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REPORT

ON THE

SANITARY CONDITION

OF THE

ST. GILES DISTRIC

DURING THE YEAR 1869,

By GEORGE ROSS, M.D., &c.,

FELLOW OF THE MEDICAL SOCIETY OF LONDON, &c.,

MEDICAL OFFICER OF HEALTH.

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1870.



ANNUAL REPORT

OF THE

Medical Officer of Health 22 SEP 1947

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TO THE BOARD OF WORKS FOR THE ST. GILES DISTRICT.

GENTLEMEN,

I have the honour to present to you my Annual Report on the Sanitary Condition of the District, and the work done during my first year of office. Your Board is charged with the administration of one of the most important districts of the Metropolis. It is among the oldest, most densely peopled, and most deteriorated portions of London. One half of the District is inhabited not only by the humblest class of labourers, many of whom are habitual paupers, but also by a colony of Irish families, who, reared in the wretched cots of their own country, are destitute of any notion of the proper use of the domestic appliances instituted for cleanliness and decency in towns. Besides these a considerable number of tramps and others, who lead a nomade life in London, make St. Giles their head quarters.

The obstacles which your Board encounters in its efforts to carry out a good sanitary system, spring from the ignorance and apathy of these classes. The fault, however, is not entirely theirs. Many of the houses in St. Giles so occupied are quite unsuitable for the accommodation of the large numbers who crowd into them. They are generally small, having eight rooms each, and were built at a time when ignorance as to the importance to health of ample space, good ventilation and domestic cleanliness, was the rule among all classes; when the legislature itself was indifferent to the subject, and public hygiene as a science, did not exist. These houses have, for the greater part, a family in every room. In King Street, Drury Lane, for example, there are 254 families in 273 rooms; in Lincoln Court, 164 families in 168 rooms; in Little Wild Street, 139 families in 182 rooms; and in Wild Court, 109 families in 116 rooms. This close-packing of the population, in small houses themselves too closely placed to allow of an adequate circulation of air, of necessity generates disease and induces a high mortality. Under these circumstances, our most energetic efforts to raise the standard of health in the District cannot be so successful as we desire.

A general review of our sanitary state for the year brings into relief two facts, viz.: 1st., a remarkably small number of deaths from zymotic diseases, and particularly from scarlet fever, in St. Giles District in comparison with the Metropolis at large; and 2dly, an epidemic of relapsing fever, which, although not increasing our last year's mortality, prevailed extensively.

On the Sanitary Condition of the Metropolis.

The population of London for the year 1869 is estimated at 3,170,754. The total births were 111,930, the total deaths 77,933 or nearly in the ratio of 3 to 2. The death-rate per 1000 of population is 24.66, which is higher than the mean of the last 10 years, viz., 24.25. The males died at the rate of 27 in the 1000; the females at the rate of 23 in the 1000.

These figures constitute the standard rates to which we refer in making an estimate of the sanitary state of our own District.

The temperature during the year was very variable, and ran into unusual extremes. The mean of the three months at the beginning of the year, called the winter months, was °1.7 above the average; the mean of the next three, or spring months, was °1.0 below the average; the mean of the three summer months was again °1.3 above the average, and the mean of the three last or autumnal months was °1.7 below the average.

Among zymotic diseases, scarlet fever, whooping-cough and diarrhea were the most fatal. Relapsing fever was prevalent throughout the Eastern districts, St. Giles and various Southern districts.

The death-rate from scarlet fever gradually increased up to the month of August; doubled in September, and maintained its maximum with little variation until the end of the year. Whooping-cough was most fatal in the month of June. The mortality from both diseases was greatest in those quarters when the mean temperature was below the average of the period. Diarrhea was as usual most prevalent in the three summer months, July, August and September. Relapsing fever began to spread in the month of October, and continued in full activity to the end of the year. its epidemic extension was synchronous with the maximum severity of scarlet fever, yet these diseases did not necessarily prevail together in the same place;—a fact of which St. Giles is an evidence; for, whilst we suffered unduly from relapsing fever, we had scarcely half of our proportion of scarlet fever. It would seem therefore that the two epidemics were due to two different special causes, though promoted by the same meteorological conditions. In the case of relapsing fever, the special cause was rife and active in St. Giles; whilst in the case of scarlet fever it was comparatively feeble. What these special causes may be it is difficult to determine; the problem, in fact, as regards these and other zymotic diseases, engages the attention and stimulates the curiosity of the ablest scientific men of our day.

In reviewing the mortality of London the Registrar General adverts to the large number of deaths that occur in our public hospitals and infirmaries, and he asks the question: "How can the advantages of hospital organization be enjoyed without visiting on the inmates the evil influences of the atmosphere of disease in which they are steeped? The spread of fever is limited by dispatching patients to fever hospitals. But 518 deaths in a year in one institution is a startling number."

This is a question which medical officers of health are bound to consider; and there seems to me to be but one solution of it, viz., the abolition of the practice of bedding numerous sick persons in one ward; and of placing several wards under one roof. Cottage hospitals, or the same thing under another name, would meet the difficulty. With greater sub-division, a better classi-

fication of the sick in hospitals might be made, and there would be, consequently, less chance of infection or poisoning by hospital malaria. The question is becoming of paramount importance, and the notice now taken of it by the Registrar General will doubtless hasten its consideration by the public. Separation and domesticity are the two principles which should govern any future system of hospital organization.

The Birth-rate in St. Giles District.

According to the returns of the Registrar General the number of births in St. Giles District for the year 1869 was 1845. The numbers registered for the three sub-districts were as follow:— St. George Bloomsbury, 470; St. Giles South, 880; St. Giles North, 495. These figures, however, require correction. The District of St. Giles contains the British Lying-in Hospital, which receives patients from all parts of London; and during the past year there were 163 births in that institution that do not properly belong to St. Giles District, although registered within it. These, therefore, must be deducted from the aggregate, and more particularly from the figures for St. Giles Again, there were 104 births in the Workhouse, which are appropriated in the returns to St. Giles South, in which sub-district the Workhouse lies. These births must be distributed among the three subdistricts in due proportion according to the previous residences of the mothers. The births in the Lying-in Hospital which belong to us must also be distributed among the three sub-districts. When these corrections have been made, the figures stand thus: -St. George Bloomsbury, 485 births; St. Giles South, 672; St. Giles North, 531; whole District, 1688.

These numbers differ very materially from the figures recorded in the registers, and it must be evident that any calculations that have been hitherto founded upon the registered birth-rate of St. Giles must be deceptive. The subjoined Table exhibits the birth-rate to population.

TABLE No. I.—The Birth-rate to Population in St. Giles and its Sub-disticts.

Districts.	Population.	Births.	Ratic of Births to Population.	Rate per 1000.
St. George Bloomsbury St. Giles South St. Giles North	17.392 19,483 17,201	485 672 531	1 in 36 1 in 29 1 in 32	27.9 34.5 30.8
Whole District	54,076	1688	1 in 32	31.

It is thus made apparent that the birth-rate in Bloomsbury is very much lower than that in St. Giles South—the rate in the latter district being about one-fourth greater than the former; whilst the birth-rate in St. Giles North holds a medium position, being equal to that for the whole District.

The Death-rate in St. Giles District.

