

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

Contributors

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THE ANNUAL REPORT

ON

THE HEALTH,

SANITARY CONDITION,

&c., &c.,

OF THE

Parish of St. Mary Abbots,

KENSINGTON,

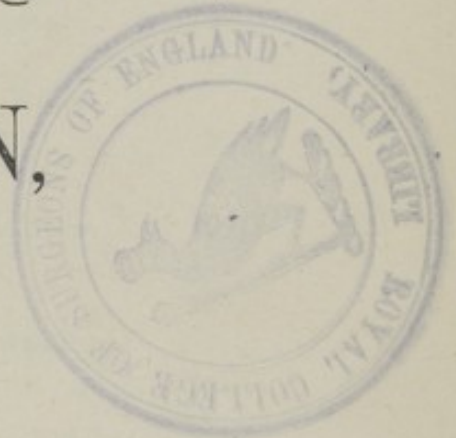
FOR THE YEAR

1879,

BY

T. ORME DUDFIELD, M.D.,

Medical Officer of Health.



HUTCHINGS AND CROWSLEY, PRINTERS, 123, FULHAM ROAD, S.W.

AND HENRY STREET, ST. JOHN'S WOOD, N.W.

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TWENTY-FOURTH ANNUAL REPORT
OF THE
MEDICAL OFFICER OF HEALTH,
BEING FOR THE YEAR 1879.

To the Vestry of the Parish of St. Mary Abbots, Kensington.

GENTLEMEN,

I propose in the present report, as in previous reports, to place before you the vital statistics for the registration year. In 1879, this period, comprising 53 weeks, came to an end on the 3rd January, 1880. The ordinary sanitary statistics will be compiled for the parochial year, which terminated on the 25th March, 1880: other subjects calling for notice, will be dealt with as occasion may require.

The year 1879, judged by the rate of mortality, was somewhat above an average year.

The population, estimated to July, was 156,250, an increase of 2,650 over 1878. As the population increases every year, we might expect an increase, yearly, in the number of deaths. But in some years, the rate of mortality is above, as in others it is below, the decennial average, which is made the standard of comparison. Thus the year 1877, exceptional for a rate much below the average, was followed by a year in which the rate was above the average. In the year just ended, the rate again fell below the average, though not to the low point touched in 1877.

The deaths in 1879 were 2,991. This number includes 104 deaths, of non-parishioners that took place in the Brompton Consumption Hospital, and which are retained in our vital statistics by way of compensation for an unknown number of deaths of parishioners, which occurred in hospitals and elsewhere outside the parish. It also includes 26 deaths of parishioners, in the hospitals of the Metropolitan Asylum District Board. These 2,991 deaths are equal to a rate of 19.1 per 1000 persons living. The decennial rate is 19.2 per 1,000, consequently the rate last year was 0.1 per 1,000 below the average. But the year was an exceptional one, including as it did a period of 53 weeks. Calculated for an ordinary year of 52 weeks, the death rate would have been 18.7 per 1000 or 0.5 below the decennial average.

The subjoined table shows the relation of our local death rate, in seven years, to the Metropolitan rate, and to the rate in the several great divisions of the Metropolis, as mapped out by the Registrar-General in his annual summary :—

Death-rate.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	
Kensington...	19.1	20.3	17.3	19.5	19.4	19.5	18.3	per 1,000
London ...	23.3	23.5	21.9	22.3	23.7	22.5	22.5	„
West Districts	22.4	21.6	19.1	21.0	22.1	20.9.	20.5	„
North „	22.7	22.3	21.8	21.4	22.3	21.8	21.2	„
Central „	25.2	24.9	24.1	24.0	26.0	25.6	25.0	„
East „	25.8	24.9	24.4	24.0	25.5	25.4	25.2	„
South „	24.2	24.2	21.3	22.1	25.0	21.5	22.0	„

KENSINGTON REGISTRATION DISTRICT.—“Kensington” is the name of a registration district, which comprises Kensington parish, and the parishes of Paddington, Fulham, and Hammersmith. The subjoined table shows the relative areas of the component parishes, and other particulars relating to the census-year, 1871 :—

	Area in statute acres.	Inhabited houses 1871.	Population 1871.
Kensington ...	2,190	15,735	120,299
Paddington ...	1,251	11,847	96,813
Hammersmith	2,287	6,719	42,691
Fulham ...	1,716	3,469	23,350

THE PARISH OF KENSINGTON is, for some parochial purposes, divided into “wards.” The subjoined figures shew the acreage of the several

wards and some other particulars also relating to the census-year 1871 :—

Name of Ward.	Area in statute acres	Inhabited houses 1871.	Population 1871.	Rateable annual value of property 1871.
Holy Trinity, Brompton	439	3,224	22,128	£246,716
St. John, Notting Hill and St. James, Norland ...	905	7,730	62,475	£365,012
St. Mary Abbotts ...	846	4,781	35,696	£323,992
	2,190	15,735	120,299	£935,720

In respect of the number of inhabited houses, population, and rateable value, the parish has undergone great development since 1871. The inhabited houses are now more than twenty thousand in number, while the value of rateable property has increased so largely that a penny rate produces upwards of six thousand pounds. The number of houses newly brought into rating in 1879, exceeded 700; and building operations are still in progress at a rate which threatens in a few years to absorb all available land.

The subjoined table, shows the growth of population and rateable value of property since the beginning of the century :—

The Year.	Population.	Rateable value of Property.	The Year.
1801	8,556	£75,916	1823
1821	14,428	93,397	1833
1841	26,834	142,772	1843
1851	44,053	257,103	1853
1861	70,108	375,333	1860
1871	120,299	590,711	1865
1879 (July)	156,250	817,326	1876
		1,442,541 (April)	1880

REGISTRATION SUB-DISTRICTS.—For registration purposes, the parish is unequally divided into two sub-districts, viz., “Kensington Town,” (hereinafter for brevity designated “Town”), and “Brompton.” The area of the Town sub-district is 1497 acres, of Brompton 693 acres; total 2,190.* The estimated population of the Town sub-district, at the middle of the year was 116,050, and of Brompton 40,200; total

* The acreage of the parish is here given on the authority of the Registrar-General. In your Vestry’s report, the acreage is stated to be 2,245.

156,250. The sub-districts present considerable differences which should always be borne in mind in any comparison of their vital statistics. Speaking generally, the population of Brompton contains a large proportion of the rich, or at least well-to-do classes for whose accommodation many houses of a palatial character have been erected within the last few years. The Town sub-district, on the other hand, comprises a much larger relative proportion of the poorer classes, especially in the north and north-western parts of the parish. These poorer classes have one advantage over the same classes in other parts of the Metropolis, in that they mostly live in well-constructed houses, obviously designed with a view to occupation by more wealthy people. It is scarcely too much to say, that there are miles of streets of such houses inhabited by a class of persons who, in the older parts of the Metropolis, would find shelter in dwellings that, by comparison, might be termed squalid. But rents are high, and high rents mean over-crowding, which is sure, in the long run, to raise the death-rate wherever it exists: and, indeed, there is reason to believe that it has already led to a greater variation in the rate of mortality in different sections of the parish than ought to prevail.

Having said so much by way of general introduction I now purpose, before entering into details on the subjects of population, births, causes of death, &c., to consider specially the mortality from the principal diseases of the zymotic class, and subjects which naturally arise out of this topic.

THE ZYMOTIC DISEASES.

The "class" of diseases called *Zymotic* comprises four "orders." The first order, "Miasmatic," includes, among others, the diseases which the Registrar-General calls "the seven principal diseases of the zymotic class," still classing under the generic term "fever" the three distinct fevers, "Typhus," "Enteric," and "Simple continued." These diseases have a high interest for sanitarians, being considered as of a more or less preventable character—it being the custom, moreover, to regard the proportionate mortality from them to deaths from all causes as an index of the sanitary condition of a district. But without underrating the importance of this relation, it needs be said that there are limitations to the applicability of the test which must be borne

in mind if we would draw sound conclusions. What I mean can be best explained by an illustration or two founded on our own local observations within the last two years. Thus *Measles* was very fatal in 1878: the deaths were far above the average. It was, so to speak, the zymotic disease of the year. In 1879, on the other hand, the deaths from measles were below the average; but the reduced mortality, which means the diminished prevalence of the disease, was almost the corollary of the excessive prevalence and fatality of the malady in the previous year. In saying this, I do not, of course, ignore the fact that one epidemic of a zymotic disease may be more severe than another; still less am I forgetful of the fact that the fatality of an epidemic is largely influenced by the means taken, or the neglect to take means, to limit the spread of infection. *Diarrhœa* may be cited as an illustration of quite another kind. The mortality from this disease among infants was excessive in 1877: the mortality in 1878 was far below the average; but the diminished mortality in the second year had no relation to the excessive mortality in the first: the conditions were altogether different. The summer season, 1878, was cold and wet: in a cold and wet summer the mortality from infantile diarrhœa is always low, just as it is always high when the summer is hot and dry. But the conditions that were so favourable to infantile life in respect of diarrhœa were very unfavourable to life, both in the young and in the aged, in respect of another class of diseases, viz., those of the respiratory organs, the mortality from which throughout the year was excessive, as it always is in cold and wet seasons.

These and like circumstances must be kept steadily in view if we would draw sound conclusions from a high or a low rate of prevalence of this or that disease, or class of diseases, especially in relation to the sanitary condition of a district.

Subject to corrections for climatic conditions, and for high rates in previous years, the concurrence of a low general death-rate with a low zymotic rate furnishes just grounds for satisfaction; and as the general and the zymotic rates were both below the average in 1879, to that satisfaction we are fairly entitled.

It need hardly be said that a persistently high rate of mortality from zymotic diseases is always a subject for serious consideration; but, as we shall see in due course, Kensington has hitherto been in the

happy position of having a death-rate from these diseases much below that of the Metropolis generally.

The subjoined table sets out necessary particulars of the mortality from the principal zymotic diseases in 1879, together with the decennial average, &c.:—

Diseases.	Sub-districts.		In Hos- pital.	Totals.	Totals in 1878.	Decennial (uncorrected) average.	Decennial (corrected) average.
	Town.	Brompton.					
Small-Pox	2	4	16	22	8	31·9	37·1
Measles	47	13	0	60	53	62·8	73·0
Scarlet Fever... ..	27	14	10*	51	70	69·4	80·7
Diphtheria	26	1	0	27	20	15·5	18·0
Whooping Cough	79	14	0	93	185	81·4	94·6
Typhus Fever	1	0	0	1	3	39·6	46·0
Enteric Fever... ..	12	2	0	14	24		
Simple Continued Fever	6	2	0	8	4		
Diarrhœa	62	9	0	71	181	127·1	147·8
	262	59	26	347	548†	427·7	497·2

It is thus seen that with the exception of whooping cough, which presented an average fatality; and diphtheria, which was slightly in excess, the mortality from each of these diseases was below the average; and that, as usual, the deaths in the Brompton sub-district were relatively fewer in proportion to population than in the Town sub-district. In the parish as a whole the deaths were 150 below the corrected decennial average, and were equal to 11·6 per cent. on the deaths from all causes, and to a rate of 2·2 per 1000 persons living; the decennial rate being 3·2 per 1000 in the parish and 4·2 per 1000 in the whole Metropolis.

I now proceed to make some observations on each of the above diseases, and first with respect to—

SCARLET FEVER.—The deaths from scarlet fever registered in the parish were 41 (27 in the Town sub-district and 14 in Brompton), viz., 8, 10, 6, and 17 in the four quarters respectively. There were in addition 10 deaths from “fever,” assumed to be scarlet fever, in the hospitals of the Metropolitan Asylum District, making a total of 51—the corrected decennial average being 80. The cases recorded were 277, viz., 56 in the

* Returned as “fever” simply, in the Hospital Reports.

† Besides 25 deaths in Hospitals, raising the total to 573.

district north of Uxbridge Road, and 221 south of that main line of thoroughfare, in what may be considered the southern half of the parish.

Fifteen of the cases in the north were removed to hospital, and 34 were concealed, *i.e.*, the occurrence of them was not made known until after recovery.

Eighty-eight cases in the south were removed, and 75 concealed. It is not a little remarkable that, like small-pox, scarlet fever should have been so much more prevalent in the south than in the north. Until within the last year or two it was all the other way. Zymotic diseases were far more common north of Uxbridge Road.

Scarlet fever was epidemic in the Metropolis; and several outbreaks in this parish, at the latter end of August, gave rise to anxiety. The first of any importance occurred in the vicinity of Kensington Square—at James Street, and South End. The disease had attained some hold on the locality before we heard of its existence, the cases being under the care of one medical man, who withheld information. The registration of a death directed attention to the locality, and, thenceforth, thanks to the active co-operation of the Poor-law officials, we were enabled to remove numerous cases with little loss of time, and the outbreak was soon at an end. At about the same time other groups of cases occurred at Blithfield Street, at Kensington Buildings, and at Bolton Mews, &c.; but, although few cases were removed (the same secreting of the sick children having at first been practised), diligent attention having been paid to secure isolation, the disease did not extend far. Several cases came under notice for which no medical aid had been sought, the cases being mild, and there was reason for believing that the spread of the disease had been brought about by the children being allowed to go into the streets, and even to school, while the skin was desquamating or “peeling.” In other localities the disease was soon eradicated by the removal of the sick, followed by disinfection. Equally satisfactory issue to our efforts to cope with infectious diseases might be reasonably expected could we but obtain early information of their existence. Of this, however, there is little hope so long as it is not compulsory on parents, householders, and medical men to give such information. About the desirability of a registration of sickness, in these diseases, there is but one opinion amongst sanitarians: and in principle it is universally allowed. Under “local acts” disclosure has been made compulsory in some important

centres of population, in which there is now almost no danger of infection being spread, as it is so frequently in London, by concealment of cases or by the exposure of diseased children in public places, schools, &c. How much need there is of similar legislation for London was well shown by an incident that occurred at Gloucester Grove East. In a dilapidated house in that street, since pulled down, there lived in a single room six children with their parents. Five of the children had scarlet fever, one after the other: the cases were mild, no medical man had been called in, and not only did some of the children go to a Board School, in Chelsea, while the disease was in the family, but two of them returned to school while "peeling."

Towards the close of the year scarlet fever again became more prevalent, and especially in the locality from which the National Schools draw their pupils—the majority of the sufferers being of school age. Many cases were removed to hospital, but we had reason to regret the concealment of others which came to light only upon recovery, when the services of the disinfecting officer were required, or after registration of a death. Groups of cases moreover occurred, due, as we believed, to association of children, in other schools, *e.g.*, St. Philip and St. Barnabas, St. George, St. Mary's, Boltons, &c. For the most part Board Schools were singularly free from the disease, the fact being that the outbreaks were practically confined to the central and southern parts of the parish where there were, or till lately had been, no Board Schools. The Sanitary Inspectors did good service in checking the spread of the malady by getting the sick removed to hospitals; by preventing children going to school from infected houses; and by keeping the teachers informed of the localities where disease existed. Many of the teachers exhibited a hearty desire to co-operate with us, and I, with your Vestry's sanction, prepared a form for their use, to enable them to report, without delay, known cases of infectious illness as well as the names of children absent from school under suspicious circumstances.

The form was supplied to all Masters and Mistresses of Public Elementary Schools, and was introduced to their notice in the following terms:—

"You are probably aware that Scarlet Fever is now epidemic in the Metropolis, and of the danger to be appre-

hended of the spread of the disease through the agency of Public Elementary Schools.

“ It is, I believe, a rule of the School Board for London that children are not to be allowed to attend Board Schools from any house where Scarlet Fever exists, even though there be no case of the disease in the family of which the children are members.

“ The Board, moreover, have, at my suggestion, instructed the ‘ Visitors ’ to report to the several Medical Officers of Health any cases of infectious disease in children that may come to their knowledge in the discharge of their official duties. The Visitors acting in this Parish have been provided with a form for this purpose.

“ Having regard to the importance of early discovery of cases of Scarlet Fever, my Vestry have now authorized me to prepare a similar form for the use of Masters and Mistresses of all Public Elementary Schools.

“ I enclose copies of this form, and I shall feel particularly obliged if you will kindly adopt it, and favor me thereon with immediate information of any cases of Scarlet Fever, &c., that may come to your knowledge.

“ While inviting your attention to the note at the foot of the form, I beg to request that you will report the absence of children from school, if due to illness, *only* when there is some reasonable ground for suspicion that the illness is of an infectious character, as with the limited staff at my disposal, it would be impossible to enquire into other cases.

“ In conclusion, I may remind you that the infective period of Scarlet Fever does not terminate until the “ *peeling* ” of the skin is done : and that it is not safe to allow children to return to school until their infected clothing, as well as the infected rooms and their contents, have been thoroughly disinfected.”

Inquests were held in several cases of children who had died without having received any medical attendance. It may charitably be supposed that the parents failed to recognize the seriousness of the illness,

although it is probable that the omission to procure medical assistance had its origin in a desire to avoid the removal of the children. Be this as it may, the painful exposure of parental neglect thus brought about did good ; and if inquests were more frequently held, *e.g.* in cases where medical advice is not sought until the patient is moribund—cases, that is, in which the doctor cannot honestly certify that he has “*attended*” the patient—much benefit would arise : and, although the Coroner’s Court is theoretically one simply of inquisition, *viz.*, to ascertain the cause of death, it might thus render good service in the cause of “*preventive medicine.*”

As an illustration of culpable carelessness, and to show in what unsuspected ways disease gets spread, it may be mentioned that a monthly-nurse had voluntarily undertaken to assist in nursing some sick children, and this at a time when she was hourly expecting to be called to a lying-in chamber and was paying daily visits to the patient. Shortly after the lady’s confinement scarlet fever broke out in her family, the infection, beyond reasonable doubt, having been introduced by the nurse. Happily the lady herself did not suffer, otherwise the consequences might have been fatal. The nurse was dismissed, and only escaped prosecution by decamping in the night from her usual place of abode.

The importance of *early* recourse to medical aid in sickness was well illustrated by several cases that came under my notice. A death of a child was certified to have been caused by “*suppurative inflammation of cervical glands;*” the medical man having been called in to see the child in the last stage of an illness. Shortly afterwards four children belonging to another family residing in the same house, were removed to hospital, where two of them died of *scarlet fever*. Had the nature of the illness in the first case, which indubitably was scarlet fever, been recognized, as it probably would have been had medical aid been sought at an earlier period, the subsequent cases might never have occurred.

In another instance a child fell ill and died of an eruptive fever, but the medical man was not called in till the eruption had faded. Believing the case to be one of measles he took no precautions against the spread of disease, and he was considerably surprised on being informed some time afterwards that cases of scarlet fever had occurred in another family living in the same house.

In a third instance, two children in one family had scarlet fever, but the mother was clearly ignorant of the nature of their illness, until her attention was called some weeks later to the peeling of the skin of the feet. A medical man had seen one of the children on two occasions, and there being apparently no eruption then existent, the nature of the case was overlooked, and would never perhaps have been suspected but for the fact that a man living in the same house, and who was observed to be ill, was found to have the skin of his hands peeling while following his daily occupation of a porter, handling and delivering small parcels of clothing. This man had slept with one of the sick children, and he was to have been married on the day following that on which I sent him to the hospital.

I have narrated these histories believing them to be typical of unsuspected ways in which infectious disease gets spread, and that if we could trace all outbreaks to their origin, such a case would be made out as would fairly startle the public mind, and help to get rid of the too common notion that infectious diseases being "in the air," it is useless to take precautions against the spread of them:—the fact being that the "area of infection" is very limited, the victims having been brought within that area sometimes through sheer wilfulness, sometimes through indifference, and sometimes through ignorance. Now and then the conveyance of infection is effected by the "sick" person himself, who being allowed to mix with healthy, but susceptible, individuals, mostly children, becomes a migratory centre from which disease spreads; and there can be little doubt that in the circumstances of our poor, living as they do in crowded and unventilated rooms, clothing, *e.g.* of parents and unaffected children, exposed by day and night to infection, becomes a means of spreading disease in schools, workshops, &c.

DIPHTHERIA.—The deaths registered from diphtheria were 26 (males 12 and females 14), and all but one occurred in the Town sub-district. This is the only zymotic disease of which the fatality was in excess of the corrected decennial average: the deaths in the previous year also (20) were above the average. The particulars of investigated cases almost compel doubts, occasionally, whether some of the deaths attributed to diphtheria may not really have been due to simple cynanche, &c.? It has seemed to me that since the end of 1878

certain deaths, which formerly would have been ascribed to other causes, have been put to the credit of diphtheria, which, at the date referred to, acquired a painful prominence arising out of the fatal issue to the Princess Alice's illness. One thing that has struck me very forcibly is the sporadic character of the disease, and the rarity of serious outbreaks, or groups of cases in localities, or even in houses where it makes its appearance; and this, notwithstanding the contagious character justly ascribed to the malady, and the obvious neglect of measures for preventing the spread of contagion:—many of the fatal cases, moreover, having occurred in circumstances which rendered any such measures well nigh impracticable, owing to the limited accommodation at the disposal of the people. Be this as it may, my experience in respect of diphtheria is very different to that of practitioners who have reported veritable and diffused outbreaks in country places. Of the 26 deaths, 15 were of children under five, and 10 of children between 5 and 15. One death, of a "contractor," occurred at 55 years of age. Twenty-two of the deceased were children of artizans, labourers, &c.; and three children of gentlemen. The quarterly numbers of deaths were 6, 10, 6, and 4 respectively. There was a curious paralellism between diphtheria and croup in respect of the fatal cases. Twenty-five of the deaths from diphtheria, and all the 25 deaths from croup, occurred in the Town sub-district; the quarterly numbers of deaths being identical in the first, second, and fourth quarters, and there being a difference of one only in the third quarter.

MEASLES.—The deaths caused by measles were 60 (47 in the Town sub-district and 13 in Brompton), being 13 below the corrected decennial average; and all but three were of children below five years of age—16 of them under one—the deaths in the four quarters being 5, 30, 18, and 7 respectively.

WHOOPIING COUGH.—Ninety-three deaths, one below the corrected decennial average, were caused by whooping cough, 79 of them in the Town sub-district, and 14 in Brompton. Eighty-five were of children under five; 29 of them in the first year. Of the remainder, seven were of persons between 5 and 15, and one of an adult. The quarterly numbers of deaths were 43, 20, 8, and 22 respectively.

FEVER.—The deaths from the three diseases grouped under the head of “fever” were 23—eight below the number in 1878, and exactly half the corrected decennial average.

Typhus.—One death was attributed to this disease. It was of a young lady aged 14, who, within a few days of her death, had been in daily attendance at a well-known public school at Chelsea, walking there and back from Notting Hill, and working assiduously. All the facts that came out on the investigation of the case, pointed to the probability that the fatal disease was *meningitis*. A death of a parishioner from typhus took place at the London Fever Hospital on the day following the patient’s removal from Silchester Road, Notting Hill. The deceased, a fireman in the service of the Metropolitan Railway Company, had been ill two or three weeks. The case became known to me through the Registrar-General’s weekly return. On making arrangements for disinfecting the sick room, &c., it appeared that the clothing of the deceased had been sent to an address in Bristol, which was forthwith communicated to the Medical Officer of Health for that city.

Enteric Fever.—The deaths from enteric fever, 14 in number (including two in Brompton), were less than half the corrected decennial average. In some instances the illness appeared to have been caused by sanitary defects in the houses of the deceased, giving rise to pollution of air or water; while in four cases it was proved that the disease had been “imported.” The quarterly numbers of deaths were 0, 3, 7, and 4 respectively. Seven of the deaths occurred between 23-47 years, two under 5, and five between 5-12.

The most remarkable outbreak of enteric fever, during 1879, occurred at a house in Onslow Gardens; six persons out of a household of ten having been affected, viz., three young ladies, two servants, and a charwoman. On enquiry it was stated at first, very positively, that the cases had occurred simultaneously on the 7th October, the charwoman having been employed at the house on Thursday, 25th September, and Thursday, 2nd October. No sanitary defect was found in the house or locality, to account for the outbreak. Milk of course came under suspicion, but the freedom from illness of other families

served out of the same churns, emphatically negated the suspicion. I was at a loss, therefore, to account for the outbreak until it occurred to me to enquire whether the charwoman, instead of being, as supposed, one of the victims of the outbreak, in the course of her weekly attendance at the house, might not really have introduced the infection? The result of this enquiry was eminently satisfactory in one sense, for it turned out that on the 25th September, the first day of her being employed at the house, she was suffering violently from *Diarrhœa* (a symptom of enteric fever), and again on the 2nd October, her second and last attendance. It came out in the course of the further enquiry suggested by the discovery of her condition, that so far from the six cases having occurred simultaneously, there was a natural sequence. The charwoman infected the servants' w.c. : the housemaid succumbed first to the infection, viz., on the 6th October : she used the servants' w.c. and the w.c. in the upper part of the house : the three young ladies were attacked on the 7th and the cook on the 9th October. The ladies and the servants recovered, but the charwoman, who resided in Chelsea, succumbed to the malady.

