

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

### **Contributors**

St. Mary Abbotts (Kensington, London, England). Parish Council.  
Dudfield, T. Orme.

### **Publication/Creation**

1882.

### **Persistent URL**

<https://wellcomecollection.org/works/a6nyrbye>

### **License and attribution**

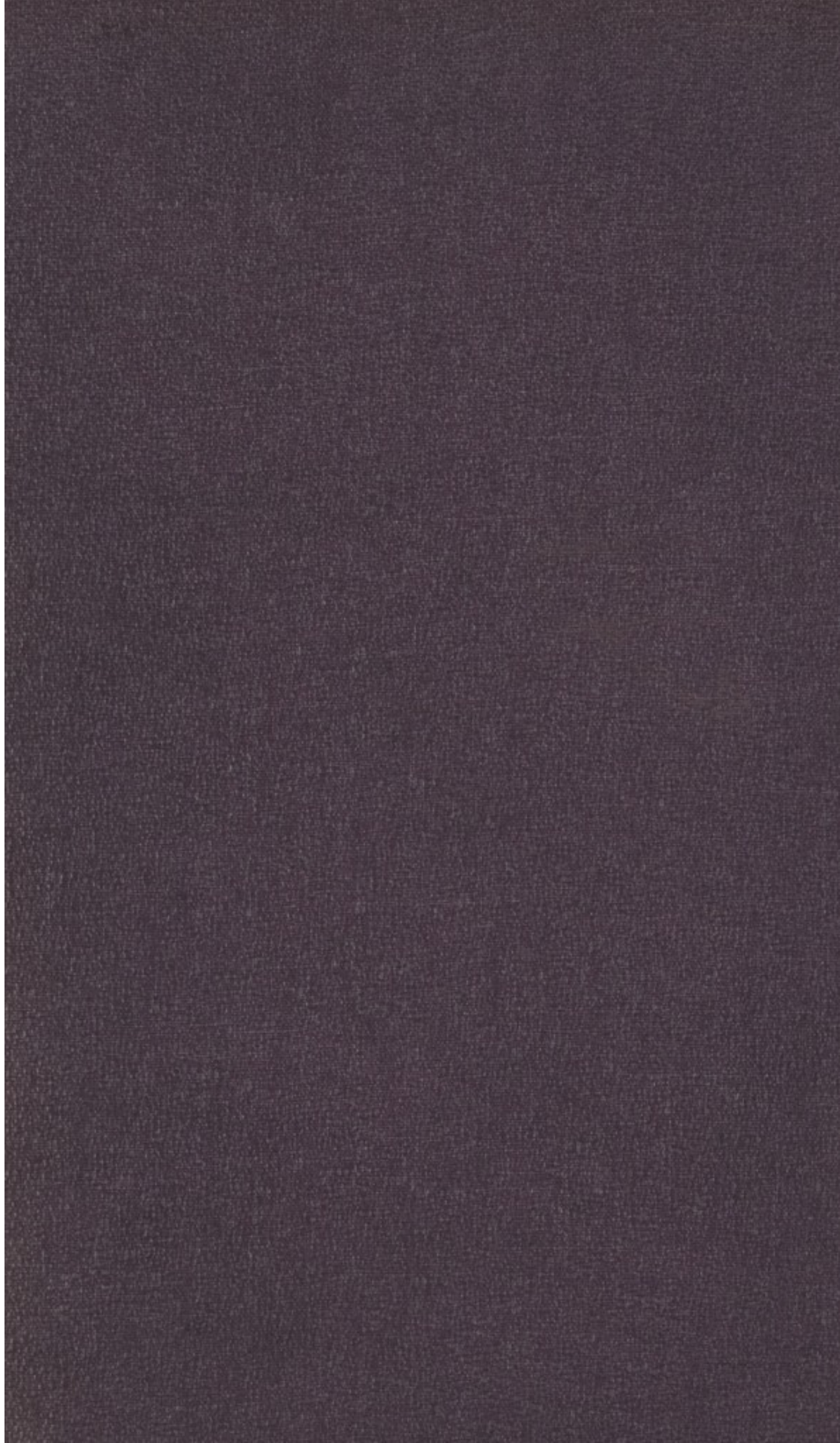
You have permission to make copies of this work under a Creative Commons, Attribution, Non-commercial license.

Non-commercial use includes private study, academic research, teaching, and other activities that are not primarily intended for, or directed towards, commercial advantage or private monetary compensation. See the Legal Code for further information.

Image source should be attributed as specified in the full catalogue record. If no source is given the image should be attributed to Wellcome Collection.

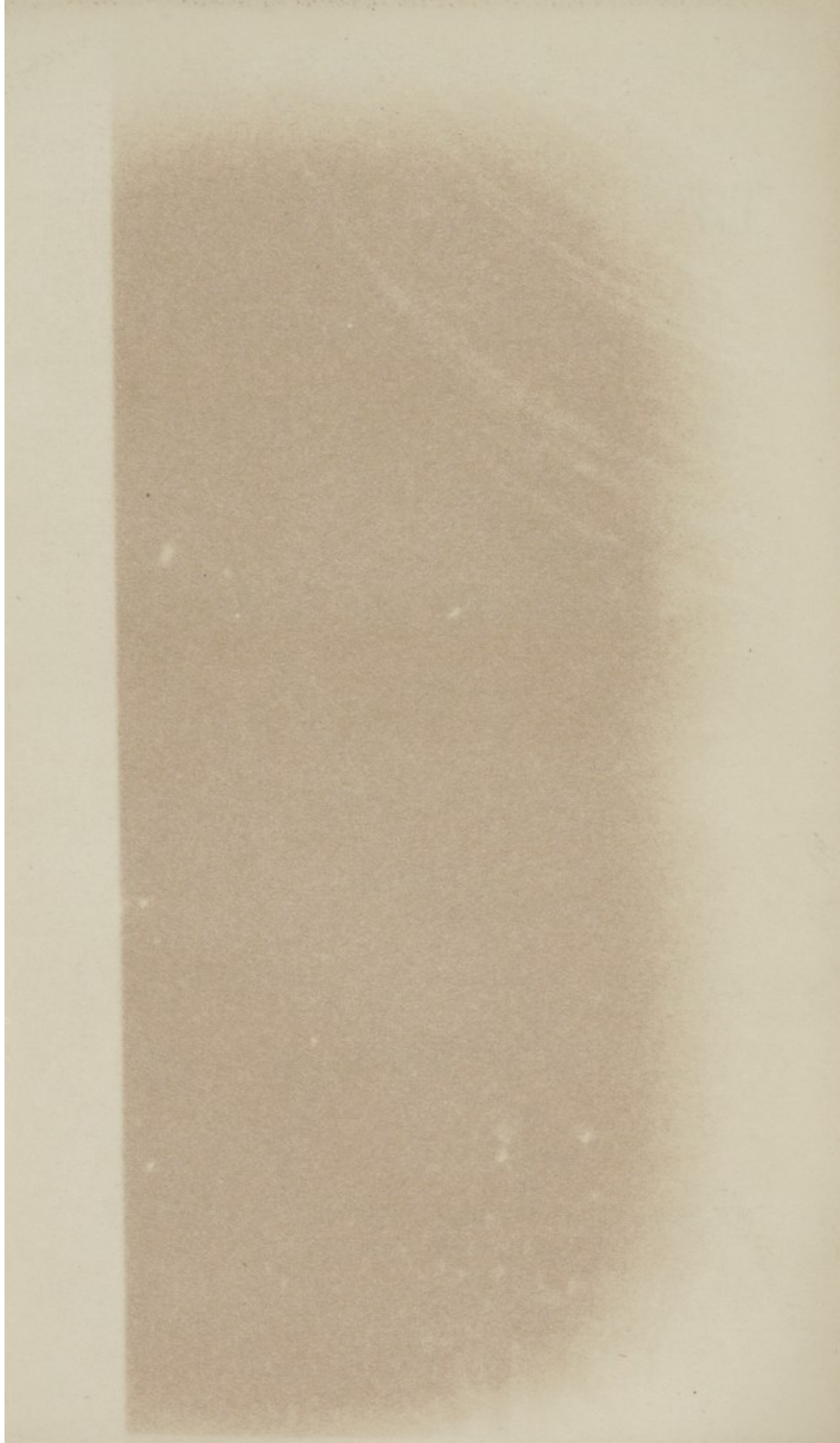


Wellcome Collection  
183 Euston Road  
London NW1 2BE UK  
T +44 (0)20 7611 8722  
E [library@wellcomecollection.org](mailto:library@wellcomecollection.org)  
<https://wellcomecollection.org>

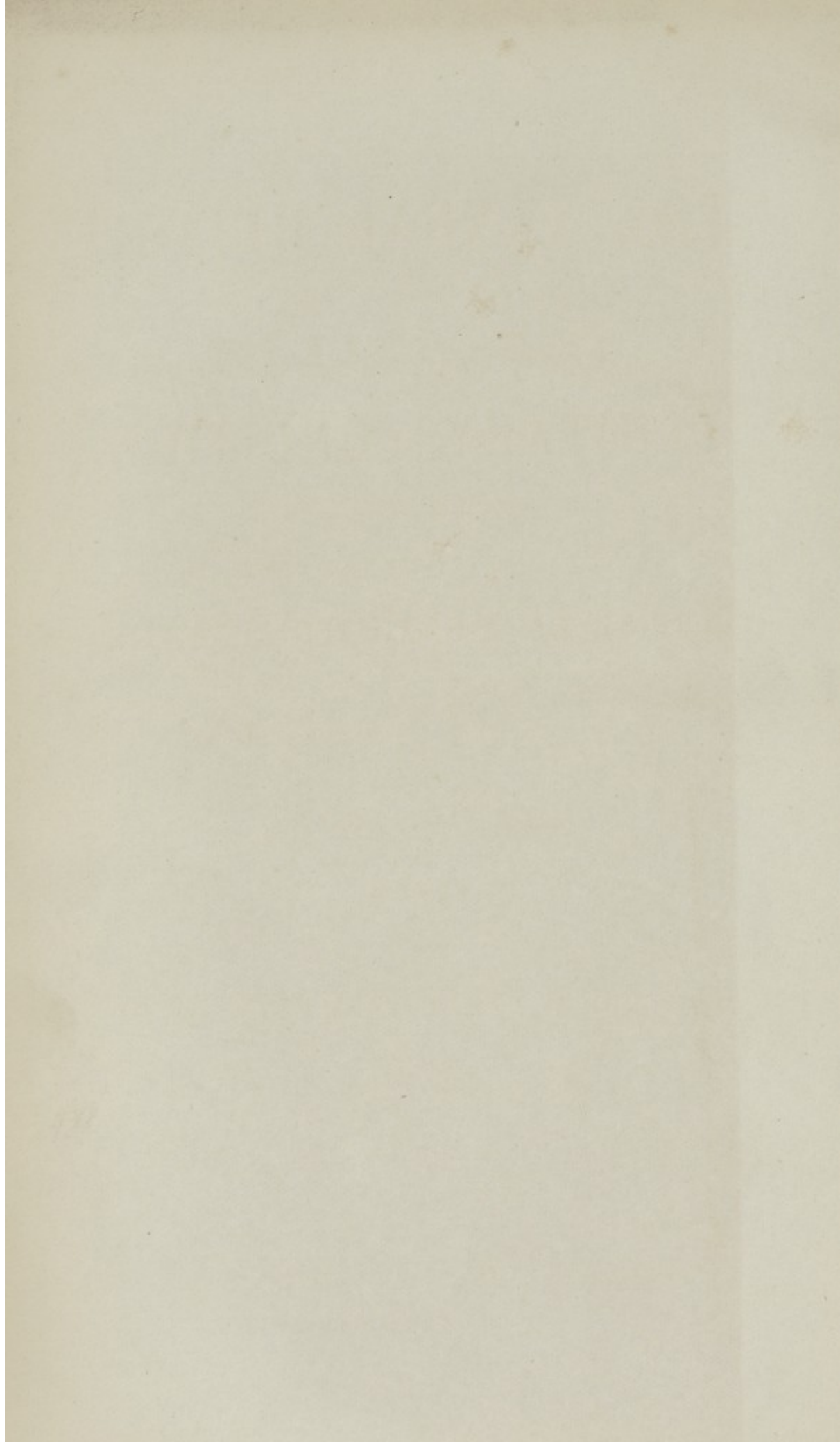


AC 432(3) ST MARY ABBOTTS









# THE ANNUAL REPORT

ON

THE HEALTH,

SANITARY CONDITION,

&c., &c.,

OF THE

Parish of St. Mary Abbots,

KENSINGTON,

FOR THE YEAR

1881,

BY

T. ORME DUDFIELD, M.D.,

Medical Officer of Health.

---

HUTCHINGS & CROWSLEY, LIMITED, PRINTERS, FULHAM ROAD, S.W.

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

---

1882.

28889

# THE ANNUAL REPORT

## OF THE HEALTH

### SANITARY CONDITION

OF THE DISTRICT OF ST. JAMES'S

KENTINGTON

FOR THE YEAR

1881

T. ORME DUFFIELD, M.D.

Medical Officer of Health

PRINTED BY J. H. COOPER, 10, ST. JAMES'S STREET, LONDON, W.

1882



## TABLE OF CONTENTS.

	PAGE
PREFATORY REMARKS ON DEATH-RATE—Parochial, Metropolitan, and National, in 1881 .. ...	5
REGISTRATION DISTRICT, "Kensington."—What it includes... ..	7
" SUB-DISTRICTS, "Kensington Town" and "Brompton" .. ..	7
" " Differences between the, in respect of proportions of Rich and Poor, &c. ....	7
WARDS, Division of Parish into ... ..	8
KENSINGTON, Population and Rateable Value of, 1801-81 ... ..	9
" Vital Statistics, &c.; Summary of, for 1881 ... ..	9
ZYMOTIC DISEASES, General Remarks on the "Seven Principal" ... ..	11
" " Number of Deaths from the " " .. ..	13
" " Death-rate from: in Kensington; London; in other large Towns, and England and Wales. ....	14
" " Monthly Return of Deaths from, in Kensington ... ..	15
MEASLES ... ..	15
WHOOPING-COUGH ... ..	16
SCARLET FEVER ... ..	17
" Localised Outbreak of ... ..	18
" Not always easy to Diagnose; Illustrations ... ..	19
DIPHTHERIA ... ..	19
FEVER: Typhus, Enteric, Simple-Continued ... ..	20
DIARRHŒA ... ..	21
SMALL-POX, History of Epidemic, 1876-81, concluded ... ..	22
FULHAM SMALL-POX HOSPITAL: The Year's Work at (1881) ... ..	24
" " Principal Contributory Parishes sending Patients, in District of ... ..	25
" " Mr Power's Report on ... ..	27
" " Legal Proceedings to Close: a Limited Injunction granted ... ..	27
HAMPSTEAD HOSPITAL CASE: "Managers'" Appeal to House of Lords successful: New Trial ordered ... ..	29
SMALL-POX HOSPITAL (DISTRICT) Provision of: by Islington, Pancras, and Fulham: Action of Kensington Guardians ... ..	30
" " Convalescent Camp, provided at DARENTH. ....	31
" " The Registrar-General on the Influence exercised by on surrounding district ... ..	36

	PAGE
"COMPULSORY NOTIFICATION" OF INFECTIOUS DISEASES: ...	40
"      "      SELECT COMMITTEE appointed by House of Commons to Report on Private Bills pro- viding for... ..	41
"      "      REPORT of the SELECT COMMITTEE ...	42
HOSPITAL ACCOMMODATION for the Infectious Sick ...	47
ROYAL COMMISSION appointed to Consider Provision of Infectious Disease Hospital Accommodation...	48
"      "      (Infectious Disease Hospitals) Report by Society of Medical Officers of Health on the Reference to the	49
"      "      Abstract of Evidence, &c., submitted to, by Medical Officer of Health, Kensington, dealing with the subjects referred, and—	50
Fever Hospitals ... ..	53
Fulham Small-pox Hospital ... ..	53
Provision of Hospitals for Non-Paupers ...	54
Conference of Sanitary Authorities thereon, 1878 ... ..	54
Views of Medical Officer ... ..	55
Poor Law Act, 1879 ... ..	56
Defective Sanitary Government of the Metropolis ... ..	57
NOTIFICATION OF INFECTIOUS DISEASES: apparent reduction of Small- pox mortality in England (London excepted) resulting there- from ... ..	58
AMBULANCE SERVICE: A Metropolitan, inaugurated ...	60
INFECTIOUS DISEASE: Increased Facilities for Removal of Cases of ...	61
"      "      Interruption of Education resulting from ...	63
"      "      Prevention of Spread of ... ..	64
"      "      Information of Existence of, How obtained ...	64
POPULATION: Number of Inhabited Houses, &c., CENSUS of 1881 ...	65
"      "      Relative Numbers of Males and Females in ... ..	65
"      "      Of Sub-Districts ... ..	67
"      "      Rateable value, &c: Increase in 25 years and in 10 years...	68
"      "      Estimated, at middle of 1881, Kensington ... ..	69
"      "      "      "      London ... ..	70
MARRIAGES AND MARRIAGE-RATE ... ..	70
BIRTHS AND BIRTH-RATE ... ..	71
DEATHS AND DEATH-RATE, in whole Parish and in Sub-Districts, &c., at ages; periods of the year; in sexes; among illegitimate children; under five, &c. ... ..	72
INFANTILE MORTALITY ... ..	73
DEATH-RATE AND INFANTILE MORTALITY, &c., in London and other large Towns ... ..	74
DEATH, Special causes of ... ..	77
"      "      Zymotic Diseases ... ..	77
"      "      Constitutional Diseases ... ..	78
"      "      (Tubercular) ... ..	79



# CONTENTS.

iii.

	PAGE
DEATH, Special Causes of, Local Diseases ... ..	81
"    Developmental Diseases ... ..	83
"    Violent Deaths ... ..	84
"    Homicidal Deaths ... ..	85
PUBLIC INSTITUTIONS, Deaths in ... ..	85
"    Parish Infirmary and Workhouse ... ..	86
"    Brompton Consumption Hospital ... ..	87
"    St. Joseph's House ... ..	88
"    Marylebone Infirmary ... ..	88
DEATHS "Not Certified" ... ..	88
INQUESTS ... ..	89
"    VIOLENT DEATHS ... ..	90
"    Why so many become necessary? ... ..	91
METEOROLOGY ... ..	91
VACCINATION in 1881 ... ..	92
"    Officers' Report; House to House Visitation, &c. ... ..	92
"    Statistical Evidence of the Protection afforded by ... ..	94
"    The Registrar-General on the " " ... ..	95
"    Animal; Calf Lymph ... ..	95
<hr/>	
SANITARY WORK of the Year ... ..	96
"    Legal Proceedings... ..	97
SLAUGHTER HOUSES, The Licensed ... ..	98
"    "    Report on, by the Sanitary Committee ... ..	98
"    "    Metropolitan, number of ... ..	101
COWSHEDS, The Licensed ... ..	101
"    Report on, by the Sanitary Committee ... ..	101
DAIRIES, Cowsheds, and Milkshops "Order" of 1879 ... ..	105
"    Intention of Government to make the Sanitary Authority the Local Authority under the Dairies Order, &c. ... ..	107
BAKEHOUSES, and recent Legislation... ..	107
"    Report on, by Factory Inspector ... ..	109
"    Notes on Report, by Factory Inspector ... ..	110
"    Suggested basis for fresh legislation dealing with ... ..	111
HOUSE REFUSE, Removal of ... ..	112
STABLE REFUSE, Difficulties in respect of periodical removal of ... ..	113
REFUSE, Reference and Report on removal of, by the Society of Medical Officers of Health ... ..	115
BABY FARMING ... ..	116
NECESSARY ACCOMMODATION (Public Urinals, &c.) ... ..	117
BATHS AND WASH-HOUSES ... ..	118
MORTUARY, Public ... ..	118
CORONER'S COURT, Proposed ... ..	118
DISINFECTION ... ..	119
WATER SUPPLY, Professor Frankland's Report on the ... ..	119
"    Messrs. Crookes, Odling, and Tidy's Report on the ... ..	123
"    Colonel Bolton's " " ... ..	124
"    Deterioration of, in dirty cisterns ... ..	126



	PAGE
GAS, Results of Examinations for ascertaining the Illuminating Power and Purity of ...	128
„ Supply of for street lighting ...	130
CONCLUSION ...	130

## APPENDIX.

### STATISTICAL AND OTHER TABLES.

TABLE 1.—Estimated Population in 1881, and ten previous years, 1871-80 : Number of Inhabited Houses : Gross numbers of Births, Deaths, and Marriages ..	135
„ 2.—Birth and Death Rates ; Deaths of Children, and Deaths in Public Institutions, 1881, and 1871-80 ...	136
„ 3.—Deaths Registered from all Causes in 1881 ...	137
„ 4.—Deaths from Seven Principal Zymotic Diseases : Pulmonary Diseases ; Tubercular Diseases ; Wasting Diseases of Infants ; Convulsive Diseases of Infants (Gross numbers) ; Proportions of to 1,000 deaths and to 1,000 population...	138
„ 5.—Deaths in 1881 and in 1871-80 from the Seven Principal Zymotic Diseases ; in the Parish ; the Metropolis, and in England and Wales ...	139
„ 6 & 6A.—Sanitary Work, Summaries of ...	140
„ 7 & 8.—Comparative Analysis of Mortality in London and Kensington from certain Classes of diseases ; Death rates and percentages of deaths, at ages ; from Violence ; and in Public Institutions, &c., &c. ...	142
„ 9.—Localities where fatal cases of the more important of the Zymotic Diseases occurred in 1881 ...	144
„ 10.—Vaccination Officer's Annual Return ...	145
„ 11.—Slaughterhouses, Localities of, and Names of Licensees ...	146
„ 12.—Cowsheds „ „ „ ...	147
„ 13.—Small-pox, Epidemic, 1876-81 : number of cases reported whole parish (1,207) and north and south of Uxbridge Road ; number under, and over, fifteen years of age ; number removed to hospitals and treated at home ...	148

TWENTY-SIXTH ANNUAL REPORT  
OF THE  
MEDICAL OFFICER OF HEALTH,  
BEING FOR THE YEAR 1881.

---

*To the Vestry of the Parish of St. Mary Abbott's, Kensington.*

GENTLEMEN,

I propose to place before you in this Annual Report the vital statistics of the parish for the registration year 1881 which terminated on the 31st December. The ordinary sanitary statistics will as usual be compiled for the parochial year which terminated on the 25th March, 1882. Other matters calling for notice will be dealt with as occasion may require.

The vital statistics will be calculated on an estimated population at the middle of the year of 163,540, this number being arrived at on data furnished by the Census taken in April, 1881.

The year was a healthy one, as judged by the rate of mortality, which was the lowest on record. The total number of deaths, 2,726—fewer by 158 than in 1880, and by 266 than in 1879 (a period of 53 weeks), was also 355 below the corrected decennial average. The total includes the deaths of 105 non-parishioners that took place at the Brompton Consumption Hospital and 54 deaths of parishioners in the Hospitals of the Metropolitan Sick Asylums Board, as well as a not inconsiderable number of strangers,



at St. Joseph's House, Notting Hill, and at other public or quasi-public institutions, which are retained in our vital statistics by way of compensation for deaths of parishioners that may have taken place at public institutions and elsewhere outside the parish; but it does not include the 129 deaths of non-parishioners that took place at the Marylebone New Infirmary at Notting Hill, which was opened during the summer, and to which reference will be made later on.

The 2,726 deaths were equal to a rate of 16·6 per 1,000 persons living, or 2·2 per 1,000 below the decennial rate, and 4·6 per 1,000 below the Metropolitan rate, which again was 1·3 per 1,000 below the mean rate in the previous ten years. The rate in all England and Wales was 18·9 per 1,000, or 2·9 below the average, being the lowest rate recorded in England and Wales in any year since Civil Registration was established in 1837.

The subjoined table shews the death-rates in Kensington for the last 9 years, as compared with those of the whole Metropolis, and of the several districts thereof, and those of England and Wales.

Death Rate.	1881.	1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	
Kensington	16·6	18·0	19·1	20·3	17·3	19·5	19·4	19·5	18·3	per 1,000
London ...	21·2	22·2	23·3	23·5	21·9	22·3	23·7	22·5	22·5	"
W. Districts	19·5	19·9	22·4	21·6	19·1	21·0	22·1	20·9	20·5	"
North ..	20·6	21·2	22·7	22·3	21·8	21·4	22·3	21·8	21·2	"
Central ..	23·0	23·2	25·2	24·9	24·1	24·0	26·0	25·6	25·0	"
East ..	24·2	24·3	25·8	24·9	24·4	24·0	25·5	25·4	25·2	"
South ..	20·4	22·8	24·2	24·2	21·3	22·1	25·0	21·5	22·0	"
England and Wales	18·9	20·6	10·8	21·7	20·4	21·0	22·8	22·3	21·1	"

The Registrar-General in his Annual Summary, referring to the rate of mortality in all London (21·2 per 1,000), states that "only once since civil registration began, had a lower death-rate than this been recorded in the Metropolis, namely in 1850, when the rate was 21·0." He adds that "the mean annual rate in the immediately preceding decennium (1871-80) was 22·5" and observes that "had the mortality in 1881 been at this rate, 4,849 would have died in the course of the year, who, as it was, were alive at its close." The rate of mortality in Kensington, the lowest on record, was much below that of the Metropolis: the parish is less favourably distinguished, however, as we shall see hereafter, by an exceptionally low birth-rate, and this in spite of its high marriage-rate.



## REGISTRATION DISTRICT AND SUB-DISTRICTS.

Having premised so much by way of general introduction, it may be desirable, before proceeding further, to say a few words with respect to the Registration "District" and the "Sub-districts" in which we are locally interested.

"KENSINGTON" is the title of a Superintendent Registrar's *District* (No. 1 on the Registrar General's list), which until within the last few years comprised, in addition to the parish of Kensington, the adjacent parishes of Paddington, Fulham, and Hammersmith; now it comprises the parishes of Kensington and Paddington only. The subjoined table shows the relative areas of the two parishes, and other particulars relating to the census years 1871 and 1881.

	Area in Statute Acres.	Inhabited houses. 1871	Increase 1881	Increase in 10 years.	Population. 1871	1881	Increase in 10 years
Kensington	2,190	15,735	20,103*	4,368	120,299	163,151	42,852
Paddington	1,251	11,847	13,187	1,340	96,813	107,098	10,405

REGISTRATION SUB - DISTRICTS.—For registration purposes Kensington 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, according to the Registrar-General, is 1,497 acres, and of Brompton, 693 acres,—total, whole parish, 2,190 acres. In your Vestry's Annual Report, the total acreage is given as 2,245. The population of the Town sub-district at the middle of 1881, was about 120,440, and of Brompton, 43,100,—total, whole parish, 163,540. The Town sub-district includes some important open spaces, *e.g.*, Kensal Green Cemetery, Holland Park, and fields at Notting Barn Farm, which are being covered slowly with houses. The Brompton sub-district, in which the builder has been active of late years, many of the new houses being of a palatial character, includes within its boundaries the West London or Brompton Cemetery.

The sub-districts present considerable differences which should always be borne in mind in any comparison of their vital statistics. Speaking generally the rich and well-to-do form a large proportion

---

\* The number 20,103 is taken from the Census return. The rate-books show 20,705 occupied and rated premises, many of which presumably do not afford living or sleeping accommodation and therefore would not be enumerated at the Census.



of the population of Brompton, whilst in the Town sub-district there is a large and increasing percentage of persons of the poorer classes. The poor in Kensington, however, have one advantage over the poor in some other parts of the Metropolis in that they live in well-built houses obviously intended for occupation by a superior class of people, miles of streets of such houses being now inhabited by a class of persons who, in the older parts of the Metropolis, find shelter in dwellings that by comparison might be described as squalid. But rents are high, and high rents where the poor dwell, mean overcrowding, which is certain in the long run to increase the death-rate wherever it exists. That the overcrowding I have long suspected is going on may be seen in the section on "Population." This state of things has already, I fear, led to a greater variation in the rate of mortality in different sections of the parish than should rightly prevail. The ultimate effect of the overcrowding, unless a remedy should be found, and of this I see no prospect, unless it be in an exodus to newer and cheaper suburbs, will be to cause the death-rate of Kensington to approximate more and more closely to the Metropolitan rate.

THE PARISH OF KENSINGTON is for some local purposes divided into "Wards:" the subjoined table shows the acreage of the wards, their population, and the number of inhabited houses, etc., in 1871 and 1881.

Name of Ward.	Area in Statute Acres	Inhabited houses.			Population		Increase 10 years.*
		1871	1881	in 10 years.	1871	1881	
St. Mary Abbotts	846	4,781	6,573	1,792	35,696	48,604	12,908
Holy Trinity, } Brompton	439	3,224	3,936	712	22,128	26,746	4,618
St. John, Notting } hill, and St. James } Norland.	905	7,730	9,594	1,864	62,475	87,574	25,099

The increase in the number of "inhabited houses," is perhaps, not quite accurately set out in the above table. The description "inhabited house" on the rate books applies to rated premises, and, under the provisions of the Act for the Quinquennial Valuation of Property, many premises have been separately rated since 1871 that

---

\* The increase in the table totals up 42,625, and was ascertained upon the unrevised figures of the Census, showing a parish population of 162,924. The actual increase was 42,852, the revised figures of the Census, showing a population of 163,151, but details are not yet available.



were rated together prior to the passing of the Act. The *rated* premises are far more numerous than the "inhabited houses," as given by the Registrar-General (*Vide* Section on Population).

The rateable annual value of property in the wards in 1871, was, St. Mary Abbotts, £323,992; Holy Trinity, £246,716; and St. John and St. James, £365,012. In 1881 the returns for the first and second wards, which cannot now be given separately, show a rateable value of £1,078,512; increase, £507,904; for St. John and St. James, of £501,704; increase £136,692.

The subjoined figures show the growth of the parish in population and wealth, 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	590,711	1865
1871	120,299	817,326	1870
1881 (April)	163,151	1,665,983	(April) 1882

#### SUMMARY OF VITAL STATISTICS, 1881.

The year 1881, although on the whole a healthy one, will be memorable for the great epidemic of small-pox which, commencing towards the end of 1880, continued its ravages with varying severity throughout the year: details with reference to this disease will be found further on. With a single exception, viz., in the four weeks ended June 18th, the death-rate in every month was below the decennial average, so that the annual rate comes out not merely lower than in any year in the preceeding decennium, but lower also than in any year on record. The mean temperature of the air (48°·7) was 0°·5 below the decennial average (49°·2), but was not characterised by severe or rapid fluctuations. During the first four weeks, ending January 29th, the average temperature, 30°·6, was 8°·1 below the decennial average, but although the cold produced its customary effect in increasing the mortality from chest diseases amongst aged people, the rate of mortality, 18·5, was 2·5 per 1,000 below the average. In the same weeks of the year 1880, when the temperature was 7°·6 below the average, the death-rate was 23°·6 or 2°·8 per 1,000 above the average; the deaths from chest diseases, moreover, were 118, as compared with 61 in



January, 1881. This remarkable difference is easily explained. The atmospherical conditions at the end of 1879, as well as at the beginning of 1880—cold, damp, and fog—were unfavourable, and produced their customary effects on the public health, indicated by a rise in the rate of mortality due mainly to the fatal prevalence of chest diseases amongst the aged. The concluding weeks of 1880, on the other hand, were characterised by mild and genial weather, whilst the low temperature that prevailed in January, 1881 was unaccompanied by fogs or unusual damp; hence the comparatively slight prevalence of chest diseases, the moderate number of deaths of aged persons, and the low death-rate. The recorded facts well illustrate what I have often before mentioned, viz., that so called “seasonable” weather—cold in winter, and heat in summer—is not favourable to the classes of the population whose deaths go to swell the death-rate, to wit, the aged and the very young. In inclement winters the former succumb in large numbers to chest diseases, whilst in hot and dry summers, large numbers of infants perish by diarrhœa. The temperature in the following month, ending February 26th was slightly ( $1^{\circ}2$ ), below the average, but the death-rate was favourable, being again 2.5 per 1,000 below the decennial average, and the deaths of aged persons, and of persons at all ages from chest diseases, were below average. In the months ending April 23rd and May 21st, the same favourable conditions prevailed, and but for the epidemic of small-pox, and a somewhat fatal prevalence of measles—the deaths from this disease in the 8 weeks were 22—the state of the public health, as gauged by the rate of mortality, was very favourable, the rate being 3.2 and 1.9 per 1,000 below the average. In the four weeks ended June 18th, for the first and only time during the year, the death-rate (18.8) was above the average, viz., to the extent of 2.1 per 1,000: there were 33 deaths registered at the Parish Infirmary during the month, and the deaths by violence (14) were unusually numerous; they included six of persons suffocated in a house wilfully set on fire by the occupier, for the sake of insurance money, which however he did not get, being subsequently condemned to die as a murderer, though afterwards the sentence was commuted to penal servitude for life. In the two succeeding months, ending July 16th and August 13th, the death-rate fell to 14.4 and 16.9 per 1,000, being 2.3 and 1.7 per 1,000 below the average, notwithstanding a



continuance of the measles epidemic, and the fatal prevalence of diarrhœa, which destroyed in the eight weeks 65 persons, nearly all of them young children, and 54 being infants under one year. In the two following months, ending September 10th and October 8th, the deaths from diarrhœa were 17, and the general rate of mortality fell to 13·4 and 13·6, or 3·4 and 3·5 per 1,000 below the average. In the three concluding months of the year respectively, the death-rate under the influence of remarkably fine and genial weather, was 14·5, 16·8, and 17·4, or 2·1, 3·4, and 3·4 per 1,000 below the decennial average. In these months a severe epidemic of whooping-cough commenced, the deaths from this cause being 8, 8, and 22 in the three months respectively, a mortality greatly exceeded, however, in the early months of the current year. To conclude: in Kensington, in London, and in all England likewise, the year 1881 was characterised by an exceptionally low rate of mortality, attributable to the equable temperature, to mild weather, with freedom from fog and damp in winter, and in "summer" to cool weather with abundance of rain. These atmospherical conditions so favourable to prolongation of life in the aged in winter, and to the preservation of the young in summer, were attended with the usual results in our parish, as we shall see when we come to speak of the deaths of old and young in a subsequent section.

### THE ZYMOTIC DISEASES.

Before entering into details with respect to population, births, deaths, etc., I propose to consider specially the sickness and mortality from the principal diseases of the Zymotic class, and subjects naturally arising out of this topic.

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, arising out of their more or less preventable character: it being customary, moreover, to regard



the absence or the prevalence of them, as the case may be, as a test of the sanitary condition of a district. But, without under-rating the importance of this test, there are limitations to its applicability which must be borne in mind if we would draw sound conclusions. What I mean may be best explained by an illustration or two founded on our own local experiences within the last few years. Thus *Measles* was very fatal in 1878; the deaths were far above the average: it was, so to speak, the zymotic disease that gave a special character to the year. In 1879, on the other hand, the deaths from *Measles* were below the average; but the reduced mortality—evidence of the diminished prevalence of the disease, was as it were 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. Again, the rate of mortality in the Metropolis from *Whooping Cough* in 1881, was the lowest on record; it is not surprising to find therefore that in the current year the disease has been fatal almost beyond precedent. *Diarrhœa* may be cited as an illustration of quite another kind. The mortality from this disease amongst 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 of 1878 was cold and wet, and 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, as it was in 1877. *Per contra*, it may be observed that the conditions that were so favourable to infantile life in respect of diarrhœa, in 1878, were very unfavourable to life, both in the young and in the aged, in respect of another class of diseases, viz., the pulmonary, the mortality from which throughout the year was excessive, as it always is in cold and wet seasons.

Again, the significance of a high rate of prevalence of enteric fever may vary widely in different circumstances: the disease may be constantly present in one district owing to drainage defects, or a bad water supply; in another its introduction may be due to



an accidental pollution of water, or to a contaminated milk supply—and the same observation in respect of milk applies equally in the case of scarlet fever also.

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 zymotic rate with a low general death-rate, furnishes just grounds for satisfaction; and as the general and the zymotic rates were both below the average in 1881, to that satisfaction we are fairly entitled.

