. below the standard* :—

England and Wales	78·2	Victoria	73·8
Selected Urban Counties	77·9	New South Wales	70·5
Saxony	76·2	France	55·3

The position of Denmark is in marked contrast to that of Norway, or even of Sweden. The contrast of Bavaria with Prussia is considerable, and with Saxony is striking. The facts that the corrected birth-rate of Victoria is 26·2 per cent., of New South Wales is 29·5, and of New Zealand is 18·5 per cent. below the standard; that the corrected birth-rate of England and Wales is 21·8 per cent. below, that of Scotland 9·3 per cent. below, and that of Ireland 1·9 per cent. above the standard, are of imperial importance.

Counties in Order of Figure of Merit, 1903.

None were over the standard, and none within 5 per cent. below it.

Only three were *within* 10 *per cent. below the standard* :—

Monmouth	94·8	Durham	90·0
Shropshire	90·0		

Within 10 *to* 20 *per cent. below the standard* were :—

Cumberland	89·2	Huntingdonshire	82·8
Glamorgan	88·5	Bucks	81·8
North Riding, Yorks	86·7	Nottinghamshire	81·0
Stafford	86·0	Suffolk	81·2
Northumberland	85·7	Derbyshire	80·0
Hereford	84·7		

The following were below the standard :—

20—25 *per cent.* :—

Essex	79·7	Westmorland	77·4
Herts	78·9	Lancashire	77·2
Warwickshire	78·7	Cambridgeshire	77·2
Middlesex	78·5	Norfolk	77·0
Worcestershire	78·5	Somerset	77·0
Oxfordshire	78·4	Berks	76·8
Wiltshire	78·4	East Riding, Yorks	76·8
Cheshire	78·1	Gloucestershire	76·3
Dorset	77·8	Lincolnshire	75·6

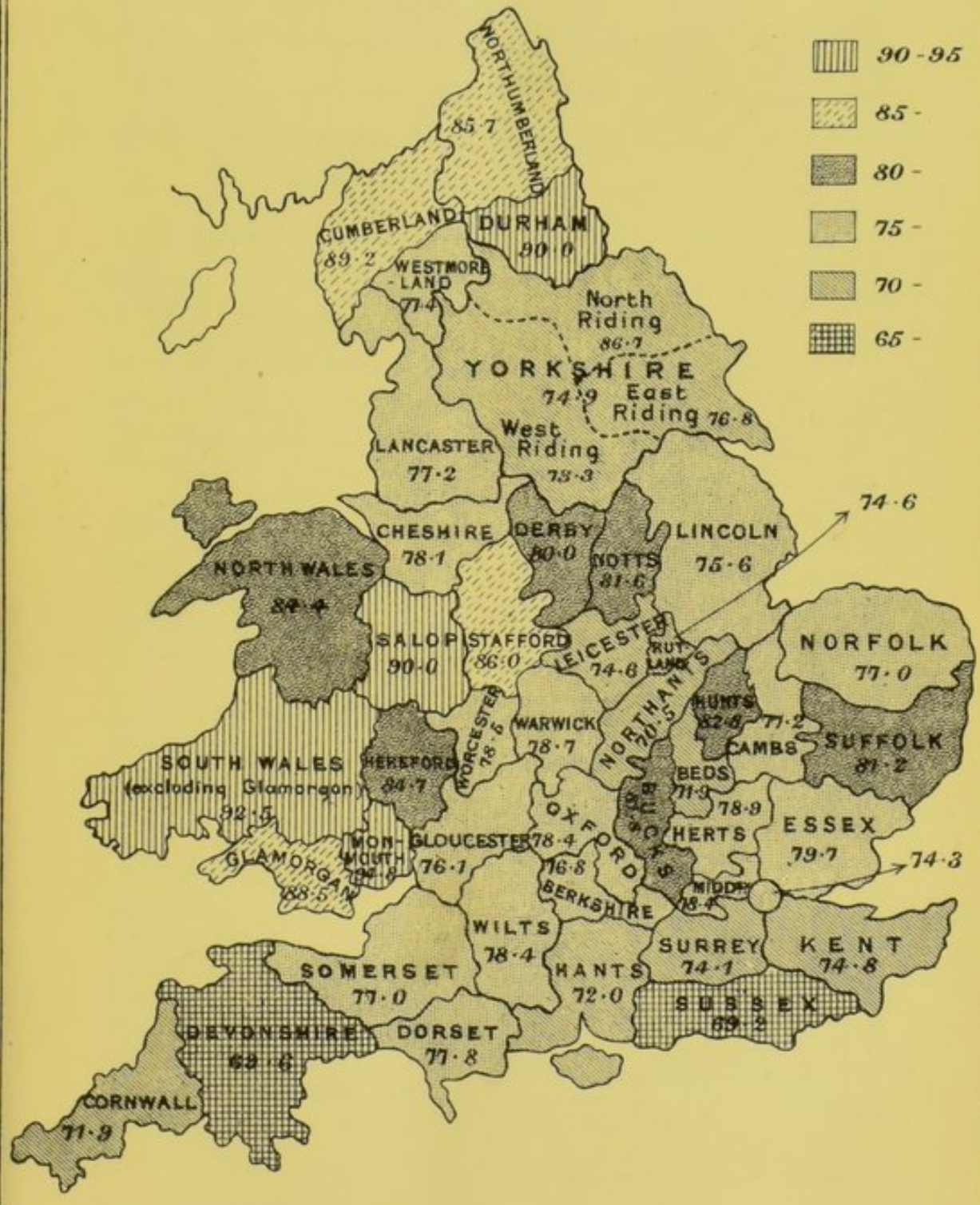
25—30 *per cent.* :—

Yorkshire	74·9	West Riding, Yorks	73·3
Rutlandshire	74·6	Hampshire	72·0
Leicestershire	74·6	Cornwall	71·9
Kent	74·3	Bedfordshire	71·9
London	74·3	Northamptonshire	70·5
Surrey	74·1		

"FIGURES OF MERIT."

1903.

(England & Wales-78·5.)



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Over 30 *per cent.* :—

Devonshire	69·6	Sussex	69·2

The exact state of matters in 1881 and in 1903 is perhaps better displayed in the two maps.

Towns in Order of Figure of Merit, 1903.

None were above the standard.

Within 5 *per cent. below the standard* were :—

Dublin	99·1	Belfast	95·2

Within 5 *to* 10 *per cent. below the standard* was :—

Bethnal Green	90·5

10 *to* 15 *per cent. below standard* :—

Aberdeen	87·0	Liverpool	85·0
Glasgow	86·3		

15 *to* 20 *per cent. below standard* :—

Salford	83·5	Newcastle-on-Tyne	80·8
West Ham	82·3	Preston	80·7
Dundee	81·6	Manchester	80·2

20 *to* 25 *per cent. below standard* :—

Birmingham	79·4	Edinburgh	76·4
Walthamstow	77·7	East Ham	76·4
Sheffield	77·2	Norwich	76·1
Leyton	76·5	Cardiff	75·0

25 *to* 30 *per cent. below standard* :—

Bristol	74·8	Bolton	72·8
Hull	74·4	Leeds	71·5
London	74·2	Nottingham	70·5

30 *to* 40 *per cent. below standard* :—

Portsmouth	69·0	Melbourne	63·8
Derby	68·4	Burnley	63·7
Leicester	67·8	Huddersfield	63·3
Brighton	66·9	Bournemouth	63·0
Blackburn	65·0	Hamburg	62·2
Oldham	64·4	Sydney	61·8
Kensington and Paddington[16]	64·1	Bradford	60·0
Northampton	63·8		

[16] Kensington and Paddington in 1903 are compared with Kensington in 1881, the Kensington of that date corresponding to the two separate boroughs of to-day.

The following were *over* 40 *per cent. below the standard* :—

Halifax	56·3	Berlin	53·2
Hampstead	55·0	Paris	34·3

It has been already noted that in 1881 the town birth-rate was commonly lower than that of the county in which it was contained. In the following table certain counties and the towns in or adjacent to them are compared with each other both in 1881 and 1903. The comparison is not primarily between 1881 and 1903, but between urban and rural communities in each of these years.

Figures of Merit.

	1881.	1903.		1881.	1903.
Lancashire	92·4	77·2	*Norfolk*	92·9	77·0
Preston	95·8	80·7	Norwich	90·7	76·1
Blackburn	95·7	65·0	*Somerset*	99·0	76·8
Burnley	93·8	63·7	Bristol	92·7	74·8
Bolton	92·3	72·8	*Middlesex*	96·6	78·4
Salford	90·7	83·5	*Surrey*	94·1	74·1
Liverpool	89·0	85·0	London	88·6	74·3
Manchester	88·3	80·2	*Derbyshire*	94·8	80·0
Oldham	85·1	64·4	Derby	93·2	68·4
Yorkshire	89·8	74·9	*Nottinghamshire*	92·5	81·6
East Riding	88·5	76·8	Nottingham	87·4	70·5
West Riding	88·6	73·3	*Glamorgan*	98·5	88·5
North Riding	98·7	86·7	Cardiff	91·4	75·0
Leeds	88·5	71·5	*Warwickshire*	94·0	78·7
Sheffield	87·8	77·2	Birmingham	93·2	79·4
Halifax	83·4	56·3			
Hull	83·1	74·4			
Huddersfield	81·2	63·3			
Bradford	80·8	60·0			

It will be noted that among the Lancashire towns, three—Preston, Blackburn, and Burnley—had in 1881 a higher birth-rate than that of Lancashire as a whole, and that in 1903 this was true for Preston, Salford, Liverpool, and Manchester. It has to be remembered that 95 per cent. of the total population of Lancashire is urban. Birmingham in 1903 had a slightly higher birth-rate than Warwickshire. There is no marked difference between Norfolk and Norwich, or between Bristol and Somerset in 1903. On the other hand, the present contrast between the towns of Derby and Nottingham and the corresponding counties is very marked. It is evident, however, that in a large proportion of the counties the causes producing a low birth-rate are operating in other parts of the counties besides their chief towns.

Oldham in 1903, 35·6 below the standard, is in marked contrast to Liverpool, 15 per cent., and Salford, 16·5 per cent. below; so also

is Glasgow, 13·7 per cent. below, to Edinburgh, 23·6 per cent. below the standard. Halifax, 43·7 per cent. below, and Bradford, 40 per cent. below the standard, may be compared with the neighbouring city of Leeds, which is 28·5 per cent. below, and with Hull, which is 25·6 per cent. below the standard. Hampstead, 45 per cent. below, Bournemouth, 37 per cent. below, and Kensington and Paddington, 35·9 per cent. below the standard, bear company with the less aristocratic Halifax, which is 43·7 per cent. below the standard. Paris, 65·7 per cent. below the standard, stands in inglorious solitude. Hamburg, 37·8 per cent. below, and Berlin, 46·8 per cent. below the standard, should be contrasted with the German Empire, 8·3 per cent. below, and Prussia, 6·3 per cent. below the standard. Whatever cause is operating in Germany to produce a low birth-rate is at present confined chiefly to great urban centres. This is in marked contrast to the experience of England and its colonies, in which the reduction of birth-rate is much more widespread.

Contrast of 1881 with 1901-03.

Having compared communities between themselves in 1881 and in 1901-03 respectively, it is now necessary, in order to complete the picture, to ascertain the relative position of each community at the two periods.

Countries and Divisions of Countries, 1881 *and* 1901-03.

An increase of corrected legitimate birth-rate was shown in the following :—

	Per Cent.		Per Cent.
Connaught (96·2)[17]	13	Ulster (98·1).....	1
Munster (102·9)	7	Leinster (96·8)	1
Ireland (99·1)	3		

Ireland and all its divisions alone among all the countries for which figures could be obtained show an increased fertility. Such are the wonders effected by a corrected statement, although the crude legitimate birth-rate of Ireland in 1903 was 22·5, and that of England and Wales 27·3 per 1,000 of population. The low crude birth-rate of Ireland is owing to the fact that a large proportion of the child-bearing population of Ireland has been transferred to America. Those remaining in Ireland who are of child-bearing age are adding to the population at a much higher rate than the corresponding population of England, as shown by the fact that

[17] In this and the following lists the figure representing the Figure of Merit in 1881 is given in brackets, so that in each case it can be seen whether the percentage increase or decline is from a high or low original position.

the corrected legitimate birth-rate of Ireland is 35·6 and that of England and Wales 27·3 per 1,000 of population. They are also adding to the population of Ireland at a higher rate than in 1881.

