[Report of the Medical Officer of Health for Hackney].

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REPORT

ON THE

SANITARY STATE

OF

HACKNEY DISTRICT,

DURING THE YEAR 1856,

BY

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FIRST ANNUAL

REPORT.

To the Board of Works for Hackney District.

GENTLEMEN,

The completion of the first year of any new scheme, constitutes one of the most important periods in its history, as some opinion may then be formed of its future success, and of its strong and weak points; but, important as this is in an undertaking which involves the expenditure of large sums of money, it is yet more so in one which concerns the health, and therefore the well-being of above two and a half millions of human beings. It is with a feeling of the great responsibility which devolves upon me, as the Superintendent of the general sanitary arrangements for above 70,000 persons, that I now present to you, a brief, but I hope sufficiently explicit account of my stewardship for the past year, and of the health of the inhabitants of this large and wealthy district.

During the first months which succeeded my appointment, I employed myself in becoming familiar with the general peculiarities of the district, the general distribution of its inhabitants, and especially of the poor; for amongst them we meet with many causes of disease, from which the rich are exempt. These may be briefly enumerated as follows:—The *want* of food in proper quantities, and of good quality; of proper ventilation; of a due water supply; of well drained houses and streets; the *absence* of proper paving in front of their dwellings, and of plenty of light; and lastly, the *presence* of cesspools near their rooms, and of overcrowding. In addition to these causes of disease, may be mentioned an amount of bodily labour in excess of that required for health, and therefore the cultivation of the physical, to the almost complete neglect of the moral faculties and the intellectual powers.

In regarding a population in a sanitary point of view, these great and broad distinctions must not be lost sight of, for in proportion as a district contains a larger or smaller proportion of wealthy inhabitants, so will, *cæteris paribus*, the longevity and health of its population vary; for not only are excessive labour, a want of proper ventilation, and of a due supply of light, &c., injurious in themselves, but they are also hurtful, by producing feelings of *malaise*, langour, and mental depression, which are temporarily removed by stimulants, and therefore often induce habitual drunkenness.

Some of the effects which result from breathing vitiated air, are admitted by all; but the peculiar mental and bodily depression which arises from the retention within the system of the worn out materials of the body, and from the imperfect vitalization of the blood, are not sufficiently recognised; still less is the property of polarized light to produce these results generally known, and yet, one of the great causes of defective organization in the denizens of dark, crowded, and noisome alleys, the pest houses of London, is the want of the direct rays of the sun, which almost all creation except themselves, habitually enjoy. I mention these things to show that plenty of water, to allow of cleanliness; proper cleansing and drainage of the streets and houses, to prevent, as far as possible, dirtiness; the repair of dilapidated houses, and the improvement of their ventilation, will not only improve their physical powers, but will remove the mental depression and consequent low estimate of self, which form the almost invariable characteristics of our poorer brethren.

In the various duties which I have been called on to perform since my appointment, I have kept these sources of disease always in view, and have directed the great powers entrusted to me, under the Metropolis Local Management Act, towards their removal. In proof of this, I may instance my numerous reports on filthy, badly drained, and badly made streets; on accumulations of horse and cow manure, and of decaying vegetable matter; on effluvia from trade nuisances, including dust-yards; on contamination of open ditches by house drainage, and on overflowing cesspools. I may also mention the numerous individuals who have been summoned before you to abate these nuisances, and the frequency with which I have applied for orders to take the offending parties before the magistrates at the Clerkenwell and Worship Street Police Courts. In taking these steps, I have not only been guided by my own knowledge of the injury to health which nuisances of this kind occasion, but also by the *dicta* of the judges who have repeatedly laid down as law, that the public are entitled to pure air, and that any person who defiles it, exposes himself to punishment. How far this principle may be carried, I cannot state, for it was affirmed chiefly as regards what is called "trade nuisances;" but the magistrates at the Police Courts have acted upon it in all cases in which we have asked their adjudication, and have convicted the owners of dust-yards in such penalties as have driven them from your district, as well as persons who allowed overflowing cesspools to exist on their premises. Indeed, of all the preventible sources of disease in your district, there is scarcely any one which, in my opinion, produces greater injury to health, than human ordure, and accumulations of other excreta; and I therefore lay before you the opinion of the highest sanitary authority in this country.

