### [Report of the Medical Officer of Health for Wandsworth District, The Board of Works (Clapham, Putney, Streatham, Tooting & Wandsworth)].

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AC (432 (3) WANDSWORTH

The Board of Morks for the Mandsworth District.

### SANITARY DEPARTMENT.

### REPORT

ON THE

23 OCT 91

HEALTH AND SANITARY CONDITION

OF THE SEVERAL PARISHES COMPRISED IN THE

## WANDSWORTH DISTRICT,

DURING THE YEAR 1890,

BY THE

MEDICAL OFFICERS OF HEALTH.

London :

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To the Board of Works for the Wandsworth District.

GENTLEMEN,

We have the honour to present our Report on the vital statistics and sanitary condition of the Wandsworth District for the year 1890.

The report is framed on the same plan as those of former years.

The report may be considered to show a state of affairs that is satisfactory, as evidenced by the low death-rate from the recognised preventable diseases, although the mortality was greatly raised by the prevalence of epidemic influenza.

We have the honour to remain,

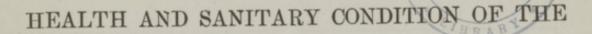
Gentlemen,

Your obedient Servants,

The Medical Officers of Health for the Wandsworth District.



ON THE



ENTIRE DISTRICT, 1890.

### VITAL STATISTICS.

Taking as a basis for calculation the census Population. returns obtained in the spring of the year 1891, the population of the Wandsworth District in the middle of 1890 is estimated as 151,736. The estimated population in the middle of 1889 was 142,108 showing that the population was really greater than the official estimate during the last five years of the decade, as we have stated in preceding reports. The enumerated population at the census in 1881 was 103,172 and at the census in 1891, 156,931, an increase of 53,759 in the ten years. Though the population has been under estimated the difference has not been sufficient to materially affect the birth and death rates calculated therefrom and which may therefore be compared fairly enough with those for 1890.

Births. The total number of births registered during the year was 4,099 of which 2,045 were of males and 2,054 of females.

The following Table I. gives the numbers in each sub-district.

TABLE 1.

BI	RTHS.			RATES			
Sub-Districts.	Males.	Females.	Total.	Birth-rate	Rate of Natural Increase.		
Clapham	463	540	1003	23.2	9.32		
Putney	224	229	453	23.4	12.3		
Streatham	522	541	1063	25.3	13.7		
Tooting	86	82	168	26.2	10.3		
Wandsworth	750	662	1412	32.74	16.79		
Whole District	2045	2054	4099	27.01	12.43		

The birth-rate per thousand was 27.01 as compared with 27.5 in the previous year. For the whole of London the birth-rate was 29.1 during the same period. The excess of births over deaths or natural increase was 1886 and the rate of natural increase was 12.43.

Deaths. The total number of deaths registered was 2,213 of which 1,035 were of males and 1,178 of females. The following table gives the numbers and the rates in each sub-district.

TABLE II.

D	EATHS.			a thickness		
Sub-Districts.	Males.	Females.	Total.	Death-rate.		
Clapham	293	306	599	13.88		
Putney	119	115	234	13.1		
Streatham	226	269	495	11.5		
Tooting	47	51	98	15.9		
Wandsworth	350	437	787	15.9*		
Whole District	1035	1178	2213	14.58		

<sup>\*</sup> Excluding deaths in public institutions.

The death-rate for the entire district was 14.58. This is higher than last year's figure.

The following table compares 1890 with preceding years.

Birth-rates, Death-rates, and rates of Natural Increase in the entire district during the ten years 1880-89.

YEARS.	Birth-rate per 1000.	Death-rate per 1000.	Rate of Natural Increase.
1880	28.9	15.0	13.9
1881	30.0	14.0	16.0
1882	€0.8	15.5	15.3
1883	30.4	16 5	13.9
1884	32.3	15.3	17.0
1885	30.0	13.0	17.0
1886	30.8	14.5	16.3
1887	39.4	13.3	17.1
1888	29.5	13.4	16.1
1889	27.5	11.6	15.8
Mean of Cen Years.	30.0	14.21	15.8
1890	27.01	14.58	12.43

It will be seen that the death-rate exceeds the decennial average by 0.37 which is to be explained, as will be shown later, by the exceptional conditions affecting the public health during a part of this year. The death-rate for London during the same period was 20.3 as compared with 17.4 in 1889, the increase therefore was common to London throughout.

The birth-rate has undergone a further fall and is lower than in any year. There has been a continual decrease in the birth-rate since 1884 in common with that of the whole metropolis.

Deaths in Outlying Institutions. there are others of inhabitants of the district who have died in the various Hospitals and Asylums of the Metropolis. There is on the other hand, very probably a considerable number of inhabitants of other districts who have died in this district and whose deaths are included in our mortality tables. In the following table however the deaths of inhabitants of the Wandsworth District in Outlying Institutions are given with the causes of death, sub-district from which they came, and character of the institution in which they died.

TABLE IV.

Deaths in Outlying Institutions.

			1			-	_	_	-
CAUSES OF DEATH.	Number in Entire District.	Clapham.	Putney.	Streatham,	Tooting.	Wandsworth.	Union Infirmary.	General and Special Hospitals.	Asylums Board Hospitals.
Small Pox Scarlet Fever Diphtheria Enteric Fever Whooping Cough Measles Other Zymotic	 7 5 7 5 1	3 2 1 2 1	··· i	1 1 1		 3 1 5 3	 1 5 1	 4 1 	··· 7 1 5 ··· ··
Diseases Tubercular Diseases Cancer Rheumatism Respiratory Diseases Circulatory Diseases	1 53 14 7 64 29	13 5 1 14 7	 4  3 8 1	10 2 12 6	1 2 1 1 1 1	26 5 2 29 14	23 4 4 4 40 17	27 10 2 22 11	1 3  1 2 1
Nervous Diseases Other Diseases Violence	62 86 18	17 20 5	5 16 5 43	10 13 5	2 3 	28 34 3	31 50 1	15 29 17	16 7 ··-
Corresponding Totals in preceding year		91	28	42	13	153	177 140	138 129	17

It will be seen that the total of these deaths was 359 as compared with 286 in 1889 and 328 in 1888. If we add these 359 to 2,213 (as given in Table II.) we arrive at a total of 2,572 deaths which gives a death-rate of 16.9. This is no doubt too high a figure but it cannot be further corrected owing to the impossibility of eliminating the deaths of persons from outside the district. The table enables us to form an approximate idea of the use made of the institutions by each subdistrict.

For every 1,000 of the population there died in Outlying Institutions, including the Union Infirmary:

		1889.	1890.
	Clapham	 1.9	 2.1
	Putney	 1.7	 2.4
	Streatham	 1.0	 1.4
	Tooting	 2.6	 1.9
-	Wandsworth	 3.2	 3.2

Wandsworth again has a larger proportion of these deaths.

Table V. gives important information as to number and density of population and relative mortality of industrial and other classes of each sub-district.

TABLE V.

