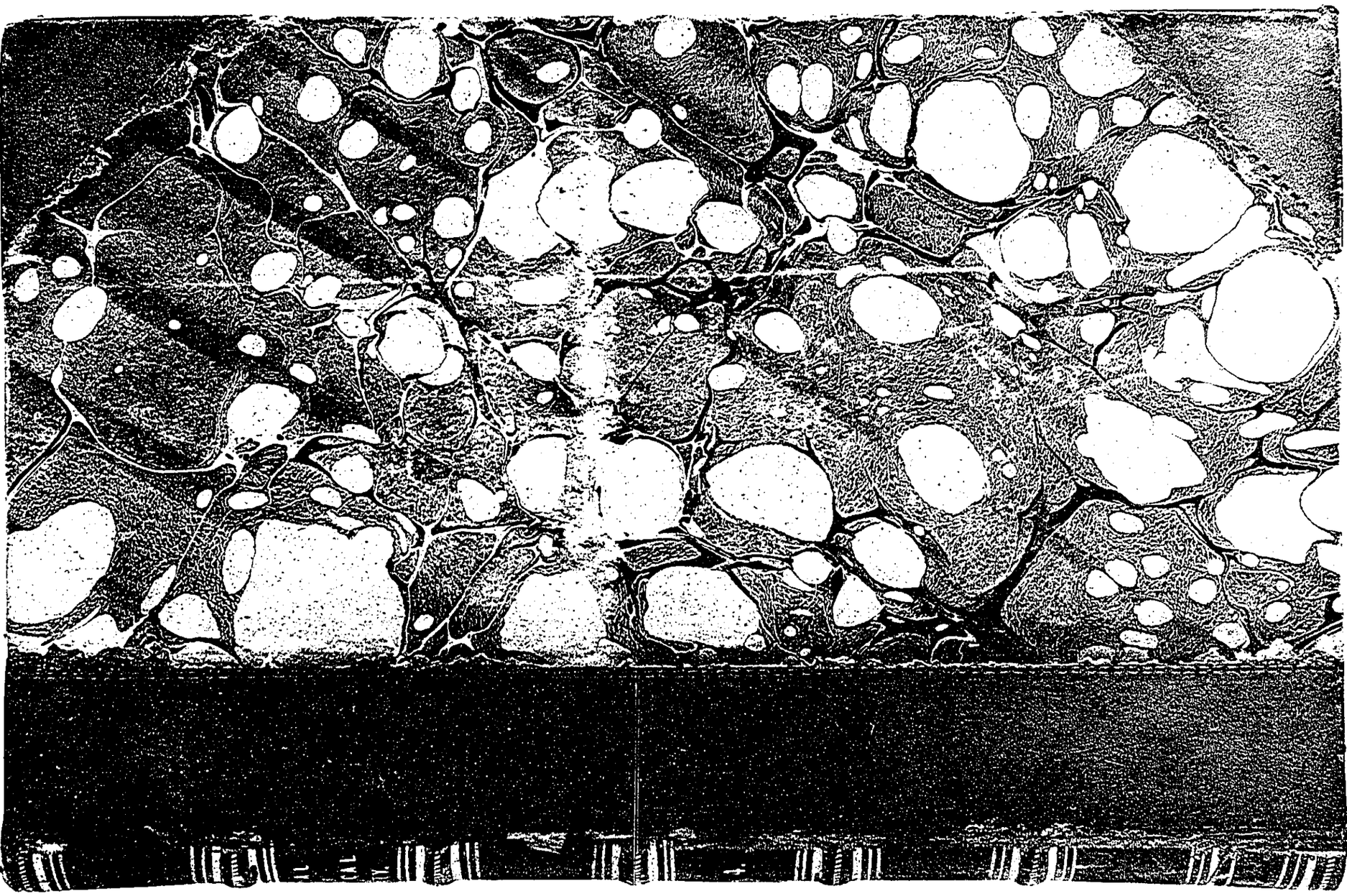

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NOTICE.

THE Council of the Statistical Society of London wish it to be understood, that, while they consider it their duty to adopt every means within their power to test the facts asserted in this Journal, they do not hold themselves responsible for their accuracy, which must rest upon the authority of the several Contributors.

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ERRATUM.

Page 96, line 2, for "1844" (twice) read "1843."

QUARTERLY JOURNAL

OF THE

STATISTICAL SOCIETY OF LONDON.

APRIL, 1844.

On the best Modes of representing accurately, by Statistical Returns, the Duration of Life, and the Pressure and Progress of the Causes of Mortality amongst different Classes of the Community, and amongst the Populations of different Districts and Countries.—By Edwin Chadwick, Esq., F. S. S.

[*Read before the Statistical Society of London, December 18th*, 1843.]

It has for some time been my wish to call the attention of the Fellows of the Society, and through them the attention of statists in Europe and America, to the best modes of keeping mortuary records, and preparing statistical returns, to show the duration of life and the pressure and progress of the causes of mortality, and the numbers of the population in different districts and countries.

The first topic on which I would ask the attention of the Society, is as to what is the best mode that is at present practicable of representing the annual mortality in any population.

With the permission of the council I am enabled to present for consideration those parts of an official report in which I have endeavoured to illustrate this subject.

The mode generally in use is to take the proportions of deaths to the population, to represent the comparative mortality in different districts; and these proportions are generally given by statists, and received by the public, as representing the average ages of death in any population.

Dr. Price, in his work on Annuities and Reversionary Payments, states that in his time the proportion of deaths in London within the bills of mortality, was rather more than 1 to 22 of the population annually, which he states as an equivalent proposition to saying that the average duration of life to all who died was 22 years. Or, to use his own words, he states that—"One with another, then, they will have an expectation of life of $22\frac{1}{2}$ years; that is, one of $22\frac{1}{2}$ will die every year." (p. 255.) In p. 274 he observes, that—

"In the dukedom of Wurtemberg, the inhabitants, Mr. Susmilch says, are numbered every year; and from the average of 5 years, ending in 1754, it appeared that, taking the towns and country together, 1 in 32 died annually. In another province which he mentions, consisting of 635,998 inhabitants, 1 in 33 died annually. From these facts he concludes, that, taking a whole country in gross, including all cities and villages, mankind enjoy among them about 32 or 33 years each of exist-

ence. This, very probably, is below the truth; from whence it will follow, that a child born in a country parish or village has at least an expectation of 36 or 37 years; supposing the proportion of country to town inhabitants to be as $3\frac{1}{2}$ to 1, which, I think, this ingenious writer's observations prove to be nearly the case in Pomerania, Brandenburg, and some other kingdoms."

By Mr. Milne, in his work on Annuities, and in his article on mortality in the last edition of the Encyclopedia Britannica, by Dr. Bissett Hawkins, and by nearly all statistical writers, the proportions of deaths to the population, and the average ages of death, are treated as equivalent. Dr. Southwood Smith has been misled to adopt the same view. He states in his work on the Philosophy of Health, p. 135, that "There is reason to believe that the mortality at present throughout Europe, taking all countries together, including towns and villages, and combining all classes into one aggregate, is 1 in 36. Susmilch, a celebrated German writer, who flourished about the middle of the last century, estimated it at this average at that period. The result of all Mr. Finlaison's investigations is, that the average for the whole of Europe does not materially differ at the present time." "It has been shown that the average mortality at present at Ostend, is 1 in 36, which is the same thing as to assert, that a new-born child at Ostend has an expectation of $35\frac{1}{2}$ years of life."

Reference is usually made to the writings of Mr. Milne as the authority on whom the proportions of deaths to the population are taken as equivalents of the ages of death, and as data for the construction of tables to show the expenditure of life.

Mr. Milne's data are thus stated in his chapter "On the construction of Tables of Mortality," in the article, "Mortality," in the "Encyclopædia Britannica:" "Now let us suppose," says he, "the population of a place to have remained invariable for one or two hundred years past" (a state of things which it might be difficult to find in any moderate sized market-town for two or three years, much less two centuries), "during which period 10,000 children have been born alive at 10,000 equal intervals of time in each year" (a state of things to which it would be equally difficult to find an approximation at any time or in any place); "also that there having been no migration" (another state of things equally difficult to find), "and the law of mortality having been always the same, both the number of the living and that of the annual deaths have remained constant; the whole of the annual deaths at all ages, as well as the number of annual births, having been 10,000." "Then, if the law of mortality, exhibited in the above table, be that which obtains in the place just mentioned, that table will represent the stream of life which flows through it, and fills the vacancies left by those who advance in age, or are carried off by death, their successors incessantly following and being followed in the same course."

Having assumed these data, he reasons upon the assumption (which, for practical purposes, to which such reasonings are proposed to be applied, appears to me to be as misleading as would be reasoning in physics for practical purposes on assumptions of a perfectly calm sea, and a perfectly regular wind or stationary atmosphere, for two centuries), —and, by a chain of fifteen more propositions, none of which I shall attempt to controvert, demonstrates that "the number of years in the expectation of life at any age is the same as the number of living persons

at that age and upwards, out of which one dies annually. Thus, for example, the expectation of life at 40 years of age being 25·495 years, the proportion of the living in the place, aged 40 years and upwards, who die annually, is 1 of 25·495, or, which is the same, 1000 out of 25,495."

Having of late had occasion to make rather extensive observations on this subject, it appears to be a pubic duty to state, that in no class of persons, in no district or country, and in no tract of time, has the fact hitherto appeared to be in coincidence with these hypotheses; and also that returns of the proportions of deaths to the population, when taken singly, as the exponents of the average duration of life, are often mischievously misleading, exaggerating those chances of life sometimes to the extent of double the real amount. If Dr. Price, instead of resting satisfied with Susmilch's hypothesis, had taken the actual ages of the dying within the bills of mortality, he would have found only a casual approximation to the hypothesis for the whole metropolis; and if he had taken the worst conditioned districts, that, as applied to them, he would probably have found he was in error full one-half. On Mr. Milne's own data it appears, that the proportions of deaths to the population at Carlisle, instead of coinciding with the ascertained average ages of death (i.e. 38·72,) were in the year 1710, 1 in 35; in 1787, they were one in 43; and in 1801, they were 1 in 44. Having caused an average to be deduced from the actual ages of 5,200,141 deaths which occurred in the Prussian States from 1820 to 1834, it appears that instead of 36 years, the actual average age of deaths was only 28 years and 10 months. The average ages of death in France, as deduced from Douvillard's table, founded on the experience of one million of deaths, instead of being 36 years, was 28 years and 5 months.

The public errors, created and maintained by taking the proportions of deaths as exponents of the average ages of death, or of the chances of life to the population, may be illustrated by reference to the actual experience amongst nearly two millions of the population, or upwards of forty-five thousand deaths in thirty-two districts, equivalent to as many populous towns, which the Registrar-General has obligingly enabled me to examine for the year 1839.

The Carlisle table is taken as the standard for the duration of life, to measure the loss of life in the several districts, as that table gives the probability of life from infancy, well ascertained for one town, and nearly coincides with the experience of the annuity offices, on the select class of lives insured by them, and with the results which I have obtained from the mortuary registries, showing the average age of death in the county of Hereford. Each of the recognized insurance tables may, however, be used. If the Carlisle table be taken, the chances of life at infancy would be 38·72; by the Chester table it would be 36·70; by the Northampton, 25·18; by the Montpellier table, 25·36; by the last Swedish table, 39·39; by the experience of Geneva, 40·18. After the attainment of twenty years of age, these several tables give the chances of life as follows:—by the Carlisle table it would be 41·46; by the Chester table, 36·48; by the Northampton table, 33·43; by the Montpellier table, 37·99; by the Swedish table, 39·98; by the Geneva experience, 37·67; and by the experience of the Equitable Society, 41·67. For civic purposes in this country, the most important period for considering the chances of life is after coming of age, or after the attainment of twenty-

one years; the average ages of all who die above that age, in each district of the metropolis, are therefore given to illustrate the extent of loss of life to each class of adults, which is the more important to be observed, as it has been hastily supposed that the pressure of the more common and removeable causes of disease is almost exclusively upon the infant population.

In illustration of the errors occasioned by taking the proportions of deaths as the exponent of the duration of life; if we take the proportions of deaths in the district of Islington, with its population of 55,720, we find the number of deaths for the year only 1 to every 55 of the population, which would appear to be 16 years beyond the chances given by the chief insurance table, deemed a healthy standard; whereas, when we examine the average death of all that population who have died during that year, we find it to be only 29 years; in other words, we find that the average duration of the period of existence has even in that district been shortened by at least nine years below the period assigned by the Carlisle table. If we examine the pressure of the causes of death upon each class of the community, in the same district, we find that the class of artisans, instead of attaining 39 years, have, on the average, been cut off at 19 years; and hence that children and adults, and on the average all those of the labouring classes who have died, have been deprived of 20 years of the natural expectation of life; and that even the class of adults who have died have been deprived of 15 years of working ability, involving extensive orphanage and premature widowhood. If we take such a district as Bethnal Green, inhabited by weavers and a badly conditioned population, the returns of the proportionate number of deaths to the population (1 in 41) would lead to the supposition of an average vitality of nearly double the real amount, which appears from this year's return to be only 22 years for the whole population. For the lowest classes in that district it is no more than 18 years. In the parish of St. Margaret, Leicester, which has a population of 22,000, almost all of whom are artisans engaged in the manufacture of stockings, where the average age of death in the whole parish was, during the year 1840, 18 years, I succeeded in obtaining the ages of death in the different *streets*, when it appeared that this average was made up as follows:—Average age of deaths in the streets that were drained, (and that by no means perfectly,) 23½ years; in the streets that were partially drained, 17½ years; in the streets that were entirely undrained, 13½ years. Though the defective drainage and cleansing was the main cause, it was doubtless not the only cause of this variation. That, however, was a year of a heavy mortality, and the average age of death in that and another district, during the years 1840, 1841, and 1842, was in the streets drained, 25½ years; in those partly drained, 21, and those not drained 17 years. The general average was 21 years. The proportions of death to the population in Leicester were, during the same period, 1 in 36½.

So far as estimates of the number of the people, before a census was taken, may be depended upon, it appears that the proportionate numbers of deaths in the metropolis were, at the commencement of the last century, 1 to 20. At the time the first census was taken (1801) the proportion of deaths to the population within the bills of mortality appeared to be 1 to 39. At the present time it appears to be 1 to 40. Having had the average ages of death within the bills of mortality in the metropolis, calculated from the earliest to the later returns published, they appear to be, as far as they can be made out from the returns, which are only given in quinquennial and decennial periods, as follows:—

Of all returned as having died during the—

	The average Age was: Years,	Months,
22 years, from 1728 to 1749	25	1
25 years, from 1750 to 1774	25	6
25 years, from 1775 to 1799	26	0
25 years, from 1800 to 1825	29	0
6 years, from 1825 to 1830	29	10

Thus, whilst it would appear from the proportionate number of deaths to the population, that the average duration of life in the metropolis has doubled during the last century, it appears from the returns of the average ages themselves, that it has only increased four years and nine months, or about one-fifth. The district of the old bills of mortality comprehends little more than one-half of the metropolis. The average age of death for the year 1839, for the whole metropolis, it will have been seen, is only 27 years. So far as an average for that year for the old district can be made out from the several recent returns, it would appear to be no more than 26 years. But the earlier mortuary registration was known to be extremely defective, especially in the registration of deaths in the poorer districts, and the recent lower averages are ascribable to the closer registration of the infantile mortality in those districts. The earlier returns are only to be regarded in so far as the errors from period to period are likely to have compensated each other; they are only adduced as indicating the degree of proportionate progression, correspondent with the general physical improvements of the population. But the slow general improvement, made up by the great improvements of particular classes, is consistent with the positive deterioration of others. The average age of death of the whole of the working classes we have seen is still no more than 22 years in the whole of the metropolis. In large sub-districts, if we could distinguish accurately the classes of deaths, the average would be found to be not more than half that period: a rate of mortality ascribable to increased over-crowding and stationary accommodation, greatly below anything that probably existed at the commencement of the century. The chief errors in the ordinary statistical returns are errors which cause the extent of the evils which depress the sanatory condition of the population, and the mortality consequent on those evils to be under-estimated.

The erroneous conclusions as to the ages of the populations from the proportions of deaths, have perhaps arisen from assumptions of the existence of states of things rarely, if ever, found, namely, perfectly stationary populations, and perfectly stationary causes of death. I have been asked, "If 1 out of 40 die yearly, must not the average age of all who die be 40 years?" The answer, by actual experience, as we have seen, is, that it is often not 30 years; and perhaps the reason why it is not so will be most conveniently illustrated by hypothetical cases. For example, let it be assumed that in any given year 40 persons die out of 1600, which is in the proportion of 1 to 40, and in consequence of an unusual prevalence of measles, or some disease to which children are subject, the greater number of deaths occur amongst the infant portion of the population, and hence, out of the 40 deaths, 20 occur at 5 years of age, 10 at

25, and 10 at 60. Then the total existence had, would have been (20 × 5) + (10 × 25) + (10 × 60) = 100 + 250 + 600 = 950 years, and this divided by 40, the number who died, would give $\frac{950}{40} = 24$ years, nearly as the average duration of life to each of the 40 who died.

On the other hand, suppose a severe winter, in which the peculiar causes of mortality may have pressed unusually heavy upon the older lives, and let the numbers who died have been 20 at 60 years of age; 10 at 40; and 10 at 5; in such case, the total existence enjoyed would have been (20 × 60) + (10 × 40) + (10 × 5) = 1200 + 40 + 50 = 1650 years, which, divided by 40, would give $\frac{1650}{40} = 41\frac{1}{4}$ years, as the average duration of life to each.

And again, where, in fact, the proportion of death in one year may be represented as 1 death out of 20 of the population; the average existence enjoyed may be greater than when 1 in 40 died for the reason given in the former case. As for example, in the year when 1 in 20 died, it may have happened that the deaths were among the older lives, and that, taking one with another, the average age of all who died might be 50; while in the other case the mortality might have been amongst the infant population, when the average age might have been 20. If the proportion of 1 in 40, or 1 in 20, were to obtain each year continuously, taking one life with another, the average duration to a population just born, of whom 1 in 40 died, and whose place should be supplied each year by a new birth, would be about 20 years to each life, or one-half; and of a similar population, of whom 1 out of 20 died annually, the average duration of life to each would be about 10 years, or one-half the period at the expiration of which all the lives would have expired.

When these examples are considered, it will be understood that the average age of death may remain stationary, or may go on increasing, whilst the proportions of death remain the same, or vary. The actual mortality of most districts is found to be coincident chiefly with its physical condition, and is most accurately measured by the years of vitality which have been enjoyed, *i. e.* by the average age of death, or the total numbers of years which every individual who has died has lived, divided by the numbers who have died. The numbers of deaths increase or diminish considerably, and frequently create erroneous impressions, whilst the average ages of death are found to maintain a comparatively steady course, always nearest to the actual condition of the population, and give the most sure indications.

The chief test of the pressure of the causes of mortality is then the duration of life in years; and whatever age may be taken as the standard of the natural age, or the average age of the individual in any community may be taken to judge what are the standard numbers of death in that same community. For example, in the returns of the St. George's Hanover Square district, it appears that in 1839, the proportions of death was 1 to 50 of the population; but the average numbers of years which 1325 individuals, who died during that year, had lived, was only 31 years, or 8 years below the average period of life in Carlisle. There was then in that district during that year a total loss of 10,600 years of life, which, at 39 years, may be considered as equal to an excess of deaths of 272 persons, and in a healthy state the proportions of deaths should have been 1 in 63, instead of 1 in 50 of the population.

The effect of migration or of emigration, in disturbing the results of returns of the average ages of death in particular localities, appears to be commonly much exaggerated.

As formerly, when navy surgeons, overlooking the filth of their ships, which has of late been removed, and not perceiving the effects of the atmospheric impurities arising from the over-crowding, which have since been diminished by better ventilation, directed their whole attention to supposed distant causes and mysterious agencies, and were wont to ascribe the whole of the fever which ravaged a fleet to infection from some casual hand, who was found to have been received on board from some equally filthy and ill-kept prison, where the "gaol fever" had been prevalent; so now, in some of our towns, we find much ingenuity exercised to avoid the immediate force of the facts presented by such returns, by a search for collateral and incidental defects in them. Thus, in Liverpool the whole of its vast excess of mortality has been charged upon the poorer passengers who pass through the port. In other towns, also, all the excess of deaths from epidemic or infectious disease is charged upon the vagrant population. In New York and some of the American cities, where inquiries have been stimulated by the example of the sanatory inquiry in this country, a common observation made on the proved excess of mortality is, that a large proportion of "foreigners" frequent the city. An inquiry into the cases themselves would generally show that if, instead of the proportion of the immigrant population being a small per centage, it formed a very large proportion of the population included; still the proportion per cent. of sickness and mortality, from consumption and other diseases, amongst the resident population, is the greatest; and that even in lodging-houses the disease most frequently appears first in the occupants who are stationary, and last in the new comers. In some badly conditioned districts, where there is a very severe mortality observable in children, a less proportionate amount of mortality prevails amongst the adults who are migrant, than on other adults resident in somewhat less depressed districts, but who are more stationary. Of all classes, (unless it be the higher classes, who resort to watering-places,) it is not the sickly and the weakly who travel for subsistence as handicraftsmen, or for subsistence in commerce, but the healthy and robust. In so far as the general results of mortuary registration of any district are disturbed by a population who are migrant, (who are not only above the average strength, but who generally come with the additional advantage of health, by travel in the open air and a purer atmosphere,) they are usually disturbed by unduly raising and giving the locality an appearance of an average of health, and the fatally deceptive chances of longevity that do not belong to it. Whilst, therefore, the localities gain by the average health and strength of the migrant population, other districts have the credit of a share of the excess of disease and mortality which really belong to unhealthy localities. In other words, the population migrating through such districts carry away more disease and mortality from the crowded districts than they take into them. If there had been a mortuary registration at Walcheren, or any pestilential stations productive of an excessive mortality in the army, the registries probably would not have given the localities credit for more than half the mortality which belonged to them. The real sickness and mortality of the more depressed town districts are often made to appear lower than they are by the number of cases treated in distant workhouses,

hospitals, and dispensaries, for which no credit is given to the locality where the cause of death occurred.

It would doubtless proportionately enhance the value of such returns as those in question, if the rule were fully carried out, that "the population enumerated must always be precisely that which produces the deaths registered;" the grand desideratum being, as expressed by Mr. Milne, for insurance purposes, "to determine the number of annual deaths at each age which takes place among the living at the same age;"* but the facts cited of the greater proportion of adults, and of health in those adults who are immigrant, will answer the objections to the superior applicability to local or class insurance tables, deduced from actual local observation of the local rate of mortality prevalent amongst that population, whether migrant or stationary, and without reference to the actual ages of the living (though that were desirable), compared with deductions from any general insurance table, *i. e.*, the experience of a distant and wholly unconnected population. Deductions from tables, however correctly made from the experience of other towns, must be, and are proved, by such experience as that hereafter cited, to be, merely "guess-work." Vide 'General Sanatory Report,' pp. 218, 219. For myself, I make it a general rule of precaution neither to receive nor adduce statistical returns as evidence without previous inquiry, wherever it is possible, into the particulars on which they are founded, or with which they are connected. I adduce them less as principal evidence, proving anything by themselves, than as proximate measures, or as indications of the extent of the operation of causes substantiated by distinct investigations. The general conclusions which the facts that have come to my knowledge tend to establish on the subject of the experience of mortality are, that there is no general law of mortality yet established that is applicable to all countries or to all classes, or to all times, as commonly assumed; that every place, and class, and period has rather its own circumstances and its own law, varying with those circumstances; that the actual experience of any class, or place, or period (even with the disturbances of any ordinary amount of migration, or immigration, or any ordinary influx of young lives from births) is a safer guide than any insurance table deduced from the experience of another people living at another time and place, or any assumed general law.

Though the mean of the actual years of life attained by any population may be the more correct standard for all general purposes, than the proportions of death to the population, yet when the mean ages of deaths are deduced from a miscellaneous and fluctuating population, it doubtless appears to be subject to another source of inaccuracy which requires attention. If the population be increasing, it may be assumed that the increase will be from an increasing number of births; that there will in this case be a larger proportion of young lives from which the deaths will be taken, it being commonly assumed that a certain and unvariably heavy rate of mortality is a necessary incident to infantile life. It is, however, an unproved assumption, that the increase of population arises always and wholly from the increase of births. The increase may, and often does, take place, from the removal of causes of mortality, from an increase of health, and from fewer deaths among the adults, in

* Art. 'Mortality,' Ency. Britan. last edit., p. 524.

the various stages of adult life. It will be hereafter seen, from the increase in the average ages of the living which appears to have taken place in the United Kingdom since the last census, when the ages were taken, that this increase of health in certain classes of adults, is probably a considerable element of the increase in the numbers of the population. The increase in the numbers of the population of any district may have arisen from immigration. The returns under the last census of the birthplaces of the inhabitants shows that in the towns this has been a very considerable element of increase, and in some instances there is strong reason for believing that it must have been the only one.

There are a few places where the population has remained stationary, and the increase having been general, differences of the different rates of increase in different places, will, I apprehend be found not to affect in any considerable degree returns of the average ages of death, as the best available means of comparison of the pressure of the causes of mortality between place and place. But in the comparisons made between town and country, the increase of population in the towns having been made up chiefly by immigration, and that mostly of young unmarried persons, and in all cases of persons of a more vigorous constitution, this increase of population, as already stated, must *increase* the mean ages of death beyond the term properly due to the native town populations.

I cannot, however, permit to pass unchallenged generally assumed "laws" of a heavy mortality as being necessarily and indiscriminately applicable to every stage of infant life. It has been shown, in the Sanatory Report, that in the same districts where one-fourth of the children of the gentry died, more than one-half the children of the working classes have died, and this excess of deaths amongst the poorer classes was traced to preventible causes. The experience of Geneva, and other places which may be cited, I submit disprove the assumption that a large mass of human life is necessarily created to be immediately destroyed.

Yet on this assumption it has been objected that the mean ages of death can only be used as a standard where the ages of the living are ascertained; for that where there is a young population, there *must* be a greater mortality than where there is an old population. This objection substitutes the effect for the cause; it says, "There must be an excessive mortality, because there is an excessively young population;" the facts, when investigated, I apprehend, reverse the sequence, and show that there is an excessively young and burthensome population, because there is an excessive mortality. The excessive mortality slaughtering infants quickens births, from physical laws already explained:—sweeping away adults of the marriageable age before their time, it opens places of work and subsistence, to be occupied by other young adults, and quickens marriages with the young; it sweeps away adults before they attain old age, and thus produces a young population in large numbers. A low average age of death, if continued for any length of time, produces, and is found generally to indicate, the existence of young population. I have examined, with a view to its introduction as an element of vital statistics, the mean ages of the *living* amongst whom the deaths returned occur. Though the pressure of the causes of mortality affects the ages of the entire *living* population, it does not, so far as yet has been observed, affect them in any perceptible coincidence with the mean ages of death. The apparent reason for this is, that in the worst-conditioned districts the

gaps made by death in the ranks of the adults are to a great extent immediately filled up by the immigration of adults, which we know takes place in towns; and the infantile deaths are made up by the rapid reproduction which in all the places yet examined keeps a-head of the mortality of that class. The infantile deaths in one district are sometimes more than double the infantile deaths in another; yet, from the increased amount of births, the *proportions* of the living at that age are the greatest in the districts of the greatest mortality. In Liverpool, for example, where the mean age of death is about 18 years, the mean age of the living is 25 years; and whilst in Herefordshire, where the mean age of death is 39 years, the mean age of the living is between 28 and 29 years. This topic, however, appears to be entirely open to investigation.

Successful investigation must be conducted *in situ*, and by the examination of particular cases, in which returns are to be printed. So far as examination has yet proceeded, wherever one part of the population, or one part of a class of the population, have been located for a length of time in undrained, uncleansed, filthy, and badly ventilated abodes, it is certain that amongst that population will be found a low mean age of death, whatever may be their condition in respect to employment and wages. From the surrounding physical circumstances of the population, if bad, a low average of death, if good the contrary, may with certainty be predicted, whatever may be the age of the living population, its increase, or decrease, or general movement. The mean age of death is found in most steady coincidence with the physical of all other circumstances. The effects of morbid miasma, or the pressure of common causes of disease, are manifested immediately on all surrounding human life, (and there is evidence to believe they are manifest in their degree on animal life,) in its several stages, in proportion to the relative strength of the destructive agents, and the relative strength or weakness of the beings exposed to them; the effects are seen first on infants; then on children, in the order of their age and strength; then on females, or on the sickly, the aged, and feeble; last of all, on the robust workmen, and on them it appears on those parts of the body that have been previously weakened by excess or by illness.

This is not the occasion for exemplifying at length the practical errors that arise in the matter of insurance from the neglect to verify at every step the facts, and from substituting hypothesis and assumed data for actual observations. But I may observe, that in the habits, modes of living, and general circumstances of the gentry and professional persons throughout the country, there is a closer coincidence than perhaps amongst any other class. Nearly all the returns that have been taken, show a coincidence of the mean ages of death, with these circumstances. The mean age of death of the class of gentry or professional persons, inclusive of their children, in towns is about 44 years; in the rural districts it appears to rise higher, and to be about 50 years. The Carlisle insurance table, which is deduced from the *former* experience of *the whole population* of a well-situated town, and which gives an expectation of 38·72 years of life at infancy, is a sufficiently safe basis of experience for the insurance offices, whose class of insurances consists chiefly of gentry and persons of the better condition. But when such tables are attempted to be applied, as they often are, to persons in other circumstances, the extensive ruin of benefit clubs attests the consequence.

The Northampton table, which gives an expectation of life of 25·18 years, might be safely applied to the inhabitants of the drained streets of Leicester, where the average age of death was 25½ years; but if applied as the basis of a society, to insure the casualties of mortality occurring in the undrained streets, where the average age of death was 17 years, the benefits or funds of the institution would be exhausted, and the society would be ruined eight years before its time. Any disturbance from immigration, or from an increase of births, would probably only avert the ruin for a year or two. The consideration of the necessity and value of actual observation I deem the more necessary, in consequence of a form of tables, founded on assumed radixes and hypothetical adjustments, which have occasioned much embarrassment in Germany, having been lately proposed for adoption in this country. The hypothesis on which these tables are formed may be thus stated:—If in 1000 persons born in any country, 500 live beyond 40 years, that is the expectation of life of that population, because at birth it is an equal chance to every one whether it attain 40 years or not. But the fallacy of this hypothetical basis may, I apprehend, be as shortly illustrated by another hypothesis. Suppose that of the 1000, 500 died immediately after birth; that the other 500 lived to attain 40 years, and were immediately cut off. According to the hypothesis, the expectation of life would be 40 years, although the actual mean number of years they all lived was only 20 years. No table of life is, I submit, to be depended upon which gives the population an expectation of life beyond what they actually do get; and what they actually get must be ascertained not by hypothesis, but from trustworthy registries. On the assumed radixes, and by the formula above stated, the expectation of life in the Metropolis is made to be 40 years, in the face of the fact, that by the registries they actually attain less than 30 years. The tables of Mr. Milne's own construction do not agree with the hypothesis; for example, the expectation of life deduced from the years is, by the Carlisle table, 38·72. If it were made up from the period when half the lives on which the table was formed had died, it would have been 41. But in nearly all other tables than his own the difference is wide indeed: for example, by Duvillard's table, which gave 29 years' expectation of life at infancy, but half were dead at 20; by the Montpelier table, which gave 27 years' expectation of female life at infancy, half were dead at 5 years; and for males the expectation of life was 23 years at infancy, whereas half were dead at 4 years. And the new table of mortality prepared by the chief actuaries in the metropolis on the experience of their several offices, and which, commencing at ten years, gives for males and females an expectancy, at 10 years, of 48 years; but it appears that as half the number die at 63, the difference, at this period, is 15 years! Of the 11,650 lives on which the Northampton table was founded, 5735 only, or the half, were living at the expiration of eight years from the year of birth; eight years was therefore, on the hypothesis, the expectation of life; but the years of life actually divided amongst the whole town was 25½ years. A society granting to such a population as that from which this experience was deduced, allowances of yearly payments, or annuities at birth, on the hypothetical deductions of expectation, would on the actual experience be ruined by obligations of payment of nearly three times the extent of those for which funds would probably be provided.

For many public purposes I have submitted it as a desideratum that population returns should give not merely the *numbers* of each class, or of those engaged in each distinct occupation, which only enables us to resort to the fallacious standard of the proportionate numbers of deaths, to judge of the mortality incidental to the class, but the total ages of each class, which would serve as an index of alterations in the sanatory condition of that same class. Such returns of the total ages of the living (as well as of the dying) should, for the public use, be reduced in the returns to their simplest proportions. In the form in which the returns of ages are at present given they appear to be useless to the public. I am unaware of any reference ever being made to them for any purpose. How many persons will be at the trouble of examining two columns of figures, without any aid, to compare the proportions of persons living in different communities? When the public are told that the deaths in London are 1 in 40 per annum, and in Paris 1 in 20, they have some standard of comparison, though, as I have shown, a very erroneous one. But what means have they of judging of the relative strength of populations, not by numbers merely, the units of which may represent infants, but the ages of the living? I am unaware of the existence of any means having been hitherto given of making such a comparison readily and correctly. The Commissioners of the last census give, as their predecessors gave, the ages in quinquennial periods. To take the first, the numbers living under 5 years of age. In attempting to deduce the average ages of every individual living in the community, what evidence is there to show that the great bulk of those living under 5 years of age are not in any one place infants in arms,—a fact which might make an important difference in the average; and so with each period? In order to get out some simple proportion, we are driven, in the absence of any information, to take the mean between the two numbers; and presuming that $2\frac{1}{2}$ may be taken as the average ages of the living under 5 years, to get the total number of years multiply the number living by $2\frac{1}{2}$.

To make returns of ages, whether of the living or dying, useful to the public, without inaccuracy, I propose, as a general rule, that no such returns shall be received without the years of every individual included as living, or as having died being included, the average age of the individual being obtained simply by dividing the total numbers of years by the total numbers of the individuals included. Every person would thus be furnished with a useful standard of comparison. Deduced, as well as they can be, from returns of ages in quinquennial periods, I find that the average age of all who lived in London, at the time of the last census, was 25 years, and is now 26 years and two months. In these facts, as exhibited in the simple proportions, all may understand something of the movement that has taken place; without them the columns of figures are to the majority of persons impenetrable $\frac{9}{10}$. If the simple proportions were given, the public would be enabled, by such returns, to make comparisons between district and district, and to judge of the relative degrees of pressure, in each, of the causes of mortality. As the simple proportions of average ages of the living have not yet, that I am aware of, been used, or even calculated in any instance, I beg leave to exemplify them.

Mr. Griffith Davies is theoretically of opinion, on a formula of De Moivre, that in general the average age of death in any community is

necessarily higher than the average age of those living in the same community: and that in a stationary population the average age of death will, under ordinary circumstances, be in the ratio of 3 to 2 higher than the average age of the living. I have had the average age of the living population, on which the experience embodied in the Carlisle Insurance table was founded, calculated: and if that may be considered to have been a stationary population, the proportion of the ages of the living to those of the dying was practically as about 3 to 4: for whilst the average age of the dying was $38\frac{3}{10}$, the average age of the living population was $32\frac{9}{10}$. The average age of the dying in Hereford, in which the increase of population had been very slight, was 39. But the average age of the living population, so far as it can be made out from quinquennial returns, was 28 years and 5 months. On this and all returns of the ages of the living, in the mode in which the returns have been collected, allowance must be made for under-statements of ages by some of the adult members of the community. On the whole, the proportion of the ages of the living to the dying appears to be, in an ordinarily healthy and stationary community, as about 3 to 4.

As yet the observations have not been on a sufficiently wide basis; but it appears that wherever there is any divergence between the average ages of the living and the average ages of the dying, the divergence beyond their natural proportions may be taken as indicating the proportionate operation of some disturbing cause upon either line; as by some extraordinary increase of births, or by immigration or emigration, on the average ages of the living, and on the line of the average ages of the dead.