In the Thirty-first Quarterly Report of the Registrar-General, are the following remarks on the injurious effect of damp localities, and of emanations from dung-heaps:—"The dwelling-houses often rest on damp undrained ground; they lie often at the bottom of pit-like depressions of the earth, instead of standing on the sides of the higher grounds, from which the water flows away naturally, and the decaying organic emanations are dispersed and decomposed by the winds. The

farm-house is often close to the farm-yard on a low part of the farm, and is surrounded by buildings, ricks, and trees; in the yard, or near it, the refuse of the house and all the animals is kept month after month, undergoing fermentations and giving off noxious vapours; and it happens, that if the air is stagnant for some days—if the temperature is high—if some sick person or diseased animal enters the place, which is surrounded by salubrious fields—the farm becomes a scene of suffering; the cattle perish by pleuropneumonias, the children are attacked by scarlatinas, the wife has low fever, or the farmer himself dies, and his name, at a premature age, is enrolled in the registers of death." Such is the deliberate opinion of the highest authority in vital statistics in Europe—such is his description of the neglect of sanitary precautions—a description which corresponds most closely with the course pursued by the small pox, in its late outbreak in this district, of which I propose laying a brief description before you.

The first case of small pox which I am aware of, occurred in Lawrence's Buildings, Newington Common, and was imported by some Irish vagrants. In this locality, which on my visit, presented a mass of filth rarely met with, the road being many inches deep in decaying vegetable refuse, worked up with the detritus of the road, into a thick paste; the pathways almost on a level with the road, and in a similar condition, from the absence of channels to carry off the surface drainage; the yards behind the houses, which are extremely small, contained overflowing cesspools and enormous accumulations of dust and decaying vegetable matter, and the houses themselves were filthy in the extreme, and very dilapidated. The smell was abominable; and in the room containing the infected children, in which the whole family lived, there was no furniture but two ricketty chairs and an old table, the only bed being a heap of dirty shavings, and their sole covering a filthy rug. As might have been expected, the small pox poison fell like a spark in the midst of gunpowder, and in spite of precautionary measures, lit up the disease in the surrounding district. *It is also most important to state, that the disease prevailed almost exclusively in those localities near which there existed open drains, or ditches fouled by house refuse, cow-yards, piggeries, or heaps of decaying manure; and also that here it assumed its most severe form, and caused its chief mortality.*

It must not be supposed from these remarks, that I consider if we had no nuisances of this kind, we should never have zymotic* diseases assume an epidemic form, or that we should remove small pox, measles, scarlet fever, or ordinary fever from our country, but merely that their presence increases the intensity of the poison.

The chief peculiarities of all these diseases, consist in the immunity ordinarily afforded by one attack against another, and in their spread from individual to individual; if, therefore, any one of these diseases breaks out in a neighbourhood, it is likely to attack all those exposed to its emanations who are susceptible to its action; but its intensity is much modified by the presence or absence of decomposing animal and vegetable matter. When it has spent its fury in one locality, it

The word "zymotic" is derived from the Greek, and signifies fermentation; as these diseases are considered to spread and produce their peculiar effects on the system by an action in the blood resembling fermentation or catalysis.

spreads to another, and rarely visits the whole of a large city, such as London, at any one time, although it prevails to a much greater extent in some years than in others. The mortality from small pox in the Metropolis in each year since 1842, shows this:— In 1843, it was 438; in 1844, 1804; in 1845, 909; in 1846, only 257; in 1847, 955; in 1848, it rose to 1617; in 1849, it declined to 518; and in 1850, to 498; whilst in 1851 and 1852, it suddenly increased to 1066 and 1166; and in 1853, it as rapidly fell to 217; in 1853, it was 676; and in 1855, 1024; whilst last year it was only 522; and will probably be less this year. I may mention that the mortality in this district from small pox during last year, (1856) was less than one per cent. of the total number of deaths.