Sub-District.	Population middle of	Percentage of Total	Number of persons	Relative mortality of Industrial and other classes.			
NOD-DAGAMOT.	1890.	Popula- tion.	to 1 acre.	Industrial classes.	Other classes.		
Clapham	43,138	28.4	35	65.1	34.9		
Putney	17,771	11.8	8	66.8	33.2		
Streatham	42,000	27.7	14	42.0	58.0		
Tooting	5,700	3.7	10	53 0	47.0		
Wandsworth	45,284	29.8	19	64.5	35.5		

In Table VI. the deaths occurring in the entire district during the year are classified according to sex, age, and social position, the relative numbers in each district being also given.

#### TABLE VI.

Summary of Deaths and their Causes, registered in the entire District during 1889, classified according to Sex, Age, and Social Position, and showing also the relative numbers in each Sub-District.

POPULATION	the	St	ıb-D	istric	cts.	-	Sea	c.				Age	ð.				Soc	ial	Posit	ion
of entire District, (Census) 1881, 103,172. Official Population in middle of 1890, 151,736. Area in Statute Acres, 9,352.  CAUSES OF DEATH.	al Deaths from each class of Disease in entire District.	Clapham—Fopulation, 43,138.  Area in acres, 1,233.  Detroot Development 17,771	Area in accordance 2,176,	ea in acre	Accepted agree, 561. Wandsworth Pornlation 45,984	Area in acres, 2,433.	Males.	Females.	Under 1 year.	From 1 to 5 years.	From 5 to 10 years.	From 10 to 20 years.	From 20 to 40 years.	From 40 to 60 years.	From 60 to 80 years.	80 years and upwards.	Nobility and Gentry.	Professional Class, Merchants, Bankers, &c.	Middle & Trading Class.	Industrial and Labouring Classes.
Influenza Small Pox Whooping Cough Measles Diphtheria Typhus Fever Enteric Fever Diarrhœa, Dysentery & Cholera Erysipelas Puerperal Fever Other Zymotic Diseases Totals of Zymotic Class	21  95 87 2 15  14 73 5 8	17 2 4  3 18 1 2			·· 2 1 ·· · · · · · 1 3 1 ·· · 2	7 35 47 10 5 37 2 2 2	9 34	39 2 12  5 41 1 8	43 18  2  59 4	50 63 2 8 2 9	6 4		3 6	77 4 4 1 1 1 15	5		1	3 7 3 2 8 2	7 21 6 4 6 155 1 2 1 63	67 78 2 11  6 49 4 4
Gout, and Rheumatism Cancer and other Tumours Other Constitutional Diseases Tabes Mesa Hydrocephalus Scrofula Nervous	33 89 38 185 43 32 5 294 150	29 5 46 15 16 2 77 57	8 2 28 2 1 34 18	26 3 36 8 4 1 68 28	6 1  12 7	69 17 12 1 103 40	28 13 90 21 19 2 155 61	61 25 95 22 13 3 139 89	13 9 29 8 1 73 4	7 11 16 3 42 1	1 5 2 3	1 4 16  4 1 12 7	7 4 66 1 1 	73   51 41	7 9  80 65	14 9	7 1 3 9 7	4 16 3 1  34 25	16 26 11 45 10 9 1	39 22 121 30 22 4 154 72
Circulatory Respiratory Digestive Urinary Generative Locomotory Integumentary  (Premature Birth, Low Vitality Vitality Odd Age Old Age	473 123 50 18 3 1 159 159	26 15 5 1 	26 5 2 	13	··· 2 ··· 5	177 42 17 6 2 1 41 13 24	51 22  1  93	72 28 18 2 1	1 152 15	4 1		2	27,		143 42 28	2 4 1	4 2 1 1	20 5 4 1  2	135 34 27 7  40 7 47	65 16 7 1
V. Violence VI. Illdefined & not specified	_			3	5	27		34 2 1	3			4		3	1				13	50 6 1
TOTALS	2213	599	234	495	98	787	1035	1178	592	322	42	65	218	357	473	143	71	212	635	1295

Ages at Death. Of the total deaths 22.2 per cent were of infants under 1 year, and 27.8 of persons over 60 years of age.

The Infantile Mortality is expressed in the following figures:—

Deaths under 1 year per 1,000 births-

Clapham	149 per 1,000
Putney	154 ,,
Streatham	112 ,,
Tooting	196 ,,
Wandsworth	155 ,,
Whole District	144 ,,

This rate is higher than in the previous year when it reached the very exceptional figure of 105. The rate for London was 162.

Causes of Mortality. Table VII. allows a comparison to be made between the year 1890 and the preceding years since the separation of Battersea.

Table VII. showing the total number of deaths and their causes registered in the entire district during the 4 years 1887—90 with the relative numbers of each class of disease.

Small Pox Scarlatina					
Diphtheria	a	68 12 20 41 1 10 70 11 2	53 14 53 96  13 64 5 6	3i 5 30 39 1 9 41 5 3	87 2 15 95  14 73 5 8 21 2
Totals of Zymotic Class		240	304	169	322
Gout and Rheumatism Cancer and other Tumours. Other Constitutional Diseases Tubercular Nervous Circulatory Respiratory Digestive Urinary Generative Locomotory Integumentary Premature Births, Low Vita Malformation, &c., &c. Old Age Violence Ill-defined and not specified	lity,	26 78 18 268 292 142 330 119 52 4 1 1 1 144 97 39 4	18 70 12 257 298 160 357 119 50 7  4 156 96 48 8	14 68 15 219 282 146 302 107 50 14 3  149 103 48 9	33 89 38 265 294 150 473 123 50 18 3 1 174 104 66 10

Zymotic Diseases. 322 or 14.5 per cent. of the total deaths were due to diseases of this class. The Zymotic death-rate was 2.1 per 1,000, as compared with 1.1 in the the previous year.

The following table presents at a glance a comparison of the number of deaths and death-rates for the last three years.

14

TABLE VIII.

		Whole District.	Clapham.	Putney.	Streatham.	Tooting.	Wandsworth.
m / 1 D / 1 C (	1888	304	84	16	77		127
Total Deaths from Zymotic Diseases.	1889	169	66	12	32	12	47
Zymotic Diseases.	1890	322	67	21	1 79	10	145
	1888	2.1	1.9	1.0	1.7		3.7
Zymotic Death-rate.	1889	1.1	1.4	0.73	0.8	2.4	13
	1890	2.1	1.5	1.1	1.8	1.7	3.3
Double and from all (	1888	13.4	12.4	11.7	11.4		18.0
Death-rate from all Diseases	1889	11.6	11.6	11.1	10.2	13.1	11.8
Discusos	1890	14.5	13.8	13.1	111.5	15.9	15.9

There was an increase in the total number of Zymotic deaths, attributable to an increase in deaths from measles, whooping cough and diarrhea, and the occurrence of 21 deaths from influenza. On the other hand, the more serious kinds, or at all events those included in the Notification of Diseases Act, all showed a decrease. It is particularly satisfactory to notice a further decrease in the deaths from Diphtheria, of which there were 15 compared with 30, 53, and 20 in the preceding years. This appears to show that the exceptional prevalence in the last few years has been due, not to general insanitary conditions of dwelling houses, schools, etc., but rather, as we have stated in former reports, to personal infection.