So far as I have been enabled to observe or collect from the extremely imperfect data at present available to the public service, the line of the average ages of the living is comparatively steady; the disturbances by migration and immigration which often compensate each other, for the same place and period, being much the same at different periods, and seldom affect the results materially, whilst the variations in the pressure of the causes of death from year to year are usually considerable, and warrant the assumption that in general the disturbances occasioning the divergence described, are from the operations of causes of death upon that line. Wherever the pressure of the causes of death has yet been observed to be very great, there the line of mortality, or the average age of death, is below what may be called the line of vitality constituted by the average age of the living; and wherever there is on the whole any diminution of those causes of death, as by better ventilation, or by widening streets, opening new thoroughfares, better supplies of water, sewering and cleansing, and improvements in the general habits of the population, there the line of mortality, the infantile mortality especially, diminishes, the average age of each adult class, up to sexagenarians or octogenarians, increases, and the average age of death ascends above the average age of the living. The means of observation are as yet too few to elicit more than indications for the guidance of sustained investigation, to determine whether the divergence of the two lines may be reduced to any rule.

In Liverpool,—where the investigations into the condition of the resident cellar population certainly show an increase of the causes of death, —over crowding, defective ventilation, bad supplies of water, and increased filth,—the average age of death is, for the whole town, 17 or 18 years only, whilst the average age of the living population, so far as it

can be made out from the mode in which the census is prepared, is 25 years. As far as can be ascertained, by reference to previous registers of one large parish, where the ages of the dead were formerly entered, the average duration of life in that town has gradually fallen. The average ages of all who were buried in St. Nicholas parish, between the years 1784 and 1809, was 25.

In Manchester, the average age of the living is 25 years, but the average age of the dying is only 18. In Leeds, the average age of the living is also 25 years, but the average age of the dying is only 21.

	Years.	Months.
The average age of all who *live* in the town parishes of Middlesex, so far as they can be made out from the only available materials,—the returns in quinquennial periods,—is only	26	2
But the average age of all who *die*, judging from one year's return, appears to be about	27	0

If, however, we allow for the under-statement of ages, the two lines for the whole metropolis would be nearly coincident. On the standard of Carlisle or of Hereford, the average age of death should be 12 years higher.

Arranging the several districts of the metropolis, in the order of the average age of deaths, we find the average age of the living decrease in some proportion with the decrease of average age of the dying; and the proportion of births to the population increase with the decrease of the average age of death. The excess in the proportionate number of births beyond the proportions in such a county as Hereford (1 to 44), where the average age of death is much higher, and proportionate number of deaths to the population, afford important indicia.

Districts in which average Age of Death of the whole Population is	Average Age of Death in the District, of all Classes.	Average Age of all who live in the District.	Proportions of Births to the Population.	Proportions of Deaths to the Population.	Excess above County of Hereford in the Number of	
					Deaths & Funerals.	Births.
	Years.	yrs mon.				
Highest . . . (Comprising 2 Districts.) Population 120,678.	35	27 11	1 to 41	1 to 42	966	145
1. Intermediate . (6 Districts.) Population 311,022.	30	27 5	1 to 39	1 to 46	1,836	689
2. Intermediate . (12 Districts.) Population 774,937.	27	26 11	1 to 33	1 to 40	7,457	5,718
Lowest . . . (12 Districts.) Population 663,290.	23	26 5	1 to 30	1 to 41	5,795	6,822

It will be observed that in the least healthy districts, where the pressure of the causes of mortality is the most extensive, the average age of death falls nearly three years and a half *below* the average age of the living, whilst in the higher districts the line of mortality rises towards the natural position, or nearly four years above it. But it must still be borne in mind, in the inspection of the returns from the highest district,

that the average is made up of districts which are probably retrograding, connected with others which are advancing, comprising streets, the connected courts and alleys from which are widely as separate and distinct in condition; and, if I may use such an illustration, as little appropriate for any average that could be represented by numerals—as were the conditions of Lazarus and Dives.

Even the lowest proportion of deaths to the population presented in the district returns, that of Hackney, where it is only 1 to 56, appears to be a proportion in excess by nearly one-eighth, *i. e.* the deaths from epidemics, as well as the excess of more than one-third in the deaths of children under 10 years of age. The return, from the healthiest district in the returns, of the average age of deaths, gives an average of 7 years' loss of life for the whole population; whilst for the *adults* of the middle classes it gives 10 years, and for the *adults* of the working classes 7 years' premature loss of life. Even in the county of Hereford, where there is a proportion of deaths of 1 to 64 of the population, and the standard of the Carlisle table of insurance, where an average age of 39 years of death is attained, it will be observed that even this average includes a large proportion (542), or nearly 1-third in the number of deaths under 10 years of age, and 123 or 1-14th deaths from epidemics, besides others involving deaths from preventible causes. Only 329, or 1 in 5 of the deaths in this very healthy county, were deaths registered as from old age. By the removal of this excess of deaths, the excess of births which replace them would even in these districts be of course still further diminished.

It may be conjectured that if there were the means of distinguishing accurately the various classes of the living amongst whom these deaths fall, the irregularity of the proportionate number of deaths which probably arise amongst the labouring classes would be accounted for. The present returns of the number of births do not distinguish the classes amongst whom the births occur. Taking the districts in the order of the average age in which deaths occur to the labouring classes, and comparing the proportions of the deaths and funerals with the proportions which occur in Hereford, the excess of deaths and funerals was in 1839 as follows:—

Districts in which average Age of Death of Artisans, &c., is	Average Age of Death of Artisans, &c. in the Districts.	Excess in Number of Deaths of Artisans, &c., in the District above the Deaths of Agricultural Labourers in Herefordshire.
1. Highest number of the class (comprising 2 Districts,)	38	483
2. Intermediate (1) number of the class (5 Districts.)	27	548
3. Intermediate (2) number of the class (10 Districts.)	23	1,773
4. Lowest number of the class (15 Districts.)	20	4,121

The totals of the subjoined district returns for the metropolis are as follows:—

	Number of Deaths of each Class.			Number of Deaths from Epidemic Disease.	Average age at Death of all who die above 21.	Average age at Death of the whole Class, including Children.	Ratio of Deaths of Children to total Deaths.	Ratio of Deaths from Epidemic, Endemic, & Contagious Diseases to total Deaths.
	Adults.	Children under 10 years.	Total.					
Gentlemen	1,724	529	2,253	210	60	44	1 in $4\frac{3}{10}$	1 in $10\frac{7}{10}$
Tradesmen	3,979	3,703	7,682	1,428	51	25	1 in $2\frac{1}{10}$	1 in $5\frac{4}{10}$
Labourers	12,045	13,885	25,930	5,469	49	22	1 in $1\frac{9}{10}$	1 in $5\frac{5}{10}$
Paupers	3,062	593	3,655	557	60	49	1 in $6\frac{2}{10}$	1 in $4\frac{8}{10}$
Undescribed	2,996	2,761	5,757	1,051	56	28	1 in $2\frac{1}{10}$	1 in $6\frac{6}{10}$
Totals	23,806	21,471	45,277	8,715	53	27	1 in $2\frac{1}{10}$	1 in $5\frac{2}{10}$

In making up this table, all who were not distinguished as master tradesmen were entered as mechanics. This circumstance would give to the labouring classes an appearance of a higher average age of death than is gained by them. On the other hand, some of the labouring classes will be found to have died in the workhouse, which would perhaps keep the average where it now stands, whilst if the registration were more accurate the average age of death of the middle classes might be found to be about 27. The average age of death of 27 given for the whole metropolis is not made as an average of the averages, but from the average of the whole. The apparent high average of the age of death of paupers arises from the smaller proportion of children amongst them: and the larger proportion of aged adults who seek refuge in the workhouse.

The following totals of the mortuary registration of the several registrars' districts in Hereford for the same year are given for comparison:—

	Number of Deaths of each Class.			Number of Deaths from Epidemic Disease.	Average age at Death of all who die above 21.	Average age at Death of the whole Class, including Children.
	Adults.	Children under 10 years.	Total.			
Gentlemen	49	19	68	2	65	45
Farmers, &c.	205	45	250	14	60	47
Labourers	833	324	1,157	87	58	39
Paupers	26	11	37	1	71	51
Undescribed	124	143	267	19	68	30
Totals	1,237	542	1,779	123	60	39

The total number of births registered in the several districts in the metropolis, where it is yet far from complete, in the year 1839, was 51,232, or 1 to 37 of the population. The total number of births registered in Hereford during the same year was 2579, or 1 to 44.

The positions advanced in the Sanatory Report of the greater proportion of births in the districts where the deaths are the most frequent, is confirmed in respect to the metropolis by a more recent return with which I have been obligingly favoured by the Registrar-General, in which he shows,—

	Proportion per Cent.		Ratio of Deaths to Births.
	Deaths.	Births.	
"Unhealthiest sub-districts	3·14	3·66	1 to 1·17
Less unhealthy sub-districts	2·68	3·18	1 to 1·19
Average sub-districts	2·43	3·35	1 to 1·38
Healthier sub-districts	2·17	2·64	1 to 1·22
Healthiest sub-districts	1·87	2·47	1 to 1·32

"The mortality is 68 per cent. higher in the unhealthy than in the healthy sub-districts: the proportion of births is 48 per cent. greater in the unhealthy than in the healthy sub-districts."

If the deaths in the metropolis during 1839 had been in the same proportion to the population as they were in Hereford, there would have been 8866 funerals less than there were during that year.

If the proportion of births in the metropolis during that year had been the same as in Hereford, there would have been 16,053 births less than there were.

Or to vary the illustration:—

If the deaths in Hereford had been in the same proportion as the deaths in the metropolis, the community in that county would during that year have had 977 funerals the more.

If the births in Hereford had been in the same proportion as in the metropolis, there would during that year have been 540 births the more.

If the deaths in the whole of England and Wales had been in the proportions attained in some districts, and attainable in all, namely, 1 to 50, there would during the year have been 31,866 funerals less, and more than ten times that amount of cases of sickness the less.

If the proportion of births in the whole kingdom had been the same as those occurring in average healthy districts—such as that of the town district of Hackney, for example, of 1 to 42—there would have been 139,958 births the less to make up for the excess of deaths.

The importance of the subject will justify the reference to other examples.

The Commissioners for taking the census of Ireland have bestowed considerable labour to effect various improvements, with a view to determine more accurately the actual condition and progress of the population. They have attempted, amongst other improvements, to ascertain not merely the total number of houses, but the number of each description of houses in each district. For the want of any system of mortuary or birth registry in Ireland their attempts to ascertain correctly the proportions of deaths and births to the population appear to have been to some degree frustrated; and the return of the average age of death must be received as an approximation, giving higher than the real chances of life in that country. From the mode which the Commissioners adopted, of collecting the ages of the living by taking the actual age of each individual with precautions, it appears probable that their returns on this head are more trustworthy than those obtained in England.

The proportions of births to the population obtained by the Census Commissioners in Ireland are, I conceive, below the real amount; the proportions of deaths are confessedly so. The proportions of deaths and several other results may however serve for comparison between one province and another, and between one county and another. I have taken

the following results from several of their tables, or have had them calculated from their data. I submit them as indications of the momentous public truths that still lie open for investigation, of which truths the most important are the extent of the operation of the causes of mortality, which can only be correctly ascertained on the spot by inquiries for a mortuary registration, by responsible officers of superior qualifications and intelligence as officers of health. The fractional numbers are omitted in the returns from the provinces.

	ULSTER.				LEINSTER.				MUNSTER.				CONNAUGHT.				IRELAND.			
	RURAL.		TOWN.		RURAL.		TOWN.		RURAL.		TOWN.		RURAL.		TOWN.		RURAL.		TOWN.	
	Houses.	Families.	Houses.	Families.	Houses.	Families.	Houses.	Families.	Houses.	Families.	Houses.	Families.	Houses.	Families.	Houses.	Families.	Houses.	Families.	Houses.	Families.
1. First Class houses	1	1	10	9	2	2	24	33	1	1	12	14	·5	·6	7	10	1·3	1·4	15·2	21
2. "Good farm-houses, or in towns houses in a small street, having from 5 to 9 rooms and windows"	21	21	56	60	21	21	37	39	13	13	44	49	8	8	30	33	16·8	17·2	43·6	48
3. "A better description of cottage, still built of mud, but varying from 2 to 4 rooms and windows"	45	45	23	21	47	46	23	16	34	34	30	25	39	39	36	33	41·9	41·7	26·9	21
4. "All mud cabins having only one room"	32	32	9	8	28	28	14	10	50	49	13	10	51	50	25	22	40·	39·7	13·7	10
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Average age at death	31·8	32·	23·8	23·6	32·	31·5	25·	25·4	28·2	27·	23·6	23·7	26·1	24·3	22·6	22·4	29·6	28·9	24·1	24·0
	32		24		32		25		28		24		25		23		29		24	
	31				30				27				24				28			
Average term of premature loss of life as compared with the experience of Carlisle or the county of Hereford	7	15			7	14			11	15			14	16			10	15		
	8				9				12				15				11			
Annual proportion of births to the mean population	1 in 31·1				1 in 32·3				1 in 29·5				1 in 28				1 in 30·3			
Average age of all who lived in 1841	24				25				24				23				24			
Proportion of widows to every 100 of the population above 17 years old	12	15			13	17			12	16			12	17			12	16		
Rate of increase on population since 1831	4·36				3·35				7·59				5·58				5·25			
Excess in number of births to every 10,000 of the population above the proportion of births in Hereford	84				73				95				117				90			
Positive numbers of births in excess above the proportion of births in Hereford	20,003				14,515				22,875				16,624				74,016			
Proportion per cent. to total population of persons 5 years old and upwards who can read and write	24	40			26	45			21	36			13	31						
	26				30				23				14							
Proportion of crimes of violence or passion to each 10,000 of the population on an average of 8 years to 1842 — Murders and Manslaughters	·5				·7				1·3				·8							
Proportion of crimes of violence or passion to each 10,000 of the population on an average of 8 years to 1842 — Rapes and assaults to ravish	·2				·3				·4				·4							

The proportion of widowhood (which would generally be attended by its proportion of orphanage) to the short duration of life in the worst conditioned districts, is submitted as confirmatory of the principles expounded in the General Sanatory Report on the Condition of the Labouring Population in Great Britain, p. 188, *et seq.*

Perfect conformity of the rate of increase of population with the ages of the living and the dying was not to be expected in the returns where the emigration from the different provinces is (probably) variable; but in the two provinces where the household condition appears to be the

worst, and the proportion of mud cabins the greatest, there we find the mortality is the highest.

Where the pressure of the causes of mortality is the greatest, where the average age of death is the lowest, and the duration of life is the shortest, there the increase of population is the greatest. The proportion of children is great, because life is short and the generation transient; the middle aged and the aged are swept away in large proportions; and marriages are disproportionately early. But, says Mr. Macculloch in an essay or note in his edition of the "Wealth of Nations," in support of Mr. Malthus's original view, "The effect of wars, plagues, and epidemic disorders, those terrible correctives, as they have been justly termed by Dr. Short, of the redundance of mankind on the principle of population, sets its operation in the most striking point of view. These scourges tend to place an old country in the situation of a colony. They lessen the number of inhabitants, without, in most cases, lessening the capital that is to feed and maintain them." What I apprehend the actual facts when examined place in a striking point of view, is the danger of adopting conclusions deeply affecting the interests of communities, on hypothetical reasonings, and without a careful investigation whether the facts sustain them. The facts themselves, when examined, show that (be it as it may with war) epidemic disorders do *not* lessen the number of inhabitants; and that they *do* in all cases that have been examined lessen the capital that is to feed and maintain them. They lessen the proportion of productive hands, and increase the proportion of the helpless and dependent hands. They place every community, new or old, in respect to its productive economy, in the position which the farmer will understand by the like effects of epidemics upon his cattle, when in order to raise one horse two colts must be reared, and the natural period of work of the one reared is, by disease and premature death, reduced by one-third or one-half. The exposition already given, *vide* General Report, p. 176, *et seq.*, p. 200, of the dreadful misery and disease-sustaining fallacy which erects pestilence into a good, is further illustrated by the effects of the proportions of the dependent populations of Ireland. Thus, in England, the population above 15 and under 50 years of age in every ten thousand is 5025, and this five thousand have 3600 children below 15 years of age dependent upon them. In Ireland, the population above 15 years of age is 4900—in other words, there are 125 less of adults in every ten thousand; and this smaller proportion of living adults, with eight or ten years' span less of life or working ability, have 4050, or four hundred and fifty more children dependent upon them. In England there are 1365 persons in every ten thousand, or 13½ per cent. above 50 years old to exercise the influence of their age and experience upon the community. In Ireland there are only 10 per cent., or 1050 in every ten thousand of the population above 50 years of age.

It appears from a report which the Census Commissioners give on the sanatory condition of Dublin, that the mortality in the different localities of that city varies with their physical condition in the lower districts, and coincides with the description already cited in the general report, from the report of Dr. Speer, the physician to the Dublin Fever Hospital (*vide* General Sanatory Report, p. 96). The like consequences follow to the lower Irish population settled in the English towns with the like habits, which permit them to accumulate refuse round their dwellings,

and live in an atmosphere compounded of the miasma of a pigsty and a privy, and the smoke of a chimney in a crowded room.

Since these results have been published, I have received from Dr. James Willis, of Dublin, a benevolent physician, who has visited the dwellings of the lowest classes, and noted the ages of death in upwards of 12,000 cases, the valuable confirmation of the general conclusions above stated, derived from his extensive observations. He observes that "the census for Ireland gives a correct enumeration of the living, together with a very imperfect account of deaths, which is admitted to be very short of the actual number; yet are put forward 'to show cause why the deaths of Ireland should be, from the present condition of the country, independent of climate or other circumstances of that nature, *less than* those of England.' This is far from being correct; the very contrary is the fact. The mortality amongst our working classes is tremendous." He asks, "is it not horrible to contemplate an island producing as large a proportion of all animal life, as any on the face of the globe, having less of manhood and more of dependent infancy, than anywhere to be found, even in the manufacturing and mining districts of Great Britain!" He gives the following Table of—

The Proportionate Numbers of each Age in Ireland, compared with those in Leeds, Manchester, and Liverpool.

IRELAND, 1841.						Manchester, Leeds, and Liverpool.	
Ages.	Ulster.	Leinster.	Munster.	Connaught.	Total.	Ages.	—
5 and under	15·3090	14·3283	15·3826	16·1861	15·2464	Under 5	13·4053
6 to 10	13·4441	12·3361	13·0558	14·3064	13·2124	5 to 10	10·7092
11 — 15	12·6154	11·3729	11·5807	12·2628	11·9511	10 — 15	10·0235
16 — 20	11·4320	11·5496	11·6448	11·9118	11·6060	15 — 20	9·8328
21 — 30	16·0914	18·7697	18·6351	16·8483	17·6150	20 — 30	20·8821
31 — 40	11·2347	11·7352	12·0031	11·1488	11·5658	30 — 40	15·4189
41 — 50	8·4927	9·3316	7·8535	7·9648	8·4164	40 — 50	9·8329
51 — 60	6·0780	6·0808	6·1819	5·7881	6·0588	50 — 60	5·3327
61 — 70	3·2504	2·9086	2·3997	2·3644	2·7648	60 — 70	3·0155
71 — 80	1·5128	1·1493	·9454	·9073	1·1535	70 — 80	1·1205
81 — 90	·3928	·2990	·1992	·1872	·2773	80 — 90	·2322
91 —100	·0502	·0611	·0456	·0468	·0509	90 —100	·0199
Upwards	·0006	·0012	·0012	·0014	·0011	Upwards	·0020
Not specified.	·0952	·0759	·0701	·0748	·0797	Not specified	·1716
Population on which the per-centage is formed.	238·6373	197·3731	239·6161	141·8859	817·5124	Population	68·1524

In Manchester and Leeds the proportion of children will be increased by immigration to supply the manufactures. In Liverpool, the increase of population has been 34 per cent.; the average age of the living is 25 years. In Manchester, the increase has been 25 per cent.; the average age of the living is 24 years. In Leeds, the increase has been 19 per cent.; the average age of the living was 24 years and 5 months.

From inquiries made by Dr. Willis from cellar to garret, and from house to house in Dublin, he found the average age at death of the working classes was 18 years, decimal 65; which it will be seen is about

the same age as that in one of the lowest districts in London, Bethnal Green; it being in the best districts in London about 30. The average age of death of those of the working classes in Dublin who had attained 21, was no more than 34·70; whilst even in Bethnal Green it is not less, apparently, than 46.

Speaking of the deaths of children he states, "the deaths up to 5th year are rather under those of Manchester, Leeds, &c.; above 5 and up to 10, the mortality is very great, and more than in any of your manufacturing districts. I wish to avoid all theory, yet I cannot resist endeavouring to account for this excess of mortality at the ages 6 to 10.

"The mothers with us have no employment, and, therefore, even in their wretchedness they bring up a greater proportion of infants, say up to 5th or 6th years; from this to the 10th year very many of our poor children have not the same comforts as your factory children, and therefore furnish a larger proportion of deaths."

"The average number of children baptized to each marriage, is 5·70; average number now living to each marriage, 2·67. Of mothers who have had eight or more children, only 1 in 718 never lost a child; of mothers who have had six or more children, only 1 in 215 never lost a child!"

The Census Commissioners of Ireland have endeavoured to obtain returns of the chief causes of the mortality; and it appears from the report upon them, that hitherto, notwithstanding all that has been said and written, that fever has returned nearly decennially in periods, irrespective of any general distress in that country, and has extended its ravages to classes who were exposed to the miasma, but who suffered no distress. "Cases of starvation," it is stated, "have been registered from returns at almost every age; 79 of them took place in the rural district, or 1 death in 11,539 of the general mortality of the open country, and minor towns and villages; 18 in the civic, or 1 in 13,009 of the deaths in towns of or above 2000 people; and 20 occurred in hospitals; the patients having been admitted when suffering from want of food, or in such a destitute condition as subsequently produced death from exhaustion. Including the deaths in hospitals with those in the civic districts, to which they properly belong, it appears that the deaths from want and destitution in the larger towns have been 1 in 7240 to the total mortality of these places. During the first 5-year period, these deaths were on an average but 6 per annum, and in the last 5-year period (that ending June, 1841), they had increased to the yearly average of 18."

The dependency of the duration of life upon the physical condition of the population, and the connection of several classes of moral and economical facts, with the proportionate mortality, may be further exemplified; taking the four counties in Ireland, in which the proportions of mud hovels are the greatest; and the four counties in which the proportions of such tenements are the least.* Having obtained these proportions, I directed the other returns to be obtained in their order, and confidently anticipated the general results, following from the facts indicative of the physical conditton of the population. I now adduce these results, physical and moral, as additional proofs and exemplifications of the conclusions stated in pp. 128 and 129, and other parts of the Sanatory Report.

* The county of Dublin is left out as having a disproportionate amount of suburban population.

		The four Counties where the average proportion of mud hovels, as habitations, is the lowest.				The four Counties where the average proportion of mud hovels, as habitations, is the highest.			
		Down.	Wexford.	Kilkenny.	Monaghan.	Kerry.	Mayo.	Clare.	Cork.
Proportion per cent. of families occupying habitations which are mud cabins having only one room		24·7	29·4	30·9	31·5	66·7	62·8	56·8	56·7
		29				61			
Proportion of deaths from epidemic disease to every 10,000 of the population		36	23·5	36·8	40·4	50·2	51·0	53·1	43·3
		35·5				47·8			
Average age of all who have died during the 10 years ended 6th June, 1841		33·6	34·10	33·2	31·4	24·10	23·2	24·5	28·8
		33·4				26·8			
Average age of all the living in 1841		24·10	25·10	24·8	24·2	23·1	25·0	22·9	24·0
		24·11				23·5			
Proportion of births to the population		1 in 33·4	1 in 34·3	1 in 33·6	1 in 32·5	1 in 28·8	1 in 28·0	1 in 28·7	1 in 31·8
		1 in 33·4				1 in 29·9			
Increase per cent. of the population since 1851		2·7	10·6	7·9	2·5	11·7	6·2	10·9	9·9
		5·0				8·7			
Per cent. of the population, 15 years and under		39·7	36·6	37·8	40·9	42·4	43·1	42·4	39·7
		38·8				41·9			
Above 50 years		12·0	12·5	10·9	10·9	9·4	9·4	8·7	10·4
		11·6				9·5			
Proportion per cent. of male and female population, 17 years and upwards	Unmarried	42	44½	45½	41	37	36	40½	42
		43¼				39			
	Married	49	47	45½	49½	55	56	51½	50
		47¾				53			
Per cent. of the population 5 years old and upwards, who can neither read nor write		27·5	41·3	51·2	51·3	70·4	79·0	63·1	65·6
		42·8				69·7			
Proportions of crimes* of violence or passion to each 10,000 of the population on an average of 8 years to 1842:—									
Murders and Manslaughters	Proportions	·11	·20	·44	·55	·71	·87	1·08	·52
	Positive Numbers	34	35	83	88	166	271	249	316
Proportions		·32				·72			
Rapes and Assaults with intent to commit	Proportions	·06	·15	·22	·35	·71	·51	·46	·28
	Positive Numbers	15	22	34	58	166	159	108	178
Proportions		·17				·44			

* By my colleagues and myself, the uncertainty of the returns of commitments, or of convictions, as data to judge of the amount of crime committed in any district, was demonstrated in § 1 to § 4 of our Report as Commissioners of Inquiry into the Condition of the Constabulary Force in England and Wales; but that uncertainty attaches perhaps in the least degree to the higher classes of crimes.

The general sanatory condition of the population of Scotland, and the pressure of the preventible causes of death, appears to be lower than in England, and higher than in Ireland; and so it appears, from the recent census, is the average age of the living.

It may be conceived that the low average age of the living in these cases is ascribable mainly to an increasing proportion of children incidental to an increasing population. Not so, however: the average age of the living is more powerfully influenced by disturbing causes affecting the population of adults, each with accumulated years, than by causes affecting the infantile population. One adult of 50 years added to the living is equal to the addition of 50 infants, and so with the average ages of deaths. The average ages of the living appear to have increased and not diminished with the increasing population. Be the sanatory condition of the poorest classes and the amount of disease and death what it may, as compared with former periods, (and there is direct evidence that it is in populous districts increasing,) there has been some improvement in the residences of the middle and higher classes; household drainage and cleanliness has, in some districts, been improved; the quantity of town and land drainage, and cultivation, has of late increased in various proportions in each country; and the decrease in the causes of mortality appears to have been followed by an increase of the average age of the living, of particular classes at the least, sufficient to present an increase, though a dreadful slow one, in the average age of the adults living. The increase of population, as usually given in census returns only in numero, may have been an increase in number of deteriorated pigmies: the increase in the ages of the living in simple proportions would give the most valuable information. The increase of the proportions of age and of adults is simply represented as follows:—

	England.		Ireland.		Scotland.	
	1821	1841	1821	1841	1821	1841
Per-centage of Population of 15 Years and under	39·09	36·07	41·06	40·44	41·0	36·0
Over 15 Years	60·91	63·93	58·94	59·56	59·0	63·6
	Yrs. M.	Yrs. M.	Yrs. M.	Yrs. M.	Yrs. M.	Yrs. M.
Average age of each living individual	25·3	26·7	23·7	24·0	25·1	25·9

The Irish census affords materials for the belief that statistics may be much extended, so as to embody economic facts which are further illustrative of the economical condition of the country. I will endeavour shortly to exemplify them.

On an inquiry as to the condition of the agricultural population, it was found that the land occupied by large masses of them, is in such small patches, as to preclude the application of capital, to preclude the first step to sanatory as well as productive improvement—thorough drainage, to preclude rotation of crops, the application of various manures, of machinery, and almost to necessitate a systematic misapplication of labour at all times, and to leave the owner or labourer in a state of idleness. The agricultural portion of the Irish census shows that upwards of 40 per cent. of the farms in Ireland are from 1 to 5 acres only; 35 per cent. from 5 to 15 acres; 13 per cent. from 15 to 30; and only 7 per cent. of those about 30 acres. Now the following facts were elicited in the course of some official investigations in Ireland, by

Mr. Muggeridge. The particulars which this evidence indicates, might perhaps be reduced to a statistical form.

"It was once endeavoured to be explained to me, that the comparative lowness of condition of the Irish peasantry arose from a fact that might not have been brought before me, viz., that an Irishman's year has but 200 days! I confessed the proposition was novel to me, and my informant thus logically, and as he considered unanswerably, demonstrated it: You will allow, said he, an Irishman has 52 Sabbaths in which he should not work? Granted. There, then, is 52 days. Not an Irishman in the county Armagh that does'nt attend, at least, one market weekly; there go 52 more days. Find an Irishman, if you can, that does not attend one fair a month; there go 12 more days. Where is the man, if he be at all respectable, that won't devote his afternoon or half day to the wake or funeral of his friend or neighbour: and it is a poor neighbourhood that there won't be a death in a week; there go 26 days more. Then, you know, there are our Saints days, our holydays, our birthdays; and may be Dan will be getting up a precurshin maiting, or the likes o' that, which a man is bound to attend, for the love of Ould Ireland. And now make your reckoning, and see whether a man will have more than 200 days in a year he can call his own.

"There is, I fear, too much of fact in this exquisitely simple and unsophisticated narrative; and much time is lost in the market and the fair, and elsewhere, which, applied to industrial pursuits or objects, would go far to ameliorate the condition of the people. Much of this inertness, or idleness, may unquestionably be ascribed to the low and inadequate rate of wages in Ireland; and to labour mostly being remunerated by a standard too low to call forth those incentives to industry and good workmanship, which are induced by a liberal, or even a fair scale of payment. Hence it is, though paradoxical it may seem, that cheap labour is dear labour, the lack of motive to work will impair the value and efficiency of the labour rendered; and the slovenly and careless manner in which, under such circumstances, work is performed, too often makes it almost valueless to the employer, and as a natural consequence, rarely to be repeated."*

From the evidence already yielded by vital statistics, it will be seen, that the poor Irish peasant, or town labourer, after having escaped the nearly equal chances of infantile mortality, has the productive years of his life, and self-supporting ability, reduced eight or ten years, or nearly one-fourth below the average duration of an agricultural labourer in a healthy English county. From such evidence as that last cited, it will be seen that the Irish peasant has the productive days of his years reduced by nearly one-third, and moreover, from other evidence, (*Vide* Reports of the Agricultural Assistant Commissioners on the Poor Law Inquiry,) it will be seen that the efficiency and value of the hours of his days, of beneficial labour are reduced to nearly one-half, by circumstances which impair and prevent the advantageous application of those energies, which are developed so well, and so productively to himself, in increased wages, when working under more systematised direction in other countries: and finally, from the examination of the census enumeration of ages and the proportions of helpless children, of widowhood, and it is to be presumed of dependent orphanage, it may now be seen to how much

* Report of R. M. Muggeridge, Esq., on the Condition of Hand-loom Weavers, page 726, Part III.

greater extent than in England, the reduced produce, of his reduced hours, and days, and years, has to be divided for the support of the larger proportion of dependant hands, all produced by the heavier pressure of the preventible causes of sickness and mortality. When the range of facts and the conclusions thus developed is duly regarded and estimated, it will be seen how subordinate are the subjects of common declamation as "condition of the people questions" to that of their sanatory condition, even when viewed simply as an economical question of production. Amongst other questions in which a part of the range of statistical evidence throws light, *i. e.* the statistics of the size of the various holdings of land in Ireland, one question is that of fixity of tenure, and it is shown that if by fixity of tenure, is meant fixity of the holdings of all the miserable patches of land held and cultivated separately, the consequence must be the fixity of such hovels and of the habits and poverty entailed by such holdings; that is to say, the fixity of an enormous amount of misery and of a wretched population in perpetuity.

Let me now direct attention to another field of inquiry, differing largely in the amount of productive employment, in institutions, and in most other respects, excepting the chief physical circumstances which govern the sanatory condition of the population.

In abundance of employment, in high wages, and the chief circumstances commonly reputed as elements of prosperity of the labouring classes, the city of New York is deemed pre-eminent. I have been favoured with a copy of "*The Annual Report of the Interments in the City and County of New York for the Year* 1842," presented to the Common Council by Dr. John Griscom, the city inspector, in which it may be seen how little those circumstances have hitherto preserved large masses of people from physical depression. He has stepped out of the routine to examine on the spot the circumstances attendant on the mortality which the figures represent. He finds that upwards of 33,000 of the population of that city live in cellars, courts, and alleys, of which 6618 are dwellers in cellars. "Many," he states, "of these back places are so constructed as to cut off all circulation of air, the line of houses being across the entrance, forming a *cul de sac*, while those in which the line is parallel with, and at one side of the entrance, are rather more favourably situated, but still excluded from any general visitation of air in currents. As to the influence of these localities upon the health and lives of the inmates, there is, and can be, no dispute; but few are aware of the dreadful extent of the disease and suffering to be found in them. In the damp, dark, and chilly cellars, fevers, rheumatism, contagious and inflammatory disorders, affections of the lungs, skin, and eyes, and numerous others, are rife, and too often successfully combat the skill of the physician and the benevolence of strangers.

"I speak now of the influence of the locality merely. The degraded habits of life, the filth, the degenerate morals, the confined and crowded apartments, and insufficient food, of those who live in more elevated rooms, comparatively beyond the reach of the exhalations of the soil, engender a different train of diseases, sufficiently distressing to contemplate; but the addition to all these causes of the foul influences of the incessant moisture and more confined air of under-ground rooms, is productive of evils which humanity cannot regard without shuddering."

He gives instances where the cellar population had been ravaged by fever, whilst the population occupying the upper apartments of the same

houses were untouched. In respect to the condition of these places, he cites the testimony of a physician, who states that, "frequently in searching for a patient living in the same cellar, my attention has been attracted to the place by a peculiar and nauseous effluvium issuing from the door, indicative of the nature and condition of the inmates." A main cause of this is the filthy external state of the dwellings and defective street cleansing, and defective supplies of water, which, except that no provision is made for laying it on the houses of the poorer classes, is about to be remedied by a superior public provision.

	Years.	Months.
The average age of the white population living in New York, according to the Census, is	23	3
But the average age of all who die there is only. . .	20	0

Thus we have an excess of deaths over the ages of the living of more than three years and three months; denoting, if the like excess prevailed from year to year, an increasing pressure of the causes of mortality. If the mortality be the same from year to year, the chances of life would appear to be lower in New York than in Dublin, where, according to the data given by the Census Commissioners, it is 25 years 6 months.

In America little attention and labour appear to have been bestowed in any of the rural districts on general land drainage. Yet nature inflicts terrible punishment for the neglect of the appointed and visible warnings and actual premonitory scourges, amongst which are the mosquitoes and the tribes of insects that only breed in stagnant water and live in its noxious exhalations. The cleansing and the general sanatory condition of the American towns appear to be lower than in England or Scotland, whilst the heat there at times is greater, and decomposition more active; pestilence, in the shape of yellow fever, ague, and influenza, is there more rife; the deaths in proportion to the population more numerous, and the average age of death (so far as there is information) amongst the resident population much lower.

	Years.	Months.
The average age of the whole of the living population in America, so far as it can be deduced from the returns at the periods given in the Census, is only . .	22	2

Notwithstanding the earlier marriages, and the extent of emigration, and the general increase of the population, the whole circumstances appear to me to prove this to be the case of a population depressed to this low age, chiefly by the greater proportionate pressure of the causes of disease and premature mortality. The proportionate numbers at each interval of age, in every 10,000 of the two populations, are as follows:—

	United States of America.	England and Wales.
Under 5 years	1744	1324
5 and under 10	1417	1197
10 ,, 15	1210	1089
15 ,, 20	1091	997
20 ,, 30	1816	1780
30 ,, 40	1160	1289
40 ,, 50	732	959
50 ,, 60	436	645
60 ,, 70	245	440
70 ,, 80	113	216
80 ,, 90	32	59
90 and upwards	4	5
	10,000	10,000
Average age of all the living	22 years 2 months	26 years 7 months.

Here it may be observed, that whilst in England there are 5025 persons between 15 and 50, who have 3610 children or persons under 15; in America there are 4789 persons living between 15 and 50 years of age, who have 4371 children dependent upon them. In England there are in every ten thousand persons 1365 who have obtained above 50 years' experience; in America there are only 830.

The moral consequences of the predominance of the young and passionate in the American community are attested by observers to be such as have already been described in the General Sanatory Report as characteristic of those crowded, filthy, and badly administered districts in England, where the average duration of life is short, the proportion of the very young great, and the adult generation transient.

The difference does not arise solely from the greater proportion of children arising from a greater increase of population, though that is to some extent consistent with what has been proved to be the effect of a severe general mortality; the effects of the common cause of depression is observable at each interval of age; the adult population in America is younger than in England, and if the causes of early death were to remain the same, it may be confidently predicted that the American population would remain young for centuries.