It may be mentioned that doubts occasionally arise whether deaths classified to enteric fever were really due to this disease? The term "typhoid" is still used somewhat loosely in medicine to express a group of symptoms common to many diseases, especially towards their fatal termination. The term "gastric fever," which by the Registrar-General is always read "enteric fever," is employed in like manner; and practitioners who have certified deaths from this cause, have now and then expressed surprise on finding them classified to typhoid fever.

Simple Continued Fever was the cause of eight deaths, two of them in the Brompton sub-district.

DIARRHŒA.—The corrected decennial average deaths from diarrhœa is 148, and the deaths in 1878 were so many as 181. Last year, however, there were only 72 deaths, of which 58 were of children under five years of age, including 45 under one year. This great falling off in diarrhœal mortality was common to the whole of London, and was due to the cold, wet weather which prevailed throughout the "summer," when infantile diarrhœa is usually so great a scourge. The

quarterly numbers were 10, 8, 37, and 17 respectively, and the proportion of deaths under five years was smaller than usual.

SIMPLE CHOLERA.—Three deaths were registered from this cause, all in the Town sub-district.

SMALL-POX.

SMALL-POX, which had been prevalent during the first half of 1878—there were 169 cases *reported* to the end of June—was in almost complete abeyance during the latter part of the year, only 10 cases having been recorded in the six months. At the end of December, however, the disease re-appeared in the parish, and during the year 1879, I had to report the occurrence of cases in nine of my monthly reports, which cover, severally, a period of four weeks.

Of the 139 cases recorded, 24 occurred in the district north of Uxbridge Road, and 115 in the district south of that thoroughfare; 112 of the sufferers were over, and 27 under, 15 years of age*; 110 were removed to hospitals; while 29 were treated at home, this latter number of course being irrespective of concealed cases. In several instances the occurrence of a death led to the disclosure of the disease. Between September, 1879, and January, 1880, no case of small-pox was reported; but a new outbreak commenced at the latter date, the progress of which to date is sufficiently set out in the annexed table.

The fluctuations of the epidemic and the relative prevalence of the disease in the parts of the parish north and south of Uxbridge Road, respectively,—between November, 1876, and the end of June, 1880,

* In previous reports I have adverted to the difference in the relative proportions of adults and children attacked in the north and south sections of the parish respectively. The same difference was apparent last year. Thus of 98 cases in the south, 18 (= 1 in $5\frac{1}{2}$) were under 15 years of age, while in the north 9 out of 17 (say 1 in 2) were under 15. In the first half of 1880, 4 out of 5 in the north were children, and only 5 out of 26 (= 1 in 5) in the south. As children are more numerous than adults, and as they are usually at home, it might have been expected that they would furnish a larger proportion of cases upon the hospital theory of infection referred to below. It may be added that male adults are admitted into hospital in larger numbers than females and yet females, being more at home than males, should suffer most if the poison of the disease were spread over the district from the hospital as alleged.

are shown in the subjoined table compiled from my Monthly Reports:—

Date of the Monthly Report.	No. of Cases Reported.	No. of Cases under 15 years of age	Ditto over 15.	No. of Cases.		Sent to Hospital.	Treated at Home.
				North of Uxbridge	South of Road.		
1876. No.10. Nov. 15	13	5	8	12	1	4	9
14. Dec. 13	36	14	22	22	14	28	8
1877. 15. Jan. 10	40	20	20	24	16	30	10
1. Feb. 7	43	14	29	34	9	24	19
2. Mar. 7	26	12	14	24	2	15	11
3. April 4	24	7	17	22	2	18	6
4. May 2	39	17	22	32	7	23	16
5. „ 30	43	21	22	38	5	29	14
6. June 27	50	20	30	28	22	40	10
7. July 25	43	21	22	25	18	38	5
8. Aug. 22	39	10	29	17	22	32	7
9. Sept. 19	12	3	9	7	5	9	3
10. Oct. 17	19	16	3	7	12	12	7
11. Nov. 14	11	4	7	4	7	8	3
12. Dec. 12	5	1	4	1	4	3	2
13. (to) 31	5	0	5	1	4	4	1
1878. 1. Feb. 6	8	3	5	6	2	7	1
3. Mar. 5	10	1	9	5	5	10	—
4. April 3	16	2	14	6	10	15	1
5. May 1	57	8	49	7	50	47	10
6. „ 29	55	23	32	21	34	35	20
8. June 26	23	8	15	7	16	18	5
9. July 24	6	2	4	—	6	4	2
10. Aug. 21	1	—	1	—	1	1	—
11. Sept. 18	—	—	—	—	—	—	—
12. Oct. 16	—	—	—	—	—	—	—
13. Nov. 13	1	—	1	1	—	1	—
14. Dec. 11	—	—	—	—	—	—	—
15. Dec. 28	2	—	2	—	2	1	1
1879. 1. Feb. 5	7	1	6	—	7	2	5
2. Mar. 5	11	2	9	2	9	9	2
3. April 2	28	3	25	13	15	18	10
4. „ 30	27	4	23	—	27	25	2
5. May 28	10	1	9	2	8	7	3
6. June 25	28	8	20	2	26	24	4
7. July 23	10	2	8	—	10	9	1
8. Aug. 20	8	—	8	1	7	8	—
9. Sept. 17	10	6	4	4	6	8	2
1880. 1. Feb. 4	9	4	5	1	8	6	3
2. Mch. 3	17	2	15	—	17	13	4
3. „ 30	5	—	5	—	5	5	—
5. May 26	4	3	1	3	1	3	1
6. June 23	2	2	—	1	1	2	—
Totals	803	270	533	380	423	595	208

FULHAM HOSPITAL.

I submit, as usual, some observations on the work of Fulham Hospital during the year, based on the annual report of Dr. Makuna, the (late) Medical Superintendent.

On the 1st January there were 17 cases in the hospital: during the year there were 702 admissions, 585 discharges, and 115 deaths, leaving 20 cases under treatment on the 31st December. The adult males admitted were 358, the females 274; while 102 of the cases were of children under 10 years of age. Of the admissions, 27 were convalescents from other hospitals, 637 were "acute" cases (as against 729 in 1878), and 38 were other than small-pox cases. Of the 115 deaths, 111 were from small-pox, and four from other causes. Several cases were admitted at the gates, the sufferers having been directed to walk down to the hospital to know whether they were afflicted with the disease or not. In numerous instances of *varicella* (chicken-pox) the patients had in like manner been sent to the hospital for diagnosis. The practice of sending doubtful cases to the hospital in this way is reprehensible, for if the sufferers have small-pox, they may infect other people by the way; and in the other case they are liable to become infected themselves in the receiving ward.

The principal contributors to the hospital were Fulham, sending in 144 cases, Kensington 113, Chelsea 105, St. Saviour's 71, and St. George's 53. The average stay in hospital of patients discharged recovered was 35.54 days, viz., in round numbers 26, 32, and 42 days respectively, in the three classes of patients designated "well vaccinated," "indifferently vaccinated" and "unvaccinated."

The mortality was at the rate of 17.48 per cent., as against 16.53 per cent. in 1878, the increase being explained by the fact that a larger proportion of the cases was of unvaccinated persons. The proportion of unvaccinated to vaccinated cases, which in 1878 was 1:3.6, was in 1879 1:2.94. The number of unvaccinated children under five (34) was the same as in the previous year, and the high mortality in them told heavily in a smaller aggregate number of cases. Of 155 unvaccinated cases 75 died, or 48.38 per cent., and of 477 vaccinated cases 31 died, or 6.5 per cent. The percentage of deaths among males was 18.14, and among females 16.7. Among unvaccinated children, under five years of age, the percentage of deaths was

58·8. There were no deaths among the vaccinated under the age of 15 years, but of 83 unvaccinated children, under 10 years old, 31 (49·1 per cent.) died.

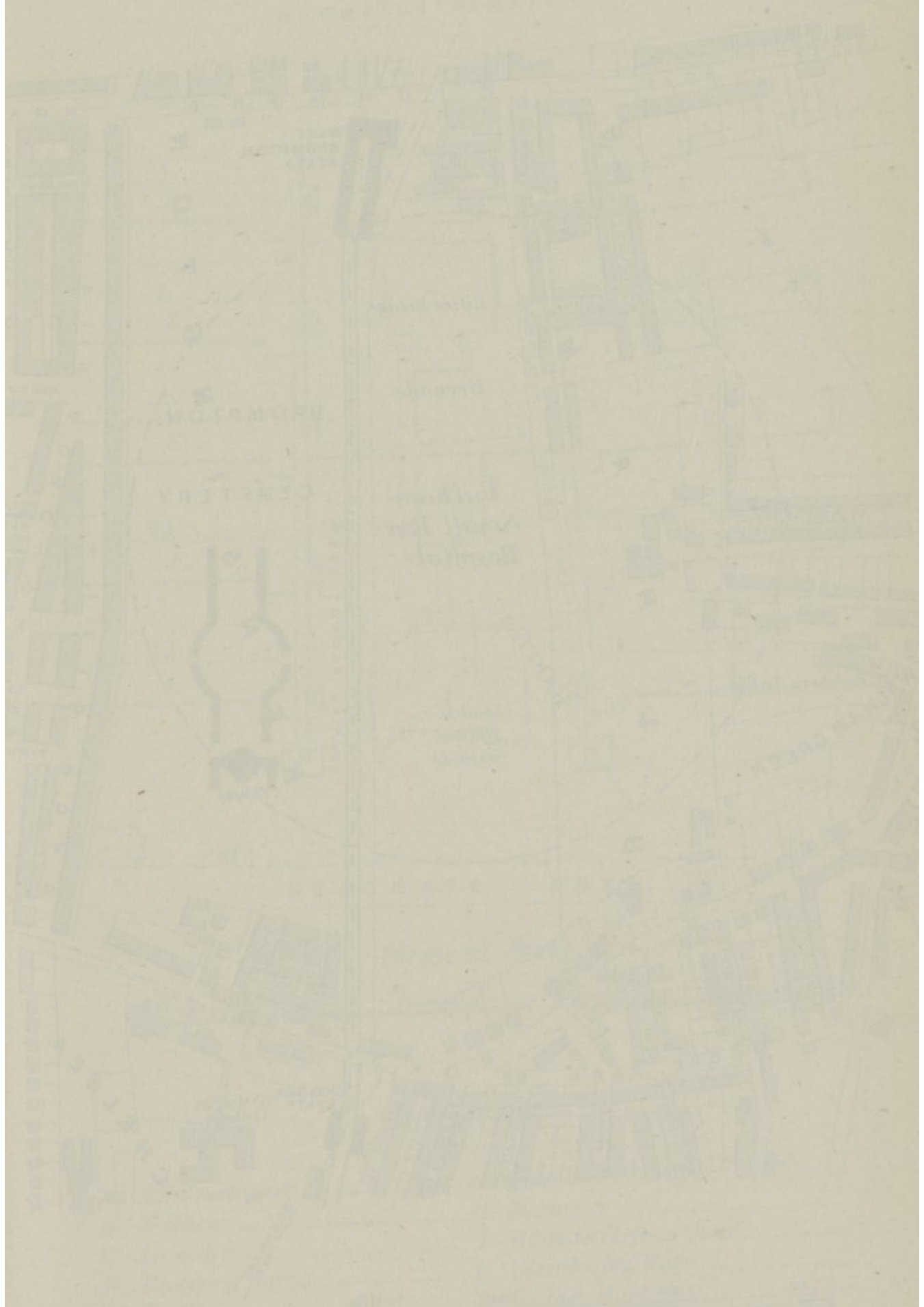
The foregoing statistics will probably suffice to satisfy most persons of the value of vaccination as a protective measure. Were there any hope of convincing those who dispute its efficacy, I might enlarge on the subject, and show that the degree of protection is proportional to the quantity and quality of vaccination—the mortality (6·5 per cent. on all vaccinated cases) having ranged from less than 2 per cent. in persons who had been “well” vaccinated (described as “vaccinized”), to 8 per cent. in the “imperfectly” vaccinated, and to 14·7 per cent. in those who presented “traces” only, of marks; the per centage mortality among the unvaccinated being, as already stated, 48 per cent.

THE INDICTMENT AGAINST FULHAM HOSPITAL.

The charge against the hospital of being the cause of the prevalence of small-pox in the surrounding parishes—Fulham, Kensington, Chelsea—has been maintained with undiminished persistency to the present time. The epidemic, it is said, fluctuates directly with the number of patients in the hospital—nothing avails to stamp it out so long as these are numerous: the air is saturated at such times with small-pox particles—the concentrated poison being carried across hundreds of yards of well-wooded space to fall like a malignant dew on the people in the vicinity.

Such, in substance, is the indictment brought against the hospital by persons who do not appear to have enquired whether the spread of the disease might not be otherwise accounted for? and who have not, by the process of eliminating ordinary modes of spread, in particular instances, enhanced the probability of their own theory. It is difficult to deal with such bold assertions: practically impossible as it is to disprove them; as impossible, in fact, as it is to prove them.

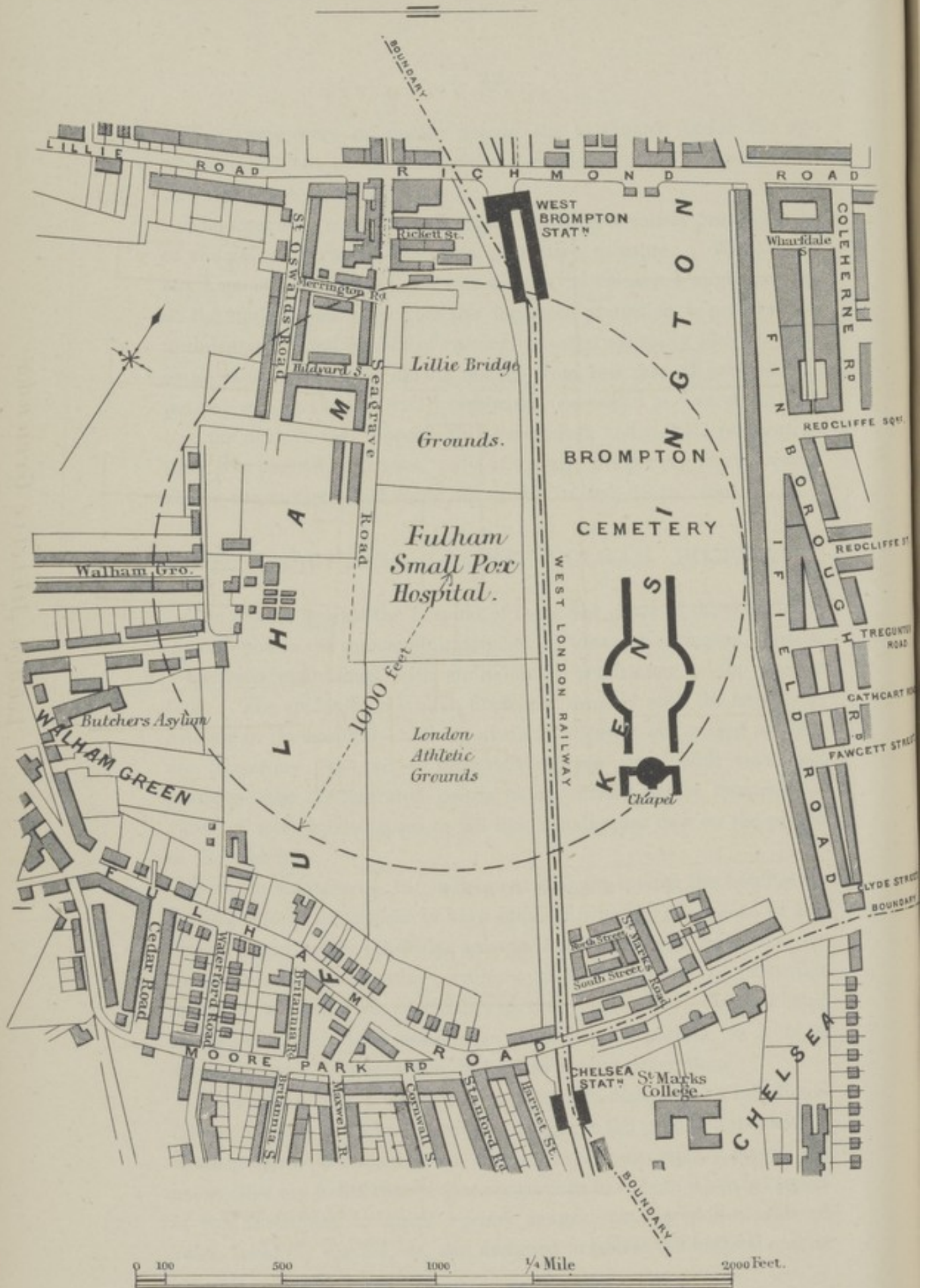
For my own part I have never ventured to deny that an infectious-disease hospital is liable to become a danger to the people in its vicinity if not properly managed; but I have, in former reports, stated the grounds for my belief that proper precautions have been taken in respect of this institution to guard against danger, viz., by well-considered rules, faithfully carried out, and designed to isolate the hospital and its



STATE HOUSE
CITY OF BOSTON

PARTS OF KENSINGTON FULHAM & CHELSEA

ADJACENT TO SMALL POX HOSPITAL.

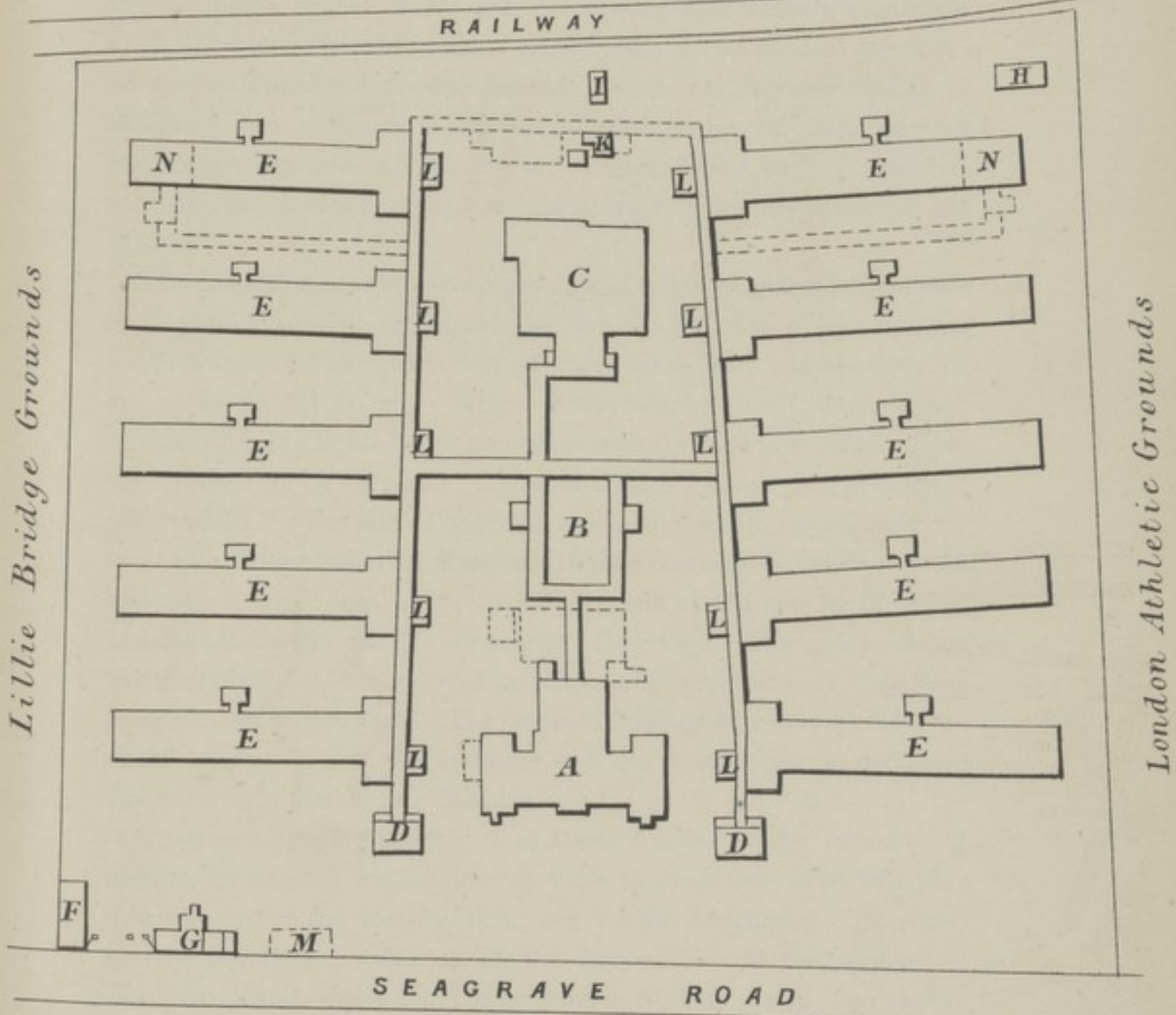


BLOCK PLAN. FULHAM HOSPITAL.

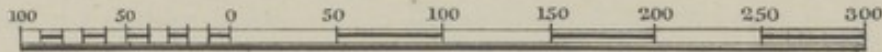


BROMPTON CEMETERY

RAILWAY



Scale of Feet.

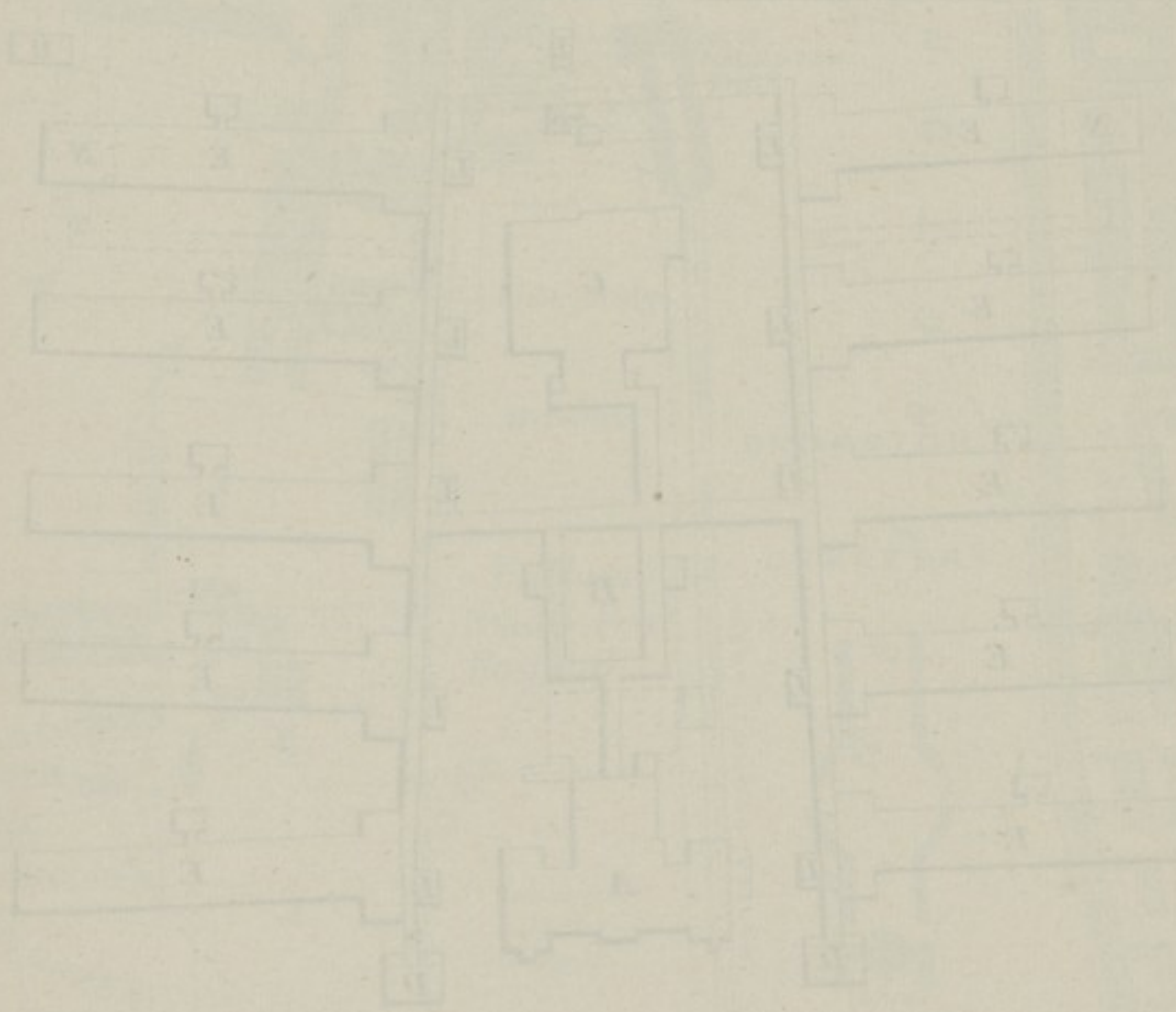


References.