With regard to the large number of deaths from measles and whooping cough, we strongly hold that a considerable proportion could be prevented by proper care being taken of the children. It is constantly seen in both whooping cough and measles that the sufferers are carelessly allowed to be exposed to bleak winds far too soon, thus causing unnecessary mortality, and that every facility is given for the spread of these diseases,

particularly in schools. The present state of the law does not give any power to control this state of things at all, and, as we have recently reported, we think that the inclusion of measles in the Notification of Diseases Act would do good by enabling us to control school attendance, and especially by educating the public to understand its gravity. Undoubtedly the visits of the Inspectors and the control exercised by our departments have done very much to teach the public its responsibility in the case of scarlet fever, and the same result would follow in that of measles.

The following gives the number of certificates received under the provisions of the Infectious Diseases Notification Act.

TABLE IX.

	Clapham.	Putney.	Streatham.	Tooting.	Wandsworth.
Small Pox Diphtheria Membraneous Croup Scarlet Fever Enteric Fever Continued Fever Puerperal Fever Erysipelas	36 2 84 21  1 44	10 · · · 9 8 · · · 1 11	23 87 17  3 20	12 2 1 2	39 2 117 29 5 3 70
Totals	188	39	150	21	265

Influenza. The epidemic of Influenza that occurred in London in the early part of the year gravely affected the mortality. The 21 deaths directly attributed to it probably represent a small part only of its disastrous influence, for its very common result was lung disease, especially pneumonia. Accordingly we find an increase

of 171 in the deaths from respiratory diseases, and that is the chief factor that has produced the large total number of deaths. The following quotation from the Registrar-General's Annual Summary for 1890 shews clearly the reason for attributing this excess to the influence of Epidemic Influenza:

"For, in the first place, the enormous and sudden increase in these deaths occurred at a time when the ordinary cause of increased mortality from lung diseases, namely severe cold, was conspicuously absent, the mean temperature in January having in fact been no less than 7.1 Fahr. above the average for that month. Secondly, the usual winter rise in the mortality from lung diseases takes place under the heading bronchitis in a much greater degree than under the heading pneumonia; whereas, the reverse was the case in the first month of 1891, for, while the mortality under bronchitis rose only 64 per cent. above the January average, the mortality under pneumonia rose 97 per cent. And, thirdly, while the ordinary rise of mortality in cold seasons is mainly among the very aged, the increased mortality in these fatal months was mainly among persons between 20 and 60."

The chief Acts that came into force in 1890, that concern the working of the Health Department, were the Diseases Prevention Act, the Housing of the Working Classes Act, and the Customs and Inland Revenue Act.

Particulars as to the working of these Acts will be found in the various local summaries, and they have proved themselves practically valuable.

The principal point in the first named Act that has affected the sanitary work of this district is in the provisions relating to disinfection; our procedure being simplified and the work done more quickly.

The Housing of the Working Classes Act, part 2, in spite of the difficulties in its working in cases where demolition is aimed at, has been found very useful in getting premises thoroughly repaired, when, probably under the Nuisances Removal Act, it would have been difficult to get all the requisite work done.

Vaccination. Table X gives important information as to the carrying out of the Vaccination Acts.

4,100 births were registered in the previous year 1889; of these children 3,304 were returned as successfully vaccinated; 265 children were left unaccounted for, which is equivalent to 6.4 per cent.

TABLE X.

SUB- DISTRICTS.	Number of Births Returned from 1st January to 31st December 1889.	Successfully Vaccinated.	Insusceptible of Vaccination.	Had Small-pox.	Dead Unvaccinated.	Postponed by Medical Certificate.	Removed to District, Vaccination Officer of which has been duly apprised.	Removed to places unknown, or which cannot be reached; and cases not having been found.
Clapham	1116	866	6		104	47	20	73
Putney	380	307	1		33	13	2	24
Streatham	1171	929	2		98	41	34	67
Wandsworth	1433	1202	12		90	25	3	101
Totals	4100	3304	21		325	126	59	265

Inquests. The following table gives particulars of the Inquests held in the district during 1890, with the Verdicts. The number was 138, compared with 89 in the previous year, and formed 5.1 per cent. of the total deaths.

It will be seen that 59 were due to natural causes and 74 to violence. Of the latter, 53 were accidental, 9 were suicidal, 8 were homicidal, and in 4 open verdicts were returned.

		_		_		_
Inquests.	Total.	Clapham,	Putney.	Streatham.	Tooting.	Wandsworth.
				1		
I. Deaths from Natural Causes:	59	10	10	9		30
II. Deaths from Violence:			122.01			
(a) Accidental:						
Falls	12	6		2	1	3
Found dead in bed with parents	7	4			1	2
Drowning	12	2	2		1	7
Burns	2	1				1
Scalds	2 2	2				
Run over by train	1	1				
Tetanus from injury to thumb	1			1		
Injury to liver	1			1		
Fracture of spine	1					1
Injuries to head and brain	1					1
Pistol wound	2			1		1
Poisoning by Carbolic Acid	1			1		
Poisoning by Morphine	1					1
Suffocation	3	1	2			
Suffocation by smoke	1					1
Suffocation in a fit	1					1
Suffocation by impaction of teeth						
in Larynx	- 1		100	100	1	1
Suffocation by neglect at birth						9
Asphyxia	1		1			-
(1) 0		**				
Tancina	3	15,41		1	1	9
T ·	2			1	1	1
Poisoning by Chloroform and	-			1		1
	1	1	100		To said	
Belladonna Poisoning by Cyanide of Potassium		1				
	1	1				
Poisoning by Carbolic Acid Bullet wound	1		.:	1		
(v) Homicidal:	1	**	1			
	1		Harris		1	1,,,,,,
Hæmorrhage from Umbilical cord. Want of attention at birth	1				1	
Fracture of skull	1				1	.:
	1					1
Injury to head Wilful Murder:	1				**	1
G1 1.	1				100	1
	1					1
Suffocation	1 2	900				1
Execution	2					2
(d) Open Verdicts:	0				TO THE	-
Found Dead	2	.:	1			1
Found Drowned	1	1				**
Suffocation	1	1				
					3	
				-		
Totals	100	0.1	2.00	2.00	0	00
Totals	133	31	17	17	6	62
	1000	10			100	

Sickness and Mortality among the deaths that occurred in the sub-districts. The Parochial Poor. total number of cases coming under treatment was 1,978 as compared with 2,014 in 1889, and the number of deaths was 80 as compared with 83 in the previous year.

 $\label{eq:table_XII} TABLE~XII.$  Sickness amongst Union Poor during 1890.