Accumulations of human ordure are most injurious in their effects, as they produce amongst other diseases a tendency to diarrhœa in all exposed to their influence, and especially during the summer months, or when the choleraic poison is abroad. The evidence of all who have carefully investigated this subject, bears out the assertion that the only circumstance which invariably obtained in localities the most severely affected with cholera and diarrhœa, was the presence of foul accumulations close to or within the infected houses, or of some communication between them and the houses. It has been shown that elevation, density of population, wealth and poverty, materially influence these diseases, but these accumulations yet more. There is much difficulty in effectually dealing with this kind of nuisance in your district, as so large a part is undrained; and I must, therefore, strenuously urge the necessity of making sewers in all the poorer and densely crowded portions of the district, and append a list of the localities in which I consider sewers to be most urgently required. I would also draw your attention to the fact, now well established, that sewers or drains made with bricks or unglazed pipes, allow a leakage of part of their fluid contents, by which the earth in their vicinity becomes saturated with sewage matter; I would therefore suggest the use of glazed pipes whenever they can be adopted.

I also wish to direct your attention to the imperfect trapping of drains and water-closets, and trust that all new house-drains will be trapped at their entrace into sewers; the former are frequently either not trapped at all, or only at their entrance into the house or yard, by a small bell-trap containing water; so that, when from alteration in the weight or density of the atmosphere, the relations between the air and gases in the sewers and the atmosphere are disturbed, these bell-traps present but a slight impediment to the passage of foul air from the sewers into the houses. A similar remark applies in a more powerful manner to the ordinary valves of water-closets, but this may be remedied by the mechanism proposed by your surveyor, Mr. Lovegrove.

The water supply of your district is moderately good, as by far the greater majority of the houses are supplied by the East London and New River Water Works Companies; the remainder derive their supply from wells. The inhabitants occupying these latter houses complain very much of the well water, which is in many cases unfit for use, being largely contaminated with organic matter, or the chemical compounds, which result from its decomposition. The water derived from the superficial

wells contains also a large proportion of lime, which is chiefly injurious in a pecuniary point of view, as it will not make good tea, and is unfit for washing; but it would also prove decidedly noxious to any person predisposed to stone. The water of the deep wells is much better in quality, and does not hold in solution more earthy salts than that supplied by the water companies. It is much to be regretted that the Metropolis Local Management Act does not afford any direct compulsory powers of obtaining a water supply in those localities which do not contain sewers; and even in those it could only be obtained by requiring the owners of property to lay it on for other than cleansing and drinking purposes.

There is another source of injury to health, which is but little known to the public, I allude to the custom which has so long obtained in London amongst the bakers, of mixing alum with their bread. This is, I believe, introduced without any idea of the injury to health which its habitual use will cause, and is used for the purpose of making the bread retain a good shape, of whitening inferior flour, and of causing the flour to absorb more water. The quantity introduced is about 1 lb. to each 100 lbs. of flour, so that every person eating a pound of bread daily, consumes as much alum as would ordinarily be administered medicinally, if he required its exhibition. I believe that dyspepsia, constipation, derangement of the liver, and headache frequently attend the habitual use of alum in bread. I also regret to state that copper has been found in bread, in rather large quantities, having most probably been purposely introduced, as it produces similar changes on bread. This adulteration is far more injurious of the two, and is an instance of the too common prostitution of scientific knowledge to bad purposes. As soon as I receive a supply of chemicals and chemical apparatus I propose analysing bread and other articles of diet.