The number of deaths registered must, for the same reason, be treated in the same manner as the births; in accordance with the usual practice for the death-rate.

The Registrars' return for the whole District is 1452 deaths, which occur in the following proportions: — St. George Bloomsbury, 332; St. Giles South, 700; St. Giles North, 420. When the proper additions have been made for the deaths in hospitals, and when the deaths in the Workhouse have been distributed among the three sub-districts in the proportion to which the persons, when living, belonged, the following are the

results:—St. George Bloomsbury, 368; St. Giles South, 648; St. Giles North, 507; whole District, 1523. The ratios to population are expressed in the following Table:—

TABLE No. II.—THE DEATH-RATE TO POPULATION IN ST. GILES AND ITS SUB-DISTRICTS.

DISTRICTS.	Population.	Deaths.	Ratio of Deaths to Population.	Rate per 1000.
St. George Bloomsbury St. Giles South St. Giles North	17,392 19,483 17,201	368 648 507	1 in 47 1 in 30 1 in 34	21.1 33.2 29.4
Whole District	54,076	1,523	1 in 35	28.1

As St. George Bloomsbury had the lowest birth-rate so it has considerably the lowest death-rate; but we must not hastily assume that there is a definite relation between the two. We may estimate the difference in a more precise manner by a reference to the following Table of Ratios, calculated for the whole District.

TABLE No. III .- BIRTH-RATE AND DEATH-RATE IN ST. GILES DISTRICT.

	Births. 1845 1684	Ratio to		Rate in	Difference.				
and and the same	Births.	Population	Deaths.	1000 Population	Birth-rate.	Death-rate			
Registrars' Returns	1845	34.12	1452	26.85					
Corrected Returns	1684	31.	1523	28.16	-3.12	+1.31			

Now if an actual birth-rate of 31, as in the *corrected* return, yields an actual death-rate of 28.16, a birth-rate as in the *registered* return of 34·12 ought to yield a proportionate death-rate of 30·85, which is exactly 4 per 1000 more than the 26.85 calculated from the Registrar's return; or nearly one-seventh (6.7) more than that ratio. This rate of excess represents 149 deaths per 1000 births, or 96.5 on the actual number of births.

The Increase of Population.

The births in St. Giles District were 1684, and the deaths 1523; the excess of births over deaths was 161, representing the natural increase of population for the year. It is not, however, likely that this was the actual increase; the excess of births having been counterbalanced by migrations from the District—the overflowings of a highly-compressed population.

Comparison of the Death-rate in relation to the Birth-rate and Population.

The following Table shows the birth-rate and death-rate for London, and the corrected birth and death-rates for St. Giles and its three sub-districts.

TABLE No. IV.—RATIO OF DEATHS TO BIRTHS AND TO POPULATION IN St. GILES DISTRICT IN COMPARISON WITH LONDON IN 1869.

London and Sub - districts,	Birth-rate in 1000 Population,	Death-rate in 1000 Population,	Estimated Ratio of Deaths to Births,	Difference between Death- rate to Pop. in Sub-districts and Death-rate in London,	Sub-districts & the estimated
London	35.42	24.66			
St. George Bloomsbury St. Giles South St. Giles North	27.88 34.49 30.87	21.16 33.20 29.47	19.41 24.01 22.11	- 3.50 + 8.54 + 4.81	+1.75 +9.19 +7.36
Whole District	31.	28.1	22.21	+ 3.44	+5.89

There are certain points in the foregoing Table that command our attention:—first, the great difference between the death-rate to population (28.1) and the death-rate to birth-rate (22.21) for the whole district. That difference (5.89) is the indication of the amount of wasted life arising from sanitary evils in the District. Secondly the difference, in the instance of Bloomsbury, between the death-rate, as calculated upon population, and that calculated upon the estimated ratio of deaths to births. In the former case it is 8.50 less than London, in the latter it is 1.75 more than estimated. This is a wide discrepancy, and it touches the fundamental question now agitated as to the proper basis of a death-rate. Upon the surface of the matter the evidence is clear against the birth-rate basis for the ordinary purposes of an estimate. The calculation upon this basis makes it appear that Bloomsbury is relatively less healthy by 1.75 than the average of London. Is this likely? Obviously not. Bloomsbury is composed (with the exception of Coram Street and its courts and two or three minor streets) of a very respectable, not to say wealthy, class; whilst London is a statistical expression for a congeries of rich and poor, well brought-up and neglected, stationary and migratory population; it is the mean of all these, and represents the average standard of their mortality. Besides, the birth-rate in Bloomsbury is very much lower than the birth-rate for London; and as infants under one year die at the rate of 16 per cent., whilst the population at all other ages die at the rate of 2 per cent. only; and as the young children in Bloomsbury would, as a rule, be carefully nurtured, we must, necessarily, conclude on these grounds, also, that the mortality of Bloomsbury should be less than that of London.

The Sub-district of St. Giles South shows nearly one-fourth more births in relation to population than Bloomsbury; and yet the birth-rate in St. Giles South is not equal to that of the Metropolis at large. This slight deficiency in St. Giles South, in relation to the Metropolis, may be explained by the large number of single men who live in the common lodging houses that abound in that part of the Parish; and, consequently, the smaller proportion of women. The difference between the death-rate, calculated on population, and that calculated on the estimated ratios of births to deaths do not differ in an important degree in this Sub-district; and this would appear to be on account of the high mortality which runs through every period of life.

In St. Giles North the difference in these ratios is very marked; and we find, accordingly, (Table No. 8) that the mortality varies considerably at different ages in St. Giles North; the heaviest mortality being among persons under 20 years of age, and the lowest among those over that age, when it does not much exceed Bloomsbury.

The Death rate among Infants in St. Giles.

The whole number of deaths among children under one year of age in St. Giles was, in 1869, 337, which were divided among the three Sub-districts in the following proportions, St. George Bloomsbury, 76; St. Giles South, 156: St. Giles North, 105.

Now the proportion which these deaths bear to the births is as follows:

Whole District1 death to every 5 births = 20 per cent.

St. George Bloomsbury .. 1 ,, ,, 6.4 ,, = 15.67 ,,

St. Giles South1 ,, ,, 4.3 ,, = 23.3 ,,

St. Giles North1 ,, ,, 5. ,, = 20. ,,

The rate at which infants die is estimated at 15.9 per cent. of those born in the year; and we see that the death-rate in Bloomsbury is a fraction less than that amount. In St. Giles North it is about 4 per cent. more, and in St. Giles South it is 7.4 per cent. more; so that it comes to this: that St. Giles North lost, last year, a fourth more infants than it ought, and St. Giles South about a half more than it ought. This destruction of infant life in St. Giles South is very sad.

The number of infants under one year in 1000 persons living, is in St. George Bloomsbury, 27.9; in St. Giles South, 34.5; in St. Giles North, 30.8; as shown in Table No. 1.

The Death-rate among Persons at all Ages,

The death-rate among persons at all ages (excluding infants) in St. Giles District is 2.2 per cent. of all such persons living. This is in excess of the ordinary death-rate which is computed at 2 per cent. This per-centage varies considerably in the three Sub-districts; for example, in St. George Bloomsbury, it is only 1.7 per cent.; in St. Giles South it is 2.5 per cent., and in St. Giles North it is 2.3 per cent.