SUB-DISTRICTS.		ases of Sickness treated in each Sub-District.	Total Deaths in each Sub-District.		1.—Small Pox.	O Meanles	z.—measies.		oScarlatina.	4 Dielakonia	*Dipnuera.	Thu .	" w nooping cougn.	6Diarrhoea and	Dysentery.	7 —Influenza	.	S Towon		9.—Ervsinelas.		10.—Puerneral Fever.	- 1	11.—Lung Diseases.	except Phthisis.		12.—Phthisis.	13.—Hydrocephalus, Atrophy	Convulsions.	14-Violence Privation	and Premature Birth.	15 ()ther Discusses	o Comer
		Total Cases eacl	Total Dea	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Clapham		721	35			7				1		12	5	37	2	38		16		9				174	14	15	2	6	4			406	8
Putney		84	4			3								1						3				2	1	2	2	3		1		69	1
Streatham		215	11			5		2				10	1	6						1				70	4	6	2	4		5		106	4
Tooting		150				7						9		11		28																95	
Wandsworth		823	30			35	3			1		11	2	27	2	53	1			8				240	7	13	2	3	3	31	1	401	9
Total	. 1	993	80		-	57	3	2		2		42	8	- 82	4	119	1	16		21		- :		486	26	36	8	16	7	37	1	1077	22

Operations of Particulars are given in tabular form of the sanitary work that is being constantly carried out in each sub-district. The importance of this work is very great, and the table shows how much is done and in how few instances it is necessary to apply to the Magistrates for compulsory orders.

### TABLE XIII.

# Summary of Sanitary Operations in the entire District during the year 1890.

		O-				
	Clapham.	Putney.	Streatham.	Tooting.	Wandsworth.	TOTAL.
Number of Houses and Prom-						
Number of Houses and Premises inspected	4564	4069	4721	480	4933	18767
1st Notices served	1359	442	481	66	867	3215
2nd Notices served	122	46	7	6	79	260
Number of houses disinfected				20		
after infectious diseases	113	16	99	23	402	653
Number of houses in which						
infectious disease recurred after disinfection					2	2
Number of houses from which						
bedding, &c., was burnt	3		7			10
Bedding stoved	30	8				38
Overcrowding abated	22	0.0	2	1	4	29
Rooms cleansed and repaired.	917	33	134	18	44	1146
Staircases & passages cleansed and repaired	254	24	52	6	43	379
New drains and drains relaid	71	73	536	12	1010	1702
Number of feet of new sewers						
and branch drains	1433	2520	7230		3417	14600
Drains cleansed and repaired	324	165	131	22	172	814
Syphon traps fixed to drains	749	35	87			871
Sinks altered to discharge out-	102	43	102	28	46	321
Bath and lavatory wastes		40	102	20	10	021
altered to discharge out-		1		1000		
side over gullies	38	7	31	3		79
Rain water pipes disconnected		au.	100000	1	A STATE OF	
from drains	37	47	114	18		216
Water-closets cleansed and re-	474	140	00		001	1000
paired	474	149	96	8	281	1008
Water-closets, supply of water laid on to	12	15	57	16	289	389
Urinals cleansed, repaired or						
water laid on	8	11	14			33
Accumulation of manure, &c.,			- 132	1		
removed	41	22	86	4	55	208
Cesspools abolished	500	27	23 52	18	163	36 859
Dust-bins provided Stables drained or paved and	599	21	02	10	100	000
cleansed	15	7	7	1	5	35
Yards drained or paved and	10000000					
cleansed	100	63	4		17	184
Unwholesome or dilapidated				1		
houses cleansed & repaired		32	7		13	52
Leaky house-roofs and gutters		28	29	2	72	425
repaired	. 9	1	21	1	35	67
Water-cisterns cleansed						
covered and repaired	337	73	21	11	151	593
Cistern overflow pipes discon-						
nected from drains	3	2	13			18
Wells closed Pig nuisances removed	3	1 2	· · ·			16
Unclassified nuisances	284	34	52		45	419
Cases investigated by Magis-	201		1		1	
trates	3	1	2		2	8
Compulsory Orders obtained		1	1		1	5
Compulsory works obtained	3	1	1		1	6
			)		_	

LOCAL SUMMARIES.



### CLAPHAM.

Population. The population of the sub-district in the middle of 1890, obtained by making use of the result of the census taken in April of this year is 43,138.

If the rate of increase that obtained in the ten years 1871 to 1881 had been maintained the population would have been 47,372.

The increase since 1881 has therefore been 6,758 instead of 10,992 as estimated. This shows the imperative need for a more frequent census if vital statistics are to be a reliable indication of the state of health.

It must be borne in mind, in comparing the figures in the following statistics with those of previous reports, that the population has been over estimated during the last five years and that the mortality rates for those years have been stated at lower figures than was correct. Bearing that fact in mind it will be found that the year 1890 will not compare unfavourably with preceding years.

Births and Birth-rate. The number of births registered during the year was 1,003,—463 of boys, and 540 of girls. This is a smaller number than in any year of the last ten years and gives a rate of 23.2 which is also lower than in any year. The rate of natural increase was 9.32.

Deaths and Death-rate. The number of deaths was 599, of which 293 were of males, and 306 of females. The death-rate was 13.88 per thousand. The deaths show an increase over 1889 of 65, and were 48 more than in 1888.

Table I. gives particulars of the births, birth-rates, deaths, death-rates, and rates of natural increase for the last 10 years.

TABLE I.

Birth and Death-rates.

YEAR.	Births.	Birth-rate.	Deaths from all Causes.	Death-rate.	Rate of Natural Increase.
1881	1,059	28.9	499	13.5	15.3
1882	1,081	28.8	544	14.5	14.3
1883	1,085	28.2	580	15.1	13.1
1884	1,123	28.3	543	13.7	14.6
1885	1,030	25.2	508	12.44	12.7
1886	1,071	25.5	545	12.99	12.5
1887	1,136	26.3	600	13.93	12.4
1888	1,076	24.3	551	12.4	11.9
1889	1,121	24.3	534	11.6	12.7
1890	1,003	23.2	599	13.88	9.32

Table II. gives particulars of the number, causes of death, ages, and social position of those who have died.

CLAPHAM.	s of strict.	SE	x.				Ag	в.				Soc	IAL P	OSITI	ON.
Population (Census) 1881 36,380 Official Population in middle of 1890 343,138  CAUSES OF DEATH.	Total Deaths from each Class of Disease, &c., in the Sub-District.	Males.	Females.	Under 1 year.	From 1 to 5 years.	From 5 to 10 years.	From 10 to 20 years.	At 20 and under 40 years of age.	At 40 and under 60 years of age.	At 60 and under 80 years of age.	80 years and upwards.	Nobility and Gentry.	Professional Classes, Mer- chants, Bankers, &c.	Middle and Trading Class, Shopmen, Clerks, &c.	Industrial and Labouring Classes.
Influenza  Small Pox  Measles	4  17 2  3 2 4 16 1 18	3 4 2 2 7 1 6	1 13 2  1 2 2 9 	1 5 7 1 15	1 11 2  1  3 9 	 /i :. :: :: ::		2 ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ··					··· ·· · · · · · · · · · · · · · · · ·	2   1  1 	2 17 2  2 1 2 16 
Totals of Zymotic Class	67	25	42	29	28	2	-	6	2	2 2	1		2	7 5	58
Gout and Rheumatism Cancer & other Tumours Other Constitutional Diseases. Phthisis Tabes Mesa Hydrocephalus Scrofula	46 15	5 8 3 27 8 11 1	2 19 7 5 1	1 10 5 1	1 4 1 4 6 1	2 2	6	18 1	9	3	3	i	1 4	3 12 1 3	21 4 29 14 13 2
Nervous	57 139 26 15 5	42 23 71 11 9	35 34 68 15 6 5	19 1 30 2 	11 24 1	1 4 1	3 4 2 1	3 5 8 2 1 1	13 19 23 9 5 3	21 24 39 9 7	6 4 11 1 1 1 1	4 5 4 1 	9 8 17 4 2 2	21 14 25 7 9 1	43 30 93 14 4 2 1
Premature Birth and Low Vitality Congenital Defects Old Age.	27	30 ii 5	14 16 11	44 6	2			2	3	6	21	6	1 4	6 12 3	37  5
VI. Illdefined and Illdefined . Not Specified. Not Specified	3	2	1	1				1	1						3
Totals .	599	293	306	149	83	12	19	55	103	126	52	22	58	129	390

Deaths in Out-lying Table III. gives particulars as to causes of Institutions. death of inhabitants of the parish who have died outside its borders. There were 91 deaths registered; 50 in the Union Infirmary, 26 in the General and Special Hospitals and 12 in the Hospitals of the Asylums Board, and 3 from accidents before reaching hospital. Including these 91 deaths the death-rate becomes 15.9.

