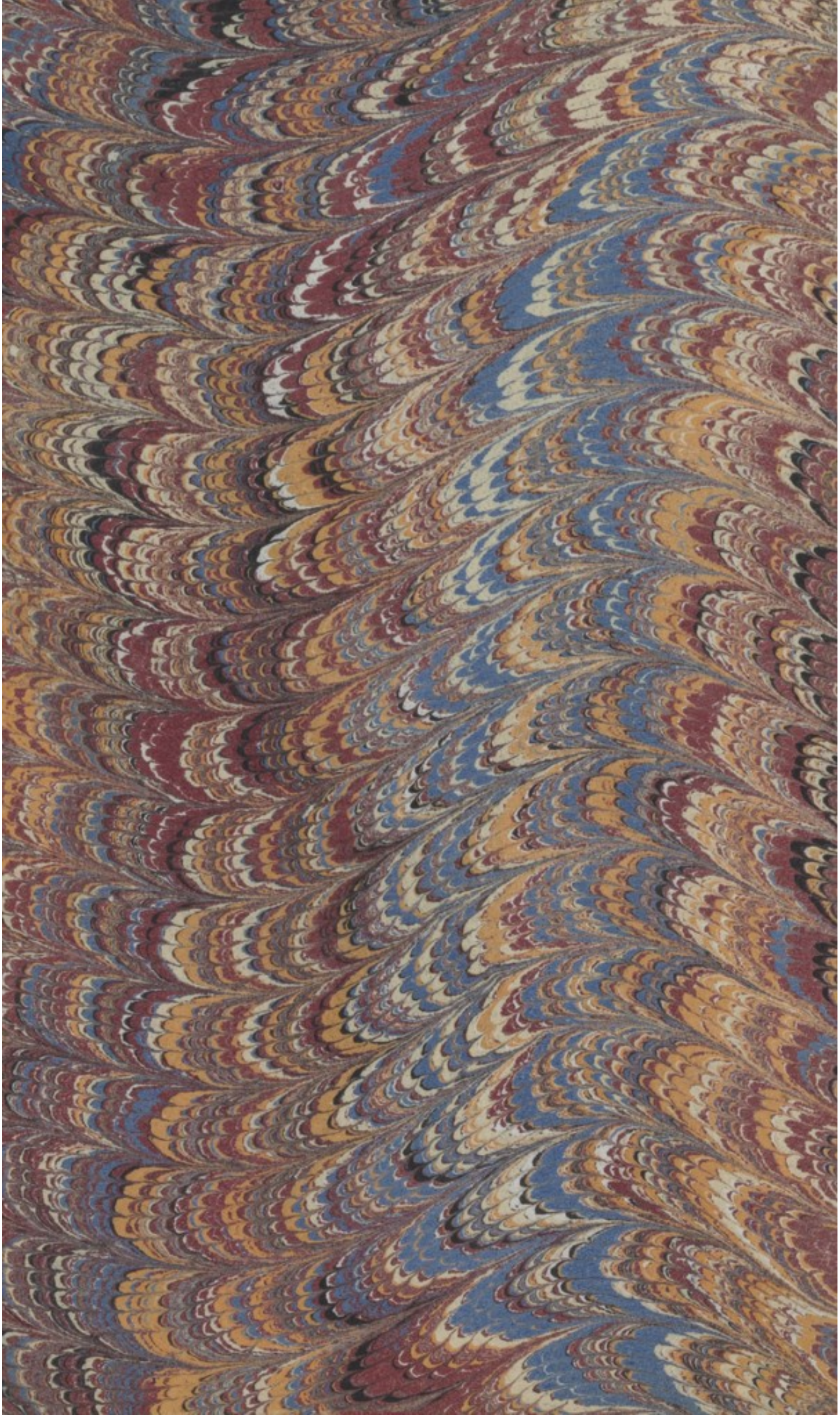
[Report of the Medical Officer of Health for St. Giles District].



Geo. Buchanan.

SANITARY STATISTICS

AND WORK IN

ST. GILES'

TEN YEARS
1857-1866.

DR. BUCHANAN.

ST. GILES

IN

1857:

BEING A REPORT TO

THE DISTRICT BOARD OF WORKS,

BY

GEORGE BUCHANAN, M.D., LONDIN,

Medical Officer of Health.

SOLD AT THE OFFICE OF

THE BOARD OF WORKS, 199, HOLBORN.

PRICE TWOPENCE.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

GENTLEMEN,

SINCE the existence of your Board, and since sanitary matters have begun to occupy your attention, no sufficient report has been made to you on the physical and social peculiarities of your district. A knowledge of these is quite essential to the right understanding of the sanitary state of the population, and of the causes which produce those notable deviations from the standard of health which are found to characterize St. Giles. I propose to devote the first part of this report to a consideration of these peculiarities of the district. The second portion will be devoted to an investigation of the sanitary condition of the district during the year 1857 ; and to an examination of the causes of the excessive mortality which will appear. It will also exhibit the operations of the Health Officer, and Sanitary Inspector, during the year, and an account of the improvements effected under their supervision.

General Report on St. Giles' District.

CHAPTER I.—*Physical Peculiarities of St. Giles' District as compared with the Metropolis, and with adjacent Districts.*

SECTION 1.—*Area and Elevation.*—This district of St. Giles, comprising the two parishes of St. Giles in the Fields, and St. George, Bloomsbury, has an area of 245 acres, and constitutes one 318th part of the area of London, within the bills of mortality. It is one of the eight registration divisions comprised by the Registrar General in the term "central districts," and of this group of districts it forms about an eighth part.

Its elevation is very favourable. Situated on an incline almost uniform from north to south, and from west to east, its average elevation is 68 feet above Trinity high water mark : its highest elevation being 82 feet in Alfred Mews, (Tottenham Court Road), and its lowest 53 feet, on the boundaries of St. Giles, south of Lincoln's Inn Fields. Thus the district participates by nature, at this elevation, rather in the healthful breezes of Highgate and St. Pancras, than in the malarious airs of the southern districts, and has facilities for drainage not to be surpassed in London.

There is every possible variety, however, in the extent to which the natural advantages of the district have been used in the ventilation of streets. While no locality possesses finer open spaces than Lincoln's Inn Fields, and Russell Square, with the multitude of smaller squares which the wisdom of the last century provided for the

richer inhabitants, so, few localities have such a multitude of small narrow streets and blind alleys, inhabited by the poor. Exclusive of mews, there may be counted on the map upwards of seventy streets, courts, and alleys, in which there is no thoroughfare, or which are approached by passages under houses. On entering many of these places, one instantly feels the change from the open atmosphere of the wider streets, and there is no question, that in all of them the want of sunlight, and of free currents of air, is harmful to their residents. These courts are by far the worst and most numerous in the parish of St. Giles.

Section 2.—*Geological Features: Soil, Water, Sewerage.*—The *soil* of St. Giles district is almost everywhere gravel, with, of course, a superstratum of various depths, of that artificial "made earth" which covers the long inhabited parts of every large town. Below the gravel, is the great bed of the London clay, which gives to the district its general incline. The gravel begins to be found above the clay, not very far beyond the northern limits of the district, about Euston Square; at the north-west border of the district, the gravel is about 20 feet deep, there is less of it as it is traced eastward, and it disappears altogether about Brunswick Square. It increases in thickness as it is traced to the south.

This stratum of gravel has a very important relation to the sanitary condition of the district, and in two chief ways. In the first place, the natural drainage afforded by it is of extreme advantage, especially where artificial sewerage is absent or imperfect. The products of animal and vegetable decomposition are washed by the rains, and elsewise, into this soil; they there become converted into inorganic compounds, and are in other ways rendered harmless. In this state, the diluted sewage filters through the porous gravel towards the river, and some of it is intercepted and carried off by the large sewers in which the district abounds. So far, the porous soil is of great use.

The other aspect under which it is necessary to view the surface gravel, regards the *water-supply* derived from it.

Rain falling on a porous soil, and accumulating therein, by reason of the impermeability of the subsoil, will furnish a supply of water when a well is dug: that water will have obtained from the soil various soluble substances, which, if the soil be natural and pure, will not affect the wholesomeness of the fluid.

But it would appear unnecessary to insist on a point so plain, that—if the soil through which the rain first passes be not virgin and pure, but be composed of the refuse of centuries, if it be riddled with cesspools and the remains of cesspools, with leaky gas-pipes and porous sewers, if it has been the depository of the dead for generation after generation—that then the soil so perverted cannot yield water of any degree of purity. The more reason we have to be grateful to the soil for the natural drainage it affords, the more carefully should we eschew the fluid that it contains. The water which rises in the parish wells of St. Giles' district, is really nothing more nor less than that highly-diluted sewage, which it is the great use of the porous soil to carry away to the river.

It is beyond question true, that, as a rule, the products of animal and vegetable decomposition in this sewage are rendered innocuous by the agencies to which they are exposed in their passage, and exhibit themselves, for the most part, in the form of

living plants and animalculæ, and of nitric acid and other inorganic compounds, all of which are presumably harmless; but it is also true, and this must never be forgotten, that these processes of depuration have their limits, and that by a combination of circumstances, over which there is no control, the water of the surface wells may become impregnated with unchanged and poisonous sewage. It will be evident that such impregnation will be most likely to occur where the water contains an abundance of nitric acid, of organic matters, or of living organisms. These, though they may not of themselves be injurious, indicate that a water in which they abound may readily become deleterious.

The case is very widely different with the water obtained by boring through the London clay. Beneath this are water-bearing strata, whose gathering ground is the pure soil of Hertfordshire and Buckinghamshire. Filtered through twenty, thirty, or forty miles of sand or chalk, this water gravitates beneath the thick bed of clay on which London is situated. When a well and boring are made through this, the water, seeking its own level, rises to the surface in a condition of most beautiful purity; clear, sparkling, cool, without a trace of animal or vegetable life, it contrasts in the strongest manner with the water of the surface wells before discussed—wells, whose chief praise it is, that they swarm with living organisms and foreign salts, to a degree sufficient to consume the offensive and noxious sewage matters of their water.

The following table of analyses of the waters of the district, exhibits the water of the artesian well, in Russell Square, which is sunk into the chalk ; the water of several wells sunk into the surface gravel; and the water of the New River Company, under various circumstances. *(See next page.)*

The practical lessons taught by the foregoing considerations, and by the analyses of these waters are : 1st—That other wells, such as that sunk in Russell Square, are extremely desirable, their water being beyond comparison the best, not only for drinking purposes, but for every domestic use.

Few things would conduce so much to the health and social improvement of the district, as some public fountains, flowing with this pure fluid. This cost would be considerable, but not more than most large brewers find it expedient to incur, and the welfare of all the inhabitants of a district must be held to be a consideration far superior to the interests of a single firm.

2ndly.—We may learn that the water of the public surface wells is not fit for internal use; it is manifestly wrong to employ water which, even if ordinarily wholesome, may be at any time made poisonous by accidents which can indeed be anticipated, but hardly prevented ; such as the extra leakage from, or the disturbance of the contents of a cesspool, the loosening of a brick in an adjoining drain, defects in gas-pipes, even peculiarities in the seasons. At the best, the water contains salts and organic matters, alive and dead, in such quantity as to make it a very questionable beverage; it is allowed by everybody not to be good enough for horses. Of course, there has been a wide-spread belief in the excellence of these waters for drinking, just as the smell of a cesspool was thought to be healthy forty years ago; but no one of intelligence can allow himself to be deceived by their clearness, or even by the pleasant briskness they often present to the palate, in the face of the evidence, chemical, microscopical, and geological, which has accumulated in reference to them.

NEW RIVER WATER.

Water.	Date of taking.	Hardness.			Solid Impurities.—Grains per Gallon.			Chemical.	Microscopical. (Mr. Jabez Hogg and myself.)	Remarks.
		Temporary.	Permanent.	Total.	Inorganic.	Organic.	Total.			
Government Commission, of 1851.	January, 1851.	—	—	14·6	19·92	2.75	22·67	—	—	—
Government Commission, of 1856. (Average.)	April, 1856.	5·6	7·8	13·4	20·81	·97	21·78	—	December, 1854. Small sediment. Diatomaceæ-synedra & navicula. Infusoria, one river annelid, &c. Sporules and decaying vegetable tissue.	New River Water, not filtered at the period of *microscopical* examination.
1857. New River Water, as it enters cisterns in St. Giles.	Nov. 12, 1857.	10·6	5·2	15.8	18·64	·76	19·40	Some nitric acid. No metallic impurity.	Not a large deposit, but in the dirt & vegetable fibre, confervæ protococcus pluviatis, monads paramœcia and anguillula fluviatilis.	New River Water, now filtered.
1857. The same, from cistern of 44, Parker Street, not cleaned for four years. (2 analyses)	Nov. 6, 1857.	10·75	4·45	15·2	18·18	2·52	21·70	Some nitric acid. No metallic impurity.	Very large quantity of grit and dirt, infusorial animalcules, Diatomaceæ, navicula, vorticella-monads very numerous, pulices, vegetable fibres in large quantity, fungus sporules.	Water opalescent to naked eye.
1857. The same, from pump in Ashlin's Place, (under-ground tank)	Nov. 16, 1857.	8·1	7·0	15.1	18·36	3·60	21·96	Much nitric acid. Decided traces of iron.	Very large quantity of dirt, of the Desmidaceæ, closterium; Diatomaceæ, volvox monads and vibrions, debris of dead infusoria, pieces of vegetable fibre, and husk of barley, siliceoous vegetable hairs.	Water obviously impure, coats a glass on standing.
1858. Same as last: after Tank cleaned.	Feb. 27.	7·4	7·0	14·4	18·10	1·60	19·70	Distinct traces of nitric acid. No iron.	Recent vegetable fibres, a few sporules, and a small quantity of silex.	Bright, with very little deposit.
Cistern of 75, Gower Street, taken on same day.	Feb. 27.	7·7	7·0	14·7	—	—	—	—	—	Bright, and no deposit.

Water.	Date of taking.	Height of site of Well, above ordnance datum.	Depth of Well.	Depth of Water in Well, August, 1857.	Hardness.			Solid Impurities.—Grains per Gallon.			Chemical.	Microscopical,	Presumed stratum reached by the well, and remarks.
					Temporary	Permanent	Total.	Inorganic.	Organic.	Total.			
Russell Square Artesian Well, N.W. side. (2 analyses.)	Nov. 2, 1857.	83·2 feet	—	—	3·0	4·0	7·0	31·14	1·06	32·20	No nitric acid or metallic salt.	Perfectly limpid, with a small amount of silex, and a few accidental fibres of cotton. No animal life, though water stood in warm room 24 hours.	Chalk. Water very bright.
Bloomsbury Market. (2 analyses.)	Nov. 18, 1857	84·0 feet	30 feet	18·9	14·5	11·7	26·2	40·88	2·72	43.60	Some amount of nitric acid, and distinct traces of iron.	Teeming with animal life. Paramæcia, oxytricha, acineta, vorticella and monads with amæbæ, confervæ and sporules, and filaments of fungi, decaying vegetable matters, dirt, and silex.	London clay. Water furnished from the surface gravel. Water clear.
At 75, Gower Street	Nov. 1, 1857	90·5 feet	shallow	?	28·4	23·5	51·9	—	—	93·76	Large amount of nitrates, iron in some quantity.	—	Surface gravel. Water very bright.
† Broad Street, corner of Endell Street. (2 analyses.)	Nov. 11, 1857	79·2 feet	28 feet	1-ft. 1-in.	20·6	26·2	46·8	89·68	4·60	94·28	Enormous amount of nitric acid, shown even in unconcentrated water. Iron in some quantity.	Paramæcia & amphileptus, vorticella, particles of decayed vegetable fibre, with penecillium adherent, sporules of protococcus pluvialis, much grit & dirt	Surface gravel. Water slightly opalescent.
*Pump in Denmark Street, near St. Giles Church: first sample drawn.	Feb. 25. 1858	85 feet.	27 feet.	5·2 feet.	27·9	31·0	58·9	124·60	8.36	132·96	Chlorides and nitrates abundant. Iron in some quantity.	Large quantity of impurities, decayed vegetable matters, sporules of fungi, filamentous confervæ, monads, and silex.	Lowest stratum presumed to be in gravel. A good deal of mechanical impurity.
Same Pump: sample taken after working Pump for some time.	Feb. 25. 1858	,,	,,	,,	30·5	33·25	63·75	141·28	9.72	151·00	Carbonate and sulphate of lime are the chief earthy salts.	More impurities. Decayed vegetable fibre, confervæ, sporules of fungi in large proportion, monads and silex.	Dirtier and yellower than preceding.

*Pump is locked up, and a Street Orderly has the key. Water, for watering streets, had been taken a few hours before the samples examined were drawn.
Wells in Bedford Square, Charlotte Street, Russell Square (East side), Great Wild Street, and Denmark Street, afforded no water in November, 1857.
† On opening Broad Street Well, in February, 1858, there were found 15 feet of water, which was of a high temperature (about 70o Fahr.) It was very dirty on the surface, and swarming with animalculœ, visible at a glance.

With regard to the water supplied to the houses in the district, it is exclusively derived from the New River Company. It is less pure than the water supplied by some companies, but is better than that of others, and is a very fair drinking water. Though rather flat to the taste, it is infinitely preferable to the water of the surface wells, either for drinking or economical purposes, but is not to be compared to the chalk water. The analyses show the extreme importance of having all receptacles periodically cleansed. I have seen large tanks in the district where actual mud has settled to the depth of some inches. The simple remedy for this, is to empty the reservoir once a month, and leave the tap turned, so that the incoming water may wash out the sediment at the bottom. It is also very important that tanks for the supply of drinking water, should, as a rule, be above ground, and be covered to keep out dirt; if underground, they are exposed in various ways to contamination by drainage, and they should then always be of impermeable materials.

The *sewerage* of St. Giles is good, much I believe above the average of the town. There are still some streets, and especially some mews, in which there is no public sewer, but there is happily not that reluctance to construct new sewers in St. Giles, which is operating against private sanitary improvements in other districts.

It is impossible to say what proportion of houses are drained directly into the public sewers; every week the sanitary inspector discovers cesspools in the houses he visits, and upwards of 120 have been abolished since January, 1856, by the instructions of the Board of Works. This represents, however, but a part of the whole number that exist; and I have some grounds for believing that many houses of the better class, into which the sanitary officers rarely enter, are as badly off in this respect as those of poorer neighbourhoods.

Chapter II.—*Social Peculiarities of St. Giles, compared with London, and with Neighbouring Districts.*

Section 1.—*Density of Population.*—At the census of 1851, St. Giles contained 54,214 inhabitants: the population of London was 2,362,236, being 43 and a half times that of St. Giles. Thus, while you have to deal with only one-300th part of the area, you have seven-300ths of the population of the town. The inhabitants of St. Giles form about one-seventh part of those living in the eight central districts of the Registrar General.

From these facts only, it is evident that the district is thickly inhabited beyond the average of London. In 1851, there were found 11·6 inhabitants per house in St. Giles, and there were 221 persons to the acre.