- | | |
|-------------------|--------------------------|
| A Administrative | G Gate Porters Lodge |
| B Kitchen | H Mortuary |
| C Laundry | I Patients Clothes Store |
| D Receiving Wards | K Disinfecting Room |
| E Wards | L Coals & Dust |
| F Waiting Room | M Stores Reception Room |
- N. Separation Ward.

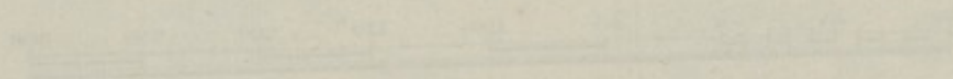
BRONX CEMETERY

RAILWAY



SEAGRAVE ROAD

Scale of Feet



Legend

- 1. Boundary
- 2. Walkway
- 3. Plot Boundary
- 4. Plot Marker
- 5. Plot
- 6. Plot
- 7. Plot
- 8. Plot
- 9. Plot
- 10. Plot
- 11. Plot
- 12. Plot
- 13. Plot
- 14. Plot
- 15. Plot
- 16. Plot
- 17. Plot
- 18. Plot
- 19. Plot
- 20. Plot

inhabitants. The drains are regularly disinfected; all broken food and the sweepings of the wards are destroyed; disinfectants are freely used. The laundry work is done on the premises by resident servants: no one is allowed to leave the grounds without bathing and change of clothing; and although people are allowed, under carefully devised restrictions and precautions, to visit relatives dangerously ill, there is scarcely an instance known in which visitors have contracted the disease.*

The hospital stands in its own grounds of some six acres. It consists of 10 pavilions, with accommodation for 250 patients. Each bed has an allowance of 144 square feet of floor space, and each patient an air space of 2,100 cubic feet. Every ward is well warmed and ventilated, being lighted with numerous opposite windows. The officers are housed in a separate "administrative" block of permanent construction. The site is bounded north and south, respectively, by the Lillie Bridge and the Stamford Bridge Running Grounds; on the west by a large open space in Fulham, and on the east by the West London Railway and the Brompton Cemetery. The grounds, attractively laid out, are enclosed by efficient fences, and many trees have been planted within them. The nearest inhabited houses in Fulham are about 150 yards from the hospital; and the nearest houses in Kensington nearly double this distance.

The accompanying tracing, from Bacon's map, of the surrounding district, for which I am indebted to your Vestry's Surveyor, will give a better idea of the locality than any verbal description. It shows clearly the distance-relations of the hospital-site to the parishes of Kensington and Chelsea, and its position in Fulham parish; and that in all directions the buildings are isolated by large open spaces. The radius of the circle traced round the hospital is one thousand feet, and the distance from the eastern border of the site to Ifield Road 750 feet, or 7 times the distance deemed requisite for security. The intervening space is occupied by the West London Railway and Brompton Cemetery, which abounds in evergreen and other trees, the effect of which in arresting the passage of *malaria* is well known. The hospital, consisting

* "During the year there were 139 patients on the visiting list as 'dangerously ill'; 100 were visited by 125 visitors, paying 298 visits, only one of the visitors was subsequently admitted to the hospital within 14 days time of her husband's admission, and 10 days of her first visit."—*Report of the Medical Superintendent.*

of single wards, lies lower than the cemetery, and its roof is at about the level of the top of the cemetery walls. It is about opposite the centre of Ifield Road, the site being 750 feet in length, and the road having a length of 2,500 feet. Small-pox cases have occurred in this road equally on either side, and from end to end of it.

For the block plan of the hospital itself, reduced from the plan published with Dr. Makuna's last annual report, I am indebted to the kindness of Mr. H. E. Pollard, a member of your Vestry.

Now if a hospital isolated, constructed, and well ordered as this one admittedly is, could be proved to be dangerous to the people in its vicinity, an important question would practically be settled: there ought to be no hospitals for infectious diseases within the metropolis!

It is remarkable that persons who take this view, who regard the hospital as a common danger, and would close it forthwith, yet do not appear to regard as anything very serious the risk of keeping small-pox patients at home, in rooms that are small and unventilated, in houses that are tenanted by numerous families, and under conditions which would neutralise the best attempts at isolation, but where, practically, no such attempts are seriously made. In such circumstances patients are kept at home, and it has been my lot to see disease spread from family to family without direct contact between the sick and well. How, indeed, could it be otherwise? If the "infectious particles" can be carried by the air hundreds of yards from the hospital as alleged, *a fortiori*: they can be carried from one room to another by the air in the common staircase; and from house to house, from street to street! And if nurses, visitors, &c., may convey the disease from the hospital as stated, notwithstanding all the precautions taken to avoid the spread of infection; how much greater must be the danger arising from those who, after contact with the sick, without bathing and without change of clothing or other precautions, mix with their fellows in the outside world?

Many a case is kept at home simply because the attack is slight; and medical advice is not sought lest the removal of the patient should be enforced: scarcely any precautions are deemed necessary. The man who does not feel ill will not readily submit to enforced idleness, which means starvation for his family; while the convalescent child, in such circumstances, thought to need fresh air, is turned out to get it in the streets. Rarely does it happen that home-patients are isolated for

the requisite length of time, varying, we are told, from three weeks to as many months, until the scabs and scales have fallen off; and as a rule they have not facilities for bathing and skin disinfection. Necessary precautions—disinfection of the sick chamber, of the excreta, and of drains, &c., destruction of dust and debris of food; are for the most part not taken: they are either impracticable, not understood, or disregarded, and especially in the most perilous of all cases—the mild and the concealed. The alleged dangers of the public hospital are multiplied indefinitely in these private hospitals; and when we take into consideration the number of them (and probably concealed cases are as numerous as those which are disclosed) the marvel is not that the disease in epidemic times is so rife, but that so many people escape!

Small-pox is intensely contagious. A competent authority has lately said of it that, “the isolation and the general precautions which are sufficient in the other infectious diseases are insufficient in this one. . . . It attacks at once all susceptible persons immediately on their exposure to it. . . . Where it strikes it strikes at once . . . In an ordinary pavilion-hospital fevers may be treated in pavilions situated side by side, with a laundry in common. The blankets, bedding, and linen of these different fevers may be used with impunity for either fever indifferently after being washed; but the same cannot be said of clothing which has been used for small-pox . . . because small-pox, when treated in the same conditions as the other contagious diseases, spreads, whilst these do not. If, for instance, one case of small-pox arise in an hospital, or by mistake be admitted into one, more are sure to follow, and that not necessarily in the ward in which the first case appeared, or into which it had been admitted, but in the different and widely separated parts of a large building. - Thus if the first case appear in the extreme east the second may appear in the extreme west, or possibly somewhere between these two points. Or if the first case appear at the top of the house the second may appear at the bottom, and so on . . . and this occurs when patients have not left their wards or even their beds. . . . The precautions, then, which are sufficient for the other contagious diseases are not sufficient for this one.”*

* “*On some public health points in the management of a small-pox hospital.*”—Paper by Dr. Collie, Medical Officer to the Homerton Fever Hospital. Read before the Society of Medical Officers of Health, May 21st, 1880.

Now, if this be so, can any one doubt that each case improperly retained at home is a danger to the public health? The danger would be well-nigh illimitable but for the protection afforded by vaccination and re-vaccination!

In many and varied ways we have seen, and shall see, the disease may be spread, but the opponents of the hospital speak and write as if *it* was almost the only—and certainly they regard it as the chief—source of infection. Their contention, moreover, is practically that the “concentrated poison,” the “palpable small-pox particles,” are diffused by the wind. Now, simply noticing, in passing, the obvious consideration that the wind often blows in one direction for many days, and that long continuance of the wind in one quarter has been co-incident with a subsequent outbreak of small-pox around the hospital at all quarters of the compass—for the intensity of the epidemic has risen and fallen in contiguous parishes and in the Metropolis simultaneously—I pass on to deal with the assertion that small pox particles may be carried, as they would in this case have to be carried, hundreds of yards, and still retain their infective power. Such an assertion is contrary to medical experience, and it is not shared by any important section of the profession. The allegation, however, can be most effectually met by a counter statement of a fact which I quote from Dr. Collie’s paper before alluded to. He says:—

“The Infirmary of the City of London Union at Homerton stands at a distance of ninety-nine feet from the west-most block of the Homerton Fever Hospital, and in this block upon two occasions, for a period of four months each, there were forty small-pox beds constantly occupied. The windows directly face each other, and are almost always open. Here then apparently are the conditions for the passage of small-pox poison if it be true that it may be carried long distances through the air. Amongst a number of persons, consisting of children, new-born infants, and young women in confinement, there were likely to have been some susceptible subjects. The poison was there, and not only in the block referred to, but in certain winds it would be blown from three similar blocks which are parallel to it. Thus air liable to contamination by about 250 small-pox patients might on two different occasions, for a period of about four months, have passed into rooms inhabited by persons some of whom were probably susceptible to its influence, and yet on neither of these occasions did a single case of

small-pox arise in the Union Infirmary It is on this account that I have come to the conclusion," says Dr. Collie, "that 100 feet would be a safe distance, for the separation space between a hospital and the nearest inhabited houses."

In the face of facts like these how can it be contended that streets at 1000 feet distance have been again and again directly infected by "poison" emanating from Fulham hospital?

The persistency with which the attack against the hospital has been carried on could not fail to have some effect on those who lacked time or opportunity for enquiry; and there was a time, I think, when medical men practising in West Brompton, in Fulham, and in Chelsea were disposed to regard the hospital as a danger. Indeed a meeting of medical men was held, to which I had the honour of being invited, to consider what steps should be taken to close the hospital? After a prolonged discussion, however, and after statements had been made by the Medical Officer of Health for Chelsea* and myself, the meeting separated without coming to any resolution, and I have not heard anything since to lead me to believe that any considerable section of the local representatives of the profession entertain views adverse to the hospital.

It is a bare truism to say that a Medical Officer of Health could have but one desire in reference to a hospital if it appeared likely to spread infection in his district, viz., to get rid of it as quickly as possible! That would be my feeling certainly, and it is not without much time, thought, and labour devoted to investigation of the question, that I have come to the conclusion that the charge against this hospital is not borne out by anything that its opponents have published, or by anything that I myself have been able to find out: but that, on the contrary, the hospital is a distinct boon to the locality by the facilities it affords for the isolation of the sick. For months together, moreover, I was in active correspondence with the (late) Medical Superintendent of the hospital, Dr. Makuna, who took great pains in tracing the histories of the people who came under his care, and was again and again successful in tracking the spread of infection in unsuspected ways, and in cases which, in the absence of

* The Medical Officer of Health for Fulham was not present; but his views on the subject are known to coincide with those of his colleagues.

such information and on the theory of "one great infecting centre," might well have seemed to the opponents of the hospital to support their views.

I had Dr. Makuna's permission last year, to quote from his letters, 26 in number, but did not think it would be fair to anticipate the interest of a paper he then purposed to write. Now, however, that he has retired from his post, owing to ill health, without having carried out his design, I feel that I shall be acting in harmony with his views, in giving publicity to some of the interesting facts and cases he brought under my notice within the short period of less than three months—April to July, 1879.

One of the most remarkable facts in connexion with the epidemic in the south and west parts of Kensington, is the large number of instances in which a female domestic servant was the only person attacked in a large household. The theory of infection emanating from the hospital was difficult to sustain in these circumstances, the true explanation, doubtless, being that the illness was contracted by visiting in infected localities—often on the "Sunday out." The following cases are in point :—

M. A. B., domestic servant, was admitted into the hospital from Queen's Gate Gardens on 7th April. She caught the disease by visiting her parents at Charlotte Street, Chelsea, on the 26th March, when her brother was lying ill. He was removed to the hospital on 27th March, and shortly after her admission she was followed by six brothers and sisters. (1*)

Some private cases were under treatment at a house in Ifield Road. E. B., a servant, also living in Ifield Road, contracted the disease by visiting fellow servants at this house.

Other domestic servants removed from the same locality were probably infected by these or other private cases treated at home without due regard to public safety, means of isolation, &c., for several of the patients had friends and relatives in the centres of infection whom they visited whenever they got a holiday.

P. W. was admitted from Ifield Road on March 15th. Her parents lived at St. George's Square, North End, Fulham, an infected locality. She knew a family there, an unvaccinated child of which was first taken to a Dispensary by his mother about the 6th day of eruption and then walked to the hospital. She had seen this child about 3 or 4 days before his removal and when on a visit to her parents. (1)

* The figures in brackets refer to the number of the letter in which the case, with name, date, locality, &c., was communicated to me by the Medical Superintendent.

A man from St. Pancras took the disease by visiting a friend at Walham Green who died in the hospital. Two other cases, at Onslow Gardens and Redcliffe Square, were traced to similar visitation. (13)

At the district schools, Marloes Road, several cases occurred, and there was reason for believing that the children had caught the disease when visiting their friends in infected localities, or by friends visiting them at the schools. (9)

Many cases occurred of people contracting small-pox from having lived in the same house with a sick person confined to one room: the atmosphere of the house having become infected. The danger, of course, is greatly increased when the sick person is allowed to roam about the house.

Washing infected clothing was in several cases the immediate cause of an attack.

Persons have fallen victims to the disease from having gone unsuspectingly into an infected house when having come from other parts of the Metropolis or the country.

Cases were admitted of persons who had resided in the locality only from four to eight days, and who had been *employés* in small shops at the East End.

The following cases illustrate the spread of disease owing to the nature of a first case not having been recognized:—

A lady fell ill, and being the sister of an officer of the hospital it might have been thought she took the disease through him. The history of the case, however, was as follows:—The lady's parents came from India in May. Before they landed some friends of a fellow passenger came on board, one being a child having an eruption on him. This child played with her brother, on whom an eruption, supposed to be chicken-pox, appeared in about a fortnight. Twelve days later the sister fell ill. The case was at first supposed to be measles or chicken-pox, but turned out to be confluent small-pox. (15)

A servant, who was taken ill at Coleherne Road, was sent to Camden Town prior to her removal to the hospital, in the belief that the case was one of chicken-pox. (26)

Some of the following cases, near the hospital, are interesting if only as illustrations of deception practised to conceal the occurrence of previous illnesses.

A woman was admitted in May from a house in Farm Lane, Fulham,—a street across the fields in front of the hospital. On the previous day, her husband had been admitted; he walked down to the hospital and pretended he did not know how he caught the disease, but inferred that he might have done so from living

near the hospital. His wife, however, confessed that she had been nursing two cases in Harwood Road, Fulham, at some distance from the hospital, and where her husband used to visit her. Her patients were not isolated, and were, after a few days, allowed to roam about the house at will. The woman herself, a laundress, carried on her business while she was nursing the cases. (9 & 10)

A boy from Merton Road, admitted in June, pretended he did not know how he caught the disease, but it appeared that two relations of his had been admitted, one from Lambeth into Stockwell Hospital, and one from St. George's into Fulham Hospital, from one or other of whom he had contracted the disease. (16)

On the 16th May a man was admitted from Lillie Bridge Road, a street near the hospital. He had four weeks previously engaged as servant a girl recovering from small-pox, who remained in his house only three days. His son took the disease from her, and was treated at home; the father doing his shop business and nursing his child until he himself fell ill. (10)

At the same time there was a woman suffering from the disease, and not isolated, in a street (Rickett Street) still nearer the hospital. (10)

The disease is often spread owing to the concealment of a first case.

A child died at home, the only disease named in the certificate of the cause of death being "congestion of the lungs." Six cases of small-pox were shortly afterwards removed from the same house. (1)

A fatal case in Fulham was disclosed by the certificate of death. This case gave rise to nine others in the same family (three fatal), and five among their friends, directly infecting four houses in four streets. (1)

A similar outbreak in Chelsea, not far from West Brompton, was due to a concealed case in Godfrey Street, and 29 cases from different adjoining streets were traced to this case, including the landlord of a public house who was removed to the Highgate Hospital. (1)

Four boys from Paddington, and attending one school, were admitted, three of whom caught the disease from a fatal concealed case; this concealed case gave rise to four cases in Paddington and one in St. Pancras. (22)

Prevalence of the disease in one and the same street is explained by non-removal of cases. Many such examples could be quoted, the following will suffice:—

There has been about 18 cases admitted from Slaidburn Street, Chelsea. Ada ——— removed from an infected house in this street, stated that her mother's child had just died after three days' illness with pains and hemorrhage. Her sister sat as a model to an artist, who subsequently suffered from small-pox at Redcliffe Road. (4)

E. L. was admitted from Child's Place, having taken the disease, as she believed, from a boy under treatment in a house opposite her own, through contact with the boy's father whom she constantly met, as well as other inmates of the same house. Subsequently a case was removed from the house where the boy was ill.

Another case happened in this street, and the sick child's father, a carpenter, was engaged at the time amongst ladies arranging the stalls for a bazaar at the Kensington Vestry Hall. (18)

W. J. B. was admitted 6th May from a house in Earl's Court Road from which W. Y. had been admitted on the 24th April. From another house in Earl's Court Road a man was admitted on May 11th, who had contracted the disease by visiting W. J. B. when ill. W. J. B.'s father was subsequently admitted. (5 & 6)

Infected families and persons frequently migrate, and cases of this kind are known in connection with houses in Ifield Road, Adrian Terrace, Finborough Road, and other streets in the vicinity.

A railway inspector living at Notting Hill had a child suffering from small-pox. He left him in charge of somebody, and migrated with the rest of his family to Walham Green, in the vicinity of the hospital; here his wife died of small-pox in a fortnight's time. Then he removed to Hammersmith, and here his un-vaccinated son took the disease, and once more the family removed to another locality. (1)

A. E. S. of Millwood Street, Notting Hill, was taken ill April 26th, and at once migrated to South Street, St. Mark's, Fulham Road, where her mother lived, being removed to hospital on the 28th. (2)

A woman was removed with her suckling baby on the 19th March from a house in Ifield Road, and the rest of the family at once migrated to Adrian Terrace.

Numerous patients have walked down to the hospital with eruptions on them. Two such cases were admitted from Redcliffe Gardens and Finborough Road, in March (1). It can readily be conceived what harm they may have done. Some such cases have already been noticed. The following further cases will suffice :—

May 20th, N. W., was admitted from Victoria Grove, on the 8th day of eruption. He had contracted the disease from a person in his employ who came to call on him after an absence due to illness. N. W. was removed only when he had become dangerously violent from delirium, and after preaching to crowds of people in the street. He had escaped from his house, and went to the house of a friend in Devonshire Terrace, where he remained only a few minutes. A woman from this house was in due course removed to the hospital. The man died. One of his children was subsequently admitted. (11)

A man walked from Adrian Terrace to the hospital, having first gone to the house of a doctor near Markham Square, Chelsea, by whom he was advised to

go to the hospital. The same thing happened in another case from a doctor's house in Gloucester Road ; and another from a house in Redcliffe Gardens. (17)

A boy was admitted from Philbeach Gardens. His father did not like having an ambulance at his door, and so he walked the lad down to the hospital. (19)

The following are cases of unintentional exposure in public places :—

May 26th, a child was admitted, a few days after his father, who caught the disease from a young man just up from Margate on the first day of eruption. This young man, not feeling much indisposed, did not mind the journey, but he must have infected his associates in the train. He was subsequently removed to the hospital. (12)

A woman was sent from Bolton Gardens to St. George's Hospital. She had gone to the hospital in a cab, which had driven off before the nature of the case was known. The cab was not disinfected. (12)

Another woman went from Cromwell Road to Grafton Street, Piccadilly, whence she was detained in a doctor's house till she could be removed to the hospital. (12)

The following case, the last I shall quote, has no connexion *quâ* origin with the locality of Fulham Hospital, but it is too striking to be omitted.

A man servant from Belsize Road was taken ill June 26th, and went into the country. Two or three days after his arrival at Sudbury spots appeared on him, and as he got worse he returned to Town, June 30th, and went to a hospital as an out-patient. He was found to have small-pox, and directed to go to Hampstead Hospital. He walked to Farringdon Street Station, went by rail to Swiss Cottage, and then walked to the hospital. But as the hospital was closed the person in charge forwarded him on to Fulham in the ambulance. (21)

It would have been easy to swell the list by numerous histories to the same or similar effect. Those given are but types, selected from an experience of less than three months. They may suffice, however, to illustrate modes of spread of infection, which are little regarded by the opponents of the hospital, and are indeed, it is probable, unknown to most of them. It is very easy when a number of persons fall ill in different localities at about the same time (though not very consistent when their homes surround the hospital at all points of the compass), to ascribe their illness to infection carried by the wind. But those who have opportunities of investigating cases,—and such opportunities are practically limited to medical officers at the hospital,—are often enabled to trace the spread of infection from person to person, and from street to street in a way perfectly satisfactory, but wholly unsuspected by outsiders. The tongue is unloosed under the

influence of kind treatment in the hospital, and in one way or another the truth sooner or later leaks out.

It has been with no slight regret that I have felt myself obliged to refer again, and at such great length, to this vexed question of the hospital: but so long as the establishment is assailed, I have no choice. It is necessary that your Vestry and the public should, from time to time, be informed how the matter really stands: otherwise judgment might go by default. The accusers of the hospital have recently applied to the Local Government Board for an enquiry, and for my part, I should not be sorry to see their request granted, as it would probably have the effect of putting an end to an agitation which is useless and, at the same time, injurious to the district.

THE HAMPSTEAD SMALL-POX HOSPITAL CASE.

This important case has now reached the House of Lords: but it is doubtful whether it will be argued during the current session. Meanwhile the hospital is closed—a matter of the less moment as the remaining hospitals are more than sufficient for the number of patients requiring to be admitted. Whatever the issue of the Managers' appeal against the adverse verdict, the consequences will be important to the public in a sanitary point of view. Should it go against the Managers, it is more than probable an attempt will be made to close Fulham Hospital, amongst others, though with little prospect of success, the circumstances of the two hospitals, *quâ* situation and surroundings, being so different. Be this as it may, there can be no doubt it would be for the general good that the Managers should succeed, as otherwise they could hardly carry on their work within the Metropolis: and it is notorious that the further patients are taken from their homes, the greater is the danger incurred in their removal—the less the prospect of their recovery. It would follow that many cases which, under existing arrangements go into hospitals, would, in less favourable circumstances, be kept at home, to the increase of danger of the spread of infectious diseases among the community.

HOSPITAL ACCOMMODATION FOR CASES OF INFECTIOUS DISEASE.

In an "addendum" to my last annual report, I referred to sect. 15 of the "Poor Law Act, 1879," as an attempt by the late Government

to deal with the important question of hospital accommodation. The Sanitary Act, 1866, (sect. 37), authorizes Vestries and District Boards—being the “Nuisance Authorities,”—to provide hospitals for the “sick inhabitants” of their respective districts. The power conferred by this section has not been exercised, for in 1867 the “Metropolitan Poor Act” was passed, under the provisions of which hospitals for small-pox and fever were erected by the Managers of the Metropolitan Asylum District—this Act, by a general provision for the whole Metropolis, thus virtually superseding the necessity for separate action on the part of the Vestries, &c. The Managers having thus begun a great work which legally devolved upon the Vestries, and having almost met the requirements of the Metropolis by providing accommodation out of all proportion to the needs of the pauper class, with which alone, theoretically, they have to do, have always expressed willingness to complete the task if called on to do so.

In January, 1877, however, the pressure of the small-pox epidemic being somewhat severely felt, the Local Government Board addressed a communication to the several Vestries and District Boards calling their attention to the provisions of the 37th section of the Sanitary Act, 1866, “urging them to ‘provide accommodation’ for that large class of persons not needing relief, but whose isolation in hospitals is necessary for preventing the spread of the disease.” In the event, no steps were taken to give effect to the views of the Board, but in March, 1879, a deputation from a ‘Conference’ of Vestries, &c., waited upon the then President, Mr. Sclater Booth, the principal object of the Conference, as it ultimately took shape, being to induce the Government to obtain Parliamentary powers to enable “Nuisance Authorities” to enter into contracts with the Managers of the Metropolitan Asylum District for the reception and treatment in their hospitals of non-pauper cases of infectious diseases, at the cost of the several Vestries, &c. The President intimated his willingness to do this—as he had already made the attempt in the abortive “Public Health, (Metropolis) Bill, 1877,” which was defeated by the opposition of the Vestries—and accordingly, on the last day of the Session, “The Poor Law Act, 1879,” became law. By section 15 of this Act the Managers are now enabled, with the approval of the Local Government Board, to contract with any Vestry, &c., in the Metropolis (as the “local authority” acting in the execution of the Nuisances Removal

Act, 1855, &c.) for the reception and maintenance in the hospitals of the Managers of any person suffering from any dangerous infectious disorder within the district of any such Vestry, &c.; and any person received into an hospital by virtue of any such contract, will be deemed to be maintained in such hospital by the Vestry, &c., with whom the contract is made. It is further enacted that expenses incurred by the local authority (*i.e.*, Vestry, &c.) for the maintenance of any person under this section shall be deemed to be due from such person to the local authority, and may be recovered, by the local authority from him, or his representatives, at any time within six months after his discharge from such hospital.