It need hardly be said, on the other hand, 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 1881, together with the decennial average, &c. :—

Diseases.	Sub-districts.		In Hospitals.		Totals.		Decennial Average.	
	Town.	Brompton.	Town.	Brompton.	Totals.	Totals in 1880.	(uncorrected).	(corrected).
Small-pox ...	9	4	27	15	55	11	34·0	38·6
Measles ...	48	19	...	...	67	75	65·9	74·9
Scarlet Fever ...	21	9	7	1	38	105	57·2	65·0
Diphtheria ...	4	4	...	...	8	22	18·0	20·4
Whooping Cough	78	7	...	...	85	95	87·6	99·6
Typhus Fever ...	2	...	...	...	2	4	36·4	41·3
Enteric Fever...	12	6	4	...	22	25		
Simple Con. Fever	4	1	...	...	5	5		
Diarrhœa...	90	11	...	...	101	128	120·8	137·3
	268	61	38	16	383	469	420	477

From the above table we learn that the deaths from small-pox alone were in excess of the corrected decennial average, the deaths

\* The figures in the table do not exactly tally with the figures in the Registrar-General's Annual Summary, deaths at the Marylebone Infirmary having been disregarded, and two known deaths from scarlet-fever not registered under that heading having been added.



from the seven principal zymotic diseases being 86 fewer than in 1880, and 94 below the corrected decennial average. As usual, the deaths in the Brompton sub-district were relatively fewer in proportion to population than in the Town sub-district, but the decrease of 86 below the number in 1880 belongs entirely to the Town sub-district. The deaths were equal to 140 per 1,000 deaths from all causes (decennial average 157), and to a rate of 2·3 per 1,000 persons living, as against 3·6 per 1,000, the rate in all London; the decennial average being 2·9 per 1,000 in Kensington, and 3·8 per 1,000 in London. By way of comparison it may be mentioned that in all England and Wales the deaths from these zymotic diseases were only 118 in each thousand deaths; and the rate was 2·24 per 1,000 persons living, in 1881, the decennial average being 3·3 per 1,000.

In the Metropolis, as a whole, of each 1,000 deaths, 172 were assigned to one or other of the principal zymotic diseases; this proportion, however, whilst being slightly above the average for the decennium (169), was much lower than the proportion in any of the three previous decennia. This fact, and the fact that the general mortality in the decennium 1871—80 was the “lowest on record,” were cited by the Registrar-General, in his Annual Summary for 1880, as evidence that “the sanitary efforts of recent years have not been unfruitful.” Speaking of London as a whole, the Registrar General observes in his annual summary that in 1881 the death rate from the principal diseases of the zymotic class, “collectively was 3·64 per 1,000 persons living, which was below the average of previous years, and this though the ratio from three of the diseases, viz., diphtheria, measles, and small pox was above their respective averages.”

In the 19 large Towns grouped by the Registrar General with the Metropolis, the rate was 3·1 per 1,000, ranging from 1·5 and 1·7 in Plymouth and Norwich, to 4·0 in Nottingham, 4·2 in Leicester, 4·5 in Liverpool, and 6·4 in Hull. (The deaths from small-pox in these 19 Towns were 92, in London 2,371.) The rate in the 50 large Towns coming next in order of importance, after the 19, averaged 2·3 per 1,000; (the rate in Kensington also), the highest rate (5·1 per 1,000) being recorded at Merthyr Tydfil.



The following table shows the distribution of deaths from zymotic diseases registered in Kensington in 13 periods of four weeks, corresponding to my monthly reports:—

PERIOD.		DISEASES.									
Four weeks ended		Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus Fever.	Enteric Fever.	Simple continued Fever.	Diarrhœa.	Total.
Jan. 29, 1881 ...	...	2	1	...	12	...	1	...	3	19	
Feb. 26 " .....	1	4	2	...	11	...	2	...	2	22	
Mar. 26 " .....	1	6	1	...	3	...	1	...	2	14	
April 23 " .....	...	12	2	1	3	1	...	...	3	22	
May 21 " .....	4	10	4	...	1	...	2	...	1	22	
June 18 " .....	4	8	2	1	6	...	...	...	5	26	
July 16 " .....	...	6	1	...	3	...	...	...	27	37	
Aug. 13 " .....	2	8	5	1	2	1	1	...	38	58	
Sept. 10 " .....	1	4	2	1	3	...	1	...	10	22	
Oct. 8 " .....	...	...	3	2	3	...	2	...	7	17	
Nov. 5 " .....	...	2	5	1	8	...	5	2	...	23	
Dec. 3 " .....	...	2	...	...	8	...	...	...	1	11	
Dec. 31 " .....	...	3	...	1	22	...	2	3	...	31	
		13	67	30	8	85	2	18	5	101	329
In Hospital		42	...	8	...	...	4	...	...	54	
		55	67	38	8	85	2	22	5	101	383

From the above table we learn that measles was most fatal in the second quarter of the year, and whooping cough in the first and last quarters. Diarrhœa as an infantile disease prevails in summer and autumn, but the exact period of its fatal incidence depends on climatic conditions, the fatality being greatest in hot weather, but less when heat is accompanied with rain than in dry weather: last summer there was a low temperature associated with much rain, and hence a reduced prevalence and lower rate of mortality from this scourge of the young.

I now proceed to make a few observations on each of the diseases, and first, with respect to

MEASLES, which as already mentioned was very prevalent, especially during the first half of the year. The deaths were 67, 48 having been registered in the Town sub-district, and 19 in

Brompton. The disease was fatal above the average in the Metropolis generally; but in Kensington the deaths were 7 below the corrected decennial average. I had occasion in my fifth monthly report (May 25, page 41), to refer to the excessive prevalence of the disease in the vicinity of James Street and other contiguous streets, at the rear of Kensington Square. In some 88 houses, specially visited in May, there had been 60 cases, resulting in 8 deaths, 6 of which occurred in James Street, three of them in one house. No fewer than 113 cases of measles were under treatment by Dr. Clippingdale, in the Kensington Dispensary District, between March 7th and May 21st, of which 9 proved fatal chiefly as the result of intercurrent diseases, *e.g.* pneumonia, bronchitis, &c., complicating the original malady. Little care, it must be said, is taken by the poor to prevent the spread of measles; they consider it just as inevitable as teething that their children should have measles, and that there is less trouble in the end if all the children have it at one time. It must be admitted, however, that there is great difficulty in preventing the disease from spreading, for not only is it highly infectious but it is infectious probably from the very beginning of the illness. The circumstances, moreover, in which the poor live in London, several families in a house with a common staircase, may be said almost to preclude the possibility of isolation. More care, however, might be taken to protect the sufferers against the complicating affections which as a rule are the immediate causes of death in fatal cases. Excepting in the Dispensary district above alluded to, we had no evidence of the concentration of disease in any particular locality, and as respects that district we may reasonably attribute the cessation of the outbreak to the fact that most if not all susceptible children had been attacked: the fire went out for want of fuel.

WHOOPING COUGH.—The deaths from whooping cough were 85—78 in the Town sub-district and 7 in Brompton (14 fewer than the corrected decennial average), and all save two under five years of age. Twenty-three of the deaths were registered in the first eight weeks of the year, following upon 12 deaths registered in the last four weeks of 1880. Excepting in the four weeks ending June 18, when 6 deaths were registered



the number in any other month did not exceed 3 until in the four weeks ending November 5 when the deaths rose to 8 ; the deaths in the following four weeks were 8 likewise, and in the last four weeks of the year they were 22. Such was the commencement, as indicated by deaths registered, of the epidemic which is still raging, and which has proved more fatal than any that has visited the Metropolis for many years. The Registrar General states in his annual summary, that the death rate from whooping cough in 1881 was the lowest on record, only 1,961 deaths having been attributed to it, whereas there would have been 3,144, had the mortality been at the average rate of the preceding ten years.

SCARLET FEVER was much less prevalent and less fatal than in 1880, in which year 105 deaths were recorded. Of the 38 deaths in 1881—28 belonged to the Town registration sub-district and 10 to Brompton : 8 occurred in the hospitals. Two hundred and eighty-seven cases of the disease were recorded, of which 146 occurred in the northern half of the parish and 141 in the southern half, taking Uxbridge Road as the dividing line. There was no very marked prevalence of the malady at any one period of the year, the cases recorded in my 13 reports, each covering a period of four weeks, being 24, 31, 18, 27, 18, 15, 17, 17, 18, 32, 23, 29, and 18 : 110 cases were removed to hospital. In respect of the remaining 177 home treated cases it may be observed of some few that they were well isolated and otherwise well provided for and did not need removal, but a large proportion of the cases which should have been removed were concealed. In not a few instances removal was resisted and in the present state of the law could not be enforced. The disease did not prevail epidemically and therefore did not spread to the same extent as in the previous years. It need hardly be said perhaps that a great majority of the cases were of children, usually of school-age, and in fact about one hundred of the children had been attending school up to the time of the attack. Every effort was made by co-operation with school teachers, visitors, &c., to prevent the disease from spreading especially by keeping from school all children living in houses where it existed.

The existence of the disease was in many instances revealed on the registration of a death, and it may be truly said that the spread



of it was usually the result of keeping the sufferers at home in circumstances which precluded the possibility of isolation. In one house in Dartmoor Street a concealed and fatal case gave rise to other five cases in the same and an adjoining house, but these having been removed to hospital the outbreak ceased. Seven cases occurred in two families at a house in Clareville Grove, viz., wife and two children of a butler, and wife and three children of a journeyman butcher, respectively resulting in the death of a child in each family: the outbreak was revealed by a death that occurred on the 12th of August. The story is an instructive one and may be profitably repeated here, as follows.—

T. H., a groom, aged 19 years, being very ill on July 25th walked to a “provident dispensary” in College Street, Chelsea, where he saw a doctor who told him to go home at once and go to bed. The coachman with whom he had lodged at Manson Mews would not take him in but told him to go to hospital; he then walked to a house in Clareville Grove, where he had been a lodger three weeks previously, and begged the landlady to allow him to go to bed as he felt so very ill. The woman, out of kindness, allowed him to do this, but she went to the doctor to make enquiries, and finding the case to be one of scarlet fever she made efforts to have the man removed to hospital; but owing to an unfortunate delay he was not removed until the evening of the 27th. The case was duly reported, and the infected room was disinfected on the 28th July. The following cases subsequently occurred in the same house, but they were concealed; the receipt of the Registrar’s weekly return on August 22nd, which contained the record of the first death on August 12th, ten days previously, ultimately revealing the outbreak:—

Boy, aged 5 years, attacked Aug. 5th.	}	Family of occupier, a Butcher.
Girl, „ 1½ „ „ „ 6th, died Aug 12th.		
Wife, „ 33 „ „ „ 12th.		
Girl, „ 5 „ „ „ 11th.	}	Family of lodger, a Butler.
Boy, „ 3 „ „ „ 12th, died Aug. 22nd.		
Wife, „ 32 „ „ „ 12th.		
Girl, „ 1½ „ „ „ 13th.		

The butler, it may be added, remained at home to attend upon his family; and the butcher was not allowed to go to his work after the Inspector’s visit. The outbreak furnishes a good illustration of the necessity of a registration of infectious diseases, and



it is an obvious inference, moreover, from the sad history that if the groom had been informed of the nature of his illness at the "dispensary" he might have gone direct to hospital, and all the misery resulting from his reception at the house in Clareville Grove might have been avoided: possibly if he could have been removed from the house on the 25th July no ill effects might have followed, the first case in the landlady's family not having occurred till some eleven days subsequent to that date. When the house was visited August 23rd, the second child was lying dead, and the other patients were too ill to be removed. All the cases were under the care of the doctors at the dispensary at which the groom had called on July 25th.

Scarlet fever is a disease not always easy to recognize, and non-recognition of the real nature of obscure cases has led to the extension of the disease. Thus in one case of a child whose death was registered as "acute sewer-gas poisoning; cardiac failure," the subsequent illness of the father proved the child's illness to have been scarlet fever; and in another case at no great distance, in point of locality and time, a somewhat obscure illness which proved fatal, the cause of death being registered as "enteritis, perforation of the bowels," was proved to have been scarlet fever by the subsequent occurrence of other cases in the family.

DIPHTHERIA.—The deaths from Diphtheria were 16, eight in each sub-district, the corrected decennial average being 20. One of the deaths was of a gentleman aged 76, a very unusual age: another death was of a child, the nature of whose illness appears not to have been suspected until fatal paralysis supervened; this case was imported. In one family there were three cases, one fatal: in no other family to my knowledge, did the disease spread beyond the person first attacked, and it may be said that the facts that came out on enquiry in some instances, at least, suggested the possibility that a non-specific, *i.e.* non-infectious throat complaint, may have been mistaken, by reason of its severity, for the disease in question. Diphtheria as it is observed in the country, appears to have a greater disposition to spread than in London where however, last year, 654 deaths were attributable to it, a number considerably above the decennial average. The disease in Kensington has never appeared



within my eleven years' experience as Medical Officer, except in the sporadic form. There have been few serious outbreaks in single houses, and none affecting several households in one and the same locality, a fact deserving of notice, having regard to the contagious character justly ascribed to the malady, and the obvious neglect of measures for preventing the spread of contagion. Indeed a considerable proportion of the very moderate number of deaths in the past ten years, averaging 18 annually, have occurred in circumstances which precluded isolation, the importance of which, moreover, seems not to have been recognised, since no case has been reported during life with a view to removal to hospital.

**FEVER.**—The deaths from the three varieties of specific fever were 29, viz., 22 in the Town sub-district, and 7 in Brompton, the decennial average corrected for increase of population being 41·3.

*Typhus Fever.*—Two deaths in the Town sub-district were registered from this cause, viz., of a labourer aged 37, at Queen's Place,—he worked in the city—and of a married woman, aged 26, at Southam Street. There appeared good grounds for believing that the first case was one of *typhoid* fever, and for doubting the accuracy of the diagnosis in the second case. Be this as it may the disease, intensely infectious as it is, granting it were typhus, did not spread in either house.

*Enteric Fever.*—The deaths from enteric or typhoid fever were 22, viz., 16 in the Town sub-district, (including four that took place in hospital), and 6 in Brompton. This disease was very prevalent in the Metropolis generally in the autumn, and the deaths in the year were above the average. Forty-six deaths were registered in the week ended October 8th, and in the previous four weeks the deaths had steadily increased from 10 to 48, a number double the corrected average. The largest monthly number of cases recorded in the parish (11) was in the four weeks ended November 5th; four of the cases were removed to hospital; the deaths were 5. At this period every general hospital contained more or fewer cases, whilst nearly the whole of the Asylum Board's Hospital at Homerton had to be closed against small-pox,



and devoted to the treatment of fever. A question even arose whether it might not be necessary to open Fulham Hospital, which at the time contained few small-pox cases, for the reception of fever patients? but the necessity did not arise. The outbreak soon abated in Kensington, for in the following month there was not one death from enteric fever, and only two cases were recorded; but the disease continued to be unusually prevalent in the Metropolis for a further length of time. Some of the cases that came under notice were fairly referable to drainage defects admitting sewer gas into houses, but this observation applies less to the period when the disease was most prevalent, than to other times when single fatal cases were occurring.

A question has been raised whether enteric fever is infectious? That it is so, I myself entertain no doubt. Still, when cases occur locally in large numbers, the outbreak is usually caused by drinking water, alone or in milk, or breathing air, contaminated with the specific poison. A pure water supply and good domestic sanitary arrangements are essential for the extirpation of the malady. For the former we must look to an enlightened legislature, for the latter to rigorous application of the legal powers conferred on nuisance authorities.

*Simple Continued Fever.*—The deaths from simple continued Fever were five, viz., 4 in the Town sub-district, and 1 in Brompton.

*DIARRHŒA.*—The deaths from diarrhœa, 101 in number, fell below the corrected average by 36; 90 of them took place in the Town sub-district, and 11 in Brompton. Eighty-two of the deaths were registered in 16 weeks, June 19 to October 8, and 65 of this number in the first half of the period. As usual the great bulk of the deaths were of young children—91 under five years of age, and 75 under one year. Diarrhœa, however, was neither so prevalent nor so fatal as in some previous years—there were 181 deaths in 1878—the explanation being that the summer temperature was low and the rainfall abundant. The deaths from diarrhœa in the Metropolis also were below the average, for although “there was a sharp epidemic in the hot weeks of July,” as the Registrar-



General states, "it was of comparatively short duration." The causation of this infantile scourge, for it is nothing less, has never been very clearly made out, and it is at the present time engaging the attention of the medical department of the Local Government Board, an enquiry having been placed in the capable hands of Dr. Ballard. A curious question has arisen, viz., whether infantile diarrhœa, as we know it, is a disease of modern origin? The ancient "Bills of Mortality" make no reference to the disease under any name which we can be sure was intended to describe what we call diarrhœa, but many deaths of young children in bygone summers were chronicled under various names of diseases the nature of which can only be guessed at so completely has the meaning of the names been lost.

#### SMALL POX.

Small-pox which, following the usual rule, had been absent from our midst in the latter months of 1880, re-appeared at the beginning of 1881, but at a period somewhat later than in previous years. In my first monthly report, dated February 2nd, I had to report the occurrence of 14 cases, viz., 4 in the district north of Uxbridge Road, and 10 in the remainder of the parish south of that road: but of these 14 cases only 4 originated before January 20, two in each district. One of the cases in the south district was imported, and gave rise to a severe local outbreak in Fenelon Road, Shaftesbury Road, and Ashley Cottages. There were 369 cases of the disease recorded in the course of the year, viz., 186 in the Town registration sub-district (population 120,500), and 183 in the Brompton sub-district (population 43,000), the mortality in the Town district being at the rate of 18·2 per cent., on total cases, and in the Brompton district at the rate of 11·4 per cent. The fatal cases were 34 in the Town sub-district and 21 in Brompton: total 55, viz., 42 in hospital and 13 in the parish. Dividing the parish into two districts approximately equal, there were 132 cases north of Uxbridge Road of which 107 were removed to hospital, and 237 in the district south of Uxbridge Road, of which 193 were removed to hospital: in all there were 300 hospital and 69 home treated cases. The rate of mortality in hospital cases was 14 per cent., and in home-treated cases nearly 19 per cent.



Doubtless there were concealed cases—twenty-four, supposing the rate of mortality in home treated cases to have been the same as in hospital cases.

In respect of number of persons attacked, 1881 was the worst year since 1871, when there were 444 recorded cases, viz., 303 north, and 141 south, of Uxbridge Road: the deaths in 1871 were 120, viz., 58 in hospitals out of 301 cases ( $=18.8$  per cent.) and 62 at home out of 143 known cases ( $=43.3$  per cent.) Assuming an equal rate of mortality in home and hospital cases, some 186 attacks must have been concealed, or nearly 30 per cent. of total cases, the proportionate percentage of concealed cases in 1881 being under seven.

Judged by the rate of mortality 1877 was a worse year than 1881, for there were 84 deaths out of 359 cases, viz., 60 deaths out of 255 cases in hospital ( $=23.5$  per cent.), and 24 deaths out of 104 home treated cases ( $=23$  per cent.), the rate of mortality therefore in home and hospital cases being practically identical: but as I cannot suppose there were no concealed cases, it would appear that the mortality must have been somewhat less in home treated cases than in the hospital cases. The concealed cases no doubt were mild whether many or few:—by concealed cases I here mean cases that never came to light; many fatal cases had, in another sense, been “concealed,” viz., until the existence of the disease was revealed on the registration of death.

On a comparison of the three years 1871, 1877, and 1881, we may conclude I think that, as time has rolled on, there has been a growing disposition to notify the occurrence of small-pox; an increased willingness to permit the removal of patients to hospital, and a lowered rate of mortality. The rate of mortality in 1871 was 27.2 per cent. on attacks, in 1877 26.1 per cent., in 1881 14.9 per cent. The mortality in hospital cases in 1871, 1877, and 1881 respectively, was 18.8, 23.5, and 14.0 per cent. Of the known cases 67.7 per cent. were removed to hospital in 1871; 71 per cent. in 1877; and 81.3 per cent. in 1881. It will be remembered that in 1877 Fulham Hospital was opened, and it is not too much to say that, owing to its proximity to the parish, we have been more successful in getting patients to go to hospital than in 1871, when the bulk of our cases were sent to Hampstead. It is a fact doubtless, that people are more willing to let their sick go to



a hospital within reach, and the fact that there was a hospital within reach probably led to the disclosure and removal of a number of cases that would have been concealed, as so often happened in 1871, if they had had to be removed to a long distance. In comparing 1881 with 1871, the increase of population must be borne in mind; the 444 recorded cases in 1871 would have been swollen to 600 in 1881 if the attacks had been as frequent in 1881 as in 1871. The number of concealed cases in 1871, however, was much greater and therefore the comparison is so much the more favourable to 1881, when there would have been some 840 cases if the attacks had borne the same ratio to population. Moreover, had the rate of mortality in 1881 been as great in proportion to population as in 1871, instead of 55, there would have been 162, deaths.

Practically the epidemic, so far as this parish is concerned, came to an end at the close of the year, and the disease has been little prevalent since that time in the Metropolis generally, least of all in the western districts. The epidemic may be said to have lasted with occasional intermissions upwards of five years, during which 1207 cases have been recorded in this parish. Of the sufferers 526 had resided north of Uxbridge Road, and 681 south of that road; 367 were under and 840 over 15 years of age; 918 cases were removed to hospital and 289 were treated at home.

The fluctuations of the epidemic, and the relative prevalence of the disease in the parts of the parish, north and south of Uxbridge Road, at different periods, between March 1876, and the end of 1881, are shown in Table XIII. Appendix, compiled from my monthly reports.

#### FULHAM HOSPITAL.

By favor of the Clerk of the Asylums Board I have received a copy of the Annual Report for 1881 of Mr. Sweeting, the Medical Superintendent of Fulham Hospital, from which I learn that 1,914 cases of Small-pox (acute 1,752, and convalescent 162:—vaccinated 1,355, “doubtful” 187, and unvaccinated 210), were admitted in the course of the year, in addition to 38 cases that were not Small-pox: three of the cases journeyed to the hospital in cabs, and 38 walked in. During April 355 cases desiring admission could not be



received, the hospital being full. Of the 250 deaths 99 occurred amongst the vaccinated, 58 amongst the "doubtful," and 93 amongst the unvaccinated cases, the mortality per cent. being 7·3, 31, and 44·2 in the three classes respectively. Among the discharges were 499 convalescent cases transferred to Deptford *en route* for the Convalescent Camp at Darenth. The scheme of drafting convalescents to Darenth came into operation May 14th, with complete relief of pressure, no cases being refused after it came into working order. "Of what great practical use this plan was is shown by the consideration that in spite of the constant drafting of convalescent patients to Darenth at the average rate of 35 a week, the numbers in the hospital remained above 250 until July 6th, and that no pressure was felt in June, although no less than 327 cases of Small-pox were admitted during that month."

April, May, and June constituted the period of maximum activity as regards admissions. In April 296 cases were received from 21 Parishes and Unions and 355 cases were refused admission for want of room, as before stated. The maximum number was reached on April 26th (309). Kensington contributed the largest number of cases (275), Islington coming next (259) with, moreover, the largest number of deaths (43). Pancras sent 100 and Holborn 168: but these and other contributory parishes sent patients to other hospitals; Holborn, for instance, sent some 178 patients to other hospitals making a total of 346, whilst Islington and Pancras, had also tent hospitals of their own. Fulham sent in 247 patients, and Chelsea 176: thus the cases from the "Borough of Chelsea" were 698, or 36 per cent. on total admissions. There was an almost complete immunity from death amongst the well-vaccinated cases: of 120 vaccinated children under 10 only one died, although the vaccination was imperfect in 117. The majority of the vaccinated were attacked between 15 and 20, at an age, therefore, when the influence of primary vaccination had worn out: successful re-vaccination would have saved the sufferers from attack.

At the same age, 15—20, the attacks were most numerous amongst the unvaccinated also, but whereas, the mortality was very low amongst the vaccinated it was very high amongst the unvaccinated: the total mortality in the unvaccinated was six times that of the vaccinated. Of 14 unvaccinated infants under one year 7 died,



whilst the four vaccinated all recovered. "The numbers of vaccinated attacked from one to ten increase with the age, showing the necessity of renewal of the operation in imperfectly vaccinated cases," whereas the numbers of the unvaccinated are tolerably evenly distributed amongst the ages. Of the 613 "discrete" cases, more than one third of total cases, not one died; of 430 "coherent" cases, only four died: the 534 "confluent" cases contributed 137 deaths, a mortality of 25·6 per cent.; of 67 cases of the "petechial" variety of "malignant" small-pox all but five died; whilst of 46 cases of the "hemorrhagic" variety not one recovered. The 38 admissions of cases not small-pox, were measles (9) chicken-pox (6), lichen (1), mothers accompanying sick infants (9), and infants accompanying sick mothers (13). The number and variety of complications and sequelæ were very great, and included affections of pulmonary system (143), of the mouth, throat and voice (26), of the eye, &c. (191), of the ear (14), of the skin, &c. (278), of glandular system (60), of viscera (15), of kidney (3), of heart (9), of uterus (2), of brain (10), of febrile character (13), and miscellaneous (45), total 809: a formidable array which may be commended to the notice of opponents of vaccination.

There was an outbreak of scarlet fever involving 10 female members of the staff and 3 patients, all of whom were removed to Stockwell Fever Hospital, and recovered. The origin of the first cases could not be traced.

During the year 177 patients, "dangerously ill," were visited by 233 visitors who paid 440 visits: seven visitors were subsequently admitted, of whom six, presumably, contracted the disease in the hospital; three of the number died. Since the hospital was first opened in March 1877, 479 patients dangerously ill have received 1391 visits from 683 visitors, of whom 14 were subsequently admitted with small-pox, 4 of them to die. Sixty-nine fresh members of the staff were re-vaccinated before going on duty, and not a single case of the disease occurred amongst them. Since the institution of the hospital out of 295, total number of staff engaged, some 42 had previously had small-pox, and 5 took small-pox; four of these five had been re-vaccinated: the disease in all was mild and recovery rapid.

Mr. Sweeting concludes his clear and succinct report by drawing attention to the necessity of improvement in some constructive



and administrative points, which, no doubt, will be duly regarded by the Managers should the hospital at any future time be re-opened.

---

MR. POWER'S REPORT ON FULHAM HOSPITAL.—In my last annual report I referred to the fact that the Local Government Board had delegated to Dr. Thorne Thorne and Mr. W. H. Power, two of their Medical Inspectors, an enquiry into the allegations made against Fulham Hospital to the effect that the hospital was the cause of the spread of small-pox in the surrounding district. The actual enquiry was conducted by Mr. Power as part of a more general "enquiry relating to the use and influence of Hospitals for infectious diseases," the object being to ascertain "whether such hospitals are, and if so by what means, instrumental in causing the spread of infection in the localities in which they are situated?" Both the general report by Dr. Thorne and the special report on Fulham Hospital by Mr. Power have long since been submitted to the Local Government Board, who have thought it desirable, for sufficient reasons doubtless, to delay the publication of them, probably pending the completion of the enquiry by the Royal Commission, to which reference will be made later on.

### THE FULHAM HOSPITAL CASE.

In my last Annual Report I referred to the fact that an Association originally formed with the object of getting Fulham Hospital restricted for the use of patients belonging to the Borough of Chelsea, had been stimulated by the failure of the Managers of the Asylums Board, in respect of their "Appeal No. 2" to the House of Lords in the Hampstead Hospital case, to commence proceedings, with a view of closing the Hospital altogether. A Writ was consequently served upon the Managers in June, "at the suit of John Graham, Robert Gunter, and Richard Pickersgill in respect" of the hospital, and in August an application was made, before Mr. Justice Bowen, for an *interim* injunction to close the hospital against the reception of patients, pending the trial of the action. It was unsuccessful, but the Court of Common Pleas having granted an extension of time



for an appeal, the application was renewed at the end of the month before Mr. Justice Cave and Mr. Justice Kay, sitting as a Divisional Court, in the form of an appeal by the plaintiffs from an order by Mr. Justice Bowen, "adjourning till the trial of the action, a motion for an injunction to restrain the defendants from using their hospital at Fulham, for the reception of small-pox patients." The appeal was partially successful, the plaintiffs indeed obtaining more probably than they expected, for they would have been satisfied at one time had the hospital been confined to the use of patients residing in the borough; whereas, by the Order of the Court, the Managers were and are restrained, until the hearing of the cause or further order, from bringing any patient to the hospital from any district lying beyond a radius of one mile from the building, a limitation which excludes large portions of Chelsea, Kensington, and Fulham, and the whole of Hammersmith, which is an integral part of the "Fulham District." This Order, "without prejudice to any question, in the cause" was made on September 5th, the Court having adjourned to enable the parties to come to an arrangement, which in the circumstances was a foregone impossibility. The case came before the Court of Appeal in December the Managers having appealed against the *interim* limited injunction, but the decision of the Divisional Court was unanimously sustained by the Judges. The result of this litigation so far, has been to throw upon the Deptford, Stockwell, and Homerton hospitals, with the "Atlas" ship hospital, the burden of providing accommodation for all the small-pox cases under the care of the Managers. Fortunately so far, these hospitals have proved sufficient for the occasion, the disease having continuously declined, and being, at the present writing (June) at a low ebb. The above-mentioned hospitals, however, supplemented by the London Small-pox Hospital, and the Poplar Hospital at West Ham and a few small local hospitals, would prove quite inadequate for the requirements of the Metropolis, should there be a recrudescence of the epidemic, of which happily there is no present sign. Probably Hampstead Hospital might be made available, if it were required; and should a necessity arise a "further order" would doubtless be sought to reopen Fulham, should the hearing of the cause be much delayed. My own impression, however, is that the case will probably not go to



trial. At any rate I hope for a solution of the difficulty, and of all similar difficulties, as the outcome of the enquiry conducted by the Hospitals Commission. Meanwhile it is a curious result of the injunction that the majority of the cases of small-pox occurring in the Borough (they have been very few in number), and other portions of the west district have had to be transported many miles to one or other of the Managers' Hospitals in the eastern and south-western districts—a course against which the sanitary authorities of those districts have bitterly complained, and not altogether without reason. Those other hospitals, however, are situated in localities where much of the property is of a comparatively poor character, there being no wealthy proprietors or residents to take up the cudgels against the Managers, to which cause alone, probably, they may attribute their exemption hitherto from further litigation.

#### THE HAMPSTEAD HOSPITAL CASE.

In my last Annual Report I referred to the failure of the Managers of the Asylums Board in respect of their Appeal No. 2 to the House of Lords for a reversal of the injunction restraining them from using the Hampstead Hospital for the reception of cases of infectious disease, and stated that the decision of the House would probably have the effect, of closing the Hospital permanently, and of encouraging aggrieved persons to persevere in attempts to shut up other hospitals. As a matter of fact, the decision did have the latter effect, as it was quickly followed by the commencement of those proceedings to close Fulham Hospital to which reference has just been made. In the same Report I also referred to the decision of the Managers to persevere in the "Appeal No. 1," viz. for a new trial of the cause without the condition attached by the Court of Appeal below in granting a new trial, viz., that the Managers should pay a large portion of the Plaintiffs' costs, a decision arrived at by the casting vote of the Chairman, Dr. Brewer, who did not live to see the important result of that vote. Appeal No. 1 was heard during the current Session, and in May the House delivered judgment in favour of the Managers—reversing the judgment of the Court below with costs both in the Appeal and in the Court



below, so that this long-contested case is now in the same position as when the proceedings were first instituted by "Hill and Others" in 1876, there being, as I understand, nothing to prevent the Managers from using the Hospital for the reception of the sick excepting, happily, at the present time, the absence of any necessity for their so doing. It is improbable that the Plaintiffs will renew the litigation which has already involved them in such heavy costs, and we may be permitted to hope that the forthcoming Report of the Royal Commission on Infectious Disease Hospitals will lead to legislation which shall have the effect of settling the whole question on a satisfactory basis.

#### LOCAL OR DISTRICT HOSPITAL ACCOMMODATION.

In my last Annual Report I referred to the action of the Fulham District Board of Works, in providing a tent hospital on the north bank of the Thames in what seemed a perfectly unobjectionable site. The Board having been compelled to close this hospital, they made preparations to establish a tent hospital on Little Wormwood Scrubbs, near the Latimer Road Station. Here again they were met with opposition and legal proceedings, so that the plan proved abortive.

I also referred to the action of the Vestries of St. Pancras and Islington, both these bodies having established tent hospitals at Finchley. Legal proceedings were threatened but not commenced, and a few patients were treated in both hospitals, thus relieving to a certain extent the pressure of the space at the Managers' disposal, but at an inordinate expense to the local authorities, many thousands of pounds having been disbursed.

The intention of the Kensington Guardians to provide a few beds in their temporary iron hospital at Mary Place Potteries, in obedience to the mandate of the Local Government Board, was frustrated by the opposition of a Committee of Ratepayers, an injunction having been obtained restraining the Guardians from giving effect to their intention. By a curious coincidence, just at the time when the Guardians proposed to open the hospital for the reception of patients, there occurred in its immediate vicinity and within a short period of time, some twelve cases of small-pox.



Of so marked a character was the outbreak that it was set to the account of the hospital and I had some difficulty in convincing people that not a single case had been admitted. Had the building been in use the outbreak would not unnaturally have been quoted as another proof of the dangers attending the collection of sick in hospitals.

I have thought it right to refer to these matters in order to shew the difficulties that surround any attempt to provide hospital accommodation for small-pox, (for no such difficulties exist in respect of other infectious diseases), and to shew that the difficulties are about equally great, whether the attempt be made by the Managers or by the Nuisance or Poor Law Authorities. The difficulties arise mainly on the ground that no Authority has a statutory right to create a "nuisance" by setting up a hospital so as to depreciate the property of adjoining owners. And if the Managers, with their apparently large powers under the Metropolitan Poor Act, 1867, and with practically unlimited funds at their disposal, they having the command of the Metropolitan purse through the "common poor fund," have been unable to do what is necessary for the public safety, what prospect is there of a Vestry succeeding? As I stated in my fifth Report for 1881 (May 25, page 46), "special legislation is imperatively called for to enable the Asylums Board to carry on their important duties, subject to proper precautions so as to avoid danger to health and injury to property, without unreasonable interference on the part of individuals."

The need for such legislation is now universally felt, and has given occasion for the appointment of the Royal Commission which is now investigating the subject.

#### DARENTH CONVALESCENT CAMP HOSPITAL.

In my last Annual Report at page 58, there will be found a brief epitome of some observations addressed to the President of the Local Government Board (April 23rd, 1881), on the provision of "hospital accommodation" for infectious sick persons, especially those suffering from small-pox. A deputation of Metropolitan Sanitary Authorities and others representing the British Medical Association, the Society of Medical Officers of Health, the Social



Science Association, &c., had waited on the President to urge the Government to bring in a measure to secure, *inter alia*, the "compulsory notification of infectious disease," and Mr. Dodson having stated that the "hospital question," one of supreme difficulty at the moment, was underlying that subject, and having pressed for definite information, I was requested by the deputation to supply such information. In doing so I dwelt mainly on a branch of the "hospital question" which I had previously brought under the notice of the Asylums Board, viz., the necessity for making provision for the reception and treatment of mild and convalescent cases of small-pox in temporary hospitals outside London, and gave it as my opinion that "the difficulty in which the Managers found themselves placed," would vanish if such provision were made. "These views," I stated in my report "were approved by the deputation, and it is satisfactory to know that they commended themselves to the judgment of the President, and led to results which will have an important bearing in the future on this question of hospital accommodation," for action was at once taken by the Local Government Board and the Managers, which led to the opening on Wednesday, May 11th, 1881, of the Darenth Convalescent Camp Hospital, the success of which was instant and so complete that from the time it was brought into working order, the pressure on the Metropolitan Small-pox Hospitals, which were full to overflowing, hundreds of patients moreover, waiting for admission, was relieved, and the difficulty in which the Managers had so long been placed, owing to the rapid and extensive spread of the epidemic, ceased, once and for all.

Too much praise cannot be given to the Managers, and especially to the Darenth Committee and their Chairman, Sir E. H. Currie, for the splendid work they accomplished with such celerity and success, and it is with unfeigned satisfaction that I lay before your Vestry a brief abstract of the Report of Dr. Gayton, the Medical Superintendent of the Camp, describing that success, together with an extract from the Annual Report of Dr. MacCombie, the Superintendent of the Deptford Small-pox Hospital, to which institution the convalescents from the other hospitals were transferred *en route* for Darenth.

"When it was decided to establish a camp for small-pox convalescents at Darenth Asylum," says Dr. MacCombie, "it was arranged that



they should in the first place be sent here (Deptford), from the other hospitals, and transferred to Darenth on the following day. The first convalescents were received here on May 12th, and from that day till August 31st the total numbers received from the various hospitals were as follows :—

From Homerton	...	...	...	1,031
„ Fulham	...	...	...	509
„ Stockwell	...	...	...	50
Total				1,590

In addition to these transfers, 810 Deptford Hospital convalescents were sent to Darenth. The total number transferred to Darenth was therefore 2,400."