The corresponding numbers for the central districts are, 9·5 and 203, and for the town generally, 4·1 and 30. Some, however, of these central districts, as the Strand and Holborn, have a larger number of houses to the acre than St. Giles. This is due to the numerous open spaces of St. Giles, and not to the population being really more sparse, for the number of persons per house is actually greater in St. Giles than in the districts mentioned. As I shall have occasion to institute many comparisons between St. Giles and the surrounding districts, I have thrown the chief facts which I have been able to ascertain, concerning the social peculiarities of each, into a tabular form.

District.	Area in Acres.	House to Acre, 1851.	Persons to House, 1851.	Elevation above High Water mark.	Soil.	Population.		Per centage of residents born in Ireland, 1851.	Value of property assessed to county rate, divided by the population, 1857.	Average annual value of house, 1843.	Pence per £ expended for relief of the poor, 1849.	Medical Institutions of the district in which deaths occur.
						1851.	Corrected for 1857.					
									£ s.	£	d.	Workhouse.
St. Pancras	2,716	7·2	8·9	73 ft.	Almost all Clay.	166,956	195,500	6·3	3 12	41	10 (13½d. 1857.)	Strand Workhouse, University College Hosp., Royal Free Hospital.
St. Marylebone...	1,509	10·9	10·0	87 ft.	Gravel and Clay about equal.	157,696	171,200	9·5	5 15	71	10	Workhouse. Middlesex Hosp. Lying-in Hosp.
Metropolis	78,029	4·1	7·6	39 ft.	—	2,362,236	2,668,000	8·5	?	40	13	—
Holborn	196	23·0	10·8	53 ft.	Gravel and Clay, about equal.	46,621	48,000	16·9	3 16	52	8	Workhouse. Children's Hosp.
Strand	174	23·6	11·2	50 ft.	Gravel.	44,460	45,000	9·5	5 15	66	11	King's College Hospital.
St. Martin's	305	8·0	10·7	38 ft.	Gravel.	24,640	24,700	8·7	10 2	119	9	Workhouse. Charing Cross Hospital.
St. Giles	245	20·0	11·6	68 ft.	Gravel.	54,214	54,300	20.0	4 16	60	13	Workhouse. Lying-in Hosp.

Section 2.—*Wealth of Population—Irish.*—The inhabitants of the district of St. Giles occupy all positions on the social scale. It is difficult to find a test by which to compare their resources with the residents in other districts. The amount in the pound raised to the relief of the poor, and the average annual house value, considered together, will be a useful rough standard, and is used in the table.

The amount assessed on each district to the county-rate, divided by the population, gives also a useful idea of the relative richness or poverty of a district. Thus examined, St. Giles is poorer than some, but richer than other of its neighbours.

It is not so much, however, averages and means of property value, that determine the poverty of a district, for the purposes of a Health Officer It is more important for him to be aware of the actual amount of the very lowest and poorest that it contains, for these are the persons among whom disease is chiefly engendered and perpetuated.

Without disparagement to our sister island, which seems to produce alike the noblest and the lowest in the social scale, it must be confessed that the relative numbers of Irish in our London districts, will furnish no bad guage of the extremity of poverty.

Now, at the census of 1851, the Irish in the Metropolis, in St. Giles, and in the districts immediately adjacent, were as follows ;—the persons born in Ireland constituted 8½ per cent. of the whole population of London ; in St. Giles they were 20 per cent.; in Holborn, 17; in the Strand and Marylebone, each, 9½; in St. Martin's, 8.7; in St. Pancras, 6·3 per cent., of the whole number of residents.

It is further to be noticed incidentally, that in St. Giles and Holborn, the population born in Ireland, who had not reached the age of 20 on the census night, amounted to one-third of the whole number, while in the other districts, and in the town generally, the Irish under 20 were only one-quarter, or one-fifth of the whole. From this it would appear that immigration from Ireland is on the increase in St. Giles, compared with other districts.

If to the residents who were born in Ireland, we add those of the first generation born in England, of Irish parents, it is evident that the excess of this class is really considerable in St. Giles, Holborn being the only neighbouring district to be compared with it. As far, therefore, as it is fair to regard the numbers of Irish as a test of poverty, St. Giles is shown to contain more of the extremely poor than any of the surrounding districts.

Section 3.—*Age of Population.*—It is a matter of some consequence, as bearing on the facts which are hereafter to appear, concerning the rate of infantile mortality, to ascertain whether or not St. Giles contains more or fewer children than the town generally, because a high proportionate mortality among infants would, of course, be accounted for if the number of children were larger in one district than in another. It appears, however, that in St. Giles, in 1851, only 107 of every 1,000 of the population were under 5 years of age, while in the town generally there were 124 per 1,000. Hence our mortality among infants to hold the same proportion to the total mortality which obtains in the metropolis, ought to be numerically *smaller*, in the ratio of nearly six to five.

SECTION 4.—*Rate of Increase of Population.—Births, Immigration and Emigration.*—Another inquiry, whose results are of importance, though somewhat difficult of accurate application, concerns the rate of increase of the population, the births, and the immigration and emigration of residents.

At the beginning of the century the population of St. Giles increased from 36,500 to 48,500 in ten years, more rapidly than St. Pancras is now increasing. In the twenty years, however, preceding 1841, the increase had been very slow, only 2,500, and between 1841 and 1851 there was an actual decrease of 78 persons. This was doubtless in consequence of the decrease in the number of inhabited houses, of which there were 259 more in 1841 than 1851.

Those to whom the Metropolis is indebted for the gigantic improvements which were made in these ten years, will anticipate that proportionate gain has accrued to the health of St. Giles, in consequence of the alterations. There is one drawback, however, to be noted. The number of inhabited houses in 1851 fell short of the number in 1841, by 259; this decrease in house accommodation should have represented a decrease in population of 2,836 persons; the actual decrease, however, was only 78; it follows, therefore, that 2,758 persons were added to the already crowded houses, and hence it has resulted that St. Giles contained, in 1851, more inhabitants to each house than any of the districts round about it.

The population of St. Giles enumerated at this last census, does not, therefore, appear capable of further increase, and it may be assumed that the district contained, in 1857, approximately the 54,214 inhabitants of 1851. In order, however, that the comparison of St. Giles with other districts, may not err on the side unfavorable to St. Giles, I have assumed its present population at 54,300 persons.

I have examined the births of the district, for two years of which I possess records. In both these years the birth-rate appears to be very closely the same as in the Metropolis at large, about 34 births annually to every 1,000 inhabitants; in 1851, indeed, St. Giles appeared to have a little the advantage of the rest of the town in this respect. It is to be remembered, however, that in the Lying-in Hospital, in Endell Street, upwards of 100 births occur annually, and that many of the women there delivered belong to other districts; making a correction for these, the birth-rate of St. Giles falls to 32 or 33 per 1,000 residents, which is below the average of the town.

I may here observe, in passing, that St. Giles ought to present a birth-rate decidedly higher than the average of London, if its marriages showed equal fertility, as the number of persons married in St. Giles is in excess of the town. It is not clear whether there may not be an undue number of premature children, who are never registered as births, or whether the movement of the population can have any effect in keeping down the birth-rate; but the fact, as it stands, deserves to be put on record, as it does not coincide with a statement which has obtained a wide belief—that a considerable mortality among the infants of a family is compensated for by the production of new children with greater rapidity.

The birth-rate of St. Giles, then, being 34 for every 1,000, and the registered death-rate being 26 or 27 per 1,000, it is plain that there is a natural annual increase of nearly 400 persons to the whole number of residents; but the district being incapable

of expansion, either by packing closer than in 1851, or by the addition of new houses, it follows that a portion of the population of St. Giles must emigrate every year, or, in other words, that whatever be the amount of immigration into the district, emigration must exceed that amount by 400 every year.

A notable proportion of this emigration is into the Hospitals of other districts; some St. Giles residents dying there (no less than 90 in 1857), and others, when cured, not returning to their former abodes.

Section 5.—*Trades, &c.*—I have very little to state with regard to the occupations of persons in the St. Giles district. These, probably, differ little in kind from the rest of the town. Private persons on the one hand, and labouring men on the other, would probably be found in numerical excess. As far as I know, there are no manufactures or works which can seriously affect the public health; the only establishments to which I have devoted special observation, have been slaughter and cow-houses.

The slaughter-houses of St. Giles are 15 in number, scattered through all parts of the district in connexion with butchers' shops; other central districts have more of these places, thus Holborn licenses 26, and the Strand 47. I have nothing to retract from the strong opinion I have formerly expressed against the present mode of licensing slaughter-houses; I still consider a system to be radically vicious that permits of no examination of the health of the animals killed, or of the quality of the meat, and which must always be inadequate to prevent the occurrence of nuisances.

The existing slaughter-houses in St. Giles, however, continue to afford as little ground for objection as can be expected; but the very injurious practice of allowing the blood to go down the drains, has been found to be common, almost one-half of the butchers having been detected in this offence at one or another time.

With regard to the cow-houses, I admit that there is no abstract reason why cows should not be kept in a town without injury to their own health, or that of the neighbourhood. Practically, however, serious objections exist. At the best, the cows live from one year's end to another with very insufficient exercise, and under artificial conditions of atmosphere and food, by which their secretion is stimulated, and they cannot therefore afford so wholesome a fluid as country milk. Still, if this were all, the case would not be strong against them, but as it is, cows, in a London cow-shed, are often subjected to every conceivable evil influence that could ever enter into the practice of ignorant men, and they then become serious nuisances to a central district. Never breathing the open atmosphere, "for fear they should catch cold," but confined under densely-populated rooms, or even under-ground, without light, air, or drainage, fed on sour and decaying food, drinking water impregnated with their own excretions, the poor animals are a source of disease to the neighbourhood, they themselves lose their health, and cannot by possibility furnish a healthy milk.

But as we cannot, if we wished, by any summary proceeding, remove cows from the town districts, it has been a matter of much anxiety to make their dwellings as healthful as possible, and the measures taken with that view will be considered hereafter.

Section 6.—*Workhouse and Pauper Medical Practice.*—In a population which consists so extensively of the lowest classes, the workhouse is an establishment of the first interest to the Medical Officer of Health.

The number of inmates in a workhouse, compared with the number of inhabitants of a district, and without certain other considerations, is not a safe guide to the relative amount of pauperism; still, as I shall have occasion to make many comparisons between St. Giles and its neighbours, it will not be amiss to introduce a small table of the numbers of inmates in the various workhouses; the figures of this may be suggestive to those who are more skilled than myself in the economy of pauperism.

District.	Inmates of Workhouses, 1851.	Per 10,000 of the Population.
Metropolis	22,999	127
St. Pancras	1,248	75
St. Marylebone.....	1,620	105
Strand	482	109
St. Giles	768	142
Holborn	707	151
St. Martin's	627	255

The average number of inmates in St. Giles Workhouse has been 720, 741, 697, 734, and 689, in the last five years respectively; the mean of these numbers, 716, is a good deal below the census made of the inmates in 1851.

Besides infants at the breast, of whom there are generally some thirty or forty, there are very few children in the Workhouse; the pauper children are received into the Establishment at Heston, near Hounslow; their number has lately been about 100, nine or ten new children on the average being admitted here every quarter and a corresponding number discharged. Last year, 1857, there were six deaths among them.

St. Giles district distributes less out-door parochial relief in proportion to the amount of in-door relief, than any of the districts above enumerated. This appears from the sum expended on the in and out-door pauper of each district, but beyond this I am not in possession of any means of making a useful comparison. In the joint parishes of St. Giles and St. George the number of persons in receipt of out-door relief in money has averaged 216, 220, 192, 185, 194 in the last five years; thus the mean number of these out-door paupers has been 201, or between a quarter and a third of the in-door paupers.

Medical relief, with which I am more especially concerned, is freely distributed both within the workhouse and among the out-door poor, but in this respect again I am unable to institute a numerical comparison between St. Giles and its neighbours. The mode of administering parochial medical relief differing from that of other districts requires a brief notice.

The Workhouse Infirmary receives yearly upwards of a thousand cases of disease, a small proportion of which come from the inmates of the workhouse, but the mass of them are admitted directly from without.

Out-door relief is administered to six or seven times this number, a very large class attending for advice and medicines at the Surgery of the Workhouse, and the remainder being visited at their own homes by a medical officer attached to the house. The patients attending at the Workhouse, though by far the most numerous class, are not affected with any serious complaints: those persons whose diseases do not admit of their going out of doors, are received into the Infirmary, or are visited at home.

The patients of the Workhouse Infirmary are very largely composed of people exhausted by the burthen of their years or suffering from the Chronic Bronchitis of the aged, of persons taken ill in common lodging houses, of persons labouring under incurable forms of disease (especially of consumption and paralysis) and of some who are even brought in in a dying state.

The mortality among such persons is of course considerable, indeed one patient dies of every four or five that come under treatment, which is about twice the death-rate of an ordinary Hospital.

The paupers at their own homes, exhibit ailments of every degree of severity; a certain number of them are women visited after the midwife, and children suffering from disorders incidental to their age. The mass of the zymotic diseases which occur in the Workhouse practice, are visited at home. Some grave cases are occasionally sent into the Infirmary, and cases of fever are for the most part so transferred. This rule of removing fever cases is one which it is well to act on as universally as possible, for under proper arrangements the opportunities of contagion must be much less in the Workhouse than in the crowded and squalid houses of the poor.

It may here be mentioned specifically to avoid a misapprehension that has existed, that it is not the practice to take all cases whatever of a certain gravity into the Infirmary, but that as a rule patients who are treated at their own homes, continue to be so treated until the termination of the case, and hence there is a certain proportion, (about one in twelve or fourteen on an average) of deaths among this group of patients.

Vaccination is practised for the whole district at the workhouse, or if required at the houses of the children. The numbers vaccinated have been 778, 749, and 660 in the three years 1855—7. More than a third of the whole number of children born in each year, are vaccinated by the public vaccinators. I shall have a comment to make on the subject of vaccination, in considering the other establishments at which medical relief is dispensed to the poor of St. Giles.

The books of the Workhouse have all been open to me since a resolution of the Board of Directors, in September 1857, and have afforded me much information, especially as to the localization of disease. The medical records are examined with this view every week, and I may mention that they are regularly kept and are much better than those of other districts are reported to be. I take this opportunity of making my acknowledgements to the Vestry Clerk, not only for information given me cordially from his department, but for assistance rendered to me frequently in an infinity of little ways.

Section 7.—*Common Lodging Houses.*—In the absence of any more official definition, these may be stated to be houses in which persons can be lodged for hire by the single night, and in which the same room is occupied by more than one family.

In London, there are placed by the 14 & 15 Vict., c. 28, under the superintendence of the Police, who are empowered to insist on a certain minimum of sanitary observances. In St Giles there are 69 of these establishments besides the Model Lodging house in George-street. They are all in the parish of St. Giles in the Fields, as there are none in Bloomsbury. I am unable to compare this number with neighbouring localities. In the whole Metropolitan Police district there are 2355 registered common lodging houses, which for the population would give 49 or 50 to St Giles, but as these houses must, from their nature, be few in the suburbs and most frequent in central districts, it is probable that they present no great excess in St. Giles above surrounding localities.

The testimony of all who are acquainted with the dwellings of the poor is concurrent as to the immense sanitary advantages gained by the provisions of the Common lodging houses Acts. The chief points which are regulated by the authorities are cleanliness, drainage, and water supply, the separation of the sexes and the prevention of overcrowding. The minimum of space allowed to each person is upwards of 500 cubic feet, a small allowance certainly, scarcely more than half what is secured to each inmate in the new prisons, but still a considerable improvement on the space which was available to each lodger before the operation of the Act.

The removal of the sick is another feature of the Police regulations for these houses. In the case of St Giles they are for the most part conveyed to the parish Infirmary, but a few also to Hospitals. Indeed of those inhabitants of common lodging houses who died in 1857, less than one-third were registered at the houses themselves.

The persons who live in common lodging houses are of a peculiar class and deserve a word of comment. They are of course the very poorest, often the most depraved of the poor. Though some affect the same haunt for months together, to the mass of them the lodging house conveys no idea of a home. Very largely the lodgers are persons who are fortunate if they get enough to keep them alive during the day, and two or three pence to lodge them at night, so as not to be obliged to enter the Workhouse. Just as with the paupers a grade below them, many appear to be reduced to this condition by disease and want of work, so that, no longer able to rent a room, they are content with the public accomodation of the police lodging house.

In my examination of the mortality of 1857, as it affects these houses, some facts of considerable interest will appear. It may here be stated that after every correction their mortality is found to be in excess above other houses in the same streets. The excess is in the same classes of disease which characterize the death-roll of workhouse—to which they so largely contribute.

In connexion with the subject of common lodging houses, I may express my conviction that no material increase in the aggregate of deaths in St. Giles can be attributed to these houses. It is true they make a very considerable appearance on the death register of the workhouse, but that is quite another matter, and is at once intelligible by the foregoing considerations. It is acknowledged that very little disease is generated in common lodging houses; but it has been supposed that they offer inducements to persons who have become affected with disease in other districts, to leave their homes, to migrate into St. Giles, and dying there, account for much of the excessive mortality of

this over other districts. That much importance cannot be attached to such migration as adding to the death-rate of St. Giles appears evident from the following considerations: There must be as many common lodging houses in the surrounding districts as in St Giles. Secondly, it is found on enquiry, that people usually become inmates of common lodging houses in the manner before stated, having been resident in the district previously. In the third place, it has been shown that the actual number of persons who leave the district is notably larger than those who migrate into it, and the probability therefore is that more disease will be carried from the district than will be received into it; and lastly, there are positive special inducements for diseased persons to emigrate, while from the absence of hospital accomodation in St. Giles, there is no such inducement for disease to enter the district.

Remembering what has been said of the sort of persons who find refuge in common lodging houses, the disproportionate number of 11 deaths in them to every 8 deaths in other similar houses (1857) is only what is to be quite expected in the common course of events, and by no means should drive us to the very debateable explanation of the immigration of sick persons, an explanation against all sound presumptions and one where all administrative responsibility is lost.

Section 8.—*Model Lodging Houses.*—It is to the Society for Improving the condition of the Labouring Classes, that St. Giles is indebted for so many of the valuable buildings. They are institutions whose larger acceptance would save the lives of hundreds and reclaim the morals of thousands.

Accomodation is provided in St. Giles for 240 families; and for 211 single men in the establishments of this Society. In the whole of London the exertions of Societies and private benevolence have provided model buildings for only four times these numbers; unfortunately, these institutions are not yet on a scale to exert a very material improvement on the condition of a district, but as far as they tend in this direction, St. Giles has cause to be thankful for its pre-eminent share of them.

The Model Houses for Families in Streatham-street, consist of 53 separate tenements of one, two, or three rooms each, each tenement having its outer-door opening upon the public terrace. The whole building is three stories high, and forms three sides of a quadrangle ; it is fireproof, and is furnished with every modern arrangement for economy and health, answering every purpose admirably. The residents, as a rule, are mechanics and respectable people: the rental of the houses is from 2s. 6d. to 6s. per week.

The number of inmates at any one time is about 330, of whom a large proportion,—nearly 200—are children. The number of persons that live in the buildings at some period or other during the year is of course larger, a house becoming empty once or twice a month and being filled up by a new comer. There is always a long list of applicants for every vacancy.