	Years.	Months.
The average age of all alive above 15 in America is .	33	6
The average age of all alive above 15 years in England and Wales is	37	5
The average age of all above 20 years in America is .	37	7
In the whole of England the average of all above 20 years is	41	1

The difference at the different stages of age appear also to prevail in proportion to the different pressure of the causes of disease and mortality in different districts in England: *e. g.* In the town parishes of Middlesex the average age of the living above 15 years is 35 years and 10 months; but in Hereford it is 39 years and 2 months. In Middlesex the average age of the adult population, that is of all above 20 years, is 38 years and 8 months; whilst in Hereford it is 42 years and 1 month.

Since these observations were written I have been favoured with a table of the mortality at the different ages of life in Philadelphia, from the year 1830 to 1842, inclusive, from the Board of Health of that city. Travellers, misled by the fallacious assumption of the proportions of death to the population, (a fallacy exemplified in the table itself,) which have ranged from 1 in 33 to 1 in 47, have represented this as a healthy city. It was formerly excessively ravaged by fevers. It has been greatly improved by the introduction of water, and the mortality has been diminished; but it is ill-drained. It is situated, like the worst town districts in England, amidst privies and cesspools, and in other respects its sanatory condition is inferior. In summer the heat is intense, decomposition active, and there is an excessively severe mortality. The infantile mortality appears to be as great as in the lowest districts of Dublin. It will be seen, in the subjoined table, that 50 per cent.—half who are born—die on the average before the fifth year of age. On the proposed hypothetical modes of preparing life tables, the expectation of life in that city to all born would be only 5 years; but the actual mean of existence is 20 years and 7 months to all who die.

MORTALITY IN PHILADELPHIA.

Population in 1830, 167,811; in 1840 (within the limits of the "health laws"), 232,000.

YEARS.	DEATHS.																	Average Age of Death of all who died.	Average Age of Death of all who died above 20 years.	Proportion of Deaths to Population assuming increase of Population to have been regular from 1830 to 1842.	Proportion of Births to Population assuming the increase to have been regular from 1830 to 1842.
	Under 1 Year.	From 1 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	110	Total.				
1830	1305	325	260	139	75	99	508	518	353	267	195	100	70	24	2	..	4240	Years Months 24 11	Years Months 49 1	1 in 40	1 in 22
1831	1439	444	441	217	74	123	495	559	380	278	220	145	91	30	3	..	4939	21 9	45 6	1 ,, 35	1 ,, 24
1832	1083	530	533	299	100	127	687	705	509	327	261	168	59	14	1	..	5412	23 6	43 6	1 ,, 33	1 ,, 25
1833	1337	375	321	131	78	103	531	534	362	243	185	141	79	17	3	..	4440	22 2	44 3	1 ,, 42	1 ,, 24
1834	1578	442	385	168	81	130	559	547	394	279	244	149	91	21	5	..	5073	21 9	45 3	1 ,, 38	1 ,, 26
1835	1679	655	777	321	88	114	480	487	360	222	187	175	96	18	7	..	5666	18 1	45 11	1 ,, 37	1 ,, 27
1836	1496	412	508	210	73	124	575	638	477	295	242	182	99	22	4	..	5357	22 7	45 3	1 ,, 39	1 ,, 28
1837	1549	544	500	227	76	111	523	509	403	246	226	187	76	19	6	..	5202	20 8	45 8	21 ,, 41	1 ,, 26
1838	1728	635	543	223	77	119	532	497	363	234	207	201	78	22	3	..	5462	19 3	45 7	1 ,, 40	1 ,, 28
1839	1709	589	510	206	51	96	490	447	312	222	216	161	87	14	3	..	5113	18 10	45 9	1 ,, 44	1 ,, 31
1840	1531	435	424	193	81	114	496	501	372	270	232	168	106	19	7	..	4949	21 10	46 7	1 ,, 47	1 ,, 28
1841	1729	665	334	231	79	135	564	507	376	259	235	228	105	18	5	..	5470	20 11	46 5	1 ,, 44	1 ,, 29
1842	1778	665	637	304	91	118	530	559	363	295	249	217	116	20	1	1	5943	19 11	46 8	1 ,, 41	
Average Annual Number of deaths at each Period during the ten years ended 1842	1611	542	494	221	77	116	528	522	378	256	222	181	93	19	4	..	5267	Average age of Death for the ten Years ended 1842	Average Age of Death of all who died above 20 years of age during the ten years ended 1842.		
	20	7																20 7	45 9		
Proportion per cent of Deaths at each Period to Total Deaths on an Average of ten years ended 1842	31	10	9	4	1	2	10	10	7	5	4	3	2	4	1						

Note.—As it is uncertain whether the population for 1830 was given for the same limits, which apparently do not comprehend all the county as well as the city, the two last columns of the proportions of deaths and births to the population must be taken as subject to errors before 1840.

Of the 46 per cent. who die after 20 years, no less than 27 per cent. die under 50 years of age. It will be evident that these ravages of the adult population, in the prime of life, must keep down the age of the whole population. The mean age of the living of the whole white population of the city and county of Philadelphia in 1840, was only 23 years and 7 months, and of the adult population, above 20 years, only 36 years and 5 months. The average of all who die above 20 years of age in that city, appears to be 45 years; in London it is 53 years. Even in Bethnal Green, the lowest district, it is 48 years and 9 months.

The comparative amount of disease and death elsewhere, it need scarcely be said, in no way affects the positive amount of evil in this country, or dispenses with the duty of adopting such practical measures as may be preventive of a single one of the cases of preventible deaths which abound in masses in the large districts having the least unfavourable averages.

The instances have been adduced to exemplify the suggestions of amendment in the mode of measuring the amount and influence of mortality, and more especially to show the importance of giving the average age, as well as the numbers of deaths and the average age of the living, in each class of the community.

The subsequent district returns and the notes extracted from the reports made by the local registrars to the Registrar-General, in corroboration of the General Sanatory Report, will show the immense importance to the community of the facts that require investigation. It cannot be too urgently repeated that it is only by examinations, case by case, and on the spot, that the facts from which sound principles are deduced may be correctly distinguished. They can only be well classed for general conclusions and public use, by persons who have large numbers brought before their actual view and consideration, and who have thus brought before them impressively the common circumstances for discrimination, which no hearsay, no ordinary written information, will present to their attention. The attainment of this immensely important public service might properly have been submitted as a principal, instead of a collateral object, to the improvement of the practice of interment, for the appointment of such a small well-qualified agency as that proposed, of some five or six trustworthy officers of public health for each million of a town population, with the requisite powers and responsibilities for ascertaining the actual amount of the preventible causes of death, and informing the local officers and the public of what is to be done for their removal.

The several modes herein proposed, of rendering vital statistics useful and popular; of ascertaining the pressure of all the complicated causes of death; of determining how much is due to locality, how much to physical circumstances that are removeable, how much to social position; what is the actual amount of life experienced in years under these different circumstances; what is the progress of population under them, and what collateral moral results are measurable by statistical evidence;—these I would submit to the examination of the Fellows of the Society, and would especially ask the consideration of them by the great promoter of statistics in modern times, Mr. Quetelet, of Brussels. Much may be expected from the examinations of such competent investigators as I know are directing their attention to these subjects in the United Kingdom, viz., Dr. Laycock, of York; Dr. Playfair, Dr. Noble, Mr. Roberton, and others in Manchester; Dr. Duncan,

of Liverpool; the Rev. Mr. Clay, at Preston; Mr. Hawksley, of Nottingham,—in aid of the important practical investigations now in progress under the men of distinguished scientific qualifications, acting as Commissioners under the Health of Towns Commission;—by Dr. James Willis, of Dublin; and Dr. Griffin, of Limerick. Abroad there is much new investigation on these subjects. M. Ducpetiaux informs me he is endeavouring to obtain for Brussels a Report on the vital statistics and state of the population, similar to those given in the Sanatory Report.

I was informed by Dr. Sigmund, the imperial physician of Vienna, who was recently in this country, that the paternal government of Austria is now directing its attention to the subject of the waste of life amongst the lower classes, and the means of the improvement of their sanatory condition, and much may be expected from the zealous services of the medical staff, and of such officers as himself and Dr. Becher, and Mr. Czernig. The King of Prussia (who I learn from one of his officers, Dr. Julius, takes a special interest on the subject) has gone at once to the chief remedies, by the appointment of a commission to consider of the best means of improving the sanatory condition of his capital, by a better system of drainage, and by better supplies of water. Since these important steps have been taken the attack of his Queen by an epidemic disease has shown that the guards of palaces cannot exclude the morbific miasma that arises in the greatest strength in the worst-conditioned districts and assail all ranks of society. Such well-considered statistical mortuary returns as Dr. Wagner and Mr. Hoffman of Berlin might furnish, would show its citizens how much, by expenditure in well-executed measures, directed by engineering science, they may gain in the reduction of existing pecuniary burdens alone, that are entailed by an excessive mortality. It yet remains to be seen which government will take the lead in measures of improvement of the physical condition of the population, and the reduction of the mass of human misery.

On one large measure, the prevention of the burial of the dead in churches or in towns amidst the living, the steps taken at Franckfort, in Munich, and the chief towns of Bavaria; in Berlin, and the chief Prussian towns, and in Austria, the administrative arrangements for carrying out that measure, and for consulting the feelings of the lowest classes, and alleviating the painful mental associations with the general doom, and the wise collateral measures for giving security, it will be found, on examination, have no parallel in administrative measures in this country, in France, or in America; though hopes may be expressed that they are not beyond the reach of imitation in these countries. The communication from Dr. Griscom, of New York, and the application for reports and information from benevolent and influential persons in other American cities, afford promise that attention is awakening to the subject of the health and physical condition of the population, even amidst the fury of party passion and conflict in the United States. It was extremely satisfactory to learn, a few months since, that an engineer had been sent from New Orleans to London to examine, with the view to the adoption of, those improved modes of drainage carried out in one division of London, (and in one division only), to which attention had been directed in the Report on the Sanatory Condition of the Labouring Population of Great Britain. It is to be hoped, that Mr. Villermé, who has done so much for vital statistics in France, will not relax in his exertions in showing the amount of depressing causes upon the condition of the

labouring classes, and that he and others will place before the French legislature the irrefragable evidence of immense waste of life in Paris, and show how well, on the lowest pecuniary considerations, it is worth while to buy off all the interests of the *porteurs d'eau* which stand in the way of improved supplies of water, and the means of cleanliness and health being introduced into every house; and all the interests of the *cheffoniers*, who stand in the way of the improved cleansing of its streets, and the purification of that offensively smelling low sanatory and undrained city. Yet it must be confessed, when the smaller administrative districts in this country are examined, not much is found to boast of.

It would be a most useful field of statistical inquiry, in this as well as in other countries, what is the expense in money, in sickness, and mortality at which such interests are sustained. Mr. Whitworth of Manchester has invented a machine, which, by the labour of one man and a horse in 10 hours, sweeps more cleanly a space which could only be swept in the same time by the labour of between 30 and 40 sweepers. He offers everywhere to sweep twice for the same sum, whatever it may be, that is now charged to the public for sweeping once. In only two or three out of the 80 petty jurisdictions into which the metropolis is divided, could he get even a trial of his machine, notwithstanding the demonstration of its success. The scavengers' interest everywhere overpowered the public interest in cleanliness and health, and even the immediate interests of the shopkeepers, in less dusty streets, and less destruction of furniture. He took out patents for the continent and America. At Paris the *cheffoniers'* interest was found to be impregnable. New York is distinguished by the defective cleansing of the lower districts, in which the pig has been the only scavenger. The condition of its streets has been lamented by Dr. Griscom, who has pointed out the great saving which might be produced by a better system; and Mr. Whitworth was at the expense of sending an agent to New York, in the full expectation of a success which he had no where else met with; but the more the efficiency of the machine and the saving of labour were demonstrated, the more he was assured, by profound statesmanlike men, that it would never answer for such a city as that. Was it in the form of the streets, or anything peculiar in their filth that a machine would not remove? far from it: the machine would remove too much. Wherein then was the impracticability? The statesmen's view was accidentally disclosed;—that it had NO VOTES: this was a country of universal suffrage, and a plan which, with every machine introduced, swept away 30 or 40 dependent votes, "would never answer." No public man could be found to support it. Dr. Griscom, the inspector of interments, who had ventured to propose an improved system of cleansing, by which the patronage of 100,000 dollars per annum in bad cleansing would be saved, and who had opened to the citizens in an able report other measures of efficient improvement, has been himself swept away from his office by a change of parties, which always sweeps away indiscriminately whatever public administrative talent may have arisen under such circumstances. The inventor, who would have been ruined by his invention if he had been a poor man, has foregone all efforts in America and in France, and has now endeavoured to enlist the aid of shareholders in a joint-stock company in this country.

The moral atmosphere under which a population is so situated is as offensive and depressing and pestilential as the physical atmosphere under

which it suffers; and it is grievous to experience, and melancholy to contemplate; but still there are facts of promise; we must hope and labour on; and some of the most beneficial labours of those who are fortunate in being placed above and out of the reach of such influences, would be in the production of complete statistical returns, demonstrating, as they must do when complete, the enormous expense in money as well as in pain, sickness, and waste of life, which would make it worth while to buy off, on the most liberal terms, every existing opposing interest to the most certain measures of human improvement.

If there could be intercommunication and simultaneous labours of statists in different places, based on local investigations, each might afford light to advance the labours of the other, and give to vital statistics a public estimation and use beyond any which they have at present obtained!

The subjoined tables are submitted only as imperfect approximations to more improved returns. In them will be found combined the mean ages and deaths prevailing amongst the several classes of society, so far as the present imperfect state of the registries (which the present Registrar-General has shown every disposition to improve) will allow them to be ascertained; together with the mean ages of the living population, and the proportions of births and deaths to the population, and the numbers of deaths from epidemics in each class. The deaths of children were taken up to the period of ten years, not as the best stage, but as the stage necessary for the special purposes for which the returns were obtained, namely, to ascertain the proportions of burials of adults in the Metropolis, all being classed technically as adults who are above that age.

The districts are placed in the order of the average age of death of the whole population during the year 1839, commencing with the highest average.

District.	Class.	Number of Deaths of each Class. Adults.	Children under 10.	Total.	Deaths from Epidemic.	Average Age at Death of all who die above 21.	Average Age at Death, including Children.	Years' Average premature loss of Life by: Deaths above Age of 21.	Deaths of all Classes.	Proportionate Number of Deaths to Population.	Excess in Number of Deaths above a Healthy standard.
		No.	No.	No.	No.	Years.	Years.	Years.	Years.	No.	No.
Greenwich. Population 80,811.	Gentry .	62	18	80	9	62	48	..	..		
	Tradesmen	150	97	247	42	54	31	8	8		
	Artisans, &c.	947	414	1,361	227	56	36	6	3	1 in 39	159
	Undescribed	141	110	251	35	58	30	4	9		
	Paupers .	109	21	130	17	62	52	..	..		
	Totals and	1,409	660	2,069	330	..	..	..	..	..	..
	Averages .	..	..	..	..	57	36	5	3	..	..
		No. of Births 1,780			Age of Living 28			Births 1 in 45			
Camberwell. Population 39,867.	Gentry .	58	23	81	11	58	38	4	1		
	Tradesmen	111	86	197	35	54	28	8	11		
	Artisans, &c.	137	134	271	54	51	26	11	13	1 in 51	100
	Undescribed	98	37	135	13	61	42	1	..		
	Paupers .	92	6	98	7	62	56	..	..		
	Totals and	496	286	782	117	..	..	..	..	..	..
	Averages .	..	..	..	..	57	34	5	5	..	..
		No. of Births 709			Age of Living 27·5			Births 1 in 44			

District.	Class.	Number of Deaths of each Class. Adults.	Children under 10.	Total.	Deaths from Epidemic.	Average Age at Death of all who die above 21.	Average Age at Death, including Children	Years' Average premature loss of Life by: Deaths above Age of 21.	Deaths of all Classes.	Proportionate Number of Deaths to Population	Excess in Number of Deaths above a Healthy standard.
		No.	No.	No.	No.	Years.	Years.	Years.	Years.	No.	No.
Hackney. Population 42,274.	Gentry .	50	11	61	6	61	47	1	..		
	Tradesmen	134	94	228	21	52	29	10	10		
	Artisans, &c.	117	120	237	35	55	27	7	12	1 in 56	155*
	Undescribed	80	102	182	36	60	25	2	14		
	Paupers .	46	4	50	1	67	61	..	..		
	Totals and	427	331	758	99	..	..	..	..	..	..
	Averages .	..	..	..	..	57	31	5	8	..	..
		No. of Births 995			Age of Living 26·10			Births 1 in 42			
St. George, Hanover Square. Population 66,433.	Gentry .	110	28	138	12	59	45	2	..		
	Tradesmen	112	79	191	23	50	29	12	10		
	Artisans, &c.	528	344	872	130	47	27	15	12	1 in 50	272†
	Undescribed	18	17	35	3	61	32	1	7		
	Paupers .	77	12	89	8	59	51	3	..		
	Totals and	845	480	1,325	176	..	..	..	..	..	..
	Averages .	..	..	..	..	50	31	12	8	..	..
		No. of Births 1,260			Age of Living 28·3			Births 1 in 53			

* Mr. W. B. Robinson, the Registrar for West Hackney District, describes the condition of the houses where the greatest mortality prevails as bad, with murky superficial gutters within a yard of the front doors. Supply of water bad, quite insufficient for health, and that only three times a week: cleanliness not prevailing. All these require three things only to render them not less healthy than the other parts of the neighbourhood:—1. Proper and effectual drainage, and removal of superficial drains and gutters. 2. A constant supply of water, so as to wash away impurities in the drains, and enable the inhabitants to preserve a greater degree of cleanliness, &c. 3. That the houses should be kept in better repair, and frequently lime-washed; and the privies should be more frequently emptied, and not allowed to run over; and that any stagnant ditch, within a certain distance from houses, should be covered over.

† Mr. E. Jay, Registrar of Hanover-square District.—Name any particular streets, courts, or houses which, from the number of deaths occurring therein, and the nature of the diseases, appear to you to be unhealthy. —"I should therefore say that the most unhealthy streets, &c., in my district are Oxford-buildings, Brown-street, Toms-court, Thomas-street, Grosvenor market, Grosvenor-mews, George-street, and Hart-street; and to these, perhaps, may be added North-row, and Dolphin-court, and Providence-court, also the north end of Davies-street, adjoining Oxford-street. I have observed small-pox always to exist, when prevalent anywhere, in No. 24, George-street (Grosvenor-market); and much sickness and mortality have occurred in No. 18, Oxford-buildings. Oxford-buildings consist of 18 inhabited houses, containing many wretched families, principally Irish labourers; it was improved lately, in consequence of the exertions of humane individuals, but is still the seat of great poverty and vice. The ventilation here is so bad, that even visiting the houses is a disagreeable duty, from the foul air breathed even for a short space of time. The supply of water is good, and the drainage is reported by those who attend to the subject to be perfect, as it is throughout the parish; but the bad effluvia show that there must be some defect in this point. Three families frequently live in one room, some of the houses containing upwards of 56 persons; many of them live almost entirely on potatoes and herrings, and beer when they can get it. Want of fuel in many cases in winter. Brown-street.—Occupied by the poor and working class; the rooms very small, badly ventilated, and cleansed; the damp kitchens, with frequently stone-floors, are lived and slept in. Living is bad, from the poverty which prevails here. Hart street.—Many poor families reside here, often in great want. Tolerably well drained. Toms court.—Contains eight houses; inhabitants in a wretched state in many cases, partly from want of employ, partly from intemperance. Small pox and epidemics have raged here. George-street.—Some of the houses here are inhabited by working men of a better class, but it also contains others in a wretched condition, in point of cleanliness and ventilation, and much privation is suffered by the inhabitants. Grosvenor-market.—This spot is particularly close, being built almost in *cul de sac*; the houses are dark, badly ventilated, and most unhealthy; the food of some of the poorest principally potatoes; a large slaughter house situated here adds to its unhealthiness; great want of fuel in winter. Grosvenor-mews.—Here the inhabitants are very thickly crowded, and among the children there is always much mortality; in one house, at the time of taking the census, there were 80 persons. The inhabitants consist of coachmen and their families, as do many of the mews in this district. This class is frequently intemperate; they live over stables, are ignorant of the necessity of free ventilation, and many appear to suffer in consequence. New comers from the country complain of the want of free air, to which they ascribe their deteriorated health. Thomas-street.—Some of the houses in bad condition, and inhabited by the poorest families. No attention to ventilation. Supply of butchers' meat casual and infrequent. Pneumonia and bronchitis are frequently fatal in these poorer districts; and he who enters the damp, dark, underground kitchen,—in which all the occupants live and sleep, in which the room is made more close by a fire required for their cooking, the atmosphere is loaded with moisture from wet clothes hung across the narrow space to dry, and probably some child ill of disease,—sees that such a state of surrounding circumstances shuts out all chance of recovery in at least the majority of cases."

District.	Class.	Number of Deaths of each Class. Adults.	Children under 10.	Total.	Deaths from Epidemic.	Average Age at Death of all who die above 21.	Average Age at Death, including Children.	Years' Average premature loss of Life by: Deaths above Age of 21.	Deaths of all Classes.	Proportionate Number of Deaths to Population.	Excess in Number of Deaths above a Healthy standard.
		No.	No.	No.	No.	Years.	Years.	Years.	Years.	No.	No.
Rotherhithe. Population 13,916.	Gentry. .	6	..	6	1	57	49	5	..		
	Tradesmen	12	2	14	2	50	40	12	..		
	Artisans, &c.	70	14	84	2	51	40	11	..	1 in 41	79
	Undescribed	78	121	199	50	52	19	10	20		
	Paupers .	33	5	38	3	68	56	..	..		
	Totals and	199	142	341	58	..	..	..	..	..	..
	Averages .	..	..	..	..	54	30	8	9	..	..
	No. of Births 385				Age of Living 26·7				Births 1 in 36		
St. Olaves. Population 18,427.	Gentry. .	4	..	4	..	64	..	..	..		
	Tradesmen	55	46	101	24	48	25	14	14		
	Artisans, &c.	603	215	818	107	43	30	19	9	1 in 19	229
	Undescribed	5	14	19	7	50	16	12	23		
	Paupers .	47	4	51	8	59	54	3	..		
	Totals and	714	279	993	146	..	..	..	..	..	..
	Averages .	..	..	..	..	45	30	17	9	..	..
	No. of Births 519				Age of Living 27·0				Births 1 in 36		
Kensington, (including Chelsea). Population 114,952.	Gentry. .	193	50	243	17	60	45	2	..		
	Tradesmen	204	120	324	33	50	30	12	9		
	Artisans, &c.	559	619	1,178	223	53	24	9	15	1 in 51	582
	Undescribed	202	181	383	47	58	30	4	9		
	Paupers .	106	36	142	24	61	44	1	..		
	Totals and	1,264	1,006	2,270	344	..	..	..	..	..	..
	Averages .	..	..	..	..	55	29	7	10	..	..
	No. of Births 2,782				Age of Living 27·5				Births 1 in 41		
Islington. Population 55,720.	Gentry. .	83	35	118	11	61	42	1	..		
	Tradesmen	151	121	272	43	50	26	12	13		
	Artisans, &c.	177	260	437	108	47	19	15	20	1 in 55	261
	Undescribed	106	27	133	9	61	46	1	..		
	Paupers .	49	10	59	3	60	49	2	..		
	Totals and	566	453	1,019	174	..	..	..	..	..	..
	Averages .	..	..	..	..	54	29	8	10	..	..
	No. of Births 1,177				Age of Living 26·11				Births 1 in 47		
St. Martin in the Fields. Population 25,193.	Gentry. .	23	4	27	2	57	46	3	..		
	Tradesmen	60	47	107	22	45	24	17	15		
	Artisans, &c.	165	137	302	82	48	26	14	13	1 in 36	200
	Undescribed	89	112	201	42	51	21	11	18		
	Paupers .	68	4	72	4	65	60	..	..		
	Totals and	405	304	709	152	..	..	..	..	..	..
	Averages .	..	..	..	..	52	28	10	11	..	..
	No. of Births 601				Age of Living 28·4				Births 1 in 42		

District.	Class.	Number of Deaths of each Class. Adults.	Children under 10.	Total.	Deaths from Epidemic.	Average Age at Death of all who die above 21.	Average Age at Death, including Children.	Years' Average premature loss of Life by: Deaths above Age of 21.	Deaths of all Classes.	Proportionate Number of Deaths to Population.	Excess in Number of Deaths above a Healthy standard.
		No.	No.	No.	No.	Years.	Years.	Years.	Years.	No.	No.
Poplar. Population 31,091.	Gentry. .	16	7	23	2	61	43	1	..		
	Tradesmen	44	40	84	14	51	26	11	13		
	Artisans, &c.	235	240	475	80	53	25	9	14	1 in 47	186
	Undescribed	19	10	29	2	63	36	..	..		
	Paupers .	45	3	48	2	64	53	..	..		
	Totals and	359	300	659	104	..	..	..	..	..	..
	Averages .	..	..	..	..	55	28	7	11	..	..
	No. of Births 1,106				Age of Living 25·10				Births 1 in 28		
Marylebone. Population 137,955.	Gentry. .	156	40	196	20	59	46	3	..		
	Tradesmen	198	172	370	57	51	27	11	12		
	Artisans, &c.	682	759	1,441	251	48	23	14	16	1 in 45	857
	Undescribed	347	324	671	104	54	27	8	12		
	Paupers .	288	73	361	61	54	42	8	..		
	Totals and	1,671	668	3,039	493	..	..	..	..	..	..
	Averages .	..	..	..	..	52	28	10	11	..	..
	No. of Births 3,511				Age of Living 27·9				Births 1 in 39		
Stepney. Population 90,657.	Gentry. .	64	9	73	3	65	56	..	..		
	Tradesmen	169	104	273	47	53	31	9	8		
	Artisans, &c.	568	591	1,159	247	48	23	14	16	1 in 41	620
	Undescribed	203	274	477	101	56	22	6	17		
	Paupers .	189	28	217	28	63	54	..	..		
	Totals and	1,193	1,006	2,199	426	..	..	..	..	..	..
	Averages .	..	..	..	..	53	28	9	11	..	..
	No. of Births 2,502				Age of Living 26·6				Births 1 in 36		
St. Mary, Newington. Population 54,607.	Gentry. .	79	13	92	6	62	50	..	..		
	Tradesmen	75	64	139	23	50	26	12	13		
	Artisans, &c.	325	420	745	162	52	22	10	17	1 in 46	338
	Undescribed	75	76	151	31	59	30	3	9		
	Paupers .	64	6	70	1	60	55	2	..		
	Totals and	618	579	1,197	223	..	..	..	..	..	..
	Averages .	..	..	..	..	55	28	7	11	..	..
	No. of Births 1,620				Age of Living 26·8				Births 1 in 34		
St. Pancras. Population 129,711.	Gentry. .	151	49	200	15	61	45	1	..		
	Tradesmen	349	286	635	108	50	27	12	12		
	Artisans, &c.	622	674	1,296	287	47	22	15	17	1 in 43	934*
	Undescribed	269	354	623	199	55	23	7	16		
	Paupers .	232	49	281	47	61	50	1	..		
	Totals and	1,623	1,412	3,035	656	..	..	..	..	..	..
	Averages .	..	..	..	..	53	27	9	12	..	..
	No. of Births 3,264				Age of Living 26·10				Births 1 in 40		

* Mr. Worrell, the Registrar of the Gray's Inn-lane District;—"To ascertain and compare the healthy with the unhealthy parts of my district, I have placed against each street the whole number of deaths from all causes during the last five years. I have taken the number of deaths from a population of 5000, resident in

District.	Class.	Number of Deaths of each Class. Adults.	Children under 10.	Total.	Deaths from Epidemic.	Average Age at Death of all who die above 21.	Average Age at Death, including Children.	Years' Average premature loss of Life by: Deaths above Age of 21.	Deaths of all Classes.	Proportionate Number of Deaths to Population.	Excess in Number to Deaths above a Healthy standard.
		No.	No.	No.	No.	Years.	Years.	Years.	Years.	No.	No.
West London. Population 33,629.	Gentry .	12	4	16	2	58	38	5	1		
	Tradesmen	83	103	186	41	49	22	13	17		
	Artisans, &c.	393	381	774	186	46	22	16	17	1 in 27	387
	Undescribed	149	17	166	23	47	38	15	1		
	Paupers .	99	16	115	26	64	55	..	..		
	Totals and Averages.	736	521	1,257	278	..	..	..	..	..	..
		No. of Births 698			Age of Living 27·7				Births 1 in 48		
Whitechapel. Population 71,758.	Gentry .	17	4	21	..	58	47	4	..		
	Tradesmen	142	130	272	42	50	26	12	13		
	Artisans, &c.	741	637	1,378	261	48	25	14	14	1 in 31	768
	Undescribed	116	313	429	107	58	16	4	23		
	Paupers .	166	37	203	38	63	61	..	..		
	Totals and Averages.	1,182	1,121	2,303	448	..	..	..	..	..	..
		No. of Births 2,103			Age of Living 26·2				Births 1 in 34		
St. James, Westminster. Population 37,407.	Gentry .	27	9	36	1	57	42	5	..		
	Tradesmen	68	66	134	23	51	26	11	13		
	Artisans, &c.	161	190	351	59	46	21	16	18	1 in 50	251
	Undescribed	52	83	135	28	52	20	10	19		
	Paupers .	81	15	96	7	58	49	4	..		
	Totals and Averages.	389	363	752	118	..	..	..	..	..	..
		No. of Births 844			Age of Living 28·2				Births 1 in 44		
East London. Population 39,655.	Gentry .	14	3	17	..	63	50	..	..		
	Tradesmen	134	164	298	76	53	23	9	16		
	Artisans, &c.	265	391	656	145	51	21	11	18	1 in 36	372
	Undescribed	36	10	46	1	50	38	12	1		
	Paupers .	87	11	98	18	65	57	..	..		
	Totals and Averages.	536	579	1,115	240	..	..	..	..	..	..
		No. of Births 1,235			Age of Living 27·0				Births 1 in 32		

what I consider healthy streets; and I have also taken the number of deaths from a population of 5000, resident in streets which I consider unhealthy. The 5000 occupying the best houses are composed of merchants, professional gentlemen, and the richer class of tradesmen; they occupy 725 houses, containing about 7800 good rooms; the streets are wide, well drained, and have a plentiful supply of water. The 5000 occupying the unhealthy streets are composed of the lower class of tradesmen, journeymen mechanics, labourers, and costermongers; they occupy 434 houses, containing about 2800 rooms, the best of which are little better than the worst of the 7800 before mentioned; the streets are mostly confined, the drains in a bad state, and in many places the accumulation of filth renders the atmosphere foul, whilst the supply of water is not very good. The number of deaths which I find in the healthy streets during five years, amongst a population of 5000, amounts to 325; and, during the same period, amongst 5000 occupying the unhealthy streets I find 613. No doubt many of the residents in the best houses go into the country, with the view of benefitting their health, and there die; but certain it is that many more of the poorer classes die in the workhouses and hospitals—so that, no doubt, amongst a certain number of poor, at least two deaths occur to one amongst the same number of rich. Having been a collector of rates upwards of 25 years, and, as a house agent, having had much to do with the letting of houses, I am thoroughly acquainted with the neighbourhood; and, having taken an active part in collecting and distributing voluntary contributions in times of distress and severe weather, I have been enabled to judge of the condition of the poor

District.	Class.	Number of Deaths of each Class. Adults.	Children under 10.	Total.	Deaths from Epidemic.	Average Age at Death of all who die above 21.	Average Age at Death, including Children	Years' Average premature loss of Life by: Deaths above Age of 21.	Deaths of all Classes	Proportionate Number of Deaths to Population.	Excess in Number of Deaths above a Healthy standard
		No.	No.	No.	No.	Years.	Years.	Years.	Years.	No.	No.
Holborn. Population 39,720.	Gentry .	36	9	45	3	58	47	4	..		
	Tradesmen	144	164	308	75	52	24	10	15		
	Artisans, &c.	231	353	584	149	50	19	12	20	1 in 36	367
	Undescribed	21	6	27	2	54	41	8	..		
	Paupers .	155	32	137	35	60	46	2	..		
	Totals and Averages.	537	564	1,101	264	..	..	..	..	..	..
		No. of Births 969			Age of Living 27·2			9	Births 1 in 41		
Shoreditch. Population 83,552.	Gentry .	63	23	86	14	65	47	..	..		
	Tradesmen	153	150	303	63	47	23	15	16		
	Artisans, &c.	498	802	1,300	271	51	19	11	20	1 in 38	732
	Undescribed	150	75	225	34	57	37	5	2		
	Paupers .	234	49	283	56	57	46	5	..		
	Totals and Averages.	1,098	1,099	2,197	438	..	..	..	..	..	..
		No. of Births 3,058			Age of Living 26			8	Births 1 in 27		
City of London. Population 55,967.	Gentry .	32	12	44	3	63	43	..	..		
	Tradesmen	247	244	491	84	48	23	14	16		
	Artisans, &c.	213	270	483	94	50	22	12	17	1 in 50	403
	Undescribed	77	29	106	15	58	39	4	..		
	Paupers .	..	..	..	..	..	..	..	..		
	Totals and Averages.	569	555	1,124	196	..	..	..	..	..	..
		No. of Births 1,210			Age of Living 27·7			11	Births 1 in 46		
St. John & St. Margaret, Westminster. Population 56,718.	Gentry .	37	14	51	9	55	42	7	..		
	Tradesmen	82	102	184	47	46	20	16	19		
	Artisans, &c.	458	581	1039	264	48	21	14	18	1 in 39	521
	Undescribed	38	24	62	9	56	49	6	..		
	Paupers .	97	19	116	17	57	46	5	..		
	Totals and Averages.	712	740	1,452	346	..	..	..	..	..	..
		No. of Births 1,730			Age of Living 26·11			12	Births 1 in 33		

and their habitations, and I have always observed that sickness prevails much more in places where sewers and drains are bad than in other parts where the inhabitants are equally poor, but have more wholesome houses to live in. Any suggestion here as to remedy may, probably, be considered out of place, but having had much experience as a Commissioner of Pavements, as well as in several offices of local management during the last 25 years, and having given much attention to the subject (an evil which, in my opinion, affects the metropolis to an extent little imagined), I have no doubt as to the means of remedy, and improvement in the local administration being perfectly easy and effectual."

In another classification he arranges, from descriptions of streets with nearly equal population, the highest in each class; the relative proportions, and average ages of deaths, are ascertained to be as follows:—

	Population.	Deaths.	Average Age of Death.
Class 1	1432	97	35
Class 2	1465	119	32
Class 3	1448	157	25
Class 4	1386	200	21

The above statement proves that, out of a population of 1432 occupying the best houses, 95 deaths occurred within five years, 29 of which at and under five years of age; and that out of a population of 1386, occupying the worst houses, the whole number of deaths are 189, 104 of which at and under five years of age.