The patients were taken to Darenth (distant 18 miles) in four-in-hand ambulances constructed to carry ten inside, a commissioner being placed in charge of each coach, and an attendant who rode inside with the patients. All persons connected with the transfer of the patients lived in the hospital. The patients breakfasted at 5.30 a.m., and started at 6, arriving at 9 o'clock. One stoppage was allowed in an unfrequented spot at a brook by the roadside to water the horses, the patients, however, not being allowed to leave the vehicle. The empty coaches returned to Deptford in the afternoon. In all 113 journeys with 240 loads were made, the average number of patients being 20 per journey. No accident or hitch of any kind occurred in the transfer of this large number of patients. The opinion of Dr. MacCombie, as Medical Superintendent of a great hospital, as to the "two-fold advantages of the Darenth Camp," may be cited :—

"While it afforded patients convalescing from an acute disease three or four weeks residence in the country, from which they were certain to derive great benefit as regards their restoration to health and strength, it enabled the managers, by drafting off the convalescent cases from the hospitals in town, to accommodate cases which otherwise could not have been admitted. It can hardly be doubted that the accommodation thus provided checked in a marked manner the spread of small-pox in London last summer."

Dr. Gayton's Report is dated August 31st, 1881. He describes the site of the camp as being on the top of a hill, two miles from the Thames, about 200 feet above the sea-level, the most elevated and breezy spot of the grounds (170 acres) of the Darenth Asylum and Schools for Imbeciles, the landscape being picturesque and



beautifully wooded, and the prospect "well calculated to stimulate the recovering health of patients who had been subjected to the depressing operation of small-pox." The Camp was distant 300 and 700 feet respectively from public roads on the western and northern sides, and was well fenced. The schools were at a distance of 800 feet, and the inhabited portion of the Adult Asylum 550 feet.

On the 11th May, 30 patients were received, and "batches of a similar number continued to arrive until on June 9th there were 640 cases under treatment, 29 tents having by this time been erected: the usual size of the tents, which were waterproof and well ventilated, was 50 feet by 25 feet, and the average number of patients in each ranged from 18 to 24. Each tent was detached, being separated the one from the other by a distance of 50 feet." They were, from their construction and the position of the encampment admirably ventilated, having moreover double roofs and sides. They were lighted with gas and supplied with hot and cold water, and with earth commodes for night use: all excrementitious matters were buried. Recreation tents, grounds, and games were provided for each sex.

Dr. Gayton expresses a preference for "huts" as being more suitable than tents for the treatment of convalescents at all seasons of the year. In a great storm—May 15th and 16th—several of the tents were greatly injured, but as there were only 200 patients under charge, who were removed into the permanent administrative block of the Asylum, the difficulty was surmounted. The patients suffered a good deal from the intense heat July 15th: an extra blanket or two enabled them to endure an opposite condition of temperature later in the year.

The dietary was generous, "the tonic power of the Kentish air sharpening the appetite very considerably." The patients did well, but of course some of the sequelæ of the disease had to be contended with; and there were two deaths, one of an elderly woman, and one (accidental) of a boy. "At the commencement of operations, the question of leave of absence to the nurses threatened to be a troublesome one, but a compromise, under which they were granted one day's leave once a month on which they might go to London, and a drive in the neighbourhood once or twice a week during the intervals, was effected and proved a satisfactory arrangement." A dance was allowed now and then, and generally Dr.



Gayton in his considerate management of the nurses, appears to have carried out the only system on which the nursing of a small-pox hospital can be successful, combining restricted leave and careful isolation with kind treatment and plenty of recreation. If this system could have been carried out at Fulham, as I had ventured to recommend in the spring of 1881, it would probably have proved equally successful and equally beneficial to the nurses, the patients, and the public in the surrounding district.

At Darenth there was a suspicion, which was, as Dr. Gayton believes, unfounded, of a local outbreak of small-pox (two cases in one family) a mile from the Camp, owing to a visit paid by a male officer.

The general health of all attached to the Camp was remarkably good, "and the patients, taken altogether, were wonderfully well behaved, appreciated the kindness and consideration shown them, and not a few by letter returned to give thanks. . . . In no instance was an attempt made to get away from the grounds." I may add that your Vestry's Sanitary Inspectors frequently heard the praises of the Camp from those who had shared in its advantages, many of whom spoke of their sojourn at Darenth as one of their happiest experiences; a holiday at once pleasant and in its results highly beneficial.

Patients on their discharge were called up at 4.30 a.m., bathed, and clothed in new garments. After breakfast they were taken to Deptford Hospital, and thence by another vehicle to their own homes. "The very smallest element of risk" in removal was excluded, and every patient "left Darenth, in the truest acceptance of the term, cured, and free from infection," notwithstanding the depressing nature of the disease, and which, if they had been discharged in ordinary circumstances from one of the London hospitals, would have left many of them unfit for work for a long time. Dr. Gayton "found that fourteen or more days' residence in the purest of atmospheres, with abundance of good wholesome food, strict attention to cleanliness, ample exercise, and whatever medical treatment was required, combined to bring about such a condition that every man and woman went away from the Camp in a perfectly fit state to recommence their respective duties the following day,"—an "outcome" which Dr. Gayton justly considers "not only desirable from a sanitary point of view, but economical as regards the public finances."



## SMALL-POX HOSPITALS AND THEIR ALLEGED EVIL INFLUENCE ON THE HEALTH OF THE PEOPLE IN SURROUNDING DISTRICTS.

The Registrar-General in his "Annual Summary" has made some highly interesting and suggestive observations on the above subject, deduced from the mortality returns. The deaths from small-pox in the Metropolis in 1881 were 2,371, "giving a rate of 0.12 per 1,000" persons living.

"Only on seven occasions had this rate been exceeded in the previous 43 years; and the prevalence of this disease was the more remarkable, inasmuch as neither the rest of England and Wales, nor anyone of the other large Towns was similarly affected; moreover the same unhappy pre-eminence in regard of small-pox had been displayed by the Metropolis for several preceding years. At the same time it may be noted that, whatever may have been the cause of the recent greater prevalence of small-pox in London than in the other great towns, it was not one which past experience shows to be permanently characteristic of the Metropolis. For if a sufficiently long series of years be taken, as for instance, the decennium 1871-80, it is found that London so far from heading the 20 great towns when ranged in the order of this smallpox rate, came eighth in the list."

I may here state that in a Memorandum accompanied with a table, submitted to the Hospitals Commission, I attempted to account for the facts to which the Registrar-General adverts: the explanation being that since 1875 the appointment of Medical Officers of Health in all parts of England under the Public Health Act, 1875, and the unity of sanitary administration in each of the great towns, London excepted, has led to the disclosure of outbreaks of small-pox, and to efficient measures for the isolation of the sick and consequent stamping-out of the disease. There has been a marked decline in small-pox mortality in the nineteen towns coming next in population after London, in the quinquennium 1876-80 as compared with 1871-75, which I cannot otherwise account for: the bad pre-eminence of London on the other hand being due, as I believe, to divided sanitary administration, which, however, is better than none at all, as the history of the nineteen towns, *quâ* small-pox, prior to 1875, would go to prove.



The Registrar-General has prepared a table, showing "Deaths and Annual Rate of Mortality from Small-pox in the Metropolitan Districts during the five years 1877-81, the fatal cases in hospitals being distributed," from which we learn *inter alia* that the deaths in the parishes comprising the borough of Chelsea (Paddington however being joined with Kensington) were as follow :—

District.	Deaths per Annum.					Total in 5 years
	1877	1878	1879	1880	1881	1877-81.
Kensington and Paddington	136	41	31	11	76	295
Fulham and Hammersmith ...	63	64	39	13	46	225
Chelsea ... ..	47	28	16	6	31	128

The mean Annual Rate per 1,000,000 in the five years was as follows :— Kensington with Paddington, 226 ; Fulham with Hammersmith, 430 ; and Chelsea, 300 ; the rate in some other parishes, where no small-pox hospital exists anywhere near being :— Westminster, 244 ; Marylebone, 202 ; St. Pancras, 276 ; Strand, 230 ; Holborn, 220 ; Shoreditch, 452 ; Bethnal Green, 512 ; Whitechapel, 434 ; St. George-in-the-East, 566 ; Stepney, 848 ; Mile End Old Town, 464 ; Poplar, 641 ; St. Saviour, Southwark, 520 ; St. Olave, Southwark, 454 ; and Wandsworth, 298.

The Registrar-General, in his Annual Summary above quoted, goes on to state that—

"Of the five groups of districts into which London is divided, the one with the highest small-pox death rate, on an average of five years, was the eastern group, the one with the lowest rate was the central group. In neither of these groups is there any small-pox hospital ; so that the high rate in the eastern group cannot possibly be ascribed to the presence of such a suspected centre of contagion. In the southern group, which has the second highest rate, there are two small-pox hospitals, and the districts which would be especially affected by their presence, would be Greenwich, Camberwell, and Lambeth ; of these three the two first had the highest small-pox rates in the group, while Lambeth presented no corresponding feature. In the northern group, which had the third highest rate, there are also two small-pox hospitals, and the districts which would be most affected by these are, first Hackney and then Islington ; and these are the two districts in the group with the highest rates. There remains the western group with one small pox hospital ; this is situated in the district of Fulham, and it is in that district that the rate was highest in the group.

"So far, therefore, as can be judged from the mortality of the past five years, it would appear that the presence of a small-pox hospital in a district coincides almost invariably with a small-pox death rate above that of



the other districts of the same group. There was, indeed, but one exception to this general statement, namely, Lambeth, where, in spite of the presence of Stockwell Hospital, the rate was lower than in either of the Southwark districts. Secondly, it would appear that the local distribution of small-pox mortality cannot be explained entirely on this basis, seeing that the group of districts, viz., the eastern, in which the mortality was by far the highest, was one in which there was no hospital at all.

"It may indeed very possibly be the case that though, within the limits of a given group of districts, the district which contains the small-pox hospital may be the one which derives on the whole, least benefit from it, or rather which has the benefit conferred by it counterbalanced by some small disadvantage; yet the absence of a hospital altogether from a group of districts may be a still greater evil, by leading to a comparative inability or disinclination to make use of a hospital situated at a distance. According to this view that group of districts would be the worst off that neither had a hospital of its own nor access to a hospital outside its limits, or which, owing to distance or other reason, made comparatively little use of such hospital; the group best off would be that which had no hospital of its own, but made free use of hospitals outside its limits; while intermediate to these extremes would be those groups of districts which had hospitals within their boundaries and made use of them. A comparison of the different groups of districts with each other, in respect of the degree in which they severally avail themselves of the public hospitals, confirms this view. The group with the lowest small-pox death-rate is the one which contains no hospital, but sends the largest proportion of its cases to hospitals outside its limits. The group with the highest small-pox death rate is that which has no hospital within its limits and makes less use than any other of the hospitals outside its limits. The other groups are intermediate to these. These facts are shown in the following table, in which the proportion of fatal cases of small-pox that occurred in and that occurred out of public hospitals in each group of districts is given, the death-rate from small-pox being added for comparison.

PROPORTION OF SMALL-POX DEATHS IN AND OUT OF HOSPITAL,  
1877-81.

GROUP OF DISTRICTS.	Of 1,000 Small-pox deaths there occurred.		Small-pox Death-rate per million.
	In Hospital.	In Private Houses.	
Central ... ..	797	203	196
Western ... ..	749	251	248
Southern ... ..	617	383	440
Northern ... ..	609	391	354
Eastern ... ..	565	435	546



"The southern and northern groups use the public hospitals in practically equal degrees, and yet differ much in their small-pox mortalities ; but with this exception the table, as already said, confirms the expectation, that small-pox mortality is diminished in proportion to the use made of hospitals. It may be assumed with much confidence that were there no hospitals at all, even those districts which apparently now suffer in comparison with their neighbours, by being the sites of hospitals, would suffer very much more than they do now. The presence of a hospital within their boundaries prevents their deriving quite so much benefit as their neighbours from the hospital system, but by no means robs them of all the benefit."

Agreeing as I do with the conclusions at which the Registrar-General has arrived from a study of the mortality, I think it right to add that the *prima facie* case against the hospitals, arising out of the spread of small-pox in surrounding districts, is even stronger than would appear from his statements, because in the locality around a hospital there are more cases of small-pox than in other parts of the same district. Why? Thick and thin opponents of hospitals assert that germs of disease are disseminated from the hospital which thus becomes an inevitable centre of infection. Could this be proved it would not be easy to uphold the hospitals even admitting, with the Registrar-General, that the balance of good is much in their favour: it would be deemed unjust to expose people living in one part of the metropolis to a serious danger for the benefit of people living in other more distant parts, and the objection would be nearly as great in respect of local or district hospitals as in the case of Metropolitan hospitals. But the questions to be considered are (1) whether the dissemination of small-pox in the vicinity of hospitals, assuming it to be proved, may not be accidental rather than inevitable? and (2) whether such alleged dissemination might not be altogether, or in great measure, prevented by a more rigid system of isolation? These questions the Hospitals' Commission are considering, and pending the publication of their report, now imminent, I do not propose to discuss them. But I may be permitted to repeat here what I have said on other occasions, viz., that small-pox is so virulently infectious, that the less of it kept within the bounds of inhabited districts, whether in houses or in hospitals, the better; and as it fortunately happens that a very large proportion of the cases admit of being removed to any reasonable distance—the proportion is greatest if removal is



prompt, in the earliest stages of the disease—hospitals for acute and convalescent cases might and should be provided in isolated places in the country: the Darent experiment leaves no doubt of their success.

## COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES.

In several of my Annual Reports I have referred to the need of legislation, to secure immediate information to sanitary authorities of the occurrence of cases of illness from certain of the more dangerous infectious diseases, and in my last Annual Report I gave a full account of the steps that had been taken by legislation in the shape of local Acts, to secure such notification in respect of certain provincial towns and boroughs. The desirability of the extension of such legislation in the shape of a Public Act is now very generally acknowledged, and it only remains for the responsible Government to introduce a measure for the purpose. Probably such a measure would have been introduced during the current Session had the political atmosphere been a little clearer. As it is, no fewer than three Bills have been introduced in the House of Commons, two for Ireland, and one for England, by private members, which, possibly, may be referred, as their promoters desire, to a Select Committee. The principle involved in the several measures is now so generally accepted that the passing of an Act is only a question of time; of how much time, it is impossible to predict. There is a considerable difference of opinion on one point of moment, viz., as to who should report any given case to the Sanitary Authority—the householder or the medical man? It may be assumed that, as a very general rule, a medical man would be called in to attend a person ill of small-pox or “fever,” and the question in dispute is as to the extent of the responsibility that should be cast on the medical man? All admit that he should give a certificate specifying the nature of the infectious disease, and some contend that he should personally forward such certificate to the Sanitary Authority so as to insure its immediate delivery, whilst others would only require him to give his certificate to the householder, or other person on whom a statutory liability to forward it to the Sanitary Authority should be imposed. A third party would make both doctor and householder, or head of family, equally liable for the transmission. For my part I believe that the *best* plan



would be to require the medical attendant to forward the certificate, for which he should receive a fee, and I have no doubt that this is the plan which will be ultimately adopted, even if it should be thought more prudent, in the first going-off, to throw that responsibility on the householder, or head of family, making the doctor simply responsible for giving a certificate, the same as in respect of a death, in which case, however, no fee is payable.

Should the Bills be referred to a Select Committee it may be expected that the Committee will either find the preamble not proven, or that they will recommend the introduction by the Government of a Public Bill, which is in all respects to be preferred. The action taken by your Vestry last year in calling a Conference of the Sanitary Authorities of the metropolis to consider the question, and the practical unanimity of those authorities in favour of the principle of notification will, in any case, have materially conduced to the final success of the long-continued efforts by sanitarians to bring about much-needed legislation.

---

The foregoing remarks had been printed before I became aware of the action taken by the House with reference to the *local* Bills, providing for "notification," which have been referred to a Select Committee upon the following resolution moved by the Home Secretary during the current Session:—

"POLICE OR SANITARY REGULATIONS.—That the Committee of Selection do appoint a Committee, not exceeding seven in number, to consider and report on any provisions in private Bills promoted by Municipal and other Local Authorities, by which it is proposed to create powers relating to Police or Sanitary Regulations which deviate from, or are in extension of, or repugnant to the general Law, and that it be an instruction to such Committee to make a Special Report to this House in respect of any such provisions as aforesaid, as the Committee may sanction, together with the reasons on which the grant of such powers is recommended, and the recent precedents applicable to the case."

The Right Hon. Mr. Selater-Booth, ex-President of the Local Government Board, is the Chairman of the Committee, which by subsequent order of the House has "power to send for persons, papers and records." At the request of the Committee, I presume, the Local Government Board have addressed to the several Sanitary Authorities of towns, &c., where the Local Acts are in force, a request for information, Whether the authorities are satisfied with



the working of provisions relating to the compulsory notification of infectious diseases? and the answers, recently published in a Parliamentary paper, furnish a valuable contribution to the stock of information bearing on the subject. I need not go into details: it will suffice to say that the Local Authorities are uniformly satisfied with the working of the powers they possess, and that those powers have materially contributed to check the spread of infectious diseases, and have thus proved a public benefit.

REPORT OF THE SELECT COMMITTEE.—The Committee referred to in the preceding paragraph presented their report in June, and the subject is so important that I deem it my duty, without loss of time, to place before your Vestry the views of the Committee and the terms of the recommendations they have submitted to the House, as foreshadowing both the probable direction and extent of future general legislation. Referring to the Private Bill legislation of the past, the Committee state that—

“It must be admitted that Parliament has given encouragement to the practice of seeking for variations from or amendment of the general law for the convenience of particular localities, and that experience thus gained has served and may serve again to lay the foundation of useful Public Acts of general application.”

The Report divides itself into two branches, viz.: (1) Sanitary and (2) Police Regulations. I need only refer to the former in which the Committee, referring to the terms of the *Private Bills*, state that—

“1. The proposals for sanitary regulations deviating from, or in extension of, or repugnant to the general law, may be classified under the headings of, (1st) the notification, and (2nd) the prevention of, or otherwise dealing with, infectious disease.

“2. As to the first (‘notification,’) the Committee had little difficulty in forming the opinion that the time has arrived when provisions of law on this subject may be sanctioned, at least, in the more important Urban Sanitary Districts.

“3. It will be seen, by reference to Parliamentary Paper 164 (1882) which was prepared by the Local Government Board at the instance of the Committee, that in no less than 23 urban districts, legislation on this subject has been embodied in Private or Local Acts, and that the experience thus gained, though in some cases only recent, is stated to have been uniformly satisfactory.



- "4. Further, it must be noticed that the Local Government Board, who are the department charged with the execution and supervision of the Public Health Act, have been parties to similar enactments in Provisional Order Bills passed by their authority through Parliament ; notably in the case of the Manchester Provisional Order Act, 1878.
- "5. The terms of this Order have been followed in the clauses which the Committee have sanctioned for insertion in several of the Bills under notice, and they recommend that, in any future amendment of the Public Health Act, similar powers should be extended to all urban sanitary authorities, or, at least, that means should be devised for clothing them with such powers on application. A copy of these provisions is appended to this Report.
- "6. As to the second ('the prevention of, or otherwise dealing with, infectious diseases,') the clauses which have been submitted to the Committee were, generally, of a different character.
- "7. They were to a less extent supported by precedent, were viewed with disfavour or with hesitating approval by the Local Government Board in their report on the several Bills, and were obviously, in many cases, premature, as the powers for providing hospital accommodation, and for the compilation of bye-laws open to the promoting authorities under various Acts, have been inadequately availed of. Some of the powers sought appeared excessive and objectionable, others in conflict with the general law.
- "8. Those which have received sanction were, accordingly, few in number, and will be found in the Appendix to this Report."

The Committee refused the powers sought, "to close schools and to exclude scholars during the prevalence of infectious diseases," on the ground that they seemed "objectionable and unnecessary,

- "First, because the managers of public elementary schools (which form the vast majority of day schools within urban districts) ought to be held exclusively responsible for the exercise of a proper discretion on so important a matter ; and secondly, because the managers have been, recently, under the 18th Article of the New Code, expressly required by the Education Department (presumably as a condition of participation in the grant) to conform to any intimation they may receive from the Sanitary Authority in regard to the necessity of such closing or exclusion."

In APPENDIX No. 1, "Notification of Disease," it is stated that—

"'Infectious disease' means and includes small-pox, cholera, typhus, typhoid, scarlet, relapsing, continued and puerperal fever, scarlatina, and diphtheria, and such other disease as the Corporation under the provisions and for the purposes of this Act may from time to time declare to be infectious."



And the following Model Clause was agreed to—

“ I. In order to secure that due notice be given to the Corporation of any inmate of any building used for human habitation who is suffering from any infectious disease the following provisions shall take effect (that is to say) :—

1. If any such inmate be suffering from any infectious disease the occupier or the person having the charge, management or control of such building (or if such occupier or person be prevented by reason of such disease, then the person in charge of such inmate) shall so soon as he shall become aware of the existence in any such inmate of any such disease forthwith give notice thereof to the Medical Officer of Health at his office.
2. If such inmate be not a member of the family of such occupier or person, the head of the family (resident in such building) to which such inmate belongs, or if there be no such head, or if such head be prevented by illness, then such inmate (unless prevented by reason of such disease or of youth) shall, on becoming aware of the existence in such inmate, or in his own person as the case may be, of such disease, forthwith give notice thereof to such occupier or person ;
3. The Corporation shall provide and supply gratuitously to every registered medical practitioner resident or practising in the Borough who shall apply for the same forms for the certificate or declaration to be made by such medical practitioner of the particulars hereinafter mentioned in relation to such cases according to the form set forth in the Second Schedule to this Act ;
4. Every medical practitioner attending on or called in to visit such inmate shall on becoming aware that such inmate is suffering from any infectious disease forthwith fill up, sign and deliver or send to the Medical Officer of Health at his office a certificate or declaration stating, according to the form so prescribed, the name of such inmate, the situation of such building, the name of such occupier or person, and the nature of such infectious disease from which in the opinion of such medical practitioner such inmate is suffering ;
5. The Corporation shall pay to every registered medical practitioner who shall in pursuance of this section duly make and give any such certificate or declaration, a fee of two shillings and sixpence for each such certificate or declaration in respect of cases occurring in his private practice and a fee of one shilling for each such certificate or declaration in respect of cases occurring in his practice as a medical officer to any public body or institution ;
6. And any person who shall wilfully offend against this enactment shall for every such offence be liable to a penalty not exceeding forty shillings.”

A second clause makes provision for including other diseases which may be declared to be within the foregoing provision ; but it is scarcely probable that it would become necessary to add to the list of scheduled diseases.



APPENDIX No. 2 embraces the "provisions as to dealing with infectious disease," which may be briefly summarised as follows:—

1. Cowkeepers and others to furnish lists of customers in certain cases ; the object being to enable the Medical Officer of Health to ascertain the origin of infection, when an infectious disease is presumed to be spreading through the agency of milk.
2. Further powers in relation to disinfection of premises enable the Sanitary Authority, if they think fit, to carry out cleansing and disinfection of houses or parts thereof, at their own cost, and to compensate owner or occupier for any property or articles destroyed or injured by the exercise of the provisions of the Section.
3. Penalty on persons ceasing to occupy houses without previous disinfection, or giving notice to owner or making false answers : but the infectious disease must have existed within six weeks previous to the close of the tenancy to bring the section into operation, a limitation which would largely reduce the value of the provision.
4. Prohibiting the retention of dead bodies in certain cases, the object being to secure the burial within 48 hours of the dead body of a person who had died of an infectious disease, unless the body be placed in a mortuary.
5. Bodies of persons dying in hospital, &c., of infectious diseases, to be removed only for burial, the object being to prevent spread of disease from removal of the body to a private house. No reference is made to removal to a mortuary, so that under the provision of the previous section (4), the body, presumably, would be buried within 48 hours. The "hospital" referred to is that provided by the Sanitary Authority.
6. Justices may in certain cases, order dead bodies to be buried, viz., if the body of any person who has died of any infectious disease remains unburied elsewhere than in a mortuary for more than 48 hours after death, without the sanction of the Medical Officer of Health or of a registered medical practitioner, and if the body is retained in a house so as to endanger the health of the inmates of the house or the inmates of adjoining houses, the Justices may order the removal of the body to a public mortuary, and fix a time within which it shall be buried : but immediate burial may be ordered, and unless the friends bury the body the relieving officer must do so at the expense of the poor rate, power being reserved to him to recover the amount expended in a summary manner.
7. Corpses of persons who have died from any infectious disease not to be carried in public conveyance other than a hearse, without previous notice to the owner of the conveyance, who is required to provide for the immediate disinfection of the same.
8. Temporary shelter or house accommodation to be provided for families while house is being disinfected, and nurses to be provided for attendance upon infectious sick persons, the Sanitary Authority "to charge a reasonable sum for the service of any nurse provided by them."



The Committee, in dealing with the Newcastle-upon-Tyne Improvement Bill, agreed to some further powers, included in a clause providing for "Removal to hospital of persons suffering from infectious diseases, and without proper accommodation," which enable the Corporation to remove a patient to their hospital, on the certificate of the Medical Officer of Health ("unless the medical practitioner, if any, attending such person dissent in writing"); the condition of such removal being that the patient is "without lodging or accommodation proper for the treatment of the case and sufficient for the purpose of isolation so as to prevent the spread of the disease." If the notice by the Corporation requiring the removal should not be complied with, application will have to be made to a Court of Summary Jurisdiction "for an order of removal, which is to be addressed to an officer of the Corporation" (Penalty for obstruction or disobedience, not to exceed £10, and daily penalty not to exceed £1), "the Corporation to defray all expenses incidental to the patient's conveyance to the hospital and his maintenance and treatment therein."

The Committee refused certain "further powers" asked for by the Corporation "with respect to the prevention of infection from disease," some of which, however, are included in other Local Acts passed in previous sessions: they include the following:—

- Power to close schools—public or private.
  - Power to close shop, dairy, manufactory, store, common lodging-house, &c., and to prevent the entrance of the public thereinto.
  - Power to declare a house an "infected place," when a variety of restrictions of private liberty that would be considered "arbitrary" would come into force.
  - Power to restrain a nurse in attendance on an infectious sick person from attending afterwards on any person not infectiously sick, without medical permission, and after disinfection of person and clothing, &c., &c.
  - Power to compel occupiers of dairies, &c., to give notice of disease.
  - Power to prohibit sale, &c., of milk, &c., brought from infectious places beyond the Borough.
  - Prohibition of infected matter being deposited in middens, &c.
  - Prohibition of the supply of books, &c., from public libraries to infected houses.
  - Prohibition of scholars and teachers of public schools attending school while residing in infected houses.
-



With regard to the Committee's Report generally I may remark that, although it has caused some disappointment by its meagreness, the adoption of legislation on the lines marked out in the recommendations would constitute a distinct advance in the right direction. In respect of "notification" especially, it is important to observe that the Committee had "little difficulty in forming their opinion that the time has arrived when provisions of law on this subject may be sanctioned at least in the more important urban sanitary districts." It is not without significance, moreover, that some of the powers sought by local Sanitary Authorities were refused on the ground that they were "premature," as the "powers for providing hospital accommodation, and for the compilation of bye-laws open to the promoting authorities under various Acts, had been inadequately used."

The general Bill to secure Notification, in England, introduced by Mr. Hastings, has not as yet got so far as the second reading. In this Bill it is proposed to place the duty of "notification" on the medical man in attendance upon the infectious sick person, and it is noteworthy that the Select Committee have recommended the adoption of this plan in the model clause (quoted above from Appendix I.) for the private Acts. Mr. Hastings, it may be mentioned, was a member of the Select Committee.

## HOSPITAL ACCOMMODATION FOR THE INFECTIOUS SICK.

In previous Reports I have referred to the difficulties of the Metropolitan Asylums Board, arising out of the litigation forced upon them by parties who hold that the hospitals of the Board, so far from being useful to the community for the intended purpose of arresting the spread of infectious diseases, are the chief agents in perpetuating such diseases, and especially small-pox. Hampstead Hospital had long been closed as a result of the proceedings commenced in 1876, to which reference has already been made, and the difficulties of the Managers appeared to culminate upon the granting of an *interim* injunction under which Fulham Hospital was practically closed towards the end of 1881, under circumstances already set out.



Consequent upon this important event the Managers, at their meeting held on the 29th October, unanimously adopted the following resolution :—

“ That having regard to the interlocutory injunction recently granted by the High Court of Justice, restraining the Managers from continuing to use the Fulham Hospital, constructed at the expense of the ratepayers generally, for the purpose for which it was established, namely, for Metropolitan pauper patients, irrespective of area, and restricting the use of such hospital to patients within a limited area ; as well as to the injunction granted by the Court of Queen's Bench against the use of the Hampstead Hospital, and to the several threats of further legal proceedings—the Managers are of opinion that the time has arrived when the General Purposes Committee should seek an interview with the President of the Local Government Board, and ascertain whether the Local Government Board are prepared to take steps, and, if so, what steps, to enable the Managers to carry out their duties according to the spirit and intention of the Metropolitan Poor Act, under which the Metropolitan Asylums Board was constituted.”

The resolution having been forwarded to the Local Government Board, the Managers were, in reply, informed that the Government had appointed a Royal Commission to advise what further legislation is required to enable the Managers to carry out their duties, and therefore that it was unnecessary to trouble the Managers to wait upon the President as proposed.

### **ROYAL COMMISSION ON INFECTIOUS DISEASE HOSPITALS.**

The Royal Commission appointed to consider the hospital accommodation in the Metropolis for the treatment of infectious diseases consists of nine members, viz. :—Baron Blatchford (*Chairman*), and Sir James Paget, Sir Rutherford Alcock, Mr. A. W. Peel, M.P., Mr. E. L. Pemberton, M.P., Dr. J. Burdon Sanderson, Dr. Alfred Carpenter, Dr. W. H. Broadbent, and Mr. Jonathan Hutchinson.

The subjects referred to the consideration of the Commission are as follow :—

- “ 1. The nature, extent, and sufficiency of the hospital accommodation for small-pox and fever patients provided by the Managers of the Metropolitan Asylums Board and the several Vestries and District Boards in the Metropolis, including the Commissioners of Sewers for the City of London.



- "2. The relative advantages and disadvantages to patients and the public of providing for small-pox and fever cases, whether among persons of the pauper class, or persons of the non-pauper class, without proper means of isolation, or both, by a limited number of hospitals for the whole Metropolis under one authority, such as the Managers of the Metropolitan Asylums District, or by parochial and district hospitals under Vestries and District Boards.
- "3. The expediency of continuing the several existing small-pox and fever hospitals now under the Managers of the Metropolitan Asylums District; or, if it be considered desirable that any should be closed, the accommodation for small-pox and fever cases which should be substituted.
- "4. The expediency of the Managers of the Metropolitan Asylums District establishing additional hospitals, and of making special provision for convalescent cases.
- "5. The conditions and limitations under which the hospitals provided by the Managers should be continued, and the general conditions and limitations which should be observed in the case of the establishment of new hospitals, whether by the Managers or any other authority, so as to insure, as far as practicable, the recovery of the patients and the protection of the public against contagion.
- "6. The operation of the Acts relating to the establishment of hospitals for small-pox and fever patients in the Metropolis, and the provisions, if any, required for the acquisition of sites for such hospitals, whether by agreement or otherwise; and for the protection of the authorities providing small-pox and fever hospitals, subject to the same being conducted with reasonable care and according to prescribed regulations, from liability to legal proceedings, so as to secure the public against the loss of the benefits arising from such institutions, and to make such suggestions as you may deem expedient in connection with all or any of the matters aforesaid."

## THE VIEWS OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

The Commission having informed the Society of Medical Officers of Health, through their President, that they would be glad to receive any expression of opinion by the Society on the matters referred to the Commission, the Society adopted the following Report:—

1. The available accommodation for small-pox patients is, in the opinion of the Society, insufficient to meet the demands which might at any moment be made upon it by a recrudescence of the existing epidemic. So far as respects the number of beds available for the treatment of fever cases, the existing accommodation appears to them to be fairly sufficient for present wants. The hospitals, however, are few in number,



and therefore necessarily remote from many parts of the Metropolis. They are fewer now than they should be under improved sanitary legislation.

2. The advantages of a limited number of hospitals for the whole Metropolis, and under one central authority, preponderate. This authority should, in the opinion of the Society, make provision for all classes of persons. The Society also entertain a strong opinion that admission to these hospitals should not entail pauperisation.
3. As legal proceedings are now in progress concerning the Hampstead and Fulham Hospitals, the Society do not desire to express any opinion on the several existing small-pox and fever hospitals.
4. Provision for mild cases of small-pox and for convalescent cases should be made outside the Metropolis. If this were done probably eight well-placed hospitals, containing 150 beds each, would suffice for the small-pox cases that must be treated in hospitals within the Metropolis, *i.e.*, cases too ill to be removed to any great distance from their homes; similar provision of convalescent institutions should be made for fever cases.
5. No hospital for small-pox patients should, in the opinion of the Society, contain more than 150 patients at any one time. They are also of opinion that to each hospital for fever and for small-pox cases, a district should be allocated, and only overflow cases, in emergencies, should be removed to any other hospital than that of the district properly assigned to such hospital. The adoption of this principle would obviate many objections to the existing system of hospital accommodation.
6. The Society consider that the Hospital Authority should have the power to acquire sites for hospitals compulsorily, and that, subject to the hospitals being conducted with reasonable care, and according to prescribed regulations, the Authority should be protected from legal proceedings, so as to secure the public against the loss of the benefits arising from these Institutions.

The Society, moreover, submitted to the Royal Commission the necessity for additional legislation to secure:—

- (1) Compulsory notification of infectious diseases; and
- (2) Compulsory powers to enable the Sanitary Authority to enforce the removal to hospital of the infective sick, not possessed of lodging or accommodation enabling them to be properly treated and isolated.

#### EVIDENCE AND NOTES BY THE MEDICAL OFFICER OF HEALTH.

Having myself been invited to give evidence before the Commission and to forward an abstract of the evidence I proposed to give, I drew up somewhat hurriedly, on short notice, the following

memoranda, dealing (1) with the subjects embraced in the several paragraphs of the Reference, and (2) with the question generally. I gave evidence on two occasions, having been before the Commission during one entire sitting and the greater part of another. This evidence will in due course appear in the Appendix to the Report of the Commission. As the proof of the evidence submitted to me for correction was marked "strictly confidential," I make no reference to it here. I may add that in addition to oral evidence, I prepared for the Commission certain returns and memoranda which will also appear in the Appendix to their report, and to which, therefore, I do not propose now to make further reference. The subjoined memoranda will not appear in the Blue Book, and I have thought it my duty to place them here that your Vestry may be in full possession of my views on this important question. In the following "abstract of evidence," the figures indicate the paragraph of the Reference to the Commission under consideration (*vide* page 48).

#### ABSTRACT OF EVIDENCE.

1. (a) As regards the "nature" of the hospitals?—  
Speaking from a knowledge of "Fulham Hospital," and assuming that it is not possible to enlarge the site, I am of opinion that a better plan would be to have a hospital with fewer pavilions, consisting of two or three stories each, so as to interpose a greater distance between the pavilions and the boundaries of the site, for isolation.
- (b) The "extent" of small-pox hospital accommodation now existing would be adequate if provision were made for removing out of London suitable cases of modified small-pox and convalescent cases.
- (c) "Sufficiency" for the needs of the Metropolis, however, would be better secured by the provision of some additional hospitals on suitable sites, so that the severely sick should not have to travel so far as now they have, from some of the quarters of London most distant from the existing hospitals.
2. I entertain no doubt as to the "advantage" to patients and to the public, of there being a limited number of hospitals under one central authority. There should be no question of *pauper* or *non-pauper* in this matter. All sick persons desiring or requiring isolation in hospital should be freely received without payment, the certificate of a Medical Officer of Health, or a Poor Law Medical Officer, or any other duly-qualified medical man, being accepted as evidence of the nature of the infectious disease.