As you have not published the Special Reports, which I have from time to time laid before you, on the sanitary arrangements in the workhouses and other public institutions in your district, I now propose presenting to you a brief epitome of their contents.

On the 3rd April, 1856, I laid before you a Report on the sanitary condition and arrangements of the *Hackney Workhouse*, and stated that "I had made a thorough inspection of the Workhouse, and had been much gratified by the care and attention bestowed on the inmates, and by the courtesy of the Master in pointing out the various wards, the number of inmates, affording me the measurement of the wards, and all other information I required." In order to ascertain the ratio between the inmates and the number of cubic feet of air allowed to each, I divided the number of cubic feet air by that of the persons, and classed all wards as overcrowded, in which the inmates had not the following allowance of air, viz.: 500 feet for each person in rooms used for living and sleeping in, and 300 feet for each inmate in those occupied as day or sleeping rooms only. Taking this scale as the standard—7 sick wards, 6 infirm wards, 9 sleeping wards, and two children's wards, were overcrowded. The Master, however, informed me that the house was unusually full at the time of my visit. I also stated that "The general plan of ventilation adopted is very good, and considering the number of inmates, answered very well. The day, and especially

the oakum rooms, are small, but those for the married couples are exceedingly clean, neat, and comfortable, and contain above the standard quantity of air."

"The condition of the house generally, impressed me favorably, being very clean, well regulated, bore evidence of the care bestowed on all its parts, and of the great consideration exercised for the comforts of the poor. The sick are well cared for, and their wards clean and orderly."

"I carefully examined the provisions, and tasted the meat, bread, oatmeal, tea, cocoa, sugar, butter, and porter, all of which were good, but the arrowroot was rather indifferent. I tasted some bread three days old, which was good and moist."

"The vagrant wards were bad, being small, ill-ventilated, and contrary to the Metropolis Local Management Act, section 103, which enacts, 'that every dwelling (sleeping) room, being underground, shall be provided with a fire-place and chimney.'"

The following is an abstract of my Report to you on the state of the *East London Union*, which was presented on the 26th of June, 1856.—"I have to report that the condition of the house and infirmary was decidedly satisfactory. I was accompanied in my inspection by the officials, who were courteous, and showed me over the whole establishment. The rooms were clean and well ventilated; and there was not any close smell in any of the day or night wards, and but very little in the infirm wards. The plan of ventilation is good, but in many of the rooms the floor-ventilators were shut, or filled with dust and flue; many of the ceiling ventilators were blocked up, from the perforations in the zinc plates being too small. I also pointed out some other trifling improvements which, in my opinion, were requisite for the comfort and sanitary welfare of the inmates."

"The vagrant wards are excellent, by far the best I have seen, being spacious and well ventilated. The provisions were all good, being equal to those of the Hackney Workhouse. I may mention here the obligations I am under to B. Clarke, Esq., the Surgeon to this Workhouse, for affording me the particulars of the deaths under his charge during last year."

"The following was presented on May 1st:—I have also visited the *German Hospital*, which was not originally built for its present purpose. The arrangements are good, and none of the wards are overcrowded, for the smallest number of cubic feet to each patient is 900. I was most courteously received by Dr. Weber, who was in the wards at the time of my visit, and who desired every facility to be given me during my inspection. The drainage of the Hospital is not very good from want of a common sewer in its vicinity. The resident Medical Officer, who afforded me every necessary information, informed me that some time since they suffered from the noxious vapours of the drains finding their way into the wards, and inducing what is called hospital gangrene. Having no means of obtaining more perfect drainage, the hospital authorities adopted the plan of inserting a four-inch iron pipe into the main drain, and carrying it up against the outside wall of the hospital, to a height of several feet above the roof. *Since that period, there has not been any recurrence of epidemic hospital gangrene.* I was

much pleased with the kindness and attention shown to the patients, and with the quality of the food; and reported that I could not suggest any sanitary improvement of the premises."