The only country showing a stationary birth-rate is Austria (94·1).[18] Norway (107·7) shows a decrease of 5 per cent. The other countries may be classified according to percentage decline in corrected birth-rate between 1881 and 1901-03 as follows:—

5—10 *per cent.*:—

	Per Cent.		Per Cent.
Sweden (101·9)[18]	7	Italy (95·7)	7

10—15 *per cent.*:—

	Per Cent.		Per Cent.
Scotland S.W. (103·0).....	10	German Empire (104·4)....	12
Bavaria (113·3)	10	South Wales[19] (105·1).....	12
Prussia (104·7).....	11	Scotland N. (112·4).....	13
South Scotland (102·6)	12	Scotland (104·5)	13
Scotland N.W. (117·4)	12	North Wales (97·2).....	13

15—20 *per cent.*:—

	Per Cent.		Per Cent.
Denmark (101·0)	15	England and Wales (93·8)	17
France (65·1)	15	Selected rural counties of England and Wales (97·7).....	18
North Scotland (107·5)	15	New Zealand (99·9).....	18
Selected urban counties of England and Wales (92·0).....	15		

20—25 *per cent.*:—

	Per Cent.		Per Cent.
Saxony (100·4).....	24	Victoria (98·1).....	25
Belgium (109·0)	24		

Over 25 per cent.:—

	Per Cent.
New South Wales (104·6)....	33

The preceding figures in the main tell their own tale, if the figures in brackets, indicating the relative position from which the decline has occurred, be kept in view. Denmark has evidently travelled much further on the road of declining birth-rate than Sweden, and still further than Norway. In Scotland the decline has been nearly as great as in England, but England's actual position is much lower than that of Scotland. The greatest decline of all is shown by New South Wales; Victoria, Belgium, and Saxony coming next, and then New Zealand.

[18] Refer to footnote on p. 16.

[19] Excluding Glamorganshire.

Counties, 1881 *and* 1903.

None show an increased corrected legitimate birth-rate.

There was a *decrease of less than* 5 *per cent.* in—

	Per Cent.		Per Cent.
Monmouth (97·0)[20]	2	Hereford (88·3)	4

The *decrease was* 5—10 *per cent.* in—

	Per Cent.		Per Cent.
Durham (98·8)	9	Shropshire (99·6)	10
Glamorgan (98·5)	10	Worcestershire (87·2)	10

In the remaining counties the decline between 1881 and 1903 was—

10 *to* 15 *per cent.*:—

	Per Cent.		Per Cent.
Nottinghamshire (92·5)[20]	12	East Riding (88·5)	13
North Riding (98·7)	12	Northumberland (98·3)	13
Huntingdonshire (95·6)	13	Cumberland (103·1)	14

15 *to* 20 *per cent.*:—

	Per Cent.		Per Cent.
Stafford (101·5)	15	Lancashire (92·4)	16
Derby (94·8)	16	Cheshire (94·2)	17
London (88·6)	16	Norfolk (92·9)	17
Warwick (94·0)	16	Suffolk (97·6)	17
Yorkshire (89·8)	16	Cambridgeshire (95·5)	19
Bucks (98·3)	17	Gloucestershire (93·7)	19
West Riding (88.6)	17	Middlesex (96·6)	19

20 *to* 25 *per cent.*:—

	Per Cent.		Per Cent.
Dorset (97·6)	20	Wilts (99·2)	21
Essex (99·1)	20	Kent (95·6)	22
Herts (98·8)	20	Leicester (95·1)	22
Lincolnshire (94·2)	20	Oxfordshire (100·4)	22
Berks (97·3)	21	Somerset (99·0)	22
Hants (91·5)	21	Bedfordshire (93·4)	23
Surrey (94·1)	21	Westmorland (101·2)	23

25 *to* 30 *per cent.*:—

	Per Cent.		Per Cent.
Devonshire (94·5)	26	Rutlandshire (104·2)	28
Sussex (93·4)	26	Cornwall (101·6)	29
Northamptonshire (96·8)	27		

The counties on the Welsh border show the least decline, though it must be noted that Hereford in 1881 was already low. The declines of over 20 per cent. are nearly all on fairly high previous rates. Yorkshire and London have corrected legitimate birth-rates

[20] Refer to footnote on p. 16.

of 26·16 and 25·91, nearly as low as those of Cornwall, 25·11, Rutlandshire, 26·04, and Northamptonshire, 24·60 per 1,000, which show a greater decline of birth-rate.

Towns, 1881 *and* 1903.

One town, Dublin, has improved its position, showing an increase of 9 per. cent. on 1881 (90·5). In two the *decline has been less than* 5 *per cent.*—

	Per Cent.		Per Cent.
Belfast (96·4)	1	Liverpool (89·0)	4

The *decline was* 5 to 10 per cent. in—

	Per Cent.		Per Cent.
Salford (90·7)	8	Manchester (88·3)	9
Bethnal Green (98·5)	8		

In the following the decline was—

10 *to* 15 *per cent.* :—

	Per Cent.		Per Cent.
Glasgow (95·6)	10	Sheffield (87·8)	12
Hull (83·1)	10	Dundee (95·1)	14
Aberdeen (98·7)	12		

15 *to* 20 *per cent.* :—

	Per Cent.		Per Cent.
Birmingham (93·2)	15	Cardiff (91·4)	18
Newcastle-on-Tyne (95·6)	15	Bristol (92·7)	19
London (88·6)	16	Edinburgh (94·3)	19
Norwich (90·7)	16	Kensington (78·8)	19
Preston (95·8)	16	Leeds (88·5)	19
West Ham (97·7)	16	Nottingham (87·4)	19

20 *to* 25 *per cent.* :—

	Per Cent.		Per Cent.
Brighton (83·2)	20	Huddersfield (81·2)	22
Portsmouth (86·3)	20	Oldham (85·1)	24
Bolton (92·3)	21		

25 *per cent. and over* :—

	Per Cent.		Per Cent.
Bradford (80·8)	26	Burnley (93·8)	32
Leicester (91·2)	26	Halifax (83·4)	32
Derby (93·2)	27	Northampton (93·8)	32
Paris (47·1)	27	Berlin (81·0)	34
Hamburg (89·8)	31	Hampstead (85·3)	36
Blackburn (95·7)	32		

The percentages scarcely need detailed comment, as they tell their own story. Dublin alone has improved its position. The other towns showing a decline under 10 per cent. all, with the possible exception of Bethnal Green, have a large proportion of Irish in their populations. Glasgow has reached in 1902 to the level of Portsmouth in 1881, Bethnal Green to the level of Dublin

in 1881, Aberdeen to the level of Nottingham in 1881, Dundee and Newcastle-on-Tyne to the level of Bradford in 1881, Birmingham nearly to the level of Kensington in 1881.

We may broadly say that Paris anticipated by many years the experience of other cities and towns; but that most other towns are pursuing the same course at varying intervals and with lagging or hastening pace. Many towns—for instance, Berlin, Bradford, Brighton, Halifax, Hampstead, Kensington and Oldham—had already arranged in 1881 for a low birth-rate. The majority of towns have now started on the same course.

Illegitimate Birth-rates, 1881 and 1903.

The consideration of corrected illegitimate birth-rates, as a separate problem, is almost outside the purview of this paper, though columns 6 and 7 of Tables I—VI, Appendix, give the necessary data for investigating this subject. Only a brief summary can be given of the most important points. In 1881 Paris (6·81 per 1,000 of population), Saxony (6·40), Austria (6·18), and Bavaria (5·94) had the highest illegitimate birth-rates, while England and Wales (1·92), New Zealand (1·80), and Ireland (0·58) had the lowest. In 1900-03 Austria (5·66), Saxony (5·16), Bavaria (4·78), and Paris (4·67) had the highest illegitimate birth-rates, while New Zealand (1·19), England (1·12), and Ireland (0·49) were lowest on the list.

Confining our attention to English counties, the highest corrected illegitimate birth-rates in 1903 were 1·81 in Shropshire, 1·79 in Norfolk, 1·77 in Cumberland, and 1·69 in Nottinghamshire; the lowest were 0·73 in Surrey, 0·77 in Somerset, 0·81 in Middlesex, and 0·85 in Sussex. It is interesting to note the differences between the decline in the legitimate and illegitimate birth-rates. With scarcely an exception the decline of the illegitimate is more than double that in the legitimate birth-rate, and the difference is commonly much greater than this. Thus in Bedfordshire the decline in the illegitimate birth-rate is 53, in the legitimate birth-rate it is 23 per cent.; in Bucks the corresponding declines are 47·7 and 17 per cent.; in Cambridgeshire, 41·2 and 19·0 per cent.; in Cumberland, 45 and 14 per cent. In Monmouth the legitimate birth-rate has declined 2 per cent., the illegitimate 53·2 per cent.; in Worcestershire the illegitimate birth-rate has declined 46·6 per cent., the legitimate 10 per cent.; in Warwickshire the illegitimate 43·1 and the legitimate birth-rate 16 per cent.

Among towns the highest illegitimate birth-rates in 1881 were 6·81 per 1,000 in Paris, 4·85 in Berlin, and 3·63 in Hamburg. Next to these came Aberdeen, 3·32; Glasgow, 2·95; Dundee, 2·94; Burnley, 2·90; and Sheffield, 2·77; while at the other end of the

scale were Hampstead, 0·41; Dublin, 0·63; Kensington, 0·77 and Bristol, 0·94. In 1903 the same towns headed the list with much lower illegitimate birth-rates than in 1881, and the same remark applies to the towns at the opposite end of the list. Hamburg and Dublin are exceptions to the rule, showing an increase in their illegitimate birth-rate.

It should be remembered that the illegitimate birth-rates are swollen in Bavaria, and possibly in some other foreign countries, by the fact that many religious marriages are not also registered by the civic authorities. Whether the general and much greater decline in illegitimate than in legitimate births indicates a higher code of morals, or the operation of artificial means of preventing conception to an even greater extent than in married life, or both of these, must necessarily be a subject of mere speculation.

It is convenient to give here a comparison of the total corrected birth-rates of the chief countries and capital cities enumerated in Tables I—VI, Appendix.

TOTAL CORRECTED BIRTH-RATES.

In Table G the chief communities are set forth in the order of their total corrected birth-rates in 1880 or 1881 and in 1901-04.

At the earlier period, Germany, Belgium, and Norway headed the list. At the later period the position of Germany as a whole has receded, Ireland now preceding it. England and Wales is next lowest to France at both periods. If the countries be classified according to the percentage decline of total annual birth-rate which has occurred during twenty-two years, New South Wales comes first with a decline of 32 per cent., Victoria next with a decline of 25 per cent., then Belgium with 24 per cent. decline, Saxony 23 per cent., New Zealand 19 per cent., and England and Wales 18 per cent. The smallest declines occurred in Austria—1 per cent., Norway and Sweden 6 per cent. each, and Italy 9 per cent.; Ireland showed an increase of 3 per cent.

Among the cities given in the table, the total birth-rates of London, Berlin, and Dublin were nearly equal in 1881, the birth-rates of Hamburg and Edinburgh being higher than these, and that of Paris very much lower. In 1903 Paris is still lowest, but Berlin is rapidly approximating to it; next come Sydney and Melbourne, then in order Hamburg, London, and Edinburgh. The greatest decline among the cities was 34 per cent. in Berlin; next came Paris with a decline of 28 per cent., followed by Edinburgh with a decline of 20 per cent., and London with a decline of 17 per cent. The earlier corrected birth-rates for Melbourne and Sydney could not be calculated for lack of the necessary data.