3. As respects accommodation for small-pox patients at Fulham Hospital, I should be prepared to welcome a reduction in the maximum number of beds to (say) 150, and I should be glad to have as many beds provided for fever-patients, on a distinctly separated part of the site, a suitable number of parishes being allocated to the hospital—say the four parishes comprising the Borough of Chelsea, which contains a population of about 370,000, with the western suburb of London; overflow cases being admitted from other districts only in emergencies.
4. I am of opinion that the Managers should provide additional hospitals, raising the total to eight, and that they should be empowered to make special provision out of London for convalescent cases of "fever" as well as small-pox, so that the sick should not return to their homes until recovery of health and strength is complete. To such convalescent hospitals I would remove the patients as soon as removal could be effected with safety. Separate convalescent hospitals at the Country sites should be provided for fever and for small-pox cases. Accommodation, moreover, should be provided for the reception and treatment of the milder cases of modified small-pox, so that there should be treated temporarily in Town, such cases only as could not be safely removed to a considerable distance. Sanitary trains might be organised for the conveyance of the sick.
5. The number of patients should be fixed, and in respect of small-pox should not exceed 150 at each hospital. The strictest discipline should be maintained, so as to provide against spreading infection through members of the staff. Given a suitable site, with sufficient ward, floor and cubic space, proper ventilation and disinfection, and complete isolation of patients, nurses, and buildings, the recovery of the sick would be promoted and the safety of the public secured.

*Necessity of Isolation of Nurses.*—Stringent restrictions should be placed on the movements of nurses and other officers, who attend upon the sick in small-pox hospitals; and the same remark applies in respect of persons who come into contact with home-treated cases, and who should be forbidden to go out of the infected house without bathing, disinfection of hair, and change of clothing. Exposure in a public place of the clothing worn in the sick room, previous to disinfection, should be made an offence, under Section 38 of the Sanitary Act, 1866.

6. The Sanitary Act 1866, Sect. 37, makes provision for hospitals for the "sick inhabitants" to be established by Local Sanitary Authorities, singly or in combination. The powers are permissive, and they have been exercised to a very moderate extent indeed. It is probable that if the powers had been generally exercised, difficulties would have arisen as in the case of the Managers' Hospitals for small-pox patients, at Hampstead and Fulham. But in 1867, the Metropolitan Poor Act was passed, under the provisions of which the Managers have erected hospitals which, as to number of beds, are nearly sufficient for London. Moreover, as the arrangements for the construction of these hospitals were commenced



soon after the passing of the Act, and therefore not long after the passing of the Sanitary Act, it may have appeared to the Sanitary Authorities unnecessary to erect local hospitals.

It is a defect of the Metropolitan Poor Act, that persons suffering from infectious diseases are pauperised by entering the hospitals of the Managers. If the assistance rendered to the sick in these hospitals were dissociated from the taint of pauperism, I cannot see that anything better could be devised for coping with infectious diseases *quâ* hospitals, than the existing arrangements extended, as necessary, to meet requirements; but the Managers should be protected in the discharge of their duties.

### FEVER HOSPITALS.

On the subject of Fever Hospitals, I stated that "I have never heard any objection raised to the manner of dealing in the Managers' hospitals with 'fever' of any description. The whole difficulty turns on small-pox. I am not in a position to say whether the number of beds in the fever hospitals is sufficient for the requirements of the Metropolis; but the argument in favour of more small-pox hospitals—viz., so as to bring the hospitals somewhat nearer to the sick—applies equally in favour of an increase in the number of fever hospitals. It is highly probable, moreover, that when 'notification' of cases of infectious diseases is made compulsory, and when the powers of compulsory removal to hospital of non-isolated cases of such diseases has been provided for by legislation, hospital accommodation will have to be increased to no inconsiderable extent to meet the *maximum* demands of a severe epidemic, whether of small-pox or of 'fever.' "

I also submitted for the consideration of the Commission the following further memoranda:—

(1) "FULHAM HOSPITAL was opened in March, 1877, and it is the fact that small-pox has, on the whole, been more prevalent in the south and south-western portions of the parish of Kensington since that date. In the epidemic of 1871-2, and in 1877, there were more cases north of Uxbridge Road than south of that



road. In 1878-9-80-1 the reverse obtains; and especially is this true of 1881, the cases south of Uxbridge Road having been far more numerous than those in the north of the parish—238, as against 128; whereas in 1871, the cases in the north were 303 as against 141 in the south. It is true, moreover, that the cases have been most numerous in the south-west district, nearest the hospital, which is separated from “Ifield Road” by the Brompton Cemetery, a well-wooded space some 800 feet across. It does not follow from these facts that the hospital has been the cause of the spread of the disease: this, however, is a question well worthy of detailed inquiry, especially in respect of Ifield Road, which has furnished (in 1881) more cases than any other street. With the facts respecting the spread of the disease in this street I am well acquainted, but interesting as they are, they are too voluminous to admit of statement here. Many of the cases, it may be mentioned, can be explained independently of the hospital, and considering the dense population of the street (as compared with other streets and with the Ifield Road of 1871), and the altered character of this population, it is quite open to question whether the spread of the disease may not be capable of explanation without reference to the hospital.”

(2). “PROVISION OF HOSPITALS FOR NON-PAUPERS.—ACTION OF SANITARY AUTHORITIES.—On the question of providing for hospital treatment of the infectious sick, I adhere to the principles set out in my Report on ‘Hospital Accommodation,’ submitted herewith, page 2, and pages 9, 10, 11 and 12 [*vide* Annual Report for 1876, page 10]; and I approve the resolution passed by the first Conference of Metropolitan Sanitary Authorities, held July 16, 1878, to the following effect:—

“That in the opinion of this Conference many almost insurmountable obstacles present themselves to the carrying out by the Vestries and District Boards of the Metropolis of the powers conferred upon them by the 37th Section of the Sanitary Act, 1866; and it is further of opinion that it is desirable that provision should be made by Act of Parliament for one Authority, acting for the



whole Metropolis, to provide hospital accommodation for non-pauper persons suffering from infectious diseases, and that such Authority should be, as far as possible, representative.'

"In view of the Conference above referred to, I had prepared the subjoined 'Propositions,' which, having been approved by the delegates of the Vestry, and confirmed by the Vestry 'as fairly representing the views of the Vestry as expressed at various times on the subject of the provision of hospital accommodation for persons suffering from infectious diseases,' were sent to every member of the Conference, together with my report on 'Hospital Accommodation' above referred to :—

### PROPOSITIONS.

1. That the provision of hospital accommodation for the large class of persons whose isolation in hospitals is necessary for preventing the spread of infectious diseases can be best made in a comprehensive and systematic manner by one Central Authority acting for the whole Metropolis.
2. That the Metropolitan Asylum District Board should be such Central Authority, the Managers already having, in the several hospitals erected under their auspices, nearly sufficient accommodation to meet the requirements of the sick of all classes, excepting those who may be able and willing to pay for hospital treatment, and for whom provision is already made, or could be made, at the London Fever Hospital, and the London Small-pox Hospital.
3. That steps should be taken to obtain an Act of Parliament to alter the constitution of the Metropolitan Asylum District Board by severing its connection with pauperism in so far as relates to the treatment of infectious diseases; and by providing for the election of a certain proportion of the 'Managers' by the several Vestries and District Boards of Works, the Sanitary Authorities within the Metropolis.
4. That pending such legislative action, and seeing that the hospitals of the Managers have been established at the public cost and for the common good, no compulsory payment should be exacted from any persons whom the Sanitary Authorities may deem it necessary or expedient to remove to the hospitals for the sake of isolation; and all expenses incident to the



maintenance of such persons in the hospitals should be defrayed out of the general rate.

NOTE.—Under the proposed altered constitution of the Board the hospitals should be supported out of a Metropolitan rate ; or power might be given to the Managers to issue precepts on the several Sanitary Authorities for their quota of the expenses.

5. That the admission into the Hospitals of persons suffering from infectious diseases should not involve the loss of any political or other rights by the said persons.

NOTE.—It is proposed to place the treatment of infectious diseases on the same footing as Public Vaccination : in other words, admission into the Hospitals should not be deemed to be Parish or poor relief. It has been ascertained that on the 15th February, 1877, the proportion of patients in the several asylums who acknowledged to having previously received parochial relief was under ten per cent.

6. That in order to facilitate the 'stamping out' of infectious diseases, provision should be made for the disclosure to the Sanitary Authority of all cases of such diseases in such manner as to the wisdom of Parliament may appear most expedient."

(3) "POOR LAW ACT, 1879.—I recognise a germ of possible usefulness in Section 13 of the Poor Law Act, 1879, which authorises the Asylums Board to contract with Sanitary Authorities for the reception and treatment of non-pauper cases, and which was the outcome of the deputation to the President of the Local Government Board (March 28, 1879), when the above resolution was presented by the Conference of 1878. But, above all, I adhere to the resolutions, adopted unanimously by the great CONFERENCE OF SANITARY AUTHORITIES, held at the Town Hall, Kensington, in March, 1881, and which were submitted to the President of the Local Government Board by the deputation, at which, in addition to the Sanitary Authorities, the British Medical Association, the Society of Medical Officers of Health, the Social Science Association (Public Health Section), and the National Health Society were represented. The resolutions were as follow :—

"That this Conference of Vestries and District Boards of Works is of the opinion—

1. That in the interests of public health, and to enable Nuisance Authorities to discharge the duty of checking and preventing the spread of infectious



diseases, such as small-pox, scarlet fever, &c., provision should be made by legislative enactment to secure the compulsory disclosure to the said Authorities of all cases of such diseases immediately after their occurrence.

2. That the provisions of the 26th Section of the Sanitary Act, 1866 (Section 124, Public Health Act, 1875), are insufficient for the protection of the public health, and should be so amended as to empower any justice to direct the removal to a hospital, within the district of the Nuisance Authority, of any person suffering from any dangerous infectious disorder, and being without proper lodging or accommodation, which would enable him to be properly isolated, so as to prevent the spread of disease to other inmates of the same house, and to be properly treated.
3. That the admission into hospitals for the purpose of isolation of persons suffering from infectious diseases, and being without proper lodging or accommodation, is eminently desirable in the interests of the public and should be encouraged : that payment for the assistance given in hospitals to such persons, removed thereto for isolation by the Nuisance or Poor-Law Authority, should not be enforced ; that the giving of such assistance should not entail on the recipients the loss of any social or political status ; and that the cost of hospital treatment of such infective sick persons should be made a charge on the Metropolitan Common Poor Fund.
4. That the President of the Local Government be asked to receive a Deputation to present the foregoing resolutions, and make request that he would be pleased to bring under the notice of the Government the desirability of taking measures for giving effect to them by legislation."

(4) "DEFECTIVE SANITARY GOVERNMENT OF THE METROPOLIS.—London is grievously in need of a Central Sanitary Department to establish something like unity in the sanitary arrangements of its 39 divisions. Information of the occurrence of scheduled infectious diseases, with all particulars, should be notified to the local Medical Officer of Health, and be at once transmitted by him to a central office, whence information should be forwarded to the Medical Officers of other districts whom it may concern ; and generally to all Medical Officers of Health.

"In my judgment the long continuance of small-pox in London, apart from the question of vaccination, is largely due (1) to concealment of cases ; (2) to non-isolation, and especially to exposure of mild cases and infected clothing ; (3) to delay in removal of cases to hospital ; and (4) generally to the want of solidarity in



sanitary administration above referred to. Every other large centre of population has but one Sanitary Authority. Every one is interested in stamping out small-pox; cases of the disease are reported and isolated, and epidemic prevalence is prevented, the result being that since 1875, when the Public Health Act was passed, and Medical Officers were appointed to all parts, small-pox has not, to my knowledge, prevailed in any town, or other place, with the severity which was so common in the absence of such sanitary arrangements during the epidemic of 1870-3."

#### (5) NOTIFICATION OF INFECTIOUS DISEASES.

I have prepared the subjoined table with a view of tracing, if possible, the effect, if any, upon the prevalence of infectious disease, of the legislation of 1875. In that year the Public Health Act was passed, under the provisions of which Medical Officers of Health were appointed in all parts of the kingdom.

I have limited the inquiry into the number of deaths (in London and the 19 other large towns of England) to the one disease—small-pox—because there is a more earnest endeavour, everywhere and by all persons, to stamp out this terrible disease by isolation, &c., than is manifested in respect of any other disease.

There is probably less concealment of small-pox than of any other disease, and parents who would conceal a case—of scarlet fever, for example—would generally be found willing to disclose and permit the removal of a case of small-pox. Again, there is more co-operation between the public and medical men on the one side and Medical Officers of Health on the other side, for the extirpation of small-pox than in respect of any other disease; and therefore, probably, small-pox prevalence does furnish a reliable test in the circumstances. Since 1875 the mortality from small-pox outside London has greatly diminished, and London alone has suffered severely during the recent epidemic, 1876-81.

## DEATHS from SMALL-POX in London and 19 other large Towns.

	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.
London .....	7,876	1,781	115	56	75	735	2,544	1,416	458	475	2,373
Brighton .....	64	4	...	1	...	1	10	...	...	...	9
Portsmouth .....	39	508	48	2	...	1	1	...	...	...	...
Norwich .....	245	317	1	...	...	2	...	2	...	...	1
Plymouth .....	58	208	2	2	1	...	1	...	...	...	2
Bristol .....	45	209	9	26	70	24	...	...	...	2	...
Wolverhampton...	284	180	2	1	...	...	...	...	...	...	...
Birmingham .....	61	298	122	639	175	..	8	5	1	2	6
Leicester .....	11	313	2	...	...	...	1	...	...	...	...
Nottingham .....	144	205	...	...	...	...	...	...	1	...	4
Liverpool .....	1,919	50	10	30	29	386	299	3	...	2	34
Manchester .....	267	75	20	10	17	190	49	1	1	2	3
Salford .....	227	41	4	4	32	347	93	1	...	...	7
Oldham .....	52	26	1	1	3	7	24	1	...	...	9
Bradford .....	5	32	21	60	3	1	4	1	...	1	3
Leeds .....	43	268	112	34	20	4	3	...	...	...	2
Sheffield .....	406	601	5	1	...	1	2	1	...	1	...
Hull .....	57	216	26	3	2	...	1	1	...	...	4
Sunderland .....	850	54	1	...	...	...	...	1	...	...	...
Newcastle - on - Tyne .....	695	135	4	...	...	1	1	...	...	...	9
Totals .....	13,348	5,521	535	870	427	1,700	3,041	1,433	461	485	2,466
London .....	7,876	1,781	115	56	75	735	2,544	1,416	458	475	2,373
The 19 Towns..	5,472	3,740	390	814	352	965	497	17	3	10	39

## SUMMARY.

Quinquennium.	1871-75.	1876-80.	Year 1881.
London ...	8,903	5,628	2,373
19 Towns ...	10,768	1,492	93

Population in 1881 of 19 large Towns, 3,764,244 ; of London, 3,814,571.

## DEATHS FROM SMALL-POX, 1877-78-79.

London ...	4,418.	Population (1881), 3,814,571.
Rest of England and Wales	2,252.	Population (1881), 22,153,715.



Lastly, I submitted copies of my Annual Reports—1876-81, dealing with the epidemic of small-pox, and with other matters cognate to the inquiry being made by the Royal Commission, or which are referred to in the preceding notes.

---

### AMBULANCE SERVICE.

The 16th Section of the Poor Law Act, 1879, confers on the Asylums Board power to provide ambulances for the conveyance of the infectious sick, and of this power the Managers have availed themselves to a certain extent by establishing a station at London Fields. It is almost superfluous to add that their action in so doing has been assailed, and that legal proceedings have been commenced against them with a view to close the station. Having inspected the premises I am at a loss to understand what reasonable objection can be taken to them ; they appear to me well suited for their purpose, having regard to position, arrangement, and management. Some fifteen parishes are allocated to this station, which is in telephonic communication with the Offices of the Managers at Norfolk Street, Strand, whence all applications received by telegram are instantly transmitted to the station. I had ocular proof that the time taken to get out and despatch a well-appointed ambulance, with pair of horses, and nurse attired in mackintosh overclothing, is to be reckoned by seconds, rather than minutes. The entire staff engaged in this service live on the premises. It is a curious fact that the authorities of some of the parishes allocated to this station have declined to make use of the facilities it affords, and still continue to remove patients in their own ambulances. The existing arrangements for the removal of the sick are very unsatisfactory. In some parishes both the Sanitary Authority and the Poor Law Authority have provided ambulances, in others the Vestry or the Guardians only. There being 39 Sanitary Authorities and 30 Boards of Guardians, there would appear to be a good deal of wasted power, which means needless expense incurred, and it is open to question whether a considerable economy might not be



effected by replacing the existing arrangements by a uniform system, which the Managers are ready and willing to organize when called upon? The ambulances at the London Fields station are eleven in number, some being used exclusively for cases of small-pox, and others for "fever." Each ambulance is disinfected before it leaves the hospital, and good care is taken to guard against irregularity such as has been so often complained of in the conduct of drivers of parochial ambulances, viz., of stoppage on the road for refreshment. The Managers, it should be added, have done what they could to prevent this practice on the part of the servants of Local Boards by supplying them with food and drink while the ambulance is undergoing disinfection within the hospital precincts.

INCREASED FACILITIES FOR REMOVAL OF THE INFECTIOUS SICK.—In my last annual report I referred to the action taken by the Board of Guardians in evidence of their desire to facilitate the removal of the sick: in an instructional letter addressed to the Relieving Officers, their Clerk, Mr. J. H. Rutherglen, wrote as follows:—

"The Guardians having recently had urged upon them by the  
 "Medical Officer of Health the importance of facilitating  
 "in every way possible, the immediate removal to hos-  
 "pitals of cases of infectious disease, have directed me  
 "to instruct the Relieving Officers to abstain generally  
 "from taking any steps for obtaining payment in cases  
 "sent to the Metropolitan District Fever and Small-pox  
 "Hospitals."

The carrying out of these instructions has been attended with the best possible results, for since they were issued I have not heard of a single case prevented from going to hospital on grounds of inability or unwillingness to pay for maintenance and treatment. Having always held that the removal to hospital of the non-isolated infectious sick, at whatever cost to the public, is justifiable on strictly economical grounds, it is a source of much satisfaction to me to know that this view is shared by the Guardians, equally with your Vestry. Practically, moreover, very little is lost



in money by the enlightened action of the Guardians, for as the result of an enquiry made last year, in view of the Conference of Sanitary Authorities, already referred to, I ascertained that only £58 10s. 1d. had been received by some twenty Boards of Guardians in respect of 79 out of 3,100 patients removed by them to hospitals in a little less than one year. Objection had been raised to the principle of free hospital treatment, on the grounds that many patients contributed towards their maintenance a sum considerable in the aggregate, and that patients able to pay should be made to pay. Even had this been the case—and I have shown that it is not so—sanitarians who know the terrible consequences that so often result from the home treatment of infectious diseases, when the sick cannot be isolated, would have been ready to justify a sacrifice in money rather than imperil life. It was more difficult to satisfy the representatives of the ratepayers, those who hold the strings of the public purse, of the good policy of such a course, but the facts and figures I submitted to the Conference brought conviction, and it was resolved unanimously “that payment for the assistance given in hospitals to persons removed thereto for isolation by the Sanitary or the Poor Law Authority should not be enforced,” as well as “that the giving of such assistance should not entail on the recipient the loss of any social or political status.”

But to resume :—If I were asked if anything more could be done by the Guardians to facilitate the removal of the sick? I should be almost at a loss to answer in the affirmative, unless I might be permitted to suggest that when a person applies to a Relieving Officer for a medical order in a case of infectious disease, scarlet fever for instance, the order, which is applied for with a view to the removal of a sick person to hospital, should be granted without question. Not seldom when a Sanitary Inspector has succeeded in persuading a mother to let a sick child go to hospital and she has subsequently learned at the Relief Office that removal was not obligatory—by being asked whether, or why, she wished the child to be removed—the discovery has turned the scale; the mother has gone home without the order, and the case has not been removed.



INTERRUPTION OF EDUCATION AT ELEMENTARY SCHOOLS ARISING FROM THE PREVALENCE OF INFECTIOUS DISEASES.—It is the practice at Board and other elementary schools to refuse admission to children living in houses where infectious disease is known to exist, even when the rejected children are not members of the family affected. The propriety of this practice is beyond question, and to its existence we may reasonably ascribe the rarity of the occasions on which it has been found necessary to close schools on account of the prevalence of infectious disease among the pupils. The "notification of infectious disease," when it shall have been obtained by legislation, and the increased powers of removal to hospitals of non-isolated cases of infectious sickness, for which Sanitarians are asking as a correlative measure, will probably have the desired effect of still further limiting the occasions on which it will become necessary to close schools on account of epidemics, *e.g.*, of scarlet fever. Sanitary authorities, nevertheless, acting through their Medical Officers, should have greater power than they now possess of closing schools. It has been my constant endeavour to work with and obtain the assistance of school teachers, and this plan has often been attended with excellent results. The regrettable fact connected with the existence of infectious diseases, in relation to education, is the length of time during which children in health, but living in infected houses, may be kept away from school to the curtailment of the short period devoted to education, and yet at the same time may be meeting their school fellows at play, thus to a certain extent neutralizing the precautions taken at school. It is obvious that fresh and even stringent legislation is needed to enable us to cope with this difficulty, *viz.*, for the compulsory removal of the sick when necessary to secure isolation. The School Board for London is alive to the importance of the matter, having appointed two of their members to confer thereon with the Society of Medical Officers of Health, whose report on a series of questions submitted by the delegates of the School Board, was given in my last Annual Report (page 43).



## 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 illness—information that would be of the greatest value, particularly at the commencement of an epidemic, when the first cases are often mild, and, therefore, not fatal. It has been my constant endeavour to increase our sources of such information, and it may not be out of place here to state what progress has been made :—

1. By virtue of an arrangement entered into between your Vestry and the sub-district registrars, I receive notice of every *death* from the graver infectious diseases (small-pox, scarlet fever, diphtheria, typhus, enteric and simple continued fevers), within a few hours after registration. It may be observed that when a death has occurred from an infectious disease there is always a probability of finding 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 apparently 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 disease that come within 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 request 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, especially when they desire assistance in order to get patients (*e.g.*, domestic servants) removed to hospitals; or when they want the assistance of the disinfecting staff.
5. In my annual report for 1877, I referred to what I thought an important step 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 all cases of infectious disease



that should come to their knowledge in the discharge of their official duties, which take them frequently 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. This was done ; but I must say that hitherto the resolution of the Board has not been attended with the hoped-for results. The Board, moreover, at one time, showed a disposition to recede from the position they had taken up, for 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. Two out of seven Visitors officiating in Kensington have supplied information of a not inconsiderable number of cases during the past year.

6. Clergymen, District Visitors, and School Teachers occasionally report cases of sickness.
7. The Resident Medical Officers of St. George's and St. Mary's Hospitals report 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 frequently 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 concealed 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 notification of the occurrence of infectious diseases, a subject which has already been dealt with in this report.

### POPULATION, INHABITED HOUSES, &c.

THE CENSUS.—The first published return of the population of the parish as ascertained at the Census of 1881, showed a total of 162,924 persons, viz., 120,127 in the Town sub-district, and 42,797 in Brompton: the males numbering 65,276, and the females 97,648. Excess of females, 32,372, viz., in the Town sub-district, 20,211,



and in Brompton, 12,161. Subsequently, revised figures were issued in the weekly returns of the Registrar-General, from which it would appear that the population of the parish on the 4th April, 1881, was 163,151, viz., in the Town sub-district, 120,141, and in Brompton sub-district, 43,010: for the revised numbers of the sexes, and for details as to ages, etc., we must await the publication of the final report next year. The number of "inhabited houses," as returned by the Registrar-General, was 20,103, an increase of 4,368 in the decade, the number in 1871 having been 15,735. The rate-books, however, which in April, 1871, gave a total of 15,181 rated properties, or 531 fewer than the Registrar-General's return of "inhabited houses," in 1881 gave a total of 20,679, or 554 more than the Registrar-General's return, the total difference between the two returns, comparing 1881 with 1871, being no fewer than 1,130. As I stated in my last annual report, I am unable to account satisfactorily for the whole of this difference. It would appear, however, that in the Census returns a building like the Model lodging-houses in the Mall, Notting Hill, is regarded as a single "inhabited house," whereas this building is *rated* as 48 houses, there being 48 separate holdings. In like manner the seven blocks of buildings known as "Campden Houses," in Peel Street, Campden Hill, enumerated as 7 inhabited houses, are rated as 133 houses. Again, there are some large houses and buildings let out in "flats" in both sub-districts; each flat is the subject of a separate entry in the rate-books; but the Flats in any given building, whatever their number, are reckoned as one "house" in the Census returns. Occupied premises, as workshops, stables, etc., furnish the ground of many entries in the rate-books, but not being used for sleeping purposes, are not reckoned by the Registrar-General as "inhabited houses." On the other hand, "unoccupied" houses in the charge of caretakers, which figure in the rate-book returns as "empty," are properly enumerated as "inhabited houses," for census purposes. It is not alleged that these variations between the Census enumeration and the rate-book method of reckoning, will account for the whole of the discrepancy between the Registrar-General's number of inhabited houses and the rate-book total of occupied premises, but it is probable that the balance may be accounted for by the alteration in the mode of rating properties



rendered necessary by the Act for the Quinquennial re-valuation of the Metropolis, many properties, *e.g.*, stables, that were formerly rated in combination with houses, etc., being now separately assessed. In Table 1, Appendix, third column, the numbers of "inhabited houses" are based upon the rate-book returns, these being the only available source of information, excepting in Census years, and in 1881 (July) the number in that column is higher by 563 than the number given by the Registrar-General in the Census return (April). Before going further it may not be out of place to state that I have availed myself of the Census returns to calculate afresh, where necessary, the statistics in Tables 1, 2, 5, and 7 (Appendix), some of which, therefore, do not exactly correspond with the figures in the same tables in previous annual reports. The corrections, however, found necessary in respect of some of the years between 1871 and 1881, based upon a re-calculation of population, etc., do not affect to any appreciable extent the totals for the decennium with which we are chiefly concerned, as the basis of comparison for the figures of 1881. But to return:—the increase of population in the decennium, 1871-81, was 42,852, (28,496 in the Town sub-district, and 14,356 in Brompton,) or 35·5 per cent.—about half the per centage increase in the decennium 1861-71 (71·5); but the numerical increase 1871-81 (42,852) is only 7,339 less than the increase in 1861-71 (50,191); and whereas the natural increase, *i.e.*, excess of births over deaths, in 1861-71, was 9,341, or 18·5 per cent. only, it was in 1871-81, 16,445, or 38·6 per cent. The increase by immigration, 1861-71, was 40,850, or 81·5 per cent.; 1871-81 it was 26,407, or 61·6 per cent. The population of the Town sub-district increased in the decennium 1871-81, from 91,645 to 120,141, viz. 28,496, or 31·0 per cent., the natural increase (14,570) being very slightly in excess of the increase by immigration (13,916). The population of the Brompton sub-district increased from 28,654 to 43,010, viz., 14,356 or 50·1 per cent., but the natural increase (2,847) accounts for about 25 per cent. only of the total increase, as against 75 per cent., the immigration increase (11,509). The number of inhabited houses according to the Registrar-General, increased by 4,368, or 27·7 per cent., the increase in the Town sub-district being 2,306, or 11·1 per cent., and in the Brompton sub-district, 2,062, or 50·7 per cent. The number of persons living in a house



in the Town sub-district in 1871, was 7·8, and in 1881, nearly 8·6: in the Brompton sub-district in 1871, there were 7 persons to a house, and the same in 1881. In the whole parish there were 7·65 persons to a house in 1871, and 8·11 in 1881, according to the Registrar-General; but calculated on the basis of the rate-book returns, the numbers were 7·92 in 1871, and 7·89 in 1881. The density of the population, 55 to an acre in 1871, 61 in the Town sub-district, and 41 in Brompton, had risen in 1881 to 74 per acre, viz., 80 in the Town sub-district, and 61 in Brompton. The density of the population in the whole Metropolis is 49 persons to an acre, ranging from 6 in Lewisham to 216 in Westminster.

The Metropolis Local Management, which brought your Vestry into existence, came into operation on the 1st January, 1856: the subjoined figures, showing the growth of the parish in the quarter century since elapsed, will be read with interest at the present time :—

	1856.	1881.	Gross Increase in 25 years.
Estimated number of Inhabited Houses (As per rate books) .....	7,600	20,666	13,066
Population .....	57,000	163,540	106,540
Rateable Value of Pro- perty .....	308,000	1,648,187	1,340,187

The increase within the last ten years, in all respects, is not inconsiderable, as the subjoined figures will show :—

	1871.	1881.	Increase in 10 years
Estimated Number of Inhabited Houses, July (As per rate books) .....	15,395	20,666	5,271
Population July	121,300	163,540	42,240
Rateable Value .....	935,720	1,648,187	712,467

These figures, demonstrating a transcendent growth, speak for themselves; nevertheless, attention may be called to the fact that in the quarter-century the rateable value of property became more



than quintupled, and that in the last decade the mere increase was double the total in 1856.

The population and the number of inhabited houses increased nearly threefold in 25 years ; the increase in the last decade alone attaining the proportions of a large city.

In the nature of things the material growth of the parish must cease ere many years shall have passed, and there will be an arrest to the increase of population, for there will be no room for additional buildings, but property in some parts of the parish will probably continue to increase in value long after the population shall have become comparatively stationary : even now the rateable value has attained such proportions as to be exceeded by that only of the cities of London, Liverpool, Manchester, and Bristol.

---

The foregoing statistics of population, etc., relate to the Census which is taken in the month of April, but as annual statistics are based on an estimated population at the middle of the year, I proceed to state that the population of the parish as estimated in July, was 163,540, this total being arrived at by adding to the enumerated population in April, 1881, a certain number representing excess of births over deaths, and deducting from the total a number (238) representing a reduction in the number of inhabited houses in July, 1881, as compared with July, 1880. In previous years I have had to chronicle an increase in the number of rated properties, even so many as 777 in a single year, but a decrease never before. For the first time, therefore, during my official connection with the parish, I have not had to calculate an increase in population due to immigration, but contrariwise to estimate a small decrease by emigration. The population of the Town sub-district as estimated was 120,440, of Brompton 43,100 : total 163,540 ; viz., males, as estimated, 65,600, females 97,940 : excess of females, 32,340, equal to 49·5 per cent. (excess in 1871, 22,345 or 45·6 per cent.), the corresponding excess in the Metropolis being only 13 per cent. This redundancy of females is explicable in large measure by the fact that in Kensington, as in other rich parishes, there are numerous female domestic servants. There are many girls' boarding-schools also, which bring numerous



females into the parish, while on the other hand, it is probable that more boys than girls leave the parish on going to school, and so are absent at the date of the Census. The superior longevity of women is a factor of some importance in regulating the relative number of the sexes, whilst the influence of fashion and popularity, and the reputation for healthfulness the parish enjoys, must not be left out of consideration, as they are conditions which weigh with many persons, and doubtless tend to make Kensington a favourite place of residence with unmarried and widow ladies.

It may not be out of place here to mention that the population of the Metropolis, as estimated to the middle of 1881, was 3,831,719—males, 1,798,147, and females, 2,033,572; excess of females, 235,425. The natural increase of population during the year was 51,603, and the estimated total increase, 61,067, the difference, 10,004, representing the excess of immigration over emigration. The growth of population between 1871 and 1881 had been so far under-estimated, that the actual population was found to be 124,589 in excess of the previous estimate. The annual rate of increase during the decennium was 1·61 per cent.: in the decennium 1861-71 it was 1·50 per cent. In the Registrar-General's Annual Summary for 1881, "the population in each year between 1871 and 1881 has been recalculated, and the rates in all cases adjusted to the new figures."

#### MARRIAGES AND MARRIAGE RATE.

The number of marriages in 1881 was 1,761. Of these there were celebrated—

By the Church (84 per cent. of total marriages)	1,487
At Roman Catholic places of worship...	93
At other Nonconformist places of worship	51
At the Superintendent Registrar's Office	130
Total	1,761

This total represents an increase of 278 marriages as compared with 1880, the increase being, by the Church, 288; and at Roman Catholic and other Nonconformist places of worship, 3; while at the Superintendent Registrar's Office there was a decrease of 13.



So large a number of marriages had never before taken place in Kensington, and the yearly increase, trifling as it was in recent years, had not been steady or even constant, as may be seen on referring to Table I (Appendix). Nevertheless, the marriage rate in Kensington—*i.e.*, persons married per 1,000 of the population—21·6 in 1881—was considerably above that of the country generally, *viz.*, 15·1 per 1,000, or 1·0 below the mean annual rate during the ten years 1871–80. The marriage rate in the Metropolis in 1881 was 18 per 1,000 inhabitants, “than which,” says the Registrar-General, “there is no lower on record.” Despite the high marriage rate in Kensington, the birth rate, as we shall see, is a low and a decreasing one, resulting in a large measure, doubtless, from that disproportion in the relative numbers of the sexes to which reference has already been made.

#### BIRTHS AND BIRTH RATE.

The births of 4,400 children were registered in 1881 : males, 2,289, and females, 2,111 ; 3,547 in the Town sub-district, and 853 in Brompton, the total being 205 fewer than in 1880—the decrease being entirely in the Town sub-district—and 604 below the decennial average, corrected for population. The birth rate was only 26·9 per 1,000 : 29·5 in the Town sub-district, and 20·0 in Brompton, being 7·8 per 1,000 below that of the Metropolis generally (34·7), and 7·0 per 1,000 below that of all England and Wales (33·9)

We have to go back to 1874—estimated population 138,616—for so small a number of births as in the year 1881, when the population (163,540), was some 25,000 higher than in 1874. There was one birth to every 37·1 persons living, and 108·4 male births to 100 of females, an unusually large proportion : in the Metropolis the male births were 103·4 to 100 females. The illegitimate births were 198 : males, 113 ; females, 85, and of these 181 took place in the Town sub-district, which includes the parish workhouse, at which institution, out of a total of 129 births—males 70, and females 59—107 were illegitimate. The illegitimate births, whole parish, were 4·5 per cent. of total births.



The subjoined table shows the quarterly numbers of births of males and females in each of the sub-districts.

	KENSINGTON TOWN			BROMPTON			Grand Total. Whole Parish.
	Sub-district. Males.	Sub-district. Females.	Total	Sub-district. Males.	Sub-district. Females.	Total.	
1st Quarter	515	438	953	121	108	229	1,182
2nd „	447	420	867	125	111	236	1,103
3rd „	421	407	828	119	84	203	1,031
4th „	453	446	899	88	97	185	1,084
	1836	1711	3547	453	400	853	4,400

Additional particulars respecting births and birth rates during the decennium 1871-80 are set out in Tables 1 and 2 (Appendix.)

The Registrar-General, referring to the Metropolis, says, in his Annual Summary for 1881, that “only once since 1862 has the birth rate been so low (34·7), viz., in 1871, when it was 34·5 per 1,000 : the low birth rate,” (he adds), “was of course correlated with the low marriage rate of recent years.” Referring to all England the Registrar-General states in his fourth quarterly return for 1881 that the birth rate in 1881 (33·9) “showed a further decline of 0·3 from the steadily declining rates in the five preceding years, and was lower than that recorded in any year since 1858, when it was 33·7.”

#### DEATHS AND DEATH RATE.

The deaths of 2,726 persons were registered in 1881, viz., males, 1,328, and females, 1,398; in the Town sub-district 2,137, and in Brompton 589, the total being fewer by 158 than in 1880, viz., 144 in the Town sub-district, and 14 in Brompton, and some 200 below the decennial average corrected for increase of population. Of the 2,726 deaths 54 from infectious diseases occurred in the hospitals of the Asylums Board: the number registered in the parish (2,672), including 104 of non-parishioners at the Brompton Consumption Hospital; 27 at St. Joseph's House, Notting Hill, and a few others of strangers at the parish workhouse, all of which are retained in our statistics to compensate for an unknown number of deaths of parishioners that may have occurred outside the parish. The death rate, whole parish, was 16·6 per 1,000



persons living, the lowest on record, being 2·2 per 1,000 below the decennial average; 4·6 per 1,000 below the Metropolitan rate (21·2); and 2·3 per 1,000 below the rate in England and Wales (18·9). After making necessary corrections by distributing the deaths at the parish infirmary and the Brompton hospital, the rate of mortality in the Town sub-district was 17·7 per 1,000, and in the Brompton sub-district 13·3 per 1,000. The death rate, male sex, was approximately 20·2 per 1,000, as against 14·2 per 1,000 in the female sex. There died only 1,398 females out of a population of 97,940, or 1 in 70, as against 1,328 males in a population of 65,600, or 1 in 49·3. Taking the whole parish into consideration, there was one death to every 59·9 persons living.