The *London Orphan Asylum*. As regards this institution, I stated "That I found it very clean, well regulated, and well ventilated, except the girls' bed-room, No. 1, which requires more wooden ventilators, and the boys' play-room, which demands some means for passing through it a direct current of air." Not one of the rooms was overcrowded, for although the beds were very close together, the proper amount of air is present from the height of the rooms being considerable (15 feet 8 to 10 inches). The day and school-room, as also the day and sick wards of the infirmary, were sufficiently large for the number of children occupying them. The provisions were very good, and the meat of the best quality. The whole arrangements for general, moral, and educational purposes, reflect the greatest praise on those having the management, and on those employed in carrying out their orders.

The sanitary regulations in the *Refuge for Destitute Females*, which contains 70 inmates, were at the date of my visit, decidedly good, and the provisions unobjectionable, but the yard was imperfectly drained. The small *Refuge for Deaf and Dumb Young Women* was not overcrowded, nor were their sanitary arrangements defective. The Matron informed me that part of the expenses of this establishment was obtained by dress-making and glove-cleaning. The other public establishments I have visited do not require any special mention.

During the Autumn of last year, I inspected fifty-two slaughter-houses, in accordance with the Act of Parliament. In my report on this subject, the following statement occurs:—"The necessity for some regular and efficient supervision of the slaughter-houses in this district, has been demonstrated by the inspection just completed, for out of fifty-two, there were only eight which did not require some alterations or improvements; and there are four which are quite unfit for the purpose. There is a great want of ventilation in four, and also a total absence of drainage in four; the surface drainage is defective in twenty-two instances, giving rise to offensive smells; in several cases, gratings are required to prevent the offal from passing into the drains, and in the majority there are no proper stink-traps." In all but three cases the whole of the defects were made good.

I now purpose presenting to you an account of the progress of disease, in your district during the past year. I regret being unable to point out the causes of death, except from a few individual diseases, from not having been supplied with a copy of the mortuary registers. This defect has been remedied by the Registrar-General of Births and Deaths forwarding weekly to each medical officer of health, the returns furnished to him by the District Registrars. This boon will be of the utmost importance in sanitary matters. I purpose, after considering the mortality generally, to tabulate the deaths from epidemic diseases in Hackney and other districts of the Metropolis.

The total mortality in Hackney during the year was 1361, against 1449 in 1855; and the total deaths in London during 1856 was

57,786, against 61,935 in 1855, or in the proportion of 939 deaths in Hackney, against 1,000 in 1855, and 917 deaths in the whole Metroplis, against 1,000 in 1855. From this we might infer that Hackney did not participate in the improved rate of death to so great an extent as the whole of London. On calculating, however, the rates of death in London, we find it to have been 10 in each 417 inhabitants, during the year 1855, and 10 in each 461 during 1856; whilst in Hackney, it was 10 in each 526 living during 1855, against 10 in each 582 during 1856, or including the East London Union in each 524. The real improvement in the health of Hackney was as great as in the whole of London, for in the latter there were two deaths less in each 1000 living, and in Hackney precisely the same. Thus, during 1855, the rate of death in London was 24, and in Hackney 19 in each 1000 living, whilst during 1856 in London, it was 22, and in Hackney 17 in each 1000 living, or including the East London Union 17·5. This rate of death is very satisfactory, as the Registrar-General considers it normal, and has fixed it as the maximum rate at which death should occur. These deductions in both cases are made on the calculated populations, the numbers being estimated for the middle of the year. I include the deaths from the East London Union in some calculations, because the relative proportions of those who died in public institutions throughout the whole of London, and in Hackney, including this Union, would then be nearly alike; as it is shown in the summary of weekly returns by the Resistrar-General for the year 1856, that "nearly one person out of five who died in the year, closed his days under a roof provided by public law or private charity."