TABLE G.

A.			B.			C.	
Communities in Order of Total Corrected Birth-Rate, 1880-81.	Corrected Birth-Rate per 1,000 of Population.		Communities in Order of Total Corrected Birth-Rate, 1901-04.	Corrected Birth-Rate per 1,000 of Population.		Percentage Decline in Corrected Birth-Rate.	
	(*a.*) Total.	(*b.*) Legitimate.		(*a.*) Total.	(*b.*) Legitimate.	(*a.*) In Total Birth-Rate.	(*b.*) In Legitimate Birth-Rate.
						Per Cent.	Per Cent.
Bavaria	45·49	39·55	Bavaria	40·37	35·59	− 11	− 10
Saxony	41·45	35·05	Austria	38·50	32·84	− 1	± 0
Belgium	40·76	38·06	Norway	37·79	35·62	− 6	− 5
German Empire	40·37	36·44	Sweden	36·19	32·90	− 6	− 7
Norway	40·12	37·59	Ireland	36·08	35·59	+ 3	+ 3
Prussia	39·87	36·54	Prussia	35·72	32·72	− 10	− 11
Scotland	39·29	36·47	*Dublin*	35·39	34·58	+ 10	+ 9
Austria	39·04	32·86	German Empire	35·34	32·01	− 12	− 12
Denmark	38·92	35·36	Italy	33·71	31·17	− 9	− 7
New South Wales	38·80	36·53	Scotland	33·38	31·65	− 15	− 13
Sweden	38·49	35·56	Denmark	33·12	29·94	− 15	− 15
Italy	36·89	33·40	Saxony	31·76	26·60	− 23	− 24
New Zealand	36·68	34·88	Belgium	31·01	28·85	− 24	− 24
Victoria	36·02	34·25	New Zealand	29·63	28·44	− 19	− 18
Ireland	35·17	34·59	England and Wales	28·41	27·29	− 18	− 17
Hamburg	34·98	31·35	*Edinburgh*	28·08	26·68	− 20	− 19
Edinburgh	34·97	32·93	Victoria	27·04	25·77	− 25	− 25
England and Wales	34·65	32·73	*London*	26·83	25·93	− 17	− 16
Berlin	33·11	28·26	New South Wales	26·47	24·61	− 32	− 33
Dublin	32·24	31·61	*Hamburg*	25·40	21·70	− 27	− 31
London	32·21	30·92	*Melbourne*	24·07	22·26	....	....
France	25·06	22·73	*Sydney*	23·89	21·58	....	....
Paris	23·27	16·46	*Berlin*	21·89	18·57	− 34	− 34
			France	21·63	19·29	− 14	− 15
			Paris	16·65	11·98	− 28	− 27

CAUSES OF DECLINE OF BIRTH-RATE.

The preceding detailed analysis of corrected birth-statistics makes it practicable to draw certain conclusions on the subject. It must still be remembered that we are dealing with the problem of fertility, in the main that of married life, after arithmetical sources of incomparability have been removed.

It is clear that in the majority of countries for which corrected statistics could be calculated there has been a great decline in the corrected legitimate birth-rate, and an even greater decline in the corrected illegitimate birth-rate. It is unfortunate that data enabling corrected statistics for Russia, the United States,[21] (see also postscript), and for Canada to be calculated could not be obtained. The French Catholic population of Canada are known to have an exceptionally high birth-rate. The decline in the legitimate birth-rate, shown in Table G, might be due either to an increased number of sterile marriages, or to smaller families. French, Danish, Swedish, Australian, and other statistics agree in showing that it is the latter phenomenon with which we are chiefly, if not solely

[21] In only eight States is the number of births known at all accurately, and the accuracy of the census figures has been officially impeached ("12th Census," vol. 3, p. xl, *et seq.* Quoted by A. A. Young, "The Birth-rate in New Hampshire," "Quarterly Publications of the American Statistical Association," September, 1905).

From the same paper the following table is extracted :—

Births per 1,000 *Married Women of Specified Age, Classified by Nativity of Mothers, New Hampshire*, 1900.

	15—20.	20—25.	25—30.	30—35.	35—45.
Birth-rate among—					
Native white married women	308	224	151	100	44
Foreign ,,	378	370	298	232	128

The result of the refusal of maternity of the American women (who it must be remembered include the children of foreign born parents, more than half of whom are of French Canadian parentage) is seen in the following table from the same source :—

Number of Children under 1 *Year of Age per* 1,000 *Married Women Aged* 15—45 *in New Hampshire.*

	Native White Women.	Foreign White Women.
1890.....	100	234
1900.....	108	252

The birth-rate has not declined in New Hampshire since 1890.

concerned.[22] If the decline was due to physical degeneration affecting the reproductive powers, a decrease of fecundity, or, in other words, an increased number of sterile marriages, would be reasonably expected; this has not occurred. This fact at once raises a presumption that the fall in the birth-rate is due to conditions within the control of the people, and is, as sometimes described, a form of social *felo-de-se*.

Urbanisation.—We have already compared urban and rural birth-rates in 1881 and in 1903, and compared 1881 with 1903. That the steady increase of urbanisation of the population in every civilised country is not, *per se*, a cause of lowered birth-rate is, perhaps, sufficiently evident from the instances already given. On any such supposition one cannot explain the relatively high birth-rate of a large number of towns in 1881, and of Dublin and Belfast in 1903. (See Table III, Appendix.) This conclusion is confirmed by a comparison of the selected urban and rural counties of England and Wales in 1881 and in 1903. (For contents of this selection, see footnote to Table I, Appendix.) In 1881 the selected urban counties had a relative corrected legitimate birth-rate (figure of merit) represented by the figure 92·0, the selected rural counties a relative corrected birth-rate represented by the figure 97·7. Here was a material difference. In 1903 the corresponding figures were 77·9 and 80·3. Both now have a much reduced birth-rate, *the decline of the rural being greater than that of the urban birth-rate* (18 per cent. as compared with 15 per cent.).

The four last counties in the following table may be taken as further special examples having chiefly rural populations :—

[22] In New South Wales* the fecund marriages per 1,000 total marriages were :—

At Age.....	15.	20.	25.	30.	35.	40.	45.
In period 1871–80.....	987	972	948	897	801	576	275
,, '91–97.....	978	948	919	852	706	410	92
Percentage decline	0·9	2·5	3·1	5·0	11·9	28·8	66·5

* P. 69, vol. i, "Report of Royal Commission on Decline of Birth-rate, &c., in New South Wales."

The decline in fecundity shown above is extremely small as compared with that in fertility (Table V, Appendix).

	Corrected Legitimate Birth-Rate		Percentage Reduction.
	1881.	1903.	
England and Wales	32·73	27·29	17
London	30·92	25·91	16
Bedfordshire	32·61	25·11	23
Berkshire	33·97	26·80	21
Cornwall	35·46	25·11	29
Rutland	36·39	26·04	28

Summing up the evidence as to rural and urban birth-rates in this country, it may be said that (1) rural birth-rates have declined more than urban birth-rates, and are approximating to the latter; (2) there is no essential reason why the urban should be lower than the rural birth-rates.

The fact that in Germany the reduction of the birth-rate is chiefly shown in its great cities, is an indication not that urbanisation favours a low birth-rate, but that the operative causes of a low birth-rate have not yet affected the rural population of that country to any great extent.

Industrial Conditions.—These are difficult to separate from social conditions, to be considered later, but one or two indications may be mentioned in this connection. In 1881 the agricultural counties showed the highest fertility. In 1903 this difference had largely disappeared. A table, not here reproduced, was prepared showing that both great and small declines in birth-rate have occurred among the counties which have the highest proportion of persons engaged in agriculture. In New Zealand the population is largely agricultural, but it now has a corrected total birth-rate (Table V, Appendix) not much higher than that of England, and its corrected total birth-rate has declined 19 per cent. in the same twenty-two years in which that of England has declined 18 per cent. The excessively low birth-rates of Huddersfield, Halifax, and Bradford do not reasonably lend themselves to the suggestion that employment in the woollen and worsted industries is concerned in producing a low birth-rate; nor do the percentages of women industrially occupied in different counties vary with variations in the birth-rate. The mining counties are however among those having the highest birth-rate.

Race.—According to the figures for 1881, Scotland, Bavaria, Belgium, Norway, Prussia, New South Wales, Sweden, Denmark, Saxony, and New Zealand all had corrected birth-rates over the standard; while urban communities like Paris, Kensington, Bradford, Berlin, Huddersfield, &c., were far below the standard. There is no evidence of differences of race-fertility among these civilised races, whatever may be the case among races for whom exact and

corrected statistics are unattainable. In 1903 we cannot expect to be able to institute comparisons of race, for other causes of variation are evidently in overwhelming operation.

Religion.—In 1881 there was no evidence of any connection between the manner of life involved in any religious persuasion and birth-rate. Bavaria (113·3),[23] Belgium (109·0), and Ireland (99·1), which are chiefly Roman Catholic, may be set against Norway (107·7), Prussia (104·7), and Scotland (104·5).

In 1902-03 it is otherwise. The high fertility of French Catholic Canadians is well known, though exact statistics cannot be given here. Bavaria (101·9) and Ireland (101·9) have still birth-rates over the standard, and are alone in this respect, excepting Norway (102·0). Italy (95·7 in 1881 and 89·3 in 1903) and France (65·1 in 1881 and 55·3 in 1903) are exceptions to the rule, but there is little doubt that in both these countries orthodox religious restraints have greatly diminished. Austria (94·1 in 1881 and 94·1 in 1901) remains stationary, and is the best example of constancy of corrected birth-rate in a Roman Catholic country.

Social Conditions, including Poverty.—The view usually taken is that fertility declines with increased prosperity. It undoubtedly is lower in the higher social strata, and diminishes in many communities with increase of prosperity. It may, however, be considered an open question whether this change is partly physiological or is entirely due to artificial means. In England and in Germany and in other countries the birth-rate has declined with general increase of social comfort. Ireland is the only country on our list in which with some probable increase of general welfare the birth-rate has increased. The instance of Ireland is somewhat complicated, for in 1881 there was a much greater amount of assisted emigration than in 1903, and it is possible that the population withdrawn at the earlier period was more prolific than that left in Ireland. On the other hand, Ireland is a chiefly Roman Catholic country, in which preventive measures against child-bearing are banned, and the birth-rate represents in the main the true fertility of the country; while in Germany and in England the birth-rate is the resultant of two forces, the relative magnitude of which is unknown, viz., natural fertility, and artificial measures against it. It is not unlikely that up to a certain point improvement in prosperity favours fertility, though beyond this it may act, to a limited extent, in the opposite direction. Taking countries as a whole, there cannot be said to be any direct relationship either in 1881 or in 1902-03 between the degree of national prosperity and fertility. Norway and Ireland, both relatively poor countries, have a high fertility,

[23] See footnote on p. 16 for meaning of these Figures of Merit.

but Bavaria and France, which are relatively more prosperous, have one a high and the other a low birth-rate. The fact that in Bradford, Berlin, Huddersfield, Halifax, &c., as well as in Paris as early as 1881, a low birth-rate was already experienced, shows that high industrial and general prosperity may be associated with a low birth-rate. Instances of a similar kind are much more numerous in recent years. The cases of Hampstead, Kensington, and Bournemouth suggest an inverse relationship between fertility and prosperity. The greater decline of fertility in Huddersfield, Halifax, Burnley, Blackburn, and Bradford than in Bethnal Green, Glasgow, Manchester, or Leeds suggests that the skilled artizan class, which probably form a larger proportion of the population of the former towns than of the latter, are adding less to the population than the class of unskilled workers. But such statements must be regarded as rather in the nature of surmise than entirely justified by the facts. The following study of metropolitan statistics gives more exact data for forming a judgment on this question.