We thus see that life among children over one year of age, and among adults, is at a higher value in Bloomsbury than life among infants; for whilst the death-rate among infants in Bloomsbury is nearly the same as in London, the death-rate among all other persons is about one seventh less in Bloomsbury that the ordinary rate. On the other hand the death-rate in St. Giles South among persons at all ages is about 50 per cent. higher than Bloomsbury,—that is to say, one death out of every three was unnecessary and preventible—so much human strength gone to waste and loss. In St. Giles North the death-rate for the same class is less; but it is still deplorable, since it occurs, as is shown by furthur analysis (see Table No. 8) among young children and adolescents, who are most accessible to the operation of malarious influences. This should make us strenuous in our efforts to remove all those noxious conditions that induce so large an amount of premature death.

With these data in hand, we construct the subjoined Table which gives the true death-rate for St. Giles and its Sub-districts. TABLE No. V .- CORRECTED RATIO OF DEATHS TO BIRTHS AND POPULATION.

St. George Boomsbury.—
28 Infants at 15.67 per cent = 4.38
972 Adults at 1.7 per cent =16.52
Pop. 1000 Corrected Ratio of Deaths 20.90
St. Giles South.—
35 Infants at 23. per cent = 8.
965 Adults at 2.5 per cent = 24.
Pop. 1000 Corrected Ratio of Deaths 32.
St. Giles North.—
31 Infants at 197 per cent 6.1
969 Adults at 2.3 per cent = 22.2
200 Addits at 2.0 per cents 22.2
Pop. 1000 Corrected Ratio of Deaths 28.3
St. Giles District.—
Death-rate20. per cent. of Infants living.
"2.2 per cent. of Adults living.

These results are derived from observed facts, and they show that the death-rate to 1000 population in Bloomsbury is 20.90, in St. Giles South 32., in St. Giles North 28.3. These figures correspond pretty closely with the rates given in the 3rd, or death-rate to population column in Table 4, where they are stated at Bloomsbury 21.16, St. Giles South 33.20, in St. Giles North 29.47, and differ widely from those in the next column where the estimated ratios are given of deaths to births.

It is observable also that the chief cause of the low mortality of Bloomsbury is the *small* number of deaths of persons at all ages *above infancy*; whilst on the other hand the high mortality of St. Giles South is due mainly to the *excess* of deaths among the same class. The death-rate for Bloomsbury (comparing the last Table with Table 4) being 3.76 *less* than the death-rate for London, the difference is almost wholly due to the diminished death-rate at all ages above infancy.

The death-rate for St. Giles South is 7.66 in excess, and is caused by deaths in the following proportion:—Infants, 2.56; all other ages, 5.10; so that if the death-rate in St. Giles South had been measured by the birth-rate the excess would have been only 2.56 instead of 7.66.

It is obvious, therefore, that the birth-rate would be a more imperfect standard for St. Giles District than the population-rate; for although it is both trite and true that all who are born must die, yet the births are only one element of the vital phenomena in an urban population, where migrations inwards and outwards are perpetual, and where disparity of circumstances leads to inequality of vital force.

The Causes of the Mortality in St. Giles District.

The annexed Table gives a synopsis of the various classes and orders of disease, with the mortality arising from them, both in the Metropolis at at large and in St. Giles District, and the comparative ratios for St. Giles. We can thus see at a glance which diseases have been most prevalent and fatal among us, and which unusually mild. [See table following page.]

The first fact that strikes the attention is the excessive number of "unspecified causes" of death in St. Giles District: our proportionate number being 9, whilst we have actually registered 20. Greater caution should be exercised in this matter. In some instances the cause of death has been stated as "Unknown," yet an inquest was not held. In other instances, and these are the most numerous, a cause of death is assigned, but the disease was not certified. The word has been taken apparently of the

TABLE VI.

Comparison of Mortality from Various Causes in London and St. Giles, Whole Year, 1869, (52 Weeks.)

		LONDON.	ST. GILE	s Population	54,000.
Classes.	CLASSES AND ORDERS OF DISEASE.	Population, 3,170,754	Estimated Quota.*	Actual Registered Mortality.	Corrected for Deaths in Hosptals &c.
	All Causes	77,933 77,406	1325 1316	1452 1432	1527 1507
	Classes.	NORTH !	P HE		
I.	Zymotic Diseases	20,885	355	283	297
11.	Constitutional ,	14,442	244	311	330
III.	Local ,,	31,334	533	634	665
IV. V.	Developmental,,		143 40	165 49	165 50
	ORDERS.				1-4-15
I.	1 Miasmatic Diseases	19,425	330	259	271
4.	2 Enthetic ,,	549	9	12	12
	3 Dietic ,,	710	12	13	14
	4 Parasitic "	201	3		-
		2,527	43	45	- 52
II.	1 Diathetic Diseases 2 Tubercular Diseases		203	264	278
_		0.407	144	116	123
III.	1 Diseases of Nervous System	8,467 3,633	62	79	88
	2 ,, Organs of Circulation	14.121	240	374	382
	Respiratory Organs Digestive Organs	2,961	50	33	35
	Timary Organs		23	16	21
	c Grane of Congration	265	4		1
	7 Organs of Locomotion	300	5	5	8
	8 ,, Integumentary Organs	224	4	7	7
IV.	1 Dev: Dis. of Children	2,118	36	45	45
1,4.	2 ,, ,, Adults		5	6	6
	3 ,, ,, Old People	2,587	44	46	46
	4 Diseases of Nutrition	3,422	58	68	68
	1 Accident or Negligence	1,914	33	34	40
4.	3 Homicide		2	-	1
	4 Suicide	302 22	5	7 2	7 2
	Sudden Deaths	53 474	1 8	20	20
	Certain Special Diseases of Zg	motic Class	and Miasn	natic Order.	
1.1.	C. B Par	273	5		1
	Small Pox Measles	1,425	24	19	19
	Scarlatina		99	46	48
	Diphtheritis		6	5	5
	Croup		10	-	2
	Whooping Cough		64	83	83
	Diarrhœa	3,400	58	64	64
	Typhus & other continued Fevers	2,414	41	25	37

^{* 1 - 58.8}th part of the entire mortality of the Town,

person communicating the fact of death. Occasionally in the case of children the deceased had been attended until a few days previous to death by the medical staff of the Children's Hospital; and either the authorities there had declined to give a certificate, or the parents of the deceased had neglected to apply for one. The large majority of these irregularities occurred in the Bloomsbury Sub-district where also I find the largest number of deaths of infants from suffocation, etc., were also registered. These two facts taken in connexion should prompt the exercise of greater stringency in the reception of certificates. Every death should be certified either by the medical practitioner who attended the case, or, failing that, after an inquest into the cause of death. The register, otherwise, might become a screen for crime.

We notice also the fact that zymotic diseases were below their proportionate number in St. Giles District; and that this diminution was chiefly caused by the small number of deaths from scarlet-fever; to which I shall further allude when I treat more particularly of the miasmatic diseases.

Constitutional diseases,—for example, cancer and phthisis, were considerably in excess. We had the large mortality of 44 from cancer, our proportionate number being 27. The largest number of these deaths occurred in Bloomsbury. The proportions were as follow: Bloomsbury, 21; St. Giles South, 17; St. Giles North, 6. The large excess of deaths from cancer in Bloomsbury apparently arises from the defective nutrition of vital organs, consequent upon the state of its female population as indicated by its low birth-rate. The proportion in relation to sex was, for Bloomsbury, males 4, females, 17; St. Giles South, males 4, females 13; St. Giles North, males 3, females 3.