		S	EX.		Age		Ins	TITUTI	ions.
DISEASES.	Total	Males.	Females.	Under 1.	1 to 60.	60 and upwards.	Union Infirmary.	General & Special Hospitals.	Asylums Board Hospitals.
Small Pox Scarlet Fever Diphtheria Enteric Fever Whooping Cough Measles Other Zymotic Diseases Tubercular Diseases Cancer Rheumatism Respiratory Diseases Circulatory Diseases Nervous Diseases Other Diseases Violence.  Totals	7 17	2 1 1  9 1  5 4 11 11 4 49	 1 1  2 1  4 4 1 9 3 6 9 1 42	· · · · · · · · · · · · · · · · · · ·	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		 2 1  7 1 1 8 4 9 16 1 50	2 1 5 4 6 3 1 3 1 26	3      7 1 

Ages at Death. Of the total deaths the proportion in age groups was as follows:—

Infantile Death-rate. The proportion of deaths of infants under one year to each thousand births was 149, which is higher than last year, when the rate was 115.

Position. The proportion of deaths in the various social grades was as follows:—

Zymotic Mortality in Clapham.

								100	1	
	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890
Influenza										4
Small-pox	7	1		2.	3	ii	25	14	ii	i7
Measles Scarlet Fever	10 15	15 26	33	33		1	6	5	2	2
Diphtheria	-	4	7	8	4	6	10		17	4 3
Enteric Fever	3	7	3	4	8	3	4	5	4	3
Whooping- Cough	13	17	16	15	25	34	25	28	15	16
Epidemic Diarrhœa Other Zymotic	20	4	19	18	16	25	24	15	11	18
Diseases	7	7	26	12	5	4	6	1	4	3
Totaldeathsfrom										
ZymoticDiseases Zymotic Death-	78	81	112	95	61	84	100	84	64	67
rate Death-rate from	2.1	2.1	2.9	2.3	1.49	2.0	2.2	1.9	1.4	1.53
all Diseases	13.5	14.5	15.1	13.7	12.4	12.9	13.9	12.4	11.6	13.88

Zymotic Diseases. Table IV. gives the number of deaths from the various Zymotic diseases, with the Zymotic and general death-rates for the last 10 years.

The number of deaths was 67 and the death-rate 1.53 indicating a very satisfactory condition as to comparative freedom from these diseases.

For the first time, owing to the Infectious Diseases Notification Act, it is possible to give a complete account of the amount of preventable disease that has occurred. Notification of 188 cases of the different diseases included in the Act have been received, and the early information obtained has undoubtedly been the means of checking the spread of illness in many cases. In many instances we have been successful by persuasion in getting patients removed to hospital promptly, and in others we have been enabled to insist on efficient isolation at home. The working of the Act has been without friction and as a rule medical men have been prompt in discharging their statutory duties.

Small Pox.—It is again with great satisfaction that I can report that not a single case of this disease has been notified. It may be mentioned that there has been no death from small pox since 1884.

Influenza.-London, like most other towns, was visited in the early part of the year by an epidemic of this disease. It is in this report classified among the Zymotic diseases and there seems no reason to doubt that it is infectious. The methods that have been found effectual in dealing with other diseases of this class are not likely to prove of equal benefit in checking the spread of Influenza, because of the indefiniteness of the symptoms in slight cases causing them to be overlooked, and allowing them to spread infection broad-cast. number of deaths, 4, attributed to Influenza does not give any idea of the extent to which it spread in January, February and March, and knowing how very numerous the cases were, it is gratifying that the deaths were so few. It will be noticed, however, that the deaths from diseases of the Respiratory Organs have reached the high figure of 139 which is considerably above the average, and it is most probably the case that a certain proportion of these commenced as Influenza resulting, as so frequently happens, in pneumonia,

Searlet Fever.—84 cases have been notified during the year. The deaths were 5 (including 3 in outside hospitals.) The mortality was therefore 5.95 per hundred cases. This is a somewhat high figure, but the smallness of the number of cases prevents any reliable conclusions being drawn from it.

As to distribution there has been no especial incidence on any portion of the district and the cases, though most numerous in the Autumn, have been reported in every month of the year.

Diphtheria.—It is satisfactory to be able to report that the deaths, which had been abnormally numerous during the two preceding years, have fallen in number in 1890. They were only 6 as compared with 23 in 1889 and in 1888.

Altogether 36 cases were reported and 2 of membranous croup.

The drains of the houses where these cases occurred were all examined, and defects were found in but few of them.

Enteric Fever.—Notification of 21 cases has been received during 1890. In the parish 3 deaths occurred, and 1 in an outside hospital. The thorough examination made into the drainage in these cases has enabled us to insist on many improvements.

Measles.—There were 18 deaths from this disease, including 1 in the Infirmary. This is a large number and I strongly hold that the number could be lessened if measles were included in the Notification Act. The deaths nearly all occurred from pulmonary complications, as usual, in many instances due to want of care. Greater care would no doubt be taken if parents recognised its

seriousness, and that result would I think follow if each case had to be notified. In all cases of death I have had the rooms fumigated with sulphurous acid and in such other cases as happened to come to my knowledge.

Whooping Cough was the cause of 18 deaths, also almost entirely from pulmonary troubles. Here again, these deaths are no doubt largely preventible, and are found to occur only in the houses of the poor, in spite of the fact that rich and poor suffer from the disease alike.

Diarrhæa accounted for 18 deaths, a larger number than in last year, but below the average of the last 10 years.

Erysipelas.—44 cases were notified and it was the cause of 1 death. It is difficult to see any benefit that results from the inclusion of this disease in the Notification Act. Very many of the cases notified are of a trivial character, and it has often been found that persons whose illnesses have been notified have been continuing to go about their business. It is very possible that the framers of the Act did not contemplate its application to such cases, but it would be impossible to draw a line including some and excluding others.

Disinfection. Rooms in 113 houses were fumigated with sulphurous acid. In a large number of instances the bedding and other contents of rooms have been disinfected by super heated steam by the contractor. The expense of this procedure has fallen on the Board where the occupiers could not reasonably afford to pay, and has amounted during the year to £34 6s. 2d.