The houses for families in Wild-court belonging to the same Society, are very different from the foregoing. They are thirteen old eight-roomed houses on the two sides of a court, which have been re-arranged and provided with proper sanitary appliances by the society. These thirteen houses are let out in 108 seperate rooms at a rental of 1s. 8d. to 3s. a room per week. Each room is occupied by a separate family, except that four families have two rooms each. They are in good demand, but there

is no competition for vacancies, one or more rooms being usually empty. The superintendent says, this is "because of the neighbourhood, and because there are still a good many low Irish who keep the decent respectable English from living there." The total population is about 350, of whom one-half are estimated to be children. The buildings therefore are thickly inhabited, but individual cases of overcrowding are prevented.

They have a good supply of water, dust shafts and closets on every floor of every house; by misuse, however, these appliances occasionally become useless.

The other model houses for families, belonging to this society, are situated in Clark's Buildings. To prevent repetition, it may be stated that they resemble those of Wild Court in all respects, except that their accommodation is somewhat inferior, and their class of residents has been decidedly lower, scarcely to be distinguished from the inhabitants of the surrounding streets. A new resident Superintendent is now trying to induce a better class of persons to reside here.*

The houses are 11 in number, and contain 86 rooms, each of which is a tenement, except in four or five instances, where two rooms are held by the same person. 263 persons are now resident here (June 1, 1858); the number has probably been larger.

The "Houses for single men," belonging to this Society for Improving the Condition of the Labouring Classes, are three in number. That in George Street was built especially for its purpose, and has been in full operation since 1848, being arranged with every requisite for the comfort of the inmates. It accommodates 104 men.

The lodging house in Charles Street, Drury Lane, consists of three old houses which have been thrown into one, and re-modelled on good sanitary principles. It will contain 82 lodgers.

The Society's house, in King Street, Drury Lane, holds 25 men, and appears to have been fitted up in a very bad locality, in order to exhibit the difference that can be made in a house by only a small expenditure on sanitary requirements. It is the least inviting of the three establishments, but a great improvement on the common lodging houses around it.

These houses, then, contain an aggregate of 211 single men, who are of the age of 16 and upwards, and are of every sort of occupation. Some of them are old residents of ten or twenty years; some are of just the ordinary migrating character that frequent other common lodging houses.

These establishments are under the operation of the act of parliament which regulates common lodging houses, and in other respects, although the best dwellings of their class, cannot be naturally separated from other houses, let out by the night to more than one family in each room.

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* These endeavours of the Superintendents appear to me to be at variance with the first objects of the Society. I suppose these functionaries are meant to exercise an influence by example and precept on the poor and ignorant residents, so that they may get the utmost fruition of the Society's benefits. But in what way is the "condition of the labouring classes" improved, if the Superintendent gets rid of the labouring man from his renovated dwelling, in favor of a "superior class of persons," clerks, postmen, milliners, and artisans?

SECTION 9.—*The Public Medical Institutions of St. Giles*, constitute the last point on which I have to dwell, in the enumeration of its social peculiarities.

The absence of hospital accommodation in St. Giles, has been several times adverted to, and the results of this deficiency have been incidentally noticed. It remains to be stated that St. Giles is indebted to every one of its neighbours, and even to some distant districts, for the reception of its suffering poor. Every hospital at which I have made enquiries, have exhibited some deaths among persons brought from St. Giles; it follows therefore that cases of disease must have been still more numerous.

In an appendix to this report will be found a table showing the deaths of St. Giles inhabitants, which occurred in each hospital in the year 1857. Here it may be stated, that the largest numbers appear to have been taken to King's College Hospital, the Middlesex and Charing Cross Hospitals, University College Hospital, and the Hospital for Sick Children—in this order. The Fever Hospital receives only a stray patient or two from St. Giles, the poor who are affected with this disease are not systematically transferred thither as from other districts.*

The Lying-in Hospital, in Endell Street, has received, of late years, about 100–200 patients yearly; they are not of a class of great importance to the Officer of Health, except in the effect on the children in the birth-rate, and this has been sufficiently noticed. The small mortality—four children and one mother, in 1857—is not enough to disturb the death-rate of the locality.

The other medical institution of St. Giles, is the Bloomsbury Dispensary, which relieves between two and three thousand patients annually, besides numbers who are vaccinated, and receive treatment for slighter ailments by the House Surgeon. A considerable majority of these patients are residents in the district; those that require it—about a fourth or a fifth of the whole—receive attention at their own homes. The well-kept records of the dispensary are consulted every week by the Officer of Health, and give most important information as to the existence of disease among persons a grade higher than the workhouse patients. In round numbers, 60 or 70 patients of the dispensary die every year, but their deaths are registered at the homes of the patients.

There is another dispensary which affords relief to a considerable number of poor persons, in connexion with the Ragged Schools in Brewer's Court, Great Wild Street. There are sometimes 40 or 50 attendants here in the day; no register of the cases is kept.

The St. Giles poor also receive medical assistance from some dispensaries outside the district, especially those of the southern part from the Carey Street Dispensary.

I have some interest in enquiring whether all the children born in St. Giles are vaccinated in accordance with the provisions of the Compulsory Vaccination Acts. Statistics on this point are fallacious, as the certificate of vaccination is ordered (16 & 17 Vict., c. 100, sec. 4) to be sent to the Registrar of the district in which the

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* At the Royal Westminster Ophthalmic Hospital, Charing Cross, were relieved and discharged 426 patients belonging to St. Giles's and 92 belonging to St. George's Bloomsbury, in 1856, this is about the average of years.

operation is performed. Hence children not born in these parishes will appear on the vaccination-registers of St. Giles and Bloomsbury, if they have been vaccinated at any institution, or at the house of any practitioner in the district; and conversely, children born in St. Giles, and vaccinated outside the district, will not appear in the vaccination books of the St. Giles Registrars. This want of correspondence between the births and successful vaccinations, prevents any conclusion from being drawn as to the extent to which the law is obeyed.

Thus in the three years, 1856–8, the vaccinations registered in St. Giles and Bloomsbury were, 1769, 1825, and 1927, the last number being about 70 larger than the births of the year; these numbers, too, it will be seen, are on the increase, while the number of births remains nearly stationary.

The poor are vaccinated gratuitously, not only at the Workhouse, but at the Bloomsbury Dispensary, and at the institutions of other districts, certainly of St. Pancras, and perhaps elsewhere. While the total number of registered vaccinations has been increasing, there has been a slight decrease in the cases operated on by the Medical Officers of the Workhouse.

On making actual inquiry, it is found, however, that there is a number of children who have never been vaccinated at all. These cases have been noticed most in the Coram Street locality, perhaps because the question has been more carefully asked there.

Chapter III.—*Peculiarities, Physical and Social, of the different parts of St. Giles District.*

For registration purposes, St. Giles is divided into three sub-districts: St. George, Bloomsbury, the parish; St. Giles, South, that part of St. Giles in the Fields, to the south of a line along the middle of Holborn and Broad Street, and to the east of a line along the middle of Great and Little St. Andrew's Street; St. Giles, North, the part of the parish not comprised in the foregoing.

These three districts differ one from the other in many very important respects; I shall enumerate them as briefly as possible.

St. George, Bloomsbury comprises 112 acres, whose average elevation is 71 feet; St. Giles, South, has 63 acres, at an elevation of 64 feet; St. Giles, North, has 60 acres, whose height above high water mark is 68 feet.

A small portion of Bloomsbury, at the extreme eastern angle, is, I believe, the only exception to the uniform gravel soil of the district; here the clay comes to the surface. In this locality, to the east of a line along Woburn Place, there are no public pumps. Another part of the district which should be mentioned as wanting pumps, is Lincoln's Inn Fields.

The uninhabited open spaces are distributed as follows:—In Bloomsbury, about 24 acres; in St. Giles, South, 10 acres; in St. Giles, North, 4 acres. These will have to be taken into account in stating the density of the population.

Each of the three registration sub-districts comprises a good and a bad class of houses, and hence, though perhaps the best division that could be made, the features

of each are not very distinctive. St. George district has the maximum of good houses, and St. Giles, South, the largest number of poor, while St. Giles, North, is intermediate, and contains every variety, from Bedford Square to Church Lane.

The density of the population of course follows the same order. St. George has 138 persons to the acre; St. Giles, South, 317; and St. Giles, North, 291; or correcting these numbers for the inhabited acres of each sub-district, they become 171 for Bloomsbury, and 376, and 311 for St. Giles, South and North, respectively, a very remarkable amount of difference.

Again, Bloomsbury has but 8·4 persons to each house, while St. Giles, South, has 14·3, and St. Giles, North, 13·4. This last district, however, includes portions quite as crowded as any in St. Giles, South, for if only a third of its houses be inhabited at the rate of those in Bloomsbury, it follows that the other two-thirds will be crowded with 16 or 17 persons a-piece, and this is probably about the truth.

It has been before stated that there are fewer children under five, in St. Giles than in the rest of the town. The difference is most in St. George, Bloomsbury, where there are scarcely more than three-quarters the number of such children as would be found in an equal population elsewhere in London. In St. Giles, South, the deficiency in children, under five, is least marked, but still there is a deficiency. St. Giles, North, as usual, occupies the middle position.

The births exhibit the same peculiarity. While St. Giles, North, has the same birth-rate as the metropolis, 33 or 34 to the thousand, St. Giles, South, is in excess, 43 to 46 per thousand, (or excluding strangers in the Lying-in Hospital, 40 per thousand), and St. George has only 24 births to the same number of residents.

The small number of children, and the low birth-rate of Bloomsbury, are probably explicable as the same facts are, in other localities occupied by the better classes. Those who have earned for themselves the means of living in large houses, are, as a rule, persons who have passed the middle period of life, and whose children are growing up around them. These children, born when their parents were younger, have been registered in some less prosperous neighbourhood, and now their numbers do not increase so rapidly. The unmarried domestic servants of the upper classes contribute also, both by their civil condition, and by their actual numbers, to keep down the birth-rate and the population of children, in a wealthier district. Converse considerations will assist to an explanation of the high birth-rate of St. Giles, South.

The class of the inhabitants of these three sub-districts is not unaptly illustrated by the numbers of illegitimate births. While in London, one child in every twenty-four is born out of wedlock, in St. Giles district there is one in every sixteen, or half as many again.

Bloomsbury is highly commendable in this respect, only 1 child in every 50 being illegitimate. St. Giles, North, is also better than the rest of the town, its proportion being 1 in 29. But St. Giles, South, tells a very different story: 80 or 90 children in the years examined, that is, every tenth child, were illegitimate; indeed the proportion is even greater than this, for all the women confined in the Lying-in Hos-

pital were married ; and the non-parishioners delivered in this establishment, ought to be excluded from the calculation. With this correction, there is one illegitimate to every eight legitimate children born in South St. Giles. *

The social character of the population of the three sub-districts may be inferred from what has gone before, about the house accommodation and the density of the population. I have no means of knowing the precise number of Irish residents in the several localities ; but it is certain that Bloomsbury has few, and that they congregate almost entirely to the South of Holborn and Oxford Street.

There is no common Lodging House in Bloomsbury, with the exception of the House for Single Men in George Street, which scarcely deserves to be included among the others. Twenty-two of the police common lodging houses are in North St. Giles, the rest, forty-seven in number, are in St. Giles, South.

There is a curious circumstance disclosed by the census tables which deserves to be here enunciated. It is the rule in London, and almost in every district of London that the female population is in a certain excess of the males; St. Giles, North, and Bloomsbury observe this rule, indeed in the lattter the excess is unusually large, giving 19 females to 14 males. This preponderance of females is not the same at all ages, but is essentially in the population between 20 and 40, and it results in a great measure from the women servants in the houses of the sub-district. The rule of excess on the side of the females, is however violated in the case of St. Giles' South, where there were in 1851, 245 males more than females. At the census of 1841 however, the excess was according to rule in favor of females.

How did the exceptional condition at the time of the particular census of 1851 come about ? Was the excess of men only due to some temporary cause, such as the improvements in the streets of St. Giles, whereby the common lodging houses became crowded with labourers whose services were in demand in the locality, and who thus came to outweigh the population of the other sex ? Perhaps such may be the reason, as the common lodging houses, before the operation of the Act relating to them (November 1851) had a great elasticity in their means of accomodating large numbers of these labouring men. Still the excess of males suggests a connexion with the excess of illegitimate births in this South St. Giles, and perhaps it is part of a larger social problem of extreme interest and intricacy, which it would be foreign to my province to discuss.

In examining the mortality of the different portions of St. Giles, it is of course an essential correction to refer to the localities from which they are brought, all those persons who were admitted into the Infirmary in a condition of disease and there died. At present the Workhouse situated in South St. Giles, gives to this sub-district an excess of deaths. Whenever it has been possible, the necessary correction has been made, but even after this distribution there remains an excess of deaths among the inmates of the Workhouse, which require that it shall be considered apart from the locality in which it is situated.

For this reason, and because of an investigation into the localization of disease

*These numbers are based on the returns of two years, 1851 and 1852, which do not materially differ from each other.

in St. Giles, it is not sufficient to use the large and compound sub-districts of the registrars, I have divided the district for my purposes into ten small sub-divisions, each of which has certain individual features. The workhouse may be investigated as a separate eleventh locality by itself. My ten sub-divisions are as follows :—

A. Bedford Square locality—bounded by Gower Street, Tottenham Court Road, and Great Russell Street, comprising 29 acres, of which four may be deducted for Bedford Square.

B. Russell Square locality.—Between Gower Street, Great Russell Street, Southampton Row, and Woburn Place, 67 acres, 2[illegible] being deducted for Squares, and for the open space of the British Museum.

C. Great Coram Street locality.—From Woburn Place to the north and east boundaries of the district, 28 acres.

D. Bloomsbury Square locality.—Between the lines of Great Russell Street and Bloomsbury Place on the North, and of Oxford Street and Holborn to the South, 30 acres, of which 3 may be taken out for Bloomsbury Square.

E. Church Lane locality.—Between Oxford Street, Holborn, Broad Street, and High Street, 12½ acres.

F. Dudley Street locality.—Bounded by Crown Street, High Street, and Great and Little St. Andrew's Streets, 13 acres.

G. Short's Gardens locality.—The group of houses between Broad Street, Drury Lane, Castle Street, and St. Andrew's Streets, 14½ acres. Here are the Workhouse and Lying-in Hospital.

H & K. Northern Drury Lane and Southern Drury Lane localities.—The two extending between Drury Lane, Holborn, Little Queen Street, and Lincoln's Inn Fields, to the Southern extremity of the district, the two being divided by Great Queen Street, and comprising 14 acres each.

L. Lincoln's Inn Fields locality—taking in all the houses of Lincoln's Inn Fields, and of the Streets around up to the boundaries of the district. Of the 23 acres, ten are to be deducted in estimating the habitable space.

The first four and the last of these sub-divisions may be stated in general terms to consist of good class streets and houses, although particular exceptions will be found, the many low Courts about Little Coram Street in district C, and between Holborn and Lincoln's Inn Fields of the last locality. The remainder of the ten sub-divisions however, consist of a majority of poor Streets and the lower class of houses, and are for the most part densely populated.

I must assume a certain local knowledge of the district, and shall refer hereafter to these sub-divisions without further specifying their distinguishing characters.

The enquiry of the predominance of disease in one or other of these must needs be one of extreme labour, involving an examination of every death in every Street, but the facts that will result will be of more definite application than if the enquiry were confined to the the three sub-districts. I think much too of the mass of information we shall have at our disposal for comparison with succeeding years, a comparison which I trust may show each year a progressive improvement in the health of the district.

Report on the Deaths and Diseases of St. Giles,

IN 1857,

And the Sanitary Operations of the Year.

CHAPTER I.—*Examination of the Mortality from all causes in the whole District.*

This enquiry resolves itself into five chief heads :—

(1) *The Death-rate of the District for the Year.*—(2) *The Death-rate, according to Sexes and Ages.*—(3) *The relative Fatality of the Four Seasons.*—(4) *Comparison of the Death-rate of St. Giles with that of other Districts.*—(5) *Comparison of the present Mortality of St. Giles, with that of past Years.*

(1) The whole number of deaths registered in St. Giles, in 1857, was 1,466. Five deaths, however, were registered twice over, so that 1,461 will be adopted as the true number ; the error, however, produces no material difference. This number represents a mortality of 27 for every 1,000 inhabitants. It has been shewn, however, in the first part of this report, that many St. Giles patients die in the hospitals of other districts, while St. Giles itself does not record deaths among strangers in return. By examining the death register of several hospitals, I have collected 90 deaths, which must be added to avoid this source of fallacy. The distribution of the deaths in the various hospitals is shown in Table I. of the Appendix. The total mortality is therefore brought up to 1,551, or 28½ per 1,000.

(2) Of the 1,461 deaths 736 were males, and 725 females, giving a death-rate of—for the males, 1½ above—and for the females, 1½ per 1,000 below the mean. This preponderance of deaths among males is an established law of mortality.

The ages of the 1,461 persons who died in St. Giles in 1857, averaged only 26 years. Of this number, 151 died before they were three months old, and 181 others before the age of one year. Between one and two years 195 more children died, making a total of 527 out of the whole 1,461 who died before their second birthday.

If to these are added those who died between two and five years, there is a total

of 697 children, or nearly half, who died before they reached the age of five years. This infantile mortality was among males more than females, 376 of the former having died to 321 of the latter, under five years of age. The average age at death of persons who had passed the age of 5, was 49 years.

The same facts may be put in a simpler form, as follows :—of 1,000 persons who died in St. Giles, 360 were below the age of two years, and 477 below five; 191 of the 360 were males, and 169 females; or of those who were under five years when they died, 257 were males, and 219 females.

It is essentially at these first periods of life, that the mortality among males is in excess of the females, so that the extra number of male children born is wholly destroyed in the course of a year or two, and the balance is thenceforth in favor of the females, as has been shown in the preceding General Report.—[See also Table II. of Births in 1857, Appendix.]

Four cases of extreme old age are recorded in the past year, they were all among females; two were above 90, and two others above 95, at the time of death.

The mortality at different ages, from each disease, is fully shown in Table III. of the Appendix.

(3) The 1,461 deaths were distributed as follows :—393 in the first quarter, 338 in the second, 325 in the third, and 405 in the last quarter of the year,—the last quarter comprising 14 weeks, the others 13 weeks each. In the order of their fatality, these seasons follow the law, which always obtains in England in the absence of any special epidemic disease, the spring or winter being the worst, and the autumn the most healthful. [Appendix, Table IV.]

The cold seasons are, of course, most fatal to the old; of 21 persons of the age of 85 and upwards, 7 died in the two warm quarters, and 14 in the two cold ones. At the other extreme of life, in infancy, the seasons had but little effect on the total mortality.

(4) Important as it would be to know the exact position of St. Giles, among all the metropolitan districts, in regard of its mortality, an investigation of this extent with all the necessary precautions against error, would be impossible for any one man to undertake. I have therefore only attempted the comparison of St. Giles with the five districts immediately surrounding it, and with the Metropolis generally. Three of these five districts, Holborn, the Strand, and St. Martin's, bear considerable resemblance to St Giles, in their predominant features, while St. Pancras, and St. Marylebone present several advantageous differences over St. Giles.