During the past year, the largest number of deaths were registered in the first quarter for all England and for Hackney; but for London in the last quarter, and the smallest number of deaths for England and Hackney, were registered in the third quarter, the smallest for London being in the second. We thus see that in the period at which the greatest mortality occurs, Hackney district corresponds with all England and not with London, in other words, its mortuary returns agree with those of a rural rather than a town population.

DEATHS.—Year 1856.

	ENGLAND.	LONDON.	HACKNEY.
1st Quarter.....	103,208	14,539	356
2nd Quarter.....	100,310	14,098	351
3rd Quarter.....	91,330	14,243	322
4th Quarter.....	96,521	14,616	343

The prevalence of inflammatory diseases of the lungs during the first and last quarters of the year, and of epidemic diseases, especially of diarrhœa, during the third quarter, will explain these peculiarities.

Epidemic diseases ordinarily prevail at a different rate in each season of the year, as the following table shows :—

DEATHS FROM EPIDEMIC DISEASES.

	London.							Hackney, 1855–56.						
Years, 1852—56	Small Pox.	Measles.	Scarlatina.	Hooping Cough	Diarrhœa.	Fever.	Total.	Small Pox.	Measles.	Scarlatina.	Hooping Cough	Diarrhœa.	Fever.	Total.
1st Quar.	1091	1263	2456	3799	1167	3062	12818	3	14	47	32	10	35	141
2nd Quar.	1121	1528	2741	3300	1169	3105	13084	10	20	36	27	24	33	150
3rd Quar.	719	1065	3010	1773	7602	3003	17172	5	9	16	9	52	31	122
4th Quar.	674	1459	4247	2309	2083	3289	14061	11	4	30	11	22	35	113

From this interesting Table we learn that in the years 1852—56, small pox and measles were most fatal during the second quarter of the year, scarlatina during the last, hooping cough in the first, diarrhœa in the third, whilst the mortality from fever depended little on seasonal changes. I therefore anticipate that sanitary measures will affect fever far more than any other epidemic disease, for it is evidently influenced by some fixed, probably terrene, or at any rate local causes. I am also of opinion that we shall reduce the mortality from diarrhœa more than either of the remainder, as its increased rate is tolerably uniform, and must therefore depend on causes which are also uniformly in operation.

In my former Report, I pointed out that measles was the least fatal epidemic disease in Hackney during the year 1855, next small pox, then diarrhœa, next hooping cough, then fever, whilst scarlet fever was the most fatal; but during 1856 small pox was the least fatal (two deaths less having been registered than in 1855), next hooping cough, then measles, next scarlet fever, then fever, the most fatal being diarrhœa.

The following table shows the relative frequency of each epidemic disease in several Metropolitan districts during last year, and the great variations in the fatality of the different diseases. We perceive that whilst the number of deaths from small pox in Marylebone, Hackney, Shoreditch, Bermondsey, and Lewisham, was nearly the same, the aggregate number from all epidemic diseases, varied greatly, being nearly in the following proportions—$6\frac{1}{2}$, $2\frac{1}{2}$, $6\frac{1}{4}$, $2\frac{1}{2}$, and $1\frac{1}{2}$; and a similar remark applies to the other diseases. The table also shows that in these districts, for the whole year, small pox was the least fatal epidemic disease, measles the next, then scarlet fever, next hooping cough, then diarrhœa, whilst fever was the most fatal.

DEATHS FROM EPIDEMIC DISEASES.