The Board under the powers conferred by the Diseases Prevention Act, 1890, fitted up a room in the buildings in the parish yard, to be temporarily occupied by families turned out of their houses for purposes of disinfection. This will be needed only in cases of families occupying one room, or two, where both require to be disinfected, and at present no such occasion has occurred, though in former years the need of such a place has been felt from time to time.

Inquests. There have been 31 inquests held, at which the following were the verdicts:—

1.	From Natural Causes			10	
2.	Accidental—Falls			6	
	Found dead in bee	d		4	
	Sealds			2	
	Drowning			2	
	Burns			1	
	~ ~			1	
	Run over by train			1 —17	
3.	Suicide—Poisoning by Chloro	oform	and		
	Belladonna			1	
	Poisoning by eyanide	of P	otassium	1-2	
4.	Open Verdicts.—Found drown	ed		1	
	Suffocation			1-2	
				31	

Uncertified Deaths. Eleven deaths were registered without medical certificates.

Sanitary Proceedings of the year, have been inspected. The total number of nuisances dealt with amounted to 4,702, of these 4,287 were abated on the service of notices and 415 without formal service.

There were 1,359 first notices and 122 second notices served to remedy sanitary defects and abate nuisances, and in 4 cases it was found necessary to obtain orders of the Board.

In one instance the general condition of the premises was so bad that a notice was served under the Housing of the Working Classes Act, 1890, which resulted in a satisfactory and thorough repair being effected, including the provision of large ventilators in all the four rooms of the building.

The Table on page 22 gives a statement of the nuisances dealt with that can be conveniently classified.

The number of unclassified nuisances was 286 viz:—72 new ventilating pipes, 12 ventilating pipes repaired, 44 leaky water fittings, 15 new soilpipes. 13 soilpipes repaired, 28 cases of water in basements, 4 cases of stagnant water, 3 privies abolished, 4 manure pits reconstructed, 2 cases of burning clay and refuse, 21 cellar dwellings, 18 damp houses, 8 dirty floors, 20 leaky sinks, 2 defective water butts, 3 complaints of smoke from adjacent chimneys, 3 cases of corpses being kept in dwelling rooms, 3 cases of living in vans without water supply, 2 cases of rats, accumulation of dead dogs, leaky bath, animals kept so as to be a nuisance, viz.:—fowls, dog, pigeons and rabbits. Two fairs have been held to the annoyance of the surrounding neighbourhood.

Police summonses were obtained in 3 cases for non-compliance with notice to abate nuisances. In 2 cases magistrate's orders were obtained with costs and in the other case the defendant agreed to comply.

The Cow-houses and Slaughter-houses were inspected during October and their sanitary condition found satisfactory.

The Bake houses, 48 in number, have been inspected twice during the year. In April 11 required limewhiting, and in October 17 required limewhiting, the whole of these were cleansed and limewhited without notices.

The above figures and statements show that sanitary work is being vigorously prosecuted and that in spite of exceptional conditions a satisfactory degree of healthiness has been maintained in the sub-district.

OLIVER FIELD, M.D., D.P.H.

Medical Officer of Health for Clapham.

# PUTNEY & ROEHAMPTON.

Population. The census population of 1891, no doubt, approximates very closely the actual population existing in the middle of the year 1890. The census population will therefore be taken as the basis for calculation in the following tables. As was conjectured, the census population was very much in excess of the estimated population. That is to say, the rate of increase of the population has been greater during the last ten years than during the previous inter-censal period. The population at the four last census periods was as follows:—

1861	 	 6,481
1871	 	 9,438
1881	 	 13,221
1891	 	 17,771

During the year 453 births were registered, 224 males and 229 females. This is equivalent to a birth-rate of 25.4 per 1,000 per annum, which is the highest birth-rate we have had for seven years.

TABLE I
Birth and Death Rates.

YEARS.	Births.	Birth-rate.	Deaths from all Causes.	Death-rate.	Rate of Natural Increase.
1881	340	25.5	167	12.5	12.9
1882	361	26.3	208	15.1	11.1
1883	349	24.7	224	17.1	7:6
1884	377	25.3	199	13.7	11.6
1885	322	21.7	167	11.2	10.4
1886	352	23.1	179	11.8	11.2
1887	349	22.3	196	12.5	9.8
1888	366	22.9	187	11.7	11.2
1889	376	23.0	182	11.1	11.9
1890	453	25.4	234	13.1	123

Deaths and Death-rate. 234 deaths were registered, 119 males and 115 females. This gives us a death-rate of 13·1 per 1,000 per annum, which is also the highest death-rate we have had since the year 1884.

Deaths in Table II. gives us the number of deaths of outlying Institutions. inhabitants of this sub-district occurring in institutions beyond our boundaries.

Deaths in Out-lying Institutions.

		SE	x.		Age.		Inst	TTUTI	ons.
DISEASE.	Total.	Male.	Female.	Under 1.	1 to 60.	60 and upwards.	Union Infirmary.	General & Special Hospitals.	Asylums Board Hospitals.
Small Pox	 1	 i			··· i			··· i	
Whooping Cough Measles Other Zymotic Diseases						::			
Tubercular Diseases Cancer	4	1	3		4			4	
Respiratory Diseases	3 8	1 3	2 5	2	1 3	3	3	2 4	1
Circulatory Diseases Nervous Diseases Other Diseases	5	1 10	1 4 6	4	3 9	1 2 3	$\begin{vmatrix} 1 \\ 1 \\ 7 \end{vmatrix}$	4 9	
Violence	~	5			4	1		4	
Total	43	22	21	6	25	12	12	28	2

This number is also very much higher than that of the preceding year, and when added to those which occurred within the district gives us a death-rate of 15.5 per 1,000 per annum.

All deaths which occurred during the year are classified in Table III according to the cause, under the three headings of age, sex and social position.

### TABLE III.

- bus ishort 0.1	Disease.	SE	х.				A	3E.	111		-	Soc	DIAL I	Posit	ION.
Population (Census) 17,771  CAUSES OF DEATH.	Total Deaths from each Class of Di	Males.	Females.	Under 1 Year.	From 1 to 5. years.	From 5 to 15 years.	From 15 to 25 years.	At 25 and under 35 years.	At 35 and under 55 years.	At 55 and under 75 years.	75 years and upwards.	Nobility and Gentry.	Professional, Merchants, Bankers, &c.	Middle and Trading Class, Shopmen, &c.	Industrial & Labouring Classes.
Small-pox Measles Scarlet Fever Typhus Fever Enteric Fever Puerperal Fever Diphtheria Whooping Cough Erysipelas Diarrhœa, Dysentery & Cholera Other Zymotic Diseases  Totals of Zymotic Class  Gout & Rheumatism Cancer & other Tumours Other Constitutional Diseases Tabes Messenterica Hydrocephalus Scrofula  Nervous Circulatory Respiratory Digestive Urinary Generative Locomotory Integumentary  Premature Birth and Low Vitality Congenital Defects Old Age  V. Violence	21 5 8 2 28 2 28 2 34 18 42 26 5 2  26  4 9	4 	6 	· · · · · · · · · · · · · · · · · · ·	11	1 1	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	2 2 5 1 4 · · · · · · · · · · · · · · · · · ·	9  1  19 3 2 1 22 1  1 18 10 25 19 2 1  4  4  6  1 1  1  1  1  1  1  1  1  1  1  1  1  1  1 1  1 
VI. Illdefined and Not Specified Totals	234	119	1 115	70	27	3	11	26	38	45	14		16	62	156

There were 21 deaths recorded as resulting from diseases of a Zymotic nature, which is 12 in excess of last year. This increase is accounted for by the greater number of deaths from measles and whooping cough. The Sanitary Authority has practically no power to prevent the spread of these disorders. They are communicated by contagion and not notified under the Infectious Disease Notification Act. In regard to those diseases over which we have more control, the mortality is practically nil. No fatal case of Small Pox, Scarlet Fever or Diphtheria was reported.