FERTILITY OF GROUPS OF LONDON BOROUGHS CLASSIFIED ACCORDING TO SOCIAL POSITION.

In a paper read at the meeting of the International Statistical Institute at St. Petersburg, 1897, Dr. Jacques Bertillon gave the following statistics as to the annual births per 1,000 women aged 15—50 in different quarters of the under-noted cities :—

TABLE H.

Classification.	Paris.	Berlin.	Vienna.	London.
Very poor quarters	108	157	200	147
Poor quarters	95	129	164	140
Comfortable quarters	72	114	155	107
Very comfortable quarters	65	96	153	107
Rich quarters	53	63	107	87
Very rich quarters	34	47	71	63
Average	80	102	153	109

Dr. Bertillon has since kindly supplied to one of us the following statement of the number of legitimate births per 1,000 married women aged 15—50 in Paris and Berlin :—

TABLE I.

Classification.	Paris.	Berlin.
Very poor quarters	143	214
Poor quarters	128	198
Comfortable quarters	109	192
Very comfortable quarters	96	172
Rich quarters	94	145
Very rich quarters	65	121

In the following table we have made a similar calculation for London, substituting the more complete correction described in this paper for the method of correction used in Table I. The metropolitan boroughs have been divided into six groups, which generally resemble Dr. Bertillon's groups. The classification has been based on the average number of domestic servants to every 100 families as displayed by the census returns for 1901.

TABLE J.—*Groups of Metropolitan Boroughs.*

	Number of Domestic Servants per 100 Families.	Corrected Birth-Rate, 1903.			Relative Corrected Birth-Rate, that of London being taken as 100.	
		Legitimate.	Illegitimate.	Total.	Legitimate.	Illegitimate
Group 1 ...	under 10	30·78	0·78	31·56	118·8	85·7
„ 2	10—20	24·81	1·01	25·82	95·8	111·1
„ 3 ...	20—30	24·90	0·73	25·63	96·1	80·2
„ 4 ...	30—40	24·82	0·68	25·50	95·8	74·7
„ 5 ...	40—50	23·62	1·74*	25·36	91·2	191·2
„ 6 ...	over 60	20·04	0·41	20·45	77·3	45·1
Total ...	—	25·91	0·91	26·82	100·0	100·0

* The excessive illegitimate birth-rate in Group 5 was due entirely to the high rate in Marylebone, in which is situate Queen Charlotte's Lying-in Hospital.

Group 1.—Census population, 1901, = 1,154,142, comprises boroughs having 10 female domestic servants per 100 families, viz.: Shoreditch (5·7), Bethnal Green (5·8), Bermondsey (6·6), Southwark (7·8), Poplar (8·1), Finsbury (8·2), and Stepney (8·8).

Group 2.—Census population, 1901, = 1,996,825, comprises boroughs having 10—20 domestic female servants per 100 families, viz.: Battersea (13·1), Woolwich (14·4), Camberwell (15·3), Deptford (15·4), Islington (15·5), St. Pancras (16·9), Hackney (17·9), Lambeth (18·1), Fulham (18·6), Hammersmith (19·3).

Group 3.—Census population, 1901, = 206,422, comprises boroughs having 20—30 female domestic servants per 100 families, viz.: Holborn (22·3), Greenwich (24·5), Stoke Newington (27·8).

Group 4.—Census population, 1901, = 386,452, comprises boroughs having 30—40 female domestic servants per 100 families, viz.: Wandsworth (35·2), Lewisham (36·2), City of London (37·6).

Group 5.—Census population, 1901, = 351,119, comprises boroughs having 40—60 female domestic servants per 100 families, viz.: Paddington (50·2), Marylebone (51·4), Chelsea (55·2).

Group 6.—Census population, 1901, = 441,581, comprises boroughs having over 60 female domestic servants per 100 families, viz.: Westminster (65·8), Kensington (80·0), Hampstead (81·4).

It will be observed that Groups 2, 3, 4, and 5, comprising 64·8 per cent. of the total population of London, had a corrected total birth-rate which only varied between 25·36 and 25·82. The two extreme groups show marked differences, the rich districts at one end of the scale having a corrected total birth-rate of 20·45, and the very poor districts at the other end of the scale a corrected total birth-rate of 31·56 per 1,000 of population. The former of these birth-rates affects 9·7 per cent., the latter 25·4 per cent. of the total population of London.

The above facts suggest the conclusion that among the rich in London the prevention of child-bearing is systematically and largely practised, that among the very poor the practice is probably almost unknown,[24] and that the mass of the population which lies between these two social extremes occupies an intermediate position in regard to such preventive measures.

SOCIAL SUICIDE.

The last sentence anticipates the general conclusion to which an impartial view of the whole field of corrected facts seems to us inevitably to lead.

The decline of birth-rate is not due to increased poverty.

It is associated with a general raising of the standard of comfort, and is an expression of the determination of the people to secure this greater comfort.

It is not caused by greater stress in modern life, but is a consequence of the greater desire for luxury. Possibly the raising of the age for leaving school, and allied changes as to work, have aided in producing the result, by preventing children from being an early source of profit. These and allied motives have made parents look round for the means of keeping their families within "prudent" limits. The gradual slackening of the religious restraints, which were formerly to a much greater extent associated with family life, have doubtless aided in making husbands and wives willing to utilise such preventive means as they have been able to discover. Increased education has helped in securing access to the necessary

[24] The corrected legitimate birth-rate in the poorest group of London populations is 30·78 as against 34·91, the standard legitimate birth-rate for England and Wales. The Figure of Merit is therefore 88. This may be regarded as implying that even in this group there is some voluntary avoidance of child-bearing. On this point comparison may be made with the instance already quoted of Dublin in 1881, the corrected birth-rate of which was 31·61, and the Figure of Merit 90·5. It seems likely that in most instances poverty, and not "prudential" action, was the cause of the relatively low birth-rate as compared with the standard. That it was so in the case of Dublin is indicated by the higher Figure of Merit (99) in 1903.

information, and the greater aggregation of populations in towns has doubtless supplied not only increased facilities for the communication of information on the subject, but also for the purchase of the necessary appliances. Many druggists are stated to make a large share of their income in this way.[25]

A marked impetus in this direction was given in England by notorious trials in 1877. The special experience of towns like Halifax, Huddersfield, and Northampton implies, and is known to be associated with, a special local propagandism. What caused the earlier implication of France in this policy of short-sighted prudential selfishness it would be beyond the scope of this paper to discuss.

The examples already given indicate that the "gospel of "comfort" has been widely adopted, and that it is becoming the practical ethical standard of a rapidly increasing number of civilised communities, both in this country and abroad. Thus Halifax and Bradford began early. The selected rural counties in this country have now approximated to the urban counties. Prussia has not yet overtaken Berlin, but it is following its example. We have no hope that any nation—in the absence of strong and overwhelming moral influences to the contrary—will be permanently left behind in this race to decimate the race. We must look—failing the possibility indicated in the last sentence—for an increasing practice of the artificial prevention of child-bearing, which, whatever may be said for exceptional instances, is at least difficult to justify when used merely as a supposed means towards increased social comfort. And with this we must look for a lower standard of moral outlook, a lowering of the ideal of married life, and a consequent deterioration of the moral, if not also of the physical nature of mankind. France has anticipated the rest of the world, and has thus come near the consummation of its social *felo-de-se*. But it is only a question of decades, in the absence of a great change in the moral standpoint of the majority of the people, before others follow in the same direction, possibly even at the same pace. The outlook is gloomy, and we cannot look with confidence to the help which is likely to come either from preaching or medical teaching.

What is the Bearing of the preceding facts on the Future Welfare of Mankind?—It is by no means certain that children will be better reared because less numerous. Comparisons of infantile mortality are somewhat fallacious. Although it is true that infantile mortality is usually highest in the districts having a very high birth-rate, this is probably due to the fact that such high birth-

[25] See p. 15 of "Report of New South Wales Royal Commission."

rates occur in communities of low social position, and that the facts connoted by social position, and not the high birth-rate, are the cause of the high infantile mortality. With the decreasing birth-rate in England and Wales, there has been no reduction of infantile mortality.[26]

The fact that the birth-rate is much smaller in higher than in lower social strata, has given rise to many Cassandra-like utterances. But there has always been a great difference between the two; and it is notorious that branches of the aristocracy have only been kept alive by engrafting from other social strata. There are unfortunately but few facts bearing on the question whether the reduction of the birth-rate is greater in the higher than in the lower social strata. Between 1881 and 1903 the corrected legitimate birth-rate of London declined 16 per cent., that of England and Wales 17 per cent.,that of Kensington 19 per cent., of Brighton 20 per cent., and of Hampstead 36 per cent., which, if the examples are not exceptional, seems to indicate that the population is now being replenished in a higher proportion than formerly from the lower strata of society. Whether this means that the less fit are now contributing a greater share to the general population than in the past is by no means certain. Very few would venture to assert that the line of intellectual ability or of physical endurance is horizontal and not oblique, or possibly almost perpendicular in relation to social position. It must be remembered that the contribution to the future population is not directly proportional to the birth-rate. When correction is made for this fact, the position of the different social strata is considerably modified. Thus taking the six groups of population in London, which at the census of 1901 numbered 4,536,541, we find that the net addition to the population in Group 1 by excess of corrected birth-rate over death-rate is much less than the births alone would indicate, and is less than in Group 4. Group 6 is exceptional and relatively small. Whether its contribution to the total result is much smaller than in the past must still be a matter of doubt, notwithstanding the instances already quoted; and meanwhile it is satisfactory to find that the contribution to the population furnished by the aggregate of the first four groups, constituting 82·5 per cent. of the total population of London, is not at a much less rate than that furnished by the poorest group of all. It is unfortunate that, owing to changes of boundaries of metropolitan boroughs, &c., the facts for the same groups could not be ascertained for 1881.

[26] In 1879-83 the infantile death-rate in England and Wales averaged 139, in 1899-1903 it averaged 147 per 1,000 births. In London the infantile death-rate in 1879-83 was 150 per 1,000 births, and in 1899-1903 the same.

TABLE K.—*Groups of Metropolitan Boroughs.*

	Crude Total Birth-Rate.	Corrected Total Birth-Rate, 1903.	Crude Death-Rate.	Factor of Correction.	Corrected Death-Rate, 1903.	Corrected Natural Increase, *i.e.*, Excess of Corrected Birth-Rate over Corrected Death-Rate.	Percentage of Total Population of London in each Group.
Group 1	34·97	31·56	18·41	1·0394	19·14	12·42	25·4
,, 2	38·32	25·82	14·43	1·0412	15·07	10·75	44·0
,, 3	25·99	25·63	14·56	1·0557	15·37	10·26	4·6
,, 4	25·88	25·50	12·07	1·0496	12·67	12·83	8·5
,, 5	25·11	25·36	14·82	1·0466	15·51	9·85	7·8
,, 6	18·24	20·45	12·99	1·1213	14·57	5·88	9·7

* This method of presenting the facts gives a statement in each case of what the natural increase in the population of England and Wales would be if the same fertility, marriage and death-rates prevailed in its population as in that of the group in question. The results are consequently comparable, and form the only proper basis for comparing the relative increments added to the population by such groups of districts. It may possibly be urged that marriage being a voluntary transaction, due credit should be given when instituting such a comparison to the group with the higher marriage-rate for the increased number of births resulting from it. But it must be noted that (1) for the female domestics of Kensington and Hampstead as a class marriage is not a matter of choice, and that (2) although in, they are not of the district they inhabit, as they come from poorer districts, whose relative birth-rate would, by their absence, be rendered unduly high if age and sex were corrected for, just as their presence would render that of the richer groups unduly low. In the absence of any means of ascertaining what proportion of the deficiency in the marriage-rate of richer districts (see column 11, Tables I—VI, Appendix) is due to such inevitable avoidance of marriage, and what, if any, to greater voluntary avoidance, the only safe method appears to be to exclude the influence of variations in the marital conditions as well as in the age and sex constitution of the populations compared. This is done in the "corrected natural increase" as stated above.