Referring to this section, I remarked that the powers thus given to the sanitary authority to contract for the maintenance in hospitals of non-paupers, is a round-about way of depauperising the relief afforded to such persons in the hospitals belonging to the Managers, which are essentially pauper establishments. The power given to the sanitary authority to recover from the sick person, or his representatives, the expenses incident to his treatment in the hospital may possibly be found useful in occasional instances; but, put plainly, it amounts to this—that the sanitary authority, having for the protection of the public health, succeeded in getting a person to consent to be isolated in a pauper establishment, side by side with paupers, may upon his discharge therefrom, or on his death occurring, proceed to recover from him, or his representatives, the costs incurred by them—on his account doubtless, but for the protection of the public rather than for the safety of the patient himself. If this power should be at all generally exercised by the Vestries, &c., it would more than neutralise any benefit likely to accrue from the discretion they now have to contract with the Managers for the reception and maintenance of non-paupers. It is, therefore, to be hoped that in any district where such power may be exercised very great care will be taken, so that payment may be exacted of those only who are well able to pay, and who may have sought the assistance of the Vestry, &c. There is, really no reason however, why any person so situated should seek the assistance of the sanitary authority at all, for it is quite certain that the expenses incurred at any one of the hospitals belonging to the Managers in the treatment of a case of fever or small-pox, would, (unless the patient died very speedily after admittance), usually exceed the charge made

at the London Fever Hospital, or at the London Small-Pox Hospital (which are *not* pauper establishments), viz., two guineas and four guineas, respectively, per case, irrespective of the duration of the patient's illness.

I never felt very sanguine that the Section would effect the object in view, and hitherto it has remained, practically, a dead letter. Towards the close of the year, however, the Managers consulted the Local Government Board, on the desirability of their taking steps to ascertain the feeling of the Vestries, &c., on the "new and important" provision of law referred to; the Board, in reply, expressing the opinion that "most, if not all of the Vestries, &c., would readily enter into agreements, which would have the effect of releasing them from the heavy responsibilities under which they lie, in respect of hospital accommodation for the non-pauper classes." "It is very probable." the Board said, "that it may not be found necessary to greatly increase the accommodation already at the disposal of the Managers, who as is well known, have been by force of circumstances obliged, during the last two epidemics, to admit many patients for whose treatment, the Vestries, &c., would have been liable had the Sanitary Acts in that behalf been strictly observed, and had there been no substitute ready to hand in the hospitals, provided under the Metropolitan Poor Act. It will obviously require great care," the Board continued, "to frame regulations which shall draw the needful line of distinction between pauper and non-pauper patients, and place the incidence of charge, and the administration generally, on a more satisfactory footing in future." The Board concluded by offering to "render the Managers any assistance or advice in their power in framing any such regulations or agreements."

Shortly afterwards the Managers addressed a circular letter to the Vestries, &c., asking to be informed whether they desired to avail themselves of the provisions of the clause in question, and, if so, what would be the approximate number of beds, they severally would wish to be provided for them? The Managers subsequently published a "Synopsis of replies," received from thirty-six Vestries, and District Boards of Works, which may be thus summarised. About sixteen vestries ask for further information on various points; two refuse to adopt the Act; two will take no action at the present time; two have made arrangements elsewhere: one defers the consider-

ation of the question; half-a-dozen return irrelevant or indefinite replies; while seven express, in more or less general terms, their readiness to enter into arrangements with the Managers.

A copy of these replies was forwarded to the Local Government Board for their consideration, with what result remains to be seen: but certainly the replies themselves do not appear to advance the subject very much, nor do they quite realize the sanguine expectations of the Board. Possibly the vague character of the replies may in some measure be accounted for by the very general nature of the questions submitted by the Managers. No Nuisance Authority could answer the second question—as to the number of beds required—with any precision until “the needful line of distinction has been drawn between pauper and non-pauper patients,” and the question must perforce remain open until such distinction shall have been drawn.

It is well known that one part of the Metropolis may be comparatively free from an infectious disease prevalent in other parts: and that an epidemic is apt to travel from place to place, so that before it is at an end every part of the Metropolis may have been visited in turn. Hence the Vestries not unreasonably object to engage and pay for a fixed number of beds, for which, during considerable periods, they might have no occasion. The only perfectly satisfactory mode of dealing with the question would be, as I have often before stated, to spread the burden of infectious disease over the whole Metropolis on a “common fund,” and to give free admission to all sick persons desirous of being isolated in the hospitals, or who may be sent to them for isolation (excepting only such persons as may be able to pay for medical treatment, &c., and these should go to the London Fever Hospital or the London Small-pox Hospital). Until this is done the most rational way of settling the matter under the provisions of the new Act, would be for the Managers to fix a tariff of charges per case *per diem*, calculated on the known cost for maintenance and administration, and let each Nuisance Authority pay for its own sick on the approved scale.

“DISQUALIFICATION BY MEDICAL RELIEF.”

In my last Annual Report I referred to an attempt made by certain members of Parliament, irrespective of party, to deal, in what I believe to be the only satisfactory manner of dealing, with the subject

of "hospital accommodation" for cases of infectious disease, viz., "by depauperising the relief afforded in the hospitals of the Managers." The "Disqualification by Medical Relief Bill," endorsed, amongst others, by the senior member for the Borough, now Under-Secretary of State for Foreign Affairs, passed through the House of Commons; but, having been ruined by Government amendments moved by the Lord President of the Council, was abandoned after the second reading in the Upper House.

It is not probable that the subject will be dealt with in the few remaining weeks of the current session, but I note with satisfaction a growing tendency to regard with approval the principle of "depauperization" adopted by your Vestry.

The subject is becoming ripe for legislation. The hospitals exist: the accommodation is nearly sufficient: and a principal question is:—To what authority shall the duty of administering them be permanently relegated? The Managers are willing to continue the work they have so well begun, and for my own part, I say now, as I said years ago, that I should be content to see the matter left in their hands. Let them provide accommodation for all comers; and let the charges be defrayed out of a Metropolitan rate or common fund. Maintenance and treatment of the sick in the hospitals should be placed on the same footing as public vaccination, so as not to entail any sacrifice of social or political status on the recipients of assistance, it being to the interest of the community at large, to deal with infectious diseases at the public cost so far as regards hospital treatment. This plan has the merit of simplicity, involves the fewest changes, and would entail little or no delay in execution. But if these conditions are deemed inadmissible, I would sever the hospital treatment of infectious disease from all connexion with Poor-Law administration. This might be effected by the constitution of a "Central Authority" (on the plan of the Metropolitan Board of Works), to be elected by the Vestries and District Boards of Works, and having power to take over the hospitals and provide accommodation for all persons "whose isolation in hospitals is necessary for preventing the spread of disease."

This "public hospital" system would probably entail some additional expense on the ratepayers, but none commensurate with the benefits that would accrue from the safe treatment of infectious diseases which is the object in view; and whatever the increase in cost it would be

borne in the same spirit as the charge rendered necessary by the establishment of a fire brigade; for it would be regarded as a premium paid for insurance against a risk as much more serious than fire, as health and life are more precious than property.

Special provision might be made at each hospital for persons who are able and willing to pay for their maintenance, if room for such cases cannot be found, or made, at the London Small-Pox Hospital and the London Fever Hospital.

But all others—the poor ratepayer, the dependent classes and those sick persons whose isolation is enforced or solicited for the good of the community, viz., with a view to prevent the spread of disease—should have free admission.

It is, perhaps, hardly necessary to point out that these are the classes for whom our voluntary general hospitals (where infectious cases are not admissible) have been established and are supported. Nominally excluded from the Asylums they yet form the great bulk of their inmates through the wise disregard by the Guardians of the strict letter of the law. Sanitary Officials have had difficulty enough in persuading many such persons to go into the hospitals, and the refusal of others has frequently led to an extension of disease. What proportions the recent epidemic would have attained had the generality of such cases been excluded can be better imagined than described. The exaction of payment from the sufferers will be fatal to any scheme which aims at complete isolation.*

*“On the admission of patients” to the hospitals, I cannot refrain from quoting some observations by Dr. COLLIE, Medical Superintendent of Homerton Fever Hospital, in the paper on Small-pox hospitals already referred to. He says that, for the admission of patients “there ought to be no formality, and no sort or kind of difficulty From a public health point of view admission ought to be entirely free of any formalities whatever” (Dr. Collie is alluding to the forms necessary under existing Poor-Law machinery, and the delays to which they give rise). “Presuming that there would be a resident medical officer at the hospital, certificates might be entirely dispensed with. Let it be well understood that any person having the disease will be admitted on presentation. Our object, as public health authorities, is to induce people to go into hospital—that of the Poor-Law authority is to keep people out; and, therefore, admission to Poor-Law hospitals is attended with much formality, which may be necessary enough from a Poor-Law point of view, but which is fatal to the prompt isolation of infectious disease, and, therefore, to efficient sanitary administration.”

The views here expressed may, perhaps, be thought, a little too extreme, but if so they err in the right direction. The only remedy for the present dead-lock is to separate the treatment of infectious disease from all connexion with the Poor-Law system and pauperism.

AMBULANCES.

The 16th section of the Poor-Law Act, 1879, confers power on the Asylum Board to provide Ambulances for the conveyance of sick persons to the hospitals of the Managers. At present the Managers require ambulances only for the conveyance of sick or convalescent cases between their hospitals. In some parishes the Vestry (Nuisance Authority) and the Guardians (Poor-Law Authority) both have ambulances : in others the Vestry or the Guardians alone. There being some 39 Nuisance Authorities and 30 Boards of Guardians it would appear that a not inconsiderable saving might possibly be effected should the Managers find it practicable to give effect to the section—replacing the existing arrangements by a uniform system of ambulances connected with the several hospitals, five in number. A strong motive for the adoption of this plan is supplied by the necessity now admitted of disinfecting parochial ambulances before they leave the hospital premises.

PREVENTION OF THE SPREAD OF INFECTIOUS DISEASES

Is one of the chief duties appertaining to the office I hold ; and it is one which constantly engages the attention of all the officers in my Department. A difficulty with which we have to contend is the want of information of the occurrence of non-fatal cases of illness—information that would be of the greatest value, particularly at the commencement of an epidemic when the first cases are usually mild ; and it has been my constant endeavour to increase our sources of such information.

It may not be out of place to state here what progress has been made :—

1. By virtue of an arrangement entered into between your Vestry and the sub-district registrars of deaths, eight years ago, I duly receive notice of all deaths from the graver infectious diseases (small-pox, scarlet fever, diphtheria, typhus, enteric and simple continued fevers), within a few hours after they have been registered. It may be observed that when a death has occurred from an infectious disease there is always a probability of finding other cases of illness in the same house or

in the locality, and such discovery not unfrequently results from the Sanitary Inspector's visit. Now and then the registration of a death has been unduly delayed—sometimes probably with the object of temporary concealment of the cause of death. It would be well if registration within a limited period, say twenty-four hours, were made compulsory.

2. The Relieving Officers, by direction of the Board of Guardians, report all cases of infectious diseases that come under their cognizance, and generally these are cases that have been, or are about to be, removed to the hospitals of the Metropolitan Asylum District, admission to which (practically denied to no person) can only be obtained on the order of a relieving officer, or the master of a workhouse.
3. Similar information is given by the Resident Medical Officer of the Kensington Dispensary, by direction of the Committee of Management. We seldom hear of sickness through any similar institution; and it is a matter of regret that many cases that ought to be removed to the hospitals are treated at home by medical men attached to so-called "provident dispensaries."
4. Medical men favour me occasionally with information of cases, and more especially when they desire assistance in order to get the sufferers (*e.g.*, domestic servants) removed to hospitals.
5. In my annual report for 1877, I referred to what I thought to be a somewhat important step in advance that had then lately been effected through the action of the London School Board, which, at my request, had instructed the Superintendents of Divisions throughout the Metropolis to desire the "Visitors" to report to the several Medical Officers of Health any cases of infectious disease that might come to their knowledge in the discharge of their official duties, which take them constantly into the homes of the poorer classes. To facilitate the transmission of this information by the Visitors, your Vestry authorized me to prepare a form for their use, which has been done. I must say, however, that hitherto the resolution of the Board has not at any time been attended with the hoped for results, comparatively few cases having been reported. During the past year, moreover, the Board have shown a disposition to recede from the position they had taken up. At any rate, on my calling

their attention to the omission on the part of the visitors to report cases, the "divisional members," to whom my communication had been referred, simply agreed that the visitors should report cases when they had reason to suppose that no duly qualified medical man was in attendance. "When a duly qualified medical man has charge of a case, they are not prepared to do more than take steps for seeing that proper precautions are taken at the Schools." This decision, if final and acted upon, would be regrettable, as I am sure the Visitors *could* render us essential assistance by giving effect to the original instructions of the Board.

6. Clergymen and District Visitors not unfrequently report cases of sickness.
7. The Resident Medical Officers of St. George's and St. Mary's Hospitals have on many occasions reported the admission of cases, or the application of inadmissible cases of illness from houses in this parish.
8. Occasionally anonymous communications are the source of information, for I have not felt at liberty to disregard such communications, which have generally proved accurate.

In one or other of these several ways cases come to our knowledge ; but, all told, they form only a small percentage of total cases, as proved by the fact that the great majority of fatal cases remain unknown till after registration of death—a fact from which it is a fair inference that a still larger proportion of non-fatal cases never come to our knowledge at all.

The only remedy for this regrettable state of affairs is legislation to ensure the compulsory disclosure of the occurrence of infectious diseases. The main question with sanitarians is, Who should be the informant ? As a rule the information will have to come, directly or indirectly, from medical men. In those cases, however, and they are not few, where either no medical aid is sought, or where unregistered practitioners are employed, the information, if supplied at all, must come from the head of the family or from the "occupier" of the house. When there is a duly qualified medical man in attendance it would suffice to require that he should give a certificate stating the nature of the complaint which it should then be the duty of the head of the family, or the

occupier of the house, to forward without delay to the sanitary authority, as is done now in respect of the medical certificate of the cause of death for registration. This is the plan recommended by the Society of Medical Officers of Health, and it is, I believe, the course adopted in those boroughs where under *Local Acts*, the disclosure of these cases has already been enforced. The number of such places increases every year, and Edinburgh has now to be added to the list. The extension of the plan in a tentative manner evidently meets with favour from the Central Sanitary Authority. We may, therefore, justly feel encouraged to hope that the principle will sooner or later be carried out in some legislative enactment of general application. Having regard to the relations of doctor and patient, it is useless to expect that the desired information will be at all generally given by medical men until it is made their duty as law-abiding citizens to supply it; and even then the exaction should be made as little onerous as possible, whether or not the public service rendered by the giving of such certificates be recognized by the payment of a suitable fee.

POPULATION, INHABITED HOUSES, &c.

The estimated population of the parish at the middle of 1879 was 156,250. Credit has been taken for an increase of 2,650 during the year, viz., 2,200 excess of births over deaths, and 450 balance of immigration over emigration. The number of inhabited houses was 20,210; of these, 491 were newly brought into rating during the year. As the average number of persons to a house (ascertained at the census) is 7·8, it is probable that the gross population is here rather under-estimated than otherwise.

It is difficult, if not impossible, to estimate with accuracy the population of the sub-districts, or the relative numbers of the sexes, so many years after the census, and in a parish which has developed at once largely and irregularly. I cannot pledge myself, therefore, for the correctness of an estimate of 116,050 and 40,200 as the population of Kensington Town and Brompton respectively. Still less can I guarantee the estimate which would give an excess of 29,000 females over males, the number calculated on an assumption that the relative proportions of the sexes are the same now as in 1871. That there is a very great discrepancy in the relative numbers of the sexes is certain; but whether there are so many as 92,650 females to 63,600 males, we shall not be able to ascertain until the census next year shall have given us reliable data. The redundancy of females is in part explained by the fact that there are a large number of female domestic servants, as always happens in a wealthy district. The healthiness, and even the fashionableness of the parish, contributes to make it a favourite place of residence. And there are many girls' schools. The superior longevity of the female sex, moreover, comes into play in course of years, and is a factor in creating the disproportion under consideration.

The subjoined table shows the numbers of the sexes at different ages, in 1871 :—

AGES OF MALES AND FEMALES, 1871.

All Ages.	Under 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwds.
Males, 48977	7065	10198	8948	8317	5963	4339	2464	1270	378	33	2
Females, 71322	7147	11527	16585	14203	9080	6241	3768	2000	667	97	7
Total, 120299	14212	21722	25533	22520	15043	10580	6232	3270	1045	130	9

The density of the population varies greatly no doubt in different parts; but taking the parish as a whole, and making no allowance for open spaces, the density is about 71 persons to an acre. Among the open spaces referred to may be mentioned the Cemeteries at Kensal

Green and Brompton ; Holland Park, and land at Notting Hill (north of Lancaster Road), and at Earl's Court (west of Warwick Road). It is probable that the available building land does not now exceed 300 acres.

MARRIAGES.

The number of marriages in 1879 were 1,428 ; of these there were celebrated—

By the Church	...	...	...	...	...	1,160
At Roman Catholic places of worship	...	...	...	...	...	84
At Nonconformist	„	„	...	...	...	58
At the Superintendent Registrar's Office	...	...	...	...	...	126
						<hr/> 1,428

The marriage-rate, *i.e.* persons married to 1,000 population, was 18·3. The average rate in England and Wales in 1878 (latest year of publication) was 15·3 ; a rate lower than any since 1873, and due to the unfavourable commercial condition of the country. It will be seen, on reference to Table I (Appendix), that notwithstanding a considerable increase in population, the marriages in Kensington fell off largely in 1878, and the number in 1879 was only nine above the number in 1876. The marriage rate, nevertheless, was much above that of the country generally in 1878, having been 17·3 per 1,000. As we shall see in the next section, however, notwithstanding the high marriage-rate, Kensington has a low birth-rate, due, no doubt, to that disproportion in the numbers of the sexes referred to in the previous section.

BIRTHS AND BIRTH-RATE.

Four-thousand-seven-hundred-and-ninety births (males 2,474 and females 2316) were registered in 1879, *viz.*, in the Town sub-district 3857, and in Brompton 933. This total shows an increase of 185 upon the number in 1878. The birth-rate, which is considerably below that of the Metropolis and of the country generally, was 30·6 per 1000 population, 1·0 per 1000 below the decennial rate. The rate in the Brompton sub-district was only 23·8, that of the "Town" being 32·6; and that of the Metropolis, 36·5 per 1000. There was one birth to every

32·6 persons living, and there were 106·8 male births to 100 of females. The illegitimate births were 223,—196 of them having been registered in the Town sub-district, which includes the parish workhouse, at which there were 107 illegitimate children born out of a total of 129. The illegitimate births formed 4·6 per cent. of total births. The subjoined table shows the quarterly numbers of births registered, of each sex, and in the sub-districts :—

	KENSINGTON TOWN Sub-District.			BROMPTON Sub-District.			Grand Total.
	Males.	Females.	Total.	Males.	Females.	Total.	
1st Quarter	489	483	972	131	103	234	1206
2nd „	494	446	940	104	88	192	1132
3rd „	471	457	928	125	127	252	1180
4th „	522	495	1017	138	117	255	1272
Totals...	1976	1881	3857	498	435	933	4790

Additional particulars respecting births and birth-rate, &c, for the decenniad, will be found in Tables 1 & 2, Appendix.

DEATHS AND DEATH-RATE.

The deaths in 1879, in 53 weeks, were 2,966—males 1439, and females 1,527—as against 3,096 in 52 weeks in 1878. Of these deaths, 2,304 were registered in the Town sub-district, and 662 in Brompton. The total in the Town includes 281 at the Parish Infirmary and Workhouse, and 40 at St. Joseph House, Notting Hill. The total in Brompton, includes 110 at the Consumption Hospital. Of these 110 deaths, 106 were of non-parishioners, which, following custom, I retain in the vital statistics by way of compensation for the deaths of parishioners that may have taken place in public institutions or elsewhere outside the parish. The death-rate, whole parish, was 19·1 per 1000, or 0·1 below the decennial rate. The registration year, however, comprised 53 weeks, a fact which tends to obscure in some degree the favourable character of the vital statistics generally. For a year of 52 weeks the rate would have been 18·7 or 0·5 per 1000 below the decennial average. The rate in the whole Metropolis was 23·3 per 1000. Assuming for the occasion the accuracy of the estimates of population in the sub-districts, and of the number of males and females respectively, it would appear that the death-rate in

the Town sub-district was 20·0 per 1000, and in Brompton 16·5 per 1000; that the rate in the male sex was 23·0 per 1000, and in the female, 16·4 per 1000. There was one death among males to every 43 persons living, and one in 61 among females. There were 103·2 deaths of females to 100·0 of males, and taking the entire population into account, one death to 52·2 persons living. Compared with 1878, the deaths of males show a decrease of 52, and of females 53. The deaths of children under one year of age were 722, a decrease of 101 as compared with the number in 1878, attributable to the diminished fatality of whooping-cough and diarrhœa. These 722 deaths were equal to 15·1 per cent. on births registered, and to 24·2 per cent. on total deaths, the equivalent percentages in the whole Metropolis being 14·8 and 23·2. The deaths under five (1218) were fewer by 211 than in 1878, and were equal to 25·4 per cent. on registered births, and to 40·8 per cent. on deaths; the corresponding percentages in the Metropolis being 26·6 and 41·3. The deaths at sixty and upwards were 713, 56 more than in 1878—equal to 23·8 per cent. on total deaths, the equivalent percentage in the Metropolis being 22·6.

The deaths of illegitimate children under five were 100, nearly 45 per cent. on illegitimate births, and all but seven of them were in the Town sub-district. Of the 100 only 14 outlived the first year, and of these 8 died between 1 and 2; 3 between 2 and 3; 2 between 3 and 4; and 1 between 4 and 5 years. The causes of death were—measles, whooping-cough, and diphtheria each 1, diarrhœa 7, lung diseases 14, other visceral diseases 2, scrofulous or tubercular affections 33, convulsions 10, apoplexy (at four months) 1, want of breast milk 2, thrush 4, teething 3, premature birth 7, debility from birth 4, syphilis, hemorrhage from umbilicus, and “unknown,” each 1; violence 7—including “wilful murder” 1, “blow on head” 1, and suffocation 5.

A large proportion of illegitimate children are brought up by hand and by strangers. The evidence of improper feeding is apparent enough in the foregoing list of fatal diseases. The proportion of deaths by violence is excessive—12·5 per cent. including the case of neglect to secure the umbilical vessels at birth. The 86 deaths under one, are equal to about 40 per cent. on the registered illegitimate births, the equivalent rate for all children being 15·1.

The subjoined table shows the quarterly numbers of deaths of the sexes in the sub-districts :—

KENSINGTON TOWN Sub-district.			BROMPTON Sub-district.			Grand Total.
Males.	Females.	Total.	Males.	Females.	Total.	
333	377	710	81	115	196	906
281	293	574	88	97	185	759
224	219	443	57	54	111	554
290	287	577	85	85	170	747
1,128	1,176	2,304	311	351	662	2,966

The deaths in the first and fourth, or colder quarters of the year, (1653) exceeded by 340 the number in the intermediate second and third, or warmer quarters (1313). This great difference was largely due to the fatal prevalence in winter of lung diseases, combined with the comparative lowness of the mortality in summer from infantile diarrhœa. The mean temperature of the air during the winter and summer quarters respectively was 38°9 and 53°7 Fahr.

The subjoined table shows the death-rate in 13 periods, corresponding with my monthly reports; and the mean temperature of the air :—

DATE OF REPORT.	Death-rate per 1,000 living.	Decennial average.	Mean temperature of the air.	Decennial average.	Above or below average.
For five weeks to Feb. 1, 1879	24·7	20·6	33·1	40·0	— 6·9
„ four „ Mar. 1, „	20·3	21·6	38·5	40·0	— 1·5
„ „ „ Mar. 29, „	24·6	21·2	40·8	41·3	— 0·5
„ „ „ April 26, „	24·5	20·3	43·3	47·9	— 4·6
„ „ „ May 24, „	18·5	17·9	47·1	51·0	— 3·9
„ „ „ June 21, „	16·7	16·7	55·5	57·4	— 1·9
„ „ „ July 19, „	13·4	18·0	56·8	62·8	— 6·0
„ „ „ Aug. 16, „	14·8	19·5	61·0	63·2	— 2·2
„ „ „ Sept. 13, „	13·1	16·3	57·9	59·9	— 2·0
„ „ „ Oct. 11, „	15·0	15·6	55·4	53·5	+ 1·9
„ „ „ Nov. 8, „	15·6	18·3	46·1	46·1	av:
„ „ „ Dec. 6, „	19·3	21·4	34·5	40·3	— 5·8
„ „ „ Jan. 3, 1880	19·6	21·6	35·2	36·2	— 1·0
Averages (whole year) ...	18·7	19·2	46·2	49·2	

The detailed causes of death are set out in Table III (Appendix), in 13 divisions, according to age. The ages at death (excluding the

deaths of non-parishioners at the Brompton Consumption Hospital) were as follows :—

Deaths under 1 year of age ...	...	722
„ between 1 and 2 years	...	300
„ „ 2 „ 5 „	...	196
„ „ 5 „ 15 „	...	104
„ „ 15 „ 25 „	...	89
„ „ 25 „ 35 „	...	151
„ „ 35 „ 45 „	...	224
„ „ 45 „ 55 „	...	224
„ „ 55 „ 65 „	...	279
„ „ 65 „ 75 „	...	311
„ „ 75 „ 85 „	...	209
„ „ 85 „ 95 „	...	47
„ „ 95 and upwards	...	4
		2860

SPECIAL CAUSES OF DEATH.