TABLE IV.

Zymotic Mortality in Putney & Roehampton Sub-district

ZYMOTIC MORTALITY		1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890
Erysipelas Small Pox						.;					2	1
Measles			6	13	2	1	4	4	2		2	10
Scarlet Fever		1	8	4	7	**		1	1		1	
Enteric Fever Diphtheria	::	4	1	4 29	24	10	3 5	1 1	i	2 2	1	1
Whooping Cough		9	3	8	2	8	1	18	2	6	6	8
Epidemic Diarrhœa		10	3 5	5	5 2	8	4	9 8		4 2		.:
Other Zymotic Disease	S	1		0			1	0	1	2		1
Total Deaths from												
Zymotic Diseases		25	27	69	44	28	18	42	7	16	12	21
Zymotic Death-rate Death-rate for all Disea		1·9 13·6	2·0 12·5	2·0 15·1	3·1 17·1	1·9 13·7		2·49 11·8		1·0 11·7	0.73	1.1

The question of the advisability of adding Measles to the list of diseases under the Notification Act is now under consideration by the Board. The special report drawn up by the Medical Officers of this district expresses my opinions in reference to this important question. During the year in this sub-district the number of deaths from Measles alone nearly equalled that from all the other Zymotic diseases put together. This serious fact is not local or accidental. It is revealed by the numbers given by the Registrar-General in reference to the whole of London. Two years ago I mentioned in my report that in endeavouring to stamp out infectious diseases we required:

- I. Notification of all cases.
- II. Compulsory powers for removal where no proper lodging existed.

Last year the first step was taken, and by the Public Health Law Amendment Bill of this session we will have increased powers in the removal of infected persons where it is considered necessary.

In the general mortality tables the increased figures under Respiratory diseases account largely for our higher mortality during the year 1890. This increase is accounted for by the prevalence of the epidemic of Russian Influenza during the months of January and February especially. Besides those deaths which were directly attributed to it, it was in my opinion responsible for producing a lower standard of health generally.

Infantile Mortality is again high. For every 1,000 births within the year, there were 154 deaths, which is certainly a higher number than we ought to have. 26 of these infant deaths were attributed to prematurity and low vitality, which is a much higher average than usual.

Position. The relative mortality as classified under the different social grades, was as follows:

Nobility and Gentry . 0 = 0 per cent. Professional . . 16 = 6.8 ,, Middle and Trading . 62 = 26.4 ,, Industrial and Labouring 156 = 66.8 ,, Inquests. Sixteen inquests were held during the year, with the following results:

1.	From Natural Causes	10
2.	Accidental Drowning Suffocation at birth	2 2
9	(Asphyxia	1 5
3.	Suicidal—Bullet wound	_
		16

One inquest was held in which a verdict was returned—found dead.

Sanitary Proceedings during the report gives a great deal of information in regard to the daily routine of Sanitary work carried on through the year. Year after year it shows a very great increase in the amount of this work. During the year 1888, 2,686 houses were inspected, while during during 1890 there were 4,069 houses.

Another well used for supplying drinking water had to be closed on account of the water being so impure as to be injurious to health. In the Parish there are a great many wells in which the water is in a more or less suspicious state. In some cases these wells are within a few feet from the drain pipe leading from the house. Hitherto the power to shut up suspicious wells has been very defective. By the Sanitary Act of 1874 such wells could only be closed when they were shown at the moment to be so polluted as to be dangerous to health. By the Public Health Law Amendment Act of this session however, the Local Authority has power to close wells when they are shown to be likely to be polluted, as well as when actually polluted. This provision is very necessary, as it is well known that wells liable to be contaminated do not always show the same amount of pollution. In these cases several analyses might require to be made before the pollution reached the standard necessary for the closing of the well.

The year has been made memorable in the progress of Sanitation, by the passing of two Acts of very great importance—The Housing of the Working Classes Act, and The Infectious Disease Prevention Act. By the former Act greater facility is given the Sanitary Authority to close houses which are certified by the Medical Officer of Health to be in an uninhabitable condition. Already in this Sub-District we have been able to take advantage of the provisions of this Act. The property known as George's Square which has been for some years in a most dilapidated condition has now been closed under the order of the Board. The proprietor in this case consented to have the premises closed, so that the Board were not obliged to apply to the Magistrate for a closing order.

By the Infectious Disease Prevention Act the Local Authority is required to provide temporary accommodation to families who have been compelled to leave their dwellings, for the purpose of allowing disinfection to be carried out efficiently. Hitherto we have not had occasion to make use of this provision. I should suggest that the best and easiest way to provide the required accommodation would be to have a couple of rooms set apart for this purpose in the new Parish yard by the river-side which is now in course of construction.

House Refuse. The subject of the proper disposal of house refuse remains as it was. We shall be in a much better position to have it all removed when the new Parish yard and dock is finished. The present state of matters is by no means satisfactory.

I have much pleasure in again testifying to the smooth and satisfactory way in which all Sanitary work is carried out in the Parish, and to the assistance and support of the local committee in all matters brought before them.

WM. Y. ORR,

#### STREATHAM.

I am glad to be able to give a favourable report of the public health in Streatham during the year 1890.

The death-rate from all causes was below the decennial average. The death-rate from those zymotic diseases which are included in the Notification Act was only 0.19 per 1,000. The mortality in early life at different periods was below that of 1889. There was an increase in the mortality at high ages and from old age.

The following statistics will confirm these facts and will disclose in detail the state of the public health and the sanitary condition of the sub-district.

# VITAL STATISTICS.

Population. We are now in possession of the census for 1891. The population of Streatham is 42,958, these figures nearly correspond with my estimates. I estimated that the population was about 40,000 in the middle of 1889. During the intercensal period, there has been a total increase of 21,351 and an annual increase of over 2,000. I place the population at 42,000 in the middle of the year 1890.

Births and Birth-rate. The number of births registered during the year was 1,063, 522 of males and 541 of females. The birth-rate calculated from the total number of births and the foregoing estimate of the population was 25.3 per 1,000 persons living during the year.

Natural Increase. The excess of births over deaths represents the rate of natural increase which is 13.7 per 1,000 of the population.

Death-rate During the year 1890, 495 deaths were registered in this sub-district, 12 of these deaths occurred in St. Anne's Home, Streatham. The deceased were parishioners of St. Pancras, when these are excluded the proper death-rate for Streatham is 11.5 per 1,000 of the population. This exceeds the very low death-rate of 1889, but is considerably below the average of the previous ten years, the decennial average being 12.8 per 1,000. I may here remark that the death-rate has declined during the last years, notwithstanding the increased density of the population.