APPENDIX.

TABLE I.—*Divisions of*

		1 Standard Legitimate Birth-Rate.	2 Factor for Correction of Crude Legitimate Birth-Rate.	3 Crude Legitimate Birth-Rate.	4 Corrected Legitimate Birth-Rate.	5 Factor for Correction of Illegitimate Birth-Rate.
ENGLAND AND WALES	1901	34·91	1	27·29	27·29	1
	1891	33·63	1·0381	30·1	31·25	1·055
	'81	34·34	1·0166	32·2	32·73	1·131
	'71	34·78	1·0037	33·0	33·12	1·142
	'61	34·95	0·9989	32·4	32·36	1·109
Selected urban counties*	1901	36·90	0·9461	28·75	27·20	0·985
	1881	36·79	0·9489	33·83	32·10	1·101
Selected rural counties	1901	29·68	1·1762	23·83	28·03	1·045
	1881	29·36	1·1890	28·67	34·09	1·184
All urban districts†	1901	36·40	0·9591	—	—	0·963
All rural districts	1901	29·98	1·1644	—	—	1·147
SCOTLAND‡§	1901	30·18	1·1567	27·36	31·65	0·944
	1881	29·57	1·1806	30·89	36·47	1·007
North Scotland§	1901	26·83	1·3011	24·54	31·93	0·922
	1881	25·89	1·3484	27·83	37·53	0·971
South Scotland	1901	32·35	1·0791	29·16	31·47	0·961
	1881	32·32	1·0801	33·16	35·82	1·035
Scotland N.	1901	20·04	1·7420	19·57	34·09	0·938
	1881	20·18	1·7299	22·68	39·23	0·924
Scotland N.W.	1901	20·53	1·7004	21·32	36·25	0·913
	1881	21·06	1·6576	24·72	40·98	0·915
Scotland S.W.	1901	33·92	1·0292	31·43	32·35	1·021
	1881	34·05	1·0253	35·06	35·95	1·095
IRELAND	1901	22·05	1·5832	22·48	35·59	0·835
	1881	24·06	1·4510	23·84	34·59	0·938
Leinster	1901	23·15	1·5080	22·55	34·01	0·811
	1881	24·76	1·4099	23·96	33·78	0·890
Ulster	1901	23·80	1·4668	23·51	34·48	0·813
	1881	24·24	1·4402	23·78	34·25	0·863
Munster	1901	19·86	1·7578	21·82	38·36	0·851
	1881	23·00	1·5178	23·67	35·93	1·018
Connaught	1901	19·43	1·7967	21·14	37·98	0·919
	1881	24·22	1·4414	23·31	33·60	1·095

* The special urban counties and rural counties are two groups selected by the industrial centres, and comprising a population in 1903 of 18,039,289, the second 4,314,254. According to the Census Report, the first group comprises 89 per cent. of Many of the urban districts in the second group are doubtless only villages, while in

† The population of all the urban districts of England and Wales in 1901 was

‡ All the recent Scottish birth-rates are for 1902, all others for 1903.

§ Scotland is divided for registration purposes into eight divisions, termed Scotland Scotland, and the three southern South Scotland. The statistics for these two main subdivisions, which have been selected from the eight as likely to show the greatest Caithness, and Sunderland; Scotland N.W. includes Ross and Cromarty and Inverness;

APPENDIX.

United Kingdom.

6 Crude Illegitimate Birth-Rate.	7 Corrected Illegitimate Birth-Rate.	8 Crude Total Birth-Rate	9 Corrected Total Birth-Rate.	10 Number per 1,000 of Total Population of Females Aged 15—45.	11 Number per 1,000 of Total Population of Wives Aged 15—45.	12 Wives Aged 15—45 per Cent. of all Females of same Age.
1·12	1·12	28·41	28·41	249·7	117·0	46·8
1·3	1·37	31·4	32·62	237·6	111·8	47·1
1·7	1·92	33·9	34·65	230·6	113·3	49·1
2·0	2·28	35·0	35·40	230·7	114·5	49·6
2·2	2·44	34·6	34·80	235·3	115·6	49·1
1·11	1·09	29·86	28·29	257·1	122·4	47·6
1·63	1·79	35·46	33·89	240·9	120·4	50·0
1·30	1·36	25·13	29·39	229·8	102·8	44·8
1·87	2·21	30·54	36·30	211·4	99·3	47·0
—	—	—	—	258·9	121·1	46·8
—	—	—	—	218·6	102·9	47·1
1·83	1·73	29·19	33·38	242·1	101·6	42·0
2·80	2·82	33·69	39·29	230·7	98·9	42·9
1·94	1·79	26·48	33·72	236·3	92·3	39·1
2·91	2·83	30·74	40·36	225·2	88·5	39·3
1·76	1·69	30·92	33·16	245·8	107·7	43·8
2·72	2·82	35·88	38·64	234·9	106·7	45·4
1·37	1·29	20·94	35·38	213·7	72·2	33·8
1·81	1·67	24·49	40·90	215·1	71·5	33·2
1·32	1·21	22·64	37·46	220·2	74·9	34·0
1·70	1·56	26·42	42·54	219·7	74·7	34·0
1·69	1·73	33·12	34·08	241·8	111·8	46·2
2·59	2·84	37·65	38·79	232·8	111·6	47·9
0·59	0·49	23·07	36·08	235·4	76·5	32·5
0·62	0·58	24·46	35·17	225·1	83·6	37·1
0·61	0·49	23·16	34·50	243·4	79·7	32·7
0·54	0·48	24·50	34·26	234·7	85·6	36·5
0·82	0·67	24·33	35·15	244·4	81·2	33·2
1·02	0·88	24·80	35·13	237·4	83·7	35·2
0·52	0·44	22·34	38·80	226·2	70·3	31·1
0·43	0·44	24·10	36·37	211·4	81·0	38·3
0·11	0·10	21·25	38·08	214·2	69·8	32·6
0·19	0·21	23·50	33·81	205·5	84·3	41·0

Registrar-General ("Annual Report," 1903, p. xliv), the first including the chief comprising only a few unimportant towns, but with an aggregate population of its total population in urban districts, the second group 42 per cent. in urban districts. the first group are many large as well as smaller towns.
25,058,355, of all the rural districts 7,469,488.

N., Scotland N.W., &c. The three northern and two midland divisions make up North divisions of Scotland are given first in the table, then follow statistics for three of the extremes of birth-rates. Of these Scotland N. includes the counties of Orkney, Shetland, and Scotland S.W. includes Renfrew, Ayr and Lanark.

TABLE II.—*Counties of*

		1 Standard Legitimate Birth-Rate.	2 Factor for Correction of Crude Legitimate Birth-Rate.	3 Crude Legitimate Birth-Rate.	4 Corrected Legitimate Birth-Rate.	5 Factor for Correction of Illegitimate Birth-Rate.
Bedfordshire	1901	30 53	1·1435	21·96	25·11	0·957
	1881	30·89	1·1301	28·86	32·61	1·053
Berkshire	1901	30·01	1·1633	23·04	26·80	1·021
	1881	30·52	1·1438	29·70	33·97	1·222
Buckinghamshire	1901	31·06	1·1240	25·40	28·55	1·135
	1881	30·07	1·1610	29·55	34·31	1·281
Cambridgeshire	1901	30·67	1·1382	23·68	26·95	1·124
	1881	30·30	1·1521	28·95	33 35	1·291
Cheshire	1901	34·00	1·0268	26·56	27·27	0·927
	1881	33·62	1·0384	31·66	32·88	1·078
Cornwall	1901	29·95	1·1656	21·54	25·11	0·972
	1881	26·67	1·3090	27·09	35·46	1·002
Cumberland	1901	30·09	1·1602	26·83	31·13	1·003
	1881	31·36	1·1132	32·33	35·99	1·162
Derbyshire	1901	36·05	0·9684	28·84	27·93	1·123
	1881	35·60	0·9806	33·74	33·09	1·327
Devonshire	1901	31·53	1·1072	21·93	24·28	0·957
	1881	29·63	1·1782	28·00	32·99	1·033
Dorsetshire	1901	29·19	1·1960	22·71	27·16	1·052
	1881	28·67	1·2176	27·99	34·08	1·167
Durham	1901	38·04	0·9177	34·25	31·43	1·238
	1881	38·33	0·9108	37·88	34·50	1·489
Essex	1901	36·91	0·9458	29·42	27·83	1·201
	1881	33·55	1·0405	33·23	34·58	1·377
Gloucestershire	1901	32·58	1·0715	24·81	26·58	0 927
	1881	31 66	1·1027	29·67	32·72	1·022
Hampshire	1901	33·51	1·0418	24·14	25·15	0·976
	1881	32 66	1·0689	29·86	31·94	1·135
Herefordshire	1901	26·31	1·3269	22·29	29·58	1·021
	1881	28·81	1·2117	25·44	30·83	1·191
Hertfordshire	1901	29·70	1·1754	23·44	27·55	1·008
	1881	29·26	1·1931	28·29	34·50	1·194
Huntingdonshire	1901	28·56	1·2223	23·66	28·92	1·187
	1881	28·72	1·2155	27·46	33·38	1·346
Kent	1901	32·96	1·0592	24·49	25 94	1·011
	1881	32·21	1·0838	30·78	33·36	1·173
Lancashire	1901	36·56	0·9549	28·21	26·93	0·951
	1881	37·34	0·9349	34·48	32·24	1·085
Leicestershire	1901	35·84	0·9741	26·73	26·04	1·015
	1881	35·47	0·9842	33·74	33·21	1·211
Lincolnshire	1901	32·77	1·0653	24·76	26·38	1·126
	1881	31·59	1·1051	29·74	32·87	1·323
London	1901	36·95	0·9448	27·42	25·91	0·878
	1881	37·66	0·9270	33·35	30·92	0·957
Middlesex	1901	36·85	0·9474	28·90	27·38	0·926
	1881	33·71	1·0356	32 58	33·74	1·001

England and Wales.

6 Crude Illegitimate Birth-Rate.	7 Corrected Illegitimate Birth-Rate.	8 Crude Total Birth-Rate.	9 Corrected Total Birth-Rate.	10 Number per 1,000 of Total Population of Females Aged 15—45.	11 Number per 1,000 of Total Population of Wives Aged 15—45.	12 Wives Aged 15—45 per Cent. of all Females of same Age.
1·06	1·01	23·02	26·12	244·1	105·5	43·2
2·04	2·15	30·9	34·76	230·4	104·4	45·3
1·13	1·15	24·17	27·95	234·7	104·7	44·6
1·40	1·71	31·1	35·68	211·6	103·0	48·7
1·09	1·24	26·49	29·79	223·6	106·7	47·7
1·85	2·37	31·4	36·68	205·6	102·0	49·6
1·18	1·33	24·86	28·28	223·3	105·2	47·1
1·75	2·26	30·7	35·61	205·1	102·3	49·9
1·10	1·02	27·66	28·29	257·8	114·7	44·5
1·74	1·88	33 4	34·76	234·5	111·4	47·5
1·09	1·06	22·63	26·17	240·4	103·9	43·2
1·91	1·91	29·0	37·37	226·8	94·3	41·6
1·76	1·77	28·59	32·90	234·6	102·3	43·6
2·77	3·22	35·1	39·21	217·6	103·4	47·5
1·15	1·29	29·99	29·22	237·8	119·6	50·3
1·66	2·20	35·4	35·29	215·9	115·9	53·7
0·98	0·94	22·91	25·22	247·3	108·6	43·9
1·40	1·45	29·4	34·44	228·2	99·7	43·7
0·88	0·93	23·59	28·09	227·8	101·6	44·6
1·41	1·65	29·4	35·73	210·9	97·2	46·1
1·23	1·52	35·48	32·95	230·0	122·8	53·4
1·62	2·41	39·5	36·91	211·7	122·6	57·9
0·80	0·96	30·22	28·70	234·2	123·7	52 8
1·17	1·61	34·4	36·19	207·8	111·4	53·6
0·96	0 89	25·77	27·47	253·9	110·7	43·6
1·43	1·46	31·1	34·18	235·7	105·8	44·9
0·97	0·95	25·11	26·10	249·8	113 9	45·6
1·44	1·63	31·3	33·57	225·7	108·8	48 2
1·54	1·57	23·83	31·15	223·3	93·3	41·8
2·06	2·45	27·5	33·28	204·1	92·7	45·4
1·02	1·03	24·46	28·58	234·1	102·5	43·8
2·41	2·88	30·7	37·38	210·4	99·3	47·2
0·96	1·14	24·62	30·06	211·4	99·6	47·1
1·14	1·53	28·6	35·41	196·9	98 3	49·9
1·04	1 05	25·53	26·99	242·1	110·9	45·8
1·42	1·67	32·2	35·03	220·1	107 0	48·6
1·12	1·07	29·33	28·00	261·4	121·8	46 6
1 62	1·76	36·1	34·00	244·6	122·3	50·0
1·07	1·09	27·80	27·13	250·6	119 8	47·8
1·66	2·01	35·4	35·22	225·6	116·0	51·4
1·44	1·62	26·20	28·00	229·0	111·1	48·5
1·76	2·33	31·5	35·20	206·0	105·7	51·3
1·03	0·91	28·45	26·82	273·7	122 6	44·8
1·35	1·29	34·7	32·21	261·7	123·0	47·0
0·88	0·81	29·78	28·19	267·4	124·1	46·4
1·22	1·22	33·8	34·96	244·6	112·0	45·8