Diseases of the lungs were also very fatal. Our mortality is, in fact, kept up beyond its legitimate standard by this order of diseases. Bronchitis is the chief of this group; and it exerts its most malign power upon infants and the aged. The ill-fed and badly cared-for infant, and the debilitated old man or woman, when exposed to the vicissitudes of the seasons, and particularly to the extreme cold of winter, fall victims to this malady.

Diseases of the heart have also been particularly fatal among us; there having been 40 per cent. more deaths than there should have been from this cause. This mortality may probably be explained by the intemperate habits of the lower classes of people in the District.

Of deaths from diseases of the brain and digestive organs we have had fewer than our share. These diseases mutually react upon each other; and it may happen that the inhabitants of St. Giles are not so liable to these maladies as those of other Districts, among whom a higher mental cultivation, a more intense and anxious strain of the faculties in the struggle of life, and more sedentary habits, may induce a predisposition to attacks from cerebral and abdominal disease. This subject, however, requires wider investigation.

Zymotic Diseases.

The principal epidemics that prevailed in the Metropolis during the year 1869 were scarlet-fever, whooping-cough, and diarrhoa, to which must be added relapsing-fever—not indeed on account of its mortality, but of the number of its attacks. These, unfortunately, cannot be easily ascertained, as no public register of disease is kept. A proposal, however, having this object in view has recently been made by Mr. Lewis, of the Registrar General's Office; and it is to be hoped that an omission so detrimental to the progress of sanitary science, and the due conservation of the public health will be, ere long, corrected.

The death-rate from zymotic diseases, of all kinds, has been, in London, 1 in 152 of the population; and in St. Giles District, 1 in 194, which is obviously a very reduced rate, considering the bad hygienic circumstances in which we are placed.

Small Pox.

We have had but one death from small-pox in the past year, and that occurred, as Mr. Marson, the Resident Medical Officer of the Small Pox Hospital, informs me, in the Small Pox Hospital on November 13th. It was the case of a boy, aged 7 years, who was said to have been vaccinated in infancy in the Parish of St. Pancras. This single death is strong testimony in favor of the Amended Compulsory Vaccination Act. In the year 1867, before that Act came into operation, 31 deaths were registered in St. Giles from small-pox. On the 1st January, 1868, the new Act came into force, and in that year only 6 deaths were registered; whilst during the past year the deaths have dwindled to one. We cannot therefore doubt that the comparative immunity which the population of this District have enjoyed is due to the efficient working of this important measure. Much ignorant declamation has been hurled at the Act during the past year; the best answer to which will be a strict enforcement of its provisions throughout the London districts.

Scarlet Fever.

The deaths from scarlet-fever in London were, last year, nearly double the average of preceding years, having been in the ratio of 183 to 94. I am pleased to be able to report that there were only four districts in London that had a lower death-rate in proportion to population, from this cause, than St. Giles. These were three West districts, viz.: Chelsea, St. George Hanover Square, and St. Martin-in-the-Fields, with one South district, Lewisham. St. Giles was much below its associated Central districts as the following figures shew:—St. Giles 85 per 100,000 persons living, Strand 184, Holborn 209, Clerkenwell 164, St. Luke 278, East London 198, West London 240, London City 111.

So fatal an epidemic of scarlet-fever as that of last year has not for a long time been known in London, and it is matter for congratulation that whilst this severe disease was scourging the districts around us, our average mortality was not exceeded.

Whooping Cough.

The deaths from whooping-cough in London were 3755 against an average of 2450 for the previous 10 years; and in St. Giles District the deaths from this disease were 84, our number last year having been only 42. In London the mortality was one in 844 of the population, and in St. Giles District one in 644; so that our mortality from this disease was nearly 30 per cent. more than it should have been. It must be remembered that this malady, which is enumerated among the zymotic diseases and really belongs to the order, is much influenced by those atmospheric causes that increase the death-rate from bronchitis. We cannot be surprised, therefore, that during the past year, when we have had an unusual excess of deaths from diseases of the lungs, we should also have had an increase of mortality from whooping-cough.

Diarrhea.

The deaths in London from diarrhea were 3400, which was a diminution of the number in the preceding year (4060), but an excess of the average number of the previous 10 years (2183). In St. Giles District the deaths from this disease numbered 64 against 69 in the previous year. The deathrate in London was 1 in 932 of the population; in St. Giles District 1 in 834; so that in this respect also there was an excess of 10 per cent. in the death-rate of St. Giles District.

Of these 64 deaths 44 occurred in the autumnal months,—July, August and September. Thirty-eight of the number were one year old or under. The infants that succumbed were, no doubt, too feeble to resist the unfavour-

able influence of the close and fetid atmosphere which characterises the houses of the poor at this time of the year. A few of the deaths from this disease followed measles.

Fevers.

Fevers of various kinds, including typhus, gave us 37 deaths (the deaths in hospital inclusive) in 1869; a larger number than in the preceding year, but not equal to the mortality from this cause in 1867.

The Mortality in the Sub-Districts of St. Giles.

The following Table shows the death-rate in the three Sub-districts, in comparison with the ten previous years. Our mortality last year was higher than the average, the greatest difference being in St. Giles North; the death-rate in that Sub-district having been higher than in any preceding year in the series except 1866.

TABLE VII.—DEATH-RATE PER 1000 IN SUB-DISTRICTS *

DISTRICTS.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	Average Death-rate of 10 years.	1869.
St. George, Bloomsbury	18.4	18.5	20.5	21.6	19.9	21.6	21.1	20.0	19.0	21.0	20.16	21.16
St. Giles, South	34-9	34.6	29.1	31.7	32.7	24.8	34.6	32.8	31.6	31.1	32.79	33.20
St. Giles, North	24.0	24.7	27.9	28.2	27.3	29.2	26.6	29.8	26.6	25.3	26.96	29.47
Whole Dis- trict	26.0	26.2	27.0	28.9	28.5	31.1	29 6	29.0	26.9	26.8	26.63	27:94

^{*} Correction has been made for the extra length of the registration years 1863 & 1868, and for the proportion of deaths due to each sub-district among the deaths in the Workhouse and in Hospitals outside the respective sub-districts.

The deaths from those diseases that caused the chief part of the mortality in the District are represented below for different ages.

TABLE No. VIII.—THE DEATHS IN THE SUB-DISTRICTS FROM CERTAIN DISEASES AT DIFFERENT AGES IN 1869.