The Metropolis being made up of good and bad together, would be expected to hold an intermediate position, as regards its death-rate, between these two groups of districts.

In making this comparison, one finds that a considerable disturbing influence arises from the existence of hospitals in one district and not in another, and from the workhouse of one parish being placed in the middle of some neighbouring parish. It is plain that this error must be got rid of, before the registered death-rate can become an exponent of the real mortality of a district.

An examination of these disturbing causes, for hospitals, has been made for each district, (Table I of Appendix) and the results are considered in the comparison of their death-rates, in columns A and B of the following table,* which should be read along with the corresponding table in the general section of this report.

MORTALITY IN 1857.

Districts.	1st Quarter, 13 Weeks.		2nd Quarter, 13 Weeks.		3rd Quarter, 13 Weeks.		4th Quarter, 14 Weeks.		Whole year, 53 Weeks.		Column A. (see note.)	Column B.	Total Mortality in 1857, corrected for Cols. A. & B.	
	Actual number.	per 10,000	Actual number.	per 10,000	Actual number.	per 10,000	Actual number.	per 10,000	Actual number.	per 10,000	(+)	(—)	Actual number	per 10,000
St. Pancras ...	1113	56·9	936	47·9	964	49·3	1140	58·3	4153	212·4	80	Hospitals 158 Work. } 151 Strand } 309	3924	200·7
St. Marylebone	1042	60·8	875	51·0	906	52·9	1068	62·4	3891	227·2	73	Hospital, 161	3803	221·5
Metropolis ...	16093	60·3	13252	49·7	14259	53.4	16546	62·0	60,150	225·4	—	—	60,150	225·4
Holborn	341	71·0	238	49·6	263	54·8	302	62·9	1144	238·3	58	Hospital, 46	1156	240·8
Strand	301	66.9	247	54·9	234	52·0	262	58·2	1044	232·0	Workhouse 151 Hosp. 44 195	Hospital. 141	1093	244·0
St. Martin's ...	204	82·6	138	55·9	162	65·6	154	62·3	658	266·4	31	Hospital, 77	612	247·7
St. Giles	393	72·3	338	62·2	325	60·0	410	75·5	1466	270·0	90	Subtract 5 (for error.)	1551	236·0

* Col. A, gives the number of inhabitants of each district who expired in 1857, in the public institutions of other districts. These figures must be added to the registered mortality. Col. B, gives the number of inhabitants of other localities who died in the same year, in the public institutions of the districts named. These figures have to be subtracted from the registered mortality.

Now the inevitable mortality of a town district, deduced from various considerations, is 17 per 1,000, and it is believed to be within the power of sanitary science to reduce all the above death-rates to this number. It will be seen, indeed, hereafter, that Bloomsbury is scarcely in excess of this death-rate, and St. Pancras approaches it moderately closely. Hence the standard of 17 per 1,000 is no ideal summit of excellence, but one which we should strive after, and should not be satisfied till we attain.

In the above table, it will be seen that the St. Giles district has the greatest excess above the normal necessary death-rate of all the localities with which it is compared, and the sad significance of the figures will be apparent on an instant's consideration.

If the death-rate of London, in 1857, had been the 17 per 1,000 of a healthy town, there would have been saved 14,780 lives out of the 60,000 that was lost. On the other hand, if the death-rate of London, in 1857, had been that of St. Giles, there would have been lost 16,170 lives in addition to the actual 60,000 Hence it makes a difference of 30,950 lives to London yearly, whether it shall have a death-rate the same as Lewisham, the 17 per 1,000, or the same as St. Giles, 38·6 per 1,000.

Now, although London is made up of localities which have much fewer natural advantages than St. Giles, as well as of others that are more highly favoured than it, it is certain that years and years must elapse before the mortality in St. Giles can be reduced to the average of London, for some generations must pass before the simplest laws of health will be received and practiced among the ignorant poor of the district.

The death-rate of St. Giles, however, is not alone higher than that of the Metropolis, it is very materially higher than in the Strand, than in Holborn, than in St. Martins, districts which, in almost all main features, agree with St. Giles.

Holborn, for example, situated on a lower level, with houses as crowded together, and as poor as St. Giles, with almost as many Irish among its residents, comprising in its boundaries the hopeless maze of courts and alleys about Gray's Inn Lane—this district of Holborn, in every respect so similar to our own, had only 240 deaths last year, where St. Giles had 286. It is to this point, established by the foregoing comparison, that I wish to draw most especial attention; this is the lamentable truth, which must be received and pondered over by those to whom the health and wealth of the district is entrusted.

(5) The last aspect under which I would present the total mortality of St. Giles, in 1857, is under the experience of former years. It may be true that the district is less healthy than the rest of the town, or than any of its five immediate neighbours; but may there not be some consolation in an examination of the past? Though it is still far from us, are we not progressing slowly towards a proper standard of health?

The figures of Table V., in the Appendix, will answer the question:—

Eighteen-fifty-seven was not an unhealthy year in London, although its mortality was decidedly larger than of 1856. The death-rate of 1857 for the Metropolis,

is 22 per 10,000 below the average rate of the ten preceding years. Whether this be explained by there having been two visitations of cholera in those ten years, or by the town making a steady progress towards a better standard of health, it is here immaterial to enquire.

All the divisions of the town have contributed to this improvement. In the central group of districts the deaths fell from 243 to 229 per 10,000 inhabitants; but in the southern districts the improvement has been most marked; in the preceding ten years they have presented the very highest death-rate of the town, 262 deaths per 10,000, but in 1857 they have advanced in health even above the average of the Metropolis, 216 only of the same number of residents having died within the year.

Among all this improvement, what progress has St. Giles made? In the ten years preceding 1857, its average mortality has been 268 for every 10,000 persons; that is, St. Giles was considerably worse than the central districts, with which it is grouped, and worse than the southern districts, with their great natural disadvantages. The annual mortality of the central districts having improved by 14, and of the southern by 46 per 10,000,* *three* per 10,000 represents the progress of St. Giles. Without any special epidemic to raise the mortality of 1857, the district was no better than in former years.

Having arrived at this point, that we know how we stand as to the total mortality, let us next inquire what are the special diseases which make up this excess in the mortality of St. Giles, above other districts.

Chapter II.—*The Diseases which produced the Mortality of St. Giles, in* 1857.

These have been examined for each sex, and for all ages; but for the sake of brevity the sexes are put together, and the ages are grouped into twelve periods, in Table III, which is printed in the appendix.

The registered deaths 1461 are here referred to their causes, and to the period of life at which they occurred. The deaths of St. Giles patients occuring in the Hospitals are not comprised here, as the disease has not uniformly ascertained in these cases.

Of much value as the abstract figures in this table are, it is even more important to know what are those diseases which produce a mortality in St. Giles out of proportion to the rest of London, as these maladies will evidently demand a more particular examination.

With this object I have constructed another Table, † which gives the mortality from each of seventeen classes of disease in the metropolis as well as in St. Giles. Then as the population of St. Giles in 1857 was one 49th part of that of the whole town, the number of deaths in the metropolis from each class of disease, divided by 49, will give the quota of that class for the St. Giles population.

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* This advance in the sanitary condition of the southern districts, is believed to be mainly referable to the improvement in the quality of the water supplied to their houses.

† The same investigation for each Quarter of the Year, is given in the appendix Table IV.

	London, 1857.	St. Giles, 1857, *Registered* Mortality.		
		Estimated quota	Actual number.	Per centage of excess or defect on the quota of deaths.
All causes	60150	1227.5	1461	19 0 p. c. in excess.
Specified causes...	59690	1218.2	1445	
1.—Zymotic class	13090	267.1	332	24·3 „ in excess.
2.—Dropsy, Cancer, and others of varying seat.	2513	51.3	52	
3.—Tubercular class	10217	208.5	267	28·0 „ in excess.
4.—Of Brain, Nerves, &c.	6223	127.0	163	28·3 „ in excess.
5.—Of Heart, &c.	2371	48.4	51	5·3 „ in excess.
6.—Of Respiratory Organs	10890	222.3	294	32·2 „ in excess.
7.—Of Digestive Organs	3401	69.4	69	
8.—Of Kidneys	805	16.4	13	20·7 „ in defect.
9.—Of Uterus, Child-bed disease, &c.	436	8.9	11	23·6 „ in excess.
10.—Of Joints, Bones, &c.	369	7.6	1	86·8 „ in defect.
11.—Of Skin, &c.	166	3.4	2	
12.—Malformations	183	3.8	3	
13.—Debility from premature birth, &c.	1630	33.2	55	65·6 „ in excess.
14.—Atrophy...	2008	41.0	29	29·2 „ in defect.
15.—Age...	2360	48.2	51	5·8 „ in excess.
16.—Sudden	508	10.3	5	51.4 „ in defect.
17.—Violence, Privation, &c. ...	2520	51.4	47	8.5 „ in defect.
Certain particular Diseases.				
Of Class I.—Zymotic :				
Small Pox	154	3.1	1	67·7 „ in defect.
Measles	1400	28.6	59	106·3 „ in excess.
Scarlatina	1587	32.4	32	
Hooping Cough	2551	52.1	98	88·1 „ in excess.
Diarrhœa	3145	64.2	78	21·5 „ in excess.
Typhus and other Fevers ...	2161	44.1	37	16·1 „ in defect.
Of Class III.—Consumptive :				
Tabes or Abdominal Consumption ...	884	18.0	12	33·3 „ in defect.
Consumption..	7424	151.5	203	34·0 „ in excess.
Hydrocephalus	1529	31.2	44	41·0 „ in excess.
Of Class IV.—Brain Diseases :				
Convulsions in Children	1907	38.9	55	41·4 „ in excess.
Of Class VI.—Lung Diseases :				
Bronchitis	5716	116.7	166	42·2 „ in excess.
Inflammation of Lungs	3887	79.3	103	30·0 „ in excess.

Here it is seen that the total mortality of St. Giles, in the year, was in excess of the quota, by 19 per cent. Taking into account the deaths in hospitals, the mortality of St. Giles will rise to 27 per 100 deaths above the estimated quota.

In 9 of the 17 classes of disease, St. Giles is seen to be close upon the average of London, and of these, therefore, it will not be needful to make further mention.

In three small classes of diseases, the mortality of an equal population of other parts of the town, outweighed the deaths among the inhabitants of St. Giles, but in the five largest and most important classes St. Giles' mortality was considerably in excess.

To begin with the classes of disease which presented a deficiency in St. Giles, compared with London. Diseases of the joints and bones, and sudden deaths, afford such small total numbers that inferences must be cautiously derived from them; but these would appear to be exactly the cases to find their way into hospitals, and hence not to be registered in St. Giles, though they should occur. "Atrophy" is the other class which, in 1857, contributed less than its share to the mortality of London; but it is difficult to draw deductions from this circumstance, as the term is so vague that I have often to hesitate in placing a death to "age," "atrophy," "decay," or "debility," so that discrepancies may exist between my custom and that of the Registrar General. It will be noticed that "age" is assigned as the cause of death, with somewhat more frequency in St. Giles than in the same population elsewhere in London.

The five classes of disease in which St. Giles presents its excess of mortality, are:—

The zymotic class; for its population there would have been 276 deaths from diseases of this class in St. Giles last year, while the actual number was 332, an excess of about 5 over 4.

Secondly, the tubercular class. Estimated in the same way, the mortality of 1857, from consumption and allied diseases, should have been 208 in St. Giles; the number of deaths, 267, was therefore 28 per cent. in excess.

Thirdly, diseases of the brain and nerves, of which the mortality calculated for St. Giles should have been 127 in the year, afforded the high number of 163 deaths; again, 28 per cent. above the quota.

Next, diseases of the lungs and breathing apparatus, were in a still larger excess; while 222 was the number of deaths estimated for St. Giles, 294 were actually registered; the excess being as 132 over 100, nearly as 4 over 3.

Lastly, premature birth and debility among children. I have placed the deaths of 55 children under this head, while an equal population in the rest of London has given only 33. Although I do not doubt that this class is in excess in St. Giles, I am not sure, for the reason before stated, that the amount of surplus is exactly represented by these numbers.

But we can get a little nearer to the diseases which produce the great mortality of St. Giles, and find out what individual maladies, of each group, are those which were unduly fatal. These are extracted, and placed in the foregoing table.

Of the zymotic class, the diseases chiefly in excess to St. Giles beyond the rest of London, were whooping cough and measles, and to an inferior degree, diarrhœa.

Of the tuberculous class, comsumption in the lungs and water on the brain, in children. Of the class of brain diseases, convulsions in children; in adults, too, these are somewhat more fatal in this district than elsewhere. In the class of diseases of the respiratory organs, the two chief members, bronchitis and pneumonia, contribute very largely to the high mortality of St. Giles, the former especially being fatal beyond the quota derived from the population.

I have before remarked on the large number of children that died in St. Giles, in 1857. Though I am not in possession of the ages of those who died in London in

the same year, I have ample evidence that deaths under five years of age were greatly too frequent in St. Giles for its population. For in the first place, debility from birth, and many of the diseases above-mentioned, as being unduly fatal to St. Giles, are essentially diseases of children; and in the second place, (the death-rate among the children of the metropolis appearing to be nearly constant, from year to year), I may use the numbers dying in London in former years, to elucidate the history of 1857. From these it appears that in London, of every 1,000 deaths, 318 are of children under two, and 412 of those under five years of age; the corresponding numbers for St. Giles, are 360 and 477. It will not be forgotten, that there are fewer children among the residents of St. Giles than in a like number of the metropolis at large, and hence the infantile mortality should be below the average. The facts, however, prove to be the reverse. Enormous as the death-rate among children is in London, they die in St. Giles in the higher proportion of 115 in this district to every 100 of the town.

What are the conditions which experience has shown to be productive of this zymotic mortality, these consumptive diseases, these inflammations of the lungs, these convulsions and other diseases of children?

In the obscurity which surrounds the early origin of every disease, no prudent physician would think of making a positive statement that any one condition was the cause of the malady evolved, but when the question is asked,—given the above diseases as being those unduly fatal in a community, are there any sanitary defects which you can indicate as being likely to exist in that community?—experience then does justify us in giving an answer. Within the limits of this report, I am not able to debate the grounds on which my opinions rest, but my conclusions are briefly as follows:—

To contagion a subordinate part is to be assigned, as many of the above diseases are not communicable, and some of the most contagious, as small pox and scarlet fever, though they may have existed in the district, have not spread, and are not among the list of diseases in excess.

To impure water I have already charged a certain proportion of disease; the instances when bad water directly causes illness are rare, and necessarily rarer from the fact that it is never suspected of the mischief; still there are not wanting proofs of its bringing about disease in the individual case.* Among communities, however, the use of impure water may be shown to have increased the general death-rate, and especially the mortality from zymotic diseases.

But it is to the impurities in the atmosphere that we must attribute the main part of the mortality from the diseases named. I shall not here consider emanations from cow-sheds, and effluvia from burial vaults,† as their influence must be

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* In this district I have sometimes sought in vain for the cause of Fever, unless it was found in the drinking water which was impregnated with the foul air of the privy through the "waste pipe."

† I think there is reasonable ground for suspecting ill effects from the vaults under St. George, Bloomsbury. They are by far the most sickening in the district, although a thorough draught through them is constantly dissipating their effluvia; an excess of zymotic disease in the streets around has been pointed out in a special report. Anything detrimental, however, in their vaults will speedily be remedied by the steps that are about to be taken.

small and localized, and I have a larger subject to dwell on. I cannot go into the accumulated evidence of the connection between imperfect drainage, cesspools, and foul privies, and the direct production of zymotic disease, though my own experience only is sufficient to establish such connexion; but I wish to point out that we have the great cure for all these evils in the constant action of the atmosphere. It is only when this open atmosphere is excluded, as when people live in close and crowded rooms, that such emanations ordinarily become injurious.

And this brings me to the chief cause of those diseases which are in excess in St. Giles.

If one were asked to name a single condition which shall produce at once an excess of zymotic disease, an excess of consumption and lung disease, and a large infantile mortality, the answer is ready and inevitable:—You may produce all these diseases with most certainty, and you may rely on it that they shall be extremely fatal, if you will only crowd your population together, so that they shall breathe sufficiently impure air. The hot atmosphere, for instance, of a small room, without ventilation, that has been slept in at night by eight or ten people, which is rich in carbonic acid, and reeks with the exhalation of all their skins and lungs, shall produce you exactly the diseases which have been enumerated. Of the zymotic class, the most fatal will probably be those which affect the lungs, such as whooping-cough and measles; the children will die of debility and many other diseases, but very certainly with convulsions; consumption will be prevalent, and lung disease, especially among the infants, will be very fatal.

In overcrowding, considered as a cause of disease, must be included—dirty rooms, filthy yards and privies, and the misuse of sanitary appliances—all of which result immediately and inevitably from the moral depravation, and the loss of self-respect and responsibility, created by over-crowding.

Thus much, then, experience gives us a perfect right to affirm—that over-crowding, with its necessary concomitants, would be the cause most adequate to produce the effects observed, and for the existence of some such cause we should anxiously look.

Chapter III.—*Localization of Disease and Death in St. Giles, in* 1857.

This investigation will comprise the distribution of the mortality from all causes, and from those diseases which were especially fatal to St. Giles. With other diseases it will not concern itself.

The total mortality registered in the year—1461—affected the three sub-divisions of the Registrar General in the numbers given in Table IV. of the Appendix, the chief points of note being as follows:—

In St. George, Bloomsbury, there were 154 deaths among females, and 125 among males; the preponderance of the former, which is an exception of the ordinary law of the mortality of the sexes, being referable to the remarkable excess of females inhabiting the district. The total number, 279, gives to the population (census 1851) of St. George a mortality of 166 per 10,000, which if even a little better than the

normal or Lewisham death-rate. To this number, however, it is necessary to add 13 deaths, among persons taken from Bloomsbury to the workhouse, and 17 deaths occurring in hospitals. The number of deaths, with these corrections, become 184 in the 10,000, a death-rate no longer below the inevitable mortality of a town; but even then we have matter for the sincerest congratulation in the health of Bloomsbury, in 1857.

In St. Giles, South, the deaths of 388 males, and 357 females, were registered in the year; but this total of 745 cannot be used to estimate the death-rate without several corrections.

The workhouse, situated in this sub-district, receives sickness from every part of St. Giles and Bloomsbury, and its mortality adds unfairly to the numbers registered in South St. Giles. Of the 248 deaths which have been assigned to the workhouse in 1857, I have been able to refer 138 to the houses from which the patients were brought. The remainder 110 is made up of old inmates dying in the workhouse, and of people who were not at the time of their admission suffering under the disease which carried them off. It also includes a few other cases where the residence of the patient before admission could not be ascertained. Of the 138 deaths which are referred to the previous habitations of the paupers, 13 were from St. George's parish, 42 from the northern district of St. Giles, and 83 from St. Giles, South.