CLASS 1.—ZYMOTIC DISEASES.

Having already (at page 8) dealt with the deaths from the “ seven principal diseases ” of the zymotic class, I now proceed to make some observations on the mortality from the remaining diseases included in the first “ Order ” in this “ class,” viz. :—MIASMATIC.

Croup.—This disease was the cause of 25 deaths all in the Town sub-district, 21 of them being of children under five years of age. Croup would appear, like diphtheria, to be on the increase of late years. There were 13 deaths in 1876, the same number in 1877, 17 in 1878, and 25 in 1879. The deaths in Brompton in the first three years respectively were 3, 2 and 1 ; in 1879 not one. The deaths

in 1879 were within one the same as from diphtheria and the quarterly numbers corresponded in the first, second and fourth quarters : there being an excess of one from diphtheria in the third quarter.

Erysipelas was the cause of 9 deaths (8 of them in the Town sub-district) : three of them were of children under five years.

Puerperal Fever (*Metria*) was the registered cause of six deaths, the same number as in the years 1878 and 1876. In 1877 the number was 12, and in 1875, 13. Five of these deaths occurred in the Town sub-district, two of them being of women between 15 and 25 years of age, and four between 25 and 35. In addition to these six deaths from *Puerperal Fever*, there were 18 deaths from "Childbirth," *i.e.*, from diseases, and accidents, as hemorrhage, &c., incident to parturition, making a total of 24 deaths in childbed, or less than 0.4 per cent. on the births registered. *Metria*, it may be added, is a specific disease of a very dangerous, contagious character affecting women in the puerperal state.

Rheumatism was the cause of 15 deaths, 13 of them in the Town sub-district. In many of the fatal cases of rheumatism, the immediate cause of death is heart disease, arising in the progress of the malady. Not a few of the deaths from "heart disease" might doubtless be properly registered under the heading of "rheumatism," as the "primary cause of death," the seeds of heart disease being frequently laid by an attack of rheumatic fever which may have been forgotten long before the end comes. Only one of the 15 deaths occurred under 5: there were four between 5 and 15; 3 between 15 and 25; and 7 between 35 and 75.

Pyæmia, a fatal form of blood poisoning, was the cause of 6 deaths, 5 of them in the Town sub-district, including one of a child under five years.

Ague, was the cause of two deaths.

Order 2. ENTHETIC DISEASES.—The most fatal disease in this order was *Syphilis*, the cause of 15 deaths, *viz.* :—12 of infants under one year, and 3 of persons between 35 and 45 years. Two of the deaths were registered in the Brompton sub-district. Probably, if

the truth were known, the deaths from this Protean malady would prove more numerous than the record shows.

Stricture of Urethra was the cause of two deaths.

Order 3. DIETIC DISEASES.—Nineteen deaths were caused by the “diseases” named in this order. *Privation* was the cause of one death, and *want of breast-milk* of 7 deaths of infants under one year. “*Alcoholism*” was the cause of 11 deaths, all in the Town sub-district. The deaths due to the abuse of alcohol are classified (a) *delirium tremens*, 4 deaths; and (b) *intemperance*, 7 deaths. If all the diseases and all the deaths due, directly or indirectly, to the misuse of alcoholic stimulants could be traced to their source, the sum total would be very great. Many deaths really due to the abuse of alcohol get registered as having been caused by secondary diseases set up doubtless or aggravated by “drink.” Man’s ingenuity in the discovery of alcohol is accountable for a large part of the misery of his race. Alcohol is a fruitful source of vice and crime, as well as being the cause of much bodily sickness, and of many premature deaths. Drink fills our hospitals and asylums, our prisons, our workhouses, and our national exchequer!

Order 4. PARASITIC DISEASES.—Thirteen deaths in the first year of life, and all but one in the Town sub-district, were caused by *Aphtha* or *Thrush*, the only fatal disease named.

CLASS 2.—CONSTITUTIONAL DISEASES.

The second great Class in the Registrar General’s tables, Constitutional diseases, embraces the causes of 615 deaths, viz. :—502 in the Town sub-district, and 113 in Brompton :—10 above the number in 1878, and 132 above the number in 1877. One-hundred-and-ninety of the deaths were of children under five. The class includes two Orders, viz. :—(1) diathetic diseases, 116 deaths; and (2) tubercular or scrofulous diseases, including phthisis, 499 deaths.

ORDER 1. DIATHETIC.—The deaths from the maladies comprised in this order, 116 in number, viz. :—90 in the Town sub-district, and 26 in Brompton, were *Gout* (9), *Dropsy* (8), *Cancer* (95), and *Morti-*

fication (4). Of the 95 deaths attributed to cancer, 73 occurred in the Town and 22 in Brompton. This disease appears to be on the increase: the deaths registered in the previous five years respectively were 67, 74, 69, 88, and 79. It should be explained that the deaths of all persons who have suffered from cancer, in any form, are classified to that disease, irrespective of any other disease they may have had, and of the question whether death was immediately due to cancer. The majority of the deaths from cancer occur in advanced life, the disease being most prevalent in the aged, having regard to the number of persons living in groups of ages. Last year, cancer appeared first, as a cause of death, in the decenniad 25—35, the number of deaths being three. In the next ten years, 35—45, there were 12 deaths; between 45 and 55, 15 deaths; between 55 and 65, 32 deaths; between 65 and 75, 21 deaths; between 75 and 85, 11 deaths; and between 85 and 95, one death. The parts of the body most commonly affected are the viscera or internal organs, and very frequently in women, the uterus and the breast. The deaths in the four quarters, were 23, 25, 23 and 24 respectively.

ORDER 2. TUBERCULAR.—The diseases included in this order are among the most important with which sanitarians have to deal, and the degree to which they prevail, may be regarded in some sort as a test of the healthiness or otherwise of a population. Generally of a hereditary character, these diseases are nevertheless susceptible of considerable amelioration, if not, like some others, of ultimate extirpation under improved hygienic conditions. Scrofula is unknown in Hygieapolis! Abundance of sunlight and pure air; efficient drainage and its corollary, a dry soil; good food, warm clothing, and temperance in all things are powerful antidotes to the bane of tubercle; which is fostered by the opposites—by filth and squalor, by cold and nakedness, by vice and intemperance, by the want of the proper necessaries of life, by overcrowding in ill-constructed, unventilated and sewage-tainted houses; and, in a word, by whatever is inimical to the preservation of a typical condition of health. The cases that occur in the well-to-do classes of society are usually traceable to the influence of heredity. The diseases in this order were the registered causes of 499 deaths, viz.:—412 in the Town sub-district, and 87 in Brompton; 188 of the deaths being of children under 5 years of age.

The numbers in the four quarters respectively, were 143, 141, 104 and 111; 254 in the winter, and 245 in the summer quarters. It is not uncommon to find "phthisis" returned as the cause of death in the earliest infancy, an age at which tubercular disease shows itself in other organs than the lungs. Such deaths, therefore, have been classified to *scrofula and tuberculosis*, the deaths from which were 29: 20 in the town district, and 9 in Brompton; 18 of them having occurred under five years of age. *Tabes mesenterica* popularly known as "consumption of the bowels," was the cause of 82 deaths, 6 of them in Brompton, and all but two of children under five years of age. *Hydrocephalus* (water on the brain), and *Tubercular meningitis* were the causes of 103 deaths (21 in Brompton) 90 of them of children under five. *Phthisis*, the form of disease known as "decline" or "consumption," was the cause of 285 deaths, irrespective of 106 deaths of non-parishioners at the Consumption Hospital. Of the 285 deaths, 234 occurred in the Town sub-district, and 51 in Brompton. The quarterly numbers of deaths were 90, 80, 53 and 62 respectively. Six of the deaths occurred between 5 and 15 years of age; 48 between 15 and 25; 68 between 25 and 35; 84 between 35 and 45; 53 between 45 and 55; 24 between 55 and 65; and 2 between 65 and 75. The deaths from tubercular diseases were disproportionately numerous in the Town sub-district, less than a fifth of the whole number having occurred in Brompton, the population of which is more than a fourth of that of the Parish generally. This fact may be explained by the relatively smaller number of children and poor in Brompton. It is probable that many of the deaths of young children ascribed to such causes as *premature birth, atrophy and debility, convulsions, &c.*, are primarily due to the scrofulous taint. Frequently other diseases, especially of the lungs (bronchitis, pneumonia, &c.), are associated with phthisis in certificates of death, but all such associated diseases are disregarded: when phthisis is stated, the death is invariably classified to that heading.

CLASS 3.—LOCAL DISEASES.

This great class of diseases is accountable for 1375 deaths (viz., 1093 in the Town, and 282 in Brompton), or about 46 per cent. of total deaths: 455 of the deaths were of children under five. The class comprises 8 orders, according to the system or organs affected.

Order 1. NERVOUS SYSTEM.—Diseases of the nervous system were the cause of 297 deaths, including 97 of children under five years. Two-hundred-and-forty-one of the deaths were in the Town sub-district and only 56 in Brompton—a disproportion in favour of the latter sub-district as great as that previously referred to in relation to tubercular diseases. *Cephalitis*—inflammation of the substance of the brain, as *meningitis*, already referred to, is of the coverings of the brain, was the cause of 6 deaths. “*Brain disease*” was returned in 75 instances (9 of them in Brompton), *insanity* in two, and *epilepsy* in nine. *Apoplexy and paralysis*, for the most part diseases of the later periods of life, were the causes of 76 and 41 deaths respectively. Of these 117 deaths, 26 occurred in Brompton, and 104 were of persons above 45 years of age. *Convulsions*—a symptom in many diseases, rather than a disease, of infancy—was returned as the cause of 88 deaths (only 15 of them in Brompton). All these deaths were of children under five years, 65 of them in the first year. Convulsions as a cause of death, is frequently returned in connection with many diseases, and in connexion with “teething.” But regarding the spasm as a symptom only, the deaths are classified to the primary diseases named, or to dentition as the case may be. The quarterly numbers of deaths from all diseases of the nervous system, was 98, 93, 51 and 55 respectively.

Order 2. ORGANS OF CIRCULATION.—Total deaths, 166; 122 in the Town sub-district, and 44 in Brompton; under five years of age, 5. The fatal diseases were *Pericarditis* 5, *Aneurism* 11, and “*Heart Disease, &c.*” 150. The quarterly numbers of deaths were 37, 42, 37 and 50 respectively. Of the 150 deaths due to “heart disease,” there were 3 of children under five, and 17 of persons between 5 and 35. In the decenniad 35–45 there were 21 deaths; between 45 and 55, 26; between 55 and 65 and between 65 and 75 (each) 31; between 75 and 85, 20; and one at 85.

Order 3. RESPIRATORY ORGANS.—The deaths from “chest diseases” in 1879 were excessive; the immediate cause of the increased fatality being the long continuance of cold and ungenial weather. The deaths were 700, irrespective of those from phthisis included with tubercular diseases, viz. :—560 in the Town sub-district, and 140 (one-fifth of the total) in Brompton. The deaths under five were 321, = 46 per cent.

Nine deaths were returned from *spasm of the glottis*, but as these were mostly of infants "found dead in bed," it is open to question whether an examination made, it may be, two or three days after death, would have disclosed any evidence of such a condition as spasm. In the absence of other apparent cause of death, the pre-existence of spasm of the glottis may have been inferred. It is quite possible, to say the least of it, that some of the children may have been "overlaid"—the same remark being applicable to cases in which death is attributed to "convulsions," when the deceased have in like manner been "found dead in bed." *Laryngitis* was the cause of 9 deaths, *Pleurisy* 8, *Asthma* 13, and "*Lung Disease, &c.*" 43. The principal diseases, *Bronchitis* and *Pneumonia* caused 424 and 194 deaths respectively: total 618; of which 119 (less than one-fifth) occurred in Brompton. Of these 618 deaths, 286 were of children under five, and 255 of persons above 55 years of age. The diseases of the respiratory organs are thus seen to be most fatal at the extremes of life. They are also most prevalent in cold, inclement wintry weather. Of the 700 deaths last year—the quarterly numbers being 281, 153, 61, 205—486 took place in the first and fourth or winter quarters, and only 214 in the second and third or summer quarters.

Order 4. DIGESTIVE ORGANS.—The diseases of these organs were the causes of 116 deaths, viz.:—102 in the Town and 14 only in Brompton. Twenty-nine were of children under five years, including 13 from *Jaundice* of the newly born. *Liver Disease* heads the list with 38 deaths (six in Brompton), being followed, among others, by *Jaundice* 18, *Enteritis* 16, and *Peritonitis* 12.

Order 5. URINARY ORGANS.—The deaths in this order were 76 (21 in Brompton), only one being of a child under five. Thirty-eight of the deaths were due to *Bright's Disease* (Nephria or Albuminuria). Among other causes of death were *Kidney disease*, 17; *Cystitis*, 9; *Nephritis*, 5; *Diabetes*, 6; and *Stone*, 1.

Order 6. ORGANS OF GENERATION.—Deaths 11, viz.: *Ovarian Dropsy*, 8; *Uterus disease, &c.*, 3.

Order 7. ORGANS OF LOCOMOTION.—Deaths 2, from *Joint disease, &c.*

Order 8. INTEGUMENTARY SYSTEM.—The deaths from the diseases of the skin were 7, viz. : *Phlegmon* (Abscess), 5 ; *Ulcer*, 1 ; *Skin disease*, &c., 1.

CLASS 4.—DEVELOPMENTAL DISEASES.

This class contains four orders, and comprises diseases (1) of children, (2) of adults, (3) of old people, and (4) of nutrition. The deaths were 377 (80 in Brompton), including 232 of children under five years of age.

Order 1. DISEASES OF CHILDREN.—The total deaths were 107, viz., 82 in the Town sub-district, and 25 in Brompton, all having taken place under five years of age. More than two-thirds of the deaths were registered during the first half of the year. The list is headed by "*Premature Birth*" 62 deaths, 13 of them in Brompton. *Teething* is accountable for 37 deaths (8 in Brompton), convulsions being the immediate cause of death in many of the cases. *Cyanosis* or malformation of the heart was the cause of 5 deaths, and "*other malformations*" of 3 deaths.

Order 2. DISEASES OF ADULTS.—The only cause of death under this heading is *Childbirth*, which proved fatal to 18 women (*see Puerperal Fever*).

Order 3. DISEASES OF OLD PEOPLE.—Under this heading we have "*Old Age*" only, the cause of 110 deaths above 55 years. In the four decennials between 55 and 95, the deaths were respectively 3, 18, 54, and 31. Four deaths took place at 95 and upwards. Seventy of the 110 deaths occurred in the first half of the year.

Order 4. DISEASES OF NUTRITION.—*Atrophy and Debility*. The deaths, 129 (including 22 in Brompton), were of 125 children under five, 110 in the first year ; and of two persons between 55 and 65, and two between 65 and 75 years.

CLASS 5.—VIOLENT DEATHS, &c.

Fifty-nine deaths (29 under five years) are distributed over the four orders comprised in this class, 14 of them belonging to the Brompton sub-district.

Order 1. ACCIDENT OR NEGLIGENCE.—Total deaths, 50 (9 in Brompton), viz. : *Fractures and Contusions*, 20 ; *Suffocation*, 17, all but one of infants under one year ; *Burns and Scalds*, 4 ; *Poison*, 2 ; *Drowning*, 3 ; *Otherwise*, 4.

Order 2. HOMICIDE.—Two deaths,—one of an infant under 1, *verdict* “wilful murder” ; and one of a female between 25 and 35, death being the consequence of criminal abortion.

Order 4. SUICIDE.—Seven deaths (3 in Brompton), viz. : by *Poison*, 4 ; *Drowning*, 1 ; by *Wounds*, 1 ; and *Otherwise*, 1.

Nine deaths, 7 in the Town sub-district, and 5 of them under five years of age, are classified to “causes not specified or ill-defined.”

Among deaths classified to unusual causes may be mentioned one of a child aged 16 months from glanders. This case, one of two in the same family, was specially referred to in my last annual report in connection with an outbreak of glanders at Colville Mews.

An uncertificated death of a woman aged 60, from “hemorrhage from a vein,” was doubtless due to the bursting of a varicose vein in the leg, and may be fairly described as a preventible death ; few things in surgery being more easy than to staunch bleeding from a vein by pressure. The majority, even of educated persons appear to be not aware of this fact, the knowledge of which would often be the means of saving life. It may be hoped that information of an elementary kind, bearing on the laws of life and health, will some day form an essential part of every school *curriculum*.

A death was registered of a child from “Circumcision, 19 days, Erysipelas, Mortification.” A death, unsatisfactorily certified as “Retarded Eruptive Fever,” is classified to “Simple Continued Fever” in the Registrar-General’s tables. The case was probably one of *Scarlatina*.

A case of “Meningitis, 21 days, Cynanche, 7 days,” is classified to *Diphtheria* by the Registrar-General.

The deaths of an eminent sergeant-at-law and his wife were by rumour attributed to blood-poisoning from sewer gas. The sergeant’s death was caused by “inflammation of the lungs, obstruction of the bowels, and perforation,” the lady’s by “Septicemia, double pneumonia, (4 days), Cardiac failure, 20 hours.” The medical attendant stated that he was unable to fix a definite date for the beginning of the septicemia (which is a form of blood-poisoning), and that although

“there was nothing to prove that the cases were caused by bad drainage, there was much in their character to suggest the suspicion that their course was modified by sewer gas.” The house was carefully inspected, but without revealing any adequate ground for the above-mentioned suspicion.

DEATHS AT PUBLIC INSTITUTIONS.

The “large public institutions” are the Parish Infirmary and Workhouse in the Town sub-district and the Hospital for Consumption and Diseases of the Chest at Brompton. There are numerous minor public or quasi-public institutions, such as the Barracks, “homes,” schools, nurseries, &c., but, with one exception, they do not furnish occasion for notice here. The exception is St. Joseph’s House, Portobello Road, Notting Hill—a Roman Catholic home for some 250 aged poor persons of both sexes, most of whom, wherever they may have come from, have resided in the home long enough to acquire the status of parishioners. The Marylebone Infirmary for the sick poor chargeable to the rates of that parish, is approaching completion, and may be expected to figure among our large public institutions next year. The deaths registered at the Workhouse, the Brompton Hospital, and the hospitals of the Metropolitan Asylum District Board, were 424, or 13·3 per cent. on total deaths, the percentage proportion of deaths in public institutions in the Metropolis generally being 18·5.

THE PARISH INFIRMARY AND WORKHOUSE.—I am indebted to Dr. Whitmore, Medical Superintendent of the Infirmary and Medical Officer of the Workhouse, for the statistics of the mortality at these institutions. The deaths were 287, males 149 and females 138, (as against 284 in 1878), or 10 per cent. of all deaths registered in the parish. The numbers in the four quarters respectively were 100 : 67 : 44 and 76 :—176 in the cold and 111 in the warm half of the year. The ages at death were as follows:—Under 1 year, 31 ; between 1 and 60, 125 ; 60 and upwards, 131. Between 60 and 70 the deaths were 51 ; between 70 and 80, 62 ; between 80 and 90, 14. There were 4 deaths, two of males and two of females, from “old age,” at 90, 96, 97, and 98 years respectively. Three inquests were held, viz., on a female, aged 30, verdict, “*Fall on pavement*” ; on a female, aged 56, verdict, *Phthisis* ; and on a female, aged 68, verdict, “*Drowned*

herself while of unsound mind." Two sudden deaths—occurring shortly after the admission of the patients—were brought under the Coroner's notice, but an enquiry was deemed unnecessary, and the cause of death being unknown, the deaths were registered as "not certified."

The causes of death may be grouped as follows:—

	Under one year.	Between one year and sixty.	Sixty and upwards.	Total.
Nervous System, Diseases of ...	4	15	29	48
Circulation, Organs of „ ...	0	5	3	8
Respiration, „ „ ...	2	27	47	76
Abdominal Viscera „ ...	0	1	6	7
Measles	0	3	0	3
Whooping Cough	0	2	0	2
Erysipelas	0	2	2	4
Diarrhoea	1	1	4	6
Pyæmia	0	1	0	1
Syphilis	0	1	0	1
Want of Breast Milk	4	0	0	4
Delirium Tremens	0	3	0	3
Gout... ..	0	1	1	2
Cancer	0	3	3	6
Stomatitis	1	0	0	1
Mortification	0	0	4	4
Scrofula	0	1	0	1
Phthisis	0	48	8	56
Ulcer	0	1	0	1
Disease of Joints	0	1	0	1
Premature Birth	6	0	0	6
Atrophy and Debility	12	2	0	14
Anæmia	0	0	1	1
Old Age	0	0	21	21
Various Diseases	0	6	0	6
Fall on pavement	0	1	0	1
Drowning	0	0	1	1
Unknown	1	0	1	2
	31	125	131	287

THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—The deaths at this institution were 110—males 57, and females 53: 27, 31, 21, and 31 in the four quarters respectively; or 58 in the winter and 52 in the summer half of the year. The ages at death were:—under 20 years (youngest 13), 13; between 20 and 40, 79; between 40 and 60 (oldest 51), 18. Four of the deaths were of parishioners. Forty-nine of the deceased had previously resided in the Metropolis, 24 in the suburbs or Metropolitan counties, and 30 in more distant parts of the country. The causes of death as registered, were *Phthisis* (consumption or decline) alone, in 91 cases, and with other visceral diseases in 4 cases; diseases of the heart, &c., in 6 cases; diseases of the lungs in 2 cases; and diseases of the viscera in 4 cases.

ST. JOSEPH'S HOUSE.—The deaths at this institution were 43, viz., males 20, and females 23: two only under 60 years of age. The fatal diseases were such as are common to old age, viz., of the heart, 12; of the lungs, 9; of other viscera, 6; of the nervous system, including paralysis, 8; and various, 8.

DEATHS NOT CERTIFIED.

Fourteen deaths were returned as “not certified,” *i.e.*, the deceased had been attended in their last illness by unregistered practitioners. The number is smaller than in previous years, owing to the fact of two such practitioners having obtained a qualification and being registered under The Medical Act, 1858. Only 5 of the deceased had been attended by persons professing to have medical knowledge, the remaining nine, infants a few hours or days old, having been attended by midwives. The causes of death as entered in the weekly returns were—lung disease, 4; premature birth, 4; inanition, 4; convulsions, 2.

In 9 other cases there had been “no medical attendant,” the causes of death as returned being, abscesses, 1; lung disease, 3; scrofula, 1; natural decay, 1; premature birth, 1; hemorrhage from vein, 1; and “unknown,” 1.

INQUESTS.

One-hundred-and-fifty-nine inquests were held during the year, 132 in the Town Sub-district and 27 in Brompton: the cause of death having been ascertained in 117 instances by *post-mortem* examination.

Seventy-nine of the deceased were children under five, 49 being less than a year old; 18 were upwards of 60; and 60 between 5 and 60 years old. Of the children ten were illegitimate, and seven of these met their death by "violence" of some sort. In three cases death was directly due to the abuse of alcohol, the verdicts severally being "*excessive drinking*" (a spinster), "*fall whilst intoxicated*" (wife of a carpenter), and "*suffocated whilst intoxicated*" (an artizan).

The sex of the deceased was, male, 92; female, 67. Many of the deaths were described as "sudden." In numerous instances the deceased had been "found dead," or "found dead in bed." In many cases the death had been brought about by violence.

The verdicts may be classified as follows:—

Diseases of the brain and nervous system (apoplexy, paralysis, convulsions, &c.)	33
Disease of the heart, &c.	33
Diseases of the lungs, &c.	22
Diseases of the viscera	4
Hernia	1
Scarlet fever	3
Croup	1
Phthisis	1
Scrofula	2
Want of proper food	1
Various... ..	5
Violence { Accident ... 44 }	53
{ Suicide ... 7 }	
{ Wilful Murder 2 }	
	159

VIOLENT DEATHS.

The violent deaths were caused by:—

Falls	17
"Blow on head"	1
Horse-kick	2
Gunshot	1
Drowning	3

VOILENT DEATHS.—*Continued.*

Burn	1
Scalds	2
Poison	6
Suffocation	16
Neglect at birth	2
“Wilful murder”	2
	—
	53

Suicide was effected by poison in five instances, and by gunshot and drowning in one each. One “wilful murder” was by “criminal abortion,” and one by exposure of a newly-born infant.