	Undi	er One	YEAR.	FROM	1 to 20	YEARS.	FROM	From 6 Years 8 upwards		
SUB-DISTRICTS-	Mias- matic Diseas.	Bron- chitis & Pneu- monia.	Atro- phy and Debility	Mias- matic Diseas.	Bron- chitis & Pneu- monia.	Phthisis	Bron- chitis & Pneu- monia.	Phthisis	Atro- phy and Paral- ysis-	
St. George Bloomsbury	21	7	10	34	23	5	23	34	3	39
St. Giles South	47	35	25	63	54	17	72	129	18	97
St. Giles North	27	31	20	44	59	7	24	38	6	35

The foregoing Table exhibits the largely preponderating mortality in St. Giles South at every period of life. To reiterate what the figures declare would be a waste of time. It is observable that the infant mortality in St. Giles North and the mortality under 20 years far exceed Bloomsbury, whilst the mortality in the prime of life and in advanced age does not materially differ. It is clear then that it is the deaths among persons under 20 years that chiefly contribute to the increased death-rate of St. Giles North. On the other hand the heavy mortality in St. Giles South in mature and later life indicates the presence of a large immigrant population. These are chiefly either Irish persons who die during their acclimitisation, or are tramps and vagrants who are housed in large numbers in this Sub-district.

TABLE IX.—CERTAIN ZYMOTIC DEATHS IN 1869, IN SUB-DISTRICTS. DEATHS IN HOSPITALS AND WORKHOUSE REFERRED TO PREVIOUS RESIDENCES.

		DEATHS IN SUB-DISTRICTS FROM												
Sub-Districts, &c.	Population 1861,	Small-pox.	Measles.	Scarlatina,	Diphtheria.	Whooping Cough.	Continued Fevers.	Diarrhœa.	Relapsing Fever.					
Bloomsbury	17392		5	13		18	4	17						
St. Giles South	19483	1	6	13	1	47	22	28	1	***				
St. Giles North	17201		8	22	4	18	11	19						
Workhouse In- mates & Tramps	695													

The aggregate of the figures in the above Table is much smaller than last year, as has been already explained; the proportions also for the Subdistricts differ. Last year Bloomsbury had the largest number of deaths from whooping-cough; this year it is St. Giles South that suffers most; its mortality from this disease having risen from 13 to 45. The death-number from scarlatina has however sunk from 34 to 13.

The annexed Table shows the extent to which each Sub-district was assisted by the surrounding hospitals.

TABLE X.

Deaths in Hospitals among Patients brought from the Sub-districts of St. Giles, 1869.

Districts.	Population,	St. Bartholomew's Hospital (W. London)	King's College Hospital (W. London)	Westmustr. Hospital, (Westminster.)	Charing Cross Hospital (St. Martins)	Middlesex Hospital (Marylebone).	University College Hospital (St. Pancras)	London Fever Hospital (Islington).	Small Pox Hospital, (Highgate.)	Royal Free Hospital (St. Pancras)	Children's Hospital (Holborn)	Total ascertained Deaths in London Hospitals.
Bloomsbury	17,392	0	2	0	0	7	3	1	0	2	1	16
South St. Giles	19,483	5	14	0	7	6		9	1	0	2	59
North St. Giles	17,201	0	1	0	0	6	5	2	0	0	2	20

The Mortality in the Workhouse and other Local Institutions.

Through the kindness of the Medical Officer, I am able to give a complete summary of the medical work done in the Workhouse during the year 1869, as reported by Mr. Bennett. The large number of recorded cases shows the inestimable value of the daily duty performed by the Medical Officers for the relief of the suffering poor.

Throughout this year there was less zymotic disease in the Workhouse than in the year 1868; the diminution having been most marked in cases of measles and fevers; on the other hand whooping-cough and diarrhœa were rather more prevalent. Cases of bronchitis and pneumonia maintained their previous rate; whilst cases of consumption were less numerous but more fatal.

TABLE XI.—Cases of Disease and Death, occurring in the Practice of the Workhouse in 1869, and its Four Quarters.

Cases occurring—		With	in Wa	alls o	f World In	rkho	use, (Infir	mary		Among Out- Patients attending at Workhouse.						Among Patients visited at their own homes.									
In Quarters of the Year		rst rter.	Seco		Third Fourth Quarter. Yes				First. Second Third. Fourth Whole Year.		First Quarter.		Second Quarter.		Third Quarter.		Fourth Quarter		W hole Year.							
Cases.	New Cases.	Deaths.	New Cases.	Deaths.	New Cases.	Deaths.	New Cases.	Deaths.	New Cases.	Deaths.	New	v Cas	es.	De	aths.	New Cases.	Deaths.	New	Deaths.	New Cases.	Deaths.	New Cases.	Deaths.	New Cases.	Deaths.	
Of all Diseases	313	77	293	54	230	53	341	61	1177	245	1134	1041	929	790	3894	867	69	722	79	629	40	709	55	2927	243	
Small Pox	-	-	-	_	-	-	-	-	-	-	-	1	-	-	1		-	-	-	1	-	-	-	1	-	
Measles	-	-	6	-	6	-	-	-	12	-	4	11	2	-	17	51		61	4	37	-	3	-		4	
Scarlet Fever	-	-	-	-	-	-	-	-	-	-	3	1	6	-	10	33	-	11	2	36	1	11	1	91	4	
Whooping Cough	11	-	18	-1	13	-	-	-	42	1	30	62	34		133	17	2	42	12	32	3	8	1	99	18	
Diarrhœa	3	-	2	-	7	1	3	-	15	1		113			504	15	1	32	-	71	5	18		136	9	
(" Fever and Febricula"	21	1	18	3	13	1	25	-	77	5	92	103	117	100	412	84	-	97	-	83	-	88	-	352	-	
("Typhus Fever"	-	-	-	-	-	-	1	1	1	1	1	-	-	-	1	29	-	6	-	3	-	-	-	38	-	
Relapsing Fever	-	-	-	-	-	-	-	_	_	-	_	-	15	_	15	-	_	_	_	49	_		_	49	_	
Bronchitis (acute and chronic)	53	19	42	10	27	14	59	16	181	59	454	330	176	314	1274	233	35	183	35	78	14	236	26	730	110	
Inflammation of the Lungs & Pleura	12	9	6	2	-	-	9	3	27	14	1	_	-	-	1	5	1	3	2	5	2	2	_	15	5	
Consumption	11	12	27	14	10	12	41	22	89	60	12	5	4	2	23	29	8	31	9	21	3	23	8	104	28	
Ophthalmia	3	-	4	-	2	-	2	-	11	-	6	4	6	4	20	4	-	1	-	1	-	-	-	6	-	

Among "patients treated at their own homes" there has been an excess of cases of measles and whooping-cough; whilst there has been a diminution of cases of scarlet-fever and diarrhoa as compared with last year. Bronchitis, however, was especially prevalent, the attacks having been 730 against 299 in 1868; and the deaths 110 against 53. Pneumonia, like bronchitis, was particularly frequent and fatal. These results might be expected from what has already been stated with reference to the mortality from diseases of the lungs throughout the District.

The attacks of relapsing fever both among patients applying at the Workhouse and those treated at their own homes are returned as 64; but having already reported separately on this disease, I think it unnecessary now to dilate upon it.

The Bloomsbury Dispensary. The large number of 5045 cases have been under the care of the Physicians and Surgeons of this useful Institution during the past year. The largest aggregate of cases admitted was in the second quarter of the year, whilst the largest mortality was in the third quarter; thus confirming a remark I made last year as to the unequal incidence of the sick-rate and the death-rate in the several quarters, and the consequent importance of a register of cases for the early detection of epidemic disease and its prompt suppression.

TABLE XII .- NEW CASES TREATED AT THE BLOOMSBURY DISPENSARY, 1869.