Hence it is necessary, in estimating the death-rate of St. Giles, South, to subtract the two former numbers, 13 and 42, from the registered number. Another correction, however, is required; from this sub-district 40 persons are known to have been carried to various hospitals, and to have there died during the year; these, therefore, must be added. Five persons, on the other hand, died in the Endell Street Hospital, of whom three may be subtracted as strangers. Taking all these matters into consideration, the adopted number of deaths referable to the population of South St. Giles, in 1857, was 727, or 364 per 10,000 residents: an enormous death-rate, twice that of Bloomsbury.

North St. Giles, according to its habit, holds the intermediate position. The deaths registered in the year amount to 437, of whom 223 were males, and 214 females. Add to these, 42 who died in the workhouse, and 23 who expired in various hospitals, and the total deaths of the year become 502, or 288 in the 10,000 inhabitants.

Of 325 zymotic diseases, which are referred to the sub-districts in which they proved fatal, 52 were in St. George, 157 in South St. Giles, and 116 in St. Giles, North.

By reference to Table VII. of the Appendix, it will be seen that the only death from small-pox of the year, occurred in Bloomsbury. Measles, which is one of the diseases shown to be in excess in the district as a whole, was by far the most prevalent in St. Giles, South; indeed, it prevailed in the summer months in an epidemic form, about the southern boundary of the district.

Whooping-cough and diarrhœa, the other zymotic diseases which especially

characterized St. Giles, prevailed in all three sub-districts, but in St. Giles, South, presented even more excess than was exhibited by other diseases in that region of large mortality.

Fevers, both scarlet and continued, on the other hand, find their maximum in the northern division of St. Giles; in the other sub-districts the deaths from these causes are even fewer than for an equal population elsewhere in London.

It is evidently very desirable to know more exactly the localities affected by this class of diseases.

We have seen that the rates of mortality from all causes—184 in Bloomsbury, 364 in South St. Giles, and 288 in North St. Giles, per 10,000 residents—represent as far as the most careful investigation can ensure, the relative fatality of 1857, in the three sub-districts. Still it is evident that these figures are themselves the results of averages which demand to be separated into their components. Bloomsbury, for example, contains a group of poorer streets whose mortality may be different from the rest. South St. Giles still presents, after every allowance that can be made, a number of deaths that belong to the workhouse, and which impress on the mortality peculiar features which should not be allowed to affect the whole of the sub-district; and the northern part of St. Giles, being of the very compound character before considered, especially requires to be divided into more natural and smaller sub-divisions.

For these reasons, I shall henceforth pursue my enquiries into the distribution of disease, according to the ten localities which I have sketched out at the end of the general portion of this report.*

Figures and facts in detail will be found in the appended Table VIII. In examining this, and in deducing from it the arrangement of the ten sub-divisions in the preponderance of their mortality, regard must be had to four chief points:—The actual size of the locality under discussion; the probable density of its population; the actual number of deaths in the locality; and the proportion which the deaths from the disease under consideration hold to the total mortality of the sub-division. Districts near together, or whose claims to priory are balanced, are bracketed together. The workhouse, with the 110 deaths assigned to its inmates, has been uniformly excluded in the examination.

The order of the ten localities, in the degree of their *mortality from all causes*, in 1857, is as follows:—

1. Russell Square	locality,	42	acres,	excluding	open	spaces,	63 deaths.
2. Bedford Square	„	25	„	„	„	67	„
3. Lincoln's Inn Fields	„	13	„	„	„	55	„
4. Great Coram Street	„	28	„	„	„	127	„
5. Bloomsbury Square	„	27	„	„	„	128	„
6. Southern Drury Lane	„	14	„	„	„	122	„

* The great advantage of considering these smaller localities is in a measure counterbalanced by our ignorance of their population, so that we cannot establish a death-rate for each. Still a rough estimate can be made by one conversant with the localities, of the density of the inhabitants in each; and this with other considerations that serve as a check against error, allows us with considerable certainty to assign to each locality its place among the others, although we may not be able to give a fractional estimate of its death-rate.

*7.	Church Lane	„	12½	„	„	„	143 „
*8.	Northern Drury Lane	„	14	„	„	„	204 „
*9.	Short's Gardens	„	14½	„	„	„	229 „
10.	Dudley Street	„	13	„	„	„	293 „

This last locality, comprising the group of houses between High Street, St. Andrew's Streets, and Crown Street, was out of question the worst in the mortality of the year. Of the 502 deaths adopted as the true number for North St. Giles, 293 are referred to these 13 acres; that is in a fourth part of the sub-district, containing certainly less than half of the inhabitants, three-fifths of the deaths occurred.

Let us next enquire what are the districts which furnish the large excess among children, which we have seen to be one of the characters of St. Giles mortality.

The figures of the same Table VIII. lead to the following arrangement of the ten localities, as to their *infantile mortality* :—

1.	Russell Square locality,	42	acres,	18	deaths under five,	or	28·6	p.c.
2, 3.	Bedford Square	„	25	„	27	„	„	40·3 „
	Coram Street	„	28	„	47	„	„	37·0 „
4, 5.	Lincoln's Inn Fields	„	13	„	27	„	„	49·1 „
	Bloomsbury Square	„	27	„	55	„	„	42·9 „
6, 7, 8.	Church Lane	„	12½	„	64	„	„	44·8 „
	Northern Drury Lane	„	14	„	99	„	„	48·5 „
	Southern	„	„	14	„	70	„	„ 57·4 „
9.	Short's Gardens	„	14½	„	128	„	„	55·9 „
10.	Dudley Street	„	13	„	155	„	„	52·9 „

Of the whole mortality.

This arrangement has been made on certain assumptions as to the proportion of children in the population assigned to each locality, and I have confidence in its representing fairly the facts of the year.

The sequence is very nearly that of the mortality at all ages, except that the streets around Lincoln's Inn Fields, and about Great Wild Street, (South Drury Lane), appear to have an especial fatality for children over adults, though in actual numbers the extent of this fatality is vastly less than is witnessed in the Short's Gardens and Dudley Street localities.

Continuing to derive our data from the same table, we examine the localities where the class of zymotic disease was most fatal, and where it was that individual diseases of the class prevailed in 1857.

The order of fatality in the ten localities, in regard of their *total zymotic disease*, was as follows :—

1.	Russell Square locality,	42	acres,	12	deaths,	19·1	p.c. of whole mortality
2.	Coram Street	„	28	„	17	„	13·4 „
3.	Bedford Square	„	25	„	13	„	19·4 „
4, 5.	Lincoln's Inn Fields	„	13	„	14	„	25·5 „
	Bloomsbury Square	„	27	„	33	„	25·8 „

* These are the Districts in which all the common lodging houses are found. The number of deaths referrible to each of these Districts, in consequence of their possessing these houses rather than an equal number of other houses, is to be estimated at about Six in the year.

6.	Church Lane	„	12½	„	33	„	23·0 p.c. of whole mortality.
7, 8.	Northern Drury Lane	„	14	„	45	„	22·0 „
	Southern „	„	14	„	39	„	32·0 „
9.	Short's Gardens	„	14½	„	64	„	28·0 „
10.	Dudley Street	„	13	„	76	„	26·0 „

Again, this unfortunate locality of Dudley Street standing at the bottom of the list, and presenting a pre-eminence in deaths (see Table VIII.) from measles, scarlet fever, whooping-cough, and continued fever. All these diseases were prevalent to the next degree in the Short's Gardens locality, and here it was that diarrhœa proved most fatal. The Southern Drury Lane division stands the next lowest in this list of zymotic deaths, by reason of an epidemic of measles, which destroyed the children of Lincoln Court.

The high position of the Coram Street locality has been gained by a comparative immunity from all diseases of the zymotic class, except small-pox, which has been frequent here, and from which there was one death in Coram Place.

It will be observed, that the order in which the localities stand as to zymotic disease, coincides almost exactly with their relative fatality to children, a circumstance for which we were of course prepared, in the absence of any peculiar epidemic in the year.

The next section of this enquiry is the localization of consumption and lung diseases, the other two sets of maladies which, in 1857, presented in St. Giles a prominent excess over the rest of the town.

The localities in regard to their mortality from *consumption, and allied diseases of the tubercular class*, stand thus:—

1.	Bedford Square locality,	25	acres,	6	deaths,	8·9	p.c. of total mortality.
2, 3.	Bloomsbury Square	„	30	„	15	„	10·7 „
	Lincoln's Inn Fields	„	13	„	7	„	12·8 „
4, 5.	Russell Square	„	42	„	13	„	20·6 „
	Coram Street	„	28	„	19	„	15·0 „
6.	Southern Drury Lane	„	14	„	23	„	18·8 „
7.	Dudley Street	„	13	„	36	„	12·3 „
8, 9.	Church Lane	„	12½	„	33	„	23·0 „
	Short's Gardens	„	14½	„	44	„	19·2 „
10.	Northern Drury Lane	„	14	„	63	„	30·8 „

Here Russell Square locality has lost its high position, perhaps because it has so large a proportion of residents just of that age when consumption is most fatal, a peculiarity before alluded to. Other remarkable points in this arrangement receive a partial explanation from the relative numbers of common lodging houses in the district. Thus the three at the bottom of the list contain almost all the lodging houses of St. Giles, and in these houses consumption will be shown to be the most fatal disease. Still, on reference to the actual numbers given hereafter, it will be evident that these are not alone sufficient to explain the above position of the localities.

Lung diseases, excluding consumption from that term, were fatal to the population of the several sub-divisions of St. Giles, in the following order :—

1.	Russell Square locality,	42	acres,	10	deaths,	14·3	p.c. total mortality.
2, 3.	Bloomsbury Square	27	„	17	„	13·3	„
	Lincoln's Inn Fields	13	,	8	„	14·5	„
4, 5.	Bedford Square	25	„	15	„	22·4	„
	Coram Street	28	„	25	„	19·7	„
6, 7.	Short's Gardens	14½	„	31	„	13·5	„
	Southern Drury Lane	14	„	25	„	20·5	„
8.	Northern Drury Lane	14	„	40	„	19·6	„
9, 10.	Church Lane	12	„	36	„	32·2	„
	Dudley Street	13	„	59	„	20·1	„

This order is not found to hold good equally for lung diseases, acute and chronic ; in the acute lung diseases, the locality of Dudley Street would easily distance all the rest; while Church Lane district appears also at the end of the foregoing list, by virtue of its excess in chronic lung disease. Without here presenting a separate analysis of the acute and chronic kinds, it may be stated generally that the former were most fatal to those places which contributed prominently to the mortality from zymotic disease, while chronic maladies of the lungs have affected the ten localities almost in the order in which they were attacked by consumption. This last circumstance would of course be anticipated, and it is capable of the same partial explanation that has been given for consumption.

It would be obviously improper to lay much stress on the exact position held by the ten localities in regard of the characteristic diseases of the district, seeing that the facts relate only to a single year; but I think there can be no question of the importance of the general result obtained; and it will be a matter of increasing interest to watch how the several localities arrange themselves in the same respects, from one year to another.

But I must call attention to the very strong corroboration which is afforded to the views previously expressed on the causation of the diseases of St. Giles, by this examination of the localities where they were most fatal in the year 1857.

In occupying the centre of a town, in climate and soil, in sewerage and in water supply, there is really but little difference in favor of those localities which are so much healthier than the others, but the comparison is strongly in their favour on the questions of poverty, dirtiness, and crowding of houses. This condition of over-crowding, as it is the effect of poverty, and a most important cause of dirtiness, might of itself be considered as the exponent of the other two conditions; yet it is not only through privation and filthiness that over-crowding produces its baneful effects. Physically and morally, by its direct operation on the body, and its indirect action on the homes and habits of the poor, I fully believe in the adequacy of over-crowding to produce the very results which are observed in the mortality of St. Giles.

We may observe in the first place how surrounding districts stand with St. Giles, in respect of this source of disease. It must be remembered that a high average number of people inhabiting the houses of a district, though not enough to be

objectionable if equally distributed, practically indicates that in a certain proportion of houses there is great and serious over-crowding; the extent of the injurious over-crowding may therefore—(assuming the sizes of the houses, one with another, to be the same)—be taken to be indicated by the magnitude of the average. Now neither in Holborn, nor in the Strand, nor in St. Martin's, can I find any large area tenanted with 14·3 persons to each house, as is the case in South St. Giles. Some parts of Holborn, indeed, were nearly as thickly inhabited as this, at the census of 1851, but the subject of over-crowded houses has since then attracted much attention in this district, and applications have often been made to the magistrate with success, for the diminution of the number of tenants in extreme cases. To such precautions I do not doubt, that the high position of Holborn among other districts, last year, was in great measure attributable.

In like manner, the different parts of our own district differ from one another, the over-crowded localities being especially scourged by disease. There is no doubt that large tracts of the district, several of the ten sub-divisions I have adopted, are occupied by as many as 16 or 18 persons to the house. In one street, of which I have a census, there are above 1,700 inhabitants in 80 seven-roomed houses. As I have before insisted, the high average of persons in a house, involves the prevalence of much more serious crowding in the particular instance; hence it will not be astonishing that in this street there are to be found 36 persons living in one of the houses, and frequently 8 persons living day and night in one small room.

One cannot often analyse the causes which operate to produce disease in a community. It is only occasionally that one can get evidence of a single condition, operating in one locality and not in another, with all circumstances else being fairly similar.

I happen by a piece of good fortune to have obtained an illustration of this sort, regarding the particular condition of over-crowding. *(See two following pages.)*

I cannot conceive anything more absolute and startling than this comparison, though it is made for one year only. This enormous death-rate, this amount of zymotic disease, and this frightful mortality among children, which are exhibited to us in the one street, and not in the other, appear to own as their cause solely the existence of over-crowding, with its attendant evils.

Since this investigation was instituted, a return has been made by the District Surveyor, showing how far the kitchens of Dudley Street are legally habitable; it appears that there is scarcely one which, even in a majority of particulars, conforms to the requirements of the Act of Parliament.

Other sanitary defects, many of them the immediate results of the over-crowded state of dwellings, have received ample attention from the Board and its officers; but hitherto the condition of over-crowding itself, I believe the most important sin against health of our district, has practically remained unnoticed.

To diminish over-crowding is not only to ensure purer air to be inhaled, but it gives a possibility of cleanliness and of decent self-respect, which would prevent the neglect and misuse of other appliances for health. In a street with 1,700 inhabitants, in a house with 36 inmates, with the front door and stair-case at every man's command,

Street.	Inhabitants, from Inspectors' Returns. about	Inhabitants per House.	Sanitary condition of Houses, in general terms.	Deaths from all causes, 1857.	Deaths from Zymotic Diseases, 1857.	Remarks.
DUDLEY STREET. —o— 82 houses of about seven rooms each. —o— None common lodging-houses.	Men .....435— 25 p.c. Women...527— 31 p.c. Children .758— 44 p.c. Total ...1720 (100 p.c. (Col. 2.)	Average, 21. Largest number, 36. (Col. 3.)	Indifferent. One-half dirty. Privies frequently dirty. 59 per cent. of them without water. Kitchens closely tenanted. (Col. 4.)	In Street .....53 Taken to Workhouse ill, and there died, 9 Died in Hospitals, 3 Total .....65 Per thousand inhabitants. 38·0. (In metropolis generally, the death-rate was 22.5). (Col. 5.)	In Street ... 18 In Workhouse 1 In Hospital... 1 Total .....20 Per centage of total mortality, 30·8. Deaths from Zymotics, per thousand inhabitants. 11·6. (In metropolis, Zymotic death-rate was 4·9.) (Col. 6.)	Dudley-street has been under charge of the Sanitary Inspector during the latter third of the year. The statements in column 4, refer to its condition on first inspection,

Deaths in Children under five years of age, 1857.		Deaths from Tubercular Diseases (Consumption, &c.) 1857.		Deaths from Diseases of the Lungs (excluding Consumption) 1857.	
In Street ... 34 In Workhouse 4 In Hospitals.. 0 Total 38	Per centage of total mortality, 58·4.	In Street and Workhouse, 16.	Per centage of total mortality, 24·6. Deaths from Consumption, &c. per thousand inhabitants, 9·3. (In metropolis, this death-rate was 3·8.)	In Street and Workhouse. 12.	Per centage of total mortality, 18·4. Deaths from Lung Diseases, per thousand inhabitants. 7·0. (In metropolis, this death-rate was 4·1.
(Col. 7.)		(Col. 8.)		(Col. 9.)	

(Col. 1.) (Col. 10.)

Street.	Inhabitants from Inspectors' Returns, about	Inhabitants per House.	Sanitary condition of Houses in general terms.	Deaths from all causes, 1857.	Deaths from Zymotic Diseases, 1857.	Remarks.
Little Coram St. —o— 33 houses of about seven rooms each —o— None common lodging-houses.	Men ..... 86— 23 p.c. Women..122— 33 p.c. Children.162— 44 p.c. Total ... 370 (100 p.c. (Col. 2.)	Average, 11. Largest number. 20 (Col. 3.)	Good. Clean. Privies mostly clean, 53 per cent. of them without water. (Col. 4.)	In Street..... 7 Taken to Workhouse ill, and there died, 2 Died in Hospitals, 2 Total ..... 11 29·7 (see above.) (Col. 5.)	None. Per centage 0·0. (Col. 6.)	This is by no means a good street: its inhabitants are very poor for the most part, and the mortality from all causes is just at the high average of the District generally.

Deaths in Children under five years of age, 1857.		Deaths from Tubercular Diseases, (Consumption, &c.) 1857.		Deaths from Diseases of the Lungs (excluding Consumption) 1857.	
In Street..... 3 In Workhouse 0 In Hospitals., 0 Total 3	Per centage of total mortality, 27·2.	One.	Per centage of total mortality, 9·1.	None.	Per centage. 0.0
(Col. 7.)		(Col. 8.)		(Col. 9.)	(Col. 10.)

* Note.—From the above statement it follows (col. 5) that if *the whole population of London* had died at the rate of the inhabitants of *Dudley Street*, there would have been 41,437 additional deaths from all causes, (the actual mortality in the year being 60,159.)
There would have been (col. 6) 17,898 additional deaths from Zymotic (Epidemic) diseases alone, (the actual mortality from these being 13,090.)
There would have been (col. 8) 14,526 additional deaths from Consumptive diseases alone, (the actual mortality from these being 10,217.)
There would have been (col. 9) 7,702 additional deaths from Lung diseases alone, (excluding consumption)—(the actual mortality from these being 10,890.)

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one certainly finds the water taps stolen, the privies broken, the dust bin lids burnt, and the Sanitary Inspector must be unremittingly at work to get remedies for the causes of disease which are thus newly generated.

It would be very advisable to begin at the other end, if it were possible, and try to diminish the crowded state of the houses.

To affect this object we have two clauses in existing statutes (the Metro. Local Management Act, sec. 103; and Nuisances Removal Act, sec. 29) and the tendency of legislation is to increase the powers of the local authority in this direction. Measures have actually been taken in many districts to diminish the number of inmates of a house in extreme instances. The same could be applied in the more flagrant cases of St. Giles, with even greater certainty of success.