District.	Class.	Number of Deaths of each Class. Adults.	Children under 10.	Total.	Deaths from Epidemic.	Average Age at Death of all who die above 21.	Average Age at Death, including Children.	Years' Average premature loss of Life by: Deaths above Age of 21.	Deaths of all Classes.	Proportionate Number of Deaths to Population.	Excess in Number of Deaths above a Healthy standard.
St. James, Clerkenwell. Population 56,709.	Gentry .	52	15	67	8	60	46	2	..		
	Tradesmen	99	109	208	50	49	23	13	16		
	Artisans, &c.	324	533	857	183	50	19	12	20	1 in 43	474
	Undescribed	82	17	99	6	59	44	3	..		
	Paupers .	76	14	90	2	60	50	2	..		
	Totals and Averages.	633	688	1,321	249	..	..	..	..	..	..
		No. of Births 1,771			Age of Living 25·11			Births 1 in 32			
St. George in the East. Population 41,351.	Gentry .	18	3	21	..	63	54	..	..		
	Tradesmen	66	72	138	29	49	23	13	16		
	Artisans, &c.	313	481	794	158	46	18	16	12	1 in 36	408
	Undescribed	62	14	76	3	60	46	2	..		
	Paupers .	93	14	107	14	61	52	1	..		
	Totals and Averages.	552	584	1,136	204	..	..	..	..	..	..
		No. of Births 1,404			Age of Living 26·6			Births 1 in 29			
St. Giles and St. George. Population 54,250.	Gentry .	66	32	98	15	60	40	2	..		
	Tradesmen	119	114	233	44	52	26	10	13		
	Artisans, &c.	280	584	864	221	51	17	11	22	1 in 36	528
	Undescribed	42	20	62	9	53	35	9	4		
	Paupers .	208	34	242	53	54	46	8	..		
	Totals and Averages.	715	784	1,499	342	..	..	..	..	..	..
		No. of Births 1,622			Age of Living 27·9			Births 1 in 33			
Strand. Population 43, 894.	Gentry .	47	21	68	8	59	40	3	..		
	Tradesmen	129	132	261	58	51	25	11	14		
	Artisans, &c.	299	382	681	178	48	61	14	18	1 in 41	413
	Undescribed	26	19	45	4	55	28	7	11		
	Paupers .	15	5	20	..	65	49	..	..		
	Totals and Averages.	516	559	1075	248	..	..	..	..	..	..
		No. of Births 957			Age of Living 27·3			Births 1 in 46			
Lambeth. Population 115,883.	Gentry .	141	64	205	19	58	37	4	2		
	Tradesmen	340	452	792	174	50	21	12	18		
	Artisans, &c.	452	704	1,156	245	49	19	13	20	1 in 46	979
	Undescribed	113	68	181	27	59	35	3	4		
	Paupers .	173	38	211	37	56	44	6	..		
	Totals and Averages.	1,219	1,326	2,545	502	..	..	..	..	..	..
		No. of Births 3,782			Age of Living 26·2			Births 1 in 31			

District.	Class.	Number of Deaths of each Class. Adults.	Children under 10.	Total.	Deaths from Epidemic.	Average Age at Death of all who die above 21.	Average Age at Death, including Children	Years' Average premature loss of Life by: Deaths above Age of 21.	Deaths of all Classes.	Proportionate Number of Deaths to Population.	Excess in Number of Deaths above a Healthy standard.
St. George, Southwark. Population 46,622.	Gentry .	32	9	41	5	61	45	1	..		
	Tradesmen	66	53	119	18	54	30	8	9		
	Artisans, &c.	371	591	962	248	53	20	9	19	1 in 39	492
	Undescribed	35	15	50	10	50	30	12	9		
	Paupers .	22	6	28	2	58	45	4	..		
	Totals and Averages.	526	674	1,200	283	..	..	..	..	..	..
		No. of Births 1,574			Age of Living 26·5			Births 1 in 30			
St. Luke. Population 49,982.	Gentry .	21	6	27	3	56	38	6	1		
	Tradesmen	62	52	114	17	49	25	13	14		
	Artisans, &c.	391	569	960	306	49	20	13	19	1 in 40	538
	Undescribed	85	49	134	17	58	35	4	4		
	Paupers .	..	..	..	..	..	..	..	..		
	Totals and Averages.	559	676	1,235	343	..	..	..	..	..	..
		No. of Births 2,271			Age of Living 25·11			Births 1 in 22			
Bermondsey. Population 34,847.	Gentry .	3	5	8	..	51	20	11	19		
	Tradesmen	66	59	125	16	48	25	14	14		
	Artisans, &c.	202	373	575	144	51	18	11	21	1 in 42	364
	Undescribed	24	26	50	6	45	21	17	18		
	Paupers .	62	14	76	15	57	47	5	..		
	Totals and Averages.	357	477	834	181	..	..	..	..	..	..
		No. of Births 1,151			Age of Living 24·7			Births 1 in 30			
Bethnal Green. Population 74,087.	Gentry .	39	11	50	4	61	46	1	..		
	Tradesmen	110	136	246	56	53	24	9	15		
	Artisans, &c.	468	874	1,342	369	51	18	11	21	1 in 41	794*
	Undescribed	69	19	88	6	57	44	5	..		
	Paupers .	76	19	95	19	65	49	..	..		
	Totals and Averages.	762	1,059	1,821	454	..	..	..	..	..	..
		No. of Births 2,674			Age of Living 25·2			Births 1 in 28			

* Mr. George Reynolds, the Registrar of the Church District, in answer to the question, In what parts of your district has the number of deaths registered in the years 1838, 1839, 1840, 1841, and 1842, been the greatest in proportion to the population? states, "In Beckford-row, Elliot-row, Alfred-place, Camden-gardens, Pitt-street, Pott-street, Camden-street, Wolverley-street, New York-street, and Punderson gardens." And state generally the condition of those unhealthy streets, courts, and houses, as to drainage, supplies of water, cleanliness.—"The places I have named are entirely without drainage. Supply of water, one hand-cock to many houses. Cleanliness, great want of." Name any particular streets or parts which, according to the facts that have fallen under your notice, appear to you to be healthy, and with reference to the points adverted to in the preceding question, compare the healthy with the unhealthy portions of your district.—"My entire district, I think, would be in a much more healthy condition had we efficient drainage; instead of which, even this, the main road of the parish, is without a sewer, notwithstanding the Commissioners of Sewers have been repeatedly memorialized, and the following fact brought under their notice, that the cellars of the houses do not extend to the depth of 3 feet 6 inches below the level of the carriage-road, and yet there is an average of 18 inches of water during the greater part of the winter season; that many persons are obliged to use the pump for many hours daily to preserve their property." He gives the following letter from a medical officer of great experience:—

District.	Class.	Number of Deaths of each Class.			Deaths from Epidemic.	Average Age at Death of all who die above 21.	Average Age at Death, including Children.	Years' Average premature loss of Life by		Proportionate Number of Deaths to Population.	Excess in Number of Deaths above a Healthy standard.
		Adults.	Children under 10.	Total.				Deaths above Age of 21.	Deaths of all Classes.		
		No.	No.	No.	No.	Years.	Years.	Years.	Years.	No.	No.
St. Saviour's. Population 32,980.	Gentry .	9	1	10	1	52	47	10	..		
	Tradesmen	45	43	88	17	52	26	10	13		
	Artisans, &c.	250	248	498	93	45	22	17	17	1 in 36	422
	Undescribed	89	198	287	65	51	15	11	24		
	Paupers .	23	9	32	4	59	40	3	..		
	Totals and Averages.	416	499	915	180	..	..	..	..	..	..
		..	..	..	..	48	21	14	18	..	..
		No. of Births 1,145			Age of Living 27·3			Births 1 in 29			

"239, Bethnal-green-road, October 31st, 1842.

"Dear Reynolds,—As you are aware, I have attended many of the inhabitants of this road and its vicinity, and I do not hesitate to say that many of their diseases are to be attributed entirely to the want of drainage. They are,—1st, febrile diseases; 2nd, diseases of the respiratory organs; 3rd, nervous diseases; 4th, diseases of the digestive organs; and lastly, cachectic diseases. Of the first kind, the very numerous cases of fever in the undrained districts that occur shortly after the autumnal rains, I take in the light of cause and effect. Rheumatism (acute and chronic) are the result of sleeping in houses, the walls of which absorb the surface water, and elevate it by capillary attraction to the height of two or three feet. The diseases of the respiratory and digestive organs are above the average number, and are attributable to the same cause. The nervous diseases I attribute to the poisonous gases exhaled from putrefying matter. They are—1st, epilepsy. In two families this disease attacked every one of the younger branches of the family, and they were cured by removal to another district. Many cases of spasm of a particular muscle, as one or two of the muscles of the face, the large muscle in front of the neck, and even some of the muscles of the arm; also frequent cases of the most inveterate hysteria have been temporarily relieved by removal, and have returned again on their return home. Of the cachectic diseases, some are produced, others aggravated, by this cause. Scrofula is of this latter description. The cases of the children in your own family show that it is impossible to prevent suppuration, when the patient is constantly breathing a humid atmosphere. This has also been the case with one of your immediate neighbours. That form of scrofula, termed *tabes mesenterica*, I think, is, in many cases, brought on entirely by the same cause. Want of time prevents my extending the example of diseases attributable to this cause.

"I am, dear Reynolds, yours truly, "T. Taylor."

On a Method recently proposed for conducting Inquiries into the Comparative Sanatory Condition of various Districts, with Illustrations, derived from numerous places in Great Britain at the period of the last Census. By F. G. P. Neison, F.L.S., &c.

[*Read before the Statistical Society of London, January 15th*, 1844.]

The present contribution has been made in consequence of the discussion which followed the reading of Mr. Chadwick's paper, at the last meeting of this Society. A new method of measuring the comparative value of life in various districts, was proposed in that communication, in the following terms: "If the ages of any class, or of the general population, living in any district, and the ages of those who die were reduced to the simplest proportions; that is, if the total years of age whether of the living or dying, were divided by the total number of individuals from which the returns were made, the public would be enabled to make comparisons between district and district, and to judge of the relative degrees of pressure in each, of the causes of mortality." It is also stated "That the average ages of death are found to maintain a comparatively steady course, always nearest to the actual condition of the population, and give the most sure indications." And that "the chief test of the pressure of the causes of mortality is the duration of life in years; and whatever age may be taken as the standard of the natural age or the

average age of the individual in any community may be taken to correct the returns of the proportions of death in that same community."*

It appears to me that there will be little difficulty in showing that the method proposed is fallacious in principle, and that its practical application to vital statistics will produce contradictory results; and that consequently it cannot be used as a test of the sanatory condition of a community. In order to be borne out in this statement, I will refer chiefly to the examples given in the paper in question.

That the average age of those who die in one community cannot be taken as a test of the value of life when compared with that in another district is evident from the fact that no two districts or places are under the same distribution of population as to ages; that is to say, compare any one district with another, for example, district A with district B, and it will be found that while in A there is perhaps 15 per cent. of the population under 5 years of age; in B there is not more than 8 per cent. under the same age, and also while A may have 10 per cent. of its population above 60 years of age, B may have only 4 per cent.

The ratio of the population, at the respective quinquennial periods to the whole population, as enumerated at the census of 1841, has been calculated for the various hundreds, town-parishes, and country-parishes of Middlesex; and it is not found that any two of them agree in the proportionate distribution of population according to ages. The same thing has also been done for the principal towns and counties of England, and like results have been obtained. It will likewise appear that the calculation has been extended to Scotland, Ireland, and America, with results confirming the same fact, that no two places, districts, or counties are uniform in the distribution of the population over the various periods of life. This is an important fact and on it the whole question turns.

Tables are here prepared (Tables A) for the following districts of the metropolis, namely, Bethnal-green, St. George's Hanover-square, Marylebone, Clerkenwell, St. Giles and St. George's Bloomsbury, and Kensington; and it will be seen on inspection that a more irregular distribution of population as to ages could not have existed, even if they had been purposely arranged with a view not to resemble each other. From this Table it appears, that while in Bethnal-green district there is 14·5 per cent. of the population under 5 years of age; in St. George's Hanover-square there is only 8·6 per cent. Again, while in St. George's Hanover-square, there is 14·2 per cent. alive between the ages of 20 and 25, in Bethnal-green there is but 8·9 per cent. The same Table also shows the actual number of the population for quinquennial periods, in the six districts in question; one column shows the proportion which the number alive at each period of life bears to the total population; in a separate column the number of deaths at each quinquennial period of

* The writer has here quoted the terms of an Essay annexed to the Supplemental Sanatory Report on the Practice of Interment in Towns (pp. 243–245), from the printed sheets of which the author of the paper which has given rise to the present, read nearly the whole of his communication to the Society. No other copy of that paper being left with the Society, or communicated to it, previous to the writer being called upon to read the present imperfect essay to the Society, he necessarily adopted for quotation the terms contained in the Sanatory Report, which had appeared in the interim. F. G. P. N.——The terms above quoted from the Supplemental Sanatory Report are not precisely the same that appear in the preceding paper, at pp. 6–12; nor are those quoted at p. 43 anywhere to be found in it.—Ed.

life is set forth from the actual mortality of the year 1840—1; the next column shows the per centage of deaths in each period of life to the whole deaths; and in the last column is inserted the rate of mortality per cent. to the population alive at each quinquennial period of life.

Similar Tables (Tables B) have been prepared, entering into the same details, for the Metropolis, Liverpool, Sheffield, Manchester, Birmingham, Leeds, city of Exeter, counties of Devon, Essex, Suffolk, Norfolk, and Hereford, and here we find similar results to those found in the metropolitan districts; for while the town of Sheffield has 14·4 per cent. of the population alive under 5 years of age, the city of Exeter has only about 11 per cent.; and again, while in the counties of Essex, Suffolk, Norfolk and Hereford there is on an average 8·864 per cent. of the population above 60 years of age, in the towns of Liverpool, Sheffield, Manchester, Birmingham, Leeds, and Exeter there is only 4·6 per cent. alive above the same age. These irregularities will be found to prevail in any other period of life that may be selected. Take the decennial term from 20 to 30, and it will appear that in the town of Liverpool it includes 22·3 per cent. of the whole population, while in the counties of Devon, Essex, Suffolk and Norfolk, it includes only 16·4 per cent. Let us also compare different places as to one quinquennial period only of life, say that from 60 to 65; and in the counties of Devon, Hereford, and Norfolk, the ratio will be found to range from 3 to 3·6 per cent. of the whole population; but in Liverpool, Leeds, Manchester, and Sheffield, the proportion alive at that period will be found to be 2 per cent. and under.

An inspection of these Tables will, I am satisfied, be sufficient to show that there is not to be found any such thing as a uniformity in the distribution of population over the various periods of life in any two places, or indeed any approximation to it. But to more completely bear out this statement, and place its truth on a still more extended basis, other Tables have been prepared, (Tables C.) to represent, at the period of last census, the population of the Metropolis, Liverpool, Sheffield, Manchester, Birmingham, Leeds, Carlisle, Exeter; the counties of Devon, Essex, Suffolk and Norfolk; and also the districts in the metropolis of St. George's Hanover-square, and Bethnal-green: in part resembling the Tables already mentioned but with this distinction, that the grouping of the population represents the period of life under 5 *years of age;* that from 10 to 40; from 15 to 30; from 40 to 60 years of life; and also that above 60 years of age. This was done in order to meet the objection that in quinquennial periods of life, the irregularities which exist may compensate each other. Such however will not be found to hold good, for even on taking those more extended periods of life, the same irregularities manifest themselves. For example, taking a period of 30 years of life, namely, that from 10 to 40, it will appear that in St. George's Hanover-square, there is 61·9 per cent. of the whole population alive, while in the county of Norfolk there is only 49·2 per cent.; and also by viewing the period from 40 to 60 it is seen that while in Carlisle there is 18 per cent. of the population alive, in Liverpool there is only 14·9 per cent. In fact, over those greater periods of life, none of the places mentioned will be found to resemble each other in the distribution of the population according to ages, and I believe it is not possible to find any two places that will show a near approximation in this respect.

It may be right here to state that none of the districts referred to have been selected from a knowledge that they would show the extremes of the principle; the short period of time allowed to prepare this paper, and the labour required to determine such places, necessarily precluded the possibility of doing so. They were selected either from their note as sites of manufacturing industry, or from their agricultural importance. It would, however, be interesting to know what are the places forming the extremes of the scale, and important to determine satisfactorily the cause of such difference.

Enough, I hope, has been said to show that a marked difference exists in the distribution of the population of various places over the several periods of life. And the next point of the question is to determine whether this circumstance will affect the *calculation of the average age* at which the respective members of an entire community die, and if so, to what extent.

Before entering on this individual point it may be necessary to make one remark, namely, that, as shown in the tables already mentioned, containing the actual results of mortality for 1840—1; the rate of mortality at one quinquennial period of life differs widely from that at another, ranging *from* 25 *per cent. and upwards to half per cent.* and under.

I have no doubt, therefore, but it will appear evident that if any one locality had an excess of population at that period where the mortality was 25 per cent., and a deficiency of population at that period where the rate of mortality was only half per cent., that the average amount of mortality, the number of deaths, and consequently the average age at which death happened, would differ widely from that of another locality in which the order of population was exactly reversed; or, to quote from the paper in question, "*One adult of* 50 *years added* to the living is equal to the addition of 50 infants, and so with the average ages at death."* Consequently taking this position, and referring to the population of Bethnal-green, where there is 14·5 per cent. of the population under 5 years of age, and comparing it with St. George's Hanover-square, having only 8·6 per cent alive at the same period, it is very clear that we should expect an excess of deaths among children in Bethnal-green. In conjunction with this let us view the population of both districts at the period 20—25 of life, where the mortality of both districts is nearly the same, somewhere about one-half per cent., and we shall see that the order of the respective populations is very nearly inverted, namely—

Bethnal-green.	*St. George's Hanover-square.*
From 20—25 = 8·9 per cent.	From 20—25 = 14·2 per cent.
From 5 and under = 14·5 per cent.	From 5 and under = 8·6 per cent.

It must therefore follow in viewing the population of Bethnal-green at those two periods of life, and comparing the average age at which death has taken place therein, with the average age at which death has happened in the same periods of life in St. George's Hanover-square, that the average age of death in the former must be less than in the latter, even allowing that the populations in both places are influenced at the respective periods of life by precisely the same intensity of mortality; or, in other words, the average age at death in Bethnal-green would be lower than that in St. George's Hanover-square, for two

* Supplemental Sanatory Report, p. 253.

reasons; first, from there being an increase of lives at the younger age, where the mortality is great; and, second, from there being a deficiency of lives at the older age where the mortality is small. And so also in the same manner would the result follow if every other period of life were kept in view. In order to illustrate this part of the question, a series of 18 tables (Tables D and E), has been prepared, which I will presently explain; but in the first place make one or two allusions to the results. And to carry out our remarks on Bethnal-green; it is found that over the whole population of that district the average age at death is 25·80 years; but in the district of St. George's Hanover-square, the average age at death of the whole population is 31·23 years; and therefore by the application of the new method proposed to view such questions, we ought at once to conclude that the latter district is in a superior sanatory condition to the former, inasmuch as the population one with another enjoys 5·42 years more of life. But it has been shown that there is a very different distribution of the population of those districts, and possibly this may account for the difference in the results. Now if the proposed method be really a good and sufficient test of the comparative healthiness of two districts, it should be equally applicable to any particular district, no matter what change takes place in its population, provided that change is a usual or a natural one in the course of society. Then in order to get quit of the objection arising from Bethnal-green having a differently distributed population to that of St. George's Hanover-square, we shall suppose that the population of Bethnal-green is actually transferred to St. George's, Hanover-square, but influenced by exactly the same rate of mortality as that which prevails in St. George's Hanover-square, and which would be in no way altered as to its healthiness or unhealthiness, but have simply suffered a change in population, and in that respect placed under the same circumstances as the other. The result would be that the average age at death in St. George's Hanover-square, would be reduced from 31·23 years to 27·25, so that in fact the inhabitants of St. George's Hanover-square, instead of enjoying 5·42 years of life more than those of Bethnal-green would only experience 1·45 years more than the other, as shown when the necessary correction is made for the distribution of population.

In other districts of the metropolis, such as Marylebone, when placed under the same circumstances as to population, life on the average from being 3·32 years better than in Bethnal-green, as would appear by the proposed new method, is actually shown to be 1·28 years worse.

Without entering any further into the question proposed it would thus appear fallacious; for it has been shown that there exists a diversity of distribution in the population of different districts. It has likewise been shown that a change in the population without any change in the rate of mortality will actually produce by the application of the method proposed an opposite result, and consequently it cannot be applied as a good and sufficient test of the sanatory condition of different districts.

Of the series of tables before alluded to, six (Tables D) relate to different districts of the metropolis, namely, Bethnal-green, St. George's Hanover-square, Marylebone, Clerkenwell, St. Giles's and St. George's Bloomsbury, and Kensington. These tables show for each district the actual number of persons who have died in the year 1840—1, at each quinquennial period of life, the number of years of life which each of

these classes experienced, also the total number of deaths and the total number of years of life; and the division of the one by the other will show the average age at death. Those tables also contain the number of deaths that would have happened at each period of life, according to the actual rate of mortality in the respective districts, provided the population had been the same as that of Bethnal-green; also the number of years of life which they would have enjoyed, and likewise the total of these. We will select one case as an example of the use to which they may be applied. In the district of St. Giles's and St. George's Bloomsbury, the actual number of deaths which took place was 1,473, and the total number of years of life which they experienced was 41,502, producing an average of 28·17 years to each person; but the rate of mortality to the same district would, with the population of Bethnal-green, have produced 2,489 deaths and 60,597 years of life, being an average to each person of 24·34 years. And thus, instead of being more healthy than Bethnal-green, as would appear by the method in question, it is actually less so by 1·46 years to each person, which is confirmed by comparing its mortality per cent. at each quinquennial period, when it is found that out of 17 of the 20 periods the mortality is greater in St. Giles's and St. George's Bloomsbury than in Bethnal-green; but if we had nothing else to rely on than the new method proposed it would appear quite otherwise.

Having said this much, I now beg to submit the following table, in which is given the average age at death in the six districts of the metropolis referred to, according to the actual results, and also what would have been the result provided they had been under the Bethnal-green standard of population; some other details are also inserted in the table which will be presently noticed.

Effects of the irregularities of distribution of Population according to Ages in the under-mentioned Districts, arranged to show the fallacy of proposing the average Age at Death of the whole Population, as a test of the Sanatory Condition of the Localities.

District.	Average Age at Death.		Number out of which one will die.		Mortality per Cent.	
	Actual.	Transferred.	Actual.	Transferred.	Actual.	Transferred.
Bethnal-green	25·80	..	42·02	..	2·38	..
St. George's Hanover-square	31·23	27·25	46·86	37·64	2·13	2·65
St. George's Hanover-square, exclusive of Hospital . .	31·29	28·13	57·75	41·47	1·73	2·50
Marylebone	29·12	24·52	37·55	33·55	2·66	2·98
Clerkenwell	26·38	24·81	38·45	34·79	2·60	2·87
St. Giles and St. George's Bloomsbury	28·17	24·34	36·85	29·76	2·72	3·35
Kensington	32·39	26·71	41·94	43·64	2·22	2·29
Liverpool	20·67	22·25	35·36	32·04	2·82	3·12

I would also direct attention to 12 other tables (Tables E), representing at quinquennial periods of life the number of deaths for the year 1840—1 in the Metropolis, Liverpool, Sheffield, Manchester, Birmingham, Leeds, city of Exeter, and counties of Devon, Essex, Suffolk, Norfolk, and Hereford; showing the years of life experienced at the same periods,

and the totals of these. The same tables also show what would have been the deaths in each of these places provided they had had the same population as the metropolis, and also the years of life which they would have experienced.

On this series of tables is founded another table, which I would beg also to submit to consideration. It exhibits the average age at death in the preceding 12 principal towns and counties, also what would have been the average age at death if placed under the same population as the metropolis.

Effects of the irregularities of distribution of Population according to Ages in the under-mentioned Districts, arranged to show the fallacy of proposing the average Age at Death of the whole Population, as a Test of the Sanatory Condition of a Locality.

District.	Average Age at Death.*		Number out of which one will die.		Mortality per Cent.	
	Actual.	Transferred.	Actual.	Transferred.	Actual.	Transferred.
Metropolis	29·06	..	39·10	..	2·55	..
Liverpool	20·67	25·07	35·36	34·92	2·82	2·58
Sheffield	23·19	28·14	28·51	29·28	3·50	3·75
Manchester	22·86	27·37	40·76	39·93	2·45	2·50
Birmingham	23·70	26·82	48·65	50·63	2·06	1·97
Leeds	22·51	26·01	33·59	35·44	2·95	2·82
City of Exeter	30·56	26·24	39·88	41·79	2·50	2·39
Devon	37·97	31·48	57·14	66·57	1·75	1·50
Essex	30·82	28·55	51·12	56·34	1·95	1·77
Suffolk	33·24	29·51	48·96	54·57	2·04	1·83
Norfolk	31·80	26·71	48·82	56·38	2·04	1·77
Hereford	38·42	30·54	57·86	68·49	1·72	1·46

This table contains some interesting results, and I beg to cite two cases. The average age at death in the metropolis is 29·06 years, but in the town of Sheffield it is only 23·19 years; however, if Sheffield were placed under the population of the metropolis the average age at death would be raised to 28·14 years, approaching close to the metropolis. The other case I will select is the county of Hereford, and I do so because it has been given in the paper before alluded to, and contrasted with the metropolis and other places on account of the supposed superior value of life there, and its very healthy condition. It then appears that the average age at death in Hereford is 38·42 years, and hence the population would seem to enjoy nearly 10 years more of life each than the inhabitants of the metropolis; but bring the population of Hereford to the same standard as that of the metropolis, and it will seem that the average age at death is only 30·54 years, coming very close to that of the metropolis. So that after all, the distinction between the two places is not great. In the metropolis 6·01 per cent. of the population is above 60, but in Hereford 10·1 per cent. is above that age.

Another method of viewing this question would be to apply the same rate of mortality to different populations. The populations of the same place at different periods will be found to change in their distribution over the various periods of life, in the same way that distinct districts, as before noticed, do at the same period of time.

* As explained in a former paragraph, in reference to the preceding table, these columns are formed from Tables E. as that was formed from Tables D.

The population of England and Wales in 1821 differed in its distribution in many respects from the population of 1841; and if the method proposed were a fitting test for the health of the population, the results obtained in the following manner should agree; namely, apply the rate of mortality which actually prevailed in England and Wales in 1840–1 to the population as enumerated in 1841, and also apply the same rate of mortality at the respective periods of life, to the population as it existed at the census of 1821. This calculation will be found carried out in the following table; and it appears that in 1841, 335,106 deaths occurred, (which agrees to a unit with the actual deaths in that year when the deaths at ages not specified are added,) and the total years of life experienced was 10,462,274, giving an average of 29·462 years. But in 1821, 266,446 deaths would have happened, experiencing 6,632,303 years of life or an average age at death of 24·892 years.

Mortality in England in the Years 1841 *and* 1821, *calculated for the Population of those Years according to the Actual Mortality of* 1840-1.*

Ages.	1841			1821		1841	1821
	Population.	Deaths in 1840-1.	Mortality per Cent. by 1840-1.	Population.	Deaths that would have happened by rate of 1840-1.	Years of Life.	Years of Life.
Under 5	2,099,152	140,089	6·673	1,781,787	118,845	350222·5	297112·5
5—10	1,898,432	19,906	1·049	1,565,713	16,439	149295·	123292·5
10—15	1,726,162	9,727	·563	1,334,278	6,471	121587·5	80887·5
15—20	1,581,355	12,282	·776	1,189,148	9,276	208794·	162330·
20—30	2,823,721	27,048	·993	1,885,924	18,671	676200·	466775·
30—40	2,044,459	22,511	1·101	1,414,563	15,574	787885·	545090·
40—50	1,521,473	21,001	1·380	1,118,750	15,439	945045·	694755·
50—60	1,022,735	21,616	2·113	789,992	1,667	1188880·	91685·
60—70	697,035	28,381	4·071	546,946	22,261	1844765·	846965·
70—80	343,031	30,748	8·964	272,719	24,435	2306100·	1822625·
80—90	94,125	18,807	19·980	75,006	14,986	1598595·	1273810·
90—100	7,932	2,876	36·259	6,299	2,284	273220·	216980·
100 and upwards	249	114	45·783	215	98	11685·	9996·
Total	15,859,861	355,106	..	11,981,340	266,446	10462274·	6632303·5

	1841	1821
Average Age at Death	29·462	24·892
Number out of which one will die annually	44·634	44·967
Deaths per cent. annually	2·225	2·224

Now, if any value is to be attached to the method proposed, those results ought to have agreed; for in both instances the same rate of mortality influenced the two populations.

We will take another example of viewing the question by this method; as a very curious result is arrived at, and the case is furnished in the same paper in which is also given the proportionate population at each

* Column 2nd in the above table is taken from the Census for 1841 ("Age Abstract"), pages 458, 459; and columns 3rd and 5th will be found at page 80 of the Fourth Annual Report of the Registrar-General. The other columns are, of course, deduced from them.

interval of age to every 10,000 of the population of England and Wales and the United States of America, and it is remarked on the figures when tabulated, "that whilst in England there are 5,025 persons between 15 and 50 who have 3,610 children, or persons under 15, in America there are 4,789 persons living, between 15 and 50 years of age, who have 4,371 children dependent upon them. In England there are in every 10,000 persons 1,365 who have obtained above 50 years' experience; in America there are only 830." This clause seems to me to contain the essence of the whole objection to the method in question.

The average age at death is calculated in the succeeding table, according to the rate of mortality prevalent in this country in 1840–1, and it appears that the average age at death in England is 29·420 years, corresponding with a former result; while with the same rate of mortality applied to the American population the average age at death is only 20·398, showing a difference of no less than nine years; so that if we were to be guided by the test proposed, and only knew the results of this case and nothing of the cause producing them, we should unhesitatingly pronounce public health in America to be at a very low ebb. This case of itself should however warn us to be cautious in receiving results so obtained, and guard us against opinions founded on them.

Population of England and Wales, and also of the United States of America, for every 10,000 *of the inhabitants of the two countries.*

Ages.	England and Wales.			U. S. America.		England and Wales.	U. S. America.
	Numbers alive to every 10,000.	Mortality per Cent. 1840–1.	Number of Deaths	Numbers alive to every 10,000.	Number of Deaths by preceding Mortality.	Years of life enjoyed in England and Wales.	Years of life experienced in U. S. America.
Under 5	1,324	6·673	88·31	1,744	116·32	220·775	290·80
5—10	1,197	1·049	12·57	1,417	14·74	94·275	110·55
10—15	1,089	·563	6·10	1,210	6·78	76·250	84·75
15—20	997	·776	7·73	1,091	8·40	136·150	142·80
20—30	1,780	·993	17·62	1,816	17·98	440·500	449·50
30—40	1,289	1·101	14·19	1,160	12·76	496·650	446·60
40—50	959	1·380	13·23	732	10·10	595·350	454·50
50—60	645	2·113	13·61	436	9·20	748·550	506·00
60—70	440	4·071	17·91	245	9·97	1164·150	648·05
70—80	216	8·964	19·35	113	10·12	1451·250	759·00
80—90	59	19·980	11·79	32	6·39	1002·150	543·15
90 and upwards	5	36·259	1·81	4	1·45	171·950	137·75
Total	10,000	..	224·27	10,000	224·21	6598·000	4573·45

	England and Wales.	America.
Average Age at Death	29·420	20·398
Number out of which one will die annually	44·554	44·601
Mortality per Cent. annually	2·242	2·242

In the above table it may be curious to observe that in the two populations of England and Wales and the United States of America, as therein given, the number of deaths is exactly equal, and still the average age at death over the whole populattion of the one differs by upwards of nine years from that of the other.

It may also be remarked, that if more limited periods of life be compared, the error in the method proposed will, to a considerable extent, disappear; for example, the average age at death, in the above table, for the population above 20 years of age, would be—

For England and Wales	55·43
And for United States of America	51·22
Showing an error of	4·21 years.

The following table will show the comparative uniformity between the deaths above 20 years of age and those at all ages:—

Districts.	Average Age of Deaths at all Ages.		Average Age of Deaths above 20.	
	Actual Population.	Corrected Population.	Actual Population.	Corrected Population.
Bethnal-green	25·80	25·80	54·68	54·68
St. George's Hanover-square	31·23	27·25	49·93	54·97
Marylebone	29·12	24·52	52·19	54·13
Metropolis	29·06	29·06	53·36	53·36
Sheffield	23·19	28·14	50·95	52·66
Hereford	38·42	30·54	59·23	49·64

Like irregularities and errors will be found in the following table, calculated for the city of Glasgow:—

Mortality in Glasgow from the average of the Five Years 1836—40, *applied to the Population of* 1821 *for that city, and also to the Population of* 1841.*

Ages.	Ratio of Mortality.		1821			1841		
	Number out of which one will die.	Rate per Cent.	Population.	Number that would have died.	Years of life experienced.	Population.	Number that would have died.	Years of life experienced.
Under 5	10·473	9·548	21,250	2,029	5072·5	35,336	3,375	8437·5
5—10	70·605	1·416	17,514	249	1867·5	29,348	417	3127·5
10—15	129·850	·770	16,727	129	1612·5	28,753	221	2762·5
15—20	97·495	1·025	15,883	164	2870·0	30,566	312	5304·0
20—30	91·214	1·095	25,912	282	7050·0	60,998	665	16625·0
30—40	48·858	2·046	18,216	373	13055·0	39,542	811	28385·0
40—50	31·888	3·136	14,644	460	20700·0	24,817	779	35055·0
50—60	27·275	3·670	9,092	334	18370·0	13,008	477	26235·0
60—70	16·183	6·179	5,096	315	20475·0	7,815	483	31395·0
70—80	7·158	13·967	2,108	294	22050·0	2,998	419	31425·0
80—90	3·863	25·886	544	141	11985·0	703	182	15470·0
90–100	2·461	40·756	57	23	2185·0	63	26	2470·0
100 and upwards	1·000	100·000	..	..	..	18	18	1845·0
Total	..	..	147,043	4,793	127292·5	273,965	8,185	208536·5

	1821	1841
Average at Death	26·34	25·50
Number out of which one will die annually	30·67	33·47
Mortality per Cent. annually	3·25	2·97

* Column 2nd is deduced from the average mortality of the five years 1836—40, as given in the City of Glasgow Bills of Mortality; and columns 4th and 7th are taken from the Enumeration Abstracts for 1821 and 1841. The other columns are, of course, deduced from these.

In the same paper the "average age at death" in the four counties of *Down, Wexford, Kilkenny,* and *Monaghan,* was given, being the four counties which, according to the Census for Ireland, contained the lowest proportion of *mud-hovels;* and compared with the "average age at death" in the four counties of *Mayo, Clare, Kerry,* and *Cork,* in which the highest proportion of mud-hovels was found to exist.

By the following table it will be seen that in the four *lowest* counties the average age at death is 34·54 years, and in the four *highest* only 26·70 years; and hence it was concluded that the effect of the greater prevalence of mud-hovels in the latter was to deprive each member of that community of 7·84 years of life on an average one with another: but it will also appear that when the four latter counties is placed under the same distribution of population, that the actual difference is only ·95 of a year. And hence appears the fallacy of the proposed test:—

*Mortality of Down, Wexford, Kilkenny, and Monaghan, the four Counties in Ireland in which the average Proportion of Mud-hovels is lowest, compared with Mayo, Clare, Kerry, and Cork, the four Counties where the average Proportion of Mud-hovels is highest.**

Ages.	4 Counties where lowest.			4 Counties where highest.			Years of life experienced		
	Population in 1841.	†Number of Deaths 1840.	Mortality per Cent. for 1840.	Population in 1841.	†Number of Deaths 1840.	Mortality per Cent for 1840.	In the 4 Counties of the lowest average.	In the 4 Counties of the highest average.	What would have been the result if the Population in the 4 lowest had been the same as in the other.
Under 5	139,570	4,313	3·09	270,534	12,020	4·37	10792·5	30050·0	6141·0	12282
5—10	118,473	611	·52	236,795	1,434	·60	4582·5	10755·0	710·0	5325
10—15	110,417	428	·39	207,265	849	·41	5350·0	10612·5	452·7	5659
15—20	97,234	629	·65	205,976	1,106	·54	11007·5	18902·0	525·1	8925
20—30	166,539	1,360	·82	301,212	2,488	·82	34000·0	62200·0	1360·6	34015
30—40	107,408	1,015	·95	200,954	2,080	1·03	35525·0	72800·0	1106·0	38710
40—50	86,693	1,103	1·27	153,852	1,910	1·42	49635·0	85050·0	1231·0	55395
50—60	59,930	1,468	2·45	126,888	2,920	2·31	80740 0	160600·0	1385·5	7620
60—70	32,031	1,479	4·62	51,329	2,091	4·69	96135·0	135915·0	1502·2	97643
70—80	14,190	1,442	10 16	16,666	1,627	9·76	108150·0	122025·0	1385·0	103875
80—90	3,593	607	16·89	3,367	578	17·17	51455·0	49130 0	616·9	52436
90—100	556	172	30·93	899	220	24·5	16340·0	20900 0	156·2	12939
100 & upwds.	23	23	100·00	42	42	100·0	2357·5	4305·0	23·0	23575
Total	946,707	14,650	..	1,752,303	29,565	..	506070·0	784044·5	16375·0	458399

	Four Counties where average proportion of mud-hovels is lowest.	Four Counties where average proportion of mud-hovels is highest.
Average Age at Death	34·54	26·70
Average Age at Death, if the population were under the same distribution in the four lowest as in the four highest counties	27·65	27·65
Error of the Test proposed	6·89	
Actual difference		·95

* The facts forming this table are taken from the Census for 1841 for Ireland, The items composing columns 2nd, 3rd, 5th, and 6th, will be found under their appropriate heads in the same document. The other columns are, of course, deduced from these.

† In these columns the deaths for one year only are inserted. To have taken the average for the whole 10 years given in the Census would have involved an error, the population undergoing considerable increase within that period; and the deaths being only guessed at, or approximated to, forms an additional reason for not including the remote years; and the deaths being given for a fractional part only of 1841, therefore 1840 was selected.