Quarter	Phys	sician's Ca	ases.	Sur	geon's cas	es.	Casualties.	TOTAL.					
ending-	Admitd.	Visited at home.	Died.	Admitd.	Visited at home.	Died.	about	Admitd.	Visited at home.	Died.			
Mar. 25th.	635	229	26	353	55	3	280	1268	284	29			
June 24th.	661	184	28	377	22	1	270	1308	206	29			
Sept. 29th.	638	186	36	309	23	1	300	1247	209	37			
Dec. 25th.	682	247	31	320	34	1	220	1222	281	32			
Whole Yr.	2616	846	121	1359	134	6	1070	5045	980	127			

The British Lying-in Hospital.—The number of women attended in this institution during the year was 172, of whom three died from puerperal fever; three of the children also died, one of them just after birth. The still-births were nine in number, seven of which were males. There were only eleven women delivered in this charity during the year who belonged to St. Giles District; five of them to the Parish of St. Giles, and six to Bloomsbury. Three deaths from puerperal fever in 172 deliveries is a large ratio. Although it may not be true, as some authors assert, that this disease was never known until lying-in hospitals were established, yet it is certain that they induce this mortal malady and are the chief cause of its maintenance.

The Infants' Home.—A different system from that formerly carried out here has been introduced within the last two years. Only a certain number of infants are retained in Great Coram Street; whilst the majority are sent out to be nursed by women who are paid about five shillings a week for each child. Forty-five infants were admitted into the institution last year, and at the time of my visit there were twenty-five in the house. Ninety-seven had been sent out. There had been five deaths among those who had been received into the house; three of them from tuberculous disease, one from congenital syphilis, and one from pneumonia. Among the ninety-seven sent out to be nursed there had been twenty-two deaths; so that, in fact, there had been

twice as many deaths in proportion to numbers, among those who had been sent out to be nursed as among those kept at home: the death-rate being among those kept at home 1 in 9; among those sent out 1 in 4.4. This plan is, then, unsatisfactory, as I feared last year that it would prove to be. The death-rate of 1 in 4.4 is about the same as that for St. Giles South, of 1 in 4.3 births; but the object of such an institution as this is to save the child from those destructive influences that cause its death in the malarious homes of the poor: and it is quite evident that this end is not attained. None of the children admitted belonged to St. Giles District.

The Sanitary Work of the Year.

The chief duty of the Sanitary Inspectors consists in maintaining the cleanliness, ventilation, and wholesomeness of the houses of the poorer inhabitants. This is, in every District, the most important part of the Inspectors' duties, because disease originates in, and is sustained by, domestic uncleanliness far more than by any external sources of pollution. This is emphatically the case in St. Giles District. The Inspectors have provided me with the following return of the sanitary work done during the year 1869. It will be seen that they have made, together, 13,262 visits.

TABLE XIII.

House Improvements in St. Giles District effected under the Superintendence of the Sanitary Inspectors between Lady-day, 1869, and Lady-day, 1870.

		Inspector WEBB.	Inspector Dixon.
	Number of houses improved	810	911
Improvements in Drainage.	Traps fixed	269 19	272 434 36 2
In Water Closets.	Pan, trap, and water provided Water and apparatus only provided Cleansed or repaired Newly constructed or re-built	72 153 343 9	76 176 510 11
In Dust Bins.	Newly constructed	10 57	7 73
Paving.	Re-laid or repaired	173	320
In General Water Supply.	{ Receptacles provided	14 47	39 96
In Cleanliness and Repair.	{ Cleansed and lime-whited Various accumulations removed from cellars, &c.	684 53	872 62
In Ventilation, &c.	Ventilation improved Overcrowding reduced Kitchens disused, or made legally habitable	81 47 49	25 29 42
Proceedings taken.	First notices. Second notices, letters, &c. Summoned and Fined Reported to Police or District Surveyor	230 28 5	271 98 3
Total	number of Improvements	2330	2986
Total	number of Visits during the year	5519	7743

Cowsheds.—These have been kept clean during the year, and the usual sanitary regulations enforced. The animals have not, however, been so healthy, as in preceding years; foot and mouth disease having appeared in all the sheds in St. Giles. The cows are at present free from disease. I have to add that the systematic disregard of the regulations of your Board by Mr. Rowe of Coram Street, was brought under the notice of the Magistrates on the last licensing day; and they, after hearing Mr. Rowe's statement, entered in his license the number of cows he was allowed to keep; informing him that if he continued to disobey, his license might be revoked on the next occasion. I regret, however, to be obliged to state that Mr. Rowe has constantly kept, in both his sheds, a larger number of cows than are allowed; and has been as unmindful of the Magistrate's warning as of your regulations.

The greater number of the licensed cow-sheds in this District are kept as clean as circumstances permit; but their condition, even at the best, makes me regret that cow-sheds should be allowed in the centres of dense populations. The quality of the milk yielded by the cows kept in these sheds is also inferior. Their food consists chiefly of grains to which hay, potatoes, linseed, and pea-meal, are occasionally added. The effect of continued feeding on grains is to make the supply of milk more copious but to deteriorate its quality. When the milk becomes too thin, a portion of linseed, hay, or pea-meal is added to the food; and by these means the quality of the supply is regulated by the cow-keeper; his object being to make as large a profit as he can upon as poor an article as the public will purchase. I have tested the quality of the milk as it came from the udder in several of the sheds, and I found that in almost every instance the milk was slightly acid: for example, -one cow in - Shed, fed partly on grains, and a long time in the Shed; milk drawn slightly acid; another cow, recently taken in, and not long since calved, milk neutral.

Two cows in —— Shed,—both fed on grains, hay, and potatoes; milk slightly acid.

Two cows in —— Shed,—one of which had been in the Shed two months and had been fed on grains and pea-meal; milk slightly acid; the other had been in twelve months, fed the same, the milk more decidedly acid.

Two cows in — Shed, fed alike, milk acid; that of the one longest in the Shed, most markedly so.

Two cows in —— Shed, fed alike, one had been in a considerable time; milk acid; the other in the Shed two months only, milk neutral.

In no case that I examined was the milk alkaline, although it should be.

It would therefore appear that in the case of cows that have just calved and have been recently admitted to the sheds, the milk is nearly in its normal state; whilst in the case of those that have been for several weeks or months in the sheds, and, therefore, fed for a longer time on grains, etc., the character of the milk is spoiled. It is rendered more watery, acid, and deficient in butter and nitrogenized, or flesh-forming, elements. This kind of milk is unfitted for healthy digestion, and is peculiarly unsuitable for the use of infants and young children.

The quantity of milk yielded by the cows in these sheds is so trifling in comparison with the amount consumed in the district supplied, that the public would sustain no inconvenience if the sheds were summarily closed. There does not seem to be any sufficient reason, so far as I am aware, on grounds of public necessity, why intra-urban cow-sheds should be allowed; whilst on every sanitary ground they are clearly a great evil.

Slaughter-houses.—The only complaint against slaughter-houses during the year, has been made against that kept by Mr. Leigh, at 32, Duke Street,

Bloomsbury. The effluvia from this slaughter-house are reported to be offensive to some of the neighbours. This slaughter-house smell cannot be entirely subdued by attention to drainage and cleanliness in consequence of the large number of cattle and sheep killed. The owner, I am informed, slaughters for two or more shops.