Although I believe that such measures could be successfully taken, and that they ought to be taken in some prominent instances, I am not unmindful of the very very serious difficulties which are in the way of any extended scheme of operations of this sort. We might indeed turn some hundreds of persons from their houses, houses in which they have sickened and died, but if there be no place ready for their reception, I fear we shall have done as much harm as good. To empty the cellars, and to thin the residents of the other rooms of Dudley Street alone, so as to allow each person the very minimum of space required for moderate health, this single proceeding—which might be done to-morrow if you so willed it—would turn out of doors some three or four hundred persons to choose between the streets, the workhouse or some neighbouring region which they would overcrowd to a double degree. The question is one of extreme complicity and delicacy, but its importance demands that it shall be considered in spite of its difficulties.

Something may be done by frequent inspection as to cleanliness, and by insisting on the efficient ventilation of rooms, a point which has scarcely yet been thought of in this district, but which had the attention of some Officers of Health, and which has been enforced by Magistrates on their representations. Thus a large number of persons might be accommodated without disease, who now suffer from the effects of the close crowded atmosphere. Still under hardly any circumstances of ventilation should more than two adults and three children occupy together a room of ordinary size; each might then get nearly what is permitted as a minimum in common lodging houses, or about one-half the allowance of a criminal in our model prisons. Less than this, we should, I think, try to prevent.

As this remedy, however, is at the best very partial, and does not touch several important vices in the present system of overcrowding, I should like to raise the practical issue whether or not it would be advisable to adopt the provisions of the "Labouring classes lodging houses Act" in this district. I can see many theoretical and not a few practical difficulties in the way of a scheme which shall make the parochial authorities the landlords and supervisors of a large number of tenements; but when I look what the effect would be of erecting such institutions on a sufficient scale, adapted to the wants of all classes, and becoming popular even among the lowest;—when I am convinced that the houses might be made to pay well, and that disease and pauperism would decline

with their prosperity;—when I know that the laws against overcrowding could then be exercised without scruple, and that from that moment some hundreds of lives would be annually preserved; with all these convictions, I feel it my duty to raise the question, at whatever risk of being thought wild and Utopian.

Chapter IV.—*Deaths and Diseases in Public Establishments, during* 1857: *in the Workhouse, the Common Lodging Houses, and the Model Lodging Houses.*

Table IX of the Appendix, gives a detailed account of the diseases and deaths in the Workhouse practice, both within the walls of the house, and among the out-door poor. The chief points of interest are these:—

The Infirmary received in the year 1037 cases, being fewer by 112 than in 1856. Their mortality was 239,* which was not only an actual, but a relative improvement on the deaths of the preceding year. Of course, this 23 per cent. is a very high mortality, but it is fully explained by the class of patients who come under treatment. Both the number of cases and the mortality were considerably greater in the spring than in the other quarters. Not only were diseases of the lungs and consumption prevalent and fatal in the early months of the year, but an unusually large number of zymotic diseases were received, chiefly of fever and measles: these, however, did not add materially to the death-register.

The patients who attended at the Workhouse, offer little for remark beyond a general improvement on 1856 in the numbers of most complaints; diarrhœa, of course chiefly in the autumn, was however more prevalent than in the former year by eleven hundred cases against nine hundred. Bronchitis also shows larger figures in nearly the same proportion.

Those who were visited at their own homes were 1786 in number, against 1525 in 1856. I have no doubt that a portion of this increase is attributable to the very deserved popularity of the new Visiting Surgeon of the Workhouse, but the increase affects some diseases more than others. These are chiefly measles and diarrhœa among the zymotic diseases, and bronchitis. Here the epidemic of measles, which ravaged Lincoln Court in the summer, makes a prominent appearance, one-half the cases of measles of the whole year being on the visiting book of those three months.

Although the fact does not appear in my table, I am able to state from constant inspection of the books, and from conversation with the Medical Officers of the Workhouse, that idiopathic fever, fatal or not, has been a comparatively unfrequent disease in their practice, and that true typhus, especially, has been almost absent from the district.

I have attempted to compare the total mortality in St. Giles Workhouse, with that of the Workhouses in the surrounding districts; but as the bare figures might lead to false conclusions, without the precaution of some very lengthy statements in explanation, I shall omit them, and only give the result for our own district.

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*248: Reg. Gen., the discrepancy being from discordance in times of death and registration.

The proportion of the population of each district that died in the Workhouse, was, in 1857, largest in St. Giles, more than twice as large as in the town generally, (45·7 and 21·4 per 10,000 inhabitants.) This follows, of course, from the poverty of the district, and from difference in the way of distributing medical relief.

The district was also at the bottom of a list which was made to compare the deaths of the year in the Infirmary with the census of the Workhouse, but here the same reasons deprive the enquiry of its significance, the tendency in St. Giles being stronger than elsewhere, to give in-door relief rather than out-door.

The common lodging houses have been examined for 1857, in regard of their disease and mortality. It will be seen that in Table X., which is appended, I have taken other houses in the same streets, as the fairest and most useful standard of comparison. Each street is separately examined in the appendix, and the following is the general result :—

	MORTALITY IN 1857.			Number of foregoing Deaths which occurred in Workhouse	Zymotic Diseases, (not fatal,) brought under notice of Medical Officer of Health.
	Zymotic Diseases.	Consumptive Diseases.	All Causes.		
100 Common Lodging Houses.....	6·0	33·3	106·0	62·1 p.c.	24·2
100 { Other houses in the same streets	24·1	13·2	79.0	10.0 p.c.	57·3

The deaths from all causes in common lodging houses, in 1857, including those taken thence to the workhouse and to hospitals, are found to have exceeded the deaths in the other houses around them, in the ratio of 11 to 8. As would be expected, the disparity on the workhouse death-roll is incomparably more striking ; indeed three-fifths of the whole number of deaths referrible to common lodging houses, are found on that register ; while of those deaths which are placed to the account of other houses in the same streets, one-eighth part only appears on the death-book of the workhouse.

It will be seen that zymotic disease was less rife in the common lodging houses than in the neighbouring houses. From a hundred ordinary houses in Charles Street, Church Lane, Queen Street, and elsewhere, two-and-a-half times the zymotic cases came to my notice, as from the same number of common lodging houses in the same streets. It would further appear likely, that even where zymotic disease has occurred in these houses, it has not been so fatal as if it had broken out in the houses around, for the number of Zymotic *deaths* in common lodging houses, is only one-fourth (not one-half or one-third as of the *cases of disease*) of the number in contiguous houses.

The disease, which in 1857 did especially affect common lodging houses more than their neighbours, was consumption. The reason of this will be evident from what has been stated concerning the class of persons who use the common lodging houses.

As their strength declines, these consumptive patients are compelled to seek a home in the workhouse, and there they die. Chronic Bronchitis and some incurable brain diseases, follow the like rule.

A few suicides add to the number of deaths referred to these houses, but none of those unexplained deaths of children, which occasionally have excited sad suspicion, have been registered as occurring in common lodging houses.

The mortality and disease in the Model Lodging Houses have been as follows, for 1857:—

In the *Streatham Street* buildings, there have been five deaths, four of which were in young children, two from whooping-cough. The death-rate on the population—as far as it is fair to deduce it from such small numbers—was therefore only 15 per thousand, better that is than Bloomsbury, and more than twice as good as the Southern portion of St Giles.

In these model lodging houses any zymotic disease would probably come under the notice of the Officer of Health; it is gratifying to him to state that among the large number of children and others living here, he has only heard of six cases of disease of this class during the year, including the two deaths from whooping-cough.

Among the tenants of the houses in *Wild Court* there was a much larger mortality. Eleven deaths which occured there represent a death-rate of 31·4 in a thousand, a very much smaller rate than that of the sub-district in which the Court is placed, but still it is larger than the average of St. Giles.*

Of these eleven deaths, five were from zymotic diseases whooping-cough, two; measles, two; and the other scarlatina. Four of these five, however, happened among two families. No death from Wild Court appears on the books of the workhouse, but one was ascertained from the register of Charing Cross Hospital. Besides the deaths, I have accounts of nine other cases of zymotic disease in this court. Five of them were in one house, and three in another, this latter house having also given a death from measles, and another from scarlet fever.

In the improved houses of *Clark's Buildings* there were, in 1857, twenty deaths, seventeen registered at the houses, and three occurring in hospitals; nine of these were from consumption and lung diseases, chiefly of the chronic kind; seven were from zymotic maladies, and comprise two of whooping-cough which died at the Children's Hospital, two of scarlatina, one of measles, one of fever, and one of diarrhœa in an infant. I have also memoranda of 16 other diseases of this class which did not prove fatal.

Such maladies as these, with the enormously high general death-rate, (in so far as they are not accidental for the one year) may be partly accounted for by the absence of all efficient supervision to the houses, which were dirty and

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* In spite of the precautions taken by the Society which owns these houses, the privies and dust-bins of this Court were sometimes found sadly misused. The same was even more positively the case last year in Clark's Buildings.

crowded to such an extent as to assimilate the court very closely to the neighbouring "rookery." Under the administration of a new Superintendent, matters are changing considerably.—*(See Note page 39.)*

The mortality of the Model Lodging Houses *for Single Men* was notably lower than that of other common lodging houses, a circumstance due to a portion of their residents being decidedly superior in social position to those of other such houses. I have only been able to trace five deaths among all the persons who have been the tenants of these houses in 1857. Two died in King's College Hospital, one in the Middlesex, another at the Workhouse, besides the Superintendent of the King Street Establishment, who died at his house. No diseases are known to have prevailed among the inmates of these houses, with the exception of venereal complaints.

I now bring to an end my examination of the deaths and diseases of St. Giles, in 1857; if it has exceeded ordinary limits, I trust it will be granted that I have condensed as much as possible the multitude of facts which I have accumulated.

Chapter V.—*Operations of the Officer of Health and Sanitary Inspector, in the Year ending March 25th*, 1858.*

House improvement, it is evident from all that has gone before, must be one of the chief anxieties of the Health Officer. St. Giles is one of the districts which, from the wisdom of its authorities, as well as its small size, has always been able to exhibit some work in this direction; but until lately it was only during some panic or epidemic that a systematic house-visitation was thought desirable. Since the excessive mortality of ordinary seasons in St. Giles has been better recognized, a sense of the importance of obtaining at all times cleanliness and good drainage in the dwellings of the poor has been increasing.

The staff of Inspectors being already well engaged on surveying duties, the Board determined, at the end of July last, to appoint experimentally a special Sanitary Inspector. The services of Inspector Webb were secured, and he has since been at work in the districts where the mortality is greatest. Since this appointment, the other two Inspectors have confined their attention to the complaint-book, and to any nuisances which fell under their own observation, but they have abandoned house-visitation, and have, indeed, had very few instructions from me, their duties appearing to lie in another direction.

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* This is the end of the year, according to the Metro. Act, for reporting sanitary progress.

For the first three months of Webb's appointment very full reports were brought to me of the houses inspected, and many valuable facts came to light; for example, the inspection included a census of the men, women, and children of every house, a piece of information we have frequently been in want of in the foregoing report. But it was found that so much time and writing were required to obtain these results, independently of the analyses of them which I took upon myself, that we were obliged to curtail the returns to an enumeration of those points in which the houses were found deficient. The immediate cause of the change was the alarm of cholera, which came from Stratford; it was necessary that the house survey should be more rapid, and accordingly for a while Webb had the co-operation of Inspector Mayes in house-visitation, until it was found that other duties were neglected under this arrangement, and Mayes was obliged to return to them. The great inequality of the results obtained by the three Inspectors, as shown in the Table which follows, is intelligible from the preceding statements. *(See next page.)*

I trust that the figures on this table will be compared with the results obtained in 1856. The immense increase in the works done is solely due to the appointment of the Sanitary Inspector. This table represents an outlay of several thousands of pounds, incurred by individuals at the instance of your Board, with enormous profit to the district, and scarcely any expense to the rates.

The ordinary mode of procedure has been under the Nuisances Removal Act, though in one or two cases notices have been served under the Metropolis Local Management Act; but no works have required to be executed in pursuance of the provisions of this latter statute.

The mode of operation has been for the Sanitary inspector to examine the houses of a street in rotation; to serve notices for the improvement of those which are found defective; to call several times to see that the works are commenced, and several other times to see them fairly carried into execution. The notice approved by the Surveyor and Medical Officer is signed by the Clerk: in case of neglect it is followed by a semi-official letter from the Medical Officer of Health, calling attention to its provisions, and urging the necessity of the works in a sanitary point of view. If still no action is taken, the matter has been brought before the Sanitary Committee, with the opinion of the Officers on the case; they present recommendations to the Board, and proceedings before a Magistrate are then generally ordered to be taken. I believe all the cases have been more or less successful that have been brought before a Magistrate.

On the Magistrate's order being made, the parties liable have generally done the work, though they have occasionally still neglected it; in these instances there has been considerable delay.

I would venture to suggest one or two improvements which my experience has shown to be required in our mode of procedure.

			Drains.			Cesspools		Water Closets.				Dust Bins		Pave-ment.		General Water supply			General improvement				Proceedings taken.		
	No. of Houses inspected.	No. of visits paid (approximate)	Number constructed.	Improved or repaired.	Traps fixed.	Abolished.	Cleansed, &c.	Pan, trap and water supply.	Newly constructed or rebuilt.	Cleaned or repaired.	Water supply provided.	Constructed.	Repaired.	Constructed.	Relaid.	Receptacles provided.	Receptacles repaired.	Water supply provided for house.	Generally repaired.	Cleansing and Limewhiting	Ventilation.	Filth removed from cellars, &c,	Notices issued.	Summons.	Reports to Police.
Inspector Webb, eight months' house visitation.	591	7866	66	47	212	65	1	111	36	35	130	54	28	4	81	77	13	3	45	263	16	29	374	3	15
Inspector Mayes, one or two months' house visitation.	?	?	8	4	25	9	—	14	9	16	37	2	1	—	10	—	3	—	3	62	—	1	161	5	—
Inspector Mayes, on complaint of nuisances, twelve months.	128 Complaints attended to, 11 of which were unimportant.		7	15	3	5	—	1	—	5	6	2	—	—	—	—	—	—	—	3	—	7	50	1	1
Inspector Braddick, on complaint of nuisances, twelve months.			19	18	1	18	—	5	5	21	12	—	—	—	6	—	—	—	—	about 40	—	2	60	—	3
Total improvements effected in the year.	—	—	100	84	241	97	1	131	50	77	185	58	29	4	97	77	16	3	48	368	16	39	645	9	19

In the first place, as so much reliance is placed on the moral suasion of the Sanitary Inspector, it appears desirable that his authority should be backed by the extra importance which a *uniform* affords. In this way only—which has been adopted with advantage in other districts (he would be able to reduce the number of his visits to nearly one-half) at present they are about 14 or 15 to each house on the average—and his usefulness would be materially enhanced.

Next, it would appear advantageous to employ the Metropolis Local Management Act more freely than hitherto. The Nuisances Removal Act was never intended for the *systematic* improvement of a district, while the Metropolis Act directly proposes this as its object. Hence such a matter as water supply to privies is not clearly insisted on in the former statute, and many Magistrates refuse to include it in their orders. In failing to establish a point of this kind by law, after it has been insisted on in a notice, a serious blow is given to the moral influence and power of the Board.

I am happy to say that this opinion has been expressed by your Clerk in a special report on the sanitary statutes; and that the alleged difficulties in the procedure of the Local Authority under the Metropolis Act has arisen from some informality which each proceeding of the kind will enable other Local Authorities to avoid.

Again, whether the ultimate procedure be a notice under the Metropolis Local Management Act, or a Magistrate's order under the Nuisances Removal Act, it is essential that such orders should be strenuously carried into effect. Under the latter statute, there is a ready way of enforcing a Magistrate's order, without the Board performing any of the works, or spending any money. This has been employed with success in other districts, and consists in summoning the parties in default for the penalty attaching to their neglect. They are warned from the Bench that the work must be done, and threatened with the full penalty of 10s. for every day of further delay.

If I appear to have transgressed the strict line of my province in offering these suggestions, I trust I may be forgiven on the plea of my zeal for the welfare of your district, and anxiety that the authority of your Board may be everywhere vindicated.

The other operations of the Officer of Health have been very miscellaneous. With the Surveyor, Sanitary Inspector, and sometimes with members of your Board, he has visited at the cow-sheds and slaughter-houses, and has given personal instructions on matters that have fallen under his notice; besides presenting detailed reports on the condition of these establishments to the Board. In an appendix will be found a set of rules drawn up for the guidance of the cow-keepers of the district; which have been acted on in some instances,* but unfortunately will require for the most part to be enforced by law. Other trades, too, have received visits; tripe-boilers, fish-friers, and pork butchers, but as a rule only in consequence of complaints.

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* I think it fair to particularize Mr. Milsom's, of Little Wild Street, whose cow-house has been greatly improved in consequence of instructions from the Board.

In consequence of suggestions from me, two papers have been drawn up and circulated, the one to request the discontinuance of the custom of giving drink money to dustmen, the other for the establishment of a trade-refuse cart. I fear neither of these proposals has been worked out to the point I should desire.

A special report was made on the nuisances arising from the escape of gas, and another on the water-supply of the district, with analyses. The latter is for the most part embodied in the first part of this report.

On the outbreak of cholera at West Ham, last October, I made representations to the Sanitary Committee who, kindly seconding my views, obtained permission from the Board that lime-whiting should be freely used in and about the homes of the poor; that the Sanitary Inspector should continue and be aided in his operations, and that certain pumps whose water was shown to be impure, should be closed.

The alarm passed away, and lime-whiting was hardly employed at all, and the pumps whose water was so bad are now open for any one to drink that pleases. I have stated my belief that bad water adds to the disease of a district, in ordinary as well as in epidemic seasons, and should be very glad to see the keys of all these pumps kept strictly by the men who have charge of the water carts.

Complaints having been made to the Board of Works, of the effluvia arising from the vaults under the church of St. George, Bloomsbury, they were carefully examined and reported on by the Surveyor and myself. We were of opinion that the best thing to be done, was to remove the paving and a certain depth of earth, place the coffins in the excavation, and replace the soil and paving upon them. It was felt that a proceeding of this magnitude involved too serious and extended considerations to be carried out without much deliberation; and it was resolved by the Sanitary Committee to lay our project before Mr. Grainger. On application being made to this gentleman, who is the Medical Referee of the Home Office in matters relating to the Burial Acts; he thought it his duty carefully to examine, not only the vaults complained of, but all the burial vaults of the district. After numerous consultations with ourselves and his colleagues, and looking at the entire subject from every point of view, Mr. Grainger sketched the draft of a report to the Secretary of State, containing recommendations almost literally the same as those which had been presented to the Board by the Surveyor and myself. In these necessary preliminaries, however, so long a time elapsed that the warm weather was approaching before his recommendations could be carried into effect. Hence as it appeared very indiscreet to attempt any movement of dead bodies in the hot weather, and as Mr. Grainger was of opinion that there should be no delay in improving the vaults under St. George, he introduced some modifications into his original report to the Home Secretary, recommending a species of entombment which involved no removal whatever, and which can be performed quite as well or better in the summer than in the winter.