TABLE II.—*Counties of*

		1 Standard Legitimate Birth-Rate.	2 Factor for Correction of Crude Legitimate Birth-Rate.	3 Crude Legitimate Birth-Rate.	4 Corrected Legitimate Birth-Rate.	5 Factor for Correction of Illegitimate Birth-Rate.
Monmouthshire	1901	36·21	0·9641	34·32	33·09	1·300
	1881	33·37	1·0461	32·37	33·86	1·428
Norfolk	1901	30·86	1·1312	23·79	26·91	1·106
	1881	31·08	1·1232	28·86	32·42	1·243
Northamptonshire	1901	34·51	1·0116	24·32	24·60	1·146
	1881	33·26	1·0496	32·21	33·81	1·340
Northumberland	1901	36·07	0·9678	30·93	29·93	1·072
	1881	33·69	1·0362	33·13	34·33	1·177
Nottinghamshire	1901	37·22	0·9379	30·35	28·47	1·091
	1881	37·24	0·9374	34·44	32·28	1·246
Oxfordshire	1901	27·66	1·2621	21·68	27·36	0·991
	1881	29·08	1·2005	29·20	35·05	1·191
Rutlandshire	1901	26·09	1·3381	19·46	26·04	1·048
	1881	27·10	1·2882	28·25	36·39	1·214
Shropshire	1901	27·45	1·2718	24·71	31·43	1·075
	1881	27·18	1·2844	27·08	34·78	1·231
Somersetshire	1901	29·40	1·1874	22·63	26·87	0·938
	1881	29·65	1·1774	29·35	34·56	1·083
Staffordshire	1901	36·37	0·9599	31·28	30·03	1·164
	1881	35·62	0·9801	36·14	35·42	1·372
Suffolk	1901	30·01	1·1633	24·37	28·35	1·133
	1881	30·92	1·1290	30·17	34·06	1·305
Surrey	1901	32·18	1·0848	23·85	25·87	0·841
	1881	31·15	1·1207	29·31	32·85	0·929
Sussex	1901	30·21	1·1556	20·90	24·15	0·816
	1881	30·86	1·1312	28·82	32·60	0·982
Warwickshire	1901	37·19	0·9387	29·29	27·49	1·038
	1881	35·65	0·9792	33·53	32·83	1·182
Westmorland	1901	27·08	1·2891	20·96	27·02	0·866
	1881	27·49	1·2699	27·81	35·32	1·042
Wiltshire	1901	30·24	1·1544	23·70	27·36	1·168
	1881	29·43	1·1862	29·20	34·64	1·297
Worcestershire	1901	33·88	1·0304	26·60	27·41	0·940
	1881	35·99	0·9700	31·37	30·43	0·964
Yorkshire	1901	36·64	0·9528	27·46	26·16	1·029
	1881	36·35	0·9604	32·63	31·34	1·195
West Riding	1901	37·31	0·9357	27·35	25·59	1·022
	1881	36·90	0·9461	32·70	30·94	1·176
East Riding (including York)	1901	35·90	0·9724	27·56	26·80	1·077
	1881	36·03	0·9689	31·88	30·89	1·247
North Riding	1901	32·46	1·0755	28·15	30·28	1·043
	1881	33·11	1·0544	32·69	34·47	1·269
South Wales (excluding Glamorgan)	1901	27·56	1·2668	25·49	32·29	0·943
	1881	26·81	1·3021	28·17	36·68	1·014
Glamorgan	1901	38·78	0·9002	34·31	30·89	1·281
	1881	36·51	0·9562	35·96	34·38	1·381
North Wales	1901	29·31	1·1911	24·73	29·46	1·009
	1881	29·01	1·2034	28·19	33·92	1·200

England and Wales—Contd.

6 Crude Illegitimate Birth-Rate.	7 Corrected Illegitimate Birth-Rate.	8 Crude Total Birth-Rate.	9 Corrected Total Birth-Rate.	10 Number per 1,000 of Total Population of Females Aged 15—45.	11 Number per 1,000 of Total Population of Wives Aged 15—45.	12 Wives Aged 15—45 per Cent. of all Females of same Age.
0·84	1·09	35·16	34·18	220·6	118·5	53·7
1·63	2·33	34·0	36·19	202·8	109·9	54·2
1·62	1·79	25·41	28·70	226·4	106·4	47·0
2·34	2·91	31·2	35·33	210·7	103·9	49·3
1·09	1·25	25·41	25·85	232·0	116·2	50·1
1·59	2·13	33·8	35·94	209·4	110·4	52·7
1·22	1·31	32 15	31·24	241·3	117·5	48·7
1·97	2·32	35·1	36·65	223·2	110·5	49·5
1·55	1·69	31·90	30·16	244·6	123·0	50·3
2·36	2·94	36·8	35·22	226·5	120·0	53·0
1·20	1·19	22·88	28·55	231·7	97·8	42·2
1·70	2·02	30·9	37·07	210·1	98·7	47·0
0·93	0·97	20·39	27·01	220·2	93·6	42·5
1·15	1·40	29·4	37·79	202·4	93·1	46·0
1·68	1·81	26·39	33·24	219·2	95·8	43·7
2·42	2·98	29·5	37·76	201·9	94·1	46·6
0·82	0·77	23·45	27·64	243·5	102·0	41·9
1·35	1·46	30·7	36·02	222·8	100·3	45·0
1·29	1·50	32·57	31·53	233·6	119·6	51·2
1·86	2·47	38·0	37·89	213·1	116·4	54·6
1·38	1·56	25·75	29·91	221·0	103·9	47·0
1·93	2·52	32·1	36·58	204·7	103·0	50·3
0·87	0·73	24·72	26·60	268·3	110·5	41·2
1·29	1·20	30·6	34·05	247·6	104·7	42·3
1·04	0·85	21·94	25·00	267·0	104·4	39·1
1·58	1·55	30·4	34·15	238·4	103·2	43·3
0·95	0·99	30·24	28·48	250·7	122·8	49·0
1·47	1·74	35·0	34·57	230·1	117·8	51·2
1·40	1·21	22·36	28·23	249·3	96·0	38·5
2·19	2·28	30·0	37·60	220·3	93·0	42·2
1·01	1·18	24·71	28·54	218·8	105·2	48·1
1·50	1·95	30·7	36·59	201·7	99·4	49·3
1·00	0·94	27·60	28·35	255·2	114·1	44·7
1·83	1·76	33·2	32·19	257·9	120·2	46·6
1·26	1·30	28·72	27·46	250·7	121·8	48·6
1·93	2·31	34·56	33·65	230·2	119·2	51·8
1·21	1·24	28·56	26·83	254·2	124·3	48·9
1·90	2·23	34·6	33·17	233·9	121·1	51·8
1·46	1·57	29·02	28·37	242·1	118·9	49·1
1·92	2·39	33·8	33·28	223·8	117·4	52·5
1·45	1·51	29·60	31·79	235·6	108·4	46·0
2·11	2·68	34·8	37·15	212·8	108·2	50·9
1·28	1·21	26·77	33·50	236·1	95·4	40·4
2·07	2·10	30·24	38·78	222·0	91·1	41·0
0·94	1·20	35·25	32·09	229·0	125·4	54·8
1·39	1·92	37·35	36·30	214·1	118·0	55·1
1·47	1·48	26·20	30·94	232·8	101·3	43·5
1·90	2·28	30·09	36·20	209·4	98·8	47·2

TABLE III.—*Towns of*

		1 Standard Legitimate Birth-Rate.	2 Factor for Correction of Crude Legitimate Birth-Rate.	3 Crude Legitimate Birth-Rate.	4 Corrected Legitimate Birth-Rate.	5 Factor for Correction of Illegitimate Birth-Rate.
Aberdeen	1901	32·29	1·0811	28·10	30·38	0·883
	1881	30·59	1·1412	30·19	34·45	0·936
Belfast	1901	32·81	1·0640	31·22	33·22	0·761
	1881	33·22	1·0509	32·02	33·65	0·756
Bethnal Green	1901	38·76	0·9007	35·08	31·60	1·153
	1881	41·24	0·8465	40·64	34·40	1·403
Birmingham	1901	38·91	0·8972	30·89	27·71	0·987
	1881	38·31	0·9113	35·72	32·55	1·140
Blackburn	1901	36·93	0·9453	24·01	22·70	0·868
	1881	37·46	0·9319	35·85	33·41	0·988
Bolton	1901	35·73	0·9771	26·03	25·43	0·885
	1881	37·19	0·9387	34·32	32·22	1·047
Bournemouth	1901	27·41	1·2736	17·28	22·00	0·489
Bradford	1901	36·88	0·9466	22·13	20·95	0·851
	1881	37·72	0·9255	30·46	28·19	0·959
Brighton	1901	33·82	1·0322	22·61	23·34	0·772
	1881	34·16	1·0220	28·42	29·05	0·790
Bristol	1901	35·53	0·9825	26·57	26·11	0·898
	1881	36·15	0·9657	33·51	32·36	0·951
Burnley	1901	40·25	0·8673	25·66	22·25	0·950
	1881	40·54	0·8611	38·04	32·76	1·129
Cardiff	1901	39·59	0·8818	29·69	26·18	1·104
	1881	40·77	0·8563	36·63	31·90	1·236
Derby	1901	38·28	0·9120	26·19	23·89	1·018
	1881	39·90	0·8749	37·20	32·55	1·267
Dublin	1901	30·76	1·1349	30·47	34·58	0·791
	1881	34·67	1·0069	31·39	31·61	0·875
Dundee	1901	31·41	1·1114	25·63	28·49	0·761
	1881	32·87	1·0621	31·25	33·19	0·792
East Ham	1901	44·38	0·7866	33·90	26·67	1·465
Edinburgh	1901	30·32	1·1514	23·17	26·68	0·727
	1881	31·18	1·1196	29·41	32·93	0·788
Glasgow	1901	34·60	1·0090	29·84	30·11	0·920
	1881	35·96	0·9708	34·39	33·39	1·006
Halifax	1901	35·71	0·9776	20·11	19·66	0·851
	1881	36·15	0·9657	30·13	29·10	0·980
Hampstead	1901	30·07	1·1610	16·54	19·20	0·482
	1881	27·72	1·2594	23·65	29·79	0·500
Huddersfield	1901	35·75	0·9765	22·63	22·10	0·803
	1881	36·10	0·9670	29·32	28·35	0·984
Hull	1901	40·23	0·8678	29·94	25·98	1·152
	1881	42·00	0·8312	34·89	29·00	1·339
Kensington and Paddington	1901	31·79	1·0981	20·37	22·37	0·562
Kensington	1881	32·10	1·0875	25·30	27·51	0·561
Leeds	1901	39·12	0·8924	27·96	24·95	0·994
	1881	39·30	0·8883	34·77	30·89	1·182