### INFANTILE MORTALITY.

The deaths of young children always bear a high ratio to total deaths; but in 1881 the ratio was lower than usual. The deaths under five years, 1,067—162 below the number in 1880—were equal to 39·2 per 1,000 deaths, and to 24·2 per cent. on registered births. Under one year the deaths were 644—77 less than in 1880—equal to 23·6 per cent. on total deaths, and to 14·6 per cent. on births. By way of comparison it may be stated that in the Metropolis generally the deaths under five years were 41·1 and 25·1 per cent. respectively, on total deaths and registered births, while the deaths under one year were 24·1 and 14·8 per cent. on total deaths and registered births.

The deaths of illegitimate children under five years of age were 101—in 1880 only 85—equal to 51 per cent. on births registered as illegitimate: all but 9 of them occurred in the Town sub-district. Of the 101 only 22 outlived the first year, and of these twenty-two, 13 died in the second year. The causes of death as registered were tubercular or scrofulous affections 33, viz., tabes mesenterica, 10; marasmus and debility, 16; meningitis, 2; and tuberculosis, 5; Convulsions, 13 (4 of the children were "*found dead in bed*"); Zymotic diseases 18, viz., diarrhoea, 12; measles, 3; whooping cough, scarlet fever, and small pox, each 1; Bronchitis, 14; Syphilis, 3; Teething, 2; Premature birth, 6; Want of breast milk, 4; suffocation (accidental), 2; wilful murder, 1;



"found dead," 1; sundry, 4. It is probable that a large proportion of illegitimate children are brought up by hand-feeding and not by the mothers themselves: the evidence of improper feeding, and of the want of maternal care, is sufficiently apparent in the above list of diseases.

---

At sixty years of age and upwards there were 612 deaths—44 fewer than in 1880—equal to 22·4 per cent. on total deaths, the equivalent proportion in all London being 20·8 per cent.

---

It may be here mentioned, by way of comparison, that the death rate in the Metropolis being 21·2, the rate in the male sex was 23·2, and in the female sex 19·4 per 1,000. There died 47·2 persons to every 1,000 living, and there were 105·5 deaths of males to every 100 of females. "Only once since civil registration began," says the Registrar-General, "had a lower death rate than 21·2 been recorded in the Metropolis, viz., in 1850, when the rate was 21·0. The mean annual rate in the immediately preceding decennium (1871-80) was 22·5. Had the mortality been at this rate, 4,849 would have died in the course of the year who, as it was, were alive at its close."

The Registrar-General states that the rate of mortality in the 19 great provincial towns, the aggregate population of which is slightly below that of London, was 22·2 per 1,000. Brighton had the lowest rate, 19·0, and Manchester and Liverpool the highest, 25·5 and 26·7 respectively. In other 50 towns the average death rate was 19·6 per 1,000, ranging from 14·2 in Reading, to 24·6 at Merthyr Tydfil.

The rate of infantile mortality varies widely in provincial towns. The deaths of infants under one year in the 19 towns (average) were equal to 15·6 per cent. on the registered births, ranging from 11·9 at Portsmouth to 20·2 at Leicester. The average rate was 14·0 per cent. in the fifty towns, ranging from 9·6 at Shrewsbury to 18·3 at Blackburn. These wide variations in the rate of infant mortality were as usual mainly governed by the fatal prevalence or otherwise of diarrhœa.

---

The subjoined table shows the quarterly numbers of deaths of males and females registered in each of the registration sub-districts of Kensington :—

	KENSINGTON TOWN Sub-district.			BROMPTON Sub-district.			Grand Total, whole Parish.
	Males.	Females.	Total.	Males.	Females.	Total.	
1st Quarter ...	279	287	566	86	68	154	720
2nd „ ...	268	282	550	64	80	144	694
3rd „ ...	212	235	447	66	73	139	586
4th „ ...	259	277	536	66	70	136	672
	1,018	1,081	2,099	282	291	573	2,672

The deaths in the first and fourth or colder quarters of the year exceeded the deaths in the second and third or warmer quarters by 12 only: in the previous year the excess was 240. This remarkable difference, in favour of 1881, was due in part to the fact that the climatic conditions were on the whole more favourable to the prolongation of life in the aged, and to the preservation of life in the young: the deaths from chest diseases being below the average, owing to the mildness of the winter, freedom from fogs, &c.

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

DATE OF REPORT.	Death-rate, per 1,000 living.	Decen- nial Average	Mean tem- perature of the air, 1881.	Decen- nial Average.	Tem- perature above or below Average.
For four weeks to Jan. 29, 1881	18·5	21·0	30·6	38·7	— 8·1
„ „ „ „ Feb. 26, „	18·8	21·3	38·5	39·7	— 1·2
„ „ „ „ Mar. 26, „	17·2	20·6	42·9	41·9	+ 1·0
„ „ „ „ April 23, „	18·0	21·2	43·5	45·7	— 2·2
„ „ „ „ May 21, „	15·9	17·8	53·1	51·2	+ 1·9
„ „ „ „ June 18, „	18·8	16·7	58·5	55·4	+ 3·1
„ „ „ „ July 16, „	14·4	16·7	64·4	61·3	+ 3·3
„ „ „ „ Aug. 13, „	16·9	18·6	62·4	62·7	— 0·3
„ „ „ „ Sep. 10, „	13·4	16·8	56·5	61·8	— 5·3
„ „ „ „ Oct. 8, „	13·6	17·1	53·4	53·5	— 0·1
„ „ „ „ Nov. 5, „	14·5	16·6	44·8	47·9	— 3·1
„ „ „ „ Dec. 3, „	16·8	20·0	48·7	41·4	+ 7·3
„ „ „ „ Dec. 31, „	17·4	20·7	39·3	38·4	+ 0·9
Averages (whole year) ...	16·6	18·8	48·8	49·2	



The subjoined SUMMARY of the "CAUSES OF DEATH" shows the number of deaths in 13 groups, according to age, at death, and the number of deaths resulting from the diseases in each "class," according to the Registrar-General's classification. (For details, *vide* Table III., Appendix.)

#### DEATHS REGISTERED FROM ALL CAUSES DURING THE YEAR 1881.

(Exclusive of the Deaths of non-parishioners at the Brompton Consumption Hospital, and of Parishioners in Infectious Disease Hospitals).

CAUSES OF DEATH.	AGES.														Total deaths under Five.	Grand Total	SUB-DISTRICTS.	
	Under 1.	1 to 2	2 to 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 upwards.	Kensington Town.			Brompton.	
(CLASSES)																		
I. ZYMOTIC DISEASES ...	164	72	78	31	14	23	20	16	17	6	11	3	...	314	455	379	76	
II. CONSTITUTIONAL DISEASES ...	81	41	48	27	49	74	81	63	58	28	19	3	...	170	572	467	105	
III. LOCAL " ...	216	97	57	36	27	45	99	127	151	191	111	28	3	370	1188	955	233	
IV. DEVELOPMENTAL " ...	165	15	4	1	1	2	3	...	2	21	45	17	1	184	277	234	43	
V. VIOLENT DEATHS ...	13	1	2	11	4	7	10	6	5	5	3	...	...	16	67	58	9	
CAUSES NOT SPECIFIED OR ILL-DEFINED	3	...	...	...	...	1	1	2	1	1	...	...	...	3	9	7	2	
	642	226	189	106	95	152	214	214	234	252	189	51	4	1057	2568	2100	468	

## SPECIAL CAUSES OF DEATH.

## CLASS I.—ZYMOTIC DISEASES.

Having already (at page 11) treated of the deaths from the principal diseases of the zymotic class, I now proceed to offer some remarks on the mortality from the remaining diseases in this "Class," which comprises four "Orders," the first being designated "MIASMATIC."

*Croup* was the registered cause of 18 deaths, all but one in the Town sub-district, and 16 of them of children under five years of age.

*Erysipelas* was the cause of 10 deaths, all but one in the Town sub-district, and one only under 5 years of age.

*Puerperal Fever* (*Metria*) was the registered cause of 8 deaths, a smaller number than usual, and all in the Town sub-district. Two of the deaths were of women between 15 and 25 years of age, 5 between 25 and 35, and one over 35. The deaths of six women between 15 and 35 years of age, including one in Brompton, were registered as having occurred in *Childbirth*. The distinction between the deaths in these two classes of cases is, that whilst *Metria* is a specific and contagious disease, death in *Childbirth* may be usually regarded as accidental, the common cause being hemorrhage ("flooding.") The total deaths registered as having been occasioned by the diseases and accidents associated with parturition (14) were equal to 0·3 per cent. on the registered live births.

*Rheumatism* was the cause of 23 deaths—one only under five years of age: 19 in the Town sub-district, and 4 in Brompton. In the majority of fatal cases of rheumatism the immediate cause of death is disease of the heart arising in the course of the malady, and many of the deaths from heart disease that occur in the later periods of life, might justly be ascribed to rheumatism as primary cause, though the connexion may have been overlooked, and is not recognised in the medical certificate of the cause of death.



ORDER 2.—ENTHETIC.—*Syphilis* in some form or other, generally hereditary, was the registered cause of 14 deaths: 10 in the Town sub-district, and 4 in Brompton. Eleven of the victims were infants under one year old. Probably if the truth were known this Protean malady was accountable for a much larger number of deaths. *Stricture of the Urethra* occasioned two deaths in the Town sub-district.

Order 3.—DIETIC.—Deaths registered 26, viz., from *Want of breast milk*, 8; *Purpura and Scurvy*, 3, and *Alcoholism*, 15; the registered cause in 5 cases being *delirium tremens*, and in 10 cases *intemperance*. Twelve of the deaths attributed to the abuse of alcohol occurred in the Town sub-district. It is hardly necessary perhaps, to say that if all the deaths due directly and indirectly to the immoderate use of intoxicating liquors could be ascertained “Alcoholism” would occupy a much more important position in the “Bills of Mortality;” but many deaths due to the abuse of alcohol get registered as having been caused by visceral and degenerative diseases, secondary in their character, which have been caused or aggravated by “drink.” Man’s ingenuity in the discovery of alcohol is accountable for a large share of the misery of his race. “Drink” is the fruitful parent of vice and crime as well as being the cause of much bodily sickness, mental trouble, moral degradation, ruin, and of many premature deaths: it fills our prisons and workhouses, our asylums, our hospitals, our cemeteries and, though happily to a decreasing extent, our National Exchequer!

Order 4. PARASITIC.—Ten deaths, 9 in the Town sub-district, and seven of them in the first year of life, were caused by *Aphtha* (*Thrush*), and one by *Worms*.

#### CLASS 2. CONSTITUTIONAL DISEASES.

The second great Class in the Registrar-General’s classification, viz., Constitutional Diseases, comprises the causes of 572 deaths, nearly 20 per cent. of total deaths: 467 in the Town sub-district, 105 in Brompton, and 170 under five years of age. The number in 1881 was 571. The class includes two orders (1) diathetic 130 deaths (2) tubercular (or scrofulous), including phthisis, 442 deaths.



Order 1. DIATHETIC.—The fatal diseases were *Gout*, 4 deaths; *Dropsy*, 7 deaths, *Mortification*, 7 deaths, and *Cancer* 112 deaths, viz., 79 in the Town sub-district, and 33 in Brompton. The deaths from Cancer appear to be on the increase, the numbers in the previous 7 years having been 67, 74, 69, 88, 79, 95 and 90. The deaths from this disease in Brompton are more numerous in proportion to population than in the relatively poorer Town sub-district. Cancer is quite as common among well-to-do people, or even more common, considering how limited are the numbers in this class, than amongst the poorer classes. The parts of the body most commonly affected are the viscera or internal organs; in women, the uterus and the breast, the malady being most common in later life. Ninety-four of the deaths took place at ages above 45. It may be right to mention that in Table 3 the deaths of persons who had cancer are classified to Cancer irrespective of the question whether any other disease was named in the medical certificate, and of the question whether cancer was the immediate cause of death.

Order 2. TUBERCULAR.—The diseases included in this Order are amongst the most important with which sanitarians have to deal, and the degree to which they prevail in a given district may be regarded, in some sort, as a test of the healthiness or otherwise of the people. Generally hereditary, these diseases are nevertheless susceptible of considerable amelioration under improved hygienic arrangements. *Scrofula* is unknown in Hygieapolis! Sunlight and pure air; efficient drainage and its corollary, a dry sub-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 squalor and dirt, by cold and nakedness, by vice and intemperance, by the want of the proper necessities of life, by over-crowding in ill-constructed, unventilated, and sewage-tainted houses, and, in a word, by whatever is inimical to the maintenance of a typical condition of health. The cases that occur in the well-to-do classes, it has been the custom to say, are usually traceable to the influence of heredity, but modern researches, which have thrown great light on the origin of tubercle, raise a presumption that tuberculosis may be really an infectious disease, a specific fever of slow progress with a veiled resemblance



to other specific eruptive fevers, and they encourage the hope that in time a remedy may be found for this great scourge of the human race. The diseases in this order were the registered causes of 442 deaths, viz., 374 in the Town sub-district, and 68 in Brompton, 169 of the deaths being of children under five years of age. The numbers in the four quarters of the year respectively were 111, 126, 104 and 101 ; 212 in the winter and 230 in the summer quarters. Not uncommonly "phthisis" is returned as the cause of death in the earliest infancy, a period of life at which tubercular disease usually manifests its presence in other parts of the body, *e.g.*, brain and bowels, rather than in the lungs. Such deaths are here classified with those properly certified due to *scrofula and tuberculosis*, the total being 48, of which 35 occurred under five years of life, and only 3 were registered in the Brompton sub-district. *Tabes mesenterica*, popularly known as "consumption of the bowels," was the cause of 59 deaths (56 under five years of age) : 13 of them in Brompton. *Hydrocephalus* (water on the brain), and *Tubercular meningitis* were the causes of 91 deaths—11 in Brompton, and 76 under five years of age. *Phthisis*, the variety of the malady known as "decline" or "consumption," was the cause of 244 deaths, irrespective of the deaths of non-parishioners at the Consumption Hospital, which will be referred to later on. Two of the deaths occurred under five years of age, six between 5 and 15 ; and 231 between 15 and 65, viz., 42, 65, 67, 40 and 17, in the five decades respectively : five deaths were registered at ages over 65. The quarterly numbers were 56, 70, 47 and 71 ; of the total, 203 belong to the Town sub-district, and 41 to Brompton. The deaths from tuberculous diseases generally were disproportionately more numerous in the Town sub-district, less than a sixth having occurred in Brompton, which contains little more than a fourth of the population—a fact which may be explained in part by the relatively small proportion of children, and of the poorest classes, in this sub-district. It is probable, however, that the deaths ascribed to tubercular diseases do not comprise all the deaths that might justly be attributed to diseases indicating the tubercular diathesis, and that many deaths of young children classified to such causes as *premature birth, atrophy, debility, convulsions, &c.*, are primarily due to the scrofulous taint. In many instances



other diseases, *e.g.*, of the lungs—bronchitis, pneumonia, &c., are associated with phthisis in medical certificates of the cause of death, but all such associated diseases are here disregarded: when phthisis is returned, the death is classified to that heading, it being assumed that the tubercular trouble was underlying the other disease or diseases, and was in fact the primary cause of death.

### CLASS 3. LOCAL DISEASES.

The diseases in this great Class, comprising eight Orders named after the systems or organs to which the diseases relate, are accountable for 1,186 deaths, or 43·5 per cent. of the total number of deaths; 953 were registered in the Town sub-district, and 233 in Brompton: 370 were of children under five years of age.

Order 1. NERVOUS SYSTEM.—Diseases of the nervous system were the registered causes of 305 deaths, 241 in the Town sub-district, 64 in Brompton, and 96 under five years of age. The quarterly numbers of deaths were 90, 76, 70 and 69. *Cephalitis*, inflammation of the substance of the brain—*meningitis*, already referred to, being inflammation of the membranous coverings of the brain—was the cause of 9 deaths, all in the Town sub-district. *Apoplexy and Paralysis*, diseases for the most part of the later periods of life were the causes of 139 deaths, viz., 95 and 44 respectively; of these 139 deaths, 98 were registered in the Town sub-district, and 41 in Brompton; 129 of the deaths occurred at ages over 45. *Convulsions*, a symptom present in many diseases, rather than a disease of infancy—being often moreover a result of simple functional disturbance, was returned as the cause of 83 deaths—82 of them under five years of age, and 67 in the first year—77 in the Town sub-district, and 6 only in Brompton. Convulsions as a cause of death is frequently associated in medical certificates, with specified diseases and with “teething,” the convulsions being a symptom only; such deaths are classified to the primary diseases named, or to dentition as the case may be.

Order 2. ORGANS OF CIRCULATION.—The deaths due to diseases of the organs of circulation—heart and blood vessels, were 158; 124 in the Town sub-district, and 34 in Brompton, the



quarterly numbers being 40, 41, 36 and 41. One hundred and fifty of the deaths were classified to "*Heart Disease, etc.*" *Pericarditis and Aneurism* were returned as the causes of 1 and 7 deaths respectively. Twenty-three of the deaths occurred at ages under 35 (not one under five years), 25 between 35 and 45 : and 31, 27, 34, and 17 in the four next ascending decades, and one death above 85 years of age.

Order 3. RESPIRATORY ORGANS.—The deaths from the diseases of the chest (excluding phthisis) were 518, or 19 per cent. of total deaths—428 in the Town sub-district, and 90 in Brompton. The quarterly numbers were 180, 137, 50 and 151, or 331 in the first and fourth or colder quarters, and 187 in the second and third or warmer quarters. The deaths under five years of age were 238, about 46 per cent., and at 55 and upwards, 175 or nearly 34 per cent., of the total number. These diseases are thus seen to be most fatal at the extremes of life : but the extent of the mortality varies considerably in different years, depending on temperature, and on the character, generally, of the season, the diseases being far more prevalent in cold than in mild winters, and most fatal when with cold, fog, especially "London" fog, is associated. The diseases in this order include *Laryngitis*, 11 ; *Pleurisy*, 9 ; *Asthma*, 7 ; "*Lung Disease, etc.*," 34 ; *Bronchitis*, 353 ; and *Pneumonia*, 99. The two latter diseases therefore, and they often occur together, were accountable for 452 deaths (including 217 under five years), and of this number 74, or about one-sixth only, occurred in Brompton. There were five deaths registered from *spasm of the glottis*, which I have included in this order for want of a better place, but as the deaths were of infants "found dead in bed," it is probable that the title has little more meaning than "want of breath" as a cause of death ; and indeed want of breath is the cause of death when death results from spasm of the glottis. In the absence of other apparent cause of death, the pre-existence of spasm of the glottis, may have been inferred, but it is quite possible, to say the least of it, that some of the children may have been "overlaid," *i.e.*, suffocated—a remark that applies equally to deaths attributed to *convulsions*, when the children have been "found dead in bed." The cause of death in such cases—whether spasm of the glottis or convulsions



be returned, can be only guessed at when the child has not been seen to die, for examination after death would not disclose the existence of spasm during life, and there is no pathological condition which would enable one to say positively that the child had suffered, still less that it died, from convulsions.

Order 4. DIGESTIVE ORGANS.—The diseases of the organs concerned in the digestion of food were the causes of 119 deaths, 26 under five years of age, 94 in the Town sub-district, and 25 in Brompton. There were 11 and 18 deaths from *Enteritis and Peritonitis* respectively; from *Hernia* 7, *Intussusception* (including obstruction of the bowels) 14; *Jaundice* 11 (including 6 of infants newly born), and *Liver disease, etc.*, 33.

Order 5. URINARY ORGANS.—Of the 67 deaths from the diseases of the urinary organs, 4 were of children under five years of age; 49 were registered in the Town sub-district, and 18 in Brompton. The diseases enumerated, and the number of deaths were, *Nephritis*, 11; *Bright's disease*, 23; *Diabetes*, 13; *Calculus* (Stone) 1; *Cystitis* (inflammation of the bladder), 9; and "*Kidney disease, etc.*," 10.

Order 6. ORGANS OF GENERATION.—Deaths 8, viz :—From *Ovarian Dropsy* (or other ovarian disease) 5; and from "*Uterus disease, etc.*," 3.

Order 7. ORGANS OF LOCOMOTION.—One death from "*Joint disease, etc.*"

Order 8. INTEGUMENTARY SYSTEM.—The deaths from diseases classified to this order were 10, viz : from *Phlegmon* (Abscess), 6; and from "*Skin disease, etc.*," 4.

#### CLASS 4. DEVELOPMENTAL DISEASES.

This class, which contains four Orders, comprises the diseases (1) of children, (2) of adults, (3) of old people, and (4) of nutrition. The deaths were 277, including 184 of children under five years of age—165 under one year. Two-hundred-and-thirty four of the deaths were registered in the Town sub-district, and 43 only in Brompton.



Order 1. DISEASES OF CHILDREN.—The deaths classified under this heading were 76, and all but one were of children under five years of age; 13 of the deaths took place in the Brompton sub-district. The diseases, so-called, were *Premature birth*, 43; *Cyanosis* (malformation of the heart,) 8; *Spina bifida*, 7; “*Other malformations*,” 1; and *Teething*, 17.

Order 2. DISEASES OF ADULTS.—The only cause of death under this heading is *Childbirth*, already referred to under the heading Puerperal Fever, as the cause of 6 deaths.

Order 3. DISEASES OF OLD PEOPLE.—Under this heading we have “*Old Age*” as the cause of 86 deaths, 2 of them between 55 and 65; 21, 45 and 47 in the next three decades, and one of a female at 103 years of age.

Order 4. DISEASES OF NUTRITION.—*Atrophy and Debility* (to which might be added *Inanition*, *Marasmus*, and other more indefinite “diseases,”) were the causes of 108 deaths, all under five years of age—99 in the first year of life: only 11 of the deaths were registered in Brompton. I have already under the heading “*Tubercular diseases*” expressed my opinion that many of the deaths classified to atrophy and debility might more properly be classified to tuberculosis in some form or other. Others of the deaths might not less justly be referred to privation or starvation, being primarily due to want of proper food, the children having been “brought up by hand” on farinaceous, or other unsuitable diet. It will be well when physiology shall have been added to the curriculum, especially in elementary schools, for nothing can well exceed the ignorance which now prevails among the people in respect of the laws of life, and of the conditions necessary for the rearing of a healthy offspring.

#### CLASS 5. VIOLENT DEATHS.

Sixty-seven deaths, including 16 under five years of age, are distributed over the four orders comprised in this class, 7 of them belonging to the Brompton sub-district.

Order 1. ACCIDENT OR NEGLIGENCE.—Total deaths 51, including 4 in Brompton, and 15 under five years of age, viz. from

*Fractures and Contusions*, 18 ; *Burns and Scalds*, 9 ; *Poison*, 2 ; *Drowning*, 3 ; *Suffocation* (generally of infants "overlaid") 15, including 12 under one year ; " *Otherwise*," 4.

Order 3.\* HOMICIDE.—" MURDER AND MANSLAUGHTER," 3.

These sad figures might have been swelled by the addition of six deaths, from burning or suffocation, of persons who met with their death in a house at Portobello Road, which was wilfully set on fire by the occupier, for the sake of a paltry sum of money which he hoped to secure under a policy of insurance. The cause of these deaths was returned by the Coroner simply under the heading, "Wilful Murder," but the actual cause of death was as above mentioned, burning or suffocation. The "murderer" after being condemned to die, had his sentence commuted into penal servitude for life.

Order 4. SUICIDE.—Of the 13 suicidal deaths, including 3 in Brompton, *Poison* was the lethal agent in two only ; *Wounds*, 5 ; *Hanging*, 4 ; *Drowning*, 1 ; " *Otherwise*," 1.

Nine deaths, including 3 under five years of age, of which two only were registered in the Brompton sub-district, have to be classified to " *causes not specified or ill-defined*," not necessarily that the causes were not specified, or that they were ill-defined, for, in some cases the specified causes of death were well defined, but no place could be found for them in the above classification.

## DEATHS IN PUBLIC INSTITUTIONS.

The "large public institutions" in which we are locally interested are the Parish Infirmary and Workhouse in the Town sub-district, and the Hospital for Consumption and Diseases of the Chest, in the Brompton sub-district. There are numerous minor public or *quasi*-public institutions, but, with one exception, they do not furnish occasion for notice. The excepted institution is

---

\* Order 2, comprising violent deaths in battle is omitted as inapplicable to the civil population.



St. Joseph's House, at Portobello Road, Notting Hill—a Roman Catholic Home for some 250 aged poor persons of both sexes, brought from various parts, and principally from Ireland if one may judge from the large proportion of deaths of Irish persons. The Registrar General, however, does not regard St. Joseph's House as a public institution. The New Infirmary at Notting Hill, for the Sick Poor chargeable to the rates of the Parish of Marylebone, was opened in June, and contains some 700 beds. The deaths of non-parishioners at that Institution have been entirely ignored in our statistics, but will furnish occasion for a few remarks in a subsequent paragraph. The deaths registered at the Parish Infirmary and Workhouse, at the Brompton Hospital, and at the Hospitals of the Asylums Board were 437, or 16 per cent. on total deaths, the percentage proportion of deaths in public institutions in the Metropolis generally being 20·8. The deaths at the Marylebone Infirmary would raise the percentage in Kensington to the Metropolitan rate, 20·8.

THE PARISH INFIRMARY AND WORKHOUSE.—I am indebted to Mr. H. Percy Potter, the Medical Superintendent of the Infirmary, and the Medical Officer of the Workhouse, for the statistics of mortality of these institutions. The deaths, 273, were 37 more than in 1880, and more than 10 per cent. of the total deaths registered in the Parish. Males 134, females 139: 80, 86, 54, and 53, in the four quarters respectively. One hundred and thirty-three of the deaths occurred in the first and fourth or colder quarters of the year, and 140 in the second and third or warmer quarters, an inversion of the usual order of things, as the deaths at workhouse infirmaries, where so many aged persons die from chest affections, are, as a rule, more numerous in winter than in summer. The ages at death were:—Under 1 year, 42; between 1 and 60, 116; at 60 and upwards, 115. Six inquests were held, the verdicts in four cases shewing death to have resulted from “natural causes.” There was one suicide, and one homicide, a woman recently confined having thrown her babe out of window during an attack of temporary insanity. Classifying the fatal diseases, it appears that of the deaths, 24 were due to zymotic diseases; to constitutional diseases, 43; local diseases, 161; developmental diseases, 21; violent deaths, 3; other causes, 21.

The causes of death may be otherwise grouped as follows :—

CAUSES OF DEATH.				Under one year.	Between one year and sixty.	Sixty and upwards.	Total.
Nervous System, Diseases of	...	...	...	3	14	13	30
Circulation Organs of	„	...	...	0	9	9	18
Respiration	„	„	...	4	24	36	64
Locomotion	„	„	...	0	1	1	2
Abdominal Viscera	„	...	...	1	14	6	21
Urinary	...	...	...	0	2	3	5
Measles	...	...	...	1	2	0	3
Croup	...	...	...	1	0	0	1
Rheumatism and Gout	...	...	...	0	7	8	15
Diarrhœa	...	...	...	1	2	3	6
Pyæmia	...	...	...	0	0	1	1
Syphilis	...	...	...	2	0	0	2
Want of Breast Milk	...	...	...	4	0	0	4
Dropsy	...	...	...	0	0	2	0
Cancer	...	...	...	0	8	7	15
Mortification	...	...	...	0	1	0	1
Tabes Mesenterica	...	...	...	15	2	0	17
Phthisis	...	...	...	4	26	8	38
Premature Birth	...	...	...	4	0	0	4
Old Age	...	...	...	0	0	17	17
Various Injuries	...	...	...	2	0	0	2
Other Causes	...	...	...	0	4	1	5
				42	116	115	273

THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.  
The deaths in that part of this institution situated in the Parish of Kensington (for the Hospital has extended itself under the Fulham Road into Chelsea Parish), were 109, viz., males 60, and females 49; 24, 20, 30, and 35 in the four quarters of the year respectively; 59 in the first and fourth quarters and 50 in the second and third quarters. The ages at death were :—under 20 years (youngest 7), 23; between 20 and 40, 67; between 40 and 60 (oldest 48), 19. Five of the deaths were of Parishioners. Fifty-five of the deceased had previously resided in the Metropolis;



16 in the suburbs or Metropolitan counties, and 33 in more distant parts of the country. The causes of death as registered, were *Phthisis* (consumption or decline) alone, in 78 cases; *phthisis* associated with other forms of tubercular disease in 9 cases, and with other visceral diseases, chiefly of the lungs and heart in 12 cases; other tubercular diseases 5 cases; and diseases of the lungs and heart 5 cases.

ST. JOSEPH'S HOUSE.—The deaths at this institution were 27, viz., males 9, and females 18: all but two at ages over 60. The fatal diseases were, of the brain and nervous system, including paralysis, 15; of the heart and lungs, 6; other diseases, 6. A female child aged 2, belonging to St. George's Parish, died at St. Elizabeth's Home, Portobello Road.

MARYLEBONE INFIRMARY.—At this large institution, 129 deaths of non-parishioners took place which are not included in our statistics, viz., males 58, and females 71. Sixty-three of the deceased were 60 years of age and upwards. Four deaths from zymotic diseases occurred, viz., from *diarrhæa*, 2; *enteric fever*, and *whooping cough*, each 1; inquests were held in 3 cases, the verdict returned being natural causes, in two cases, and violence in the third: there was a second death from violence, registered as *melancholia*, *burn of arm*.

#### DEATHS NOT CERTIFIED.

Seven deaths were returned as "not certified," the deceased having been attended in their last illness by unregistered practitioners: only two of the deceased had been attended by persons professing to have medical knowledge, viz., unqualified assistants of medical men; in the other five cases, of infants a few hours or days old, midwives had furnished the particulars of the cause of death. In other 22 cases there had been "no medical attendant." Nearly all the foregoing cases were reported to the Coroner, who, after a review of the circumstances as reported to him by his officer, deemed it unnecessary to hold inquests. In 9 of the 27 cases above referred to, the cause of death was brain disease;



tubercular disease, 3; inanition, 3; lung diseases, 3; other visceral diseases, 3; croup and rheumatism, 1 each; natural causes, 6.

The ages at death were, under 1 year, 10; between 1 and 5, 2; between 5 and 60, 7; 60 and upwards, 10. These uncertified deaths were a fraction under 1·0 per cent. of total deaths; the proportion of uncertified deaths in London being 1·3 per cent., and in the rest of England and Wales, 4·6 per cent. In Wales where the population is sparse in many parts, and medical aid too remote to be easily obtained, the proportion was nearly 11 per cent.

The subject of uncertified deaths has, on more than one occasion, been discussed by the Society of Medical Officers of Health, and in December, 1880, the Society, on the recommendation of the Council to which the subject had been referred for consideration, adopted the following resolution—

“That all cases of uncertified death should be reported by the local registrar of births and deaths to the Coroner, who should, when there is no *prima facie* ground for holding an inquest, direct such cases to be investigated by a registered medical practitioner.”

It had been suggested that the duty of making the investigation should devolve on the Medical Officer of Health, as a part of his ordinary work, but the Society did not adopt this view.

Of all the unsatisfactory arrangements connected with the subject of uncertified deaths, perhaps the most unsatisfactory is the responsibility cast on the Coroner's Officer of making a preliminary enquiry, and of being the *de facto* judge whether an inquest should be held in any given doubtful case. The Society at my instance adopted the following resolution bearing on the subject:—

“That in the opinion of this Society, the present system of investigation of deaths referred to a Coroner, viz., by an officer having no special qualification for the discharge of the duty, is unsatisfactory.”

## INQUESTS.

One hundred and forty-eight inquests, 124 in the Town sub-district and 24 in Brompton, were held during the year; the subjects being, males, 84, and females, 64; 38 were under 1 year old, and 21 over 60: the cause of death in 98 cases was ascertained by *post-mortem* examination.



The VIOLENT DEATHS were 67, of which 7 only belong to the Brompton sub-district. The causes of 61 of these 67 deaths are accounted for below. The grounds for holding inquests are, usually, the suddenness of death, or the fact that death was due to violence, or that the deceased had been "found dead."

The causes of death found in the verdicts may be classified as follows;—

Death due to disease	...	...	...	...	...	...	84
„ „ abuse of alcohol	...	...	...	...	...	...	2
„ „ unknown cause, "found dead"	...	...	...	...	...	...	1
Accidental deaths	...	...	...	...	...	...	39
Suicidal	...	...	...	...	...	...	12
Homicidal	...	...	...	...	...	...	10
							—
							148

The diseases may be classified thus:—

Diseases of the brain and nervous system	...	...	...	...	...	24
„ „ organs of respiration and circulation	...	...	...	...	...	50
„ „ „ digestion	...	...	...	...	...	5
Other diseases	...	...	...	...	...	5

The VIOLENT DEATHS were caused as follows:—

Accident.—Suffocation (12, of infants under 1 year)	...	...	...	...	...	14
Poison (chloral 1, muriatic acid 1)	...	...	...	...	...	2
Drowning	...	...	...	...	...	2
Choking	...	...	...	...	...	1
Falls, under various circumstances	...	...	...	...	...	11
Crushed under wheels	...	...	...	...	...	4
Kick by horse	...	...	...	...	...	2
Burns (2 in a house on fire)	...	...	...	...	...	3
Suicide.—By poison (belladonna)	...	...	...	...	...	2
By wound of throat	...	...	...	...	...	4
By hanging	...	...	...	...	...	4
By pistol shot	...	...	...	...	...	1
By fall from a window	...	...	...	...	...	1
By drowning	...	...	...	...	...	1
Manslaughter.—(no details given)	...	...	...	...	...	2
Wilful murder.—By burns and suffocation (arson)	...	...	...	...	...	6
Thrown from a window	...	...	...	...	...	1
No details given	...	...	...	...	...	1

Among the cases described as "sudden," "found dead," &c., there were, as usual, many of persons who had died from ordinary and curable visceral diseases, and it is impossible to resist the conviction that there had been culpable neglect on the part of someone in the failure to obtain medical assistance for the deceased; for the illnesses must have extended over many days, and been attended with obvious symptoms of a more or less serious and painful nature; and there would have been no occasion for inquests had medical certificates been forthcoming. The mere finding of the cause of death by a jury, in such cases, seems scarcely to satisfy 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," equally 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, and who, as a consequence of such refusal, death having ensued, have often been found guilty of manslaughter.

#### METEOROLOGY.

The mean temperature of the air at Greenwich in 1881 was  $48^{\circ}7$  Fahrenheit, or  $0^{\circ}5$  below the averages of 40 years 1841—80. The means of the four quarters respectively were  $37^{\circ}4$ ,  $53^{\circ}5$ ,  $59^{\circ}8$ , and  $44^{\circ}5$ . The highest reading by day ( $97^{\circ}1$ ) was taken in the week ending July 16, and the lowest reading by night ( $12^{\circ}7$ ) in the week ending January 31st, the highest readings in the four quarters respectively being  $59^{\circ}4$ ,  $83^{\circ}9$ ,  $97^{\circ}1$ , and  $63^{\circ}3$ , and of the lowest readings  $12^{\circ}7$ ,  $29^{\circ}3$ ,  $38^{\circ}3$ , and  $21^{\circ}6$ . The hottest week in the year was that which ended July 16 ( $70^{\circ}1$ ), and the coldest week that which ended January 16 ( $23^{\circ}4$ ). July was the hottest month, mean temperature  $65^{\circ}4$ , and January was the coldest month, mean temperature  $31^{\circ}6$ . July was also characterised by the greatest range in temperature—viz.,  $53^{\circ}2$ , from  $91^{\circ}7$  to  $43^{\circ}9$ , while February exhibited the smallest range, viz.,  $27^{\circ}9$ —from  $26^{\circ}1$  to  $54^{\circ}0$ . The dryness of the atmosphere, *i.e.*, the difference between the dew-point temperature and air temperature,



was 5°·7, the average of 40 years being 5°·6. Rain fell on 154 days, the total quantity registered in the year being 25·24 inches, the average of 40 years being 24·7 inches. Most rain fell in August, 3·88 inches, and least rain in April, 0·62 inches. The means of the readings of the barometer were 29·77 inches, the means of February 29·661 inches, and of May 29·929 inches, being respectively lowest and highest.

### VACCINATION.

Table X (Appendix), is a return respecting the vaccination of children whose births were registered during the year 1881, 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 recognise. The return shows a loss of only 3·3 per cent. of the cases, which is better than usual, even for Kensington, the loss in 1880 having been 3·5, in 1879, 4, and in 1878, 5 per cent. It must be remembered, moreover, that the return is only preliminary, the Local Government Board allowing vaccination officers a period of twelve months for the presentation of a final return, in order that the statement, in respect of the 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, in different years, from 6 to 9 per cent. in the Metropolis generally, so that the Kensington return is fully 4 per cent. better than the average.