The order in Council (20 and 21 Vict., cap. 81, sec. 23) which has resulted from Mr. Granger's report on these vaults, bears date May 7th, 1858; it is now in the hands of the authorities of the different places of worship for execution, and is as follows:—

"Now, therefore, Her Majesty, by and with the advice of her Privy "Council, is pleased to Order, and it is hereby Ordered, that the Churchwardens, "or such other person as may have the care of the Vaults under Saint George's "Church, Bloomsbury, Saint Giles' Church and Trinity Church, Little Queen Street, "the Wesleyan Chapel, Great Queen Street, and the Chapel of Saint Giles' Burial "Ground, Old Saint Pancras Road, all in the Parish of Saint Giles, do respectively "adopt, or cause to be adopted, the following measures, in respect of such Vaults, "viz:—

"1st, That where accessible, the Vaults be freely limewashed;

"2nd. That in the Vaults under Saint George's, Bloomsbury, Saint "Giles' and Holy Trinity Churches, the coffins be embedded in a mixture of fresh "earth, sand or gravel, and powdered charcoal, and be entombed in brickwork or "slate; and that in Saint George's and Saint Giles' Churches, ventilating tubes be "provided to convey any foul air that may escape, above the roof;

"3rd. That in the Old Saint Pancras Road Chapel, the trap door, "opening from the vaults into the Chapel, and the entrance leading into the vaults, "be bricked up;

"4th. That the coffins contained in the vaults under the Wesleyan "Chapel, Great Queen Street, in the parish of Saint Giles, be, separately, buried in "the earth under the Chapel; and that each coffin be covered with four feet six "inches of earth, and six inches of powdered charcoal;

"5th. That the works, so far as relates to sanitary precautions for the "protection of the workmen, and otherwise, be effected under the superintendence "of the Medical Officer of Health of the District; and that Mc Dougal's Powder "and other disinfectants be employed whenever requisite."

WM. L. BATHURST.

I must mention, however, one little circumstance about the Vaults under Saint Giles' vestry-room. In accompanying Mr. Grainger in his inspection this was found closed, and it was felt desirable, as Mr. Hunt had previously felt that something should be known of the state of the interior. Very readily and courteously Mr. Churchwarden Adams fell into these views, and caused the

vault to be opened. It was found to be well arched and ventilated, and to contain only a few bodies, from which there was nothing offensive perceived; for the most part the coffins were empty. The vault was limewhited well by Mr. Adams's direction, and the fastenings again made secure.

In concluding this account of what has been done in sanitary matters, I must thank the Board for the sympathy with which they have worked with me, in the discharge of the difficult duties of an Officer of Health.

The possessor of this office can never become popular—his functions bring him into constant collision with the apparent interests of many influential persons—and he is gratefully welcomed only by the poor, who, from ignorance or subservience, cannot raise their own voices to improve their condition; hence the need that his hands should be strengthened by the Board for which he works, and hence the immense value of that cordiality which I for myself would gratefully acknowledge.

GEORGE BUCHANAN, B.A., M.D., LONDIN,

Lic. Roy. Coll. of Physicians, &c., &c.

Medical Officer of Health.

4TH JUNE, 1858.

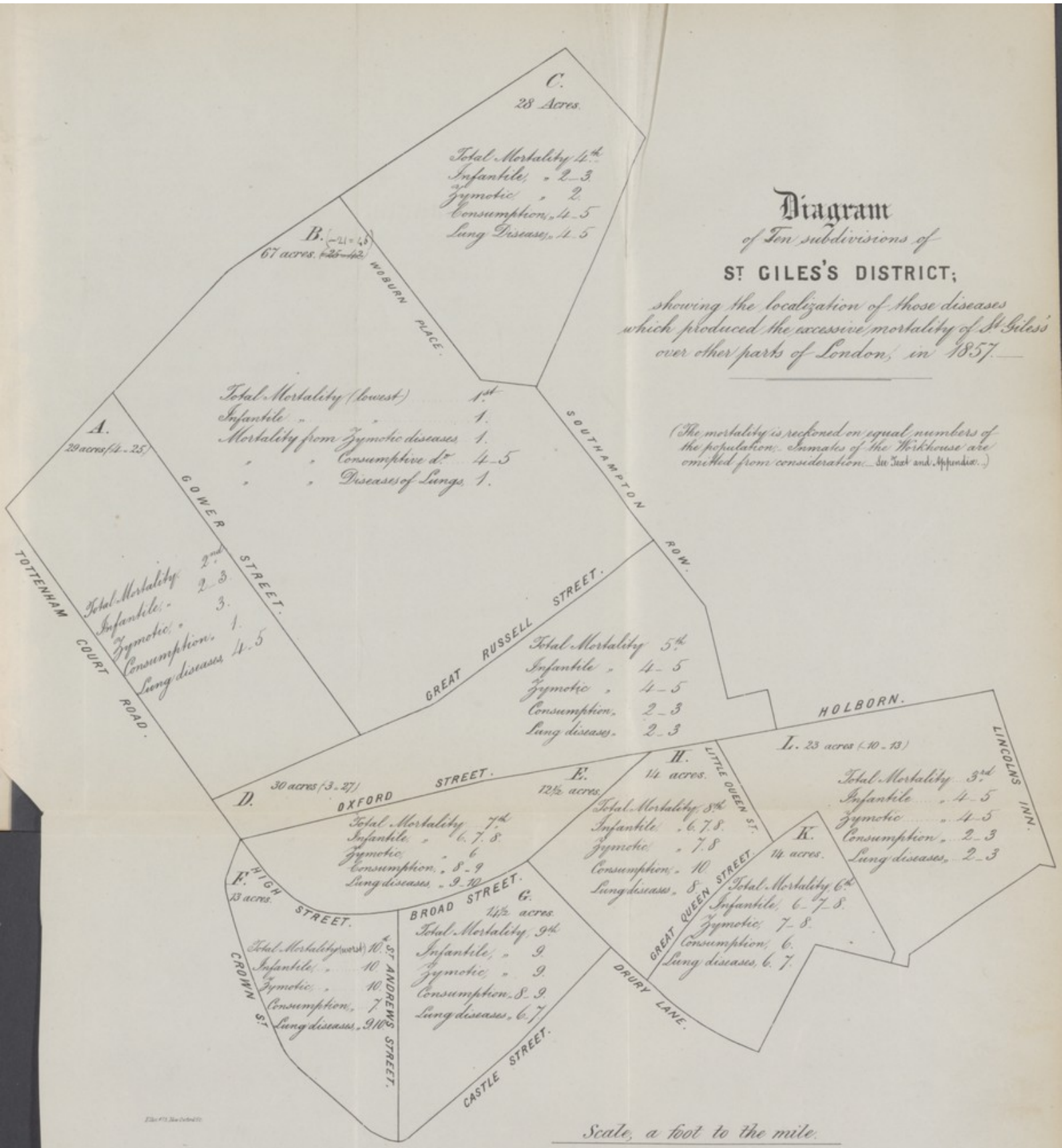
Diagram

of Ten subdivisions of

St GILES'S DISTRICT;

showing the localization of those diseases which produced the excessive mortality of St Giles's over other parts of London, in 1857.

(The mortality is reckoned on equal numbers of the population. Inmates of the Workhouse are omitted from consideration. See Text and Appendix.)



Scale, a foot to the mile.

APPENDIX.

TABLE I.—Deaths in Hospitals referred to Districts, obtained by Enquiries at the Hospitals, &c.

Districts.	Total ascertained deaths in London Hospitals.	King's College Hospital, (Strand.)	Middlesex Hospital, (Marylebone)	Charing Cross Hospital, (St. Martin's.)	University College Hospital, (St. Pancras.)	Children's Hospital, (Holborn.)	St. Bartholomew's Hospital, (Wt. London)	Royal Free Hospital, query, a correct return. (St. Pancras.)	London Fever Hospital, (Islington.)	Westminster Hospital, (Westminster) [estimated.]	St. Mary's Hospital, (Paddington.) [estimated.]	Number of deaths in Hospitals out of the District.
St. Pancras	137	13	35	5	**54**	10	11	**3**	6	—	—	80
St. Marylebone...	107	5	**34**	3	11	0	5	2	17	—	30	73
Metropolis.....	3340	183	205	91	147	55	607	68	163	—	—	—
Holborn.....	67	5	5	1	2	**9**	36	3	6	—	—	58
Strand	86	**42**	13	16	3	1	3	0	8	—	—	44
St. Martin's	45	9	5	**14**	1	0	2	0	0	14	—	31
St. Giles.....	90	25	22	14	10	10	7	1	1	—	—	90

TABLE II.—Births in 1857, in Sub-Districts.

Births in 1857.	St. George, Bloomsbury.		St. Giles, South.		St. Giles, North.		Whole District.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Total.
First Quarter.....	53	50	137	119	83	67	273	236	509
Second „	41	50	108	86	69	72	218	208	426
Third „	45	40	113	97	82	69	240	206	446
Fourth „	60	59	91	109	73	77	224	245	469
Whole year	199	199	449	411	307	285	955	895	1850

TABLE III.—Diseases and Ages.—St. Giles, 1857.

CAUSES OF DEATH,	All ages.	Under 2.	2, and under 5.	5, and under 10.	10 and under 20.	20 and under 30.	30 and under 40.	40 and under 50.	50 and under 60.	60 and under 70.	70 and under 80.	80 and under 90.	90 & under 100.
All Causes	1461	527	170	48	30	76	89	113	143	122	88	42	4
Specified Causes	1445	520	170	48	39	76	89	110	139	120	88	42	4
1 Zymotic Diseases	332	176	92	25	11	9	4	2	8	1	2	2	...
Sporadic Diseases :—													
2 Dropsy, Cancer, & other Diseases of uncertain or variable seat	52	2	...	1	1	...	6	11	16	8	5	1	1
3 Tubercular Diseases	267	47	23	13	16	43	48	43	28	6	...	...	...
4 Diseases of the Brain, Spinal Marrow, Nerves and Senses	163	64	7	1	4	9	6	11	22	23	15	1	...
5 Diseases of the Heart and Blood-vessels	51	1	1	1	3	2	6	6	13	11	6	1	...
6 Diseases of the Lungs and of the other Organs of Respiration	294	96	37	3	3	8	5	13	31	59	35	4	...
7 Diseases of the Stomach, Liver, and other Organs of Digestion	69	28	2	3	...	1	10	10	8	4	1	2	...
8 Diseases of the Kidneys, &c.	13	...	...	...	...	1	2	4	3	...	1	2	...
9 Childbirth, Diseases of the Uterus, &c.	11	...	...	...	1	3	1	4	1	1	...	...	...
10 Rheumatism, Diseases of the Bones, Joints, &c.	1	...	...	...	...	...	...	1	...	...	...	...	...
11 Diseases of the Skin, Cellular Tissue, &c	2	...	...	...	...	...	...	...	1	...	1	...	...
12 Malformations	3	3	...	...	...	...	...	...	...	...	...	...	...
13 Premature Birth & Debility	55	55	...	...	...	...	...	...	...	...	...	...	...
14 Atrophy	29	19	3	...	...	...	...	...	2	3	1	1	...
15 Age	51	...	...	...	...	...	...	...	...	1	20	27	3
16 Sudden	5	1	...	1	...	...	...	1	1	1	...	...	...
17 Violence, Privation, Cold and Intemperance	47	28	5	...	...	...	1	4	5	2	1	1	...
1—Small-pox	1	...	...	1	...	...	...	...	...	...	...	...	...
Measles	59	35	21	3	...	...	...	...	...	...	...	...	...
Scarlatina	32	9	15	7	1	...	...	...	...	...	...	...	...
Hooping Cough	98	56	37	5	...	...	...	...	...	...	...	...	...
Croup	8	2	6	...	...	...	...	...	...	...	...	...	...
Thrush	1	1	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa	78	64	5	1	2	1	1	...	1	1	...	2	...
Dysentery	2	...	...	...	1	...	...	...	1	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	...	...	...	...	...	...	...	...	...	...	...	...	...
Purpura and Scurvy	1	1	...	...	...	..	...	...	...	...	...	..	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...
Remittent Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Infantile Fever	...	...	...	...	...	..	...	...	...	...	...	...	..
Typhus	37	2	7	8	5	8	1	1	3	...	2	...	...
Metria (or Puerperal Fever)	2	...	...	...	1	...	...	1	...	...	...	...	...
Rheumatic Fever	2	...	...	...	...	...	2	...	...	...	...	...	...
Erysipelas	4	...	1	...	...	...	...	...	3	...	...	...	...
Syphilis	7	6	...	...	1	...	...	...	...	...	...	...	...
Noma (or Canker)	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydrophobia	...	...	...	...	...	...	...	...	...	...	...	...	...
2—Hæmorrhage	5	...	...	...	...	...	...	3	2	...	...	...	...
Dropsy	14	...	...	...	...	...	2	2	6	1	2	1	...
Abscess	4	...	...	1	1	...	...	...	1	1	...	...	...
Ulcer	1	1	...	...	...	...	...	...	...	...	...	...	...
Fistula	...	...	...	...	...	...	...	...	...	...	...	...	...
Mortification	3	...	...	...	...	...	...	...	...	1	1	...	1
Cancer	24	1	...	...	...	...	4	6	6	5	2	...	...
Gout	1	...	...	...	...	...	...	...	1	...	...	...	...
3—Scrofula	8	3	1	3	1	...	...	...	...	...	...	...	...
Tabes Mesenterica	12	7	3	1	1	...	...	...	...	...	...	...	...
Phthisis (or Consumption)	203	9	7	6	14	43	48	43	27	6	...	...	...
Hydrocephalus	44	28	12	3	...	...	...	...	1	...	...	...	...

TABLE III (Continued.)

CAUSES OF DEATH.	All ages.	Under 2.	2 and under 5.	5 and under 10.	10 and under 20.	20 and under 30.	30 and under 40.	40 and under 50.	50 and under 60.	60 and under 70.	70 and under 80.	80 and under 90.	90 and under100
4—Cephalitis	11	7	2	...	1	1	...	...	...	...	...	...	...
Apoplexy	26	1	...	...	...	...	1	4	8	9	3	...	...
Paralysis	33	...	...	...	...	3	...	5	7	10	8	...	...
Delirium Tremens	4	...	...	...	...	2	1	...	...	1	...	...	...
Chorea	...	...	...	...	...	...	...	...	...	...	...	...	...
Epilepsy	11	...	...	...	2	...	2	1	5	1	...	...	...
Tetanus	...	...	...	...	...	...	...	...	...	...	...	...	...
Insanity	...	...	...	...	...	...	...	...	...	...	...	...	...
Convulsions	55	51	3	1	...	...	...	...	...	...	...	...	...
Disease of Brain, &c	23	5	2	...	1	3	2	1	2	2	4	1	...
5—Pericarditis	1	...	1	...	...	...	...	...	...	...	...	...	...
Aneurism	...	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Heart, &c	50	1	...	1	3	2	6	6	13	11	6	1	...
6—Laryngitis	8	3	3	...	...	...	...	...	2	...	...	...	...
Bronchitis	166	24	8	1	...	5	4	7	26	52	35	4	...
Pleurisy	1	...	...	...	...	1	...	...	...	...	...	...	...
Pneumo nia	103	68	26	2	3	2	...	2	...	...	...	...	...
Asthma	12	...	...	...	...	...	...	3	3	6	...	...	...
Disease of Lungs, &c	4	1	...	...	...	...	1	1	...	1	...	...	...
7—Teething	24	23	1	...	...	...	...	...	...	...	...	...	...
Quinsey	1	...	1	...	...	...	...	...	...	...	...	...	...
Gastritis	3	...	..	...	...	...	...	...	2	1	...	...	...
Enteritis	3	1	...	1	...	...	...	1	...	...	...	...	...
Peritonitis	7	1	...	...	...	...	3	1	1	...	...	1	...
Ascites	7	...	...	...	...	...	2	2	2	...	1	...	...
Ulceration (of Intestines)	...	...	...	..	..	...	...	...	...	...	...	...	..
Hernia	1	...	...	...	...	...	...	1	...	...	...	...	...
Ileus	3	...	...	...	...	...	...	1	2	...	...	...	...
Intussusception	1	...	...	1	...	...	...	...	...	...	...	...	...
Stricture of Intestinal Canal	...	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Stomach, &c	2	...	...	...	...	...	1	...	...	1	...	...	...
Disease of Pancreas	...	...	...	...	...	...	...	...	...	...	...	...	...
Hepatitis	2	...	...	...	...	...	2	...	...	...	...	...	...
Jaundice	9	3	...	...	...	1	...	2	1	2	...	...	...
Disease of Liver	6	...	...	1	...	...	2	2	...	...	...	1	...
Disease of Spleen	...	...	..	...	...	...	...	...	...	...	...	...	...
8—Nephritis	2	...	...	...	...	...	...	1	...	...	...	1	...
Nephria or Bright's disease	4	...	...	...	...	1	2	1	...	...	...	...	...
Ischuria	1	...	...	...	...	...	...	1	...	...	...	...	...
Diabetes	...	...	...	...	...	...	...	...	...	...	...	...	...
Stone	...	...	...	...	...	...	...	...	...	...	...	...	...
Cystitis	1	...	...	...	...	...	...	...	1	...	...	...	...
Stricture of Urethra	...	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Kidneys, &c	5	...	...	...	...	...	...	1	2	...	1	1	...
9—Paramenia	...	...	...	...	...	...	...	...	...	...	...	...	...
Ovarian Dropsy	5	...	...	...	...	1	...	3	1	...	...	...	...
Childbirth (*see* Metria)	4	...	...	...	1	1	1	1	...	...	...	...	...
Disease of Ulterus, &c	2	...	...	...	...	1	...	...	...	1	...	...	...
10—Asthritis	...	...	...	...	...	...	...	...	...	...	...	...	...
Rheumatism	...	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Joints, &c	1	...	...	...	...	...	...	1	...	...	...	...	...
11—Carbuncle	2	...	...	...	...	...	...	...	1	...	1	...	...
Phlegmon	...	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Skin, &c	...	...	...	...	...	...	...	...	...	...	...	...	...
17—Intemperance	1	...	...	...	...	...	...	...	1	...	...	...	...
Privation of Food	1	...	...	...	...	...	...	1	...	...	...	...	...
Want of Breast-milk	3	3	...	...	...	...	...	...	...	..	...	...	...
Neglect	...	...	...	...	...	...	...	...	...	...	...	...	...
Cold	...	...	...	...	...	...	...	...	...	...	...	...	...
Poison	2	...	...	...	...	...	...	...	2	...	...	...	...
Burns and Scalds	4	2	1	...	..	...	...	...	...	...	...	1	...
Hanging	2	...	...	...	...	...	...	2	...	...	...	...	...
Suffocation	23	19	...	...	...	...	...	1	...	2	1	...	...
Drowning	...	...	...	...	...	...	...	...	...	...	...	...	...
Fractures	3	...	2	...	...	...	1	...	...	...	...	...	...
Wounds	2	1	...	...	...	...	...	...	1	...	...	...	...
Other Violence	6	3	2	...	...	...	...	...	1	...	...	...	...
Causes not specified	16	7	...	...	...	...	...	3	4	2	...	...	...