With regard to the method in question, we are placed in this position. If the same rate or intensity of mortality be supposed to prevail in any two places, the results may, as seen, differ widely. Again, if we consider the actual rate of mortality peculiar to each district to exist, the results become equally distorted. And it is, therefore, clear that the method in question does not give any indication of the sanatory condition of a community; for it has appeared that the results derived from its application may produce a difference in the *average age at death* in two districts when the rate of mortality is the same, and *vice versâ*, the average age at death may correspond, while different rates or degrees of mortality prevail in the districts compared.

The same remarks which have been brought to bear against the average age at death as a test of the comparative sanatory condition of various districts, will be found to be equally applicable against two other tests commonly resorted to by public writers on vital statistics, viz., "the number out of which one death takes place in the community," and also the "rate of mortality per cent. over the whole population."

The extent of the error to which both of those supposed tests are liable will be seen by comparing the columns of the foregoing tables; and on reflection it will be found that precisely the same causes which produced the fallacious results in the "average age at death," do equally affect those two methods, and that they are on that account to be as little depended on as a test of the health of the population.

The objections which have been brought against the method of taking the *average age at death* as a test of the healthy condition of the population, for the same reasons upset another proposed test in the paper in question. It is said, "that in the less healthy districts the proportions of births to the whole population is greater than in the more healthy districts." This proposition may be either true or otherwise, and it certainly would be important to know that a sickly and depraved community possessed a greater reproductive power than a healthy and robust people; but no facts with which I am familiar tend to lead my mind to such a conclusion. It is possible to find another solution of the increased ratio of births to the total population than simply the unhealthy nature of the district, and one example will show that other explanations may in some cases be found:—

It is stated that the births in the metropolis are in the ratio of 1 to 37 to the whole population, but that in Hereford the ratio of births is only 1 in 44; and hence it is concluded that the sanatory condition of the metropolis is inferior to that of Hereford.

Let us see, then, what is the actual ratio of the generative population, as it may be called, of the metropolis, to that of Hereford; and taking the population from 20 to 40 years of age, which may be admitted to represent the mean productive force in the two localities, it appears that in the metropolis there is 36·33 per cent. of the population included in that period, while in the county of Hereford there is only 28·39 per cent.

It is, then, fair to state that the births in the metropolis should bear the same ratio to its reproductive population, which the births in Hereford bear to its reproductive numbers; and carrying out this calculation, it follows that the births in the metropolis should be 1 in 34·38 to the whole population, but the actual ratio is 1 in 37. Hence we find that the

metropolis instead of having a considerably increased ratio of births, as would appear by the figures, has in reality a deficiency of births.

Time will not admit of entering further into this part of the question at present; but I may state, that in all inquiries into facts connected with vital statistics, either with regard to deaths or births, the actual section of the population from which the results are derived must be kept in view. It may be further stated, that several districts have been compared with respect to the number of births, and in general the number of births to the whole population is in the inverse ratio to each other of the generative population.

One very interesting and important part of the inquiry instituted in the paper in question relates to the comparative healthiness of various classes and trades. This attempt is of paramount value to society, and too much praise cannot be bestowed on so excellent a design; but, unfortunately, it is subject to the very same objections as the other inquiries alluded to.

A series of 32 tables is given in that paper, representing each of the districts of the metropolis. In these tables the following classification is adopted, namely, "Gentry," "Tradesmen," "*Artizans*," "*Undescribed*" and "*Paupers*," and the number of deaths which happened among the adults of each class and among the children under 10 years of age is given; and also the average age at death of each class. Now it is evident that these tables would only be useful, provided that the children alive in each class bore the same ratio to the adult population in it. These numbers not being given, the record of deaths cannot be depended upon. And if we only inspect the results inserted in the table, strong reason will be found to doubt the existence of a uniform distribution of the living population; for in 22 of the 32 districts examined, it appears that there is an excess of the deaths of children over the adults in the class designated artizans, and taking the totals of these 22 districts, it is found that the deaths of children amount to 11,241, while those of the adults are only 8,095. But, on the other hand, taking the class called "*Gentry*," it is found that there is a deficiency of the deaths of children in 31 of the districts, and the totals amount to 527 deaths of children, while the deaths of adults are as much as 1,718. It is evident that those startling discrepancies must be attributed to some other cause than differences of sanatory condition.

Vital statistics should hold no mean place in the political and social economy of the country; but I am satisfied that unless more correct methods of inquiry be adopted than many of those hitherto in use, the public will become impregnated with many vitiated views, as to the influence of the habits and practices of society on the value of life.

It will at once be seen, that so far as vital statistics relates to disease, the distribution of population according to age must form an important feature in every careful inquiry. To give a single illustration of this, it may be mentioned, that the population above 60 years of age in the counties of Hereford, Essex, Suffolk, and Norfolk is 8·846 per cent. of the whole; but the population above the same age in the towns of Liverpool, Sheffield, Manchester, Birmingham, Leeds, and Exeter, is only 4·6 per cent., and, consequently, the deaths from paralysis and diseases peculiar to old age ought to have nearly doubled the ratio to the whole population in the former that it has in the latter.

The same remarks apply to the proportionate number of marriages in a community; the numbers who can read and write, the degree of crime; and, in fact, to all questions whether "*vital*" or "*commercial*" which are brought to bear on the general population.

Ample means are available to illustrate all those cases under a variety of positions, and to show the necessity which exists for a most careful analysis of the whole living population before drawing any collateral conclusions.

But as there is no need to enter further into the subject at present, I beg to submit the present contribution to the scrutiny of the Society, and shall be happy to find that it does in any way interest the present meeting.

For sake of reference it may be mentioned, that all the facts employed in this paper, unless otherwise stated, are taken from the Census for 1841, and the Fourth Annual Report of the Registrar-General, viz. that for 1840–1.

In Tables A. and B., columns 2nd are taken from the "Age Abstract" for the Census for 1841, and the items will be there found under their appropriate "headings." Columns 4th will be found, in their appropriate places, in the "Age Abstract" of the Fourth Report of the Registrar-General. The other columns are, of course, deduced from these.

Table C. is formed from the "Age Abstract" of the Census for 1841; and in Tables D. and E., the column "Number Dying," under the head "Actual Results," is composed of the same numbers as those forming the respective columns in Tables A. and B., and obtained from the same source. The remaining columns are, of course, deduced according to the method set forth in this paper.

Throughout this paper no method has been proposed for conducting correct inquiries into the comparative sanatory condition of different districts; still such method may be readily inferred from what has been herein stated.

All the calculations have been made independent of other results; and, in some instances, slight corrections would be necessary to render the results perfect; but as these would, in many instances, involve very great labour, and the nature of the paper did not strictly require them, they have been omitted. The object contemplated in this paper is to illustrate a principle, and not to collect a series of statistical facts for their intrinsic value.

TABLES A.

BETHNAL GREEN.

Living. Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths	Per Centage of the Deaths to the Living at the same Ages.
— 5	10,739	14·4949	850	48·8160	7·9150
5—10	9,180	12·3906	76	3·4222	·8278
10—15	8,006	10·8055	38	2·1542	·4746
15—20	7,096	9·8779	37	2·0975	·5214
20—25	6,579	8·8799	38	2·1542	·5670
25—30	5,829	7·8676	51	2·8911	·8749
30—35	5,749	7·7597	51	2·8911	·8871
35—40	4,490	6·0603	56	3·1746	1·2072
40—45	4,385	5·9186	47	2·6644	1·0715
45—50	2,955	3·9885	66	3·7415	2·2335
50—55	2,995	4·0424	74	4·1950	4·5012
55—60	1,644	2·2189	67	3·7981	3·5672
60—65	1,835	2·4767	64	3·6281	3·4877
65—70	1,042	1·4064	64	3·6281	6·1425
70—75	879	1·1891	68	3·8548	7·7360
75—80	366	·4928	47	2·6644	12·8415
80—85	173	·2335	39	2·2108	22·5423
85—90	71	·0958	22	1·2471	30·9859
90—95	21	·0283	6	·3401	28·5714
95–100	4	·0054	2	·1133	50·0000
100	. .	. .	. .	. .	. .
Unknown	50	. .	1	. .	. .
Totals .	74,088	. .	1,764	. .	. .

ST. GEORGE'S HANOVER SQUARE.

Living. Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	5,738	8·6346	463	32·6516	8·0690
5—10	4,591	6·9085	55	3·8787	1·1979
10—15	4,148	6·2420	28	1·9746	·6750
15—20	6,168	9·2817	36	2·5387	·5836
20—25	9,440	14·1728	68	4·7954	·7203
25—30	8,675	13·0540	78	5·5007	·8991
30—35	7,513	11·3057	64	4·5134	·8518
35—40	5,091	7·6610	78	5·5007	1·5321
40—45	4,930	7·4188	85	5·9943	1·7241
45—50	2,883	4·3384	66	4·6544	2·2787
50—55	2,711	4·0794	77	5·4301	2·8402
55—60	1,275	1·9186	55	3·8787	4·3137
60—65	1,469	2·2105	61	4·3018	4·1525
65—70	649	·9766	55	3·8787	8·4745
70—75	619	·9314	58	4·0901	9·3699
75—80	233	·3506	51	3·6219	21·8884
80—85	124	·2046	20	1·4111	14·7058
85—90	48	·0722	15	1·0580	31·2500
90—95	10	·0150	4	·2822	40·0000
95–100	2	·0030	1	·0705	50·0000
100	..	. .	. .	. .	. .
Unknown	124	. .	. .	. .	. .
Totals .	66,453	. .	1,418	. .	. .

TABLES A.—*continued.*

MARYLEBONE.

Living. Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths	Per Centage of the Deaths to the Living at the same Ages.
— 5	14,419	10·4292	1,433	38·9508	9·9382
5—10	12,147	8·7920	192	5·2188	1·5808
10—15	10,969	7·9339	65	1·0328	·5939
15—20	11,931	8·6356	72	1·5493	·6034
20—25	16,332	11·8200	155	4·2131	·9490
25—30	15,245	11·0089	142	3·8597	·9314
30—35	13,967	10·1093	154	4·1859	1·1026
35—40	9,770	7·0715	117	3·1793	1·1975
40—45	10,224	7·4001	156	4.2543	1·5258
45—50	5,988	4·3341	173	4·5953	2·8891
50—55	6,161	4·4593	162	4·3032	2·6294
55—60	2,939	2·1272	141	3·8197	3·0270
60—65	3,440	2·4993	182	4·9170	5·2907
65—70	1,707	1·2937	135	3·6695	7·9086
70—75	1,540	1·1146	149	4·0490	9·6753
75—80	684	·4950	130	3·5336	18·9708
80—85	384	·2779	66	1·7939	17·1375
85—90	116	·0839	29	·7882	25·0000
90—95	44	·0318	17	·4620	38·6463
95–100	8	·0057	6	·1630	75·0000
100	4	·0028	3	·0815	75·0000
Unknown	145	. .	. .	. .	. .
Total .	138,164	. .	3,679	. .	. .

CLERKENWELL.

Living. Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	6,822	11·992	698	47·473	10·230
5—10	5,508	9·704	74	5·010	1·343
10—15	5,013	9·038	19	1·286	·379
15—20	5,718	10·074	28	1·395	·489
20—25	6,313	11·123	39	2·640	·618
25—30	5,579	9·829	38	2·572	·681
30—35	5,290	9·320	45	3·046	·850
35—40	3,735	6·530	54	3·656	1·445
40—45	3,727	6·566	52	3·520	1·395
45—50	2,407	4·240	43	2·911	1·786
50—55	2,270	3·990	56	3·791	2·467
55—60	1,237	2·179	46	3·114	3·718
60—65	1,361	2·397	68	4·603	4·996
65—70	666	1·173	48	3·249	7·207
70—75	620	1·092	56	3·791	9·032
75—80	284	·500	53	3·588	18·661
80—85	129	·227	33	2·234	25·581
85—90	47	·082	21	1·422	44·680
90—95	11	·019	4	·027	36·363
95–100	. .	. .	1	·006	100·000
100	. .	. .	. .	. .	. .
Unknown	19	. .	1	. .	. .
Totals .	56,756	. .	1,477	. .	. .

TABLES A.—*continued.*

ST. GILES AND ST. GEORGE'S BLOOMSBURY.

Living.		Per Centage to the Total Living.	Deaths.		Per Centage of the Deaths to the Living at the same Ages.
Age.	Number.		Number.	Per Centage to the Total Deaths	
— 5	5,610	10·333	640	43·360	11·408
5—10	4,710	8·675	67	5·149	1·613
10—15	4,287	7·896	16	1·080	1·485
15—20	4,811	8·861	28	1·897	·582
20—25	6,265	11·539	36	2·439	·574
25—30	5,689	10·478	44	2·981	·773
30—35	5,714	10·524	58	3·929	1·015
35—40	3,861	7·111	63	4·268	1·631
40—45	4,182	7·702	57	3·861	1·362
45—50	2,322	4·276	56	3·794	2·356
50—55	2,595	4·779	58	3·929	2·225
55—60	1,126	2·074	42	2·845	3·730
60—65	1,379	2·539	92	6·233	6·671
65—70	579	1·066	64	4·336	11·050
70—75	536	·990	55	3·726	10·261
75—80	236	·434	53	3·590	22·457
80—85	126	·233	33	2·235	26·190
85—90	30	·055	3	·020	10·000
90—95	8	·014	6	·040	65·321
95–100	2	·003	2	·013	100·000
100	. .	. .	..	. .	. .
Unknown	224	. .	3	. .	. .
Totals .	54,292	. .	1,476	. .	. .

KENSINGTON.

Living.		Per Centage to the Total Living.	Deaths.		Per Centage of the Deaths to the Living at the same Ages.
Age.	Number.		Number.	Per Centage to the Total Deaths.	
— 5	13,134	11·422	966	37·764	7·354
5—10	11,608	10·097	120	4·691	1·010
10—15	11,051	9·613	38	1·486	·344
15—20	10,326	8·981	57	2·233	552
20—25	11,990	10·429	72	2·814	·600
25—30	10,799	9·393	72	3·792	·666
30—35	10,052	8·744	97	3·792	·966
35—40	7,310	6·358	83	3·245	1·135
40—45	7,606	6·616	92	3·596	1·209
45—50	4,977	4·239	97	3·792	1·948
50—55	4,941	4·298	90	3·518	1·821
55—60	2,766	2·406	120	4·691	4·338
60—65	3,440	2·992	119	4·652	3·459
65—70	1,766	1·536	130	5·117	7·361
70—75	1,594	1·386	138	5·395	8·657
75—80	716	·621	124	4·848	13·756
80—85	418	·363	79	3·088	18·899
85—90	130	·113	45	1·763	34·614
90—95	51	·044	14	·547	27·450
95–100	8	·007	3	·117	37·500
100	3	·001	2	·078	100·000
Unknown	272	. .	. .	. .	. .
Totals .	114,958	. .	2,558	. .	. .

TABLES B.

METROPOLIS.

Living.		Per Centage to the Total Living.	Deaths.		Per Centage of the Deaths to the Living at the same Ages.
Age.	Number.		Number.	Per Centage to the Total Deaths.	
— 5	221,813	11·8380	19,519	40·6849	8·799
5—10	185,318	9·8974	2,194	4·5731	1·183
10—15	169,282	9·0345	789	1·6445	·466
15—20	172,042	9·0954	1,074	2·2386	·624
20—25	206,096	10·9996	1,632	3·4017	·791
25—30	182,470	9·7385	1,718	3·5809	·941
30—35	170,440	9·0964	1,789	3·7289	1·049
35—40	121,810	6·5010	1,900	3·9603	1·559
40—45	125,261	6·6851	1,788	3·7268	1·427
45—50	79,560	4·2559	1,897	3·9540	2·384
50—55	80,486	4·2955	1,992	4·1519	2·474
55—60	41,891	2·2357	1,817	3·7873	4·337
60—65	48,890	2·6092	2,288	4·7690	4·679
65—70	24,968	1·332	1,978	4·1229	7·922
70—75	21,763	1·161	2,081	4·3375	9·562
75—80	9,699	·518	1,707	3·5580	17·599
80—85	5,084	·271	1,003	2·0906	19·728
85—90	1,621	·0865	539	1·1234	33·251
90—95	477	·0254	160	·3358	33·543
95–100	115	·00613	52	·1084	45·217
100	24	·00128	9	·0188	37·500
Unknown	4,566	. .	50	. .	. .
Totals	1,873,676	. .	47,976	. .	. .

LIVERPOOL.

Living.		Per Centage to the Total Living.	Deaths.		Per Centage of the Deaths to the Living at the same Ages.
Age.	Number.		Number.	Per Centage to the Total Deaths.	
— 5	37,804	13·1955	4,261	52·4808	11·271
5—10	29,153	10·4129	448	5·5177	1·536
10—15	27,246	9·5102	149	1·8352	·550
15—20	26,765	9·3423	158	1·9460	·590
20—25	33,460	11·6792	275	3·3871	·821
25—30	30,538	10·6593	294	3·6211	·962
30—35	28,181	9·8366	308	3·7935	1·092
35—40	18,356	6·4072	319	3·9290	1·737
40—45	18,176	6·3443	296	3·6457	1·628
45—50	9,966	3·4786	262	3·2269	2·628
50—55	9,691	3·3826	251	3·0915	2·590
55—60	4,776	1·6670	200	2·4576	4·187
60—65	5,591	1·9515	261	3·2146	4·668
65—70	2,585	·9023	174	2·1437	6·731
70—75	2,090	·7295	157	1·9177	7·511
75—80	933	·3256	142	1·7489	15·219
80—85	522	·1822	87	1·0715	16·666
85—90	153	·05340	44	·5419	28·758
90—95	51	·01780	12	·1478	23·529
95–100	17	·005933	2	·0246	11·764
100	8	·002792	1	·0123	12·500
Unknown	425	. .	18	. .	. .
Totals	286,487	. .	8,119	. .	. .

TABLES B.—*continued.*

SHEFFIELD.

Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	9,813	14·3935	1,163	48·6024	11·851
5—10	7,767	11·3909	115	4·8076	1·480
10—15	7,103	10·4170	66	2·7591	·929
15—20	6,929	10·1619	74	3·0936	1·067
20—25	7,045	10·3820	79	3·3026	1·121
25—30	6,119	8·7939	91	3·8043	1·487
30—35	5,447	8·0221	71	2·9682	1·303
35—40	4,236	6·2124	72	3·0100	1·699
40—45	3,937	5·7739	99	4·1387	2·514
45—50	2,646	3·8805	69	2·8846	2·607
50—55	2,438	3·5755	68	2·8428	2·789
55—60	1,448	2·1236	78	3·2608	5·386
60—65	1,371	2·0106	87	3·6371	6·345
65—70	807	1·1835	74	3·0936	9·169
70—75	577	·8462	72	3·0100	12·478
75—80	263	·3857	69	2·8846	26·235
80—85	135	·1979	23	·9615	17·037
85—90	33	·0484	18	·7525	54·545
90—95	6	·0088	2	·0836	33·333
95–100	4	·0059	1	·0418	25·000
100	. .	. .	. .	. .	. .
Unknown	62	. .	1	. .	. .
Totals	68,186	. .	2,392	. .	. .

MANCHESTER.

Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	31,942	13·1549	2,917	48·9019	9·132
5—10	25,780	10·6099	304	5·0963	1·179
10—15	24,347	10·0209	119	1·9949	·488
15—20	24,401	10·0423	142	2·3805	·581
20—25	27,039	11·1280	188	3·1517	·695
25—30	23,065	9·4925	240	4·0234	1·040
30—35	22,301	9·1781	234	3·9228	1·049
35—40	15,317	6·3038	220	3·6881	1·436
40—45	15,192	6·2523	226	3·7887	1·487
45—50	9,068	3·7320	209	3·5037	2·304
50—55	8,883	3·6558	211	3·5373	2·377
55—60	4,436	1·8256	184	3·0846	4·147
60—65	5,132	2·0564	189	3·1684	3·682
65—70	2,335	·7609	181	3·0343	7·751
70—75	1,895	·7798	168	2·8164	8·865
75—80	828	·4290	111	1·8608	13·405
80—85	378	·1555	70	1·1735	18·518
85—90	130	·0534	34	·5699	26·153
90—95	32	·0166	12	·2011	37·500
95–100	9	·0037	2	.0335	22·000
100	6	·0025	. .	. .	. .
Unknown	467	. .	4	. .	. .
Totals	242,983	. .	5,965	. .	. .

TABLES B.—*continued.*

BIRMINGHAM.

Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	25,461	13·9192	1,818	48·3520	7·140
5—10	21,066	11·5165	217	5·7712	1·030
10—15	19,153	10·4706	83	2·2074	·433
15—20	18,129	9·9108	100	2·6595	·551
20—25	19,529	10·6762	127	3·3776	·650
25—30	16,759	9·1619	117	3·1117	·698
30—35	14,758	8·0674	121	3·2180	·819
35—40	10,765	5·8850	135	3·5904	1·254
40—45	10,661	5·8282	131	3·4840	1·228
45—50	7,007	3·8306	123	3·2712	1·775
50—55	6,612	3·6146	110	2·9436	1·663
55—60	3,441	1·8811	93	2·7340	2·703
60—65	3,895	2·1293	123	3·2686	3·155
65—70	1,968	1·0758	122	2·2446	6·199
70—75	1,669	·9124	118	3·1383	7·070
75—80	849	·4641	99	2·6329	11·660
80—85	475	·2596	70	1·8617	14·730
85—90	137	·0749	37	·9840	27·007
90—95	52	·0284	11	·2925	21·154
95–100	12	·0066	2	·0532	16·668
100	1	·0005	2	·0532	100·000
Unknown	523	. .	1	. .	. .
Totals	182,922	. .	3,760	. .	. .

LEEDS.

Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	21,615	14·2167	2,143	47·6539	9·914
5—10	18,053	11·8730	305	5·3873	1·689
10—15	16,720	10·9963	150	3·3347	·897
15—20	15,847	10·4232	143	3·1799	·902
20—25	15,305	10·0657	169	3·7580	1·104
25—30	12,910	8·4906	163	3·0624	1·626
30—35	11,848	7·7921	132	2·9352	1·114
35—40	9,081	5·9723	156	3·4689	1·717
40—45	8,773	5·7700	148	3·2910	1·687
45—50	5,839	3·8401	125	2·7796	2·140
50—55	5,360	3·5251	116	2·5795	2·164
55—60	3,198	2·1032	102	2·2681	3·189
60—65	3,183	2·0933	149	3·3299	4·681
65—70	1,726	1·1351	140	3·1131	8·111
70—75	1,306	·8589	124	2·7574	9·494
75—80	585	·3847	104	2·3216	17·777
80—85	315	·2071	69	1·5314	21·904
85—90	85	·0559	42	·9339	49·411
90—95	24	·0158	9	·2001	37·500
95–100	3	·0020	4	·0889	100·000
100	. .	. .	1	. .	. .
Unknown	278	. .	3	. .	. .
Totals	152,054	. .	4,497	. .	. .

TABLES B.—*continued.*

CITY OF EXETER.

Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	3,503	11·1874	326	41·4331	9·306
5—10	3,275	10·4592	39	4·9681	1·190
10—15	2,990	9·5490	12	1·5286	·401
15—20	3,143	10·0375	15	1·9108	·477
20—25	3,112	9·9386	14	1·7834	·449
25—30	2,883	9·2073	29	3·6942	1·005
30—35	2,656	8·4823	32	4·0764	1·204
35—40	1,876	5·9913	21	2·6751	1·114
40—45	1,966	6·2789	34	4·3312	1·729
45—50	1,315	4·1996	31	3·9490	2·357
50—55	1,367	4·3657	23	2·9299	1·682
55—60	816	2·6060	15	1·9108	1·838
60—65	913	2·9158	30	3·7346	3·285
65—70	508	1·6223	33	4·2038	6·496
70—75	453	1·4466	44	5·6050	9·713
75—80	281	·8974	32	4·0764	11·387
80—85	141	·4503	27	3·4394	19·148
85—90	47	·1501	16	3·0382	34·042
90—95	17	·0543	7	·8917	41·176
95–100	3	·0096	2	·2547	66·666
100	. .	. .	3	·3821	. .
Unknown	47	. .	. .	. .	. .
Totals .	31,312	. .	785	. .	. .

DEVON.

Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	67,111	12·5803	2,924	30·5985	4·356
5—10	64,560	12·1021	412	4·3114	·638
10—15	57,914	10·8562	207	2·1661	·357
15—20	52,973	9·9300	299	3·1289	·564
20—25	49,031	9·1911	356	3·7339	·726
25—30	39,934	7·4858	301	3·1498	·753
30—35	35,984	6·7453	287	3·0033	·797
35—40	27,854	5·2213	266	2·7835	·954
40—45	28,559	5·3535	279	2·9196	·976
45—50	22,778	4·2698	275	2·8777	1·207
50—55	23,705	4·4436	306	3·2021	1·294
55—60	15,522	2·9096	328	3·4323	2·113
60—65	16,443	3·0823	464	4·8555	2·821
65—70	10,522	1·9724	514	5·3788	4·885
70—75	9,680	1·8145	627	6·5613	6·477
75—80	5,338	1·0006	664	6·9485	12·439
80—85	3,209	·6015	578	6·0485	18·011
85—90	1,115	·2090	292	3·0556	26·188
90—95	310	·0581	124	1·2976	40·000
95–100	74	·0139	27	·2825	36·486
100	8	·0015	5	·0523	62·500
Unknown	836	. .	21	. .	. .
Totals .	533,460	. .	9,556	. .	. .

TABLES B.—*continued.*

ESSEX.

Age	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	45,891	13·3025	2,337	34·9203	5·092
5—10	43,954	12·7410	503	7·5164	1·144
10—15	39,336	11·4024	238	3·5564	·605
15—20	33,159	9·6118	270	4·0346	·814
20—25	31,836	9·2283	282	4·2139	·885
25—30	25,827	7·4865	230	3·6369	·890
30—35	23,341	6·7659	208	3·1081	·891
35—40	17,859	5·1768	189	2·8242	1·058
40—45	19,112	5·5440	204	3·0480	1·067
45—50	14,531	3·3458	179	2·6748	1·231
50—55	14,047	3·2343	178	2·0598	1·267
55—60	8,436	2·4453	199	2·9737	2·358
60—65	9,612	2·7862	233	3·4817	2·424
65—70	6,127	1·7760	292	4·3624	4·765
70—75	5,272	1·5282	357	5·3347	6·771
75—80	2,878	·8343	307	4·5875	10·667
80—85	1,615	·4681	266	3·9748	16·470
85—90	521	·1510	151	2·2564	28·982
90—95	106	·0307	40	·5977	37·735
95–100	28	·0081	14	·2092	50·000
100	1	·0003	1	·0149	100·000
Unknown	1,490	. .	14	. .	. .
Totals .	344,979	. .	6.692	. .	. .

SUFFOLK.

Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	41,458	13·1900	2,185	33·7087	5·270
5—10	39,916	12·9640	364	5·6155	·911
10—15	36,100	11·4768	228	3·5174	·630
15—20	31,248	9·9178	278	4·2888	·889
20—25	28,458	9·0322	285	4·3967	1·001
25—30	22,684	7·1996	207	3·1934	·912
30—35	20,431	6·4845	228	3·5174	1·115
35—40	16,346	5·1880	174	2·6843	1·064
40—45	16,514	5·2413	177	2·7336	1·071
45—50	13,001	4·1260	148	2·2832	1·138
50—55	12,551	3.9835	179	2·7614	1·426
55—60	8,296	2·6330	201	3·1008	2·422
60—65	9,412	2·9872	247	3·8105	4·621
65—70	6,303	2·0005	275	4·2425	4·568
70—75	5,730	1·8186	354	5·4612	6·178
75—80	3,324	1·0550	358	5·5230	10·770
80—85	1,909	·6045	322	4·9676	16·867
85—90	745	·2365	183	2·8232	24·563
90—95	164	·0521	60	·5256	36·585
95–100	40	·0127	21	·3239	52·500
100	3	·0010	3	·0463	100·000
Unknown	380	. .	5	. .	. .
Totals .	315,073	. .	6,482	. .	. .

TABLES B.—*continued.*

NORFOLK.

Living. Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	52,930	12·8265	3,144	37·0929	5·939
5—10	50,789	12·3077	553	6·5243	1·088
10—15	46,069	11·1639	289	3·4096	·627
15—20	41,161	9·9745	292	3·4450	·709
20—25	37,454	9·0762	298	3·5157	·795
25—30	29,697	7·1965	279	3·2916	·936
30—35	25,942	6·0303	227	2·6781	·910
35—40	22,797	5·5244	222	2·6191	·973
40—45	22,993	5·5719	216	2·5483	·939
45—50	17,890	4·3452	215	2·5365	1·201
50—55	16,731	4·0544	201	2·3712	1·200
55—60	10,657	2·5825	218	2·5719	2·045
60—65	12,391	3·0027	278	3·2798	2·243
65—70	8,845	2·1434	337	3·9759	3·810
70—75	7,573	1·8351	457	5·3917	6·345
75—80	4,478	1·0851	449	5·2973	10·026
80—85	2,508	·6077	388	4·5776	15·470
85—90	1,033	·2503	265	3·1264	25·654
90—95	288.	·0698	107	1·2623	37·152
95–100	50	·0121	23	·2713	46·000
100	3	·0007	4	·0472	100·000
Unknown	385	. .	14	. .	. .
Totals .	412,664	. .	8,476	. .	. .

HEREFORD.

Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
— 5	13,633	11·9713	520	26·3825	3·814
5—10	13,097	11·5007	95	4·8199	·725
10—15	12,292	10·7938	50	2·5367	·406
15—20	10,877	9·5512	72	3·6529	·661
20—25	9,904	8·6968	90	4·5662	·908
25—30	8,396	7·3709	85	4·3125	1·012
30—35	7,941	6·9731	63	3·1963	·793
35—40	6,100	5·3565	55	2·7904	·901
40—45	6,477	5·6875	66	3·3485	1·019
45—50	5,012	4·4011	49	2·4860	·977
50—55	5,109	4·4863	71	3·6022	1·389
55—60	3,428	3·0032	78	3·9573	2·275
60—65	4,137	3·6237	93	4·7184	2·247
65—70	2,370	2·0811	82	4·1603	3·459
70—75	2,224	1·9529	131	6·6463	5·917
75—80	1,320	1·1591	125	6·3419	9·469
80—85	920	·8078	131	6·6463	14·239
85—90	327	·2871	67	3·3992	20·489
90—95	106	·0931	25	1·2683	23·584
95–100	29	·0255	6	·3044	20·689
100	5	·0043	4	·2029	80·000
Unknown	174	. .	13	. .	. .
Totals .	113,878	. .	1,971	. .	. .

TABLES C.

Age.	Living. Number.	Per Centage to the Total Living.	Deaths. Number.	Deaths. Per Centage to the Total Deaths.	Per Centage of the Deaths to the Living at the same Ages.
METROPOLIS.					
5	221,813	11·8385	5,503	26·3825	2·481
10—40	1,022,140	54·4997	1,010	4·8199	·098
15—30	560,608	29·9893	1,060	2·5367	·189
40—60	327,198	17·4629	1,350	3·6529	·412
60	112,641	6·0118	1,048	4·5662	·930
MANCHESTER.					
5	31,942	13·1459	1,178	26·3825	3·688
10—40	136,470	56·1651	1,178	4·8199	·863
15—30	74,505	30·6630	1,178	2·5367	·381
40—60	37,579	15·4303	1,178	3·6529	·763
60	10,745	4·4231	1,178	4·5662	2·733
CARLISLE.					
5	2,838	12·3326	1,178	26·3825	41·506
10—40	12,306	53·4764	1,178	4·8199	9·573
15—30	6,862	29·8192	1,178	2·5367	4·286
40—60	4,161	18·0820	1,178	3·6529	8·474
60	1,460	6·3444	1,178	4·5662	19·726
COUNTY OF ESSEX.					
5	45,891	13·3025	1,178	26·3825	3·566
10—40	171,663	49·7594	1,178	4·8199	·686
15—30	90,822	26·3267	1,178	2·5367	·324
40—60	56,146	16·2751	1,178	3·6529	·629
60	26,159	7·5827	1,178	4·5662	1·504
SHEFFIELD.					
5	9,813	14·3915	1,178	26·3825	12·005
10—40	36,879	54·0859	1,178	4·8199	2·565
15—30	20,093	29·4011	1,178	2·5367	1·488
40—60	10,569	15·5002	1,178	3·6529	4·075
60	3,196	4·6871	1,178	4·5662	12·600
LEEDS.					
5	21,615	14·2157	1,178	26·3825	5·449
10—40	81,711	53·7395	1,178	4·8199	1·157
15—30	44,082	28·9917	1,178	2·5367	·671
40—60	23,170	15·2384	1,178	3·6529	1·838
60	7,229	4·7543	1,178	4·5662	5·683
COUNTY OF DEVON.					
5	67,111	12·5774	1,178	26·3825	1·755
10—40	273,690	51·3046	1,178	4·8199	·430
15—30	141,938	26·5463	1,178	2·5367	·249
40—60	90,564	16·9767	1,178	3·6529	·683
60	46,691	8·7525	1,178	4·5662	2·523
COUNTY OF NORFOLK.					
5	52,930	12·8264	1,178	26·3825	2·225
10—40	203,120	49·2222	1,178	4·8199	·580
15—30	108,312	26·2435	1,178	2·5367	·340
40—60	68,271	16·5055	1,178	3·6529	·925
60	37,169	9·0055	1,178	4·5662	3·169
LIVERPOOL.					
5	25,461	14·2157	1,178	26·3825	4·626
10—40	99,093	53·7395	1,178	4·8199	·954
15—30	54,417	28·9917	1,178	2·5367	·552
40—60	27,721	15·2384	1,178	3·6529	1·551
60	9,066	4·7543	1,178	4·5662	4·796
BIRMINGHAM.					
5	25,461	13·9192	1,178	26·3825	4·626
10—40	99,093	54·1728	1,178	4·8199	·954
15—30	54,417	29·7490	1,178	2·5367	·552
40—60	27,721	15·1547	1,178	3·6529	1·551
60	9,066	4·9562	1,178	4·5662	4·796
EXETER.					
5	3,503	11·1871	1,178	26·3825	33·625
10—40	16,660	53·2064	1,178	4·8199	7·071
15—30	9,138	29·1837	1,178	2·5367	3·675
40—60	5,564	13·2888	1,178	3·6529	5·211
60	2,363	4·6627	1,178	4·5662	12·400
COUNTY OF SUFFOLK.					
5	41,458	13·1584	1,178	26·3825	3·742
10—40	155,127	49·2357	1,178	4·8199	·759
15—30	82,390	26·1497	1,178	2·5367	·400
40—60	50,362	15·9843	1,178	3·6529	·839
60	27,627	8·7685	1,178	4·5662	2·131
BETHNAL GREEN.					
5	10,739	14·4949	1,178	26·3825	14·466
10—40	37,749	50·9515	1,178	4·8199	3·121
15—30	19,504	26·3254	1,178	2·5367	1·540
40—60	11,979	16·4692	1,178	3·6529	3·595
60	4,391	6·0369	1,178	4·5662	10·400
ST. GEORGE'S HANOVER SQUARE.					
5	5,738	8·6345	1,178	26·3825	54·233
10—40	41,035	61·8990	1,178	4·8199	2·871
15—30	24,283	36·5404	1,178	2·5367	1·240
40—60	11,799	17·7548	1,178	3·6529	3·650
60	3,166	4·7641	1,178	4·5662	13·600

TABLES D.
Actual Results.

Ages.	BETHNAL GREEN. Number Dying.	BETHNAL GREEN. Years of Life.	ST. GEORGE'S HANOVER SQUARE. Number Dying.	ST. GEORGE'S HANOVER SQUARE. Years of Life.	MARYLEBONE. Number Dying.	MARYLEBONE. Years of Life.
5	850	2125	463	1157·5	1,433	3582·5
5 — 10	76	570	55	412·5	192	1440
10 — 15	38	475	28	350	65	812·5
15 — 20	37	647·5	36	630	72	1260
20 — 25	38	855	68	1530	155	3487·5
25 — 30	51	1402·5	78	2145	142	3905
30 — 35	51	1657·5	64	2080	154	5005
35 — 40	56	2100	78	2925	117	4387·5
40 — 45	47	1997·5	85	3612·5	156	6630
45 — 50	66	3135	66	3135	173	8217·5
50 — 55	74	3885	77	4042·5	162	8505
55 — 60	67	3852·5	55	3162·5	141	8107·5
60 — 65	64	4000	61	3812·5	182	11375
65 — 70	64	4320	55	3712·5	135	9112·5
70 — 75	68	4930	58	4205	149	10802·5
75 — 80	47	3642·5	51	3952·5	130	10075
80 — 85	39	3217·5	20	1650	66	5445
85 — 90	22	1925	15	1312·5	29	2537·5
90 — 95	6	555	4	370	17	1572·5
95 —100	2	195	1	97·5	6	585
100 & upwds. *	..	..	..	..	3	307·5
Total . .	1,763	45487·5	1,418	44295	3,679	107152·5

Results by the respective Rates of Mortality in each place if containing the same Population as Bethnal Green does.