* The recent birth-rates of all towns are for

*United Kingdom.**

6	7	8	9	10	11	12
Crude Illegitimate Birth-Rate.	Corrected Illegitimate Birth-Rate.	Crude Total Birth-Rate.	Corrected Total Birth-Rate.	Number per 1,000 of Total Population of		Wives Aged 15—45 per Cent. of all Females of same Age.
				Females Aged 15—45.	Wives Aged 15—45.	
2·40	2·12	30·50	32·50	257 4	107·1	41·6
3·55	3·32	33·74	37·77	244·5	102·7	42·0
0·98	0·75	32·2	33·97	282·0	107·7	38·2
1·38	1·04	33 4	34·69	285·0	109·4	38·4
0·52	0·60	35·60	32·20	240·3	125·2	52·1
0·71	1·00	41·35	35·40	226·4	131·8	58·2
0·91	0·90	31·8	28·61	261·6	127·1	48·6
1·48	1·69	37·2	34·24	241·5	125·1	51·8
1·09	0·95	25·1	23·65	278·2	125·3	45·0
2·05	2·03	37·9	35·44	257·2	122 9	47·8
0·96	0·85	26·99	26·28	270·9	121·0	44·7
1·58	1·65	35·9	33·87	249·6	122·9	49·2
0·52	0·25	17·8	22·25	366·7	95·5	26·1
1·17	1·00	23·3	21·95	281·0	125·0	44·5
2·54	2·44	33·0	30·63	263·1	124·7	47·4
1·69	1·30	24·3	24·64	286·6	114 6	40·0
2·18	1·72	30 6	30·77	280·3	112·4	40 1
0·77	0·69	27·34	26·80	266·2	118·5	44·5
0·99	0·94	34·5	33·30	258·1	118·5	45·9
1·54	1·46	27·2	23·71	273·6	133·9	48 9
2·57	2·90	40·62	35·66	247·6	130·1	52·6
0·87	0·96	30·56	27·14	251·5	131·3	52·2
0·97	1·20	37·6	33·10	236·0	128·6	54·5
1·01	1·03	27·2	24·92	257·7	127·3	49·4
1·48	1·88	38·68	34·43	233·2	128·5	55·1
1·03	0·81	31·5	35·39	269·8	102·0	37·8
0·72	0·63	32·11	32·24	265·1	113·5	42·8
2·37	1·80	28·00	30·29	280·8	106 4	37·9
3·71	2·94	34·96	36·13	278·0	110·4	39·7
0·53	0·78	34·43	27·45	237·8	147·2	61·9
1·92	1·40	35·09	28·08	285·2	102·7	36 0
2·60	2·04	32·01	34·97	272·2	103·7	38·1
2·04	1·88	31·88	31·99	258·4	114·2	44·2
2·93	2·95	37·32	36·34	249·3	117·4	47·1
0·99	0·84	21·1	20·50	277·9	122·0	43·9
1·53	1·50	31·66	30·60	256·4	121·0	47·2
0·55	0·27	17·09	19·47	378·8	103·4	27·3
0·81	0·41	24·46	30·20	358·9	93·7	26·1
1·18	0·95	23·81	23·05	289·0	123·7	42·8
1·98	1·95	31·30	30 36	255·1	120·0	47·1
1·36	1·57	31·3	27·55	246·2	131·0	53·2
1·51	2·02	36·4	31·02	233·8	134·7	57·6
0·92	0·52	21·29	22·89	343 5	107·5	31·3
1·37	0·77	26·67	28·28	343·9	107·3	31·2
1·44	1·43	29·4	26·38	263·3	129·8	49·3
2·03	2·40	36·8	33·29	240·4	128·1	53·3

*903, except the Scottish, which are for 1902.

TABLE III.—*Towns of*

		1 Standard Legitimate Birth-Rate.	2 Factor for Correction of Crude Legitimate Birth-Rate.	3 Crude Legitimate Birth-Rate.	4 Corrected Legitimate Birth-Rate.	5 Factor for Correction of Illegitimate Birth-Rate.
Leicester	1901	38·78	0 9002	26·29	23·67	0 923
	1881	40·14	0·8697	36·61	31·84	1·066
Leyton	1901	38·09	0·9165	29·13	26·70	1·086
Liverpool	1901	37·02	0·9206	32·25	29·69	0·989
	1881	40·93	0·8529	36·44	31·08	1·200
London	1901	36·91	0·9458	27·42	25·93	0·878
	1881	37·66	0·9270	33·35	30·92	0·957
Manchester	1901	38·47	0·9075	30·87	28·01	0·974
	1881	39·50	0·8838	34·88	30·83	1·038
Newcastle	1901	37·04	0·9425	29·94	28·22	0·998
	1881	36·56	0·9549	34·96	33·38	1·113
Northampton	1901	36·55	0·9551	23·31	22·26	1·020
	1881	38·08	0·9168	35·73	32·76	1·166
Norwich	1901	34·89	1·0006	26·54	26·56	0·935
	1881	34·68	1·0066	31·45	31·66	1·018
Nottingham	1901	37·74	0·9250	26·62	24·62	0·897
	1881	40·67	0·8584	35·55	30·52	1·010
Oldham	1901	37·93	0·9204	24·43	22·49	0·938
	1881	39·88	0·8754	33·95	29·72	1 107
Portsmouth	1901	39·00	0·8951	26·91	24·09	1·038
	1881	38·50	0·9068	33·23	30·13	1·159
Preston	1901	35·44	0·9850	28·60	28·17	0·869
	1881	35·57	0·9814	34·09	33·46	0·927
Salford	1901	38·47	0·9334	31·24	29·16	0·990
	1881	40·87	0·8542	37·06	31·66	1·142
Sheffield	1901	41·17	0·8479	31·80	26·96	1·156
	1881	40·93	0·8529	35·92	30·64	1·331
Walthamstow	1901	41·93	0·8326	32·58	27·13	1·371
West Ham	1901	40·30	0·8663	33·15	28·72	1·296
	1881	42·35	0·8243	41·35	34·09	1 655

TABLE IV.—*London and Sample*

	1 Standard Legitimate Birth-Rate.	2 Factor for Correction of Crude Legitimate Birth-Rate.	3 Crude Legitimate Birth-Rate.	4 Corrected Legitimate Birth-Rate.	5 Factor for Correction of Illegitimate Birth-Rate.
Group 1	38·92	0·8970	34·31	30·78	1·176
„ 2	38·38	0·9096	27·28	24·81	0·975
„ 3	35·24	0·9906	25·14	24·90	0·854
„ 4	35·12	0·9940	24·97	24·82	0·752
„ 5	33·02	1·0572	22·34	23·62	0·628
„ 6	30·43	1·1472	17·47	20·04	0·537
Total	36·91	0·9458	27·42	25·93	0·878

United Kingdom—Contd.

6 Crude Illegitimate Birth-Rate.	7 Corrected Illegitimate Birth-Rate.	8 Crude Total Birth-Rate.	9 Corrected Total Birth-Rate.	10 Number per 1,000 of Total Population of Females Aged 15—45.	11 Number per 1,000 of Total Population of Wives Aged 15—45.	12 Wives Aged 15—45 per Cent. of all Females of same Age.
1·03	0·95	27·32	24·62	272·7	129·0	47·3
1·79	1·91	38·4	33·75	253·5	129·0	50·9
1·43	1·55	30·56	28·25	251·0	128·8	51·3
1·15	1·14	33·4	30·83	258·5	124·3	48·1
1·16	1·39	37·6	32·47	243·6	133·0	54·6
1·03	0·90	28·45	26·83	273·7	122·6	44·8
1·35	1·29	34·7	32·21	261·7	123·0	47·0
1·23	1·20	32·1	29·21	263·2	126·9	48·2
2·02	2·10	36·9	32·93	255·8	127·9	50·0
1·16	1·16	31·1	29·38	253·7	120·8	47·6
1·84	2·05	36·8	35·43	238·4	119·2	50·0
1·09	1·11	24·4	23·37	252·7	122·6	48·5
1·57	1·83	37·30	34·59	237·5	123·7	52·1
1·42	1·33	27·96	27·89	259·4	117·5	45·3
2·15	2·19	33·6	33·85	243·7	113·3	46·5
1·62	1·45	28·24	26·07	274·0	126·0	46·0
1·15	1·16	36·7	31·68	261·7	130·3	49·8
1·20	1·13	25·63	23·62	269·6	128·1	47·5
1·45	1·61	35·4	31·33	249·9	130·0	52·0
1·03	1·07	27·94	25·16	256·7	128·9	50·2
1·17	1·36	34·4	31·49	239·6	125·1	52·2
1·80	1·56	30·4	29·73	272·0	119·3	43·8
2·21	2·05	36·3	35·51	261·1	117·9	45·1
1·06	1·05	32·3	30·21	260·8	126·7	48·6
1·74	1·99	38·8	33·65	249·3	133·1	53·4
1·40	1·62	33·2	28·58	247·9	133·1	53·7
2·08	2·77	38·0	33·41	231·3	131·6	56·9
0·42	0·58	33·0	27·71	236·2	139·4	59·0
0·53	0·69	33·68	29·41	234·9	132·5	56·4
0·67	1·12	42·02	35·21	217·8	137·6	63·2

Groups of Boroughs.

6 Crude Illegitimate Birth-Rate.	7 Corrected Illegitimate Birth-Rate.	8 Crude Total Birth-Rate.	9 Corrected Total Birth-Rate.	10 Number per 1,000 of Total Population of Females Aged 15—45.	11 Number per 1,000 of Total Population of Wives Aged 15—45.	12 Wives Aged 15—45 per Cent. of all Females of same Age.
0·66	0·78	34·97	31·56	239·6	126·8	52·9
1·04	1·01	28·32	25·82	263·6	127·5	48·3
0·85	0·73	25·99	25·63	272·8	117·5	43·1
0·91	0·68	25·88	25·50	295·7	119·2	40·3
2·77	1·74	25·11	25·36	322·4	111·2	34·5
0·77	0·41	18·24	20·45	350·8	103·7	29·6
1·03	0·90	28·45	26·83	273·7	122·6	44·8

TABLE V.—

		1 Standard Legitimate Birth-Rate.	2 Factor for Correction of Crude Legitimate Birth-Rate.	3 Crude Legitimate Birth-Rate.	4 Corrected Legitimate Birth-Rate.	5 Factor for Correction of Illegitimate Birth-Rate.
New South Wales	1901	33·45	1·0436	23·58	24·61	1·095
	1881	34·77	1·0040	36·38	36·53	1·400
New Zealand	1901	31·18	1·1196	25·40	28·44	0·982
	1881	36·90	0·9461	36·87	34·88	1·663
Victoria.....	1901	31·30	1·1153	23·11	25·77	0·943
	1881	30·22	1·1552	29·65	34·25	1·112
Melbourne and suburbs	1901	34·32	1·0172	21·88	22·26	0·881
Sydney and suburbs	1901	36·31	0·9614	22·45	21·58	0·925

* All the recent Australasian

TABLE VI.—*Foreign*

		1 Standard Legitimate Birth-Rate.	2 Factor for Correction of Crude Legitimate Birth-Rate.	3 Crude Legitimate Birth-Rate.	4 Corrected Legitimate Birth-Rate.	5 Factor for Correction of Illegitimate Birth Rate.
Austria*	1900	33·70	1·0359	31·70	32·84	1·163
	1880	34·30	1·0178	32·29	32·86	1·142
Bavaria†	1900	30·30	1·1521	30·89	35·59	1·084
	1880	29·18	1·1964	33·06	39·55	1·156
Belgium‡	1900	32·21	1·0838	26·62	28·85	1·093
	1880	26·70	1·3075	29·11	38·06	1·090
Denmark†	1901	30·05	1·1617	25·77	29·94	1·104
	1880	28·69	1·2168	29·06	35·36	1·112
France‡	1896	35·84	0·9741	19·8	19·29	1·233
	1881	35·38	0·9867	23·04	22·73	1·252
German Empire†	1900	33·88	1·0304	31·07	32·01	1·182
	1880	32·25	1·0825	33·66	36·44	1·172
Italy‡	1901	35·16	0·9929	31·39	31·17	1·339
	1881	36·80	0·9486	35·21	33·40	1·252
Norway‡	1901	26·51	1·3169	27·05	35·62	1·044
	1875	25·80	1·3531	27·78	37·59	1·008
Prussia†	1900	34·14	1·0226	32·00	32·72	1·201
	1880	32·62	1·0702	34·14	36·54	1·170
Saxony†	1900	38·80	0·8997	29·57	26·60	1·219
	1880	36·23	0·9636	36·37	35·05	1·201
Sweden‡	1900	24·80	1·4077	23·37	32·90	1·051
	1880	25·71	1·3578	26·19	35·56	1·008
Berlin†	1900	39·40	0·8860	20·96	18·57	0·876
	1880	40·24	0·8675	32·58	28·26	0·878
Hamburg§	1900	37·55	0·9297	23 34	21·70	1·039
	1880	37·60	0·9285	33·76	31 35	1·011
Paris‡	1901	44·26	0·7887	15·19	11·98	0·866
	1881	42·80	0·8157	20·18	16·46	0·924

* Recent birth-rates are for 1901. † Recent birth-rates are for 1903.