It is due to the Guardians of the Poor, who are the authority for carrying out the Vaccination Acts, to state that they omit no opportunity of giving effect to the law. Last year, when small-pox was so prevalent, they adopted all practicable means, by house to house visitation, by posters, handbills, advertisements, circulars to medical men, &c., to induce the public to bring up children for vaccination, and to encourage the re-vaccination of persons over 12 years of age, who had not already been re-vaccinated. Mr. Shattock, in an interesting report, dated June 29th, 1881, set out



the results of the house-to-house visitation :—Three hundred and fifty-eight streets were canvassed, containing 8,500 inhabited houses, and 28,939 children in 11,136 families. Of 573 unvaccinated children discovered, 304 were found to have been born in other parishes, but by migration had escaped the Vaccination Officers of those parishes; of 269 cases of children born in Kensington the majority would have been dealt with in ordinary course; in 27 cases, however, the births had not been registered, and in a few instances births had been falsely registered. In every instance discovered of a child, between the ages of 14 years and three months, unprotected by vaccination, notice was at once served upon the parent or person having the custody of the child, requiring compliance with the law within 14 days. In many instances attempts were made to evade by removal, but on the case being followed the law was complied with. The 573 unvaccinated cases were thus accounted for—564 were successfully vaccinated, one was found “unfit;” four were lost sight of, and four were at the date of the report under proceedings to secure compliance with the Act.

“The law making no provision for house-to-house visitation, parents’ statements had to be accepted,” and that these statements were not always to be relied on is proved by the fact that “in numerous instances, after stating that all the children had been vaccinated, the mother attended at the station to have one or two children vaccinated, fearing the consequences of her untruthful statements being found out.” The good effects of the energetic proceedings of the Guardians and their officer were seen in the fact that in 18 weeks 3,283 vaccinations and re-vaccinations were done, as against an average of 720. Thousands of circulars addressed to “heads of families” in the richer parts of the parish, led to the re-vaccination of large numbers of domestic servants. It is said, however, that “mechanics and the labouring classes are apparently careless” about re-vaccination, “even when small-pox has broken out in the house.” To facilitate re-vaccination the Guardians opened a temporary night station at Cathcart Road, in the south district, and made provision for late attendance at the public station in the north district.



THE PROTECTION AFFORDED BY VACCINATION.—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, 1879, 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 cognisance 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 among 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 come to 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.”

---

An interesting and valuable memorandum by Dr. Buchanan, Medical Officer of the Local Government Board, on the recent prevalence of small-pox in London among vaccinated and unvaccinated persons respectively, published as a Parliamentary paper, has been extensively re-produced and commented on in the public press. It tells the same story of the protective power of vaccination and re-vaccination, in another way, and may be read with advantage by all who are sceptical on the subject.

---



The following pertinent observations on the subject, extracted from the Annual Summary of the Registrar-General's Weekly Returns for 1881, will be read with interest :—

"In 885 of the 2,371 fatal cases of Small Pox, no reliable statement was made as to previous vaccination or non-vaccination. Of the remaining 1486 only 524, or 35·3 per cent., were certified to have been unvaccinated.

The age-distribution differed very remarkably among the vaccinated and among the unvaccinated, as is seen in the following table, which gives the distribution in each group per 1,000 deaths.

AGE DISTRIBUTION OF VACCINATED AND UNVACCINATED FATAL CASES OF SMALL-POX.

	All Ages.	0.-	1.-	5.-	20.-	40.-	60.-
Vaccinated .....	1,000	25	27	223	551	153	21
Unvaccinated .....	1,000	138	244	360	206	48	4

"Of the deaths among the unvaccinated, speaking roughly, three quarters occurred before the age of 20, while of the deaths among the vaccinated, three quarters occurred after the age of 20. Thus, taking the age of 20 as the dividing point, the figures were almost exactly inverted in the two classes. The explanation is obvious. The vaccinated are protected in youth, and especially in childhood, but at later stages become more assailable, owing to the gradual weakening of their protection and its non-renewal by re-vaccination. The unvaccinated, on the other hand, are least protected in infancy and childhood, for at the later periods of life an increasing proportion of them has become protected by attacks of small-pox."

ANIMAL VACCINATION—CALF LYMPH.—A common objection to "arm to arm" vaccination is based on the fact that the lymph is passed through the human system, and therefore, it is said, may transmit disease; the dangers attending the use of humanised lymph, however, are so trifling as to be practically inappreciable. Nevertheless, and as it is desirable to remove, as far as possible, every obstacle to vaccination, it is satisfactory to know that the Local Government Board have made arrangements to give people the option of having their children vaccinated with calf-lymph at the public vaccination stations. The Government moreover will supply medical practitioners with "stock" lymph to enable them to start a series of vaccinations, leaving them to keep up their supplies, if they can, afterwards. The use of animal lymph is common on the Continent, and the system has been carried to great perfection at Brussels under the direction of M. Warlomont, who sends supplies of lymph to this country regularly, and whose tubes and



charged ivory points can be purchased at a moderate rate. A station, moreover, has been established by a private medical practitioner in the Marylebone Road, for the supply of calf lymph, and where persons can be vaccinated direct from the calf.

### 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 amendments being carried out at their instance, and under their supervision, without recourse to forms which take up time, and are, indeed, unnecessary when an owner or occupier is willing to follow good advice. 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, should it become necessary to take out a summons. In cases of infectious disease treated at home under circumstances that may endanger the spread of disease, through the omission of proper precautions, numerous visits are paid to the infected house, for which it has not been customary, until lately, to take credit. The total of "sanitary orders" issued does not include any of the cases in which work has been done by the owner or occupier at the request of the Inspector.

During the last four years the abatement of nuisances has been accelerated by the plan of serving "preliminary notices" upon the parties liable, immediately on discovery. These notices are generally as effectual as the more formal notice which, previously, it had been the rule to serve only after the nuisance had been reported to the Works, Sanitary, and General Purposes Committee, and upon confirmation by your Vestry of the recommendation of the Committee. When the notice is not complied with, recourse is had to a summons before a magistrate, a step which, when necessary, should always be taken with the least possible delay.

In a previous 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." The delays were simply intolerable. I am able to bear witness to a great improvement in this respect, since 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 devoted by them to the administration of justice, and for the useful work they have done by their decisions in helping forward sanitary improvement.

During the year ended March 25th, 1882, summonses were issued in 104 cases, and "Orders" for giving effect to your Vestry's Notices were made by the magistrates in nearly every instance. Frequently one summons covered several requirements, as would be inferred from the following summary of works carried out under the "Orders."

In connection with water supply, magistrates' orders were made as follow:—In 14 cases to provide an adequate supply where none existed, generally because the water had been "cut off"; for the provision of new cisterns in lieu of old water butts, for the repair of defective cisterns, covering of cisterns, repair of supply apparatus, abolition of waste-pipes, &c., 18; for the rectification of water-closet accommodation, including provision of water supply, 36; for the construction or amendment of drainage, cutting off wastes from drains, &c., 17; and in 17 for cleansing and white-washing houses, for repairing structural defects usually, of the roof, 8; for the provision or repair of ashes receptacles 10, and for paving a courtyard 1. Penalties for neglect to carry out the requirements of your Vestry were inflicted in most of the cases, generally nominal in amount, but in some cases as high as £5; in other cases the works having been done, or mitigating explanations having been offered, the defendants were let off on payment of costs. Several orders were made for the removal of offensive accumulations of animal and vegetable refuse, dead animals, &c., and in two cases fines of £2 were imposed for neglect to remove manure periodically, as required by the regulations. Orders were



made in two cases prohibiting the use of houses "unfit for human habitation" by reason of insanitary conditions. A pig-keeper in the Potteries was fined ten shillings for keeping swine on prohibited premises, two proprietors of licensed slaughter-houses were fined £3 each for breach of the regulations made by the Local Authority under the provisions of the Slaughter Houses (Metropolis) Act, 1874, and heavy penalties, even as high as £10, were imposed on several persons for neglect or refusal to obey the magistrates' orders for the execution of sanitary works, or for the abatement of nuisances: there were 17 instances of such disobedience in the course of the year.

### THE LICENSED SLAUGHTER-HOUSES.

The licensed slaughter-houses are 29 in number, 20 of them being situated north of Uxbridge Road, and 9 in the remainder of the parish south of that road. (*Vide* Table XI., Appendix, for localities of premises and names of licensees).

The several premises were inspected in the month of July by the Works, Sanitary and General Purposes Committee, who reported *inter alia*, as follows:—

The several premises were found in good structural repair, and, on the whole fairly clean. On no previous occasion have your Committee seen so little slaughtering going on; and, according to the statements of the licensees, few of them have been killing to any great extent for some time past, whilst others have depended entirely on the dead-meat markets.

At several of the slaughter-houses there was an insufficient number of "tubs, boxes, or vessels" for "receiving and conveying away manure, garbage, offal, filth, . . . and blood," and in some cases the receptacles had not "tight and close-fitting covers." It appeared that the vessels originally provided had become worn out, or so battered that the covers would not fit, or that the covers themselves were defective and useless, and that no steps had been taken to provide new receptacles or new covers. The attention of the licensees should be drawn to the provisions of the 5th Bye-law, which deals with this matter.

Your Committee note with satisfaction that every slaughter-house now appears to be drained with an "appropriate trap" of the syphon kind, and that, with one or two exceptions, the grating over the gulley is fixed. In some instances, however, the spaces between the bars of the grating is greater than allowed by Bye-law 16, viz.,  $\frac{3}{4}$  inch.

Your Committee note with satisfaction also that increased attention appears to be now given to the watering of the animals in the lairs, but in very



few instances has a permanent receptacle for water been provided, or the water laid on to the lairs as recommended by your Vestry.

At the last Licensing Sessions in October, 1880, reference was made to the difficulties the licensees experienced in getting offal, blood, &c., removed from the slaughter-houses, as required by the Bye-laws; and subsequently a large number of the licensees addressed a memorial to your Vestry on the subject, in which they say:—"For some time the trade has laboured under the greatest difficulty with regard to the removal of offal and manure, . . . and as this difficulty is on the increase we trust the Vestry will take some immediate steps to arrange for carts to call at the slaughter-houses in the early part of the morning, and convey the refuse to some proper place where it can be deposited."

This memorial was referred to your Committee, which resolved to defer the consideration of it until after the publication of the report of the sub-committee of the Wharves and Plant Committee, which had then lately gone to Leeds to inspect the working of "Fryer's Destructor"—it being the general opinion that some such apparatus might be made available for the destruction of the offal, manure, &c., if no scheme for the utilization of these matters without nuisance could be devised.

Having had this subject recalled to their attention, your Committee made particular enquiries of the licensees, with the result of satisfying themselves that the difficulty complained of is a substantial one, and one which the individual licensees cannot surmount, except at considerable expense, viz., by removing the offal, &c., themselves, as some of them do. Here and there a licensee appeared to get rid of his offal without payment, but, as a rule, payments are made ranging from three to fifteen shillings per week. The licensees generally, still desire, and appear quite willing to pay for, your Vestry's assistance. The carts that collect the offal, manure, &c., appear to come round somewhat irregularly, and not often enough for compliance with the Bye-laws; and what is worse, they do not, as a rule, convey away the refuse in the covered receptacles, but the contents of these are emptied into the carts. This fact may help to explain the intolerable nuisance that arises in the passage of animal refuse carts through the streets—a subject which is deserving the attention of the Law and Parliamentary Committee, with a view to the provision of a Bye-law under the Kensington Improvement Act to regulate the removal of "offensive matters." In some instances the blood is in like manner turned into barrels placed in carts, having been temporarily stored in pails without "close-fitting covers thereto," supplied by the people who collect it, when it is not deposited with the offal, &c., as often happens, contrary to the requirements of the 5th Bye-law. What happens in Kensington probably happens elsewhere. Anyhow, as regards this parish, it is hardly too much to say, perhaps, that in the majority of the slaughter-houses breaches of the 5th Bye-law are of frequent occurrence. This 5th Bye-law is, perhaps, the most important, having been framed with a view to the prevention of nuisance



in carrying on a business which must always be a cause of nuisance unless great care is observed in complying with the regulations.\*

That there might be no mistake as to the object of the Bye-law, its requirements are still further enforced by the 10th Bye-law, which requires every product of the slaughtering of cattle to be removed from the premises before the same "have become putrid or offensive."

In the light of these facts it is surprising to read in the last Annual Report for 1880, of the Metropolitan Board of Works—The Local Authority under the Slaughter-Houses (Metropolis) Act, 1874—that "in only one case during the year was it found necessary to take proceedings against the owner of a licensed slaughter-house for a breach of the Board's Bye-laws." The licensed slaughter-houses in the Metropolis, it may be mentioned, are 903 in number.

At some of the licensed premises a dog is kept, contrary to provisions of Bye-law 2. Your Committee do not suggest any action to be taken with reference to the matter, although the apparent object of the Bye-law was to prevent unnecessary defilement of the premises, and a possible cause of obstruction to the Board's Officers when inspecting a slaughter-house.

Your Committee found that the licensed premises had in some instances changed hands since the license was granted, and the licenses not having been transferred, the occupiers were slaughtering without a license, contrary to the provisions of the 93rd Section of the Metropolis Local Management Act (25 and 26 Vict., c. 102). In one instance the occupier had possession of the license granted to his predecessor; in another case the occupier had not even this semblance of authority for carrying on his business.

Your Vestry had given formal notice of opposition to the renewal of three licenses with a view to bring under the notice of the Magistrates the fact that the applicants had been slaughtering for some months without a license, they having taken over businesses,

---

\* The Bye-laws read thus :—

"The occupier shall provide and keep a sufficient number of tubs, boxes, or vessels formed out of proper non-absorbent materials, with tight and close-fitting covers thereto, for the purpose of receiving and conveying away all manure, garbage, offal, and filth; and shall in all cases, immediately after the killing and dressing of any cattle, cause all such manure, garbage, offal, and filth to be placed in such tubs, boxes, and vessels; and shall cause all the blood arising from the slaughter of cattle to be put into separate tubs, or vessels formed with the like materials as above, with close-fitting covers, and every such tub, box, and vessel, together with their contents, to be removed from the premises within 24 hours."



and neglected to obtain transfers of the licenses. The applicants, however, did not appear when the Kensington cases were called on, and whilst your Vestry's Officers were present in the Court: but they subsequently put in an appearance, and obtained their licenses without difficulty or question.

The Committee recommended the institution of proceedings in three cases against the licensees for breaches of the Bye-laws. The proceedings were taken in two of the cases (in the third case the license was transferred to another person) and the Magistrates inflicted a penalty of £3 with costs in each case.

---

It may be mentioned that at the date of the passing of the Slaughter-Houses Act in 1874, there were some 1,429 slaughter-houses in the Metropolis: at the end of 1881 there were only 880. In Kensington the reduction has been from 54 to 28: the business of a slaughterer of cattle has not been "established anew" in the parish since 1874. A society has been started in the Metropolis with the object of furthering slaughter-house reform, viz., by the provision of public abattoirs, and the promotion of painless methods of slaughtering. It has my best wishes for its success, although I felt unable to accept an invitation to occupy a seat on the Committee.

### THE LICENSED COWSHEDS.

The licensed cowsheds are 22 in number, viz., 15 in the district north of Uxbridge Road, and 7 in the remainder of the parish south of that road. (*Vide* Table xii, Appendix for localities of premises and names of licensees.) The several premises were inspected in the month of September, by the Works, Sanitary, and General Purposes Committee, who reported on them *inter alia* as follows:—

"In a Report on the Cowsheds by your Committee, dated August 4th, 1880, reference was made to Provision 7 of the Regulations made by the Metropolitan Board of Works (as "Local Authority" under the *Contagious Diseases (Animals) Act*, 1878), which requires that "every cowshed shall be well paved with Stourbridge or other impervious brick, or other impervious material, set with cement, properly bedded on concrete, with a proper slope towards a gully-hole;" and it was stated that "with here and there an exception, this provision has not been carried out. The



paving of many of the sheds is irregular, and, beyond slight reparation, has undergone no improvement in the majority. Speaking generally, the paving is usually of bricks which are not impervious; the bricks are not set in cement; the jointing is more or less defective, and it is probable that in nearly all cases the paving is not bedded on concrete." Your Committee recommended that "the attention of the Board be called to this subject without loss of time, in order that they may be enabled to require compliance with the regulation before the licensing day" (Oct. 26th, 1880), it appearing to your Committee that "a question of such great importance should . . . be left to the Local Authority to deal with.

The Board's attention was called to the subject in August, 1880, and in a reply dated 15th October, the Board practically disclaimed power to carry out the provisions of their own regulations, intimating that "such provisions are only intended as a standard or a guide, having no legal force beyond what is given by Section 6 of the *Dairies, Cowsheds, and Milkshops Order of July, 1879*," which, it may be mentioned, makes it "unlawful for any person following the trade of a cowkeeper . . . to occupy as . . . a cowshed any building . . . if and as long as the lighting and the ventilation, including air space, and the cleansing, drainage, and water supply thereof, are not such as are necessary or proper (a) for the health and good condition of the cattle therein . . . and (b) for the protection of the milk therein against . . . contamination."

Now, as the Board have framed these regulations under powers conferred by the Act and the "Order," and anything done in contravention of a regulation of a "local authority" constitutes an offence which renders the offender liable to a penalty not exceeding twenty pounds, the question arises, whether the "provision" of the regulations above referred to goes beyond the powers of the Board lawfully to have made and to enforce? Your Committee are of opinion that it does not, for no one acquainted with the subject can reasonably question the necessity of the "provision" of a sloped and impervious flooring, for the proper "drainage and cleansing" of the cowshed, or for the preservation of the "health and good condition of the cattle therein," or for the "protection of the milk therein against contamination."

Be this as it may, the Board have not interfered, and therefore your Committee have again to report that, as respects the flooring of nearly all the cowsheds, the "paving" does not come up to the requirements of the provision of the regulations, and is still just as defective as before the publication of the "Order."

If the Board cannot enforce their regulation, it may be doubted whether your Vestry can do so? But as it is a sanitary question, your Committee are of opinion that, directly or indirectly, your Vestry should be able to effect improvements; and in any case it is desirable that the attention of the Sanitary Inspectors should be kept directed to the matter with a view to obtain such amendments of the paving from time to time as may



be found practicable. Should the paving of the sheds ever be re-constructed in conformity with the provision of the regulations, viz., with a "proper slope," it would be practicable, generally, to place the gully-hole outside the shed—a desirable improvement, for now the gully is usually in the channel within reach of the hoofs of the cows, and thus the grating is liable to get broken, and it is often obstructed with excrement, &c.

The drainage of the sheds, so far as your Committee could judge, appears to be fairly satisfactory ; but in many instances the gully-hole is neither "covered with a fixed or locked grating," nor trapped by "an appropriate trap." At several sheds new traps have been provided ; nevertheless, the practically useless "bell-trap" is still too commonly found, and an effort should be made to secure the substitution of a syphon trap and a fixed grating with the least possible delay.

The water cisternage at most of the sheds appears to be up to the very modest requirements of the 8th Provision, viz., 12 gallons per cow ; but this amount is totally insufficient ; and why the amount was fixed so low it is difficult to understand, seeing that the water companies profess to supply, for domestic consumption alone, upwards of 30 gallons per diem for each inhabitant of the Metropolis. The supply at a few sheds, *e g.*, in Blechynden Mews and Archer Mews, appears to be below the requirement, having regard to the fact that the cistern is common to the sheds and to the occupants of inhabited rooms over the sheds.

In one instance the cistern is not of "slate, or metal, or metal-lined," and in several the cistern is not so placed "that the bottom thereof shall be not less than 6 feet from the floor level," as it should be in order to secure a proper amount of pressure for cleansing the sheds by flushing.

Provision has been made generally to have the water-trough or receptacle "supplied with water by means of a pipe communicating with a water tank," but the observations and enquiries made by your Committee, led them to believe that in many instances this arrangement was a mere formality, the cows being watered with pails. The piping should be of great use to secure the efficient cleansing of the troughs.

No alteration appears to have been made in respect of the "stalls or standing places" for cows, and in a few sheds the superficial space is somewhat below the requirements of provision 8, viz.: 8 feet by 4 feet for one cow, or 8 feet by 7 feet for two cows in a double stall.

With respect to cubic or "air space," your Committee have little to report, the question having been finally settled by the magistrates at the last Licensing Sessions, and each shed in the parish being now licensed for a definite number of cows, so that, in the words of the third provision of the regulations, "there shall be an air space of 800 cubic feet in respect of every animal kept, . . . the height of the shed in excess of 16 feet not to be taken into account in estimating the air space."

The magistrates had for several years adopted your Vestry's 800 cubic feet standard in respect of every shed newly licensed in Kensington, and



at the October Sessions, 1879, they announced that any case exceptionally dealt with on that occasion would be brought under the general rule in 1880. And not only did the magistrates give effect to this their resolution in respect of Kensington cowsheds, but they extended the rule throughout the Division, which embraces Chelsea, Fulham, and Hammersmith. Instead of granting a license without reference to the number of cows to be kept, or for such a number as the licensee desired, or the "local authority" or the "nuisance authority" should be pleased to approve, the Bench having ascertained the cubic capacity of a shed, divided the area in feet by 800, thus arriving at the proper number of cows to be kept, and then marking that number on the license.

The 5th regulation, which provides that "the inner walls, doors, and woodwork shall be covered with hard, smooth, and impervious material," has been complied with as respects the walls, but in some sheds the woodwork has not been adequately protected. The first intention of the Board appears to have been that the woodwork should have been covered with metal (zinc), as in the case of slaughterhouses, but it is now reasonably held that the application of tar or indestructible (silicate) paint is sufficient. Many persons prefer limewash to either tar or paint, and when the woodwork is thoroughly cleansed before the application of the (hot) wash, and if this is applied with necessary frequency, it no doubt forms an efficient and satisfactory covering, though it can hardly be described as "hard or impervious."

As respects lighting and ventilation, your Committee have nothing fresh to report. The premises appear to be in much the same state as last year, but the weather having been bright and cool on the day when their inspection was made and the sheds generally half empty, deficiencies in respect of lighting and ventilation were not so apparent as on previous occasions.

The 6th regulation requires provision of receptacles for containing the "dung and litter," which should be constructed of or lined with impervious material. This regulation has been very fairly carried out, but your Committee having observed the great difficulty experienced in emptying some of the receptacles by reason of their depth, and the filthy nature of their contents, would recommend that in such cases the front wall of the receptacle should be replaced by a kerb, so that the receptacle may be thoroughly cleansed without the necessity of the person engaged in the operation getting into the filth. Sunken receptacles should be filled up to the ground level, and the bottom of the receptacle cemented.

Your Committee have much satisfaction in reporting that they found the sheds generally in a good sanitary condition, clean and well kept.

The 22 sheds are licensed for the keeping of 289 cows, but there were only 132 cattle in them at the time of inspection. It was stated however, in respect of some of the sheds, that other cattle were in the fields,



The Committee submitted, in an appendix to their Report, a detailed statement with respect to each of the sheds, "for the purpose of indicating improvements, or the nature of still existing defects."

The several licenses were renewed at the usual time, excepting in respect of premises which had not been amended in accordance with your Vestry's requirements. The recommendation of the Committee that sunken dungpits should be filled up, was complied with in every instance, save one. In this case the license was granted, and acting on the suggestion of the magistrates, your Vestry took out a summons against the licensee in order to ascertain, whether, on sanitary grounds, it was not proper and necessary that the receptacle should be filled up so as to have the bottom on a level with the yard? The magistrates, however, in due course, refused to make the order and dismissed the summons. It may be mentioned that the Justices refused to grant a particular license on it being explained to them that the applicant, who did not keep cows himself, sub-let the sheds belonging to him to two "registered cowkeepers." The case was adjourned so as to enable the tenants to apply in their own names, and they were subsequently duly licensed.

---

COWSHED REFUSE.—Speaking generally, it must be acknowledged that the cowsheds are better kept than they formerly were; more care and punctuality, however, are required in removing the manure through the streets, the vehicles used being unfit for the purpose, and giving rise to effluvium nuisance *in transitu*.

### DAIRIES, COWSHEDS, AND MILKSHOPS ORDER OF 1879.

SANITARY SUPERVISION OF DAIRIES AND COWSHEDS, &c.—The Metropolitan Board of Works are the "Local Authority" under this Order, which "provides for the registration of all persons carrying on the trade of cow-keeper and purveyor of milk, etc.," and under which 11,777 persons have been registered, of whom 955 are the occupiers of licensed cowsheds, the remainder being "dairymen or milk-sellers only." The Board state in their Annual



Report that "in the larger dairies and milk stores much improvement has taken place . . . but it has not been found possible to obtain much improvement in the shops where milk is sold, especially in poor neighbourhoods." Registration appears to be enforced only in respect of shops where milk is the staple article of trade, so that very many "general" shops where milk is but one of a hundred things sold, do not get registered at all. It would involve endless trouble, doubtless, to register, regulate, and inspect such shops, and yet they might easily become the centres for the spread of disease by the sale of contaminated milk, as in case of an outbreak of scarlet fever or typhoid fever on the premises. The Board have taken the very proper step of calling the attention of all persons engaged in the milk trade (other than the hucksters above referred to) to the precautions to be observed for the prevention of infection.

I have always felt it to be an anomaly, that the carrying out of so important an Order should have been entrusted, as a rule, to bodies which have no sanitary machinery. Thus in the Metropolis (City excepted) the Metropolitan Board of Works, as already stated, is the "Local Authority," and in the provinces the county magistrates, by virtue of the provisions of the Contagious Diseases (Animals) Act, 1878. The Board, in London, have delegated the duty of inspection of cowsheds and dairies to a very limited number of officers who have multifarious duties to perform under other Acts; and in the counties the magistrates, almost universally, have entrusted the duty, to what little extent it is carried out, to the police. Arrangements such as these are not calculated to ensure the results intended by the legislature, and they do not satisfy sanitarians, to whose representations the 34th section of the Act, and the Order itself, may be said to be due.

The "Local Authorities" in the provinces, whence most of our milk comes, have always shown themselves keenly alive to the necessity of checking the spread of *animal* infectious diseases, and one could have wished that they had been equally careful to make provision for the protection of human health by measures designed to prevent contamination of milk, as required by the 9th section of the Order, viz., by prohibiting any person suffering from an infectious disease, or having been in contact with a person s<sup>o</sup>



suffering, from taking part in the conduct of the business of a cowkeeper or a dairyman. Cattle however being *property*, are much better looked after, as the law stands, than man, in respect of the prevention of the spread of infectious diseases. The occurrence of animal diseases *must* be reported, infected animals being isolated and quarantined, if not at once slaughtered.

The unsatisfactory character of the arrangements under the Act and the Order formed the subject of discussion at a Meeting of the Society of Medical Officers of Health, held in December, 1880, when the following resolution was unanimously adopted:—

“ That in the opinion of this Society it is desirable, having regard to the more effectual prevention of the spread of zymotic disease by the agency of milk, that the special sanitary supervision and inspection of cowsheds, dairies, and milk shops should be entrusted to the Local Authorities, the Medical Officers of Health, and the Sanitary Inspectors of the respective districts.”

Since the preceding observations were printed, an important announcement has been made in Parliament which shows that the Government are at last alive to the futility of the existing arrangements: the Vice-President of the Privy Council having lately stated, in reply to a question by Lord George Hamilton, that the Council had reason to believe that, except for the purpose of registration, very few local authorities have carried out the provisions of the Dairies Order framed under the 34th Section of the Act, as they have no special officers for the inspection of Dairies: the Privy Council, he added, have been in communication with the Local Government Board on the subject, and inasmuch as the question relates rather to human health than to the prevalence of animal diseases, it has been agreed to bring in a short Bill to repeal Section 34 of the Contagious Diseases (Animals) Act, and to authorise the Local Government Board to treat the question as one affecting the public health.

#### BAKEHOUSES.

The duties formerly devolving on your Vestry as local authority under the provisions of the “ Bakehouse Regulation Act, 1863 ”



(26 and 27 Vict. Cap. 40), were transferred to Government Inspectors, January 1st, 1879, on the repeal of that Act by the "Factory and Workshop Act, 1878" (41 Vict. Cap. 16.) The only reasonable surmise I can offer in explanation of the transfer is that as "young persons," *i.e.*, persons under 16 years of age, may not be lawfully employed in the business of a baker, which is largely a nocturnal one, between nine o'clock at night and five o'clock in the morning, such persons may have been deemed in need of the protection supposed to be afforded by the appointment of factory inspectors. It will probably be admitted that the inspection of bakehouses, with the object of preserving cleanliness and preventing nuisance, could be—and was—better done by numerous sanitary inspectors, than by an exceedingly small number of factory inspectors, presumably having no special experience in sanitary matters; and it requires no great stretch of imagination to suppose that the protection of youthful employes might have been secured more easily by enlisting, rather than by superceding, the services of sanitary inspectors. At any rate the supersession of these officers has been of no advantage to the employes, for it is the fact, speaking of this parish, and probably it is true of the greater part of the metropolis, that *official* inspection of bakehouses, to all practical intents and purposes, has been discontinued since the "duty" was handed over to the factory inspectors.

Actual inspection of the bakehouses, however, has not ceased in this parish, for acting under my directions, the sanitary inspectors have continued to exercise supervision over them as a part of their routine duty, and in the past year 488 inspections were made of the 130 bakehouses. (*Vide* Tables VI and VI<sub>A</sub>, Appendix.)

The requirements of the law with regard to bakehouses are few and simple: whether they are adequate is another question. They are as follows:—

*Definition.*—A "Bakehouse," a "non-textile factory," is "any place in which are baked bread, biscuits, or confectionery, from the baking or selling of which a profit is derived.

*Sanitary Provisions.*—In respect of sanitary provisions the Bakehouse comes under the general law relating to factories and works. It is to be kept in a cleanly state, free from effluvia arising from any drain, privy, or other nuisance; is not to be so over-crowded as to be injurious to the health of the workmen, and is to be ventilated. (Sec. 3). A Bakehouse in which there is a



contravention of this section is deemed not to be kept in conformity with the Act, and the occupier then becomes liable to a fine not exceeding ten pounds. (sec. 81.)

Should the Inspector observe act or neglect in relation to sanitary matters involving nuisance punishable or remediable under the law relating to public health, but not under the Factory Act, it is his duty to give notice thereof to the Sanitary Authority, which will then make enquiry and take such action as may seem proper for the purpose of enforcing the law. The Inspector may for the purposes of this section (4) take with him into the bakehouse a Medical Officer of Health, or Inspector of Nuisances.

*Cleanliness.*—Sec. 33 makes provision for securing cleanliness by periodical painting or varnishing, or whitewashing, of the bakehouse—walls, ceilings, passages and staircases, and for cleansing of painted or varnished wood by washing.

*Sleeping Accommodation.*—A place on the same level with the bakehouse may not be used as a sleeping place if it be not effectually separated therefrom by a partition extending from floor or ceiling, or if it has not an external glazed window of at least nine superficial feet in area, of which at the least  $4\frac{1}{2}$  superficial feet are made to open for ventilation (sec. 35.)

*Employés.*—As respects employés I need only mention that no "young person" under 16 may be employed in a bakehouse excepting between the hours of 5 in the morning and 9 at night, and with 7 hours at the least for rest; so that the actual period of labour may not exceed 9 hours; and the occupier who contravenes the section (45), becomes liable to heavy penalties (sec. 83.) Powers of entry are given to the Inspectors (sec. 68.)

It may be mentioned that an Abstract of the provisions of the Act, containing all necessary directions for the guidance of employers and employed, has been prepared, and a copy thereof furnished to the occupiers of bakehouses.

**FACTORY INSPECTOR'S REPORT ON BAKEHOUSES.**—Considerable alarm and disgust were excited a short time since by press comments on the unsavoury generalities of a report on East-end bakehouses by an Assistant Inspector, published in the annual report of H.M. Chief Inspector of Factories and Workshops.

It is stated in the report, which gives no details whatever, that about three-fourths of the total number of bakeries in the Inspector's District have been inspected (presumably once only) since January, 1880, i.e., in 22 months, so that it would take two years to complete a single inspection of all the bakehouses: the Act has been in operation  $2\frac{1}{2}$  years. The rules as to sleeping accommodation are fairly obeyed; but of the ventilation and cleanliness of the apartments the Inspector "cannot say much." Germans are "becoming the bakers for London," and these "Germans, workman and master, neglect these rules which we are called upon to enforce, for as the one is careless, so is the other."



They smoke tobacco from pipes and cigarettes during the kneading of the dough ; semi-nude, profuse perspiration drips down their shoulders and arms into the dough ; the utensils are unclean. Many of the bakehouses are reported "unfit for their purpose, being underground, dark, ill-ventilated, damp, very small, unduly hot, often filled with vapour, cobwebs and dust ornamenting the walls, the holes and corners of these converted dwelling-houses not cleaned out . . . . Sinks were found without traps and uncovered in the bakehouse ; the lime washing, done in an imperfect manner ; water closets in the bakehouses, some without water supply or ventilation." Refuse not removed accumulates under the troughs, and acted on by "damp and heat generates insects innumerable." In one bakehouse a horse was stabled, his litter filthy ; in another rabbits were running about fattening upon the offal flour, and in a third fowls were roosting above the (covered) trough. "Liquid manure from a stable" was seen "running under sacks of flour ; the imperfect drain of a privy overflowing upon a bakehouse floor ;" and lastly, an "open drain two feet square, into which liquid from an adjoining premises flowed," was seen used as a cooler for "tins of buns." "Therefore," says the Factory Inspector, "I do not think that for humanity's sake we should regret that the inspection of bakehouses has been added to our duties."

Truly a formidable indictment against the policy of recent legislation, and one which may well cause the *public* to "regret that the inspection of bakehouses has been added to the duties" of factory inspectors, who appear to have no sufficient time to attend to it, and who, so far as one can judge from this, the only report on bakehouses in the report of the Chief Inspector, neither enforce the sanitary provisions of the Act nor exercise the power they possess of calling in the sanitary authority to their assistance when they happen to inspect a bakehouse and find a nuisance therein.

It would be a libel upon sanitary inspectors to suppose, as the factory inspector would seem to imply, that they had left bakehouses at the end of 1878, in the abominable condition above described as existing in 1880--81, and for all we know to the contrary still existing ; and we can only surmise that bakehouses have fallen into a condition because factory inspectors have neglected their duty. The report, however, will have had one good effect inasmuch as it has led to a general inspection of bakehouses by sanitary inspectors, who, whatever their legal status, will not be likely to allow such nuisances as the factory inspector describes, to continue without, at least, making a vigorous effort to remove the scandal.

It has been contended, indeed, that sanitary officials have no right of entry into a bakehouse now that the Bakehouse Regulation Act, 1863, has been repealed, and it is not long since I saw this



stated in a trade journal : a baker in the enjoyment, doubtless, of freedom from official inspection, and undesirous of coming under unofficial inspection, having written to a factory inspector to enquire whether a sanitary inspector had any right to make an inspection of his bakehouse ? and obtained a reply in the negative.

In some parishes, I believe, all inspection of bakehouses is at an end ; *i.e.* official inspectors do not inspect, and sanitary inspectors have ceased to inspect. In this parish, however, the inspection of bakehouses has been systematically continued with little objection on the part of the bakers ; and many “ notices ” for cleansing, etc., have been duly complied with, when, as is seldom the case, a verbal request for white-washing, etc., had not been immediately respected. In only one instance have we been compelled to resort to the Magistrates—and in that one successfully—for assistance.

The factory inspector in the report above quoted, says, that in country bakeries he “ finds cleanliness, ventilation, and light, for the bakehouses were built for their purpose ; ” and it is, no doubt, the fact that many of the defects of London bakehouses arise from faulty position and construction, they *not* having been “ built for their purpose. . . . Yet much may be done and in truth must be done, to improve their condition,” and the sooner the better. But legislation will be found necessary to secure the required improvement. It is a monstrous fact that an average bakehouse in the east end of London, if the inspectors’ report may be relied on, is infinitely less fit, in point of construction, position, and condition, for carrying on the manufacture of the “ staff of life,” than many a slaughter-house. And if the Government, yielding to the advice of sanitarians, has seen fit to take measures for securing the proper construction and becoming cleanliness of places where an “ offensive trade ” is carried on, is it too much to hope that they may be induced to take measures for the reform of bakehouses ?