Bake-houses.—These have been kept, generally, in a clean and wholesome state; where defects have been found the owners have promptly carried out the suggestions of your Inspectors.

Cellars.—Several families have been removed from underground kitchens and cellars during the year. The decision given by Mr. Vaughan by which the occupier was made liable has greatly facilitated the action of the Inspectors. Both the owner and the occupier have this year been served with notice, and in this way the co-operation of the owner has been secured. It has been thought desirable to prejudice the owner as little as possible in our efforts to enforce the law, and to abolish a great evil. In some instances the assistance of the owner has been of much advantage to us in ejecting a refractory tenant.

Workshops.—These are visited only upon complaint being made; otherwise we do not interfere. "The Workshop Regulation Act, 1867," is excellent in its aim; but its machinery is not well devised. Powers of entry to inspect workshops are given both to the officers of the local authority and to any inspector and sub-inspector of factories; but in the former case the Medical Officer of Health or other person must obtain an order from a Justice, whilst an inspector of factories can enter without such an order, whenever any person is at work in the establishment. This difference as to powers of entry and inspection seems to show that the intention of the framers of the Act was to place its execution chiefly in the hands of the inspectors of factories; the local officers' duties being made supplementary to theirs. Again, the carrying out of the important provisions which relate to the education of children employed in workshops and to the disqualification of teachers rests exclusively with the inspectors of factories.

Sewers.—New sewers have been constructed in Turnstile and Princes Street, Little Queen Street; and each house has been provided with a new 9 inch drain. New sewers have also been made in Marchmont Place, and Chapel Place, Little Coram Street.

Bad Food.—Inspector Webb has seized one parcel of fish during the year, and Inspector Dixon 12 parcels of bad meat, 31 parcels of fruit, and 11 of bad fish, making a total of 55 parcels.

I have the honour to be, Gentlemen,

Your obedient Servant,

GEORGE ROSS, M.D.

June 1st, 1870.

APPENDIX.

TABLE I.—REGISTERED DEATHS IN 52 WEEKS OF 1869. SUB-DISTRICTS OF ST. GILES.

Deaths in Sub-Districts. [Population 1861]						Third Quarter. 13 weeks.			Whole Year, 1868. 53 weeks.			
[ropalation 1001]	M.	F.	М.	F.	M.	F.	M.	F.	М.	F	Both	
St. George, Bloomsbury. [17392]	46	45	36	42	35	47	46	35	163	169	332	
St. Giles. South. [19483.]	99	102	95	86	77	84	75	82	346	354	700	
St. Giles, North, [17201.]	59	44	56	55	52	49	49	56	216	204	420	
Whole Distret. [54076.]	204	191	187	183	164	180	170	173	725	727	1452	

TABLE II. REGISTERED BIRTHS IN 52 WEEKS OF 1869. SUB-DISTRICTS OF ST. GILES

	Qua	rst rter. reeks	Qua	ond rter. eeks.	Qua		Qua		Whole Year 1868. 53 weeks.		
Births in Sub-Districts.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total Children
St. George, Bloomsbury	70	68	56	45	62	65	42	62	230	240	470
St. Giles, South	115	109	99	106	126	106	110	109	450	430	880
St. Giles, North	67	67	69	50	54	60	64	64	254	241	495
Whole District	252	244	224	201	242	231	216	235	934	911	1845

TABLE III.—Causes of Death in the St Giles District in 1869, with the Ages at Death.

(Correction is here made for deaths in Hospitals.)

		At:	all Ag		. 00	5.	10.	d .0.	.2.	d 35.	d.	d 55.	d .55.	d 75.	.da	pi d
Class.	CAUSES OF DEATH.	Males.	Females.	Total.	Under 2 years.	2 and under 5.	5 and under 10.	10 and under 20.	20 and under 25.	25 and under 35.	35 and under 45.	45 and under 55.	55 and under 65.	65 and under 75.	75 and under 85.	85 and
		779 770	748 737	1527 1507	503	131	54	59	46	110	133	147	141	106	73	
I. III. IV. V.	Zymotic Diseases	177 333 76	141 153 332 89 22	297 330 665 165 50	166 51 161 107 19	49 15 63 3 1	18 8 23 4	7 19 32 3	8 22 9 3 6	16 48 37 2 6	7 72 48 2 4	10 54 80 1	7 27 99 6	6 10 82 8 1	3 4 29 37 	
I.	(ORDERS.) 1 Miasmatic Diseases 2 Enthetic ,, 3 Dietic ,, 4 Parasitic ,,	141 5 10	130 7 4 	271 12 14 	149 9 8 	49	18	7	7 1 	15 1 	6 1	6 1 3 	6 1	5 1	3	
il.	1 Diathetic ,, 2 Tubercular ,,	14 163	38 115	52 278	51	 15	1 7	19	22	5 43	11 61	13 41	11 16	8 2	3 1	
III.	tem	64	59	123	20	-8	5	4	6	11	17	18	18	7		
	of Organs of Circulation	37	51	88	3	2	11	3	11	13	15	18	6	6		
	3 ,, of Respiratory Organs	201	181	382	123	50	11	12	4	15	18	35	54	49	11	
	4 ,, of Digestive Or-	12	23	35	2	1	1	2	1	1	4	9	5	4	3	3
	5 ,, of Urinary Or-	. 13	8	21	1	3	3	1		3	2	1	3	3	1	
	6 ., of Organs of Generation		1	1	1								1			
	7 ,, of Organs of Lo- comotion	6	2	8	1	1	1	1	1	1		-1	1			
	8 ,, of Integumen- tary System		7	7	2	***		1				2		1	1	
IV.	2 ,, of Adults,.		20 6	45 6	45				3	1	2					
	4 Diseases of Nutrition		28 35	46 68	62	3				1		1		7	37	
V	1 Accident or Negligence		18	40	16	1	4	2	4	3	4		5	1	***	
	3 Homicide 4 Suicide	. 4	3	7	1			1	2	2			1			
	5 Execution			2	2											
	Sudden Deaths, cause unas- certained															
	Causes not specified or ill- defined		11	20												