Among the cases described as “sudden,” “found dead,” &c., there were, as usual, many of persons who had died from ordinary, easily recognizable and curable visceral diseases; and it is impossible to resist the conviction that there had been gross and culpable neglect on somebody’s part in the failure to obtain medical assistance for the deceased—seeing that the illnesses must have extended over many days, and been attended with obvious symptoms of a more or less serious and painful nature; for there would have been no occasion for inquests had medical certificates of the cause of death been forthcoming. The mere return of the cause of death by a jury seems to me scarcely to meet the requirements of justice, considering that the death of any person—but particularly of one very young or very aged—from a disease like pneumonia or bronchitis, when there has been no medical treatment, raises a presumption of neglect which would justify a verdict of “manslaughter,” at least as reasonably as in the case of the “peculiar people,” who, whilst treating their sick with care in other respects, refuse, on mistaken conscientious grounds, to employ medical assistance.

METEOROLOGY.

The mean temperature of the air at Greenwich in 1879 was 46°·2 Fahr., or 3°·1 below the average of forty years, 1840—79. The averages of the four quarters respectively were 37°·2, 49°·3, 58°·2, and 40°·7. The highest reading by day (80°·6) was taken in the week ending August 2nd, and the lowest reading by night (13°·7) in the week ending December 13. The hottest week in the year was

that which ended August 2nd (64.0), and the coldest that which ended Dec. 6th (27°·1). The dryness of the atmosphere, *i.e.* the difference between the dew point temperature and air temperature, was 4°·0, an amount considerably below the average of 39 years (5°·6). The rainfall was 31°·3 inches, the average of 40 years being 24°·5 inches. The means of the readings of the barometer were 29°·770 inches ; the means of April, 29°·420, and of December, 30°·139, being respectively the lowest and the highest. The influence of the meteorological conditions—low temperature, excessive rainfall, saturation of air with moisture, &c.—on the vital statistics of the year was well marked, as has already been pointed out in the observations on the mortality from chest diseases, diarrhoea, &c.

VACCINATION.

Table X (Appendix), is a return respecting the vaccination of children whose births were registered during the year 1879, and for it I am indebted to Mr. Shattock the Vaccination Officer, whose energetic discharge of the duties of his appointment, it has always afforded me great pleasure to recognize. The return shows a loss of only four per cent. of the cases, which is better than usual, even for Kensington, the loss in 1878 having been five per cent. It must be remembered, moreover, that the present return is, after all, only preliminary, the Local Government Board allowing vaccination officers a period of twelve months (expiring in February) for the completion of a final return, in order that the statement, in respect of all children born in any given year, may be rendered as complete as practicable. I believe I am correct in stating that the "loss" in the column indicating "removal of children to places out of the parish unknown, or which cannot be reached ; and cases not having been found" averages between 8 and 9 per cent. in the Metropolis generally, so that the Kensington return is fully 4 per cent. better than the average. In a communication lately received, Mr. Shattock states that during the year he prosecuted, under the Vaccination Acts, in nine instances resulting in a compliance with the law in each case. Referring to the "Medical Act," he adds that he also prosecuted under the Statute, an unregistered practitioner who had certified that a child had been three times unsuccessfully vaccinated

by him, and was insusceptible of vaccination. This person was fined £10 and costs. Mr. Shattock insisted on the child being again vaccinated by a qualified practitioner, and the operation proved "thoroughly successful."

THE GOVERNMENT VACCINATION BILL.—In connexion with the subject of vaccination, it is necessary to refer to a retrograde step proposed by the Government, and which, if carried into effect, may lead to small-pox becoming a common disease in the future, as it was in the now-distant past. It is a concession to the anti-vaccinationists, in the form of a Bill ("Vaccination Acts Amendment Act,") which proposes to enact that "no parent of a child shall be liable to be convicted for neglecting to take, or to cause to be taken such child to be vaccinated, or for disobedience to any order directing such child to be vaccinated, if either (*a*) he has been previously adjudged to pay the full penalty of twenty shillings for any of such offences with respect of such child; or (*b*) he has been previously twice adjudged to pay any penalty for any of such offences in respect of such child." Should this Bill become law, any parent who may object to vaccination will be enabled, at the cost of a few shillings, to escape the performance of what is by most reasonable persons regarded as a duty equally owing to society at large and to his own offspring. Under the existing law, penalties are multiple, *i.e.*, a parent may be fined again and again (*inter alia*) for neglecting to have his child vaccinated, and for disobeying the order of a magistrate requiring him to have his child vaccinated: and although the multiplication of penalties, rendered necessary by contumacy, may seem to savor of "persecution," experience proves that it is really the only means of securing the vaccination of the children of contumacious parents, and of those who would deny their children the protection of vaccination, were it not for fear of the consequences of setting the law at defiance. But should the Government Bill pass, anti-vaccinationists would soon have their way, for were the operation to cease to be *compulsory*, in the sense in which it is now compulsory, it would practically become *optional*, and thus, year by year, an ever-increasing number of persons would exist in our midst, who, being themselves unprotected by vaccination, and, therefore, intensely liable to small-pox, would become the means in any future epidemic of spreading the disease indefinitely. The

disease itself, moreover, instead of appearing from time to time in epidemic form, as it does now, would be always with us as in the pre-vaccination days.

The Bill is being vigorously opposed in many influential quarters, and your Vestry were among the first, if not first, in petitioning the House in deprecation of any relaxation of the law in the direction indicated in the Government measure.*

As bearing on the question of the protective power of vaccination, and re-vaccination, reference may be made to a circular letter, issued in October by the Managers of the Metropolitan Asylum District, in which they summed up the experience, acquired in the hospitals, by the Medical Superintendents of the several small-pox hospitals under the control of the Board. The Managers state that "the observations of these gentlemen confirm former opinions on the subject, and establish beyond doubt the mitigating influence in small-pox cases of successful primary vaccination, and the preventive powers of efficient re-vaccination." It is needless to quote at length the valuable statistics furnished: but it may suffice to state that the mortality was 8.8 per cent. of the vaccinated, and no less than 44.4 per cent. of the unvaccinated, the observations extending to a total of 15,171 cases, treated in the hospitals in the epidemic which began in 1876. It is added, that "no case of small-pox has come within the cognizance of either of the Medical Superintendents, of any person who had been efficiently vaccinated, and successfully re-vaccinated. Moreover, the nurses and servants employed from time to time at the various hospitals during the epidemic, have enjoyed almost absolute immunity from infection: and the few—some half-dozen amongst nearly one thousand—who contracted the disease, whilst discharging their duties, had from some cause or other escaped re-vaccination before entering the wards." The conclusion is, that if vaccination and re-vaccination were successfully accomplished at the proper times, small-pox "instead of being, as it is at present, a common and extremely fatal disease, would be a comparatively rare one, and so little fatal that few, if any deaths would result from it."

* The Bill was subsequently withdrawn.

GLANDERS.

In my last Annual Report I referred to the circumstances under which two deaths from glanders had occurred at Colville Mews in May, 1879, and the consequences to which they gave rise, viz. :—an increased activity on the part of the Metropolitan Board of Works, as “Local Authority” under the Contagious Diseases (Animals) Act, which led to the disclosure of many cases of glanders and farcy in the Metropolis, and an increased severity on the part of magistrates in dealing with offences under the Act.

The subject of glanders has been before your Vestry, more or less, ever since the occurrence referred to, and has recently acquired an additional interest from the death of several valuable horses in your Vestry’s stud. In March last, a statement having been made to the effect that within six months (viz., to the end of February), 116 horses had been slaughtered in Kensington on account of glanders and farcy, your Vestry requested me to report as to the actual number of deaths, and as to the “bearings of the subject on the public health.” After full enquiry, I was enabled to report that the occurrence of glanders in horses appeared to have had no “bearing on the public health” during the period in question, for no death in man had been reported from the disease or from any cause of a suspicious character, which, on any ground of probability, could be traced to the poison of glanders; and that the statement of 116 horses having been killed, confirmed as it apparently was by the “Vice-President of the Council,” in the House of Commons, was an accidental exaggeration, for the actual number was only 64 (glanders 44, and farcy 20): certain cases belonging to another parish having been erroneously included in the Kensington list.

The recorded deaths from glanders in 1879 were 57, and from farcy 24—total 81; of which only 5 took place in the first quarter: but there is reason for believing that concealed cases had occurred at Colville Mews between January and March, it having been ascertained that in one set of stables ten horses had died or were slaughtered prior to the death of the child, which led to the discovery of the outbreak. In the Metropolis, generally, the horses destroyed on

account of glanders numbered 602, and from farcy 395—total 997. The totals for 1877 and 1878 were 486 and 571 respectively.

In the report above referred to, I submitted tables showing the number of horses slaughtered in each month, from January, 1879, to March, 1880; the number of infected places, and the localities where the disease had existed. Of 136 horses slaughtered in 15 months, it appeared that 106 were the property of omnibus and cab proprietors; 12 of tradesmen; 12 of "general dealers, &c.," and 6 of your Vestry. The separate stables infected were 60, the majority of them being comprised within two limited areas, of which Talbot Mews and Colville Mews, respectively, may be taken as the centres. In the Colville Mews area there had been some 60 cases within a space of a quarter of a mile square. No case had been reported in any gentleman's stable or in any livery yard, and the horses affected, speaking generally, were of a decidedly low class.

Glanders is looked upon as a contagious disease only, but the occurrence of case after case in the same stable is quite as suggestive of aerial infection as of the conveyance of *virus* from horse to horse by contact, or through the medium of polluted stable fittings, sponges, buckets, &c.

It is worthy of remark that in more than one instance glanders existed in two or more separate localities on premises in the occupation of the same person, pointing to the probability that the contagium had been conveyed by people in the employ of the horse proprietor. The way in which cases of glanders and farcy have been mixed up in some of the stables is suggestive of an intimacy of relation between the diseases, if, indeed, they be not varieties of one disease. The spread of glanders points, I think, to the insufficiency of the processes usually adopted for cleansing and disinfecting premises, and which obviously were insufficient to destroy the specific virus. There was one case and only one, in a large stud of horses belonging to the London General Omnibus Company, the presumption being that, by the measures adopted for purifying the premises, the disease was stamped out without loss of time.

To prevent misconception, it should be well understood that the date of death of any given horse, does not necessarily furnish a clue to the date of attack. There are, doubtless, at any time many horses in the

Metropolis affected with glanders of which the "Local Authority" knows nothing. Such horses are usually employed in night cabs and omnibuses, and the only way to detect them would be for the Inspectors of the Board, with the assistance of the Police, to make raids at uncertain intervals on cab and 'bus stands, and to examine every horse on the rank, and stables from which diseased horses had come. The dread of such inspections, and of the consequences of detection, would, I doubt not, lead to frequent disclosure of diseased horses. As showing the inveterate tendency to concealment, I may refer again to the outbreak at Colville Mews, where, in the early part of last year, some ten horses had been killed or had died before the disease was brought to light, and then only owing to the spread of it to human beings. Not long after, moreover, we were instrumental in bringing to knowledge a group of cases that had occurred at another mews, and there was a race between the Police officer and the proprietor of the stables which should be the first in arriving at the Board Inspector's surgery to report the occurrence of the *last* case. The horse owner was first; but he was successfully prosecuted by the Local Authority on the ground that he did not *immediately* report the case as required by the Order of the Privy Council.

It would be interesting, did time permit, to discuss probable modes of spread of glanders, other than those obvious ones to which I have alluded, but I shall only refer at this time to the probability of infection being conveyed by virus deposited by diseased horses in public drinking troughs. So strongly did I feel on this point that I ventured some time back to recommend, among other precautions, that your Vestry's horses should be separately watered each from its own bucket, and not suffered to use a common drinking trough even in the stable yard. Such precaution is the more necessary because in the earlier stages, and in the chronic form of the disease, it is highly probable that the specific ulceration of the nostrils which characterises the malady may be slight, or so high up to be invisible to the unassisted sight, though it may be worthy of consideration whether it might not be practicable to make an examination of any suspicious case with the aid of a nasal speculum?

I have not any means of ascertaining whether the deaths from glanders in Kensington have been more numerous, in proportion to the

number of horses kept, than in other parts of the Metropolis. The Local Authority, moreover, is "unable to state whether the disease has been more prevalent in Kensington than in other parishes," having "no means of knowing the number of horses kept, the attention of the Board's officers being only called to those places upon which disease appears." We read, however, in the Annual Report of the Veterinary Department of the Privy Council for 1879 (page 32), that "more cases of glanders and farcy have been returned in the Metropolis than in any previous year." It is said, however, that "there is no evidence to show that the disease is more prevalent than in former years . . . the increased number of cases returned being due to the activity of the executive in carrying out the Act of 1878, and Orders of Council relating to these diseases."

There can be little doubt, I think, that the prosecutions which followed on the discovery of the cases at Colville Mews, together with the expressed resolve of more than one Police Magistrate to inflict the full penalty of twenty pounds for offences against the Act, operated as a stimulus in promoting the *disclosure* of diseased horses. It is very desirable, nevertheless, that all the facts bearing on the subject should be published for general information by the Local Authority, or by the Privy Council.

SANITARY WORK.

Tables VI and VIa (Appendix) summarise the chief items of work done by the Sanitary Inspectors during the year. A not inconsiderable part of their work, however, scarcely admits of tabulation, many sanitary improvements being carried out at their instance, and under their supervision, without recourse to forms, service of notices, &c., which take up time, and are, indeed, unnecessary when an owner or occupier is ready and willing to abate nuisances or effect desired improvements. The statement as to the "number of houses inspected" applies to primary inspections only. When a nuisance is found to exist and it is not at once abated, repeated inspections may be required—as many as six, indeed, when it becomes requisite to take out a summons. In cases of infectious disease treated at home, under circumstances which seem likely to endanger the spread of disease, through the omission of proper precautions, numerous visits are usually paid to the

infected house, for which it has not been customary, until lately, to take credit. In like manner the total of "sanitary orders" issued comprises none of the cases in which work has been done by the owner or occupier at the request of the Inspector.

During the last two years the abatement of nuisances has been much accelerated by the plan of serving "preliminary notices" upon the parties liable, immediately on discovery. These notices appear to be well nigh as effectual, in the majority of instances, as the more formal notice which, previously, it had been the rule to serve after report of the nuisance to the Works, Sanitary, and General Purposes Committee and confirmation by your Vestry of their recommendation. When the notice is not attended to recourse must be had to a summons before a magistrate, and I hold it to be the duty of an Inspector in such cases to proceed with the least possible delay.

In my last Annual Report I had to observe that "the difficulties which beset legal proceedings, *i.e.*, at the Police Court, tend to cool the ardour of Sanitary Inspectors in having recourse to magisterial aid." I am happy now to be able to bear witness to a great improvement in this respect, for acting upon a recommendation I made in 1878, your Vestry have authorised proceedings before the magistrates sitting at the Vestry Hall—an arrangement by which much time has been saved, besides securing in nearly every instance the object in view. We have cause to be grateful to the magistrates for their willingness to take our cases, adding considerably as they do to the time consumed in the administration of justice; and for the good work they have done by their decisions in helping forward sanitary improvement.

Among "offences" against various Sanitary Acts, for which proceedings were instituted, the following may be mentioned:—

For keeping a cow on unlicensed premises: penalty inflicted 1/- and 1/- costs.

Under "Dairies Order;" for allowing a wife to take part in carrying on the business of a dairy, while she was nursing cases of small-pox: penalty 20/-, and 2/- costs.

For exposing a child in public, while suffering from an infectious disease: penalty inflicted 5/-, and 1/- costs.

For exposing himself in public, under similar circumstances, a

man was required to enter into his own recognizances to come up for judgment when called upon.

For allowing offensive accumulation of manure, contrary to your Vestry's regulations for the periodical removal of the same, a penalty of 1/-, with 1/- costs, was inflicted in several cases: in others 1/- costs, and no penalty; and in one case 20/-, and 1/- costs. In two cases, the defendants not having appeared to answer the complaint, the Justices imposed penalties of £2 and £5 respectively.

For offences against the Slaughter Houses Bye-Laws:—in one case, the defendant was cautioned to be more careful, and in four cases the penalty of £3 was inflicted.

For allowing gipsies to encamp, there being no accommodation on the ground, (w.c., water supply, dustbin, &c.,) a conviction was obtained, which had the desired effect of getting rid of the gipsies.

In upwards of thirty cases in which sanitary works directed by your Vestry had not been carried out, orders were made, no penalty being inflicted, but payment of 1/- costs being required.

In a few cases proceedings were instituted against persons for omitting to give your Vestry notice before beginning to make drains, or for neglecting to construct drains when ordered. In one of the first-named class of cases, penalties to the amount of £11 were inflicted.

Proceedings were taken successfully in more than one instance, to put an end to ballast burning complained of by inhabitants in the locality of the nuisance.

In several cases the Justices' "Orders" having been disobeyed, penalties, mostly nominal, were inflicted.

LICENSED SLAUGHTER-HOUSES.

The licensed slaughter-houses are 29 in number, viz., 20 north and 9 south of Uxbridge Road (*vide* Table XI, Appendix, for localities and names of licensees).

The several premises were inspected by your Vestry's Works, Sanitary, and General Purposes Committee prior to the day for the renewal of licenses in October, no opposition being raised to the

renewal in any case. The Committee nevertheless found occasion to complain of neglect by several of the licensees in respect of certain of the bye-laws (Nos. 5, 10, and 16) framed with the object of preventing nuisances in the conduct of the business; and proceedings having been instituted, several of them were mulct in penalties of three pounds. The Committee took note of the fact that at some of the slaughter-houses no provision of a permanent character had been made for watering the animals whilst in the lairs: but they observed with satisfaction that at most of the premises the "Local Authority" (Metropolitan Board of Works) had succeeded in getting the licensees to carry out a recommendation by your Vestry for the provision of a syphon-trap with fixed grating, in lieu of the bell-trap with removable cover.

The most satisfactory feature in connexion with the annual licensing was the fact, then made known, that the Local Authority have now endorsed in principle the views expressed, and the action taken, by your Vestry in 1874, on the subject of the approaches to slaughter-houses; and they opposed the renewal of the license of a slaughter-house in Chelsea on the ground that the only means of access to the premises is by a flight of stairs in a dwelling house. The Board occupied a difficult, not to say a false position in thus opposing the license after having, without protest, tolerated the use of the premises under the same conditions for five consecutive years; and so the magistrates appeared to think, as they declined to give effect to the opposition. It was incidentally mentioned that a statement of the Board's present views on this subject had been forwarded to the magistrates in the several Divisions of the Metropolis, and that in all the other divisions the magistrates had refused to renew the license of premises objected to. Even now, however, the Board does not go quite far enough, as they have, as yet, decided to oppose the renewal of licenses only when the doorway is too narrow for the convenient passage of oxen. In the case above alluded to, moreover, having failed in their objection to the renewal of the license, they made an unsuccessful appeal to the Bench to restrict the slaughtering to "small things," *i.e.* sheep, lambs, calves, and pigs. It is to be hoped that on another occasion the Board's opposition will be more successful. But in order to succeed they should oppose on principle in every case where the entrance to the premises is unsuitable; should they not see fit to obtain the sanction of

the Local Government Board to a bye-law forbidding the passage of cattle through a dwelling house or shop.

Your Vestry, it may be remembered, took decided action in this matter in 1874, on the passing of the Act, and objected on principle to the renewal of the license in every case where there was not an approach to the premises altogether independent of the butcher's house or shop; and, although the magistrates did not at that time give complete effect to your Vestry's views, I am glad to be able to state that only one slaughter-house with an improper entrance through a shop now exists in Kensington, and this one appears to be but little used.

It may be mentioned that there are now some 928 private slaughter-houses in the Metropolis, whereas the number at the date of the passing of the Act was 1429: and that only 27 new slaughter-houses have been licensed since 1874. In Kensington there were 53 slaughter-houses in 1873. Now there are but 29, and no new slaughter-house has been licensed since the passing of the Act.

LICENSED COWSHEDS.

The licensed cowsheds are 23 in number, viz., 15 in the district north, and 8 in the district south of Uxbridge Road (*vide* Table XII, Appendix, for localities and names of licensees).

The licensing of the cowsheds for the year ending October, 1880, had special features of interest, owing to the new conditions brought into operation by the passing of the "Contagious Diseases (Animals) Act, 1878."

In several of my annual reports I have stated fully the reasons calling for more careful supervision of cowsheds and dairies: and in my report for 1878, I specified the nature and extent of the powers conferred on the Metropolitan Board of Works as the "Local Authority" for all London (the City excepted) under the Act, in respect of the construction and the management of cowsheds.

The Act was brought into operation through the issue of the "Dairies, Cowsheds, and Milk Shops Order, 1879," and regulations framed by the Local Authority thereunder. In anticipation of the annual renewal of licenses, your Vestry's Works, Sanitary and General Purposes Committee carefully inspected the several licensed cow-

sheds in July. They noticed improvements in many of the sheds, consequent on the carrying out of the requirements of your Vestry, made known in the previous year; and in their report they expressed a hope that through the operation of the regulations, further improvements would be effected. The Board had then recently appointed inspectors of cowsheds, and the officer for the district being engaged in making a preliminary inspection, the Committee out of courtesy to the Board, preferred to await the result of such inspection before taking any steps to carry out the provisions of the regulations in respect of structural alterations.

In my tenth report, for 1879 (Oct. 15, page 68), I had to state that in several of the sheds the requirements of the Board had not been attended to; nothing in fact had been done to bring the premises into conformity with the regulations.

In these circumstances the day for the renewal of licenses came round, with what results may be best explained in the words of the committee reporting their proceedings:—

“An application,” they stated, “was made by the representative of the “Local Authority” (Metropolitan Board of Works) for an adjournment over a period of two months, of all the cases in the Division (which includes Chelsea, Hammersmith, and Fulham, as well as Kensington) to enable the licensees to comply with the requirements of the Local Authority, as set out in the “regulations” framed under “The Dairies, Cowsheds, and Milkshops Order of July, 1879,” prior to the renewal of the licenses. It was stated that an adjournment had been granted on the application of the Board in other Divisions.

“The Justices, however, taking the view that the business of a cow-keeper could not be lawfully carried on without a license, and that the penalty for breach of the regulations was heavy enough to ensure due compliance with them by the cowkeepers, declined to accede to the application.

“A question having arisen as to the relative position of the Board and the “Nuisance Authority” in respect of the cowsheds, under the regulations, it was stated that the Local Authority occupy a similar position in respect of the licensing of cowsheds, to that occupied by the police in respect of the licensing of public-houses. The Board have no power to oppose the renewal of a license, their duty being to

see that the regulations are duly carried out, and to place whatever information they may possess at the service of the court, leaving the magistrates to act on such information at their discretion. It is the duty of the Vestry to oppose the license, if necessary on sanitary or other grounds. Your committee refer to this admission because it had been erroneously supposed that the "Nuisance Authority" had, in some sort, been superceded by the Board in respect of the sanitary supervision, &c., of cowsheds. The Vestry's powers, however, under section 93 of the Metropolis Local Management Act, 1862, are in no way modified by The Contagious Diseases (Animals) Act, 1878, nor by "The Dairies, &c., Order," nor by the Regulations. That there has been a misunderstanding on the part of some Nuisance Authorities as to the relative position of the Board and of the Vestries, &c., is obvious, for the Chelsea Vestry and the Fulham District Board of Works were practically unrepresented at the special sessions, those bodies confessedly having "left the whole matter in the hands of the Board" in the belief that the regulations were intended to effect a transference of jurisdiction. Even the Board, however, was not fully prepared to deal with the cases, owing probably to an expectation that the sessions would have been adjourned on their application.

"In their former report on the cowsheds (August 20th), your Committee noticed with satisfaction that "the Local Authority had fixed 800 cubic feet as the 'air space' necessary for each cow lawfully kept in a cowshed," thereby endorsing, not without considerable opposition from interested persons, the standard adopted by your Vestry, and approved generally by scientific and sanitary authorities.

"In conformity with this "provision" of the regulations, the Board intimated to the several licensees, in September, what number of cows might lawfully be kept in each shed.

"On the 7th October, however, a deputation of cowkeepers waited on the Special Purposes and Sanitary Committee of the Board to urge the reduction of the required air space to 600 feet per cow, on the ground that 800 feet was prohibitory and unnecessary: and the Committee having at once come to the conclusion that while 800 feet of air space for each animal should be the rule, 600 feet would be sufficient in those sheds which, from their situation and construction, have satisfactory means of ventilation, amended the "provision" in accordance with this view. This regrettable alteration, at later than

the eleventh hour, tended still further to complicate business at the licensing sessions.

“Your Committee, however, had instructed the officers to adhere, in all cases, to the 800 feet standard adopted by your Vestry. This was done and in every case, save one, the Justices gave effect to the recommendations of your Vestry, thus carrying out the decision they had announced in 1878, viz., that in 1879 and afterwards, they should insist on the 800 cubic feet rule for all cowsheds in this parish, and they marked the several licenses for the number of cows the respective sheds will accommodate on that measurement.