Year 1856.	Kensington.	Marylebone.	Hackney.	Shoreditch.	St. George's East.	Whitechapel.	Bermondsey.	Lambeth.	Camberwell.	Lewisham.	Totals.
Small Pox	8	14	13	13	4	31	12	17	5	13	140
Measles	93	101	39	49	11	12	56	74	58	20	513
Scarlatina	62	106	51	110	78	45	64	150	27	24	717
Hooping Cough ..	113	134	29	130	48	64	59	140	32	46	795
Diarrhœa	154	164	65	108	52	81	63	113	29	36	865
Fever	85	132	62	219	51	188	28	85	19	31	900
Totals	525	651	259	629	244	421	282	579	170	170	3930

The relative proportions which the mortality from each of these diseases bears to their total in Hackney is as follows—small pox 5 per cent, measles 15·1 per cent, scarlet fever 19·7 per cent, hooping cough 11·2 per cent, diarrhœa 85·1 per cent, and fever 23·9. We thus perceive that nearly one half of the deaths in Hackney from these epidemic diseases were caused by diarrhœa and fever. I have introduced this table to show that the outbreak of an epidemic disease in a locality must depend more or less on local and therefore preventible causes; as any atmospheric or other general cause acting alone, would induce an outbreak over the whole Metropolis at one time.

The last mortuary table which I shall lay before you shows the deaths from all causes, from epidemic diseases, from fever, *per se*; the percentages of deaths from epidemic diseases to all causes, fever to all causes, and from fever as compared with the total of epidemic diseases. I have selected some of the most healthy and some of the most unhealthy metropolitan districts for the purpose of comparison. It will be seen to each 1000 deaths from all causes, those from epidemic diseases varied in these districts between 170 and 242, the smallest number having occurred in Camberwell, and the largest in Bermondsey. The districts which presented an excess of deaths from epidemic diseases were Shoreditch, St. Georges-in-the-East, Bermondsey, and Lewisham, and those in which less than the average happened were Camberwell, Kennington, Marylebone, Hackney, Whitechapel, and Lambeth. On the other hand if we take the relative proportion of fever as a standard by which to judge the salubrity of a district we shall find contrary to our preconceived opinions, that Camberwell, Marylebone, Kensington, St. Georges-in-the-East, Lambeth, and Lewisham, would be classed together as unusually healthy, whilst Bermondsey, Hackney, Shoreditch, and Whitechapel would be classed as unhealthy. Fever, however, by itself,

is not to be depended on as a criterion; for in some districts fever cases are more uniformly sent to the fever Hospital than in others. Still, the table shows as I stated in my last report, that a far greater number of fever cases prove fatal in Hackney than I hope will be the case when Sanitary measures have been in operation for a longer period. It is, however pleasing to state that a less number of deaths from fever happened in the district during last than in the previous year.

On comparing the deaths from epidemic diseases with those from all causes, we perceive that the rate is moderately uniform varying between 17·0 and 24·2 per cent; 17 per cent of the total number of deaths in Lewisham, 18·1 in Hackney, and 22·7 in Shoreditch occurred from epidemic diseases.

DEATHS FROM EPIDEMIC DISEASES, 1855—56.

Locality.	Deaths from all Causes.	From Epidemic Diseases.	From Fever.	Percentages.		
				Epidmcs to deaths from all causes.	Fever to all Causes.	Fever. other epidmc
Kensington	6136	1078	189	17·5	3·1	17·6
Marylebone	7317	1278	198	17·5	2·7	15·5
Hackney	2860	517	134	18·1	4·7	25·9
Shoreditch	5675	1289	366	22·7	6·5	28·4
St. George's East	2519	542	96	21·5	3·4	17·7
Bermondsey	2390	579	98	24·2	4·1	16·9
Lambeth	6187	1221	205	19·7	3·3	16·7
Camberwell	2550	434	53	17·0	2·1	12·2
Lewisham.....	1379	323	54	23·4	3·9	16·7
Whitechapel..	4699	890	318	18·9	6·8	35·7

In concluding this part of my report I most strenuously urge the necessity of commencing any works which require a disturbance of the ground at as early a period as possible, several severe out-breaks of fever and cholera having occurred in those localities in which extensive excavations have been made during the summer months.