TABLE IV.—Comparison of Mortality from the various Classes of Disease, in St. Giles and the Metropolis.—1857.

CLASSES OF DISEASE.	March Quarter, 1157.			June Quarter, 1857.			September Quarter, 1857.			December Quarter, 1857.		
	London.	St. Giles.		London.	St, Giles.		London.	St. Giles.		London.	St. Giles.	
		Estimated.	Actual		Estimated.	Actual		Estimated.	Actual		Estimated.	Actual
All causes	16093	328·4	393	13252	270·4	338	14259	291·0	325	16546	337·7	405
Specified causes	15873	323·9	388	13146	268·4	337	14185	289·5	321	16486	336·4	399
1.—Zymotic Class	2713	55·4	73	2413	49·2	76	4651	94·9	111	3313	67·6	72
2.—Dropsy, Cancer, and others of varying seat	660	13·5	13	600	12·3	13	565	11·5	11	688	14·0	15
3.—Tubercular class	2640	53·9	73	2540	51·8	59	2469	50·4	59	2568	52·4	76
4.—Of Brain, Nerves, &c.	1687	34·4	43	1486	30·3	37	1337	27·3	42	1713	35·0	41
5.—Of Heart, &c	731	14·9	15	588	12·0	12	412	8·4	7	640	13·1	17
6.—Of Respiratory Organs	3789	77·3	114	2259	46·1	72	1110	22·7	30	3732	76·2	78
7.—Of Digestive Organs	857	17·5	24	810	16·5	19	883	18·0	11	851	17·4	15
8.—Of Kidneys	213	4·3	1	198	4·1	2	176	3·6	4	218	4·4	6
9.—Of Uterus: Child-bed disease, &c	110	2·2	4	102	2·1	2	107	2·2	2	117	2·4	3
10.—Of Joints, Bones, &c	94	1·9	0	91	1·9	0	91	1·9	0	93	1·9	1
11.—Of Skin, &c	50	1·0	0	28	·6	1	33	·7	0	55	1.1	1
12.—Malformations	48	1·0	2	43	·9	0	46	·9	0	46	1·0	1
13.—Debility from Premature Birth	364	7·4	8	387	7·9	15	416	8·5	10	463	9·4	22
14.—Atrophy	455	9·3	3	400	8·2	7	670	13·7	8	483	9·8	11
15.—Age	684	14·0	11	532	10·9	10	491	10·0	14	653	13·3	16
16.—Sudden	149	3·0	2	124	2·5	1	80	1·6	2	155	3·2	0
17.—Violence, Privation, &c,	629	12·9	2	545	11·1	11	648	13·2	10	698	14·2	24
CERTAIN PARTICULAR DISEASES.												
Class of Disease.												
1. Small Pox	60	1·2	0	27	·5	0	41	·9	1	26	·5	0
Measles	349	7·2	16	374	7·6	20	269	5·5	17	408	8·3	6
Scarlatina	353	7·2	10	241	4·9	4	349	7·1	4	644	13·2	14
Hooping Cough	803	16·4	34	707	14·4	32	458	9·4	15	583	11·9	17
Diarrhœa	169	3·4	3	243	5·0	7	2343	47·8	58	390	8·0	10
Typhus and other Fevers	489	10·0	7	444	9·1	6	572	11·7	7	656	13·3	17
3.—Tabes Mesenterica or Abdominal Consumption	159	3·2	1	196	4·0	2	333	6·8	6	196	4·0	3
Consumption (of Lungs)	1974	40·3	57	1850	37·7	43	1636	33·4	42	1964	40·1	61
Hydrocephalus (Water on Brain.)	425	8·7	13	391	8·0	12	396	8·1	9	317	6·4	10
4. Convulsions in Children	530	10·8	13	448	9·1	12	414	8·5	15	515	10·5	15
6. Bronchitis	2161	44·1	71	1131	23·1	33	474	9·7	17	1950	39·8	45
Pneumonia (Inflammation of Lungs)	1172	23·9	36	854	17·4	31	455	9·3	10	1406	28·7	26

TABLE V.—Mortality per Thousand in London, in the Divisions of London, and in St. Giles, in 1857, and in preceding Years.

NOTE.—The numbers are computed on the population of the period named, and comparison made throughout from the printed returns of the Registrar General.

	Mean of Ten Years. 1847 to 1857.	1857, corrected to 365¼ days.
LONDON	24·46	22·20
WEST DISTRICTS.—(Kensington, Chelsea, St. George, Hanover-square, Westminster, St. Martins, St. James.)	22·76	20·81
NORTH DISTRICTS.—(Marylebone, Hampstead, Pancras, Islington, Hackney.)	22·15	21·22
CENTRAL DISTICTS.—(St. Giles, Strand, Holborn, Clerkenwell, St. Luke, East London, West London, London City.)	24·35	22·93
EAST DISTRICTS.—(Shoreditch, Bethnal Green, Whitechapel, St. George's East, Stepney, Poplar.)	25·84	24·35
SOUTH DISTRICTS.—(St. Saviour, St. Olave, Bermondsey, St. George, Southwark, Newington, Lambeth, Wandsworth, Camberwell, Rotherhithe, Greenwich, Lewisham.)	26·28	21·60
ST. GILES	26·89	26·58

TABLE VI.—Deaths from all causes in 1857, in Sub-Districts.

Deaths.	St. George, Bloomsbury.		St. Giles, South.		St. Giles, North.		Whole District.		
Population (1851.)	16807.		19951.		17456.		54214.		
	Males.	Females.	Males.	Females.	Males.	Females	Males.	Females.	Total.
First Quarter.....	30	34	122	102	51	54	203	190	393
Second ,, ...	31	42	94	79	54	38	179	159	338
Third ,, ...	26	28	84	84	43	60	153	172	325
Fourth ,, ...	38	50	88	92	75	62	201	204	405
Whole Year	125	154	388	357	223	214	736	725	1461

TABLE VII.—Deaths from certain Zymotic Diseases in 1857, in Sub-Districts.

Zymotic deaths.	St. George, Bloomsbury.				St. Giles, South.				St. Giles, North.				Whole District.				
Quarter of year.	1st.	2nd.	3rd.	4th.	1st.	2nd.	3rd.	4th.	1st.	2nd.	3rd.	4th.	1st.	2nd.	3rd.	4th.	Total Year.
Small Pox	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Measles	1	—	—	1	7	17	16	1	8	3	1	4	16	20	17	6	59
Scarlet Fever	3	—	—	5	3	1	1	5	3	3	3	4	9	4	4	14	31
Whooping Cough	6	8	4	4	20	16	8	4	8	8	3	9	34	32	15	17	98
Diarrhœa	3	1	4	3	—	5	29	5	—	1	25	2	3	7	58	10	78
Fever (including two puerperal)	3	1	2	1	3	2	1	7	1	3	6	9	7	6	9	17	39
Erysipelas	—	—	—	—	—	2	—	—	1	—	1	—	1	2	1	—	4
Croup.....	—	—	—	—	—	2	1	—	1	—	1	3	1	2	2	3	8
Syphilis	—	—	1	—	—	—	—	1	—	3	1	1	—	3	2	2	7
Totals.....	16	10	12	14	33	45	56	23	22	21	41	33	71	76	109	70	325

TABLE VIII.

Deaths from all causes in Ten Sub-Divisions of St. Giles, 138 Workhouse Deaths being duly referred to houses whence Patients brought.

Locality.	Approximate area in acres.	Quarters of year. 1st.	2nd.	3rd.	4th.	Whole year.	Add deaths in Hospitals 1857.*	Totals for 1857, corrected.
A.—Bedford-square locality	29 Acres (4 open spaces)	21	17	14	13	65	2	67
B.—Russell-square locality.....	67 Acres (4 open spaces.)	19	15	11	18	63	—	63
C.—Coram-street locality	28 Acres.	32	29	20	39	120	7	127
D.—Bloomsbury-square locality ...	30 Acres (3 open spaces.)	23	31	28	37	119	9	128
E.—Church-lane locality.....	12½ Acres.	30	25	36	46	137	6	143
F.—Dudley-street locality	13 Acres.	72	59	62	84	276	17	293
G.—Short's-gardens locality (excluding Workhouse)	14½ Acres.	97	75	73	78	213	16	229
H.—Northern Drury-lane locality...	14 Acres.	51	52	35	53	192	12	204
K.—Southern Drury-lane locality...	14 Acres.	32	22	37	27	118	4	122
L.—Lincoln's Inn-fields locality ...	23 Acres (10 open spaces.)	16	13	9	10	48	7	55
Workhouse itself, Inmates, &c.....	—	—	—	—	—	110	—	110
Total District.....	245 Acres.	393	338	325	405	1461	80 Total number is 90.	1551

Deaths among Children in the same Sub-Divisions, 138 Workhouse and 80 Hospital Deaths being considered at the houses whence Patients brought. ‡

Locality.	Children below 2 yrs. of age.	Above 2 and below 5 years.	Per centage of deaths below 2, in gross mortality.	Per centage of all deaths below 5, in
A.—Bedford-square locality	21	6	31·4	40·3
B.—Russell-square locality.....	14	4	22·2	28·6
C.—Coram-street locality	36	11	28·3	37·0
D.—Bloomsbury-square locality ...	35	20	27·3	42·9
E.—Church-lane locality	47	17	32·9	44·8
F.—Dudley-street locality.....	119	36	40·6	52·9
G.—Short's-gardens locality (excluding Workhouse)	93	35	40·6	55·9
H.—Northern Drury-lane locality...	77	22	37·7	48·5
K.—Southern Drury-lane locality...	55	15	45·1	57·4
L.—Lincoln's Inn-fields locality ...	21	6	38·1	49·1
Workhouse itself, inmates, &c.	11	5	10·0	14·5
Total District.....	529	177	34.3	45·8

* Of ten Hospital cases sufficient particulars could not be ascertained, to allow them to be referred to their exact locality.

‡ Six deaths in Heston Pauper Establishment are not considered.

TABLE VIII.—(continued.)

Deaths from Zymotic Diseases in the same ten Sub-Divisions. Hospital and Workhouse deaths being referred as before.

Locality.	Small Pox.	Measles.	Scarlet Fever.	Hooping Cough.	Diarrhœa.	Fever.	Other Zymotic diseases.	Total Zymotic diseases.	Per centage of Zymotic deaths in gross mortality of year 1857.
A.—Bedford-square locality	—	—	3	4	2	3	1	13	19·4
B.—Russell-square locality	—	—	1	1	3	4	3	12	19·0
C.—Coram-street locality	1	1	2	4	4	3	2	17	13·4
D.—Bloomsbury-square locality ...	—	1	5	16	6	4	1	33	25·8
E.—Church-lane locality	—	1	3	10	12	2	5	33	23·0
F.—Dudley-street locality	—	17	8	18	14	15	4	76	26·0
G.—Short's-gardens locality (excluding Workhouse.....	—	13	4	17	19	7	7	64	28·0
H.—Northern Drury-lane locality...	—	6	3	15	10	6	5	45	22·0
K.—Southern Drury-lane locality...	—	16	1	12	7	2	1	39	32 0
L.—Lincoln's Inn-fields locality ...	—	6	2	3	2	—	1	14	25 5
Workhouse itself, inmates, &c. ...	—	2	—	—	—	—	1	3	2·7
Total District.....	1	61	32	100	79	46	30	349	22·5

Deaths from Consumptive Diseases, and from Diseases of the Lungs, in T Sub-Divisions of St. Giles'.

Locality.	Consumptive (Tuberculous) diseases.	Per centage of Consumptive deaths in gross mortality.	Acute Lung diseases.	Chronic Lung diseases.	Lung disease, duration not specified.	Per centage of acute Lung diseases in gross mortality.	Per centage of total Lung diseases in
A.—Bedford-square locality	6	8·9	6	7	2	8·9	22·4
B.—Russell-square locality	13	20·6	6	—	4	9·5	14·3
C.—Coram-street locality	19	15·0	13	9	3	10·2	19 7
D.—Bloomsbury-square locality ...	15	10·7	8	6	3	6·2	13 3
E.—Church-lane locality	33	23·0	13	15	8	9·1	32·2
F.—Dudley-street locality	36	12·3	39	14	6	13·3	20 1
G.—Short's-gardens locality	44	19·2	17	10	4	7·4	13·5
H.—Northern Drury-lane locality...	63	30·8	19	13	8	9·3	19·6
K.—Southern Drury-lane locality..	23	18·8	9	11	5	7 4	20 5
L.—Lincoln's Inn-fields locality ...	7	12·8	3	3	2	5·5	14·5
Workhouse itself, inmates, &c. ...	12	11·0	4	30	—	3·6	30·9
Total District...	271	17·5	137	118	45	9·0	19·3

TABLE IX.—Cases of Disease and Deaths, occurring in the Practice of the Workhouse, in the Four Quarters of 1857.

Cases occurring—	Within walls of Workhouse, (Infirmary & Inmates.)										Among out-patients attending at Workhouse.					Among patients visited at their own homes.								
Quarters of the year.	Spring.		Summer.		Autumn.		Winter.		Whole Year.		Spring.	Summr.	Autm.	Winter	Whole Year.	Spring.		Summer.		Autumn.		Winter.		Whole Year.	
Cases.	New cases	Deaths	New cases.	Deaths	New cases.	Deaths	New cases.	Deaths	New cases.	Deaths	New cases. No deaths.					New cases.	Deaths	New cases.	Deaths	New cases.	Deaths	New cases.	Deaths	New cases.	Deaths
Of all diseases	344	85	253	47	197	49	243	58	1037	239*	1320	1033	1624	1144	5121	444	40	442	24	375	28	525	32	1786	124
Small Pox	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—	—	—	1	—	—	—	1	—
Measles	11	1	2	1	—	—	—	—	13	2	60	26	16	7	109	27	—	62	3	22	3	14	1	125	7
Scarlet Fever	—	—	—	—	1	—	—	—	1	—	13	1	7	1	22	16	5	6	—	10	1	5	1	37	7
Hooping Cough	7	1	2	—	5	—	3	1	17	2	22	29	11	5	67	12	2	4	1	2	1	4	1	22	5
Diarrhœa	—	—	9	—	9	—	—	—	18	—	78	156	798	80	1112	8	—	21	—	59	6	8	1	96	7
Fever †	17	—	5	—	7	—	4	—	33	—	77	103	175	144	499	18	1	49	2	67	—	122	4	256	7
Bronchitis (acute and chronic)	87	32	32	14	29	6	63	10	211	62	604	166	98	385	1253	104	11	31	—	22	3	96	4	253	18
Inflammation of the lungs & pleura.	11	7	4	2	1	—	2	1	18	10	12	7	3	3	25	16	—	22	6	6	2	12	2	56	10
Consumptive diseases	32	17	22	14	15	15	25	15	94	61	32	26	9	11	78	27	11	18	1	15	3	26	9	86	24

* In the Registrar General's returns, this number is stated at 248. (*See note, page* 63).

† The term "Fever," includes symptomatic as well as idiopathic fevers. It is impossible to separate the one class from the other in the registers of the Workhouse. There is a large proportion of idiopathic cases in the first and last divisions of the table; while in the middle division the so called "fevers" are for the most part only symptomatic.

TABLE X.—Diseases of Common Lodging-houses, compared with other Houses in the same Streets.

Street or Place.	Number of Common Lodging Houses, and of other houses.	Mortality in 1857, in Street, Workhouse and Hospitals.			Of the total mortality, the subjoined Deaths took place in workhouse	Zymotic diseases (not fatal), brought under notice of M.O.H. 1857.
		Zymotic Diseases.	Consumptive Diseases	All diseases		
Charles-street, Drury-lane.	14 Lodging-houses	1	8	21	17	5
	25 Other houses	4	5	16	4	7
Church-lane, Carrier-street Kennedy-court, and Hampshire Hog-yard.	12 Lodging-houses	1	6	18	10	5
	36 Other houses	9	4	31	1	26
Queen-street, Seven-dials..	9 Lodging-houses	1	2	6	5	1
	16 Other houses	8	2	15	2	13
George-street, estimating Model-buildings as four houses.	8 Lodging-houses	3	2	4	1	0
	14 Other houses		[illegible]	9	1	3
	(Deaths from houses in this Street: numbers of houses unknown)	—	2	3	3	1
Star-court, Cross-lane.....	6 Lodging-houses	—	—	4	1	1
	4 Other houses	1	—	2	1	1
Newton-street	3 Lodging houses	—	3	5	4	—
	25 Other houses	—	2	7	2	6
King-street, Drury-lane ...	3 Lodging-houses	—	—	3	—	[illegible]
	28 Other houses	15	10	42	6	26
Short's gardens.....	3 Lodging-houses	—	1	3	2	—
	28 Other houses	4	4	24	3	27
Orange-court, Drury-lane.	3 Lodging-houses	1	—	1	—	—
	5 other houses	2	—	2	—	—
Monmouth-court	2 Lodging-houses	—	—	4	1	2
	6 Other houses	—	—	3	—	1
Parker-street.....	2 Lodging-houses	—	—	1	—	—
	30 Other houses	6	1	21	1	11
	(Deaths from houses in this Street: number of house not stated.)	—	—	2	2	—
New-street.....	1 Lodging-house.....	—	—	—	—	—
	3 Other houses	1	—	2	1	5
Denmark-place, Regent's-place, Coal-yard, King's Arms'-yard, Great White Lion-street, Little White Lion-street, Great Wild-street.	Each *one* Common Lodging House..... 7	1	?	?	4	1
	Total other houses ... 120	15	?	?	6	32
TOTALS: excluding last seven streets:	66 Lodging-houses	4	22	70	41	16
	220 Other houses in same Streets.	53	29	174	22	126

GEORGE BUCHANAN, M.D.

REGULATIONS.

For the Management of the Cow-houses of the District, approved by the Board.

———o———

"1. Every Cow-house must be on the ground level; under-ground Cow-houses must "be disused.

"2. Every Cow-house must have such dimensions as to allow a minimum space of "800 cubic (13·0 × 6·0 × 10·2) feet of air to each Cow, it being understood that so small a "quantity will be only allowed where ventilation is good, and in consideration of the strict "observance of the other conditions following.

"3. Light and air shall be admitted in such manner as shall be in each instance "considered sufficient by the Board.

"4. The paving must be uniform, and the channels behind the cows must be of "Yorkshire stone, or of sound brick-work in cement, of the width of two feet six inches at the "least, sloping towards the entrance of the drain.

"5. Dung and other refuse must be removed from the premises every 48 hours at the "least, and be kept in covered places until its removal. The sheds must be thoroughly "cleansed twice a day, and the yards once,—cleanliness must be scrupulously observed.

"6. Every Cow-house and Yard must be provided with under-ground pipe drains to the public sewer, furnished with efficient traps at the entrances.

"7. The supply of water, whether within or outside the Cow-house, must be such as "is considered adequate by the Board.

"8. Grains and other vegetable food must not be kept long enough to become "offensive. The receptacles for the same must be kept in good repair, clean, and well covered.

"9. Every Cow-house must be lime-whited every half-year."

T. PENNY, PRINTER, 121, LEMAN STREET, WHITECHAPEL.