“In conformity with the instructions of your Vestry, the licenses of three sheds, in Blechynden Mews, and of the triple shed in Archer Mews, in the occupation severally of Messrs. Copperwheat, Salisbury, White, and Skingle, were opposed: your Vestry’s opinion, moreover, that “the premises are unsatisfactory in construction, arrangement and position, and are unfit for use as cowsheds,” having, as directed, been conveyed to the Local Authority. The Justices, however, having viewed the premises decided at the adjourned meeting, held on the 4th November, to renew the licenses: and taking into consideration that Messrs. Copperwheat, Salisbury, and White are weekly tenants only, they declined to make it a condition of the renewal that the sheds should be opened up to the roof by removing the ceilings of the sheds, which are stables in construction. The Justices, however, are fully alive to the reasonableness of your Vestry’s views on the subject of ventilation, and have given effect to them in all the other cowsheds, Mr. Skingle’s shed in Archer Mews excepted. This latter shed is an “infected place” at the present moment, and not for the first time, owing to an outbreak of pleuropneumonia. Mr. Skingle, it may be observed, is a dealer in cows, and when he is busy as many as ten cows per week pass through his shed, which consists of three very small stables. Two of these are his own property, and he inhabits the rooms over them; the rooms over the third shed being sub-let.

“Some inhabitants in the locality of Stratford Road opposed the renewal of the license of Mr. Clarke’s shed in that road. The Chairman of the Bench, however, having viewed the premises, and Mr. Clarke having consented to remove a portion of the staging for fodder above the cows, the license was renewed.

“In their former report your Committee stated that the Local Authority had in the regulations “specified requirements in respect of cubic and floor space, size of stalls, paving, ventilation, &c., which will involve reduction in the number of cows kept in several sheds, and very considerable improvements, amounting almost to re-construction, especially of the flooring, in many more of the sheds.” And, as already stated, the Board indicated to the licensees in the month of September the nature and extent of these alterations, improvements, &c. Meanwhile a return had been prepared by your Vestry’s Sanitary Department, shewing in what respects the several sheds fall short of the requirements of the regulations, and a copy of this return was forwarded to the Board. Copies of the communications made by the Board to the several licensees, specifying their requirements, have been obtained, and will be preserved for future use. These requirements hold good in all respects excepting that of cubic space. The Board’s representative, however, did not interfere in any way to alter the “800 feet rule” in respect of the cow sheds in this parish. The licensees, with one or two exceptions, had not found time to comply with the requirements of the Board, and your Committee recommended that a reasonable period should be allowed, wherever necessary, to enable them to carry out the alterations.

“It would be almost impossible, indeed, for the licensees to carry out fully the “Provisions” of the Regulations with a shed full of cows; for, to quote but one point, the flooring of nearly all the sheds will have to be reconstructed with new materials, scarcely any of them being at present “well paved with Stourbridge or other impervious material, set with cement, properly bedded on concrete, with a proper slope towards a gully-hole,” which, “where practicable,” is to be “outside the shed.” This highly important improvement, however, should be carried out with the least possible delay.

“With reference to the sheds in Blechynden Mews, the licenses of which your Vestry opposed unsuccessfully, it may be mentioned that the Magistrates intimated to the licensees that they ought to endeavour to obtain leases of their respective premises. Your Committee felt strongly, and it was represented to the Bench, that it was almost unreasonable to expect the licensees to spend large sums of money to bring the premises into conformity with the provisions of the regulations under a weekly tenancy, and yet the regulations must be

complied with, the maximum penalty for default being £20. How very considerable are the alterations required may be gathered from the subjoined copy of the Board's letter to Mr. Copperwheat, the letters to the other licensees being couched in nearly identical terms.

"The shed requires additional light to be provided, by openings or windows in the sides or roof.

"The shed requires to be thoroughly ventilated by lantern louvred ventilators in the roof, or by louvred ventilators in the walls, or by openings in the sides or roof.

"The inner walls, doors, and woodwork of the shed require to be covered with hard, smooth, and impervious material to a height of at least 5 feet from the floor.

"The receptacle for brewers' grains and the separate receptacle for dung and litter should be both formed of, or lined with impervious material, and properly drained, and both should be constructed outside the shed in such a way that any effluvia arising therefrom cannot enter the shed.

"The shed requires to be repaved with impervious material, and drained in the manner prescribed by provision 7, page 5, of Regulations."

"It may be added that in these sheds there is no proper water supply, the water for the cows being obtained from a cistern in the sub-let rooms over the shed. The cistern supplies a w.c., which is badly situated and unsanitary. It also supplies the family living in the rooms. The waste pipe, moreover, is connected with the soil pipe of the closet. The regulations require a daily allowance of only 12 gallons of water per cow, but it is doubtful whether even this moderate allowance will be forthcoming, having regard to the wants of the sub-tenants. Under all the circumstances your Committee repeat the "hope" they expressed last year, viz. that "these licensees will be able to find more suitable premises for carrying on their business before the next licensing Sessions."

"Some improvements in certain of the sheds have since been carried out, but much remains to be done before the several licensees can be deemed exempt from penalties for non-compliance with the regulations of the Board."

BAKEHOUSES.

The special duties formerly devolving on your Vestry's officers under the provisions of the Bakehouse Act were transferred on the first day of the year 1879 to Government Inspectors appointed under the provisions of the Factory and Workshops Act, 1878. The Sanitary Inspectors, nevertheless, have continued to exercise a considerable amount of supervision over the bakehouses as a part of their routine work, and I have no doubt that a continuation of their periodical visitations is desirable in the interests of the public. There are about 128 bakehouses in the parish, 79 north and 49 south of Uxbridge Road.

DUSTING.

The collection of dust and ashes from upwards of 20,000 houses, covering an area of nearly 2000 acres, is no light task, and complaints of neglect were habitual when the work was carried out under the contract system. So frequent, indeed, did complaints at last become, that a desire to satisfy the legitimate requirements of the parishioners in respect of the removal of house refuse, had no little influence in determining your Vestry, in 1877, to abolish the contract system altogether, and undertake the duty with an ample staff and plant. The result has justified the decision, for the work has been done in an increasingly satisfactory manner: complaints are now rare, and even applications for removal of the dust are comparatively few in number. Oftentimes, moreover, when the dustmen, or your Vestry, get censured for alleged neglect, it turns out on enquiry that the domestic servants are to blame; the hour of the dustman's call is "inconvenient"; or "the steps have just been cleaned"; such excuses, or some other excuse equally valid from a servant's point of view, being deemed sufficient for the perpetuation of a nuisance. And nuisance always arises from improper use of the receptacle by the deposit therein of animal and vegetable refuse; of which it may be said that the former has an appreciable value and should be utilised, while the latter admits of being burned on the kitchen fire. A notification to this effect was left at every house in the parish in 1873, and subsequently repeated, not, I fear, with any conspicuously good results.

A strong effort has been made to systematise the work of dust collection, by dividing the parish into districts, and providing for the inspection of dust-bins and for supervision of the "dusting-gangs." The one thing needful for success is a systematic call at every house once a week. Hitherto the rule, or at any rate the order, has been that a dust cart should go through each street once a week on a given day, and that a call should be made at each house once a fortnight. If the plan of a weekly call could be organised, it should be understood that if, through default of domestic servants, or any other cause beyond the control of your Vestry, the receptacle is not emptied on the appointed day, no further attendance will be given in the same week.

It may be mentioned that a dust-bin properly placed, and used properly, is not a "nuisance" *per se*—becomes, indeed, little more than an inconvenience even when full; and that it is not fair that dustmen should be exposed to needless danger and annoyance resulting from misuse of the receptacle. It is a fair question, indeed, whether those who misuse the dust-bin, and then complain of your Vestry's "neglect," should be held responsible for the creation of a recurring nuisance?

NON-REMOVAL OF MANURE.

For several years I have felt it my duty to draw your Vestry's attention to the subject of the removal, or rather the *non*-removal of stable refuse. Regulations have been framed and published for the "periodical removal of manure, &c.," under the provisions of The Sanitary Act, 1866, which prescribes a penalty of twenty shillings for default. But still one of the most frequent causes of complaint by parishioners, and one of the most frequent of recurring nuisances, arises from the neglect of this obligation. Proceedings have been taken in several instances to enforce the regulations but with little success, the offenders having usually been able to satisfy the Magistrates that the duty required of them was beyond their power to perform. In fact, however, I believe the real difficulty often originates with the coachman who will not give the refuse away, while the farmer or his carter will not purchase it. At certain seasons, *e.g.* hay-making time and harvest, there is a real difficulty in getting the receptacles cleansed. Yet this refuse has an appreciable value, for your Vestry, to quote but one example, receive a payment equal to $3\frac{1}{4}$ pence per week for each

horse in the large stud at the Warwick Road stables. The quantity of refuse made in thousands of stables in this large parish, which contains upwards of 150 mews, must be very great, and of an aggregate value probably more than sufficient to pay for the cost of collection and removal from London. It is a question whether your Vestry should not undertake such collection and removal as the law allows, "with the sanction of the owner," a sanction which would be cheerfully given in many instances, and which, probably, it would not be difficult to obtain in most cases, if it were understood that the "Regulations" for the periodical removal of manure, viz., three times a week on alternate days, would be enforced.

PUBLIC URINALS, &c.

No steps to increase "necessary accommodation" were taken during 1879. Your Vestry's powers are ample, but a tangible difficulty has been experienced in giving effect to the provisions of the 88th section of the Metropolis Management Act, which enables Vestries and District Boards of Works to "provide and maintain urinals, water closets, and like conveniences (for both sexes) in situations where they deem such accommodation to be required, &c."

Your Vestry's Works, Sanitary, and General Purposes Committee, to which the subject was referred, have indicated several situations where it is admitted such accommodation is required; but the opposition raised by inhabitants in the neighbourhood of the selected sites has always proved insuperable. A proposition was recently made by a private individual to provide *châlets* for the convenience of the public as a commercial speculation, but the Law and Parliamentary Committee having advised that your Vestry have no authority for placing obstructions in the public streets the subject fell through. I understand, however, that in other parishes the scheme has been entertained favourably; we can, therefore, but await with patience and hope, the issue of an interesting experiment.

FOUNDATIONS AND SITES OF BUILDINGS.

Sanitary Authorities have had great cause of complaint on the score of the defective foundations and unhealthy sites of buildings; for not only have some unworthy builders been known to use improper bricks (*e.g.* bricks saturated with filth from broken-up sewers)

in the foundations of houses, and to neglect precautions against the rising of damp but it has been a too common practice to excavate the natural or virgin soil—*e.g.* brick-earth, sand, gravel, &c., and to fill up holes so made with refuse matters, such as slop, and the contents of dust-bins. Happily these practices can no longer be adopted with impunity, the Metropolitan Board of Works having recently framed, and the Home Secretary approved, bye-laws under the provisions of the Metropolis Management and Building Acts Amendment Act, 1878, to put a stop to them.

These bye-laws are too lengthy for literal quotation, but it may be briefly stated that they make provision for the entire removal from any site of a proposed house of any improper deposit whatever before the house can be erected; and the holes caused by this excavation must be filled in with hard brick or dry rubbish. If the site of the house be not gravel, sand, or natural virgin soil, it must be covered with concrete. And if the site be not upon a natural bed of gravel, the foundation of the walls will have to be formed of concrete, and provision is made to ensure the concrete being composed of proper materials.

Provision is further made to ensure the use of good and sound stone, or bricks, and mortar or cement, in the construction of all walls, above and below ground, and for the construction of an efficient "damp course." The top of every party wall and parapet wall, moreover, will have to be finished in waterproof and fire-resisting material properly secured.

These bye-laws, honestly carried out, cannot fail to be attended with good results, and it is only to be regretted that we have had to wait so long for legislation, the necessity of which has been recognized by Sanitarians and Nuisance Authorities alike.

PUBLIC BATHS AND WASH-HOUSES.

The negotiations for the purchase of a site at Ladbroke Grove, Notting Hill, for the erection of public baths and wash-houses, to which I alluded in my last annual report, fell through, mainly owing to an impression on the part of your Vestry, that the price demanded was excessive. Substantially, therefore, no progress was made in 1879 towards the realization of a scheme which, on theoretical grounds, commends itself to public approbation. I understand that the Com-

missioners are again conducting negotiations for a site in a position more suitable, because more central, than the site at Ladbroke Grove. This site, however, would prove even more costly than the other, a secondary consideration perhaps, in the long run, seeing how much the success of such an institution must depend on its position.

MORTUARY.

Two steps have recently been taken with a view to the provision of a public mortuary. Plans prepared by your Vestry's architect have been approved by the Churchwardens, and your Vestry have agreed on the terms of an agreement with the Churchwardens settling the conditions on which a building may be erected in the disused Parish Churchyard. No more suitable site could be desired, especially as only one mortuary is to be provided.

The next step will be to obtain a Faculty, and care will be necessary to guard against the introduction therein of unreasonable restrictions.

The matter moves slowly, but I hope that on the presentation of my next annual report, I may have the privilege of congratulating your Vestry on a successful issue to long continued efforts to supply this much needed sanitary want.

DISINFECTION.

During the year ended March 25th, 1880, a large number of infected articles of bedding, clothing, furniture, &c., were satisfactorily disinfected by Messrs. Wellan & Co., the contractors, mostly at the cost of your Vestry, the owners being too poor to bear the expense. The weight of the articles disinfected at public cost, was about 230 cwt.: their number, 4,530, and the cost of the process, £226. Large as this outlay may appear, it is probably less than would have been incurred had your Vestry been possessed of a disinfecting chamber, and the necessary staff for working it. An establishment and staff would have to be maintained in working order almost irrespective of the amount of infectious disease existing, whereas, under the present system, we pay only for work done.

Two-hundred-and-sixty-one rooms in 230 houses were disinfected with sulphurous acid by your Vestry's Officer. No charge was made in the great majority of instances, the occupiers being poor; but a small fee, to cover the cost of the process, is required of those who are in a position to pay.

WATER SUPPLY.

The water supply question, always an important one in relation with the public health, has acquired new and special interest of late, on account of proposals submitted to Parliament with a view to the purchase, on behalf of the ratepayers, of the eight undertakings by which the Metropolis is supplied with this necessary of life. I have always thought it desirable that your Vestry, as the body responsible in this great parish for carrying into effect the provisions of sanitary legislation, should receive, year by year, the best and latest available information on all points connected with the water question, and it has been my custom, therefore, to summarise the reports by Professor Frankland, prepared annually for the Registrar-General.

Of late years I have been enabled, in addition, to furnish a summary of interesting facts supplied in monthly reports by Colonel Bolton, the "Water Examiner" under the "Water Act, 1871." Dr. Frankland's report deals mainly with the quality of the water in its chemical and microscopical aspects, and in relation to its fitness for dietetic and domestic purposes; his opinion, as is well known, being adverse to riparian sources of supply: whereas Colonel Bolton's observations have reference *inter alia* to the condition of the water in bulk at the intakes, and to its physical qualities when delivered to consumers—in other words to the machinery of collection, subsidence, filtration, storage, and distribution.

London is mainly supplied from the rivers Thames and Lea, and the New River; but a considerable and increasing quantity of water is obtained from deep wells sunk in the chalk, not only by the Companies which obtain their entire supply from that source but also by some of the old Companies which thus supplement their intake of river water.

Dr. Frankland is as emphatic as ever in his commendation of this "deep well water," and takes it as the standard of purity in comparative observations on the waters generally. He describes it as being "delicious and wholesome" and uniformly excellent for dietetic purposes; maintaining that in the interests of temperance and public health it should as soon as possible be substituted for that portion of the Metropolitan supply which is drawn from polluted rivers. This "pure spring water," moreover, is "everywhere abundant in the Thames

basin: in dry seasons it constitutes the sole supply of the Thames and the Lea, and even after the most protracted drought, more than 350,000,000 gallons of it daily flow over the weir at Teddington, whilst a further very large volume of it joins the Thames lower down." At present the inhabitants of the Metropolis, generally, can only use it after it has been mixed with the excrements of a large population, and used for the washing of vast quantities of filthy rags in paper mills, and of linen in laundries. It would be a most valuable boon to London, he thinks, if ever so small a fraction of this prodigal supply could be collected, preserved from irremediable pollution, and distributed to those portions of the Metropolis which are not at present supplied with such water. The principal objection to it is its hardness, but this is an objection easily surmounted, by "Clarke's process"—the addition of slaked lime.

The "hardness" of water represents the weight of carbonate of lime, or its equivalent of other soap-destroying substances, found in 100,000 parts of water. The average hardness of the Thames water delivered in London last year was 20°8; of the Kent Company's water 28°4; and of the Colne Valley Company's water only 6°3. "All hard water must be softened before it can be used for washing linen: when it is softened in detail by the laundress, the operation costs, for an equal volume of water, at least eighty times as much (in soap and soda) as it costs when conducted on a large scale by a water company. The only water fit for "washing" delivered in London during the past year was that of the Colne Valley Company, which was softened before distribution by the process above-mentioned.

All waters, save artificially prepared distilled water, contain more or less "solid matter." The solid matter in river water is composed of a variety of substances, by far the largest proportion being entirely harmless when the water is used for dietetic purposes, but injurious when it is used for washing, because the water is thereby rendered hard; but a small proportion consists of organic substances, which are always objectionable, and at times are dangerous to health. The average proportion of total solid matter was much higher in 1879 than in 1878: the proportion in 1878, moreover, having been greater than in the previous year. The deep-well waters delivered by the Kent Company and by the Tottenham Board of Health contained the largest proportions of these matters, but the deep-well water

supplied by the Colne Valley Company contained less than one-half the quantity found in the river waters, and less than one-third of that found in the Kent and Tottenham waters: this comparative freedom from saline matters being attained, as already explained, by adding a small quantity of slaked lime to the water before it leaves the Company's works. The process is equally applicable to all waters supplied to the Metropolis.

The organic impurities derive their importance from being of animal origin. They are found in the river waters, which last year were often much polluted, so that, even after efficient filtration, Dr. Frankland deemed them "only in some measure fit for dietetic purposes during the months of April, November, and December." Only once before, since 1868, when these analyses were first made, had the Thames water been so polluted as in 1879; and, but for the perfection of the Companies' filtering plant, there is reason to believe that the pollution of Thames water, as delivered in London last year, would have been unprecedented. "The Thames was often in high flood, even in summer, and much filthy matter from sewers, cesspools, and cultivated fields was swept into the river during those periods of the year when they are usually kept back by the absence of heavy rain" The Lea water was somewhat superior; but in several months that sent out by the East London Company was "quite unfit" for dietetic use. These "noxious organic matters" are "in suspension," but in such a finely divided state as to render their removal by artificial sand filtration impossible. There is thus no protection against the distribution of them in polluted river water. Deep-well water, on the other hand, has undergone such a prolonged and exhaustive filtration through great thicknesses of porous rock, as to render it extremely unlikely, if not impossible, that any portion of the organic matter still remaining in it should be of this noxious character." Hence the deep-well waters were "uniformly pure and wholesome." Of the river water abstracted from the Thames, the best average supplies were furnished by the Lambeth and Chelsea Companies. Not many years ago the supply by the Chelsea Company was one of the worst, owing to the unsatisfactory position of their intake—at Seething Wells—and to deficiency of storage reservoirs. Stimulated by the complaints of their customers the Company removed their intake to West Molesey, undertaking extensive works at a large outlay, and now

they are enabled to supply water equal in quality to the West Middlesex Company, which for several years was at the head of the Companies drawing their supplies from the Thames.

The following table shows the amount of organic matter in the water of the Companies which supply Kensington, the Kent Company's water being taken as the standard of purity for comparison :—

Name of Company.	Maximum.	Minimum.	Average.
Kent	1·0	1·0	1·0
Chelsea	5·8	2·7	4·4
Grand Junction ...	7·8	2·7	5·0
West Middlesex ...	8·2	1·6	5·0

The organic elements consist chiefly of organic carbon, and the maximum pollution in the river waters greatly exceeded the standard, which is—0·1 part of organic carbon in 100,000 parts of potable water.

A marked and undeniable advantage of spring water is its evenness of temperature. The range of temperature of river waters is considerable, and last year in the water of the Thames, as delivered by five of the Companies, it amounted to 34°2 Fahr., viz., from 34°3 in January to 68°5 in August. The Lea water had a range of 34°7; the minimum being 32°9, or less than one degree above freezing point. Thus in “ eminent danger of freezing ” in winter, the water became in summer vapid and “ repulsive to the palate.” The Colne Valley Company's deep well water showed a larger range of temperature than usual, viz., of 18°2, from 40°8 in January to 59°0 in July; the range in the Kent Company's water being only 8°4, viz., from 50°2 in December to 58°6 in August.

The transparency or otherwise of water is ascertained by its appearance in a tube two feet in length, and is expressed in arbitrary terms settled by common agreement, as in the following table, which shows the degree of efficiency of filtration of Thames water as supplied by the Companies in this parish, the examinations being made monthly :—

Company.	When clear and transparent.	Number of occasions.		
		When slightly turbid.	When turbid.	When very turbid.
West Middlesex	10	2	0	0
Grand Junction	9	3	0	0
Chelsea	9	2	1	0

When examined under the microscope the sediment deposited by turbid water on standing, is generally found to contain living and moving organisms. During the year these organisms were observed in the Chelsea and West Middlesex Companies' water twice, and in that of the Grand Junction Company once. The annexed table shews the results of such microscopic examinations during the past eleven years :—

Name of Company.	Number of occasions when living organisms were found.										
	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879
Chelsea	3	2	2	3	2	5	4	4	1	0	2
Grand Junction	4	1	1	2	3	5	7	3	3	3	1
West Middlesex	0	0	0	0	0	0	0	0	0	1	2

The subjoined table shows the annual averages of each determination, and thus summarizes the average results of the analysis of the waters supplied by the local Companies during the year; the Kent Company's water being taken as a standard for comparison. The numbers in this table relate to 100,000 parts of the waters :—

NAME OF COMPANY.	Temperature in Centigrade Degrees.	Total Solid Impurity.	Organic Carbon.	Organic Nitrogen.	Ammonia.	Nitrogen as Nitrates and Nitrites.	Total combined Nitrogen.	Chlorine.	Total Hardness.	Proportional amount of organic elements, that in the Kent Company's Water during the 9 years ending 1876 being taken as 1.
Chelsea	9.9	28.74	.224	.035	0	.194	.229	1.49	20.3	4.4
West Middlesex ...	10.0	29.70	.257	.038	0	.221	.259	1.47	20.7	5.0
Grand Junction ...	9.0	29.60	.253	.041	0	.211	.252	1.46	20.4	5.0
Kent... ..	11.9	45.09	.083	.014	0	.448	.461	2.54	28.4	1.6

Having thus summarised Dr. Frankland's views—reproducing in the consumers' interests, as in duty bound, the strictures on river water of what may be considered the official report, it is only fair to state that river water is not without its defenders and advocates. Among these, Dr. Meymott Tidy stands conspicuous, and he has recently summed up all, perhaps, that can be said in its favour in a paper read before the Chemical Society in May, and printed in the Society's transactions. He contends that dangerous organic matter is rapidly destroyed through the operation of natural laws when intro-

duced into running streams, and gives numerous experiments to prove his point. "Reviewing all the facts" he submits—

"1. That when sewage is discharged into running water, provided the primary dilution of the sewage with pure water is sufficient, after the run of a few miles, the precise distance of travel being dependent on several conditions, the removal of the whole of the organic impurity will be effected.

2. That whatever may be the actual causes of certain diseases, *i.e.*, whether germs or chemical poisons, the *materies morbi* which finds its way into the river at the sewage outfall, is destroyed together with the organic impurity after a certain flow."

I now turn to Colonel Bolton's reports, which from time to time supply a variety of interesting information in connection with the water supply : and first with reference to

Storage. The West Middlesex Company, he states, having large reservoir capacity for subsidence, avoid taking in water during floods, and they are now engaged in increasing the capacity of their subsiding and unfiltered water reservoirs at Barnes by nearly 35 million gallons, raising the total to 91 million gallons.

The Grand Junction Company have constructed much-needed additions of impounding and subsiding reservoirs near to the intakes at Hampton, and are constructing additional filters at these works. The recent addition to, and reconstruction of, the existing filters at the Kew Bridge works have greatly improved this Company's supply.

The Chelsea Company have completed their works, and now the intake of the subsiding reservoirs at Molesey is closed when the river is in bad condition.

Filtration. Great improvements have been effected of late years in respect of filtration ; and water is now taken in at Hampton and Molesey where it is usually in far better condition than lower down, as, for

example, at Seething Wells, where, till lately, the Chelsea Company had their intake. The rate of filtration of water should not exceed 540 gallons per square yard of filter-bed each 24 hours, and at this rate filtration should be effective. The materials of filters are mainly sand, shells, and gravel (increasing in coarseness towards the bottom) arranged in layers of different thicknesses.