*Australasia.**

6 Crude Illegitimate Birth-Rate.	7 Corrected Illegitimate Birth-Rate.	8 Crude Total Birth-Rate.	9 Corrected Total Birth-Rate.	10 Number per 1,000 of Total Population of Females Aged 15—45.	11 Number per 1,000 of Total Population of Wives Aged 15—45.	12 Wives Aged 15—45 per Cent. of all Females of same Age.
1·70	1·86	25·28	26·47	231·5	110·3	47·6
1·62	2·27	38·00	38·80	203·8	109·0	53·5
1·21	1·19	26·61	29·63	238·2	103·1	43·3
1·08	1·80	37·95	36·68	198·3	118·5	59·8
1·35	1·27	24·46	27·04	248·2	107·5	43·3
1·59	1·77	31·24	36·02	219·0	99·7	45·5
2·05	1·81	23·93	24·07	278·5	117·8	42·3
2·50	2·31	24·95	23·89	264·6	121·2	45·8

birth-rates, 1903.

Countries and Cities.

6 Crude Illegitimate Birth-Rate.	7 Corrected Illegitimate Birth-Rate.	8 Crude Total Birth-Rate.	9 Corrected Total Birth-Rate.	10 Number per 1,000 of Total Population of Females Aged 15—45.	11 Number per 1,000 of Total Population of Wives Aged 15—45.	12 Wives Aged 15—45 per Cent. of all Females of same Age.
4·87	5·66	36·6	38·50	226·3	112·2	49·6
5·41	6·18	37·7	39·04	231·4	115·2	49·8
4·41	4·78	35·3	40·37	226·3	103·9	45·9
5·14	5·94	38·2	45·49	217·8	103·0	47·3
1·98	2·16	28·6	31·01	229·6	108·2	47·1
2·48	2·70	31·59	40·76	214·7	93·0	43·3
2·88	3·18	28·65	33·12	223·8	103·6	46·3
3·20	3·56	32·26	38·92	219·8	100·5	45·7
1·90	2·34	21·7	21·63	226·8	119·2	52·5
1·86	2·33	24·9	25·06	223·3	117·3	52·5
2·82	3·33	33·9	35·34	226·5	114·2	50·4
3·35	3·93	37·0	40·37	223·9	110·7	49·5
1·90	2·54	33·29	33·71	214·6	115·5	53·8
2·79	3·49	38·0	36·89	227·7	121·7	53·4
2·08	2·17	29·13	37·79	218·1	91·0	41·7
2·51	2·53	30·29	40·12	221·1	89·4	40·4
2·50	3·00	34·5	35·72	225·4	114·9	51·0
2·85	3·33	36·98	39·87	224·7	111·3	49·5
4·23	5·16	33·8	31·76	237·7	128·8	54·2
5·33	6·40	41·7	41·45	231·8	121·3	52·3
3·13	3·29	26·5	36·19	214·7	88·4	41·1
2·91	2·93	29·1	38·49	222·7	91·1	40·9
3·79	3·32	24·75	21·89	284·0	132·5	46·6
5·52	4·85	38·1	33·11	285·3	134·2	47·0
3·56	3·70	26·90	25·40	254·0	126·3	49·7
3·59	3·63	37·35	34·98	256·9	125·6	48·9
5·39	4·67	20·58	16·65	298·6	145·4	48·7
7·37	6·81	27·55	23·27	280·8	137·2	48·9

‡ Recent birth-rates are for 1902. § Recent birth-rates are for 1904.

TABLE VII.—*Certain*

		1 Standard Legitimate Birth-Rate	2 Factor for Correction of Crude Legitimate Birth-Rate.	3 Crude Legitimate Birth-Rate.	4 Corrected Legitimate Birth-Rate.	5 Factor for Correction of Illegitimate Birth-Rate.
Boston	1900	39·04	0·8942	—	—	—
Rhode Island	1900	38·62	0·9039	25·55	23·09	1·002
	1875	41·87	0·8338	23·94	19·96	1·037
Providence	1900	39·34	0·8874	25·49	22·62	0·911
	1875	43·86	0·7959	—	—	—
Boston—						
Native born	1900	28·42	1·2284	14·82*	18·20	—
Foreign ,,	1900	58·96	0·5921	52·46*	31·06	—
Rhode Island—						
Native born	1900	30·88	1·1305	—	—	—
Foreign ,,	1900	55·67	0·6271	—	—	—
Providence—						
Native born	1900	31·01	1·1258	14·24*†	16·00	—
Foreign ,,	1900	57·36	0·6086	51·06*†	31·08	—
Native ,,	1875	37·24	0·9374	—	—	—
Foreign ,,	1875	61·74	0·5654	—	—	—

Note.—All birth-rates are for 1900 and 1875 except where otherwise stated.

* Births of known parentage.

† Births in 1901.

Postscript on American Results (3rd January, 1906).

Few States record their birth-rates accurately. Those doing so belong chiefly if not entirely to the New England group, and it is to the State of Rhode Island and the cities of Boston and Providence, in this group that our attention has been directed.

We have been able to compare 1875 with 1900 in the case of Rhode Island and its capital, Providence. The corrected birth-rates for the former are—

Legitimate..... 19·96 in 1875, and 23·09 in 1900
Total ..... 20·21 ,, 23·46 ,,

and for the latter—

Legitimate..... ? in 1875, and 22·62 in 1900
Total ..... 21·06 ,, 23·05 ,,

Thus while these American rates are exceedingly low, they differ from the great mass of other birth-rates examined by us in showing a tendency to increase. This tendency can also be seen in the official crude rates. To what extent it may be due to increasing efficiency of registration we are not in a position to judge.

American States and Cities.

6	7	8	9	10	11	12
Crude Illegitimate Birth-Rate.	Corrected Illegitimate Birth-Rate.	Crude Total Birth-Rate.	Corrected Total Birth-Rate.	Number per 1,000 of Total Population of		Wives Aged 15—45 per Cent. of all Females of same Age.
				Females Aged 15—45.	Wives Aged 15—45.	
—	—	29·15	26·07	277·2	128·8	46·4
0·35	0·35	25·90	23·46	259·6	137·2	49·0
0·24	0·25	24·18	20·21	261·7	133·7	51·1
0·47	0·43	25·96	23·05	275·3	129·7	47·1
—	—	26·46	21·06	278·3	140·4	50·5
—	—	—	—	239·0	92·6	38·8
—	—	—	—	351·2	196·6	56·0
—	—	15·09†	17·01	232·8	100·6	43·2
—	—	49·37†	30·96	318·8	185·6	58·2
—	—	—	—	250 1	101·4	40·5
—	—	—	—	330·4	190·8	57·8
—	—	17·18‡	16·10	—	—	—
—	—	49·15‡	27·79	—	—	—

‡ In this case all births of foreign mothers and native fathers are credited to foreign born population, and all of native mothers and foreign fathers to native born population. This fact leads to a slight underestimation of the difference in fertility of the native and foreign populations as compared with the 1900 results.

American birth registration, when secured at all, gives much more information than our records, *e.g.*, age and nationality of parents. The returns on the latter point render it possible to demonstrate the extent to which the native and foreign elements in the population are respectively contributing to the birth-rate. The following results have been obtained—

Boston, 1900.

	Birth-rate.
Native born	18·20
Foreign „	31·06

Providence, 1901.

	Birth-rate.
Native born	16·00
Foreign „	31·08

These are corrected birth-rates founded upon all births recorded where the nationality of both parents was known—

Rhode Island, 1901.

	Birth-rate.
Native born	17·01
Foreign „	30·96

These are corrected birth-rates founded upon all the births of the year as divided into native, foreign, and mixed births in a table in the official registration report for 1903.

[The year 1901 was selected in the case of Providence and Rhode Island as being nearer the census date, 1st June, 1900, than 1903, and the foreign and native born sections of the population are assumed to have increased in equal proportions during the intervening year.]

Thus in all three cases the foreign is almost double the native birth-rate, the latter being about as low as that of Paris.

But this difference, startling as it is, does not adequately represent the contrast between the fertilities of the foreign and native sections.

(1) It was thought best to get over the difficulty of births of mixed parentage by adding half of them to the native and half to the foreign births. This, in the light of the preceding statistics, must be regarded as having the effect of somewhat increasing the native and decreasing the foreign true total of births. In some unascertainable proportion a larger number of the resulting births should have been credited to the foreign than to the native population. The number of such mixed births is considerable.

(2) It may perhaps be assumed that the whole of the imported excess of fertility is not lost in the first generation, and that the natives born of foreign parentage are more fertile than natives born of native parentage. If this be so, it may well mean that the corrected birth-rates for the latter section of the communities are considerably lower than 16—18, the rates for the whole of the native born, inasmuch as the native born of foreign parentage exceed in number those of native parentage.

The chief bearing of these two points is on the relative fertility of the native and foreign populations of these American communities. But it has also to be remembered that the actual contribution of the two sections to the populations is not represented by their fertilities. The proportion of married to total women aged 15—45 varies in Boston, Providence, and Rhode Island from 38·8 to 43·2 per cent. for the native born, and from 56·0 to 58·2 for the foreign born. The rate of increase of the native born population is therefore less than the corrected birth-rates alone indicate. The crude birth-rate in each of the above three communities is about 15 per 1,000; for the really American element it must, in view of the above considerations, be considerably below this figure. It is almost certain, therefore, that this element is actually decreasing in these populations.

Contrast this condition of things with that of Paris. This

city has a corrected birth-rate of 16·65, not very different from that of the above three American communities; but a crude birth-rate—owing to its larger proportion of women married—of 20·6.

It is evident then, that taking into consideration the probable understatement of the facts in the American results, the condition of voluntary prevention of child-bearing in the native populations of Rhode Island and Boston has gone far beyond that reached by Paris. Whether it has touched bottom, as indicated by the registered increase of the birth-rate since 1875, or whether this increase is caused by greater completeness of registration, must be regarded as doubtful. In view of the much higher percentage of married amongst the foreign than the native born, it is of interest to compare the marriage figures of native born of native parents and native born of foreign parents. In this case, contrary to what one would have expected, the rates are much higher for the former class—45·8 against 35·4 in column 12 for Providence, 1900; and 42·1 against 33·5 for Boston.

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