The manufacture of bread as carried on ordinarily by “ semi-nude ” men is open to objection, and this might and should be put an end to by a law, requiring the substitution of machinery for manual labour. Bye-laws should be framed to regulate the construction of bakehouses and flour stores, to provide for cleanliness by cemented and painted walls ; impermeable floors, furnishing no holes for “ insects ; ” and for light, ventilation, etc. There should be no drain inlet within the bake-



house, and no other possible source of nuisance within reach of it. The character and material of the trade utensils should be specified. If machine-made bread requires metal vessels for mixing—the manufacture of aërated bread may be cited as an illustration—for hand-made bread there ought to be no difficulty in providing troughs of galvanized iron or porcelain, which could be cleansed without difficulty.

To sum up :—What really is required is a proper “ Bakehouse Regulation Act,” providing for the licensing of bakehouses and conferring on sanitary authorities the power, which they should be obliged to exercise, of regulating the trade by bye-laws uniform for the Metropolis dealing with (1) the position and construction, including lighting and ventilation, of bakehouses; (2) the periodical cleansing of them; and (3) the materials and utensils employed in the manufacture of bread.

#### HOUSE REFUSE.

The collection of ashes, and miscellaneous refuse from upwards of 20,000 houses, in an area of more than 2,000 acres, and to the extent of 30,000 loads in a single year, is no light task, and complaints of neglect on the part of the dustmen were habitual when the work was carried out under the contract system. So frequent, indeed, did complaints become at last, that a desire to satisfy the legitimate requirements of the parishioners had its influence in determining your Vestry, in 1877, to abolish the contract system altogether, and undertake the collection with an ample staff and plant. The result has justified the change: the work has ever since 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, have been censured for alleged neglect, it has turned out on enquiry that the domestic servants were to blame: the hour of the dustman’s call was “ inconvenient”; or “ the steps had just been cleaned”; such excuses, or others, equally valid from a servant’s point of view, being deemed sufficient justification for the perpetuation of a nuisance. And nuisance, it may be averred, arises almost solely from the 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 utilized, 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 result.

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 could be given in the same week.

#### STABLE REFUSE.

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 enjoining "periodical removal of manure, etc.," by the owners, under the provisions of The Sanitary Act, 1866, which prescribes a penalty of twenty shillings a day for default. But still the most frequent cause of complaint by parishioners, and the most frequent of recurring nuisances, arises from the neglect of this obligation. Proceedings have been taken occasionally to enforce the regulations, but not with uniform success, the offenders having usually been able to satisfy the Magistrates that the duty required of them was beyond their power to perform. During the past year, however, the Justices fined two persons two pounds each for failure to remove accumulations after notice, and in breach of the regulations. The difficulty not seldom originates with the coachman who, will not give the refuse away, while the farmer or his carter will not pay for it. At certain seasons, *e.g.*, hay-making time and harvest, there is a real difficulty in getting the receptacles cleansed, farmers being too busy to send their carts into town, or, if they do, to allow them to stay to collect the refuse. The refuse nevertheless has



value, if it could only be got on to the land without undue expenditure: the quantity made in this large parish with its 150 mews is 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" would be enforced?

The regulations require that the manure should be removed "every alternate day." Twice a week in summer, and once a week in winter, would probably suffice for all practical requirements, in ordinary cases, if the manure were stored in properly constructed receptacles above ground.

Owing to inclement weather in the early part of the year,—snow having fallen in large quantities, and remained long on the ground, the removal of manure was suspended for a lengthened term, with the usual result of a crop of complaints from residents in the vicinity of mews. The nuisance was all the greater as the manure had been spread over the mews to enable coachmen and others to exercise their horses, the effect being that the straw got crushed and sodden, and thus was rendered more offensive than usual. When collected together after the thaw, much of the filthy stuff was piled up against empty stables, there being no room for it in the receptacles, and thereby the responsibility for its removal was so shifted, that in many instances your Vestry had to send carts and take it away. Acting on my suggestion, your Vestry circulated a special hand-bill calling upon the proprietors of stables to remove the accumulations without delay, and intimating that proceedings for the recovery of penalties under the regulations, would be taken in case of default. The ordinary machinery by means of market-garden carts utterly broke down in the emergency, and it was many weeks before the mews were restored to their ordinary condition in respect of refuse; and this, as I have said, is by no means satisfactory. A very large portion of the time of the Sanitary Inspectors is taken up in the endeavour to keep the mews clean, time which in different circumstances would be more profitably occupied in other directions.



## REFUSE.

In previous sections (on "Slaughter-Houses," "Cowsheds," "House Refuse," and "Stable Refuse,") reference has been made to the difficulty experienced in preventing nuisance from accumulations of offensive matters coming under the general description "REFUSE." The difficulty is common to all parts of the Metropolis, and calls for legislative interference for its abatement. With a view to such steps being taken I brought the subject under the notice of the Society of Medical Officers of Health in 1880, the result being that a special Committee was appointed to consider the subject, and ultimately presented a report, which was re-produced in my last Annual Report (*page 114*).

The conclusions at which the Committee arrived may be summed up as follows:—

1. *Trade Refuse*.—The Nuisance Authority should have power to collect, remove, and dispose of the trade refuse of butchers, fishmongers, poulterers, greengrocers, etc., at the reasonable cost of the producers. The collection of such refuse should be made in the early morning, and the removal effected in specially constructed vehicles: if practicable, the refuse should be utilised; otherwise it should be destroyed by fire.
2. *House Refuse*.—In view of the increasing distance to brick-fields, house refuse will have to be dealt with by fire in specially constructed apparatus of the "Destructor" type, by which its bulk may be reduced some 75 per cent., the resulting product moreover, being at once innocuous and useful for roadmaking, and other purposes: the refuse should be collected daily, and "dust bins" abolished.
3. *Stable and Cowshed Refuse*.—The Nuisance Authority should have power to collect the refuse at the reasonable cost of the owner: cowshed refuse daily in vehicles designed to prevent slopping and effluvium nuisance, stable refuse periodically; the refuse, meanwhile, to be stored in suitable receptacles—paved, drained, and enclosed within iron racks, above ground.



4. *Conclusion.*—Legislation is necessary to give effect to the above recommendations, and to compel railway and canal companies to carry refuse from towns at a reasonable while remunerative rate.
- 

BABY-FARMING.—It has pleased the Legislature to endow the Metropolitan Board of Works with many functions, and one of the Acts, for the carrying out of which it is responsible, is the Infant-Life Protection Act, 1872, which makes it illegal for any person to receive for hire, for the purpose of nursing apart from its parents, more than one infant, or in the case of twins, more than two infants, under the age of one year, except in a house registered by the local authority, *i.e.*, the Board. The Act is directed against the abuses of “baby-farming,” and whilst it may be admitted that it has done some good, the fact that there are only 24 registered houses in the Metropolis must be accepted as evidence of failure, notwithstanding that “all practicable measures have been taken for making the provisions of the Act known, and for the discovery and punishment of persons acting in contravention of it.” Your Vestry’s Sanitary Inspectors have received directions to assist the Board by calling attention to any case of illegal baby-farming that may come under their notice.

The facts of one glaring case having been reported by me to the Board last year, they prosecuted the keeper, who was fined £5, and other prosecutions, to the number of 11, were successfully carried through. The infants confided to the charge of baby-farmers, “many of whom are old, and quite unfitted for the duty,” are, it need scarcely be said, mostly illegitimate. The subject is one of considerable importance, and it is satisfactory to know that the Home Secretary, the Local Government Board, and the Metropolitan Board of Works recognise the necessity of further legislation for the protection of infant life. The suggestions made by the latter Board for the amendment of the Act are as follow :—

- 1.—The operation of the Act should be extended to infants under five years of age, and to the keeping for hire of any number of infants.
- 2.—Where two or more adults live together, and take infants for hire, they should be severally liable.



- 3.—Parents should not be relieved of their responsibilities in respect of their infant children by the payment of sums of money to other persons for adopting them.
- 4.—Registered persons should be required to give notice of removal, and, upon the discontinuance of their registration, to surrender the register kept in compliance with Section 5.
- 5.—An addition should be made to Section 12, providing for the payment of the penalties to the Board notwithstanding anything in the Metropolitan Police Act to the contrary.

---

TUCKER'S TALLOW-MELTING FACTORY.—Some complaints were made in July of offensive effluvia proceeding from this establishment in Kensington High Street. The weather was exceedingly hot at the time, and putrefactive changes in fat would be a question of hours. Still, as the nuisance complained of arose mainly, if not entirely, in the process of melting, I advised the firm to melt late at night. No further cause of complaint arose. It is only just to add that considerable outlay has been incurred on apparatus for preventing nuisance.

#### PUBLIC URINALS.

A well-constructed public urinal has been erected, since the date of my last report, under the footbridge over the Great Western Railway in the rear of Tavistock Crescent. There are now six public urinals in this great Parish. Your Vestry's powers to provide such "necessary accommodation" are ample, but difficulty has been experienced in giving effect to the provisions of the 88th section of the Metropolis Management Act, which enables the Nuisance Authority to "provide and maintain urinals, water closets, and like conveniences (for both sexes) in situations where they deem such accommodation to be required," &c.

Owing to the opposition raised by inhabitants in the neighbourhood of the sites selected for such proposed erections, a proposition was made by a private individual firstly, and afterwards by a Company, to provide *châlets* for the convenience of the public, as



a commercial speculation, but the Law and Parliamentary Committee having reported that your Vestry have no authority for placing obstructions in the public streets, the matter fell through. In some other parishes the scheme has been entertained favourably, and *châlets* have been erected. Should the system be found to work satisfactorily, means will doubtless be found to overcome any legal difficulties that may appear to stand in the way of its extension.

#### PUBLIC BATHS AND WASH-HOUSES.

No practical steps have been taken since the publication of my last report to give effect to the resolution of your Vestry in favour of the establishment of public baths and wash-houses. The difficulty of obtaining a suitable site has hitherto proved insuperable.

#### MORTUARY.

Referring to the need of a Mortuary, and to the steps that had been taken to give effect to the resolution of your Vestry to provide one, I stated in my report for 1879 that a plan had been approved by the Churchwardens, and that your Vestry had completed an agreement with the Churchwardens settling the conditions on which the building should be erected, as I had recommended, in the disused Parish Churchyard; and I expressed a hope that in my next (last) Annual Report I might have the privilege of congratulating your Vestry on a successful issue to long continued efforts to supply this much needed sanitary want. I regret that I may not have this pleasure even now, but it is at least satisfactory to know that the work is, at last, in the hands of professional men, who will push it on, so that it is likely to be carried to completion before the period named in the Faculty shall have expired: with full assurance we may anticipate the removal of a not undeserved reproach before the conclusion of the current year.

#### CORONER'S COURT.

I have in former reports animadverted on the unseemly necessity the Coroner is placed under of holding inquests in public houses, he having no proper Court. When the Mortuary shall have



been provided, I trust there will be no difficulty in making an arrangement to secure the use of the Vestry Hall as a Coroner's Court. The large room has been re-arranged for the convenience of the Divisional Magistrates, who meet in it periodically; and the alterations have been made so judiciously that the room is perfectly adapted, and is really admirably suited in all respects, not forgetting the essential one of position, for the purpose indicated.

### DISINFECTION.

During the year ended March 25th, 1882, a large number of infected articles of bedding, clothing, furniture, &c., were satisfactorily disinfected by the contractor, at the cost of your Vestry, the owners being too poor to bear the expense. The weight of the articles was about 22 tons: their number, 8,960; and the cost of the process, £264 15s. 1d..

Four hundred and twenty-two rooms in 395 houses were disinfected with sulphurous acid by your Vestry's Officer. No charge was made in the great majority of instances; a small fee, however, to cover the cost of the process, should have been charged to those in a position to pay. Many rooms in addition were disinfected by the contractor, as well as numerous parcels of clothing, bedding, &c., at the cost of private individuals.

### WATER SUPPLY.

PROFESSOR FRANKLAND'S REPORT.—Believing 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 supply, a very important question in relation to the public health, it has been my custom to summarise the report prepared annually by Professor Frankland, for the Registrar-General. I do so again this year. I also submit a summary of the information supplied in the reports of Colonel Bolton, R.E., the "Water Examiner," under the "Water Act, 1871." Dr. Frankland deals mainly with the quality of the water in its chemical and microscopical aspects, and in respect to its fitness for dietetic and domestic purposes; he being, as is well



known, adverse to riparian sources of supply: whereas Colonel Bolton's observations, on the other hand, have reference *inter alia* to the condition of the water in bulk at the intakes, and to its physical qualities when delivered to the consumer—in a word, to whatever relates to the collection, filtration, storage, and distribution of the water.

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. The average daily volume supplied per head of population in 1881 was nearly 33 gallons. This is greatly in excess of what is required, and indicates waste.

Dr. Frankland is as emphatic as ever in his commendation of "deep well water," and takes it as the standard of purity in comparative observations on the waters generally. In a previous report he described 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," he said, 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 even a small 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 'Clark's process,'—the addition of slaked lime, a process equally applicable to all waters supplied to the Metropolis.

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 19°·8; of the Kent Company's water 28°·3; and of the Colne Valley Company's water only 6°·2. "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 suitable for "washing" delivered in London during the past year was that of the Colne Valley Company, which was softened by Clark's process before distribution.

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 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 rather less than in 1880. 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, derived from the same source, and 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 Company's water: 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. All the water supplied to the Metropolis would be equally improved by being submitted to the same process.

The organic impurities found in the river waters, derive their importance from being, to a great extent, of animal origin. Owing to the careful filtration to which the river water was generally subjected, together with the improved means of storage at the command of the Companies, the average quality of the water supplied during the greater part of the year was better than usual; nevertheless, in January, February, March and December, the river water supplied by most of the Companies was "much polluted with organic matter and not fit to drink." The "noxious organic matters" are "in suspension," but in such a finely divided state as to render their removal by artificial filtration through sand 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, exhaustive and inimitable natural filtration through great thicknesses of porous strata, as to render it extremely unlikely that any suspended organic matter should have escaped elimination. Hence the deep-well waters are "uniformly pure and wholesome." Of the river water abstracted from the Thames, the best average supplies were furnished by the Chelsea and Grand Junction 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, but the Company having removed their intake to West Molesey, undertaking extensive works at a large outlay, now supply water superior in quality to that of the West Middlesex Company, which for several years was at the head of the Companies drawing their supplies from the Thames, but whose water in 1881 showed on an average a larger proportional amount of organic elements than either of the other local Companies, as is seen in the following table, which 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	...	...	...	1.9	1.3	1.6
Chelsea	...	...	...	6.8	2.3	3.9
Grand Junction	...	...	...	6.4	2.4	3.8
West Middlesex	...	...	...	6.5	2.3	4.2

The organic elements consist chiefly of organic carbon, and the maximum pollution in the river waters greatly exceeded the standard, which is—1.0 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 29°·2 Fahr., viz., from 38°·8 in January to 68°·0 in July. The water, therefore, narrowly escaped freezing in the mains in winter, whilst in the summer it was rendered unpalatable, and probably deleterious, by its warmth. The deep-well water delivered by Kent and Colne Valley Companies ranged through 7°·9 Fahr., viz. : from 50°·0 in January to 57°·9 in June and September.

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 :—

Name of Company-			NUMBER OF OCCASIONS.		
			When clear and transparent.	When slightly turbid.	When very turbid.
Chelsea ...	...	...	7	5	0
West Middlesex ...	...	...	9	3	0
Grand Junction ...	...	...	5	7	0

The deep-well waters were clear and transparent on every occasion.

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 Grand Junction Company's water on three occasions. The annexed table shows the results of such microscopic examinations during the past thirteen years :—

Name of Company.	Number of occasions when living organisms were found.												
	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881
Chelsea .....	3	2	2	3	2	5	4	4	1	0	2	0	0
West Middlesex...	0	0	0	0	0	0	0	0	0	1	2	0	0
Grand Junction...	4	1	1	2	3	5	7	3	3	3	1	3	3

The subjoined table shows the annual averages of each determination, and thus summarises 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, but may be converted into grains per imperial gallon by multiplying them by 7 and then moving the decimal point one place to the left.

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 Dec., 1876 being taken as 1'.
Chelsea	10·9	26·99	·191	·037	0	·188	·225	1·5	19·7	3·0
West Middlesex ...	11·8	27·41	·209	·038	·000	·212	·251	1·5	19·7	4·2
Grand Junction ...	11·8	29·49	·188	·036	·000	·193	·229	1·5	19·6	3·8
Kent	12·5	43·46	·077	·016	·000	·457	·473	2·4	28·3	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 summed up all, perhaps, that can be said in its favour in a paper read before the Chemical Society in May, 1880, and printed in the Society's transactions. He contends that dangerous organic matter is rapidly destroyed, through the operation of natural laws, when introduced 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 cause 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."

During the past year, moreover, the water supplied by the several Companies has been subjected to a daily examination by Messrs. Crookes, Odling and Tidy, on behalf of the Companies, and the results of their examinations have been collected and published in the form of an annual report, which they have addressed to the President of the Local Government Board. From this report I extract the following notes. The writers say that the water, as a rule, is efficiently filtered, and that the "suspended matter," almost entirely of the nature of clay and sand, on the worst days, when the water was recorded as "turbid," averaged considerably less than one grain per gallon. The organic carbon may be taken as a trustworthy index of the organic matter in the water, the amount of it being, as a rule, contrary to popular, but not to scientific, opinion, exceedingly small, never exceeding the 1-1,000th of a per cent. The water is well aerated, and contains in solution very nearly the full quantity of free oxygen that it is possible for water to dissolve, a fact of great importance as an evidence of the absence either of putrescent or putrescible matter. As for the mineral matter held in solution—that which gives to water its "hardness," it consists mainly of the carbonates of the alkaline



earths, with a small quantity of sulphates, nitrates, and chlorides. No one suggests that these salts are detrimental to health, and it is contended that they are useful to the animal economy, as one means of supplying constituents required for the organism. Numerous extracts are given from the Report of the Royal Commission on Water Supply, 1869, directed to show the justice of the conclusions the writers have drawn from the facts stated, and to discredit the mode of statement, and inferences, in the monthly reports of Professor Frankland: whilst statistics are furnished to show that a comparison of the average death-rate and the number of deaths, &c., from various diseases in towns supplied by deep well or spring water, and in towns supplied by river water, (excluding London), is not at all to the disadvantage of the latter: with respect to the metropolis itself the reporters "are of opinion that the filtered water of the Thames and Lea is unimpeachable in respect of its wholesomeness and suitability for town supply."

COLONEL BOLTON'S REPORT.—I now turn to the Annual Report of Colonel Bolton, the Water Examiner appointed under the Act of 1871, in which are embraced many particulars of general interest relating to the water supply.

Colonel Bolton, it should be mentioned, makes monthly examinations of the various waterworks, and in monthly reports duly sets out the results of such examinations. One of the most important of his duties is to ascertain whether or not the requirements of Section 4 of the Act of 1852 are complied with, viz., that "every Company shall effectually filter all water supplied by them within the metropolis before the same shall pass into the pipes for distribution." The effectual filtration of river water depends, he says, upon—

1. A sufficient area of properly constructed filter beds, constantly clean and fresh sanded from time to time as the original thickness is reduced.
2. The rate of filtration being controlled and limited to a certain speed.
3. The water delivered into the filter beds having been previously stored in subsiding reservoirs, and the capacity of these reservoirs being such as to avoid the necessity for the intake of turbid and muddy water during the time of extraordinary and heavy floods, which tend to foul and choke the filters.



Effectual filtration is greatly facilitated by previous subsidence. The rate of filtration should not exceed 540 gallons per square yard of filter bed each 24 hours, and no Company now exceeds this rate of filtration, which, for all practical purposes, may be considered as a standard. The means of storage for subsidence and the area of filter beds possessed by the several local Companies, appear to be now adequate to secure effectual filtration as required by the Act.

It is to little purpose, however, that well filtered and "good" water should be supplied if the supply is allowed, as it so frequently is, to deteriorate in the cisterns of the consumers through the uncleanly condition of those receptacles, and the connection of them with the drains through the medium of the "waste-pipes," which the Companies have the power to abolish under the provisions of the water regulations (No. 14). The remedy no doubt is a constant supply; but as we shall have to wait long for this, I can but urge again that the Companies should be compelled to exercise their powers under the regulations, or that the Sanitary Authorities should have equal power with the Companies to enforce the regulations.

The quantity of water supplied daily by the several Companies, 243, 164, and 243 gallons per house by the Grand Junction, West Middlesex, and Chelsea Companies respectively, is superabundant, and indicates great waste. The "intake" of the last-named Company is the Thames at West Molesey: of the other two the Thames at Hampton Court. The state of the water in the Thames during the months of February, March, November and December, was generally bad, and, owing to the frequent floods, the water that had to be taken in by the Companies was much polluted, and was found to be extremely difficult to filter; the solid impurities in suspension being only practically got rid of by long subsidence previous to filtration, as they chiefly consist of clay, marl, and chalk in a very finely divided state.

The following particulars, among others, are given by Col. Bolton, in respect of the Local Companies:—

*Storage.*—No new works have been found necessary by the Grand Junction and Chelsea Companies, the existing means being sufficient to enable the Companies to supply effectually filtered water at all times; but the West Middlesex Company are constructing a subsiding reservoir of  $7\frac{1}{2}$  acres area at Barnes to contain 24,000,000 gallons.

*Filtration.*—The West Middlesex Company are constructing two additional filter beds at Barnes upon an improved principle, area of each  $1\frac{1}{2}$  acres. When all the



works in hand are completed this Company will have 36 acres of subsiding and storage reservoirs of a capacity of nearly 116 million gallons. The Grand Junction Company have now completed the construction of three filters capable of filtering more than four million gallons of water per day, at their Hampton Works, with a covered reservoir to contain two million gallons of filtered water. The Chelsea Company have not found it necessary to undertake any new works in the last year.

*Constant Supply.*—The West Middlesex Company are giving constant supply to all new estates and buildings, and when new services are laid down constant supply is made compulsory by the Company: 1,873 houses were put on constant supply during the year, making the total number of houses on constant supply 9,121, out of a total of 58,827.

The Grand Junction Company are giving constant supply to 13,139 houses, out of a total of 44,616. They are giving constant supply to the whole of their district lying to the west of Notting Hill, and for this purpose their reservoirs at Campden Hill are kept filled by continuous pumping at Kew Bridge. The reservoirs at Kew Bridge and Campden Hill have been connected with the mains of the East London Company in order to insure a supply of water from the works of that Company at Sunbury, in case of accident or emergency.

The Chelsea Company are giving constant supply to 2,235 houses, out of a total of 31,213; and they are fully prepared to extend the system as required, but judging from the few applications made for such supply, there appears to be no desire in the public authorities, or private individuals, in this, or either of the other districts, for the constant service. By way of contrast, and to show how backward the Western Companies are in this matter of constant supply, as compared with the Companies in the East of London, where the Companies have taken the initiative, it may be mentioned that the East London Waterworks Company now give constant supply to 106,043, out of a total of 132,440 houses supplied by them, and containing an estimated population of 991,575 persons.

A considerable expenditure has been incurred by the West Middlesex and Grand Junction Companies during the year upon enlarged and extended mains, engines, boilers, pumps, &c. The number of miles of streets containing mains constantly charged, and in which hydrants for fire-extinguishing purposes could at once be fixed, in the districts of the Local Companies are, West Middlesex, 82; Grand Junction, 36½; and Chelsea, 62. The Companies are ready to affix hydrants on the mains whenever required to do so. In the Metropolis there are now fixed only 6,051 hydrants, the total length of mains being 750 miles: the increase in mains during 1881 being 18½ miles, and number of hydrants 649.

**DETERIORATION OF WATER IN DIRTY CISTERNS.**—The Local Government Board addressed a circular letter to Nuisance Authorities in the Metropolis last year, stating that Colonel Bolton had drawn their attention to the serious deterioration which water frequently undergoes, after delivery, by being kept in impure cisterns, and enclosing an extract from his report of the examination of the water supplied by the Companies during the month of June, 1881.



Colonel Bolton's observations were directed (1) to the deterioration of the water by the dirty and uncovered condition of the cisterns ; (2) to the need for frequent cleansing of cisterns ; and (3) to the misplacing of the cistern, where there is but one, and that one situated over a water-closet, and having an untrapped waste-pipe communicating with the drains.

The importance of the subject is undeniable ; and your Vestry's Sanitary Inspectors have standing instructions to examine into the condition of the cisterns, and the water, in every house they inspect, *when practicable*. It is the fact, however, that cisterns are often so placed as to be inaccessible to inspection or for cleansing : the solitary cistern, moreover, is often placed immediately over the water-closet, as stated by Colonel Bolton. With respect to the improper placing of a cistern we have no power to interfere, but the Water Companies might, if so minded, do something to remedy the evil complained of. The 13th regulation reads thus :—

“Every cistern . . . shall be . . . properly covered and placed in such a position that it may be inspected and cleansed.”

With respect to the “waste-pipe.” It was the custom of the Water Examiner to call the attention of the Local Government Board to the 14th regulation in his monthly reports, until (I presume) he tired of so fruitless a proceeding. The regulations reads thus :—

“No overflow or waste pipe other than a ‘warning pipe’ shall be attached to any cistern supplied with water by the Company, and any 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 notice 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.”

The power to abolish waste-pipes, universally, rests with the Companies alone, and some years ago I endeavoured to stimulate the Local Companies to exercise their power. I was given to understand that the Chelsea Company—at the time they were short of water, prior to the construction of their new works at West Molesey—had taken steps to abolish waste-pipes, with a view to economise consumption, but I was quite unable to get the



West Middlesex and Grand Junction Companies to move in the matter. The views expressed by the Secretaries were to the effect that the Companies, being trading bodies, did not care to offend their customers : the regulation was intended to prevent waste of water, simply, and as they had plenty of water they didn't care about the waste. I failed in the attempt to convince these gentlemen that the Commissioners, in framing the regulation, had in view the removal of a dangerous nuisance. I may add that under regulations for the construction of house drainage, which have been enforced for some time past in this Parish, waste-pipes are not allowed to have direct communication with the drains.

I need hardly remind your Vestry that the subject of water supply has constantly engaged my attention ; or that the matters referred to in Colonel Bolton's June report have always formed the subject of comment in my Annual Reports. I was glad therefore that the subject had attracted the attention of the Local Government Board, and I ventured to suggest the desirability of a reply being sent to the Board's communication directed to call their attention to the necessity of such an alteration in the law as would give Nuisance Authorities co-equal powers with the Companies to enforce the regulations. No doubt it is true, as Colonel Bolton states, that, if not the "*only*," at any rate a "*remedy*" for the state of affairs described by him will (ultimately) be found in the establishment of the "*constant supply system*," and the consequent abolition of unfit receptacles. To how slight an extent that system has been introduced in this Parish the facts above mentioned sufficiently show. It is satisfactory to learn that "the Water Companies are being urged to extend the system in their respective districts with the least possible delay ;" it being now ten years since the Act was passed, the primary object of which was supposed to be to provide the constant supply with the least possible delay.

### **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 "common



gas," manufactured at Kensal Green by the Gas Light and Coke Company.

1. *With respect to 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 ... ..	17·5	16·4	17·0
Quarter ended June 30th ... ..	18·8	16·5	17·2
Quarter ended September 30th ... ..	18·8	16·7	17·4
Quarter ended December 31st ... ..	18·0	16·3	17·3
<hr/>			
Averages, whole year ... ..	18·3	16·5	17·2

The minimum did not on any occasion fall below the standard, and the average was considerably above the standard.

2. *With respect to purity.* Sulphuretted hydrogen was not present in the gas at any time, and the proportion of sulphur in any other form was always considerably below the limit fixed by the Act of Parliament.

Grains of sulphur per 100 cubic feet of gas. Permitted maximum—20 grains in summer, 15 grains in winter.

	Maximum.	Minimum.	Average.
Quarter ended March 31st ... ..	9·4	5·5	7·3
Quarter ended June 30th ... ..	11·8	6·2	9·2
Quarter ended September 30th ... ..	12·0	5·4	7·8
Quarter ended December 31st ... ..	16·6	5·4	10·8
<hr/>			
Average, whole year ... ..	13·4	5·6	8·8

The above figures show an improvement on the averages for 1880, which, in like manner, were considerably better than those for 1879.

With regard to Ammonia, a valuable residual product of gas manufacture, the limit allowed by the Acts of Parliament (4 grains in 100 cubic feet of gas) was not reached on any occasion.



I beg to repeat here an observation made in my last annual report, viz., that, however satisfactory the reports of the chief Gas Examiner, it would be well if an arrangement could be effected to obtain systematic records of *pressure* at all hours of the day and night, and at several points in the Company's District within the Parish.

No complaint was received from any private consumer in respect of the illuminating power of the gas, in 1881, and I understand that Mr. Philip Monson, your Vestry's Superintendent of Street Lighting, is satisfied with the quality of the 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.

---

**CONCLUSION.** It now only remains for me to discharge the pleasing duty of thanking those who have contributed by their assistance to whatever success may have attended the work of my Department during the past year.

Of the sympathetic co-operation of the Board of Guardians I have already spoken, and it would be impossible to over-rate the importance of the assistance rendered by them, and their officers, in measures for preventing the spread of infectious diseases.

The sub-district Registrars, Messrs. Barnes and Hume, and the Vaccination Officer, Mr. Shattock, have, as usual, very willingly complied with all my requests for information.

The Members of the Sanitary Staff have discharged their numerous duties with zeal, intelligence, and success.



My thanks are justly due to your Vestry for a continuance of the confidence and support which I have never failed to receive, and which have enabled me to carry out with satisfaction the duties appertaining to my office, and to superintend the working of a Department the importance of which is every year more fully recognised by the general public.

I am, Gentlemen,

Your obedient servant,

T. ORME DUDFIELD, M.D.,

*Medical Officer of Health.*

OFFICES : TOWN HALL, KENSINGTON, W.

*June, 1882.*



My friends are justly due to your letter for a continuance of the confidence and support which I have never failed to receive, and which have enabled me to carry out with satisfaction the duties appertaining to my office, and to superintend the working of a Department the importance of which is every year more fully recognized by the general public.

I am, Gentlemen,

Very respectfully,  
Yours obedient servant,  
F. ORME RUSSELL, M.D.,  
Medical Officer of Health.

Overseas; Town Hall, Exeter, W.

June 1883.



## 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 1881, and in ten previous years; number of inhabited houses; Births, Deaths, and Marriages (gross numbers).

Year.	Estimated Population.*	Number of Inhabited Houses.**	Registered Births.	Deaths.	Marriages.
1881.	163,540	20,666	4,400	2,726†	1,761
1880	161,462	20,700	4,605	2,884	1,483
1879	158,316	20,240	4,790	2,992	1,428
1878	154,305	19,719	4,607	3,120	1,331
1877	151,310	19,330	4,648	2,625	1,411
1876	148,338	18,944	4,499	2,896	1,417
1875	144,488	18,444	4,478	2,786	1,346
1874	138,616	17,667	4,356	2,696	1,311
1873	132,826	16,915	4,182	2,439	1,243
1872	127,606	16,237	4,041	2,256	1,132
1871	121,123	15,395	3,804	2,418	1,131
Average of 10 years, 1871-80.	143,839	18,359	4,401	2,711	1,323

NOTES.—Population at Census, 1861, 70,108; 1871, 120,234; 1881, 163,151.  
 Average number of persons per house at Census, 1871, 7.6; at Census, 1881, 8.1.  
 Area of Parish, 2,190 Statute Acres (according to Registrar-General).

\* The population is estimated to the middle of the year.

\*\* Mean of number on rate books in April and October yearly.

† The actual number of deaths registered in the Parish was 2,672, and it includes 105 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, 2,726, is made up by the addition of 54 deaths of parishioners from small-pox and "fever," that took place in the hospitals of the Metropolitan Asylum District.

TABLE II.

Showing Birth and Death Rates ; Deaths of Children ; and Deaths in Public Institutions in 1881, and 10 previous years.

The Year.	Births per 1000 of the population.	Death Rate per 1000 living.	Deaths of Infants under 1 year.		Deaths of Children under 1 year ; per cent. on Registered Births.	Deaths of Children under 5 years.		Deaths at Public Institutions
			Total Number.	Per cent. on Total Deaths.		Total Number.	Per cent. on Total Deaths.	
1881	26·9	16·6	644.	23·6	14·6	1,067	39·1	437*
1880	28·5	17·8	719	24·9	15·6	1,219	42·2	369
1879	30·2	18·8	722	24·1	15·0	1,218	40·7	424
1878	29·8	20·2	823	26·3	17·8	1,429	45·8	410
1877	30·7	17·3	648	24·6	13·9	1,040	39·6	420
1876	30·3	19·5	771	26·6	17·1	1,305	45·0	338
1875	30·9	19·2	686	24·6	15·3	1,119	40·1	338
1874	31·4	19·4	762	28·2	17·4	1,188	44·0	352
1873	31·4	18·3	656	27·0	15·6	979	40·2	272
1872	31·6	17·6	626	27·7	15·4	959	42·5	295
1871	31·4	19·9	582	24·0	15·3	965	39·9	309
Average of 10 Years, 1871-80.	30·6	18·8	699	25·8	15·8	1,142	42·0	352

\* Viz. : At the Parish Infirmary and Workhouse (273), the Hospital for Chest Diseases at Brompton (110), and the Infectious Diseases Hospitals (54).  
The deaths of non-parishioners at the Marylebone Infirmary, 129 in number, are not included in the above total.

NOTE.—The calculations in the above Table are made on the gross number of deaths registered, without deduction of those of non-parishioners in the Brompton Hospital.



**TABLE III.**  
Deaths registered from all causes during the year 1881

(Exclusive of the Deaths of non-parishioners at the Brompton Consumption Hospital and of Parishioners in Infectious Disease Hospitals)

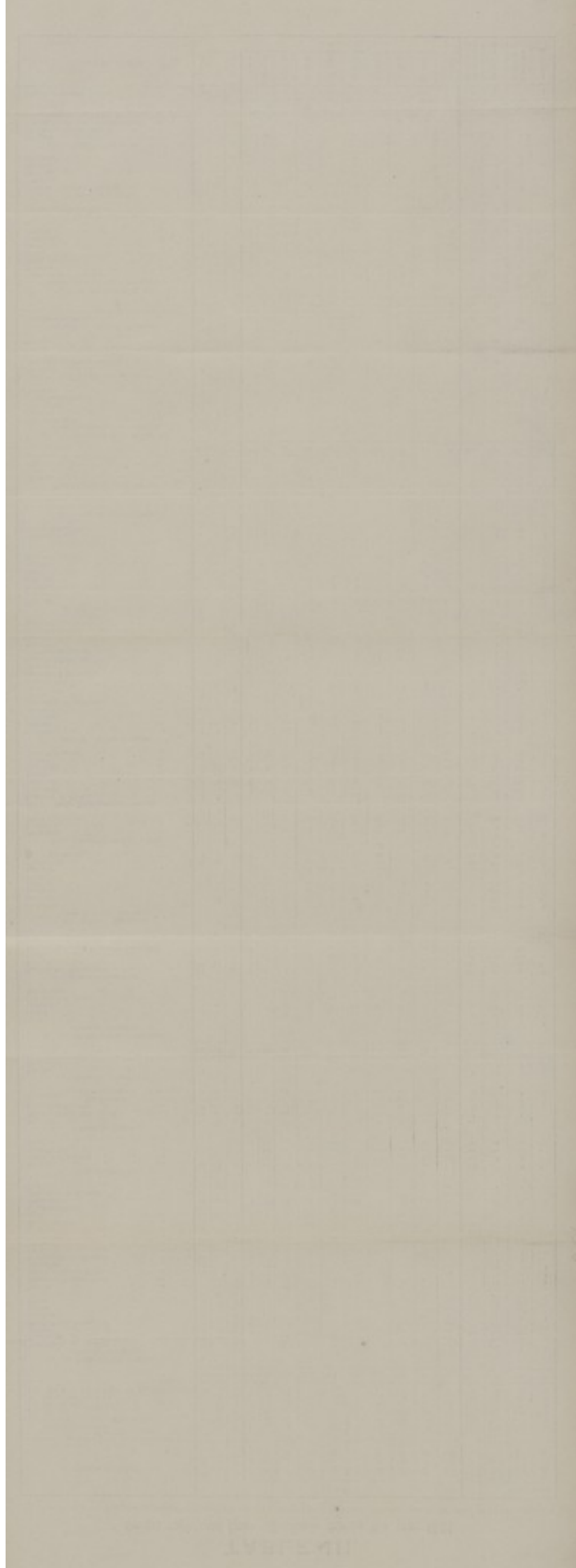




TABLE IV.