Domestic pollution of water. The efforts of the Companies to supply well-filtered water are frequently neutralised by the neglect of householders, who allow their cisterns, &c., to fall into a filthy state. Water, moreover, often undergoes very dangerous pollution, of which the householder may be all unconscious, viz. :—through the “waste-pipe” being connected with the house-drain, and consequently with the sewer, to which it becomes a ventilator. Foul air is thus admitted within the covered receptacle and becoming absorbed by the water confers on it qualities of a deleterious character, and it may in favouring circumstances be the means of spreading disease. No more familiar example can be quoted than typhoid fever, endemics of which have been traced to the pollution of good water in the domestic cistern.

It is to be regretted that the Water Companies generally should have failed in their duty to the public by neglecting to exercise their power, under the “14th regulation,”* to cause the abolition of the waste-pipe universally. The Chelsea Company alone, in the western part of the Metropolis, have to any appreciable extent given effect to the regulation. The “Metropolitan Authority” (Board of Works) have not interfered for the protection of the public—having practically ignored the regulations from the first. Nor have the Local Government Board taken any steps in the matter, although for years the Water Examiner

* The 14th regulation reads as follows :—“No overflow or waste pipe other than a ‘warning-pipe’ shall be attached to any cistern supplied with water by the Company, and every such overflow or waste pipe existing at the time when these regulations come into operation shall be removed, or at the option of the consumer, shall be converted into an efficient ‘warning pipe’ within two calendar months next after the Company shall have given to the occupier of, or left at the premises in which such cistern is situate, a notice in writing requiring such alteration to be made.”

called their attention in his monthly reports to the importance of carrying out this particular regulation.

Dirty cisterns and waste-pipes are not the only causes of fouled water, the source of pollution being not unfrequently found in the domestic filter which many people treat as if it were self-cleansing or incapable of deterioration, whereas, it needs more or less frequent attention and change of material according to its character.

Constant Supply.—To obtain a constant supply of water was supposed to be a principal object of the Act of 1871, and Colonel Bolton states that considerable advance has been made in extending the system to the Metropolis, upwards of one-fourth of the total number of houses being now on constant service. The West Middlesex Company have 4,080 houses so supplied out of a total of 53,534 in their district; the Chelsea Company 941 out of 29,945; and the Grand Junction Company, *none*, out of a total of 40,285. In other words there are in the districts of these Companies in which we are locally interested, about 5,000 houses on constant service out of a total of nearly 124,000, or about 4 per cent. The East London Company, on the other hand, to quote but one, and the strongest case, by way of comparison, has nearly 99,000 houses on constant service out of 117,000. The western parts of the Metropolis are deplorably behind in this matter, and speaking generally, it may be said that constant service has been given only on estates built over since the passing of the Act, on which the intermittent service cannot be lawfully introduced.

The average daily supply during the year for all purposes, was equal to $32\frac{1}{2}$ gallons per head of estimated population, and $238\frac{1}{2}$ gallons per house. The West Middlesex, Grand Junction, and Chelsea Companies respectively supplied an average of $26\frac{1}{2}$, 33, and $36\frac{1}{2}$ gallons per head; and 199, $296\frac{1}{2}$, and 285 gallons per house. These quantities are greatly in excess of the public needs, and the fact of so much having been supplied, implies excessive waste of water, which would be almost entirely avoided by the adoption of the constant supply system.

GAS.

The subjoined tables, from the quarterly reports of the "Chief Gas Examiner," exhibit at a glance the principal results (averages) of the daily testings at Ladbroke Grove Station, of the gas manufactured at Kensal Green in this Parish, by the Gas-light and Coke Company. Sulphuretted hydrogen, an impurity which is not tolerated in any degree, was invariably absent; while ammonia, a valuable residual product of gas manufacture, was seldom found and only in fractional amounts far below the Parliamentary limit.

1. With respect to the illuminating power. The maximum, minimum, and average illuminating power in standard sperm candles was as follows:—(Statutory standard, "sixteen candles.")

	Maximum.	Minimum.	Average.
Quarter ended March 31st	18·5	15·6	16·9
Quarter ended June 30th	19·1	15·9	17·3
Quarter ended September 30th ...	19·5	18·3	17·3
Quarter ended December 31st ...	19·4	15·9	17·1
Averages, whole year	18·8	15·8	17·1

On one occasion, each, in the second and fourth quarters the gas was slightly below the requirements of the Act in illuminating power; and in the first quarter it was below the minimum on three occasions. The Company however appealed against the returns, alleging that the same gas had been found by their own gas examiner to be above the minimum, and that the Official Gas Examiner did not test the gas in conformity with the instructions of the Gas Referees, as in his experiments the candles were consumed at the rate of less than 114 grains per hour; and as this allegation was acknowledged to be correct, there was no evidence of insufficiency of illuminating power in the gas according to the provisions of the Act.

Table 2. As regards impurity. Grains of sulphur per 100 cubic feet of gas. (Permitted maximum, 20 grains in summer, 25 in winter).

	Maximum.	Minimum.	Average.
Quarter ended March 31st	34·8	14·4	21·5
Quarter ended June 30th	18·8	7·6	13·9
Quarter ended September 30th ...	17·2	8·5	10·9
Quarter ended December 31st ...	16·3	7·1	11·0
Averages, whole year	21·8	9·4	14·3

In the second, third and fourth quarters the sulphur impurity did not on any occasion exceed the Parliamentary limit, and the averages were well within it. In the first quarter, moreover, the *average* was below the maximum, but the maximum was exceeded on seventeen occasions in January, in gas manufactured at Kensal Green. The Company, however, lodged appeals against the returns, as the excess had been caused by the defective state of certain valves which gave rise to a serious leakage whereby much of the gas escaped proper purification. The Company was compelled to continue working with defective valves until the season arrived at which the smaller quantity of gas required could be supplied from other stations, when the defective valves were re-placed by valves of a better construction. The appeal was allowed, the Chief Gas Examiner certifying that the excess of sulphur had been due to an unavoidable cause.

No complaint was received from any private consumer in respect of the illuminating power of the gas in 1879, and I understand that Mr. Philip Monson, your Vestry's Superintendent of Street Lighting, is satisfied with the quality of gas as supplied to the public lamps. The burners now in use are calculated to consume gas at the rate of 4.5 cubic feet per hour, whereas the burners formerly in use, originally provided when Cannel gas was employed, consumed only three feet per hour; but notwithstanding the increased consumption of gas (= 50 per cent.) and the consequent improvement in the lighting of the public thoroughfares, the cost is not greater than under the old system of a fixed annual payment per lamp.

I cannot conclude this report without expressing my cordial thanks to various parochial officials for the assistance so freely afforded to my Department on all occasions.

It would be difficult to over-rate the value of the sympathetic co-operation of the Board of Guardians, and their officers, in all measures for preventing the spread of infectious diseases.

The sub-district Registrars (Messrs. Barnes and Hume), and the Vaccination Officer (Mr. Shattock), have always readily supplied what-information I may have required.

The members of the Sanitary staff, never lacking in zeal, have

discharged their numerous and important duties with increased efficiency resulting from accumulated experience, and are entitled to my best thanks.

My grateful acknowledgements are also due to your Vestry, for continued manifestation of confidence which greatly strengthens me in carrying out the duties of my office, and in supervising the sanitary administration of the parish generally.

Lastly it affords me pleasure to give expression to the satisfaction with which I find my Department now at length, after long waiting for a "local habitation," so admirably housed in the New Town Hall.

I am, Gentlemen,

Your obedient servant,

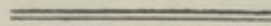
T. ORME DUDFIELD, M.D.,

Medical Officer of Health.

OFFICES, TOWN HALL, KENSINGTON,

August, 1880.

A P P E N D I X .



NOTE.—The forms for Tables I—VI. were framed by the Society of Medical Officers of Health with the object of securing uniformity of Statistical Returns.

APPENDIX

Note.—The forms for Tables I—VI were framed by the Society of Medical Officers of Health with the object of securing uniformity of Statistical

Returns.

TABLE I.

Estimated population of Kensington at the middle of the year 1879, and in 10 previous years; number of inhabited houses; Births, Deaths, and Marriages (gross numbers).

Year.	Estimated Population.*	Number of Inhabited Houses.	Registered Births.	Deaths †	Marriages.
1879.	156,250	20,210	4,790	2,992	1,428
1878	153,600	19,719	4,607	3,120	1,331
1877	151,000	19,330	4,648	2,624	1,411
1876	148,000	18,944	4,499	2,896	1,417
1875	143,500	18,444	4,478	2,786	1,346
1874	138,000	17,667	4,356	2,696	1,311
1873	133,000	16,920	4,128	2,439	1,243
1872	127,400	16,206	4,041	2,225	1,132
1871	121,500	15,394	3,804	2,360	1,131
1870	116,350	15,279	3,705	2,473	892‡
1869	111,350	14,654	3,625	2,267	891‡
Average of 10 years, 1869-78.	134,370	17,255	4,189	2,588	„

NOTES.—Population at Census, 1871, 120,234.

Average number of persons per house at Census, 1871, 7.8.

Area of Parish, 2,190 Statute Acres (according to Registrar-General).

* The population is estimated to the middle of the year. Between 1869 and 1871 inclusive, a yearly addition has been made to the population based on the known increase between the Censuses of 1861 and 1871. The same principle has been adopted with regard to the number of inhabited houses, in the absence of specific information on the subject, such as has been forthcoming since 1871. Some of the figures in this and subsequent Tables differ from those in former reports, as the result of a revision of the estimated population, based upon the best attainable information. The population at the Census, 1861, was 70,108.

† The actual number of deaths registered in the Parish was 2,966, and it includes 106 deaths of non-parishioners at the Brompton Consumption Hospital, which are retained as a compensatory allowance for the deaths of parishioners that may have taken place in general hospitals, &c., out of the Parish. The total, 2,992, is made up by the addition of 26 deaths of parishioners from small-pox and "fever," that took place at the hospitals of the Metropolitan Asylum District.

‡ The returns of marriages for the years 1869-70, do not include those that took place at the Superintendent Registrar's Office, concerning which I have no information.

TABLE II.

Showing Birth and Death Rate; Deaths of Children; and Deaths in Public Institutions in 1879, and 10 previous years.

The Year.	Births per 1000 of the population.	Death Rate per 1000 living.	Deaths of Children under 1 year per cent. to Total Deaths.	Deaths of Children under 1 year per cent. to Registered Births.	Deaths of Children under 5 years per cent. to Total Deaths.	Deaths at Public Institutions
1879	30.6	19.1	24.2	15.1	40.8	423*
1878	30.0	20.3	26.5	17.8	46.3	414
1877	30.8	17.3	25.3	13.9	40.8	354
1876	32.9	19.5	26.6	17.1	44.6	338
1875	31.2	19.4	25.0	15.6	40.3	338
1874	31.7	19.5	28.5	17.5	45.4	252
1873	31.4	18.3	27.0	15.9	40.0	272
1872	32.1	17.4	28.9	15.6	44.2	264
1871	31.3	19.4	25.0	15.0	41.6	252
1870	32.1	21.2	24.0	16.4	42.9	330
1869	32.5	20.3	†	†	†	313
Average of 10 Years, 1869-78.	31.6	19.2	26.3	16.1	42.9	312

* Viz. The Workhouse (287), the Hospital for Chest Diseases at Brompton (110), and the Infectious Diseases Hospitals (26).

† No information.

NOTE.—The calculations in this Table are made on the gross number of deaths registered without deduction of those of non-parishioners in public institutions. (*Vide* Report, page 46).



TABLE IV.

Showing Total Deaths from certain groups of Diseases and rate of mortality therefrom, &c.

Diseases.	Total Deaths.	Deaths per 1,000 of Population.	Proportion of Deaths to 1,000 Deaths.
1.—Seven Principal Zymotic Diseases	348	2·2	116
2.—Pulmonary Diseases (<i>other than Phthisis</i>)	700	4·5	228
3.—Tubercular Diseases	396	2·5	132
4.—Wasting Diseases of Infants (<i>under 5</i>)	194	1·2	65
5.—Convulsive Diseases of Infants (<i>under 5</i>)	215	1·3	72

NOTES.

- 1.—Includes Small-Pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, "Fever," and Diarrhœa. (Twenty-six of the deaths took place in Hospitals).
- 3.—Includes Phthisis, Scrofula, and Tabes,
- 4.—Includes Atrophy and Debility, Want of Breast Milk, and Premature Birth.
- 5.—Includes Hydrocephalus and Infantile Meningitis, Convulsions and Teething. (In Table III, Hydrocephalus and Infantile Meningitis are included with Tubercular Diseases, raising the total deaths in Order 2 of Class 2 "Constitutional Diseases" to 499.)

TABLE V.

Showing the number of Deaths in ten years, 1869-78, from the principal Zymotic Diseases, and the number in 1879, &c.

DISEASES.	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	Annual Average 10 years 1869-78.	Proportion of deaths to 1000 Deaths in 10 years, 1869-78.	1879	Proportion of Deaths to 1000 Deaths, 1879.
Small-pox	6	8	120	68	1	0	0	8	84	24	31.9	12.3	24	7.6
Measles.....	27	70	64	43	38	121	23	128	54	53	62.1	24.0	60	20.0
Scarlet Fever	106	198	95	29	10	32	83	59	31	77	72.0	27.7	51	17.0
Diphtheria	9	14	11	14	11	26	23	17	10	20	15.5	6.0	26	9.0
Whooping Cough .	71	55	72	77	44	45	107	124	34	185	81.4	31.8	93	31.1
"Fever".....	42	46	48	42	41	52	29	36	27	33	39.6	15.3	23	7.7
Diarrhœa.....	108	154	129	110	145	112	107	126	99	181	127.1	49.2	71	23.7
Totals, KENSINGTON	369	545	539	383	290	388	372	498	339	573	429.6	166.3	348	116.1
Totals, LONDON ...	17,431	16,476	19,455	12,669	11,385	11,230	13,411	12,565	12,365	14,734	14,175	181	12,256	143
TOTALS.* ENGLAND & WALES, 10 years, 1868-77	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	Average 10 years 1868-77.	1868-77	1878	1878
	97,352	90,380	100,497	103,801	91,743	89,286	88,200	82,332	75,506	66,558	88,565	174	84,624	156

* The Totals for England and Wales are for the ten years 1868-77, as compared with 1878, the latest year of publication.

TABLE VIa.
Summary of Monthly Returns of Work, &c., done by the Sanitary Inspectors.

Date of Report.	Houses Inspected.				Mewees Inspected.				Slaughter Houses Inspected.				Cowsheds Inspected.				Bakehouses Inspected.				Offensive Trades Inspected.				Sanitary Notices Issued.				Removal of Dust, Ashes, &c., Letters of Request received and attended to.				Date of Report.
	District.				District.				District.				District.				District.				District.				District.								
	N. E.	N.W.	C.	S.	N. E.	N.W.	C.	S.	N. E.	N.W.	C.	S.	N. E.	N.W.	C.	S.	N. E.	N.W.	C.	S.	N. E.	N.W.	C.	S.	N. E.	N.W.	C.	S.	N. E.	N.W.	C.	S.	
Ap.30,1879	58	79	70	84	29	22	23	42	5	6	5	2	9	8	4	3	16	19	17	16	0	3	1	0	16	34	32	37	40	57	79	67	Ap. 30, 1879
May 28 "	62	75	68	74	36	24	27	46	7	5	5	2	8	10	6	4	28	22	13	11	4	2	2	0	30	31	16	25	56	61	60	56	May 28 "
June 25 "	73	72	64	69	32	26	23	34	8	6	5	2	9	9	8	3	26	28	15	12	5	4	5	2	33	39	19	42	69	86	42	67	June 25 "
July 23 "	68	70	65	72	36	28	21	32	7	8	5	2	10	9	8	2	36	29	16	22	4	6	2	1	35	29	18	32	49	55	36	68	July 23 "
Aug. 20 "	62	38	46	39	29	21	16	25	13	16	9	3	12	16	10	8	14	18	10	12	3	4	3	1	18	14	8	17	41	51	37	55	Aug. 20 "
Sept.17 "	48	62	43	66	27	30	18	27	9	8	5	2	15	18	8	7	18	22	12	16	6	4	2	0	21	20	13	21	34	35	21	30	Sept. 17 "
Oct. 15 "	62	59	47	52	34	27	22	29	12	10	6	3	16	14	9	6	41	23	16	18	8	5	3	0	33	37	28	42	28	26	24	20	Oct. 15 "
Nov. 12 "	57	51	49	59	37	23	32	36	10	12	5	3	12	15	7	7	23	26	12	19	6	3	5	2	34	26	33	41	34	29	60	86	Nov. 12 "
Dec. 10 "	62	48	37	64	39	26	28	32	10	8	5	3	8	10	6	4	29	18	10	14	8	5	1	0	34	19	19	29	30	28	23	25	Dec. 10 "
Jan. 7, 1880	42	38	31	34	29	20	18	22	6	6	5	3	5	7	5	4	22	14	8	11	10	6	2	0	16	11	11	14	36	42	29	23	Jan. 7, 1880
Feb. 4 "	58	52	49	62	43	29	30	39	9	8	5	3	7	11	6	4	27	21	9	13	7	8	4	0	24	27	29	40	37	49	55	75	Feb. 4 "
March 3 "	72	81	60	74	61	34	48	42	9	14	10	8	6	7	12	16	16	7	10	15	12	1	5	0	36	57	28	50	49	60	60	52	March 3 "
" 31 "	86	92	81	96	59	41	46	48	16	14	10	8	12	14	16	8	26	18	16	15	8	3	3	0	63	75	67	82	35	44	30	38	" 31 "
Totals.	810	817	710	845	491	351	352	454	121	121	80	44	129	148	105	76	322	265	164	194	81	54	38	6	393	419	321	472	538	623	556	662	Totals.

TABLE VII.

Showing the Death-rate per 1,000 persons living ; the annual rate of Mortality per 1,000 living from the "seven" principal Zymotic Diseases ; and the proportion of Deaths from these Diseases to total Deaths in Kensington and all London in 1879, and in ten years, 1869-78

The Year.	Deaths per 1000 living.		Total Deaths from seven Zymotic diseases, Kensington.	Annual rate of Mortality per 1000 living from seven Zymotic Diseases.		Proportion of Deaths to 1000 Deaths from seven Zymotic diseases.		The Year.
	Kensington.	London.		Kensington.	London.	Kensington.	London.	
1869	20.2	24.6	369	3.3	5.5	164	227	1869
1870	21.2	24.1	545	4.6	5.1	222	213	1870
1871	19.1	24.7	542	4.4	6.0	233	242	1871
1872	17.0	21.4	390	3.0	3.8	181	179	1872
1873	18.3	22.5	290	2.1	3.3	119	149	1873
1874	19.5	22.5	388	2.8	3.3	144	147	1874
1875	19.4	23.7	372	2.5	3.9	133	164	1875
1876	19.5	22.3	498	3.3	3.6	172	162	1876
1877	17.3	21.9	339	2.2	3.5	129	160	1877
1878	20.3	23.5	573	3.7	4.1	183	175	1878
AVERAGES OF TEN YEARS.	19.1	23.1	430	3.1	4.2	168	181	AVERAGES OF TEN YEARS.
1879	19.1	23.3	348	2.2	3.3	116	143	1879

TABLE VIII.

Comparative Analysis of the Mortality in all London and in Kensington, in 1879. (The Registration Year comprised 53 weeks, and terminated January 3rd, 1880).

LOCALITY.	Annual Death Rate per 1000 living from all causes.	Annual Death Rate per 1,000 living from 7 principal Zymotic diseases.	Percentage of Deaths under 1 year to Births Registered.	PERCENTAGE OF DEATHS TO TOTAL DEATHS.					
				Under 1 year of age.	At 60 years of age and upwards.	From Zymotic diseases.	From Violence.	Registered upon information of the Coroner. (Inquests.)	Registered at large Public Institutions.
London	23.3	3.3	14.8	23.2	22.6	14.3	3.4	6.4	18.5
Kensington	19.1	2.2	15.1	24.1	23.8	11.6	2.0	5.3	13.3

TABLE IX

Showing the location in which each case of ...

Case No.	Name	Location			
		City	County	State	Country
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TABLE X.

PARISH OF ST. MARY ABBOTTS, KENSINGTON.

Return respecting the Vaccination of Children whose Births were Registered during the year 1879.

DATE.	Registration Sub-Districts comprised in Vaccination Officer's District.	Number of Births returned in Birth List Sheets.	Number of these Births duly entered in Columns 10, 11, and 13 of the Vaccination Register (Birth List Sheets) viz. :				Number of these Births which are not entered in the Vaccination Register, on account (as shown by Report Book) of			
			Column 10 Successfully vaccinated.	Column 11.		Column 13. Dead. Un-vacci- nated.	Postpone- ment by Medical Certificate.	Removal to Districts, the Vacci- nation Officer of which has been duly apprized.	Removal to places unknown, or which cannot be reached, and cases not having been found.	Cases still under proceedings by summons and otherwise.
				Insuscepti- ble of Successful Vaccination.	Had Small-pox.					
1879.	1	2	3	4	5	6	8	9	10	
1st January to 30th June	Kensington Town ...	1853	1604	8	...	130	10	3	95	3
	Brompton ...	422	370	4	...	34	1	1	12	...
1st July to 31st Dec.	Kensington Town ...	1866	1572	11	...	170	29	4	74	6
	Brompton ...	486	414	5	1	35	9	3	19	...
TOTAL ...		4627	3960	28	1	369	49	11	200	9

TABLE XI.

LICENSED SLAUGHTER-HOUSES.

SOUTH OF UXBRIDGE ROAD.

LOCALITY.	LICENSEE.
6, Church Street, Kensington -	Mr. Stimpson
11, Peel Place, Silver Street -	" Andrews
The Mall, Silver Street -	" Wright
183, Brompton Road -	Mrs. French
60, Kensington High Street -	Mr. English
15, High Street, Notting Hill -	" Short
133, ditto ditto -	" Candy
6, Addison Terrace ditto -	" Beall
35, Earl's Court Road -	" Matson

NORTH OF UXBRIDGE ROAD.

13, Archer Mews -	Mr. Bawcombe
20, Bolton Mews -	" Smith
195, Clarendon Road -	" Rush
10, Edenham Mews -	" Gibson
Tavistock Mews, Portobello Road	" Hughes
8, Vernon Mews, Portobello Road	" Young
196, Portobello Road -	" Scoles
Ledbury Mews -	" French
Lonsdale Mews -	" Olney
50, Princes Road, Notting Hill	" Parratt
10, Princes Mews ditto	" Cole
10, Princes Yard ditto	" Coles
Clarendon Mews ditto	" Colley
41, Princes Place ditto	
23, Norfolk Terrace -	" C. F. Matthews
61, Silchester Road -	" E. Matthews
235, Walmer Road -	" Van
Mary Place, Notting Dale -	" Nind
Royal Crescent Mews -	" Macpherson
Ditto ditto -	" Down

TABLE XII.

LICENSED COWSHEDS.

SOUTH OF UXBRIDGE ROAD

LOCALITY.	LICENSEE.
7, The Mall, Notting Hill -	Mr. Edwards
St. Mark's Road, Fulham Road	„ Starr
Melbury Road - -	„ Tisdall
Newland Terrace - -	„ Tisdall
Warwick Road - -	„ Pool
Stratford Road - -	„ Clarke
Addison Cottage, Lorne Gardens	„ Lyons
Newcombe Street - -	„ Lunn

NORTH OF UXBRIDGE ROAD.

191, Portobello Road - -	Messrs. Hughes and Sons
3, 4, 5, Angola Mews - -	Mr. Jennings
Ledbury Mews - -	„ Liddiard
187, Walmer Road - -	„ Arnsby
235, Walmer Road - -	„ Van
47, Tobin Street, Notting Dale	„ Squires
12, Blechynden Mews - -	„ White
14, ditto - -	„ Copperwheat
15, ditto - -	„ Salisbury
3, 4, & 5, Archer Mews - -	„ Skingle
23, Bramley Road - -	„ Tame
27, Queen's Road, Norlands -	„ Williams
49, Tavistock Crescent - -	„ Minter
Elm Cottage, St. Mark's Road	„ Attfield
Clarendon Road - -	„ Brumbridge

TABLE XII.

LICENSED COWSHEDS

SOUTH OF UXBIDGE ROAD

LOCALITY	OWNER
7 The Mall, North Hill	Mr. Edwards
St. Mark's Road, North Hill	St. Mark's
Robury Road	"
Newland Terrace	"
Warwick Road	"
Stratford Road	"
Admission stage, East Garden	"
Newlands Street	"

NORTH OF UXBIDGE ROAD

100, Farnborough Road	Mr. Edwards
2 & 3, Arden Road	"
Robury Road	"
107, Warwick Road	"
100, Warwick Road	"
17, John Street, North Hill	"
12, Westgate Road	"
14, " "	"
16, " "	"
2 & 3, Arden Road	"
28, Warwick Road	"
21, Green's Road, North Hill	"
18, Stratford Green	"
10, Stratford Road	"
11, Stratford Road	"