Ages.	BETHNAL GREEN. Number Dying.	BETHNAL GREEN. Years of Life.	ST. GEORGE'S HANOVER SQUARE. Number Dying.	ST. GEORGE'S HANOVER SQUARE. Years of Life.	MARYLEBONE. Number Dying.	MARYLEBONE. Years of Life.
5			867	2167·5	1,067	2667·5
5 — 10			110	825	145	1087·5
10 — 15			54	675	47	587·5
15 — 20			41	717·5	43	752·5
20 — 25			47	1057·5	62	1395
25 — 30			52	1430	54	1485
30 — 35			48	1560	63	2047·5
35 — 40			68	2550	54	2025
40 — 45			75	3187·5	67	2847·5
45 — 50			68	3230	85	4037·5
50 — 55			85	4462·5	79	4147·5
55 — 60			70	4025	50	2875
60 — 65			76	4750	97	6062·5
65 — 70			88	5940	82	5535
70 — 75			82	5945	85	6162·5
75 — 80			80	6200	69	5347·5
80 — 85			25	2062·5	30	2475
85 — 90			22	1925	18	1575
90 — 95			8	740	8	740
95 —100			2	195	3	292·5
Totals. .			1,968	53645	2,208	54145

* In this table, and in Table E, the number of deaths at "unknown" ages, or ages not specified, are omitted.

TABLES D.—*continued.*
Actual Results.

Ages.	CLERKENWELL. Number Dying.	CLERKENWELL. Years of Life.	ST. GILES AND ST. GEORGE BLOOMSBURY. Number Dying.	ST. GILES AND ST. GEORGE BLOOMSBURY. Years of Life.	KENSINGTON. Number Dying.	KENSINGTON. Years of Life.
5	698	1745	640	1600	966	2415
5 — 10	74	555	67	502·5	120	900
10 — 15	19	217·5	16	200	38	475
15 — 20	28	490	28	490	57	997·5
20 — 25	39	877·5	36	810	72	1620
25 — 30	38	1045	44	1210	72	1980
30 — 35	45	1462·5	58	1885	97	3152·5
35 — 40	54	2025	63	2362·5	83	3112·5
40 — 45	52	2210	57	2422·5	92	3910
45 — 50	43	2042·5	56	2660	97	4607·5
50 — 55	56	2940	58	3045	90	4725
55 — 60	46	2645	42	2415	120	6900
60 — 65	68	4250	92	5750	119	7437·5
65 — 70	48	3240	64	4320	130	8775
70 — 75	56	4060	55	3987·5	138	10005
75 — 80	53	4107·5	53	4107·5	124	9610
80 — 85	33	2722·5	33	2722·5	79	6517·5
85 — 90	21	1837·5	3	262·5	45	3937·5
90 — 95	4	370	6	555	14	1295·5
95 —100	1	97·5	2	195	3	292·5
100 & upwds.	..	..	..	..	2	205
Totals . .	1,476	38940	1,473	41502·5	2,558	82870·5

Results by the respective Rates of Mortality in each place containing the same Population as Bethnal Green does.

Ages.	CLERKENWELL. Number Dying.	CLERKENWELL. Years of Life.	ST. GILES AND ST. GEORGE BLOOMSBURY. Number Dying.	ST. GILES AND ST. GEORGE BLOOMSBURY. Years of Life.	KENSINGTON. Number Dying.	KENSINGTON. Years of Life.
5	1,098	2745	1,224	3060	789	1972·5
5 — 10	123	922·5	148	1100	93	697·5
10 — 15	30	375	118	1475	27	337·5
15 — 20	34	595	41	717·5	39	682·5
20 — 25	40	900	37	832·5	39	877·5
25 — 30	40	1100	45	1237·5	38	1045
30 — 35	49	1592·5	58	1885	55	1787·5
35 — 40	65	2437·5	73	2737	51	1912·5
40 — 45	61	2592·5	60	2550	53	2252·5
45 — 50	53	2517·5	79	3752·5	57	2707·5
50 — 55	74	3885	66	3465	55	2887·5
55 — 60	61	3507·5	61	3507·5	71	4082·5
60 — 65	92	5750	122	7625	62	3875
65 — 70	75	5062·5	115	7762·5	77	5197·5
70 — 75	79	5727·5	90	6525	76	5510
75 — 80	68	5720	82	6355	50	3875
80 — 85	44	3630	45	3712·5	33	2722·5
85 — 90	31	2712·5	7	612·5	25	2187·5
90 — 95	8	740	14	1295	6	555
95 —100	4	390	4	390	2	195
Totals . .	2,129	52902·5	2,489	60597	1,698	45360

TABLES E.
Actual Results.

Ages.	METROPOLIS. Number Dying.	METROPOLIS. Years of Life.	LIVERPOOL. Number Dying.	LIVERPOOL. Years of Life.	SHEFFIELD. Number Dying.	SHEFFIELD. Years of Life.	MANCHESTER. Number Dying.	MANCHESTER. Years of Life.
5	19,519	48797·5	4,261	10652·5	1,163	2907·5	2,917	7292·5
5 — 10	2,194	16455	448	3360	115	862·5	304	2280
10 — 15	789	9862·5	149	1862·5	66	825	119	1487·5
15 — 20	1,074	18795	158	2765	74	1295	142	2485
20 — 25	1,632	36720	275	6187·5	79	1777·5	188	4230
25 — 30	1,718	47245	294	8085	91	2502·5	240	6600
30 — 35	1,789	58142·5	308	10010	71	2307·5	234	7605
35 — 40	1,900	71250	319	11962·5	72	2700	220	8250
40 — 45	1,788	75990	296	12580	99	4207·5	226	9605
45 — 50	1,897	90107·5	262	12445	69	3277·5	209	9927·5
50 — 55	1,992	104580	251	13177·5	68	3570	211	11077·5
55 — 60	1,817	104477·5	200	11500	78	4485	184	10580
60 — 65	2,288	143000	261	16312·5	87	5437·5	189	11812·5
65 — 70	1,978	133515	174	11745	74	4995	181	12217·5
70 — 75	2,081	150872·5	157	11382·5	72	5220	168	12180
75 — 80	1,707	132292·5	142	11005	69	5347·5	111	8602·5
80 — 85	1,003	82747·5	87	7177·5	23	1897·5	70	5775
85 — 90	539	47162·5	44	3850	18	1575	34	2975
90 — 95	160	14800	12	1110	2	185	12	1110
95 —100	52	5070	2	195	1	97·5	2	185
100 & upwds.	9	922·5	1	192·5	..	..	..	..
Total .	47,926	1393805	8,101	167457·5	2,391	55470·5	5,961	136277·5

Results by the respective Rates of Mortality in each place, if containing the same Population as the Metropolis does.

Ages.	METROPOLIS. Number Dying.	METROPOLIS. Years of Life.	LIVERPOOL. Number Dying.	LIVERPOOL. Years of Life.	SHEFFIELD. Number Dying.	SHEFFIELD. Years of Life.	MANCHESTER. Number Dying.	MANCHESTER. Years of Life.
5			24,998	62495	26,285	65712·5	20,252	50630
5 — 10			2,835	21262·5	2,743	20572·5	2,168	16260
10 — 15			931	11637·5	1,557	19462·5	813	10162·5
15 — 20			1,015	17762·5	1,824	31920	998	17465
20 — 25			1,690	38025	2,308	51930	1,422	31995
25 — 30			1,752	48180	2,701	74277·5	1,898	52195
30 — 35			1,858	60385	2,216	72020	1,773	57622·5
35 — 40			2,107	79012·5	2,059	77212·5	1,742	65325
40 — 45			2,029	86232·5	3,144	133620	1,854	78795
45 — 50			2,084	98990	2,069	98277·5	1,830	86925
50 — 55			2,084	109410	2,233	117495	1,908	100170
55 — 60			1,751	100682·5	2,254	129605	1,734	99705
60 — 65			2,278	142375	3,100	193750	1,799	112437·5
65 — 70			1,680	113400	2,287	154372·5	1,935	130612·5
70 — 75			1,634	118465	2,714	196765	1,928	139780
75 — 80			1,475	114312·5	2,544	197160	1,300	100750
80 — 85			847	69877·5	866	71445	941	77632·5
85 — 90			466	40775	884	77350	424	37100
90 — 95			112	10360	159	14707·5	179	16557·5
95 —100			13	1267·5	29	2827·5	25	2437·5
100 & upwds.			3	307·5	..	..	..	..
Total .			53,642	1345215	63,981	1800482·5	46,923	1284557·5

TABLES E.—*continued.*
Actual Results.

Ages.	BIRMINGHAM. Number Dying.	BIRMINGHAM. Years of Life.	LEEDS. Number Dying.	LEEDS. Years of Life.	CITY OF EXETER. Number Dying.	CITY OF EXETER. Years of Life.	DEVON. Number Dying.	DEVON. Years of Life.
5	1,818	4545	2,143	5357·5	326	815	2,924	7310
5 — 10	217	1627·5	305	2287·5	39	292·5	412	3090
10 — 15	83	1037·5	150	1875	12	150	207	2587·5
15 — 20	100	1750	143	2502·5	15	262·5	299	5232·5
20 — 25	127	2857·5	169	3802·5	14	315	356	8010
25 — 30	117	3217·5	166	4565	29	797·5	301	8277·5
30 — 35	121	3932·5	132	4290	32	1040	287	9327·5
35 — 40	135	5062·5	156	5850	21	787·5	266	9975
40 — 45	131	5567·5	148	6250	34	1445	279	11857·5
45 — 50	123	5842·5	125	5937·5	31	1472	275	13062
50 — 55	110	5775	116	6090	23	1207·5	306	16065
55 — 60	93	5307·5	102	5865	15	862·5	328	18860
60 — 65	123	7687·5	149	9312·5	30	1875	464	29000
65 — 70	122	8235·	140	9459	33	2227·5	514	34695
70 — 75	118	8555·	124	8990	44	3190	627	45457·5
75 — 80	99	7672·5	104	8060	32	2480	664	51460
80 — 85	70	5775·	69	5692·5	27	2227·5	578	47635
85 — 90	37	3237·	42	3675	16	1400	292	25550
90 — 95	11	1017·5	9	832·5	7	647·5	124	11470
95 —100	2	185·	4	370	2	195	27	2632·5
100 & upwds.	2	205·	1	102·5	3	307·5	5	512·5
Total .	3,759	89092	4,494	101166·5	785	23997	9,535	362117·5

Results by the respective Rates of Mortality in each place, if containing the same Population as the Metropolis does.

Ages.	BIRMINGHAM. Number Dying.	BIRMINGHAM. Years of Life.	LEEDS. Number Dying.	LEEDS. Years of Life.	CITY OF EXETER. Number Dying.	CITY OF EXETER. Years of Life.	DEVON. Number Dying.	DEVON. Years of Life.
5	15,882	39705	21,982	54995	20,629	51572·5	9,649	24122·5
5 — 10	1,909	14317·5	3,113	23347·5	2,205	16537·5	1,168	8760
10 — 15	728	9100	1,507	18837·5	677	8462·5	592	7400
15 — 20	946	16555	1,548	27090	809	14157·5	963	16852·5
20 — 25	1,340	39150	2,267	51007·5	907	20407·5	1,484	33390
25 — 30	1,259	34622·5	2,238	61545	1,825	50187·5	1,369	37647·5
30 — 35	1,381	44882·5	1,892	61490	2,045	66462·5	1,346	43745
35 — 40	1,523	57112·5	2,083	78112·5	1,352	50700	1,157	43387·5
40 — 45	1,528	64940	2,104	89420	2,154	91545	1,215	51637·5
45 — 50	1,408	66880	1,703	80920·5	1,870	88825	955	45632·5
50 — 55	1,336	70140	1,738	91245	1,352	70980	1,038	54495
55 — 60	1,290	74175	1,332	76590	767	44102·5	884	50830
60 — 65	1,716	107250	2,288	143000	1,604	100250	1,379	86187·5
65 — 70	1,381	93217·5	2,025	136687·5	1,620	109350	744	50220
70 — 75	1,589	115202·5	2,165	156962·5	2,113	153192·5	1,408	102080
75 — 80	902	69905	1,508	116870	1,103	85482·5	1,206	93465
80 — 85	589	48592·5	790	65175	973	80272·5	916	75560
85 — 90	201	17587·5	381	33337·5	552	48300	424	37100
90 — 95	63	5827·5	159	14707·5	196	18130	191	17667·5
95 —100	9	877	38	3765	77	7507·5	42	4095
100 & upwds.	24	2460	..	..	..	..	15	1537·5
Total .	37,004	992499·5	52,861	1375005·5	44,830	1176426	28,143	885822·5

TABLES E.—*continued.*

Actual Results.

Ages.	ESSEX. Number Dying.	ESSEX. Years of Life.	SUFFOLK. Number Dying.	SUFFOLK. Years of Life.	NORFOLK. Number Dying.	NORFOLK. Years of Life.	HEREFORD. Number Dying.	HEREFORD. Years of Life.
5	2,337	5841·5	2,185	5462·5	3,144	7860	520	1300
5 — 10	503	3772·5	364	2730	553	4147·5	95	712·5
10 — 15	238	2975	228	2850	289	3612·5	50	625
15 — 20	270	4725	278	4865	292	5110	72	1260
20 — 25	282	6345	285	6412·5	298	6705	90	2025
25 — 30	230	6325	207	5692·5	279	7672·5	85	2337·5
30 — 35	208	6760	228	7410	227	7377·5	63	2047·5
35 — 40	189	7087·5	174	6525	222	8325	55	2062·5
40 — 45	204	8670	177	7522·5	216	9180	66	2805
45 — 50	179	8502·5	148	7030	215	10212·5	49	2327·5
50 — 55	178	9345	179	9397·5	201	10552·5	71	3727·5
55 — 60	199	11442·5	201	11557·5	218	12535	78	4485
60 — 65	233	14562·5	247	15437·5	278	17375	93	5812·5
65 — 70	292	19710	275	18562·5	337	22747·5	82	5535
70 — 75	357	25882·5	354	25665	457	33132·5	131	9497·5
75 — 80	307	23792·5	358	27745	449	34797·5	125	9687·5
80 — 85	266	21945	322	26565	388	32010	131	10807·5
85 — 90	151	13212·5	183	16012·5	265	23187·5	67	5862·5
90 — 95	40	3700	60	5550	107	9897·5	25	2312·5
95 —100	14	1365	21	2047·5	23	2242·5	6	585
100 & upwds.	1	102·5	3	307·5	4	410	4	410
Total .	6,678	205864	6,477	215347·5	8,462	269090	1,958	76225·5

Results by the respective Rates of Mortality in each place, if containing the same Population as the Metropolis does.

Ages.	ESSEX. Number Dying.	ESSEX. Years of Life.	SUFFOLK. Number Dying.	SUFFOLK. Years of Life.	NORFOLK. Number Dying.	NORFOLK. Years of Life.	HEREFORD. Number Dying.	HEREFORD. Years of Life.
5	12,599	31497·5	11,690	29225	13,154	32885	8,451	21127·5
5 — 10	1,260	9450	1,686	12645	2,001	15007·5	1,483	11122·5
10 — 15	1,016	12700	1,066	13325	1,050	13125	677	8462·5
15 — 20	1,394	24395	1,514	26495	1,170	20475	1,135	19862·5
20 — 25	1,814	40815	2,061	46372·5	1,628	36630	1,855	41737·5
25 — 30	1,624	44660	1,660	45650	1,697	46667·5	1,843	50682·5
30 — 35	1,517	49302·5	1,892	61490	1,551	50407·5	1,346	43745
35 — 40	1,279	47962·5	1,279	47962·5	1,182	44325	1,096	41100
40 — 45	1,328	56440	1,340	56950	1,165	49512·5	1,265	53762·5
45 — 50	979	46502·5	899	42702·5	955	45362·5	772	36670
50 — 55	1,014	53235	1,143	60007·5	966	50715	1,111	58327·5
55 — 60	984	56580	1,014	58305	855	49162·5	951	54682
60 — 65	1,183	73937·5	2,259	141187·5	1095	68437·5	1,095	68437·5
65 — 70	1,188	80190	929	62707·5	951	64192·5	861	58117·5
70 — 75	1,473	106792·5	1,343	97367·5	1,380	100050	1,286	93235
75 — 80	1,034	80135	1,045	80987·5	972	75330	917	71067·5
80 — 85	837	69052·5	857	70702·5	786	64845	723	59647·5
85 — 90	470	41125	398	34825	416	36400	332	29050
90 — 95	180	16650	174	16095	177	16372·5	112	10360
95 —100	58	5655	60	5850	53	5167·5	24	2340
100 & upwds.	24	2460	24	2460	24	2460	19	1947·5
Total .	33,255	949537·5	34,333	1013312·5	33,228	887530	27,354	835485

The Metropolis: its Boundaries, Extent, and Divisions for Local Government. By JOSEPH FLETCHER, Esq., Barrister-at-Law, Hon. Sec.

[*Read before the Statistical Society of London, 19th February,* 1844.]

BEING called upon for a contribution to the transactions of this Society, it appeared to me that the most useful which it was within my limited abilities and means to offer, would be one conveying an outline of the several urban districts which form the Metropolis, and of their subdivisions for local government and public works. To trace the history of the local institutions of the Metropolis, or describe their present powers and operation, would far exceed the limits of such a communication as the present. But when several royal commissions, temporary or permanent,—the Metropolitan Improvement Commission, the Health of Towns Commission, and the Commissioners of Woods, Forests, &c., —are all earnestly engaged in examinations as to the effects of existing arrangements, and in the preparation of plans of amelioration, the merest outlines of the mass with which they have to deal, and of the institutions whose defects they have to supply, will form, in some measure, a useful skeleton index to the results of their labours when they shall appear.

The portion of the town which first claims our notice, is the ancient *City of London*, of the separate government of which, by its own Corporation, as much is already known, by every member of the Society, as could be conveyed within the present limits. It will suffice, therefore, to state that it is a municipal county in itself, and is the ancient nucleus around which the rest of the metropolis has, in comparatively recent times, been aggregated. Though the name of "London" is now employed nationally, and therefore properly, to designate the whole of the vast town and wide-spread suburbs inhabited by the metropolitan population, yet it belonged, until a very recent time, exclusively to the City within the Walls, which comprised nearly the whole metropolis down to the reign of Elizabeth, when the Liberties, now designated the City without the Walls, were still chiefly occupied by open fields. The ancient suburban and rural character of the City without the Walls is still strongly indicated by the greater size of its parishes, as compared with those within the Walls; the average of the former being about eighteen acres, and of the latter scarcely more than two-and-a-half. The distinction between the City within and the City without the Walls is now merely nominal. When the latter, in the course of the seventeenth century, became covered with buildings, the community of jurisdiction under which it was placed with the former made it be regarded as one under the name of "the City;" the ancient "Liberties" being thus, as it were, forgotten; and "the City" was henceforward entered at the "bars" which marked the ancient limits of its Liberties, and not at its "gates," which were engulphed in buildings, and came gradually to be regarded as mere obstructions to its busiest thoroughfares, until their general removal near the close of the last century.

The term "*City*" is now, therefore, employed to designate the whole of the municipal territory comprehended within the outer boundary of the ancient Liberties. In several charters relating to the City of London, the term "suburbs" is employed, but no very precise idea appears to have been attached to this term, unless it be understood of the Liberties.

The boundary between the City and the precinct or the jurisdiction of the Constable of the Tower was anciently a subject of much contest; and it is still a standing instruction to the civic committee, called the Committee of City Lands, to resist the Constable's encroachments. A portion of the buildings of the Tower itself, and portions of the liberty of the Tower are included within the most ancient boundaries of the City, the walls of which passed over the present site of the Tower. The citizens, who had political purposes in their obstinacy, never ceased to claim the exercise of their liberties to the furthest limit of their ancient jurisdiction; but from the Conquest the Constable had power to keep them at bay; and at the present day the whole of the Tower and of the Tower Liberty is practically excluded from the City jurisdiction, although the latter comprises the whole parish of Trinity Minories, which is reckoned, both civilly and ecclesiastically, to be a City parish, while yet it is not included in any ward.

In the City within the Walls there are 97 parishes, occupying an estimated space of only 370 acres; and in the City without the Walls (as defined by the census) 11 parishes, the two precincts of Blackfriars and Whitefriars, and the whole of the Inns of Court and Chancery, which are also extra-parochial, within a space of 230 acres; making the total of the City only 600 acres, or considerably less than one square mile. This small area, extending lengthwise from the Temple to the Tower, was occupied naturally by several dry gravelly elevations, rising gently from the north bank of the Thames, separated from each other by brooks flowing southward to that river, and presenting a site as healthy as it is advantageous for empire and for commerce.

In the beginning of the last century, the population within the Walls was not much less than 140,000, as is proved by the parish registers, and the annual mortality was as 1 in 20 of the population; but space within its limits having gradually become more valuable for warehouses than for human habitation, it was reduced in 1841 to 54,626, with a rate of mortality less than 1 in 40. The population of the City without the Walls was about 69,000 at the commencement of the last century, and in 1841 it amounted only to 70,382. Thus, though the population of the City without the Walls has not materially increased for a century and a half, yet we see at how small a distance from the very centre of the Town the constantly increasing demand for places of mere business ceases to be felt to a depopulating extent. It is the City within the Walls which we must regard as one vast counting-house and warehouse, where the banker, the merchant, the warehouseman, and the retail dealer meet, and to which no small number of consumers also resort.

"Owing to the enormous increase of the trade of the metropolis, one-half of the City at least may now be calculated to be occupied by warehouses and counting-houses. Public offices, and buildings of that nature, take up a very considerable space. Much, also, even of the retail trade and handicraft occupation is carried on in houses in no part devoted to regular family residence. Add to this, that the great change in domestic habits and manners has engendered a love of privacy and retirement, which prompts many persons, even at some sacrifice of pecuniary interest, to withdraw themselves as much as possible from the bustle of business to a neighbourhood where

they may enjoy better air and more cheerful society. The consequence of this is, that out of the vast numbers who resort daily to the City to pursue their regular avocations, not one-twentieth proportion of them are to be reckoned among the constant inhabitants; and that proportion is, for the most part, though certainly not entirely, composed of the inferior orders. The tide of population flows in large streams into the City every morning, and is again disgorged at the close of the day. The City, properly so called, may now be considered rather as a vast mercantile emporium or factory than as a place of general habitation. When we speak, therefore, of the present population of London, we must be careful to distinguish between those who pursue their daily employments and occupy tenements within the City for the purpose of trade merely, and those who are strictly to be accounted inhabitants. If we calculate the population on the latter basis, the City must be considered, even with reference to the present liberal style of house-keeping, as half deserted; if on the former, we shall readily calculate that but a small proportion, probably not more than a tenth part, could by possibility become inhabitants, if any regard be had not merely to that luxurious ease which the circumstances of many of them can command, but to what, at the present day, are considered the common comforts and necessaries of life."*

The really resident population—the population sleeping within the City — consists principally of the tradesmen of the principal streets; the tavern-keepers, inn-keepers, &c.; the second class of warehousemen; the warehouse labourers, porters, attendants, carmen and drivers; and, in the back streets, also a considerable number of working mechanics of the clothing and building trades. In the City without the Walls these latter are in still greater proportion; and together with them are found great numbers of hawking vendors of fruit, fish, vegetables, &c., of general labourers, and, in the east, of Jewish pedlars, and people who do not know, when they rise in the morning, by what chance job in the streets or the markets they are to get food for the day. Proximity to the seat of employment induces these people to crowd into central localities, abandoned to them for more advantageous sites by the trading classes; and they form a very large proportion of the population contained in such parishes as those of St. Botolph Aldgate, and Bishopsgate, and Trinity Minories, on the east side of the City; St. Botolph Aldersgate, St. Giles's Cripplegate, and St. Bartholomew the Great and Less, on the north; and St. Bride Fleet-street, St. Dunstan in the West, St. Sepulchre Newgate-street, and St. Andrew Holborn below the Bars, on the west; these parishes forming, with the precincts of Whitefriars and Blackfriars of similar character, the whole of the City without the Walls, excepting the Inns of Court and Chancery.

The annexed is a table of the several parishes contained in the City, which is here inserted because they are of so different a character from the parishes without its limits as not to be admissible as part of the succeeding table for the whole metropolis.

* Norton's Commentaries, p. 186--8.

Table of the Parishes and Precincts of the City of London, their Population and Houses, and the Wards within which they are severally included.—(Derived from the Census Return and the Report of the Corporation Commissioners.)

*** The estimated Area of the City Within the Walls is 370 acres; and of the City Without the Walls, inclusive of the Inns of Court, 230 acres; making a total of 600 acres, or less than one square mile.

PARISHES AND PRECINCTS.	Population, 1841	Houses Inhabited 1841	Place of Nativity.		WARDS.
			Within the County.	Elsewhere	In which the several Parishes, &c., are included.
WITHIN THE WALLS.					
1 St. Alban in Wood-street	479	92	175	304	Cripplegate Within.
2 Allhallows, Barking	1,924	246	1,158	766	Tower.
3 Allhallows in Bread-street	263	58	105	158	Bread-street, Cordwainers.
4 Allhallows the Great	672	93	367	305	Dowgate.
5 Allhallows in Honey-lane	155	25	70	85	Cheap.
6 Allhallows the Less	181	22	98	83	Dowgate.
7 Allhallows in Lombard-street	516	83	279	237	Bishopsgate Within, Bridge.
8 Allhallows, Staining	502	103	286	216	Aldgate, Tower.
9 Allhallows, London Wall	1,620	218	1,059	561	Aldgate, Bishopsgate Within, Bread-street, Lime-street.
10 St. Alphage, near Sion College	976	136	610	366	Cripplegate Within.
11 St. Andrew, Hubbard	331	48	194	137	Billingsgate.
12 St. Andrew, Undershaft	1,163	181	685	478	Aldgate, Lime-street.
13 St. Andrew by the Wardrobe	750	88	433	317	Castle Baynard.
14 St. Anne within Aldersgate	513	58	232	281	Aldersgate Within.
15 St. Anne, Blackfriars	2,846	276	1,801	1,045	Farringdon Within.
16 St. Anthony, vulgarly Antholin	357	61	184	173	Cordwainers.
17 St. Augustin, vulgarly Austin	289	39	130	159	Bread-street, Cordwainers, Farringdon Within.
18 St. Bartholomew, Exchange	307	65	156	151	Broad-street.
19 St. Benedict, vulgarly Bennet Fink	383	83	228	155	Broad-street.
20 St. Bene't, Gracechurch	333	50	177	156	Billingsgate, Bridge.
21 St. Bennet, at Paul's Wharf	588	80	349	239	Castle Baynard.
22 St. Bennet, Sherehog	145	26	99	46	Cheap, Cordwainers.
23 St. Botolph, at Billingsgate	278	34	116	162	Billingsgate.
24 Christ Church	2,446	246	1,155	1,291	Farringdon Within.
25 St. Christopher-le-Stocks	16	2	12	4	Broad-street.
26 St. Clement, near Eastcheap	236	38	125	111	Candlewick.
27 St. Dionis, Backchurch	806	122	479	327	Lime-street.
28 St. Dunstan in the East	1,010	175	507	503	Tower.
29 St. Edmund the King	391	63	203	188	Langbourn.
30 St. Ethelburga	669	86	347	322	Bishopsgate Within.
31 St. Faith under St. Paul	781	118	420	361	Castle Baynard, Farringdon Within.
32 St. Gabriel, Fenchurch-street	386	66	236	150	Tower.
33 St. George, Botolph-lane	235	32	128	107	Billingsgate.
34 St. Gregory by St. Paul	1,444	185	652	792	Castle Baynard.
35 St. Helen near Bishopsgate	659	130	368	291	Bishopsgate Within.
36 St. James in Duke's-place	964	123	706	258	Aldgate.
37 St. James at Garlickhithe	520	52	343	177	Vintry.
38 St. John Baptist, Dowgate	367	62	207	160	Cordwainers, Dowgate.
39 St. John the Evangelist	108	18	33	75	Bread-street.
40 St. John Zachary	183	31	82	101	Aldersgate Within, Farringdon Without, Cripplegate Within.
41 St. Katherine Coleman	606	96	342	264	Aldgate.
42 St. Katherine Creechurch	1,740	250	1,175	565	Aldgate.
43 St. Laurence Jewry	625	110	265	360	Cheap.
44 St. Laurence Pountney	381	47	186	195	Candlewick, Dowgate.
45 St. Leonard, Eastcheap	137	27	73	64	Billingsgate, Bridge.
46 St. Leonard, Foster-lane	331	46	187	144	Aldersgate Within.
47 St. Magnus, London Bridge	239	35	74	165	Billingsgate, Bridge.

Table of the Parishes and Precincts of the City of London, &c.,—continued.

PARISHES AND PRECINCTS.	Population, 1841	Houses Inhabited 1841	Place of Nativity.		WARDS.
			Within the County.	Elsewhere	In which the several Parishes, &c., are included.
WITHIN THE WALLS—*continued.*					
48 St. Margaret, Lothbury	189	39	74	115	Broad-street, Coleman-street.
49 St. Margaret Moses	250	40	97	153	Bread-street.
50 St. Margaret, New Fish-street	266	47	115	151	Billingsgate, Bridge.
51 St. Margaret Pattens	167	28	90	77	Billingsgate, Tower.
52 St. Martin, Ironmonger-lane	198	36	72	126	Cheap.
53 St. Martin Ludgate	1,255	120	706	549	Farringdon Within, Farringdon Without.
54 St. Martin Orgars	353	56	188	165	Bridge, Candlewick.
55 St. Martin Outwich	135	33	74	61	BishopsgateWithin, Bread-street.
56 St. Martin Vintry	288	44	138	150	Vintry.
57 St. Mary Abchurch	526	74	272	254	Candlewick.
58 St. Mary, Aldermanbury	751	95	329	422	Cripplegate Within.
59 St. Mary Aldermary	494	75	253	241	Cordwainers.
60 St. Mary-le-Bow, Cheapside	346	61	169	177	Cheap, Cordwainers.
61 St. Mary Bothaw, Dowgate	257	42	117	140	Dowgate.
62 St. Mary Colechurch	238	47	130	108	Cheap.
63 St. Mary Hill, Billingsgate	987	103	453	534	Billingsgate.
64 St. Mary Magdalen, Milk-st.	207	50	85	122	Bread-street, Cripplegate Within.
65 St. Mary Magdalen, Old Fish-street	783	88	426	357	Castle Baynard.
66 St. Mary Mounthaw	378	27	184	194	Queenhithe.
67 St. Mary Somerset	375	42	212	163	Queenhithe.
68 St. Mary Staining	268	47	154	114	Aldersgate Within.
69 St. Mary Woolchurch	150	29	71	79	Broad-street, Cheap.
70 St. Mary Woolnoth	317	55	162	155	Langbourn.
71 St. Matthew, Friday-street	160	29	75	85	Bread-street, Farringdon Within.
72 St. Michael, Bassishaw	687	122	395	292	Bassishaw.
73 St. Michael, Cornhill	454	91	213	241	Cornhill.
74 St. Michael, Crooked-lane	329	54	176	153	Bridge.
75 St. Michael, Queenhithe	647	63	389	258	Queenhithe.
76 St. Michael-le-Quern	212	36	103	109	Farringdon Within.
77 St. Michael Royal	251	32	148	103	Dowgate.
78 St. Michael, Wood-street	328	59	125	203	Cripplegate.
79 St. Mildred, Bread-street	351	45	155	196	Bread-street, Queenhithe.
80 St. Mildred, Poultry	280	48	163	117	Broad-street, Cheap, Broad-street.
81 St. Nicholas Acons	194	37	92	102	Langbourn.
82 St. Nicholas Cole Abbey	254	31	149	105	Broad-street, Queenhithe.
83 St. Nicholas Olave	431	45	260	171	Queenhithe.
84 St. Olave, Hart-street	816	150	429	387	Aldgate, Tower.
85 St. Olave, Old Jewry	168	37	75	93	Cheap, Coleman-street.
86 St. Olave, Silver-street	972	129	619	353	Farringdon Within, Cripplegate Within.
87 St. Pancras, Soper-lane	162	38	54	108	Cheap, Cordwainers.
88 St. Peter, Cheapside	227	42	91	136	Bread-street, Cripplegate Within, Farringdon Within.
89 St. Peter, Cornhill	656	109	311	345	Bishopsgate Within, Lime-street.
90 St. Peter, Paul's Wharf	341	50	175	166	Castle Baynard, Queenhithe.
91 St. Peter-le-Poor, Broad-street	559	122	310	249	Broad-street.
92 St. Stephen, Coleman-street	3,699	493	2,163	1,536	Coleman-street.
93 St. Stephen, Walbrook	322	56	172	150	Cheap.
94 St. Swithin, London Stone	389	66	204	185	Walbrook.
95 St. Thomas Apostle	648	84	346	302	Cordwainers.
96 Trinity the Less	633	58	396	237	Cordwainers, Queenhithe.
97 St. Vedast, alias Foster	427	59	175	252	Farringdon Within.
Total	54,626	7,791	29,830	24,796	

Table of the Parishes and Precincts of the City of London, &c.—continued.

PARISHES AND PRECINCTS.	Population, 1841	Houses Inhabited 1841	Place of Nativity.		WARDS.
			Within the County.	Elsewhere	In which the several Parishes, &c., are included.
WITHOUT THE WALLS.					
98 St. Andrew, Holborn	5,966	576	3,463	2,503	Farringdon Without.
99 St. Bartholomew the Great	3,414	339	2,408	1,006	An ancient suburban Liberty, now included in Farringdon Without.
100 St. Bartholomew the Less, including the Hospital	744	30	388	356	
101 St. Botolph without Aldersgate	4,491	550	2,403	2,088	Aldersgate Without, Portsoken.
102 St. Botolph without Aldgate	9,525	1,219	6,380	3,145	Bishopsgate Without.
103 St. Botolph without Bishopsgate	10,969	1,273	6,980	3,989	Bishopsgate Without.
104 Bridewell Precinct, including the Hospital Chapelry.	529	55	286	243	A separate Liberty, locally in Farringdon Without.
105 St. Bridget, vulgarly St. Bride	6,126	659	3,615	2,511	Farringdon Without.
106 St. Dunstan, West	3,266	339	1,930	1,336	Farringdon Without.
107 St. Giles, Cripplegate	13,255	1,558	8,212	5,043	Cripplegate Without.
108 St. Sepulchre, Newgate	8,524	761	5,107	3,417	Farringdon Without.
109 Trinity in the Minories	579	65	331	248	Reckoned in the Tower Liberty.
110 Whitefriars Precinct	1,294	130	804	490	Farringdon Without.
Total	68,682	7,554	42,307	26,375	
Total of the City Within and Without the Walls	123,308	15,345	72,137	51,171	
INNS OF COURT AND CHANCERY.					
111 Barnard's Inn	39	19	16	23	None of these extra-parochial precincts are included in any Ward of the City, though all are regarded geographically as belonging to it; indeed all are subjected to its Police Rates, except Lincoln's Inn, Gray's Inn, Staple's Inn, and the greater part of Furnival's Inn. This appears to be the best point on which to rest a distinction between those which are in, and those which are out of the City; and it is thus used in the succeeding Table for the whole Metropolis.
112 Clement's Inn	143	51	52	91	
113 Clifford's Inn, Fleet-street	27	16	11	16	
114 Furnival's Inn	213	17	61	152	
115 Gray's Inn	325	123	114	211	
116 Inner Temple	278	185	76	202	
117 Lincoln's Inn	107	31	42	65	
118 Middle Temple	229	209	58	171	
119 New Inn	46	23	19	27	
120 Serjeants' Inn, Chancery-lane	5	2	2	3	
121 Serjeants' Inn, Fleet-street	81	18	16	65	
122 Staple's Inn	32	12	17	15	
123 Thavies Inn	175	29	55	120	
Total	1,700	735	539	1,161	
Total of the "City" with the "Inns"	125,008	16,080	72,676	52,332	

The above Table shows the important fact that two-sevenths of the population were not born even within the county of Middlesex, much less in the City itself; and in all ages of its history it is probable that this has been the spot to which the disposable vigour and enterprise of the nation have most resorted for advancement by industry and traffic. It shows, also, in which of the twenty-six wards each parish is included (although the parishes are not generally conterminous with the wards), for it is the wards which are the basis, in the City, of all taxation for municipal purposes.