I have already mentioned that the rate of death for the whole Metropolis, was under the average, which may be explained in part by the meteorology of the year having been unusually favorable, and in part from the sanitary improvements which are being made to so great an extent. With regard to the meteorological phenomena, I may mention that the mean temperature at Greenwich was about an average, having been 0·7° above it, the winter having been unusually mild; the spring quarter was a little below the mean temperature, the

summer a little in excess, and the autumn decidedly so. The range of temperature which is more important as regards health, than the mean temperature, was also less than usual. The variations both in the thermometer and barometer were very large at certain periods of the year, and were speedily followed by an increased mortality. The influence of a reduced temperature is very strikingly shown by the mortuary rate at the end of November, and in the first fortnight of December, during which period ten cold days (Nov. 26, to December 5) and ten warm days occurred (November 23, 24, and December 6 to 13); in the former no less than 1,844, and in the latter only 1,505 deaths took place. The increase of mortality, as might have been expected, affected chiefly those under one and above forty years of age, and was caused especially by consumption and inflammatory diseases of the lungs, but it extended also to most other diseases. Parents should, therefore, be exceedingly careful in protecting infants from the vicissitudes of the weather, and especially from cold. The practice of "hardening children," as it is called, is very frequently fatal in its results, as, although it may strengthen a strong child, it very frequently kills a weak one.

The meteorology of Hackney has been very similar to that of Greenwich, the chief variation having been in the range of temperature, which has not been so large, the night temperature not having been quite so low, nor the day so high. At Upper Clapton, or on Hackney Downs, it is, however, most probable that the range would be about the same as at Greenwich Observatory.

I may mention, as we are now entering upon a series of warmer years than those we have lately experienced, that it is very probable that diarrhœa and other summer diseases will prove more fatal than during the last or the previous years.

The total number of nuisances removed during the year by Mr. Valentine, your Inspector of Nuisances, is 1,567, very many of which required my supervision, or were discovered in the course of sanitary inspections performed in those localities in which epidemic diseases had appeared. The following shows the varieties of nuisances abated:—

Cesspools emptied, filled up, and drained into the sewer	372
Cesspools emptied	407
Horse, Cow, and Pig refuse removed	347
Rooms limewashed and purified, and dilapidated houses repaired	93
Road gullies cleansed, &c.	51
Filthy roads cleansed	20
Filthy and offensive places cleansed and purified	35
Pigsties purified or removed	43
Stinking drains opened and cleansed	164
Foul and offensive ditches cleaned out	31
" " covered over	4
Collections of ashes and dust removed	96
Cases at Police Courts	12

I may mention, in connexion with the above, that it was necessary for me to attend at the Police Court in all these twelve cases; and in addition to the list detailed above, there were six cases of trade nuisances which were abated, including the removal of two dust-yards from the district; also, that in several cases, more than one attendance was required, each involving a very large expenditure of time.

List of Streets and Places in which I consider sewers most urgently required for Sanitary Purposes.

Duncan Place; Tremlow Terrace; Devonshire Place; Ebenezer Place; Lime Grove; Queen's Court; Orchard Street, Kingsland; Cock and Castle Lane; the Newington Road; Shacklewell Lane; Wellington Street; Ebenezer Place, Shacklewell; Hockley Street; Thomas Street; Woolpack Place; Brunswick Grove; Church Lane; Laura Place; part of Pond and Pond Lane; John Street; Union Street; Tyssen Road; Draper's Court; Sandford Cottages; Sandford Lane; Union Street; Newington Common; Fairey Street; Bowling-green Street; Union Buildings; Brook Street; Caroline Street and Place; Conduit Street; Wood Street; Conduit Place; Grove Road; Barrett's Grove and Clarke's Court. The sewer in the Newington Road is urgently required to be carried sufficiently high towards Stamford Hill, to receive the sewage which now finds its way into the open ditches at the back of the houses between Lawrence's Buildings and Wellington Road.

I remain, Gentlemen,

Your obedient Servant,

JOHN W. TRIPE.

February 26, 1857.

C. Potter, Printer, Kingsland