		At a	ll Ag			1	0.	0.	5.	1d	5.	d.	d.	d.	d.	d
Class.	CAUSES OF DEATH.	Males.	Females.	Total.	Under 2 years.	2 and under 5.	5 and nnder 10	10 and under 20	20 and under 25	25 and under 35.	and and under 45.	45 and	55 and under 65.	65 and under 75	75 and under 85.	85 and
I.	ORDER 1.						,									
	1 Small Pox	1 13	6	19	10	***	1	***								***
	2 Measles 3 Scarlatina	27	21	48	16 15	23	7	3								
	3 Scarlatina	1	4	5	3		2				***	***				
	5 Quinsy									***			***	***		
	6 Croup						***		***	***	***	***	***	***		***
	7 Whooping Cough 8 Continued Fevers, Ty-	40	43	83	59	20	4						***	***		***
	phus, &c	20	17	37	1	1	4	3	3	10	2	3	4	4	2	***
	9 Erysipelas	4	3	7	3		***	1	***	1	2		***		***	•••
	10 Metria	***		***				***	***		***	***		***	***	
	11 Carbuncle		***	***		***	***	***	***	***	***	•••	***		***	***
	12 Influenza	1	***	***	1 "	***		***	***	***	***		***	***	***	***
	13 Dysentery	28	36	64	54	3	1		1		I		2	1	1	
	14 Diarrhœa 15 Cholera											***				
	16 Ague						***	***				***		***		
	17 Remittent Fever	1	***	1					1							
	18 Rheumatism	15		5			***	***	1	2	1	1	7**		***	***
	19 Other Miasmatic Dis ORDER 2.		.1	1				***	1					44.5	***	***
	1 Syphilis	4	7	11	9			***	1	***	1	****	***		***	
	2 Stricture of Urethra	1	***	1		***	***			***	***	1	***		***	+++
	4 Glanders Order 3.	***	•••			***	***	***			***			***	***	
	1 Privation						***		***	***		***	***	***	***	
	2 Want of Breast Milk	4	4	8	8	***	• • • •			***	***	***	***	***		**
	3 Purpura						***		***			***			***	***
	a Delirium Tremens	3	***	3				***		1	***	2	***	***	***	**
	b Intemperance Order 4.	3		3			***		***		***	1	1	1	***	***
	1 Thrusa			***						***			***			***
II.	2 Worms Order 1.	***	***			***	***	***								
11.	1 Gout	1	***	1					***		***	***	1	***	***	
	2 Dropsy	2	5	7		***			***	1	I	3	7.0		2	***
	3 Cancer	11	33	44			1		***	4	10	10	10	8	1	***
	4 Noma	***	***	***			***		***	***	***	***		***	***	**
	5 Mortification Order 2.		***	***												
	1 Scrofula	***	1	1					***		1	***			***	
	2 Tabes Mesenterica	9	8	17	13	1	1	1	***	1		***	7.0	***		
	3 Phthisis	136	82	218	6	5	5	18	22	42	60	41	16	2	1	
	4 Hydrocephalus	18	24	42	32	9	1			***	***	***	***	***	***	**
III.																
	1 Cephalitis	7	5	12		3	3	1	·	3	1	4	7	***	***	
	2 Apoplexy	14	5	19		***	***	1	***	1	4	6	9	11	6	
	3 Paralysis		18	35		***	***	***	***	***	3					
	4 Insanity		***			***	***	***		***						
	5 Chorea		5	8		***		1		1	2	3		1		
	6 Epilepsy	-	18	34	29	3	1		***			1				
	8 Other Brain Diseases	1000	8	15		2	1	1		1	1	2	2	4	1	
	ORDER 2.	0		0				1			1		1			
	1 Pericarditis			3 4		***				2			2			
	2 Aneurism		51	81	3		2	10	3	9	12	15	15	6	6	
	ORDER 3.			133	1			1								
	1 Laryngitis	6	4	10	3	7			***		70		10	40	9	1
	2 Bronchitis		135	281	96	33	6	3		8	10	28	48	40		
	3 Pleurisy		1	2	99	10	5	8	4	6	5	4	3	5	2	1
	4 Paeumonia		34	74	22	10	1		1			2	2	2	1	1.
	5 Asthma		3	270	2	***				1	2	1	1	2		1.

		Ata	all A	ges.		2.	0.	0.	- 10°	5.	. O. D.	7.0	d.	D	d.	P
Class.	CAUSES OF DEATH.	Males.	Females.	Total.	Under 2 years	2 and under 5.	5 and under 10.	10 and under 20.	20 and under 25.	25 and	35 and	45 and under 55.	55 and under 65.	65 and under 75.	75 and under 85.	85 and
	ORDER 4.															
	1 Gastritis							***		***	2	1		1	***	1
	2 Enteritis	4	3	7	2	***	1			1		333	1		***	1
	3 Peritonitis	1	2 5	6	***	1	***	1	***		1	1	2	1		
	4 Ascites	7	1	2	***	***			***	***		î				
	5 Ulcer. Intest,	-	9	0	***	***		***					1			
	6 Hernia											***	***			
	7 Ileus 8 Intussusception				****								***			
	9 Strict. Intest	1		1							1		***	-	***	
	10 Fistula				***									***	***	
	11 Stomach Disease, &c		2	2		***			1		***	***		1		
	12 Pancreas Disease				***						***			***		
	13 Hepatitis	1	***	1		***	***			***		1	***	***		,
	14 Jaundice	2	2	4				1		***		1	***	***	2	
	15 Liver Dis. &c	1	6	7		***		***	***			4	1	1	1	
	16 Spleen Disease, &c												***	***	***	
	ORDER 5.	2	1	0		1	1			de	1	144		1		
	1 Nephritis		1	3	1	1	***	***	***	***		***				
	2 Ischuria	7	3	10		2	3	***		1	1		1	2		
	3 Nephria	1		1					***	1			***			
	4 Diabetes 5 Stone								***	î			***		***	
	5 Stone	1		1											1	
	7 Kidney Disease, &c	2	3	5				1		1	***	1	2		***	
	ORDER 6.															
	1 Ovarian Dropsy													***	***	
	2 Uterine Disease, &c		1	1	***								1	***	***	0
	ORDER 7.						6 -	-					4			
	1 Arthritis		1	1							***		1	***	***	
	2 Bone Disease, &c	6	1	7	1	1	1	1	1	1	***	1	***	***		
	ORDER 8.			2					- 4			9				
	1 Phlegmon	***	5	5	2	***	***	1	***	***	***	-			1	
	2 Ulcer		1	1		**		***		***	***			1		
	3. Skin Disease, &c	***	-	1			***	***	***		***					m
IV.	ORDER I. 1 Premature Birth	16	7	23	23											
	1 Premature Birth 2 Cyanosis		1	3	3						***			***	***	
	3 Spina Bifida	100	2	4	4	***							***	***		
	4 Other Malformations	1	3	4	4									***		
	5 Teething	4	7	11	11	***						***	***	***	***	
	ORDER 2															
	1 Paramenia					***	***		***	***		***	***			1
	2 Childbirth (see Metria)	***	6	6		***			3	1	2	***	***	***	***	
	Order 3.		00		1					1				7	37	
	1 Old Age	18	28	46		***	***	***		***	***	***			٠.	
	ORDER 4.	00	35	00	62	3				1		1		1		١.
	1 Atrophy and Debility	33	00	68	02	0	****	***	***	-	***					П
**	ORDER 1.															
٧.	(Accident or Negligence.)	8	5	13	1		- 2	1	3		4		2		***	
	1 Fractures, &c			1					***				1	***		
	4 Burns, &c	5.	2	6			2	1	1	1	***		. 1	***		
	5 Poison	1	1	2					***	2	***				***	
	6 Drowning		2	2	2										***	
	7 Suffocation	6	4	10	10					***			***		***	
	8 Otherwise		4	6	3	1		***					1	1		
	ORDER 3.			1						7		-				1
	Homicide		1	1		***	***			1	***	***	***		***	
	ORDER 4. (Suicide)			1				1 3			1					
	1 Wounds-Gunshot					***				***	***	***	***	***		
	2 ,, Cut, Stab	***					***	***	***	1	***			***		
	3 Poison	2	1	3	1 ";	***			2		***	***		***		
		1 2	1	0	1	***	***	***	2	***	***	***	1	-	3000	4
	4 Drowning	1	0	0				7		1.5	10000	No. of Lot		400	400	1
	5 Hanging	. 1	2	3 2	2	***		1		1						