Between the occupation of so large a portion of the City by its richer commercial classes merely as an arena for business, and of other large

portions by mere labourers, the "free and trading householders," who alone form the body of the Corporation, or ever think of aspiring to its honours, are reduced to little more than the miscellaneous tradesmen of its few streets of retail traffic; and it is generally by no means the most opulent or the most active of these who are willing to sacrifice their time to the engagements which would encroach upon it in the Common Council. It is only, therefore, through historical associations, the accident of position, and the continued exercise of great local trusts, that the Corporation of London has now any political weight: it is the mere shell of a metropolitan life which no longer inhabits it.

The *Borough of Southwark* is by far the most ancient of the large suburbs of London, and, perhaps, derived both its name and origin from some defences of the ferry which here crossed the Thames from London to the old Roman Road to Dover; or, accepting a less remote antiquity, from defences at the south end of London Bridge.

The "Town," Township, or "*Villa*" of Southwark (*i. e.* the present Guildable Manor), was granted to the citizens of London upon their petition in Parliament by the charter of the 6th March, 1 Edward III. But notwithstanding the petition praying for the grant, and the charters by which it is made, it appears incidentally from a charter granted by Henry II. that "Sudvere" was at that early period within the jurisdiction of the City. Therefore it is probable that the Charter of Edward III. was only a confirmation of their title. By the Charter of 2 Edward IV. the town of Southwark, with various branches of jurisdiction hereinafter specified, was again granted to the citizens. Lastly, Edward VI., by charter tested at Westminster, 23rd April, in the fourth year of his reign, grants to the City all that the King's Lordships or Manors of Southwark, lately pertaining to the Monastery of Bermondsey (the present Great Liberty Manor), and also that the Manor and Borough of Southwark, late parcel of the possessions of the Archbishop and See of Canterbury (the present King's Manor).

Immediately after the date of the charter of Edward VI., granting the Borough of Southwark to the Corporation of London, and expressly directing that the inhabitants of the borough should thenceforth be "in the order, government, and correction of the Mayor and officers of the City of London," the town and Borough of Southwark constituted a separate ward of the city; and an alderman was appointed, with the denomination of the Alderman of Bridge-ward-Without. The alderman of Bridge-ward-Without was originally chosen by the Court of Aldermen, out of four or more freemen of London, nominated and put in election by the inhabitants of Southwark, precisely in the same manner as the aldermen were at that time appointed in the other wards of the city. This mode of appointment and election, though it was discontinued by an act of Common Council in the year 1557, certainly affords a strong contemporaneous exposition of the intention of the charter of Edward VI., that the inhabitants of the borough should participate in the incidents of the municipal constitution of London. But since the year 1557, the inhabitants of the borough have not had the semblance of popular election of an alderman, nor is there any satisfactory evidence that wardmotes were ever holden within the borough, or members returned by it to the Common Council.

These questions have frequently undergone consideration by the parties

most interested in them; the inhabitants of the Borough of Southwark having, on several occasions within the last 70 years, discussed the expediency of procuring from the Corporation of London a more complete communication of the privileges of citizenship, and in particular of recovering the right of electing an alderman and representatives in the Common Council. Addresses have at various times been presented to the Common Council from the freemen of London inhabiting Southwark, and from the inhabitants of Southwark generally, praying for the allowances of representatives to their ward of Bridge Without, and other advantages; but always without success in regard to the representation.

In 1835 and 1836, however, when the Corporation Reform Act had excited the attention of the whole country to the subject of municipal re-organization, a number of the inhabitants again memorialised the Common Council of London, to be efficiently incorporated with the City, either by an act of that body, or by an Act of the Imperial Legislature. But the Committee of Common Council, to which the subject was referred, reported that such an annexation was beyond the powers of the Common Council, since the charters granting to the corporation a jurisdiction over Southwark had not detached it from the county of Surrey, or reduced it from being a district borough, for many important purposes; that the Act of the 4th of Edward VI., for the election of an alderman by Southwark, under the name of Bridge-ward-Without, was expressly stated by that of the 4th and 5th of Philip and Mary, which repealed it, never to have been put in execution by the mayor and aldermen; and that a principal reason for their not observing it was probably the difficulty, if not impracticability, of their legally doing so, particularly in regard to the constituting and holding a wardmote of the inhabitants of the borough, as many of the duties of an alderman at the wardmote, such as the appointment of inquest constables, and other ward officers, would be inconsistent with the duties of another office which then existed, and still exists in the borough, viz., that of the seneschal or steward, whose jurisdiction, and those of the Courts Leet and Court of Record over which he presided, could not be restricted or varied but by Act of Parliament; difficulties which were no less great after the lapse of three more centuries than at the time they had given rise to the repealing Act of the 4th and 5th of Philip and Mary, which provided that from thenceforth the alderman of that ward should always, on a vacancy, be elected by the Lord Mayor and aldermen at a full court of aldermen, to be holden in the inner chamber of Guildhall. Also that finally, in 1711, it was provided by another act of Common Council, that the senior aldermen who had passed the chair should have the option of taking the aldermanship of this ward on its becoming vacant; an option which is still generally used.

"Upon the policy or expediency of the Corporation applying to the Legislature for the powers sought for by the Petitioners to be vested in the Corporation, or for an Act of Parliament making the Town and Borough of Southwark a part of the City of London, our attention," states the Committee, "has been drawn by Mr. Town Clerk to the following as some of the many difficulties which appear at this period to be opposed to the adoption of such a measure, and which, with others, it will be requisite to remove or surmount in order to render the Town and Borough of Southwark a part of the City of London, and to enable the inhabitants to enjoy all the liberties, privileges, and franchises in the same manner as they are enjoyed by the citizens of London within the City, viz.—

"The long use of the privilege of the inhabitants, without reference to any corporate qualification, to return of their own choice, distinct from the City of London, two members to represent them in the Commons House of Parliament:

The concurrent jurisdiction of the sheriff and magistrates of the County of Surrey, and the police establishment at Union Hall:

The powers exercised by the High Steward and Marshal of the King's House; the said town and borough being within the verge:

The contribution to the county rates, of which Southwark pays a very considerable proportion:

The erection of a new gaol, or such enlargement of the Borough Compter as may render it fit for the purpose of a separate and exclusive jurisdiction; the gaol in Horsemonger-lane not being in such a case available:

The being subject to the militia laws and to the billeting of soldiers:

The commissioners of sewers of the county, and the district commissions for paving and lighting and watching the borough, and other local authorities created by Act of Parliament:

The establishment of the Metropolitan Police in the distrtcts of the borough:

The powers of the several courts of the city and its officers, in respect to the attachments of property, foreign attachments, &c., although granted by the charter of Edward VI., and the compelling of persons to take up the Freedom of the City, never having been exercised in the borough:

And the trial of Nisi Prius causes at the assizes of the county, for which it would be necessary to make some provision or arrangement for their trial within the City, as is now done in London at the London sittings of the several courts at the Guildhall, &c."*

Having weighed all these facts, the Committee were unanimously of opinion that the Court of Common Council does not possess sufficient powers to enable it to comply with the wishes of the petitioners in relation to the Town and Borough of Southwark, without the sanction and authority of the Legislature, and that it would be neither expedient nor advisable for that court to make an application to the Legislature to obtain powers for the purpose.† On the like grounds the same Committee equally reported against the admission of inhabitants of Southwark to the freedom of the City on reduced fines, and without the intervention of any companies, as inhabitants of the City itself were then recently admitted, under a resolution of the Common Council of the 17th of March, 1835.‡

This case of the Borough of Southwark certainly affords a lesson worthy of the study of constitution makers, and sufficiently explains the inaptitude of the City's institutions for extension to the whole metropolis as rapidly as its buildings have in recent times extended. They are, or rather have been, deeply rooted in local customs, legalized by immemorial usage; customs which, beyond the limits of the City, were early modified or extinguished by local government becoming the property of

* Report of the Committee of General Purposes, dated 18th May, 1836, pp. 6. and 7.

† Ibid, p. 8.

‡ Report dated 18th May, 1836.

the feudal lord of the manor, and being exercised by his steward; and, when this system declined, they were certainly not revived by the local nominees of the Crown, the justices of the peace, whose appointment marks the still continued compromise between the feudal system and the central sovereignty. Their transfer from one end of London Bridge to the other, or from one side of Temple Bar to the other, was therefore prevented by the vested rights of manorial lords and other local authorities, to eradicate which, on principles of justice, after they had lost all the pliability which had permitted the manors of Portsoken and Farringdon to be early numbered among the wards of London, would have required a legislative effort greater than the exigencies of the case have ever paramountly demanded. It is difficult to imagine, however, when the corporation of the City had itself become possessed of the manorial rights of local government in the Borough, that they might not easily have obtained the sanction of the Crown and of Parliament to an efficient incorporation of that important suburb under one system of municipal government with the City itself, instead of treating it merely as a dependent municipal colony, the inhabitants of which were, however, on the other hand, well content to escape being compelled to take up their freedom.

The Corporation having recently withdrawn their magistracy and police from any active duties in the Borough of Southwark, to leave uninterrupted the proceedings of the Metropolitan Police Magistracy and Police, they now exercise scarcely any rights or powers within its limits not possessed by manorial proprietors in other outlying portions of the metropolis. They still, however, hold a Court of Record, called the Borough Court, with its prison, of which but little use is made, except to exact a stipend for the bailiff out of the suitors at the rival Court of Requests. The county magistrates of Surrey retain their concurrent jurisdiction, and may exercise the same authority here as in other parts of that county within the jurisdiction of the Central Criminal Court; but the stipendiary magistrates and this court in effect divide the criminal jurisdiction between them, as is in a great degree the case throughout the metropolis beyond the boundaries of the City. The sheriff of Surrey executes writs in the borough, notwithstanding the express grant of their execution to the Corporation of London; but the powers of the Corporation have been always so ill defined and unsystematically exercised, that this or some other point has perpetually been in dispute between it and the county. These concurrent jurisdictions also cause great and unnecessary inconvenience to the inhabitants of Southwark, who are called upon by the City of London to serve as jurors at the Town Hall, at the Court of Record, at the three Courts Leet, and on coroner's inquests. Under the county jurisdiction, they are liable to serve on juries at the Quarter Sessions and Assizes, and for assessing damages on writs of inquiry from the courts at Westminster, and also in the Sheriff's Court, instituted under a late Act of Parliament, as to debts not exceeding 20*l*.. They are also required to serve on juries at the Central Criminal Court at the Old Bailey, and at the Palace Court in Scotland-yard; they are likewise liable to serve as constables, ale-tasters, flesh-tasters, &c., on the appointment of the Courts Leet, and are finable for not taking those offices; and finally, they are liable to be called upon to serve as constables for the parishes in which they reside.

The Southwark parishes of St. George the Martyr, St. John Horsleydown, St. Olave, St. Saviour, and St. Thomas, together with that of Christchurch, occupy about 600 acres; the "Borough" being equal in extent to the "City," though its population is one-fifth less. The latter parish was formerly part of St. Saviour's, under the name of Paris Garden Manor, or the Bear Garden. A church was built in it in 1630, and this locality was constituted a separate parish by Act of Parliament in 1670. It was a place of little consideration until ready access to it was opened by the completion of Blackfriars Bridge; and until after the Reform Act it did not share in the parliamentary franchise of the rest of the borough. At the commencement of the last century, the population of the Borough was about 45,000, and in 1841 it was 98,098. This population is of the same character as the resident population of the City, excepting only that there is a larger proportion of water-side labourers and sailors, and of the lower classes of prostitutes. In the poorer districts, somewhat farther from the shipping and the wharfs, are numbers of hatters, tailors, shoemakers, carpenters, smiths, labourers, and vendors of fish, fruit, &c., in the streets.

The city of Westminster having had an origin as a separate and even rival town, the inhabitants of which entertained animosities towards the Londoners which sometimes led to bloodshed, it will be preferable next to notice the places around the City of London and Borough of Southwark which have never had any other than a suburban character, dependent upon those ancient centres. They are distinguished by having been included, together with London, Southwark, and Westminster, in the *Bills of Mortality* which were kept and published by the parish clerks, as a warning to the Court and others to leave London whenever the plague became more fatal than usual; but as this great scourge made its last appearance on the Bills in 1679, the great motive for extending the scope of the returns with the increase of the metropolis was lost; and their bad nomenclature was causing these records gradually to be discontinued before they were entirely superseded by the returns now regularly published by the Registrar General of Births, Deaths, and Marriages.

The Tower and its Liberty, or the Parish of St. Peter ad Vincula, with the Old Tower Liberty Without, an adjacent precinct, are the first to challenge attention among the places included in this boundary; for though containing, in 1841, no more than 1417 inhabitants (including 523 soldiers in barracks), they form, with the parish of Trinity Minories and the Old Artillery Ground, which raise the population only to 3554, a separate county, as it were, under the Constable of the Tower, as its Lord Lieutenant, and having its separate commission of the peace, and its court of sessions, held at the Sessions-house in Wellclose-square. For this, however, as for every other part of the metropolis, most of the judicial duties of an ordinary quarter or general sessions of the peace are now discharged by the Central Criminal Court, while those of local justices devolve on the stipendiary police magistracy.

This, and the other Middlesex parishes and places included within the old Bills of Mortality, completely encircle the City on the east and north, and extend in those directions nearly to the widest limits which we can yet assign to the metropolis. They come no farther westward,

however, than to St. Giles's in the Fields, and St. George's, Bloomsbury; the following being a complete list of them:—St. Andrew, Holborn, above Bars, with St. George the Martyr; St. Matthew, Bethnal Green; St. Botolph Without, Aldgate; the Charter House; Christchurch, Spitalfields; St. Clement Danes (part); St. James and St. John, Clerkenwell; Duchy of Lancaster (part); Ely Place; St. Giles's in the Fields and St. George, Bloomsbury; St. George's in the East; Glasshouse Yard; St. John, Hackney; St. Mary, Islington; St. Katherine near the Tower; St. Ann, Limehouse; St. Luke, Middlesex; Rolls Liberty; Saffron Hill and Hatton Garden; St. John the Baptist in the Savoy; St. Sepulchre (part); St. Paul, Shadwell; St. Leonard, Shoreditch; St. Dunstan, Stepney (being the hamlets of Ratcliffe and Mile End Old and New Town); St. John, Wapping; and St. Mary, Whitechapel; besides the Tower Liberty, the Old Tower precinct, and the Old Artillery Ground. The population of these places in 1841 was 667,386.

On the Surrey side of the Thames there are only four parishes included in the old Bills of Mortality, viz., St. Mary, Rotherhithe; St. Mary, Bermondsey; St. Mary, Newington Butts; and St. Mary, Lambeth. They are all, however, large parishes, completely encircling the Borough of Southwark, at the back of which they extend from the Limehouse Reach to the Vauxhall Reach of the River Thames. They contained, in 1841, a population of 169,242; so that the whole of the parishes, besides those of the Cities of London and Westminster and the Borough of Southwark, which were included within the old Bills of Mortality, and comprised, at the commencement of the last century, a population of about 326,000, contained, in 1841, a population of no less than 836,628.

These "out" parishes, included by the old Bills of Mortality, are the great commercial, manufacturing, artisan, labourer, and mariner suburbs; having, near the river, docks, warehouses, manufactories, and places of business of every kind, with shops in the main streets; but behind these, the parts approaching nearest to the City and Borough are densely populated by dock labourers, coal-whippers, weavers, watchmakers, shoemakers, bricklayers and their labourers, and artisans of every kind; and, in such quarters as Bethnal Green, Whitechapel, and St. Giles's, by large numbers of persons living in a very low condition, whose honest occupations are not so easy to discover. It is the vast bodies of the labouring classes thus aggregated round the centre of the town, and not absolutely in its centre, that are properly the great object of solicitude in a sanatory view. On the west, the belt is continued from St. Giles's through the back streets of Soho, St. Martin's, and the contiguous parishes of the Strand. Between these localities and the lower parts of Westminster intervenes the region of Whitehall; but from Westminster, crossing the river to Lambeth, the belt is complete. Next to this will be found, farther in the outskirts, the habitations of the clerks, book-keepers, shopmen, and other middle-class dependents on the commercial and other establishments which do not afford them a domicile for the night; and outside these again, the more substantial houses of their employers, occupying the frontage of the main roads and streets, with inferior and sometimes very wretched localities in the rear. These portions of the metropolis have no local authorities over those of their several parishes, or over their local boards for parochial purposes and

public works, except the magistracy of the counties of Middlesex and Surrey, in which they are respectively included, and the police magistrates and commissioners acting for the whole metropolis, and committing to the Central Criminal Court, to which the county sessions on each side of the water relinquish most of their judicial business.

To the west of the great town of trade and labour composed of the City of London, the Borough of Southwark, and the outlying parishes within the old Bills of Mortality, is another, more expressly of residence (being the seat of government, of professional learning, of the fine arts, and of polite intercourse for the whole kingdom); the more ancient parts of which are included in the city and liberties of Westminster, while the remainder is under the Middlesex and the Metropolitan magistrates, in like manner as the outlying parishes within the bills of mortality on the north side of the Thames.

Westminster was from a very early period a market town under its ecclesiastical lords, separated from London by open fields, in the midst of which was the little hamlet of Charing; and it is since the reign of Elizabeth that the liberties of both cities have been so extensively populated that their buildings have come in continuous series to either side of Temple Bar. Westminster, under the Dean and Chapter, appears to have had, with some peculiar powers, only the manorial constitution of any country town under its lord, until the passing of the local Act of the 27th of Elizabeth, apparently procured through the influence of Lord Burleigh, who held the honorary office of High Steward.

This Act, which was of a temporary nature, was made permanent by the 29th of George II. c. 25, under which the City, with its widespread liberties, is divided into twelve wards, and the Dean, or the High Steward appointed by the Crown, nominates a "Burgess" over each yearly, but in practice he retains his dignity during good behaviour. With the assistance of the Burgesses, the Dean or High Steward chooses twelve "Assistant Burgesses," who, with the preceding, form the Court of Burgesses, and were designed to have the powers of an Alderman's Deputy in each Ward, as the Burgesses were apparently to have had those of a City Alderman. The Act gives these officers magisterial authority within the City and Liberties of Westminster, but since the establishment of the metropolitan police courts or offices in 1792, this authority has fallen into disuse, and they now exercise no magisterial functions, except in the regulation of weights and measures. The Dean and High Steward, with the assent of the Burgesses and Assistants, were to make bye-laws for the government of the inhabitants, as the Courts Leet formerly did; and under this provision Lord Burleigh caused a set of ordinances to be established for the better preservation of good order in the City. At present, however, as for many years past, the Court of Burgesses meets only for the purpose of amerciaments upon offenders presented by the annoyance jurors.* Such is the constitution of the existing nominal "Corporation" of the so-called "City of Westminster," but it is obviously nothing more than a permanent manorial leet jury. Its history also affords a lesson in local law, by proving that large powers will never be exercised efficiently, nor long exercised at all, by an inherently feeble body, unmoved by either local

* Sir F. Palgrave on Corporate Reform, p. 101.

or national responsibility. There is also, it should be mentioned, a Deputy Steward, appointed by the High Steward, with the approbation of the Dean and Chapter; and a High Bailiff, appointed by the Dean and Chapter, who holds annual Courts Leet, in which constables are appointed, and has the return of writs, and usually a lease of the fines, forfeitures, and other emoluments of the franchise. There is likewise a coroner appointed by the Dean and Chapter.

The only separate jurisdiction in Westminster, however, which has any effective existence, is its express commission of the peace, the magistrates under which have their sessions-house opposite the Abbey, and their prison in Tothill Fields. Still the County Magistrates of Middlesex have a concurrent jurisdiction, and the ordinary metropolitan jurisdictions of police and justice, centreing at the Home Office and the Central Criminal Court, are the real local government for purposes of criminal justice.

The ancient parish of the City of Westminster is that of St. Margaret's, now called St. Margaret's and St. John's, from a new church consecrated in A.D. 1728. In the Liberty of Westminster, St. Martin-in-the-Fields is the mother-church of St. Paul Covent Garden (A.D. 1645), of St. Ann Soho (A.D. 1678), of St. James's (A.D. 1684.) and of St. George Hanover-square, (A.D. 1742); St. Mary-le-Strand and St. Clement Danes are ancient parishes connecting Westminster with the City of London. The close or precinct of the cathedral church of St. Peter, commonly called Westminster Abbey, is extra-parochial. The population of Westminster, including all these places, was about 130,000 at the commencement of the last century, and in 1841 amounted to 222,053. The parish of St. John, Westminster, with part of that of St. Margaret, forming the district of Tothill Fields, enclosed by Westminster Abbey, St. James's Park, Pimlico, the Vauxhall-road, and the Thames, and encircling the Millbank Penitentiary and the Westminster Bridewell, is chiefly inhabited by mechanics and the lower classes of labourers, the condition of whose habitations, in the worst part of St. John's parish, is very wretched. In the parishes of St. Clement Danes, St. Mary-le-Strand, St. Martin-in-the-Fields, and St. Ann's Soho, there is, to the north of the Strand, another crowded mass of labouring population, intermingled, like the other, with inhabitants of disreputable character. But the rest of the City and Liberties of Westminster, bounded on the north by Oxford-street and the Uxbridge-road, and on the west by the parishes of Kensington and Chelsea, is occupied by the royal palaces and parks, the public offices, the clubs and houses of the nobility and gentry, and the smart habitations of the tradesmen in the streets of business, with here and there isolated retreats of crowded labourers, occupying even the narrowest space, for the sake of proximity to their employment, which is an imperative condition of their retaining it. The new region of Belgrave-square is perhaps the only portion which has not these localities; but it is contiguous to the lower population of Tothill Fields on the one side and Chelsea on the other. It has already been mentioned that Westminster and its liberties were included in the old Bills of Mortality.

The greatest extension of the Town, beyond the limits marked by these Bills, has been westward and northward, in the parishes of St. Pancras, St. Marylebone, Paddington, Kensington, and Chelsea, which completely encircle the City and Liberties of Westminster (the older town of residence, to which they may be regarded as suburban,) on the north and west, and are all that Mr. Rickman, in the preface to the Census Abstracts of 1831, deems it necessary to add to the quarters already described, to comprise the whole population of the metropolis. At the beginning of the last century he calculates that they comprised only 9150 inhabitants; but in 1841 their united population was no less than 360,113. The two parishes at the extremes of these suburbs, viz., those of St. Pancras and Chelsea, contain much the largest proportion of the labouring classes; and in all of them there are particular localities which are very wretched; but the whole of Marylebone, with the western side of St. Pancras, forms the noble region bounded by Oxford-street and the Edgeware and Hampstead Roads, and comprising the Regent's Park and St. John's Wood; Paddington contains the splendid new quarter of Hyde Park Square, occupying the space between the Edgeware and Uxbridge Roads; and Kensington is a suburban district, almost wholly of substantial houses and dispersed villas.

Within these limits Mr. Rickman reckons the population of the whole metropolis, at the commencement of the last century, to have been about 674,000, while in 1841 it was no less than 1,713,100, without any allowance for seamen; being an increase of 254 per cent., while the population of England has increased from 5,475,000 to 15,911,646, or 291 per cent., which is 37 per cent. more than the increase of the metropolis. Feeling, however, that objections might be taken to the limits thus assigned, Mr. Rickman adds a total of the population of all the parishes whose churches are situated within eight miles of St. Paul's, which amounted in 1831 to 1,776,556, after adding four per cent. for sailors, soldiers, and unenumerated strangers; but it will presently appear possible to adopt limits at once less arbitrary and less extensive.

The bills or *Tables of Mortality*, now published weekly, quarterly, and annually by the *Registrar General*, have added, on the west, the parishes of Fulham and Hammersmith; on the north, that of St. Mary, Stoke Newington; and on the east, those of St. Leonard, Bromley, and St. Mary-le-Bow, all in the county of Middlesex; and on the south, that of Camberwell, in Surrey, and those of St. Nicholas and St. Paul Deptford, Greenwich, and Woolwich, in the county of Kent. The whole of these parishes are of the usual suburban character, with pleasing scattered houses, and some very wretched neighbourhoods, with the exception of those in the county of Kent, which have a distinctive character as the arsenal portion of the town. Unfortunately, Woolwich, in these last additions, is left entirely isolated from the rest of the metropolis by the intervening parish of Charlton. The Registrar-General's boundary is otherwise very imperfect; for while it makes this ill-accomplished extension on the east, it excludes, at the opposite end of the town, the whole of the important suburbs rising from Vauxhall Bridge to Clapham, and thence connected with Wandsworth and Battersea; while on the Middlesex side, though it extends an ample distance westward, it capriciously excludes Hampstead, at the same time that it includes the greater part of the more distant suburb of Highgate. The additional parishes added by this boundary contained, in 1841, a population of 163,067.

The obvious imperfection of all these boundaries compels us still to seek some other, and to inquire whether, to the present day, there really has been drawn no boundary of the metropolis for any political or admi-

nistrative purpose whatever which would mark, by its aptitude for some definite purpose, the limits within which is comprised the whole of the population that can fairly be considered metropolitan in locality and in character. The outer boundary of the metropolitan boroughs at first suggests itself; but this excludes the western suburbs on the west and south-west, so as not to reduce too low the county constituencies of Middlesex and East Surrey; and that to such an extent as to preclude all possibility of its adoption. The next boundary which offers itself is the original limit adopted for the metropolitan police, by the 10th of George IV. c. 44, which, notwithstanding the addition of rural districts in every direction, still has a recognized existence under the 3rd and 4th of William IV. c. 19. There can be no doubt of the superior propriety of this boundary over every other which had yet been drawn, at the time of the first-mentioned statute; and had it been adopted by Mr. Rickman in 1831, would undoubtedly have directed the attention of the Registrar-General to a fitter limit than that which has heretofore been used for the new tables of mortality. Still it has two very considerable defects, for it extends so far westward as to include Ealing and Brentford; while on the south-east, by stopping short with the parish of Greenwich, it excludes Woolwich, and the rest of the parliamentary borough of Greenwich, as well as the suburban villages of Lee and Lewisham.

The faults in this boundary have, however, been expressly corrected by the one which it is now proposed to adopt, for statistical purposes, as that which administrative experience proves to be the circuit of the population socially connected with and organized upon London, to the exclusion of such as is suburban to the first towns in the surrounding counties, and dependent upon their petty sessions for the minor aids of criminal justice. This is the outer boundary of the Metropolitan Police Court Districts, as fixed by an Order in Council of November 10, 1840, amended by one of February 5, 1841, and extended by another of Dec. 16, 1842, all issued under the statutes of the 2nd and 3rd of Victoria, c. 71, and the 3rd and 4th of Victoria, c. 84. This boundary makes the limit of the metropolis, south of the Thames to be coincident with that of the jurisdiction of the Central Criminal Court from Plumstead Marshes, below Woolwich, southward and westward by Eltham, Sydenham, Norwood, Streatham, Tooting, and Wimbledon; but here approaching the vicinities of Kingston and Richmond, it turns straight northward between Barnes and Mortlake, and, crossing the Thames, includes Chiswick and Acton, but excludes Brentford and Ealing, which are included in the original metropolitan police boundary, with the rest of the Middlesex course of which latter boundary, the one adopted for the police courts is identical; running eastward to Kilburn Wells, including Hampstead, and thence running along the Highgate Hills to Hornsey Wood, Stamford Hill, and the Lea, above Lea Bridge, whence it follows the course of that river to the Thames, and the channel of the latter to Plumstead, where its commencement on the south side of the river has already been noticed. The extreme length of the district thus encircled, from east to west, is about 16 miles; its extreme breadth, from north to south, about 10, and its contents about 130 square miles; which would form a tract of somewhat more than 11 miles square.

The parishes and places comprised in it, which are not contained in

any of the boundaries already described, are of a well known suburban character, and full of the habitations of persons who have daily avocations in the metropolis, in continuous rows, or in detached villas. They are, the parishes of Hampstead, Acton, and Chiswick, in Middlesex; the Wandsworth and Clapham Union, comprising the parishes of Battersea, Clapham, Putney, Streatham, Tooting, and Wandsworth, with the further outlying parishes of Barnes, Wimbledon, and Merton, and the hamlet of Penge, in Surrey; and the Lewisham Union, comprising the parishes of Charlton, Eltham, Lee, Lewisham, and Plumstead, the liberty of Kidbrooke, and the hamlet of Mottingham, in Kent; the total population of which places, in 1841, was 87,713; an amount within the space which, were there no other evidence, would be decisive as to the propriety of their being regarded as suburban to the metropolis, independent of that which is afforded by the rate of increase.

The boundary which it is here proposed to adopt is at once the most regular which has yet been offered, the most consistent with ancient divisions, and the most nearly coincident with the limits to which the sewerage, the supplies of water and gas, the labours of the Metropolitan Road Commissioners, and other public works extend.

Progress of Population in the several Portions of the Metropolis.

Town Districts, as above described.	1801	Increase per Cent.	Decrease per Cent.	1811	Increase per Cent.	1821	Increase per Cent.	Decrease per Cent.	1831	Increase per Cent.	Decrease per Cent.	1841
London, within the Walls	75,171	..	35	55,484	1	56,174	3	..	57,695	..	5	54,626
London, without the Walls, including the Inns of Court	81,688	..	25	65,425	6	69,260	..	2	67,878	4	..	70,382
London, City	156,859	..	30	120,909	5	125,434	..	..	125,573	..	..	125,008
Southwark, Borough	67,448	7	..	72,119	19	85,905	7	..	91,501	7	..	98,093
Parishes within the old Bills of Mortality, suburban to London and Southwark	364,526	37	..	498,719	24	616,628	23	..	761,348	19	..	907,828
Westminster, City	158,210	2	..	162,085	12	182,035	11	..	202,080	10	..	222,053
Adjacent Parishes, not within the old Bills of Mortality	117,802	32	..	155,714	38	215,642	36	..	293,567	23	..	360,113
Metropolis (Rickman's Boundary)	864,845	17	..	1,009,546	21	1,225,694	20	..	1,474,069	16	..	1,713,100
Additional Suburban Parishes, included within the new Bills or Tables of Mortality	64,047	35	..	86,428	16	100,138	19	..	119,476	33	..	158,067
Metropolis (Registrar General's Boundary)	928,892	18	..	1,095,974	21	1,325,832	21	..	1,593,545	17	..	1,871,167
Suburban Parishes added by the Metropolitan Police Courts Boundary.	37,971	31	..	49,640	22	60,742	19	..	72,839	20	..	87,713
Metropolitan Police on Duty	..	..	..	..	..	..	..	..	..	..	..	2,930
Metropolis (Police Courts Boundary)	966,863	18	..	1,145,614	21	1,386,574	20	..	1,666,384	17	..	1,961,810

*** The remainder of this paper will appear in the next number of the Journal.—Ed.

PROCEEDINGS OF THE STATISTICAL SOCIETY OF LONDON.

Second Ordinary Meeting, December 18, 1843.

Rowland Hill, Esq., in the Chair.

The following gentlemen were elected:—

A. W. Barnes, Esq.	W. G. Lumley, Esq.
Rev. H. Davies.	W. A. Graham, Esq.
John Mac Clean, M.D.	Thomas Wicksteed, Esq.
Captain Larcom, R.E.	James Hodgkin, Esq.
Colonel Colby, R.E..	W. Barker, Esq.

Samuel K. Wilson, Esq.

The following gentlemen were proposed as candidates for admission into the Society:—

The Hon. E. P. Bouverie. Henry Hobhouse, Esq.

A paper by Edwin Chadwick, Esq. "On the Proper Modes of Measuring by Statistical Returns the Duration of Life, and the Pressure and Progress of the Causes of Mortality amongst different Classes of the Community and amongst the Population of different Countries," was read. (*See* p. 1.)

Third Ordinary Meeting, January 15, 1844.

Thomas Tooke, Esq., V. P., in the Chair.

The following gentlemen were elected:—

The Hon. E. P. Bouverie. Henry Hobhouse, Esq.

John Dunlop, Esq. and Richard Clewin Griffith, Esq. were appointed the auditors of the Society's accounts for 1843, in conjunction with Dr. Bowring, M.P., on behalf of the Council.

A paper by G. F. P. Neison, Esq. "On a Method recently proposed for conducting Inquiries into the Comparative Sanatory Condition of various Districts, with Illustrations derived from numerous places in Great Britain at the Period of the last Census," was read. (*See* p. 40.)

Fourth Ordinary Meeting, February 19, 1844.

The Right Hon. Viscount Ashley, M.P., President, in the Chair.

The following gentlemen were formally admitted Fellows of the Society:—

A. W. Barnes, Esq. Hon. E. P. Bouverie.
Charles Hindley, Esq. M.P.

The following gentlemen were proposed as candidates for admission into the Society:—

T. Milner Gibson, Esq., M.P. Thomas Trevethan Spicer, Esq.
John Meeson Parsons, Esq. Charles Creag, Esq.

The following letter from Mr. Hallam was read:—

Dear Sir, 24, *Wilton Crescent, February* 16, 1844.

I am very desirous to contribute, as far as in my power, to the promotion of those valuable inquiries into the condition of the poor in metropolitan districts which have been commenced by the Statistical Society, and of which we had a sample last year as to a part of the parish of St. George's, as well as, at an earlier time, as to other districts. I enclose, therefore, a cheque for 25*l.*, which, as I have been informed, will enable the Society to lay before the world the result of a similar investigation into some other portion of the metropolis. The inquiry last year appeared to me so well conducted that, if no objection exists, I should conceive, that the same person might be employed, and it is a matter of some importance, with a view to comparison, that statements necessarily rather too indefinite, such as those as to the condition of the poor must be, should proceed from the same person, and consequently be referred to the same standard.

I would leave wholly to the Society the choice of a parish or district to be thus investigated. The neighbourhood of Fleet-street, Chancery-lane, and Holborn has been mentioned to me; but I believe it would be a very favourable specimen of the lower population of this city, and possibly it may be more for the good of the labouring class to bring forward some less happily situated district. This however as I have said, the Council will best determine.

I am, my dear Sir, very faithfully yours,

J. Fletcher, Esq. (Signed) Henry Hallam.

The thanks of the meeting were unanimously voted to Mr. Hallam for his liberal donation in aid of the Society's labours.

A paper was read by Joseph Fletcher, Esq. entitled, "The Metropolis: its successive Limits, present Extent, and divisions for Local Government." The length of this paper, and the importance of the subjects treated in it, caused the reading of the latter portion to be deferred until the next ordinary meeting of the Society on the 18th of March, on the understanding that the arrangements for sewerage would, in the mean time, receive the further consideration of its author.

BILLS OF MORTALITY.

"The quarterly return, to which the following remarks apply, is derived from 114 districts (subdivided into 571 registrars' districts). Thirty-three of the districts are in the metropolis; and the remaining 81 districts comprise, with some agricultural parishes, the principal towns and cities of England. At the last Census (June 7th, 1841,) the enumerated population of the 114 districts was 6,534,535, or nearly *four-tenths* of the total population. The average annual number of deaths registered in the 114 districts was 163,193, or 47 per cent. of the total deaths registered annually in England."

42,263 deaths were registered in the Autumn quarter of 1843; while 40,683 was the average number in the five Autumns of 1838–42. The *Population* of the districts increased about 5 per cent. every three years from 1831–41, and as it is probable that the increase continued down to 1843, the deaths in the Autumn of 1843 would, at the same rate of mortality as in previous years, be 5 per cent. more numerous. The corrected average with which 42,263 should be compared is 42,717.

The deaths in the provincial districts were 28,525, the uncorrected average number for Autumn being 28,867. The mortality was, therefore, in the aggregate, considerably below the average.