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 . . . .	383	2·3	140
2.—Pulmonary Diseases ( <i>other than Phthisis</i> ) .	518	3·1	190
3.—Tubercular Diseases .	351	2·1	128
4.—Wasting Diseases of Infants ( <i>under 5</i> ) .	159	0·9	58
5.—Convulsive Diseases of Infants ( <i>under 5</i> ) .	175	1·0	60

## NOTES.

- 1.—Includes Small-pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough “Fever” and Diarrhœa. Fifty-four 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 467).

TABLE V.

Showing the number of Deaths in 10 years, 1871-80, from the principal Zymotic Diseases, and the number in 1881, &amp;c.

DISEASES.	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	Annual Average 10 years 1871-80.	Proportion of deaths to 1000 Deaths in 10 years, 1871-80.	1881	Proportion of Deaths to 1000 Deaths, 1881.
Small-pox .....	120	68	1	0	0	8	84	24	24	11	34.0	12.5	55	20.1
Measles .....	64	43	38	121	23	128	54	53	60	75	65.9	24.3	67	24.5
Scarlet Fever .....	95	29	10	32	83	59	31	77	51	105	57.2	21.1	36	13.2
Diphtheria .....	11	14	11	26	23	17	10	20	26	22	18.0	6.6	8	2.9
Whooping Cough ..	72	77	44	45	107	124	34	185	93	95	87.6	32.3	85	31.0
" Fever ".....	48	42	41	52	29	36	27	33	23	33	36.4	13.4	31	11.3
Diarrhœa.....	129	110	145	112	107	126	99	181	71	128	12.08	44.5	101	37.0
Totals, KENSINGTON	539	383	290	388	372	498	339	573	348	469	419.9	154.7	383	140.0
Totals, LONDON ...	19,455	12,699	11,385	11,230	13,411	12,565	12,292	14,734	12,256	13,681	13,708	173	13,811	170
TOTALS, ENGLAND & WALES, }	103,801	91,743	70,402	88,200	82,332	75,506	66,558	84,624	62,020	82,537	80,772	156	58,239	118



Inspectors' Report of the Sanitary Work completed in the year ended March 25th, 1882.

\* The North-East and North-West Districts are north of the centre of Uxbridge Road; to the East and West of Ladbroke Grove, and Ladbroke Grove Road respectively : the Central and South Districts are south of Uxbridge Road.

† This Act has not been put into operation.

‡ The actual complaints of neglect or non-removal, made by letter, were 41.

§ Irrespective of proceedings (in 12 cases) under the Food and Drugs Adulteration Act : the Inspector for the North-West District being the Inspector under the Act.

TABLE VIa.

Summary of Monthly Returns of Work, &amp;c., done by the Sanitary Inspectors.

Date of Report.	Houses Inspected.				Mews 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.				District.				
	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	
Ap. 23, 1881	144	135	89	207	58	247	70	101	8	8	9	8	11	6	8	12	...	11	6	...	...	20	6	2	66	36	20	71	17	65	60	114	Ap. 23, 1881
May 21 "	133	125	110	211	86	249	70	124	6	7	6	8	12	8	4	12	8	27	6	...	30	7	12	6	55	38	36	65	25	73	30	128	May 21 "
June 18 "	154	149	100	261	101	244	70	100	7	7	8	8	10	6	7	13	7	27	11	...	10	20	5	5	50	41	23	74	27	61	40	124	June 18 "
July 16 "	152	157	70	255	82	248	77	107	9	10	6	8	8	10	6	15	9	25	4	3	17	6	7	6	39	37	42	89	38	58	60	152	July 16 "
Aug. 13 "	92	118	49	46	85	186	39	48	26	14	14	2	9	5	2	4	5	1	3	...	14	18	6	2	35	39	3	12	28	72	30	80	Aug. 13 "
Sept. 10 "	49	44	20	126	43	162	34	81	2	9	1	9	11	5	2	16	...	16	4	...	13	1	8	4	19	13	3	46	11	9	64	35	Sept. 10 "
Oct. 8 "	131	104	99	238	97	260	70	138	3	6	2	8	14	15	13	16	8	27	12	7	14	20	7	4	31	27	34	45	10	23	40	72	Oct. 8 "
Nov. 5 "	157	132	71	206	80	249	53	128	4	8	4	8	22	15	9	18	...	13	6	...	21	17	7	5	70	41	24	58	7	21	62	41	Nov. 5 "
Dec. 3 "	123	111	172	217	76	252	72	128	5	9	7	8	10	6	7	16	23	31	5	...	10	6	10	4	28	37	57	69	13	17	60	46	Dec. 3 "
Dec. 31 "	120	88	130	163	90	251	59	129	10	7	8	8	2	7	11	16	3	13	3	...	21	20	10	4	37	16	17	42	13	29	40	52	Dec. 31 "
Jan. 28, 1882	148	105	126	118	88	251	62	19	4	6	2	...	11	7	3	3	11	31	3	...	2	6	11	...	50	26	22	4	26	40	44	44	Jan. 28, 1882
Feb. 25 "	144	139	136	207	118	249	83	141	7	8	8	8	9	7	5	13	17	13	10	...	18	20	9	4	17	25	64	37	14	22	50	34	Feb. 25 "
March 25 "	136	134	119	198	101	245	85	120	13	9	5	6	10	6	6	11	1	30	7	1	12	23	10	4	42	79	54	53	15	38	46	52	Mar. 25 "
Totals.	1683	1541	1301	2353	1115	3093	844	1359	104	108	80	89	139	103	83	165	92	265	80	11	182	184	108	50	539	455	399	665	244	528	626	974	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 Diseases of the Zymotic class; and the proportion of deaths from these Diseases to total Deaths, in Kensington and all London, in 1881, and in the ten years, 1871-80.

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.	
1871	19.9	24.7	539	4.4	6.0	222	242	1871
1872	17.6	21.4	383	3.0	3.8	169	179	1872
1873	18.3	22.5	290	2.1	3.3	118	149	1873
1874	19.4	22.5	388	2.8	3.3	144	147	1874
1875	19.2	23.7	372	2.5	3.9	133	164	1875
1876	19.5	22.3	498	3.3	3.6	171	162	1876
1877	17.3	21.9	339	2.2	3.5	129	160	1877
1878	20.2	23.5	573	3.7	4.1	183	175	1878
1879	18.8	23.3	348	2.2	3.3	116	143	1879
1880	17.8	22.2	469	2.9	3.7	162	170	1880
AVERAGES OF TEN YEARS.	18.8	22.8	419	2.9	3.8	154	169	AVERAGES OF TEN YEARS.
1881	16.6	21.2	383	2.3	3.6	140	172	1881

TABLE VIII.

Comparative Analysis of the Mortality in all London and in Kensington, in 1881.

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 infor- mation of the Coroner. (Inquests.)	Registered at large Public Institutions
London ... ..	21.4	3.6	14.8	24.1	20.8	17.2	3.7	6.8	20.8
Kensington ... ..	16.6	2.3	14.6	23.6	22.4	14.0	2.6	5.5	16.0*

\* Irrespective of the deaths of (129) non-parishioners at the Marylebone Infirmary, Notting Hill. Inclusive of such deaths the percentage would be 20.8, the same as in the Metropolis as a whole.



Name	Address									
	No.	St.	City	State	Country	Post Office	Telephone	Telegraph	Radio	Other
Dr. J. H. Smith	123	4th	Chicago	Ill.	U.S.A.	Chicago	1234			
Dr. A. B. Jones	456	7th	New York	N.Y.	U.S.A.	New York	5678			
Dr. C. D. Brown	789	10th	Los Angeles	Calif.	U.S.A.	Los Angeles	9012			
Dr. E. F. Green	1011	13th	San Francisco	Calif.	U.S.A.	San Francisco	3456			
Dr. G. H. White	1314	16th	Philadelphia	Penn.	U.S.A.	Philadelphia	7890			
Dr. I. J. Black	1617	19th	Boston	Mass.	U.S.A.	Boston	2345			
Dr. K. L. Gray	1918	22nd	Washington	D.C.	U.S.A.	Washington	6789			
Dr. M. N. Hall	2219	25th	St. Louis	Mo.	U.S.A.	St. Louis	0123			
Dr. O. P. King	2520	28th	Portland	Me.	U.S.A.	Portland	4567			
Dr. Q. R. Lee	2821	31st	San Diego	Calif.	U.S.A.	San Diego	8901			
Dr. S. T. Young	3122	34th	Seattle	Wash.	U.S.A.	Seattle	2345			
Dr. U. V. Wright	3423	37th	Denver	Colo.	U.S.A.	Denver	6789			
Dr. W. X. Scott	3724	40th	San Antonio	Tex.	U.S.A.	San Antonio	0123			
Dr. Y. Z. Adams	4025	43rd	San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. A. B. Baker	4326	46th	San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. C. D. Carter	4627	49th	San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. E. F. Davis	4928	52nd	San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. G. H. Evans	5229	55th	San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. I. J. Fisher	5530	58th	San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. K. L. Gibson	5831	61st	San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. M. N. Hart	6132	64th	San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. O. P. Hill	6433	67th	San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. Q. R. Howell	6734	70th	San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. S. T. Ingram	7035	73rd	San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. U. V. Jackson	7336	76th	San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. W. X. Keller	7637	79th	San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. Y. Z. Lane	7938	82nd	San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. A. B. Little	8239	85th	San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. C. D. Long	8540	88th	San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. E. F. Mason	8841	91st	San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. G. H. Nichols	9142	94th	San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. I. J. Oliver	9443	97th	San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. K. L. Parker	9744	100th	San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. M. N. Quinn	10045		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. O. P. Reed	10046		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. Q. R. Shaw	10047		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. S. T. Taylor	10048		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. U. V. Walker	10049		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. W. X. Young	10050		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. Y. Z. Allen	10051		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. A. B. Baker	10052		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. C. D. Carter	10053		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. E. F. Davis	10054		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. G. H. Evans	10055		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. I. J. Fisher	10056		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. K. L. Gibson	10057		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. M. N. Hart	10058		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. O. P. Hill	10059		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. Q. R. Howell	10060		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. S. T. Ingram	10061		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. U. V. Jackson	10062		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. W. X. Keller	10063		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. Y. Z. Lane	10064		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. A. B. Little	10065		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. C. D. Long	10066		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. E. F. Mason	10067		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. G. H. Nichols	10068		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. I. J. Oliver	10069		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. K. L. Parker	10070		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. M. N. Quinn	10071		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. O. P. Reed	10072		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. Q. R. Shaw	10073		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. S. T. Taylor	10074		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. U. V. Walker	10075		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. W. X. Young	10076		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. Y. Z. Allen	10077		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. A. B. Baker	10078		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. C. D. Carter	10079		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. E. F. Davis	10080		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. G. H. Evans	10081		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. I. J. Fisher	10082		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. K. L. Gibson	10083		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. M. N. Hart	10084		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. O. P. Hill	10085		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. Q. R. Howell	10086		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. S. T. Ingram	10087		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. U. V. Jackson	10088		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. W. X. Keller	10089		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. Y. Z. Lane	10090		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. A. B. Little	10091		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. C. D. Long	10092		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. E. F. Mason	10093		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. G. H. Nichols	10094		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. I. J. Oliver	10095		San Jose	Calif.	U.S.A.	San Jose	4567			
Dr. K. L. Parker	10096		San Jose	Calif.	U.S.A.	San Jose	8901			
Dr. M. N. Quinn	10097		San Jose	Calif.	U.S.A.	San Jose	2345			
Dr. O. P. Reed	10098		San Jose	Calif.	U.S.A.	San Jose	6789			
Dr. Q. R. Shaw	10099		San Jose	Calif.	U.S.A.	San Jose	0123			
Dr. S. T. Taylor	10100		San Jose	Calif.	U.S.A.	San Jose	4567			

TABLE IX.

Showing the Localities in which Fatal Cases of some of the Principal Zymotic Diseases occurred in 1891.

## KENSINGTON TOWN REGISTRATION SUB-DISTRICT.

Locality.	DISEASES.							Total.	Locality.	DISEASES.							Total.	Locality.	DISEASES.							Total.
	* Small Pox.	Measles.	+ Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus.	Fever.			* Small Pox.	Measles.	+ Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus.	Fever.			* Small Pox.	Measles.	+ Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus.	Fever.	
Abingdon Road .....	1	..	..	1	..	..	2	4	Gadsden Mews .....	..	..	..	..	1	1	2	St. Alban's Road .....	1	..	1	..	..	..	2		
Acklam Road .....	1	..	..	1	..	..	1	3	Golborne Gardens .....	..	..	..	1	..	..	1	St. Ann's .....	1	..	1	..	..	2			
All Saints' Road .....	..	..	..	3	..	..	..	3	" Road .....	2	..	1	3	..	..	6	St. Clement's .....	..	..	2	..	..	1			
Angola Mews .....	1	..	..	..	..	..	..	1	Hazlewood Crescent .....	..	..	3	..	..	..	3	St. Ervan's .....	..	..	1	1	..	2			
Appleford Road .....	..	1	..	1	..	..	1	3	Holland Park .....	1	..	..	..	..	..	1	St. George's .....	..	1	..	..	..	1			
Argyle Road .....	1	..	..	..	..	..	..	1	Hurstway Street .....	..	1	..	..	..	..	1	St. James's Place .....	..	1	..	..	..	1			
Bangor Street .....	1	1	1	..	..	..	2	5	Infirmity (The) .....	1	3	..	..	..	5	9	" Street .....	1	..	..	..	..	1			
Blechynden Street .....	..	1	..	..	..	..	2	3	James Street .....	7	..	..	..	..	7	7	St. Katherine's Road .....	2	..	..	..	..	4			
Blenheim Crescent .....	..	1	..	..	..	..	1	1	Kensington Place .....	1	..	..	..	..	1	1	St. Mary Abbots Terr. ..	1	..	..	..	1	2			
Bosworth Road .....	..	2	..	..	..	..	2	2	Ladbroke Grove .....	..	..	..	1	..	1	1	Scarsdale Villas .....	1	..	..	..	1	2			
Bramley Road .....	..	..	..	1	..	..	3	4	" " Road .....	1	..	..	..	..	1	1	Silchester Road .....	1	..	..	..	..	1			
Brunswick Gardens .....	1	..	..	..	..	..	1	1	Lancaster Road .....	1	..	4	..	5	10	10	Southam Street .....	1	3	3	3	2	5			
Cambridge Gardens .....	..	..	..	1	..	..	1	1	Lockton Street .....	1	..	..	..	..	1	1	Swinbroke Road .....	1	..	1	2	..	2			
Campden Hill Gardens ..	1	..	..	..	..	..	1	1	Lonsdale Road .....	1	..	2	..	1	4	4	Sylvester Mews .....	1	..	..	..	..	1			
" Houses .....	1	..	..	..	..	..	1	1	Manchester Street .....	2	..	..	..	..	2	4	Talbot Grove .....	..	..	3	..	..	3			
" Street .....	2	..	..	..	..	..	1	3	Munro Mews .....	2	..	1	..	1	4	4	Testerton Street .....	2	..	..	1	1	5			
Charles Street, Kensing. ..	1	..	..	..	..	..	1	1	Newcombe Street .....	1	..	..	..	..	1	1	Treverton Street .....	1	..	..	..	..	2			
Clarendon Road, N. Hill ..	..	1	1	..	..	..	4	6	Phillimore Pla. (Upper) ..	1	1	1	..	..	2	2	Walmer Road .....	1	2	..	2	1	9			
Convent Gardens .....	1	..	1	..	..	..	2	2	Phoenix Place .....	1	..	..	..	..	1	1	Warwick Street .....	1	..	..	..	..	1			
Cornwall Road .....	1	..	..	1	..	..	2	2	Portland Road .....	1	..	2	..	4	7	7	West Pembroke Place .....	..	1	..	..	..	1			
Dartmoor Street .....	1	..	1	..	..	..	1	1	Portobello Road .....	1	1	1	1	..	4	4	Wheatstone Road .....	2	..	1	..	..	3			
Denbigh Road .....	..	1	1	..	..	..	2	2	Queen's Gate .....	..	..	1	..	1	1	1	Wornington Gardens .....	1	..	..	1	..	3			
" Terrace .....	2	..	..	..	..	..	1	3	" " Place .....	..	..	..	1	..	1	1	" Road .....	2	..	1	..	..	3			
Edinburgh Road .....	..	2	..	2	..	..	1	3	" Road .....	..	1	..	..	1	3	3	..	..	..	..	..	..	..			
Faraday Road .....	1	2	..	..	..	..	1	4	Reindle Street .....	1	..	..	..	..	1	1	..	..	..	..	..	..	..			

## BROMPTON REGISTRATION SUB-DISTRICT.

Ashley Cottages	1								1	Fulham Road	1									1	Richmond Road	2	1							1	4
Brompton Crescent									1	Gloucester Terrace		1								1	Seymour Place	1			1						2
Bute Street	1								1	Hogarth Road		1								1	Shaftesbury Road	1									1
Childs Place	1	1							2	Ifield Road	5	1			1				1	8	South Street	2									2
" Street	1								2	Kramer Mews	1									1	Spear Mews				1						1
Clareville Grove		2							2	North Row	1									1	Sussex Place						1				1
Cleveland Gard. Terr.	1								1	Onslow Mews West		1								1	The Grove, Boltons						1				1
Coleherne Mews		1							1	Pembroke Road	1									1	Trebovir Road		1								1
Cromwell Mews									1	Prince's Mews		1	1							2	Warwick "						1		1	1	2
Earl's Court Square									1	Queen's Gate									1	1	Yeoman's Row				1						1
" Road	1								1	Redcliffe Road									1												
Fenelon Road	1								1	" Square	1									1											

\* The total Deaths from Small-pox were 55, of which 13 were registered in the Parish, viz.: One each at Argyle Road, Ashley Cottages, Brunswick Gardens, Bute Street, Campden Hill Gardens, Campden Houses, Charles Street, Golborne Road, Manchester Street, Redcliffe Square, Richmond Road, South Street and Worlington Gardens.

† Of the 38 deaths from Scarlet Fever 8 occurred in the hospitals, the deceased having been removed from the following streets, viz.: Bangor Street, Denbigh Terrace, Newcombe Street, Onslow Mews West, Southam Street, Swinbroke Road, West Pembroke Place and Worlington Road.



BIOGRAPHICAL DATA									
PERSONAL DATA					EDUCATION				
NAME	DATE OF BIRTH	PLACE OF BIRTH	CITIZENSHIP	RELIGION	SCHOOL	DEGREE	DATE	PLACE	INSTITUTION
John Doe	1900	New York	USA	Protestant	High School	None	1918	New York	City University
Jane Doe	1905	New York	USA	Catholic	High School	Bachelor's	1925	New York	City University
Robert Doe	1910	New York	USA	Protestant	High School	None	1928	New York	City University
Mary Doe	1915	New York	USA	Catholic	High School	Bachelor's	1935	New York	City University
William Doe	1920	New York	USA	Protestant	High School	None	1938	New York	City University
Elizabeth Doe	1925	New York	USA	Catholic	High School	Bachelor's	1945	New York	City University
Charles Doe	1930	New York	USA	Protestant	High School	None	1948	New York	City University
Patricia Doe	1935	New York	USA	Catholic	High School	Bachelor's	1955	New York	City University
Richard Doe	1940	New York	USA	Protestant	High School	None	1958	New York	City University
Susan Doe	1945	New York	USA	Catholic	High School	Bachelor's	1965	New York	City University
Thomas Doe	1950	New York	USA	Protestant	High School	None	1968	New York	City University
Katherine Doe	1955	New York	USA	Catholic	High School	Bachelor's	1975	New York	City University
James Doe	1960	New York	USA	Protestant	High School	None	1978	New York	City University
Barbara Doe	1965	New York	USA	Catholic	High School	Bachelor's	1985	New York	City University
Michael Doe	1970	New York	USA	Protestant	High School	None	1988	New York	City University
Linda Doe	1975	New York	USA	Catholic	High School	Bachelor's	1995	New York	City University
Christopher Doe	1980	New York	USA	Protestant	High School	None	1998	New York	City University
Nancy Doe	1985	New York	USA	Catholic	High School	Bachelor's	2005	New York	City University
David Doe	1990	New York	USA	Protestant	High School	None	2008	New York	City University
Amanda Doe	1995	New York	USA	Catholic	High School	Bachelor's	2015	New York	City University
Matthew Doe	2000	New York	USA	Protestant	High School	None	2018	New York	City University

**TABLE X.**  
PARISH OF ST. MARY ABBOTTS, KENSINGTON.

Return respecting the Vaccination of Children whose Births were Registered during the year 1881.

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.					
1881.	1	2	3	4	5	6	8	9	10	
1st January to 30th June }	Kensington Town ...	1820	1598	9	...	136	9	2	63	3
	Brompton ...	458	421	2	1	26	2	...	6	...
1st July to 31st Dec. }	Kensington Town ...	1743	1468	6	...	153	28	3	76	9
	Brompton ...	398	361	3	...	21	6	...	6	1
	TOTAL ...	4419	3848	20	1	336	45	5	151	13



## TABLE XI.

## LICENSED SLAUGHTER-HOUSES.

## SOUTH OF UXBRIDGE ROAD.

LOCALITY.	LICENSEE.
1, Church Street, Kensington -	Mr. Stimson
11, Peel Place, Silver Street -	" Osborn
The Mall, Silver Street -	" Wright
183, Brompton Road -	Mrs. French
60, Kensington High Street -	Mr. Evans
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
195, Clarendon Road -	" Rush
10, Edenham Mews -	" Gibson
Tavistock Mews, Portobello Rd.	" Hughes
8, Vernon Mews, Portobello Rd.	" Young
196, Portobello Road -	" Sheard
Ledbury Mews -	" French
Lonsdale Mews -	" Green
50, Princes Road, -	" Parratt
10, Princes Mews -	" Cole
10, Princes Yard -	" Coles
Clarendon Mews -	" Colley
41, Princes Place -	" Barber
23, Norfolk Terrace -	" Cocher
61, Silchester Road -	" Barnes
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.
St. Mark's Road, Fulham Road	Mr. Plumb
Newland Terrace - - -	„ Tisdall
Stratford Road - - -	„ Clarke
Addison Cottage, Lorne Gardens	„ Glenie
Newcombe Street	„ Lunn
Earl's Court Road (rear of 117)	West London Dairy Society

## NORTH OF UXBRIDGE ROAD.

3, 4, 5, Angola Mews - -	Mr. Jennings
Ledbury Mews - - -	„ Liddiard
187, Walmer Road - -	„ Arnsby
235, Walmer Road - -	„ Van
47, Tobin Street, Notting Dale	„ Reeves
Ditto ditto - -	„ Skingle, Jun.
12, Blechynden Mews - -	„ White
14, ditto - - -	„ Copperwheat
15, ditto - - -	„ Bidgood
4 & 5, Archer Mews - -	„ Skingle
23, Bramley Road - - -	„ Tame
27, Queen's Road, Norlands -	„ Williams
Elm Cottage, St. Mark's Road	„ Bowyer
49, Tavistock Crescent - -	West End Dairy Company
Clarendon Road - - -	West London Dairy Society





**TABLE XIII.**  
**SMALL POX, 1876-81.**

Showing Monthly Number of Cases reported ; Under, and Over, 15 Years of Age ; North and South of Uxbridge Road ; and Number of Hospital ; and Home-treated, Cases respectively.

Date of the Monthly Report.				Number of Cases Reported.	Number of Cases under 15 Years of Age.	Number of Cases over 15 Years of Age.	Number of Cases.			
							North	South	Sent to Hospital.	Treated at Home.
							of Uxbridge Road.			
1876.	No. 2	March	4	...	1	—	1	—	—	1
	4	April	29	...	4	1	3	4	—	2
	6	June	24	...	4	—	4	—	3	1
	7	July	22	...	7	3	4	3	5	2
	8	August	19	...	4	2	2	2	4	—
	9	September	16	...	4	3	1	4	—	3
	10	October	14	...	2	1	1	2	—	2
	11	November	15	...	13	5	8	12	1	4
	14	December	13	...	36	14	22	22	14	28
	1877.	15	January	10	...	40	20	20	24	16
1		February	7	...	43	14	29	34	9	24
2		March	7	...	26	12	14	24	2	15
3		April	4	...	24	7	17	22	2	18
4		May	2	...	39	17	22	32	7	23
5		"	30	...	43	21	22	38	5	29
6		June	27	...	50	20	30	28	22	40
7		July	25	...	43	21	22	25	18	38
8		August	22	...	39	10	29	17	22	32
9		September	19	...	12	3	9	7	5	9
1878.	10	October	17	...	19	16	3	7	12	12
	11	November	14	...	11	4	7	4	7	8
	12	December	12	...	5	1	4	1	4	3
	13	"	31	...	5	—	5	1	4	4
	1	February	6	...	8	3	5	6	2	7
	3	March	5	...	10	1	9	5	5	10
	4	April	3	...	16	2	14	6	10	15
	5	May	1	...	57	8	49	7	50	47
	6	"	29	...	55	23	32	21	34	35
	8	June	26	...	23	8	15	7	16	18
1879.	9	July	24	...	6	2	4	—	6	4
	10	August	21	...	1	—	1	—	1	1
	13	November	13	...	1	—	1	1	—	1
	15	December	28	...	2	—	2	—	2	1
	1	February	5	...	7	1	6	—	7	2
	2	March	5	...	11	2	9	2	9	9
	3	April	2	...	28	3	25	13	15	18
	4	"	30	...	27	4	23	—	27	25
	5	May	28	...	10	1	9	2	8	7
	6	June	25	...	28	8	20	2	26	24
1880.	7	July	23	...	10	2	8	—	10	9
	8	August	20	...	8	—	8	1	7	8
	9	September	17	...	10	6	4	4	6	8
	1	February	4	...	9	4	5	1	8	6
	2	March	3	...	17	2	15	—	17	13
	3	"	30	...	5	—	5	—	5	5
	5	May	26	...	4	3	1	3	1	3
	6	June	23	...	2	2	—	1	1	2
	7	July	21	...	2	1	1	—	2	2
	9	August	18	...	2	—	2	—	2	1
1881.	10	September	15	...	6	2	4	1	5	3
	13	December	8	...	1	—	1	—	1	1
	1	February	2	...	14	2	12	4	10	14
	2	March	2	...	36	3	33	4	32	33
	3	"	30	...	36	8	28	17	19	32
	4	April	27	...	52	17	35	16	36	39
	5	May	25	...	48	9	39	17	31	35
	6	June	22	...	68	22	46	29	39	52
	7	July	20	...	37	5	32	9	28	27
	8	August	17	...	33	10	23	18	15	29
				18	2	16	5	13	15	
				9	4	5	2	7	9	
				8	1	7	2	6	8	
				5	1	4	2	3	4	
				3	—	3	3	—	2	
Totals...				1207	367	840	526	681	918	289

The number of cases in the several years was as follows :—1876, 75 ; 1877, 399 ; 1878, 179 ; 1879, 139 ; 1880, 48 ; 1881, 367 ; and the deaths 8, 84, 24, 24, 11 and 55 : total 206=17 per cent. on total cases.



Year	Month	Day	Description	Amount				Balance
				To	By	Balance	Forward	
1830	Jan	1	to Cash	100		100		100
1830	Jan	2	to Cash	50		150		150
1830	Jan	3	to Cash	25		175		175
1830	Jan	4	to Cash	10		185		185
1830	Jan	5	to Cash	5		190		190
1830	Jan	6	to Cash	5		195		195
1830	Jan	7	to Cash	5		200		200
1830	Jan	8	to Cash	5		205		205
1830	Jan	9	to Cash	5		210		210
1830	Jan	10	to Cash	5		215		215
1830	Jan	11	to Cash	5		220		220
1830	Jan	12	to Cash	5		225		225
1830	Jan	13	to Cash	5		230		230
1830	Jan	14	to Cash	5		235		235
1830	Jan	15	to Cash	5		240		240
1830	Jan	16	to Cash	5		245		245
1830	Jan	17	to Cash	5		250		250
1830	Jan	18	to Cash	5		255		255
1830	Jan	19	to Cash	5		260		260
1830	Jan	20	to Cash	5		265		265
1830	Jan	21	to Cash	5		270		270
1830	Jan	22	to Cash	5		275		275
1830	Jan	23	to Cash	5		280		280
1830	Jan	24	to Cash	5		285		285
1830	Jan	25	to Cash	5		290		290
1830	Jan	26	to Cash	5		295		295
1830	Jan	27	to Cash	5		300		300
1830	Jan	28	to Cash	5		305		305
1830	Jan	29	to Cash	5		310		310
1830	Jan	30	to Cash	5		315		315
1830	Jan	31	to Cash	5		320		320
1830	Feb	1	to Cash	5		325		325
1830	Feb	2	to Cash	5		330		330
1830	Feb	3	to Cash	5		335		335
1830	Feb	4	to Cash	5		340		340
1830	Feb	5	to Cash	5		345		345
1830	Feb	6	to Cash	5		350		350
1830	Feb	7	to Cash	5		355		355
1830	Feb	8	to Cash	5		360		360
1830	Feb	9	to Cash	5		365		365
1830	Feb	10	to Cash	5		370		370
1830	Feb	11	to Cash	5		375		375
1830	Feb	12	to Cash	5		380		380
1830	Feb	13	to Cash	5		385		385
1830	Feb	14	to Cash	5		390		390
1830	Feb	15	to Cash	5		395		395
1830	Feb	16	to Cash	5		400		400
1830	Feb	17	to Cash	5		405		405
1830	Feb	18	to Cash	5		410		410
1830	Feb	19	to Cash	5		415		415
1830	Feb	20	to Cash	5		420		420
1830	Feb	21	to Cash	5		425		425
1830	Feb	22	to Cash	5		430		430
1830	Feb	23	to Cash	5		435		435
1830	Feb	24	to Cash	5		440		440
1830	Feb	25	to Cash	5		445		445
1830	Feb	26	to Cash	5		450		450
1830	Feb	27	to Cash	5		455		455
1830	Feb	28	to Cash	5		460		460
1830	Feb	29	to Cash	5		465		465
1830	Feb	30	to Cash	5		470		470
1830	Mar	1	to Cash	5		475		475
1830	Mar	2	to Cash	5		480		480
1830	Mar	3	to Cash	5		485		485
1830	Mar	4	to Cash	5		490		490
1830	Mar	5	to Cash	5		495		495
1830	Mar	6	to Cash	5		500		500
1830	Mar	7	to Cash	5		505		505
1830	Mar	8	to Cash	5		510		510
1830	Mar	9	to Cash	5		515		515
1830	Mar	10	to Cash	5		520		520
1830	Mar	11	to Cash	5		525		525
1830	Mar	12	to Cash	5		530		530
1830	Mar	13	to Cash	5		535		535
1830	Mar	14	to Cash	5		540		540
1830	Mar	15	to Cash	5		545		545
1830	Mar	16	to Cash	5		550		550
1830	Mar	17	to Cash	5		555		555
1830	Mar	18	to Cash	5		560		560
1830	Mar	19	to Cash	5		565		565
1830	Mar	20	to Cash	5		570		570
1830	Mar	21	to Cash	5		575		575
1830	Mar	22	to Cash	5		580		580
1830	Mar	23	to Cash	5		585		585
1830	Mar	24	to Cash	5		590		590
1830	Mar	25	to Cash	5		595		595
1830	Mar	26	to Cash	5		600		600
1830	Mar	27	to Cash	5		605		605
1830	Mar	28	to Cash	5		610		610
1830	Mar	29	to Cash	5		615		615
1830	Mar	30	to Cash	5		620		620
1830	Mar	31	to Cash	5		625		625
1830	Apr	1	to Cash	5		630		630
1830	Apr	2	to Cash	5		635		635
1830	Apr	3	to Cash	5		640		640
1830	Apr	4	to Cash	5		645		645
1830	Apr	5	to Cash	5		650		650
1830	Apr	6	to Cash	5		655		655
1830	Apr	7	to Cash	5		660		660
1830	Apr	8	to Cash	5		665		665
1830	Apr	9	to Cash	5		670		670
1830	Apr	10	to Cash	5		675		675
1830	Apr	11	to Cash	5		680		680
1830	Apr	12	to Cash	5		685		685
1830	Apr	13	to Cash	5		690		690
1830	Apr	14	to Cash	5		695		695
1830	Apr	15	to Cash	5		700		700
1830	Apr	16	to Cash	5		705		705
1830	Apr	17	to Cash	5		710		710
1830	Apr	18	to Cash	5		715		715
1830	Apr	19	to Cash	5		720		720
1830	Apr	20	to Cash	5		725		725
1830	Apr	21	to Cash	5		730		730
1830	Apr	22	to Cash	5		735		735
1830	Apr	23	to Cash	5		740		740
1830	Apr	24	to Cash	5		745		745
1830	Apr	25	to Cash	5		750		750
1830	Apr	26	to Cash	5		755		755
1830	Apr	27	to Cash	5		760		760
1830	Apr	28	to Cash	5		765		765
1830	Apr	29	to Cash	5		770		770
1830	Apr	30	to Cash	5		775		775
1830	Apr	31	to Cash	5		780		780
1830	May	1	to Cash	5		785		785
1830	May	2	to Cash	5		790		790
1830	May	3	to Cash	5		795		795
1830	May	4	to Cash	5		800		800
1830	May	5	to Cash	5		805		805
1830	May	6	to Cash	5		810		810
1830	May	7	to Cash	5		815		815
1830	May	8	to Cash	5		820		820
1830	May	9	to Cash	5		825		825
1830	May	10	to Cash	5		830		830
1830	May	11	to Cash	5		835		835
1830	May	12	to Cash	5		840		840
1830	May	13	to Cash	5		845		845
1830	May	14	to Cash	5		850		850
1830	May	15	to Cash	5		855		855
1830	May	16	to Cash	5		860		860
1830	May	17	to Cash	5		865		865
1830	May	18	to Cash	5		870		870
1830	May	19	to Cash	5		875		875
1830	May	20	to Cash	5		880		880
1830	May	21	to Cash	5		885		885
1830	May	22	to Cash	5		890		890
1830	May	23	to Cash	5		895		895
1830	May	24	to Cash	5		900		900
1830	May	25	to Cash	5		905		905
1830	May	26	to Cash	5		910		910
1830	May	27	to Cash	5		915		915
1830	May	28	to Cash	5		920		920
1830	May	29	to Cash	5		925		925
1830	May	30	to Cash	5		930		930
1830	May	31	to Cash	5		935		935
1830	Jun	1	to Cash	5		940		940
1830	Jun	2	to Cash	5		945		945
1830	Jun	3	to Cash	5		950		950
1830	Jun	4	to Cash	5		955		955
1830	Jun	5	to Cash	5		960		960
1830	Jun	6	to Cash	5		965		965
1830	Jun	7	to Cash	5		970		970
1830	Jun	8	to Cash	5		975		975
1830	Jun	9	to Cash	5		980		980
1830	Jun	10	to Cash	5		985		985
1830	Jun	11	to Cash	5		990		990
1830	Jun	12	to Cash	5		995		995
1830	Jun	13	to Cash	5		1000		1000
1830	Jun	14	to Cash	5		1005		1005
1830	Jun	15	to Cash	5		1010		1010
1830	Jun	16	to Cash	5		1015		1015
1830	Jun	17	to Cash	5		1020		1020
1830	Jun	18	to Cash	5		1025		1025
1830	Jun	19	to Cash	5		1030		1030
1830	Jun	20	to Cash	5		1035		1035
1830	Jun	21	to Cash	5		1040		1040
1830	Jun	22	to Cash	5		1045		1045
1830	Jun	23	to Cash	5		1050		1050
1830	Jun	24	to Cash	5		1055		1055
1830	Jun	25	to Cash	5		1060		1060
1830	Jun	26	to Cash	5		1065		1065
1830	Jun	27	to Cash	5		1070		1070
1830	Jun	28	to Cash	5		1075		1075
1830	Jun	29	to Cash	5		1080		1080
1830	Jun	30	to Cash	5		1085		1085
1830	Jun	31	to Cash	5		1090		1090
1830	Jul	1	to Cash	5		1095		1095
1830	Jul	2	to Cash	5		1100		1100
1830	Jul	3	to Cash	5		1105		1105
1830	Jul	4	to Cash	5		1110		1110
1830	Jul	5	to Cash	5		1115		1115
18								