The Mortality of the *Metropolis* was above the average: the deaths were 13,738, or 1,923 more than 11,815, the average of five previous Autumns. After a correction for the increase of population, the excess is 1,368 deaths. Small-pox was fatal to 114 persons; which is below the average (360), but 39 more than in the previous quarter. *Measles*, was more fatal (Deaths 455), and *Scarlatina* destroyed 706 persons, 163 more than in the previous quarter. The epidemic appears to be increasing. Diarrhœa, Dysentery and Cholera were more fatal than usual, 380 persons having died of these diseases. Of the 221 deaths by *Dysentery* in this and the previous quarter, 87 occurred in the Greenwich Union Workhouse during the 14 weeks (August 13th to November 18th). The deaths by the diseases of the nervous system were 226 above the average; the deaths by Bronchitis and Pneumonia (inflammation of the lungs) were 2,000, or 695 above the average; and the diseases of the digestive organs proved fatal to 981 persons—215 above the average. Fewer violent and sudden deaths were registered than is usual. The Registrars in the other parts of the kingdom mention as prevalent diseases *Scarlatina*, *Measles*, *Typhus*, and other complaints.

Districts in which the mortality was *higher* than the *Autumn* average of the same districts:—The districts of the *Metropolis*, Maidstone, Winchester, Wycombe, Bedford, Cambridge, Yarmouth, Devizes, Dorchester, Exeter, Bath, Bristol, Clifton, Stroud, Birmingham, Aston, Lincoln, Derby, West Derby (adjoining Liverpool), Wigan, Chorlton, Merthyr Tydvil.

Districts in which the mortality was *lower* than the Autumn average of the same districts;—*Windsor*, *Oxford*, Norwich, Redruth, Penzance, *Dudley*, *Walsall*, Wolverhampton, Wolstanton and Burslem, Coventry, Leicester, Nottingham, Basford, Macclesfield, Great Boughton (including Chester), Liverpool, Prescott, Manchester, Salford, Ashton, Sheffield, Huddersfield, Leeds, Sunderland, Tynemouth, Newcastle-on-Tyne, Kendal, Pontypool, Newtown.

The meteorological observations have been discontinued at the apartments of the Royal Society; but the Autumn is considered to have been unusually mild.

MORTALITY OF THE COUNTRY.

Quarterly Table of the Mortality in 114 *of the Districts of England (including the principal Towns) showing the Number of Deaths registered in the Five Years, the Average Number of Deaths in the Five Autumns* 1838-42, *and the Number of Deaths in the Autumn Quarter of* 1843, *ending* 31*st December.—(Continued from p.* 368 *of Vol. VI.)*

DISTRICTS.	Population 1841.	Annual Deaths Registered. 1838	1839	1840	1841	1842	1838–42 Quarterly Average Of Five Years.	Of Five Autumns.	Deaths in the Autumn Quarter, ending Dec. 31, 1843.
*Metropolis.**									
West Districts .	300,705	8,114	6,538	6,936	6,599	6,826	1,751	1,695	1,944
North Districts.	365,660	8,944	7,890	8,594	8,261	8,550	2,112	2,107	2,408
Central Districts	373,805	10,341	9,751	9,108	9,333	8,873	2,395	2,385	2,738
East Districts .	392,496	12,434	10,359	10,063	10,004	9,947	2,640	2,683	3,199
South Districts .	438,060	12,362	10,903	11,580	11,087	11,076	2,850	2,945	3,449
Total . .	1,870,727	52,698	45,441	46,281	45,284	45,272	11,749	11,815	13,738
South Eastern Division.									
Maidstone . .	32,310	737	726	700	648	815	181	181	203
Brighton . .	46,742	916	893	980	1,102	1,126	251	266	282
Isle of Wight .	42,547	655	630	737	891	721	182	175	197
Portsea Island .	53,036	1,264	1,180	1,140	1,211	1,152	297	326	338
Winchester . .	23,044	421	479	526	416	469	116	110	132
Windsor . . .	20,502	381	367	402	395	394	97	105	79
South Midland Division.									
St. Albans . .	17,051	378	310	331	300	340	83	84	74
Wycombe . .	34,150	788	692	824	751	679	187	168	192
Oxford . . .	19,701	359	407	406	450	414	102	105	85
Northampton .	28,103	689	687	670	693	622	168	161	174
Bedford . . .	31,767	676	678	743	714	604	171	167	221
Cambridge . .	24,453	563	547	639	659	465	144	141	211
Eastern Division.									
Colchester . .	17,790	533	437	480	381	417	113	120	114
Ipswich . . .	25,254	694	630	593	499	594	150	151	147
Norwich . . .	61,846	1,373	1,852	1,752	1,362	1,582	396	374	278
Yarmouth . .	24,031	417	440	504	493	516	118	119	154
South Western Division.									
Devizes . . .	22,130	426	510	481	429	449	115	114	132
Dorchester . .	23,380	469	362	412	456	437	107	97	148
Exeter . . .	31,333	700	646	803	920	764	192	190	295
St. Thomas . .	47,105	824	819	838	859	886	214	210	224
Plymouth . .	36,527	862	670	765	730	1,141	208	217	227
Redruth . . .	48,062	914	909	1,011	906	1,232	249	265	218
Penzance . .	50,100	762	843	976	1,016	1,123	236	258	234
Bath . . .	69,232	1,567	1,602	1,974	1,728	1,593	423	412	480
Western Division.									
Bristol . . .	64,298	1,842	1,675	2,330	1,895	1,771	476	463	518
Clifton . . .	66,233	1,328	1,150	1,739	1,519	1,510	362	344	394
Stroud . . .	38,920	952	693	760	728	706	192	170	192
Cheltenham .	40,221	869	726	855	890	1,078	221	221	197
Hereford . .	33,646	774	687	758	683	862	188	192	194
Shrewsbury . .	21,529	568	514	559	520	586	137	129	135
Worcester . .	27,130	805	717	638	614	637	171	186	170
Kidderminster .	29,408	591	523	670	582	621	149	144	145
Dudley . . .	86,028	1,767	1,891	2,022	2,296	2,332	515	528	414
Walsall . . .	34,274	619	749	913	832	927	202	218	150
Wolverhampton	80,722	1,556	1,909	2,217	2,153	2,319	508	495	479
Wolstanton . .	32,669	710	795	831	757	964	203	199	179
Birmingham .	138,187	3,359	3,639	3,767	3,673	3,579	901	903	996
Aston. . . .	50,928	1,093	1,058	1,218	1,113	1,093	279	278	307
Coventry . .	31,023	684	724	616	905	890	191	211	192

* The deaths in the metropolis for the years 1840-1-2 have been derived from the weekly tables, the Returns for each year comprising 52 weeks, or 364 days. The last quarter in the metropolis ended December 30, 1843. The returns from other places are for the years ending December 31st.

A Quarterly Table of the Mortality, &c.—continued.

DISTRICTS.	Population 1841.	Annual Deaths Registered. 1838	1839	1840	1841	1842	1838–42 Quarterly Average Of Five Years.	Of Five Autumns.	Deaths in the Autumn Quarter ending Dec. 31, 1843.
North Midland Division.									
Leicester . .	50,932	1,170	1,291	1,730	1,358	1,457	350	370	343
Lincoln. . .	36,110	620	731	817	800	720	184	188	210
Nottingham .	53,080	1,209	1,540	1,794	1,239	1,429	361	386	357
Basford. . .	59,634	1,045	1,200	1,549	1,163	1,245	310	316	280
Derby . . .	35,015	769	832	926	914	969	217	219	260
North Western Division.									
Stockport . .	85,672	2,410	2,591	2,574	2,048	2,073	585	548	534
Macclesfield .	56,018	1,315	1,523	1,745	1,419	1,403	370	350	308
Great Boughton (including Chester) . .	49,085	1,040	1,237	1,384	1,246	1,189	305	304	258
Liverpool . .	223,054	6,627	7,435	8,470	7,556	7,407	1,875	1,962	1,855
West Derby (adjoining Liverpool) .	83,652	1,625	1,746	2,206	2,202	2,405	509	575	625
Blackburn .	75,991	1,612	2,190	2,140	1,692	1,665	465	452	462
Preston. . .	77,189	1,726	1,812	2,637	2,026	2,050	513	493	459
Rochdale . .	60,577	1,477	1,673	1,868	1,417	1,476	396	378	361
Bury . . .	77,496	1,901	1,990	2,170	2,064	1,987	596	459	439
Bolton . . .	97,519	2,432	2,857	2,900	2,572	2,607	668	671	623
Wigan . . .	66,032	1,483	1,912	2,144	1,561	1,588	434	434	523
Prescott . .	43,739	916	1,056	1,155	997	1,075	260	250	223
Chorlton . .	93,736	2,140	2,418	2,399	2,431	2,427	591	574	658
Manchester .	192,408	6,706	6,774	6,489	5,821	6,151	1,597	1,612	1,437
Salford . . .	70,228	2,207	2,449	1,998	1,971	1,977	530	534	518
Ashton . . .	173,964	4,488	5,489	4,873	4,282	4,786	1,196	1,112	1,061
York Division.									
Sheffield . .	85,076	2,429	2,703	2,410	2,231	2,182	593	631	546
Huddersfield .	107,140	1,847	2,080	2,243	2,122	1,996	514	502	478
Halifax. . .	109,175	2,038	2,402	2,354	2,202	2,272	566	560	563
Bradford . .	132,164	3,093	3,251	3,176	3,041	3,323	794	788	809
Leeds . . .	168,667	4,289	4,388	4,488	4,360	4,615	1,107	1,124	1,070
Hull . . .	41,130	1,068	1,023	1,442	1,206	1,042	289	312	316
York . . .	47,779	876	1,217	1,209	1,039	1,133	274	263	257
Northern Division.									
Sunderland .	56,226	1,479	1,524	1,513	1,512	1,357	369	363	306
Gateshead .	38,747	881	968	1,016	989	909	238	242	261
Tynemouth .	55,625	1,112	1,285	1,243	1,340	1,327	315	309	280
Newcastle-on-Tyne. . .	71,850	1,829	2,117	1,957	2,104	1,726	487	491	423
Carlisle . .	36,084	855	739	901	925	840	213	224	230
Cockermouth .	35,676	784	718	696	674	597	173	163	164
Kendal . . .	34,694	729	825	821	601	714	184	177	149
Welsh Division.									
Abergavenny .	50,834	1,150	1,206	1,374	1,158	1,109	315	274	271
Pont-y-pool .	25,037	561	615	563	648	545	147	120	89
Merthyr Tydvil	52,864	1,516	1,246	1,566	1,423	1,110	343	303	372
Newtown . .	25,958	537	468	619	539	420	129	116	98
Wrexham . .	39,542	845	823	960	900	809	217	200	208
Holywell . .	40,787	897	791	864	800	733	204	210	196
Anglesey . .	38,105	645	580	632	597	624	154	142	144
Total exclusive of the Metropolis	4,663,808	109,321	116,505	124,664	114,664	115,834	29,049	28,867	28,525
Grand Total	6,534,835	162,019	161,946	170,945	159,948	161,106	40,798	40,683	42,263

PRICES OF PROVISIONS,

Average Contract Prices of the Provisions and Fuel supplied to the Workhouses

Districts marked out by the Registrar-General, and Central Unions contained therein.	Average Weekly Cost per Head of In-door Paupers. Food.	Clothing.	Food and Clothing.	Wheaten Flour per Stone.	Wheaten Bread per 4lbs.	Meat—Beef and Mutton.	Salt Butter per lb.	Cheese per lb.	Potatoes.
						Per lb.			
Metropolis.	*s. d.*	*d.*	*s. d.*	*s. d.*	*d.*	*d.*	*d.*	*d.*	*s. d.*
East London	2 7½	3½	2 11	1 10¼	5	4	6¾	..	2 9 cwt.
Holborn	1 10½	2¼	2 0¾	1 11	5¼	4	6½	4¼	3 0 cwt.
South Eastern Counties.									
Maidstone	2 5¾	3½	2 9¼	1 9	5½	4¼	7¾	4¼	2 6 cwt.
Portsea Island	2 5¼	5¾	2 11	1 10¾	5	5	6¼	3¾	3 6 cwt.
South Midland Counties.									
Northampton	2 5¾	7	3 0¾	1 9	4⅜	4½	13	6	..
Cambridge	2 2¼	5¼	2 7½	1 10	4¾	5	10	5	..
Eastern Counties.									
Ipswich	2 0½	7	2 7½	1 8¾	5	5	10	5¾	..
South Western Counties.									
Devizes	1 10¾	5¼	2 4	1 7¾	4½	3¼	..	3⅞	1 0 bshl.
Penzance	2 0½	3½	2 4	1 10¾	5⅙	5¼	9½	1	3 7 cwt.
Bath	1 10	2½	2 0½	1 9½	5¼	4¼	8	3¼	4 6 sack
Western Counties.									
Stroud	1 8½	1¾	1 10¼	1 6½	4¾	5½	7¾	4	4 11½ bg.
Wolverhampton	2 2¼	3½	2 5¾	1 6	5¼	4¼	9	5	6 0 (180 lbs)
North Midland Counties.									
Derby	1 9	3½	2 0½	1 10	5¼	4¾	12	5½	4 0 cwt.
North Western Counties.									
Macclesfield	2 4	3½	2 7½	2 2	..	3¾	9¾	6¼	5 6 load
Bolton	..	..	..	..	..	..	..	..	..
Prescot	1 11¾	5¼	2 5	..	4¾	3¾	8	..	1 4 bshl.
North Eastern Counties.									
Sheffield	2 2¼	9¾	3 0	1 8	..	4	..	6	6 9 load
Halifax	1 7¼	3½	1 10¾	..	5	5¼	9	7	5 0 load
Sculcoates	2 4	10½	3 2½	2 3	4½	4	12	..	0 7 peck
Northern Counties.									
Gateshead	1 9	5	2 2	1 9	5¼	4¾	11	6½	2 10 cwt.
Kendal	1 9	3½	2 0½	1 10⅝	..	3½	11	5½	0 3½ st.
Wales.									
Pembroke	1 5½	1¾	1 7¼	2 4½	7	5⅛	9	3¼	2 6 cwt.
St. Asaph	2 0	3½	2 3½	1 9	4¼	4¼	8	5½	3 9½ (210 lbs.)

FUEL, &c.—(*Continued from p. 371 of Vol. VI.*)

of the following Unions, during the Quarter ended at Michaelmas 1843.

Peas per quart.	Oatmeal per lb.	Candles per 12 lbs.	Yellow Soap, per lb.	Coals per Ton.	Tea per lb.	Sugar per lb.	Milk per quart.	Miscellaneous Articles.
d.	*d.*	*s. d.*	*d.*	*s. d.*	*s. d.*	*d.*	*d.*	
2⅓	1½	5 1½	4¼	16 6	3 7	6½	1¾	Beer 5*s.* barrel.
2⅓	1¼	5 2	4¾	15 9	3 3	6	..	Porter 33*s.* barrel.
..	..	5 2	5	22 9	3 7	6½	1½	. . . .
2¾	1	5 3	4¾	19 6	..	..	..	. . . .
..	1½	5 6	5¼	16 6	4 0	7	2	Pearl Barley, 20*s.* per cwt. Rice, 18*s.* per cwt.
3	1½	6 0	5	23 9	3 8	5½	..	Suet, 5*d.* lb. Rice, 2*d.* lb.
2	2	5 8	5	19 6	..	..	..	Suet, 43*s.* 6*d.* per cwt.
2	2¼	6 0	5	18 7	4 0	7	..	Bacon, 4*d.* lb. Beer 1¼*d.* quart.
3¼	1½	5 9	5¼	15 3	3 11	7	..	Fish, 14*s.* 10*d.* cwt.
2	2	6 0	4¼	18 0	3 8	6¼	..	Rice, 18*s.* per cwt.
2¼	2⅓	5 9	4¼	15 0	..	..	..	Rice Flour, 19*s.* cwt.
2	2⅓	5 4	5	5 3	3 8	6½	1	Bacon, 4¼*d.* lb. Suet, 4¼*d.* lb.
30¾	1½	5 6	4¾	7 4	4 0	7	..	Rice, 16*s.* cwt.
2½	1¼	5 6	4½	9 2	..	..	..	. . . .
..	..	..	..	..	..	..	..	. . . .
2	1	5 0	4¼	6 6	..	..	1¼	Bacon, 4*d.* per lb.
2	1	5 9	4½	6 6	4 2	7¼	1¾	Treacle, 3*s.* 8*d.* stone. Rice, 2*s.* 3*d.* stone. Coffee, 1*s.* 6*d.* lb. Ale, 7*d.* gallon.
2	1½	.. 5	5	8 3	4 0	6½	1¾	Beer, 10*d.* per gallon.
..	1¾	5 6	5¼	..	..	..	1	. . . .
2¼	1¼	5 9	5	4 0	4 4	6½	..	Coffee, 1*s.* 6*d.* per lb.
..	1¼	6 3	4¾	15 0	4 8	7	1	Coffee, 1*s.* 8½*d.* per lb. Rice, 2*s.* 4½*d.* per stone.
2½	2	6 6	5½	16 8	5 0	7	1	Beer, 4*d.* per gallon.
3¼	1	6 9	5	11 8	4 6	..	1¼	Rice, 2½*d.* per lb.

MORTALITY OF THE METROPOLIS.

(*Continued from p. 365 of Vol. VI.*)

A Table of the Mortality in the Metropolis, showing the Number of Deaths from all Causes, Registered in the 13 Weeks ended December 30, 1843.

DISEASES.	Average Deaths in the Autumn Quarters, 1838-9-40-1-2.	Deaths in the Autumn Quarter, ending December 30, 1843.
Small Pox	360	114
Measles	342	455
Scarlatina	534	706
Hooping Cough	346	464
Croup	100	126
Thrush	53	86
Diarrhœa	81	265
Dysentery	24	101
Cholera	5	14
Influenza	15	39
Ague	4	5
Remittent Fever	4	8
Typhus	422	450
Erysipelas	84	66
Syphilis	6	9
Hydrophobia	2	1
Epidemic, Endemic, and Contagious diseases	2,382	2,909
Cephalitis	137	152
Hydrocephalus	394	463
Apoplexy	229	245
Paralysis	201	230
Convulsions	678	750
Tetanus	5	7
Chorea	·8	1
Epilepsy	49	35
Insanity	13	18
Delirium Tremens	21	21
Disease of Brain, &c.	93	125
Diseases of the Brain, Spinal Marrow, Nerves, and Senses	1,821	2,047
Laryngitis	6	14
Quinsy	20	26
Bronchitis	139	286
Pleurisy	20	22
Pneumonia	1166	1714
Hydrothorax	60	79
Asthma	329	320
Phthisis or Consumption	1,698	1,743
Disease of Lungs, &c.	176	192
Diseases of the Lungs and of the other Organs of Respiration	3,613	4,396
Teething	207	263
Gastritis Enteritis	203	231
Peritonitis	16	18
Tabes Mesenterica	54	134
Worms	6	11
Ascites	8	21
Ulceration (of Intest. &c.)	18	30
Hernia	23	21
Colic or Ileus	25	32
Intussusception	6	6
Stricture	6	5
Hæmatemesis	4	6
Disease of Stomach, &c.	48	79
Disease of Pancreas	·6	..
Hepatitis	18	17
Jaundice	26	24
Disease of Liver, &c.	98	81
Disease of Spleen	1	2
Diseases of Stomach, Liver, and other Organs of Digestion	766	981

DISEASES.	Average Deaths in the Autumn Quarters, 1838-9-40-1-2.	Deaths in the Autumn Quarter, ending December 30, 1843.
Pericarditis	7	14
Aneurism	8	9
Disease of Heart, &c.	241	297
Diseases of the Heart and Blood-vessels	256	320
Nephritis	6	10
Ischuria	2	3
Diabetes	4	5
Cystitis	5	3
Stone	4	1
Stricture	7	11
Disease of Kidneys, &c.	37	56
Diseases of the Kidneys, &c.	65	89
Childbed	101	93
Paramenia	3	4
Ovarian Dropsy	2	5
Disease of Uterus, &c.	29	39
Childbed, Diseases of the Uterus, &c.	135	141
Arthritis	·4	2
Rheumatism	38	27
Disease of Joints, &c.	34	40
Rheumatism, Diseases of the Bones, Joints, &c.	73	69
Carbuncle	·6	4
Phlegmon	·8	1
Ulcer	5	8
Fistula	4	7
Disease of the Skin, &c.	5	6
Diseases of the Skin, Cellular Tissue, &c.	15	26
Inflammation	115	40
Hæmorrhage	38	48
Dropsy	467	377
Abscess	44	29
Mortification	54	61
Purpura	3	4
Scrofula	22	37
Carcinoma	94	137
Tumor	22	8
Gout	13	13
Atrophy	67	170
Debility	233	266
Malformations	10	30
Sudden Deaths	195	167
Dropsy, Cancer, and other Diseases of uncertain Seat	1,378	1,387
Old Age or Natural Decay	897	967
Intemperance	7	8
Privation	7	5
Violent Deaths	303	283
Deaths by Violence, Privation, or Intemperance	317	296
Causes not specified	98	110
Deaths from all Causes	11,815	13,738

REVENUE.

An Abstract of the Net Produce of the Revenue of Great Britain, in the Quarters and Years ended 5th January, 1843 and 1844; showing the Increase or Decrease thereof.—(*Continued from p. 373 of Vol. VI.*)

Sources of Revenue.	Quarters ended 5th January, 1843	1844	Increase.	Decrease.
	£.	£.	£.	£.
Customs—				
Consolidated Duties	3,274,000	3,674,424	..	..
Sugar Duty applicable to Supplies	940,089	1,092,544	..	..
Total Customs	4,214,089	4,766,968	552,879	..
Excise	3,022,008	3,039,771	8,763	..
Stamps	1,561,754	1,523,653	..	38,101
Taxes	1,886,163	1,868,857	..	17,306
Property Tax	257,212	454,415	197,203	..
Post-Office	141,000	143,000	2,000	..
Crown Lands	40,000	30,000	..	10,000
Miscellaneous	21,537	11,917	..	9,620
Total Ordinary Revenue	11,143,763	11,829,581	760,845	75,027
Imprest and other Moneys	107,097	50,136	..	56,961
Repayments of Advances	235,247	332,060	96,813	..
Total Income	11,486,107	12,211,777	875,586	131,988
Amount applied to Consolidated Fund, exclusive of Advances	6,720,054	7,859,893	131,983	Deduct Decrease.
Ditto applied as Advances	140,000	291,501		
Ditto as part of the Ways and Means of the Year	4,626,053	4,060,383	725,670	Increase on the Quarter.
Total	11,446,107	12,211,777		

Sources of Income.	Years ended 5th January, 1843	1844	Increase.	Decrease.
	£.	£.	£.	£.
Customs	19,075,310	19,073,219	..	2,091
Excise	11,407,304	11,794,807	387,503	..
Stamps	6,491,100	6,426,155	..	64,945
Taxes	4,273,592	4,190,480	..	83,106
Property Tax	571,056	5,249,260	4,678,204	..
Post-Office	605,000	592,000	..	13,000
Crown Lands	133,000	117,500	..	15,500
Miscellaneous	579,411	1,634,741	1,055,330	..
Total Ordinary Revenue	43,135,773	49,078,168	6,121,037	178,642
Imprest and other Moneys	511,411	168,528	..	342,883
Repayments of Advances	682,681	825,247	142,566	..
Total Income	44,329,865	50,071,943	6,263,603	521,525
Amount applied to the Consolidated Fund, exclusive of Advances	29,794,794	34,586,304	521,525	Deduct Decrease.
Ditto applied as Advances	559,361	764,380		
Ditto as part of the Ways and Means of the Year	13,975,710	14,721,259	5,742,078	Increase on the Year.
Total	44,329,865	50,071,943		

CORN.

Average Prices of Corn per Imperial Quarter in England and Wales, with the Rate of Duty on Foreign and Colonial Wheat, during each week of the Winter Quarter of 1843; *together with the Average Prices for the whole Quarter, for the Year* 1843, *and for the seven Years ended* 31*st December*, 1843.—(*Continued from p.* 374 *of Vol. VI.*)

Returns received at the Corn Office, 1843.	Wheat. Weekly Average.	Wheat. Aggregate Average of Six Weeks, regulating Duty.	Barley. Weekly Average.	Oats. Weekly Average.	Rye. Weekly Average.	Beans. Weekly Average	Peas. Weekly Average.	Date of Certificates of preceding Prices, regulating Duties for the Week ensuing.	Duties on Wheat per Quarter. From Foreign Countries.	Duties on Wheat per Quarter. From British Possessions out of Europe.
Weeks ended	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.		s. d.	s. d.
Oct. 7 .	50 6	51 2	30 2	17 10	30 8	30 1	32 6	Oct. 12	19 0	5 0
14 .	50 8	50 7	30 1	17 10	30 0	30 4	32 1	19	20 0	5 0
21 .	50 1	50 2	30 4	17 0	29 10	30 5	32 8	26	20 0	5 0
28 .	50 5	50 1	30 9	17 8	30 3	31 1	32 10			
Nov. 4 .	51 8	50 6	31 7	18 7	29 0	31 5	33 10	Nov. 2	20 0	5 0
11 .	52 1	50 11	32 5	18 9	29 3	32 2	34 0	9	20 0	5 0
18 .	51 7	51 1	32 4	18 11	30 5	32 4	34 0	16	20 0	5 0
25 .	51 0	51 2	32 1	19 0	30 8	32 4	33 7	23	19 0	5 0
Dec. 2 .	51 1	51 4	31 8	19 0	30 7	31 10	33 6	30	19 0	5 0
9 .	51 0	51 5	31 8	18 8	30 1	32 0	33 0	Dec. 7	19 0	5 0
16 .	50 9	51 3	32 0	18 6	30 0	31 6	32 4	14	19 0	5 0
23 .	50 3	50 11	32 2	18 7	29 9	30 10	30 10	21	19 0	5 0
30 .	49 9	50 8	32 3	18 5	31 4	30 1	31 6	23	20 0	5 0
								Jan. 4	20 0	5 0
Average of the Quarter	50 10	..	31 6	18 4	30 1	31 3	32 9			
Average of the Year.	50 1	..	29 6	18 4	30 7	29 2	31 1			
Septennial Average.	61 2	..	32 4	22 4	..	..	..			

* By Act 6 & 7 Vict. c. 29, Wheat and Wheat Meal or Flour, the produce of Canada, and imported since the 10th October, 1843, are admitted at a fixed duty; the former at 1*s.* per quarter, and the latter at 4½*d.* per cwt.

Foreign and Colonial Wheat and Wheat-Flour Imported in each of the Months ended 5*th November*, 5*th December, and* 5*th January*, 1843-4; *the Quantities upon which Duties have been paid for Home Consumption during the same Months; and the Quantities remaining in bond at the close of them.*—(*Continued from p.* 374 *of Vol. VI.*)

WHEAT.

Months ended	Imported. Foreign.	Imported. Colonial.	Imported. Total.	Paid Duty. Foreign.	Paid Duty. Colonial.	Paid Duty. Total.	In Bond at the Month's end. Foreign.	In Bond at the Month's end. Colonial.	In Bond at the Month's end. Total.
	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
5th November.	54,846	984	55,830	2,672	983	3,655	112,248	427	112,675
5th December.	56,801	4,900	61,701	840	4,900	5,740	160,786	427	161,213
5th January .	26,107	8,659	34,766	1,132	7,815	8,947	12,097	..	12,097

WHEAT FLOUR.

Months ended	Imported. Foreign.	Imported. Colonial.	Imported. Total.	Paid Duty. Foreign.	Paid Duty. Colonial.	Paid Duty. Total.	In Bond at the Month's end. Foreign.	In Bond at the Month's end. Colonial.	In Bond at the Month's end. Total.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
5th November.	25,956	41,891	67,847	1,603	40,783	42,836	55,902	1,761	56,763
5th December.	25,877	80,841	106,718	209	80,513	80,722	77,269	2,126	79,395
5th January .	13,625	109,370	122,995	73	106,489	106,562	87,375	4,907	92,282

CURRENCY.

Quarterly Average of the Weekly Liabilities and Assets of the Bank of England, in the Quarters ended 4*th November*, 2*nd December, and* 30*th December*, 1843; *and in the corresponding Quarters of the preceding Year.*—(*Continued from p.* 375 *of Vol. VI.*)

Quarters ended	Liabilities. Circulation.	Liabilities. Deposits.	Liabilities. Total.	Assets. Securities.	Assets. Bullion.	Assets. Total.
1843.	£.	£.	£.	£.	£.	£.
4th Nov. .	19,314,000	10,980,000	30,294,000	21,392,000	12,098,000	33,490,000
2nd Dec. .	19,121,000	10,944,000	30,065,000	20,926,000	12,275,000	33,201,000
30th Dec. .	19,038,000	11,751,000	30,849,000	21,067,000	12,855,000	33,922,000
1842.						
5th Nov. .	19,903,000	9,072,000	28,975,000	21,934,000	9,789,000	31,723,000
3rd Dec. .	19,562,000	8,957,000	28,519,000	21,210,000	9,934,000	31,191,000
30th Dec. .	19,230,000	9,053,000	28,293,000	20,560,000	10,330,000	30,890,000

Average Aggregate Amount of Promissory Notes which have been in Circulation in the United Kingdom, distinguishing the several Banks, or Classes of Banks, by which issued in each part of the Kingdom, with the Average Amount of Bullion in the Bank of England, during the four weeks ended the 11*th November*, 9*th December, and* 6*th January*, 1843-4, *respectively.*—(*Continued from p.* 375 *of Vol. VI.*)

Banks.	Circulation during the Four Weeks ended 11th Nov. 1843.	9th Dec. 1843.	6th Jan. 1844.
	£.	£.	£.
England—Bank of England .	19,554,000	18,791,000	18,964,000
Private Banks. .	4,904,574	4,533,048	4,822,675
Joint-Stock Banks.	3,315,318	3,161,033	3,234,999
Scotland—Chartered Private & Joint-Stock Banks	2,945,030	3,166,920	2,901,746
Ireland—Bank of Ireland. .	3,511,475	3,502,475	3,489,650
Private and Joint-Stock Banks . .	2,404,045	2,376,676	2,361,189
Total . .	36,634,442	35,531,152	35,774,259
Bullion in the Bank of England	12,025,000	12,996,000	14,638,000

Consolidated Fund Operations.—The total income brought to this account in the quarter ended 5th January, 1844, was 11,138,305*l.*; the total charge was 9,906,788*l.*, leaving a surplus of 1,231,517*l.* The amount of Exchequer Bills issued to meet the charge on the Consolidated Fund for the quarter ended 10th October, 1843, and paid off out of the growing produce of that fund for the quarter ended 5th January, 1844, was 3,726,537*l.* The probable amount of Exchequer Bills required to meet the charge on the Consolidated Fund for the quarter ended 5th January, 1844, was 5,462,859*l.*

Slave Trade Police.—The following is an estimate of the charge to the public for the Ships of War, of all classes, employed for the suppression of the Slave Trade, in the year 1842:—Wages, 261,319*l.*; victuals, 165,010*l.*; wear and tear of hull, masts, &c., and stores, coals, and machinery, 149,137*l.*; total, 575,466*l.*

BANKRUPTCY.

An Analysis of the Bankruptcies in England and Wales, gazetted in each Month of the Quarter ended December 31, 1844, *and in the whole year* 1844; *showing the Counties and the Branches of Industry in which they have occurred.*—(*Continued from p.* 376 *of Vol. VI.*)

COUNTIES.	October.	November.	December.	Total in 1843.
Metropolis	18	45	28	322
Bedford	..	1	..	7
Berks	..	1	2	7
Bucks	2	1	..	11
Cambridge	1	..	..	9
Chester	..	2	2	19
Cornwall	..	1	..	5
Cumberland	..	..	..	4
Derby	..	1	..	9
Devon	1	..	1	18
Dorset	..	1	1	10
Durham	3	1	3	25
Essex	1	3	2	28
Gloucester	..	1	1	21
Hants	..	4	2	24
Hereford	..	..	..	..
Hertford	..	1	..	9
Huntingdon	..	..	1	1
Kent	1	3	6	31
Lancaster	8	6	3	116
Leicester	..	..	2	9
Lincoln	..	..	2	16
Middlesex (exclusive of the Metropolis)	2	1	..	10
Monmouth	..	..	..	7
Norfolk	1	3	..	13
Northampton	..	..	1	11
Northumberland	..	1	3	18
Nottingham	1	1	1	15
Oxford	..	..	1	10
Rutland	..	..	..	..
Salop	..	1	..	16
Somerset (including Bristol)	1	2	1	26
Stafford	1	..	6	37
Suffolk	1	..	..	9
Surrey (exclusive of the Metropolis)	1	2	1	14
Sussex	2	..	3	20
Warwick	4	2	4	28
Westmoreland	..	..	..	2
Wilts	..	1	..	8
Worcester	..	5	..	14
York (East Riding)	..	2	..	14
,, (North Riding)	..	..	..	9
,, (West Riding)	1	4	1	108
Wales	3	2	4	22
Total in 1843.	53	99	82	1112
Total in 1842.	..	..	..	1273

TRADES.	October.	November.	December.	Total in 1844.
Agriculture and connected Trades.				
Farmers	..	3	1	9
Agricultural Implement Makers and Wheelwrights	1	..	..	6
Corn Factors	..	1	1	11
Millers and Malsters	2	2	1	27
Hop Merchants	..	..	..	1
Brewers	1	..	2	21
Horse and Cattle Dealers, and Woolstaplers	..	2	1	16
Mining and connected Trades.				
Mining Firms	..	..	..	4
Blasting Works	..	1	..	3
Manufactures.				
Woollen Manufactures	..	2	1	21
Cotton ,,	2	1	1	6
Linen ,,	..	..	..	4
Silk ,,	..	1	2	11
Printers and Dyers	..	..	2	11
Lace Manufacturers	..	..	..	4
Hosiery ,,	..	..	..	1
Hardware ,,	1	2	3	36
Earthenware ,,	..	..	..	6
Glass ,,	..	..	..	3
Paper ,,	..	2	1	3
Builders	2	3	3	31
Miscellaneous Manufactures	2	7	3	63
Commerce.				
Bankers and Merchants	10	1	3	66
Shipowners, Warehousemen, Brokers, and Wholesale Dealers generally	4	15	6	106
Retail and Handicraft Trades.				
Bakers	..	..	3	31
Butchers	..	1	..	4
Corn and Hay Dealers	1	..	1	10
Innkeepers and Victuallers	2	9	2	81
Wine and Spirit Merchants	..	..	2	21
Dealers in Grocery, Drugs, and Spices	6	6	10	101
Makers of, and Dealers in, Clothing	8	17	8	111
Makers of, and Dealers in, Furniture	2	3	..	31
Coach Builders	1	..	..	6
Miscellaneous	8	20	25	231
Total in 1843.	53	99	82	1112
Total in 1842.	..	..	..	1273

QUARTERLY JOURNAL

OF THE

STATISTICAL SOCIETY OF LONDON.

JUNE, 1844.

Tenth Annual Report of the Council of the Statistical Society of London. Session 1843-4.

In rendering an account of their stewardship for the year which is now closed, the Council have to congratulate the Fellows of this Society on its continued prosperity during a period which has been felt by others as one of depression. The number of its Fellows has increased; the subscriptions were never before so well paid; there is not a debt of any kind outstanding; that which used formerly to anticipate a part of the current income of each year has been wholly discharged; and, notwithstanding the outlay of 50*l.* in furniture, and the other extraordinary expenditure incurred by the removal to new apartments, the funded property of the Society remains undiminished.

The removal to apartments more commodious, more accessible, and more advantageously situated, has been desired from the very foundation of the Society, and has at length been effected, as it is hoped, to the general satisfaction of the Fellows. The handsome rooms which the Society now occupies possess every advantage for daily resort, and for the meetings of Councils and Committees. Their arrangement in suite affords great relief to crowded meetings; and the principal meeting-room itself, though it has not the area of the one formerly used, yet, owing to the economy of space which its shape admits, its better means of ventilation, and its situation comparatively remote from the noise of any paved street, affords superior accommodation to an equal number of Fellows. Nor are these advantages obtained at any great pecuniary sacrifice; for though the rent of the present rooms is 200*l.* per annum, while that of the former was only 105*l.*, yet 26*l.*, formerly paid to servants, is now included in the larger sum; from which has further to be deducted the local taxes remitted to this as to other scientific societies, by an Act of the last session. The additional charges will thus be reduced to about 50*l.* per annum, which the Council have reason to believe will be fully defrayed by the progressive increase in the number of Fellows, which more commodious rooms must tend to encourage.

The number of Fellows, at the date of the last annual meeting, was 416. The number since elected is 21; but the number of deaths and withdrawals reduces the increase to 10; so that the present number of Fellows is 426. The clear income of the Society is about 930*l.* per annum; its fixed expenditure, including that upon the Journal, will now