When to the deaths proper to Streatham are added the 12 deaths which occurred in St. Anne's Home and those of persons who died in various out-lying general and special hospitals, the death-rate becomes 13.2 per 1,000.

TABLE 1.

Birth and Death Rates.

YEAR	s.	Births.	Birth-rate.	Deaths from all Causes.	Death-rate.	Rate of Natural Increase
1879		636	34.4	290	15.6	18.7
1880		703	28.1	348	13.9	14.2
1881		830	32.1	313	12.1	20.0
1882		891	33.0	341	12.0	20.4
1883		1,027	36.9	419	14.9	21.5
1884		1,138	39.2	445	15.3	23.9
1885		1,078	35.6	423	13.9	23.6
1886		1,078	34.3	473	15.0	19.2
1887		1,185	30.0	445	11.6	19.1
1888		1,184	26.3	515	11.4	14.8
1889		1,020	25.5	410	10.2	15.2
1890		1,063	25.3	484	11.5	13.7

The deaths that took place in out-lying general and special hospitals are given in the following table which shows the nature of the cause of death, the age and sex of the deceased, and the character of the institution in which they died.

TABLE II.

Deaths in Out-lying Institutions.

		SE	x.		Age.		INST	TITUT	IONS.
DISEASE.	Total.	Male.	Female.	Under 1.	1 to 60.	60 and upwards.	Union Infirmary.	General & Special Hospitals.	Asylums Board Hospitals.
Small-pox. Scarlet Fever. Diphtheria Enteric Fever. Whooping Cough. Measles Other Zymotic Diseases. Tubercular Diseases. Cancer Rheumatism Respiratory Diseases Circulatory Diseases Nervous Diseases Other Diseases. Violence	1 1 1 1  10 2 6 10 13 5	1 1 		· · · · · · · · · · · · · · · · · · ·	1 1 1 1  9 1  7 4 8 6 5	· · · · · · · · · · · · · · · · · · ·	······································		1 1 1 1 

There were 61 deaths in out-lying institutions, 39 of these were of males and 22 of females, 22 occurred in the Union Infirmary, 36 in general and special hospitals, and 3 in the Asylums Board Hospitals. When these 61 deaths are added to the deaths that were registered in Streatham, the death-rate is raised to 13·2 per 1,000. We have no record per contra of the deaths of non-parishioners who died within the sub-district, but there is reason to believe they nearly balance the extra parochial deaths, therefore 11·5 may be accepted as the true death-rate of Streatham for 1890.

TABLE III.

### STATISTICS OF MORTALITY.

1	STREATHAM.	es of rict.	S	EX.				J	GE.				So	CIAL	Posr	non.
01	CAUSES OF DEATH.	Total deaths from each Class of Disease, &c., in the Sub-District.	Males.	Females.	Under 1 year.	From 1 to 5 years.	From 5 to 10 years.	From 10 to 20 years.	At 20 and under 40 years of age.	At 40 and under 60 years of age.	At 60 and under 80 years of age.	80 years and upwards.	Nobility and Gentry.	Professional Class, Merchants, Bankers, &c.	Middle and Trading Class, Shopmen, Clerks, &c.	Industrial and Labouring Classes.
I. Zymotic.	Small Pox Measles Scarlet Fever Typhus Fever Enteric Fever Puerperal Fever Diphtheria Whooping Cough Erysipelas Diarrhœa, Dycentery, and Cholera. Influenza Other Zymotic Diseases.	12  4 3 1 34  15	9 4 16 5 3	3  .3 1 18  10	1 15 12 2	17 2	······································	i :: :: :: :: :: :: :: :: :: :: :: :: ::	2 3 	· · · · · · · · · · · · · · · · · · ·	1		           i	1 .1 .5 2 3	1  2 1 1 10  3	9 19 9
	Totals of Zymotic Class	79	37	42	34	25	4	1	6	3	6		2	14	22	41
II. Constitutional.	Gout and Rheumatism Cancer & other Tumours Other Constitutional Diseases  Phthisis Tabes Mesa Hydrocephalus Scrofula	5 26 3 36 8 4 1	1 1 12 4 3	2 24 4 1 1	2 5	1 2 3 1	1	1 1 2	1 12 12 1	1 14 20 	1 10		1 5 1	1 8  5 1 	1 9 2 15 3 1	2 4 1 15 4 3 1
III. Local.	Nervous	68 28 95 29 13 3	34 14 47 9 6	34 14 48 20 7 3	18 14 3 	7  5 1 	1 1	2 1 1 1 	2 3 8 5 2 3	13 7 19 5 1	22 17 37 13 9 	3 10 1	1 2 5 2 1 	16 7 10 9 3	28 10 44 10 9 3	23 9 36 8 
IV. Develop- mental.	Premature Birth and Low Vitality Congenital Defects Old Age	43 2 40	24 1 18	19 1 22	41 2	2					18	. 22	8	1 1 7	18 1 16	24
VI. III	Violence	9	6	3	1	2			3	2	1		1		2	7
]		-	226	269	120	50	10	10	46	86	136	37	29	83	195	188

## INFANTILE DEATH-RATE.

That is to say the number of deaths of infants under one year of age per 1,000 of the registered births. This year the infantile death-rate was 112 per 1,000 births, as compared with 163 in registration London.

Social Position. The subjoined table gives the percentage of deaths from all causes in the several social grades during the year.

Nobility and Gentry	29 = 5.8 per cent.
Professional Classes	83 = 16.8 ,,
Middle and Trading Classes	195 = 39.4 ,,
Industrial and Labouring Classes	188 = 38.0 ,,
Total deaths	495 100.0

The rate of mortality was high in the Middle and Trading Classes and declined in the Higher, Labouring, and Professional Classes.

There were 79 deaths in this class. They yield a percentage of 15·3 upon the deaths from all causes during the year and give a death-rate of 1·8 per 1,000 of the population.

The subjoined table contrasts all the deaths resulting from the seven principal epidemic diseases with the death-rate therefrom, as well as the death-rate from all diseases during the past ten years.

Zymotic Mortality in the Streatham Sub-district.

		_									
roles clude	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890
Small-pox Measles Scarlet Fever Diphtheria Enteric Fever	31 7	3 13 1 2	5 9 4 9	7 2 13	8 8 3	2 5	11 6	21 4 7	5 30	5 1 6	i2 i
Typhus Fever Whooping Cough Epidemic	8	9	i	8 ii	9	6	3 26	1 6	22	9	34
Diarrhœa Other Zymotic Diseases Influenza	10	9	10	9	11	12 2	20	7	13	8 2	15 13
Total deaths from Zymotic Diseases Zymotic Deathrate	68	46	41	65	54	31	67	64	74	32	79
Death-rate from			12.6	2·3 14·9	1·8 15·3	1.1	2·1 15·0	1.6	11.4	0.8	1·8 11·5

Though the total number of deaths from Zymotic Diseases exceeded the decennial average, they were chiefly due to the less formidable diseases of the Infectious Class, and those which as yet are not included in the Notification Act, viz:—Whooping Cough, Measles, and Influenza, these three diseases caused 56 of the 79 deaths. On the other hand there was no death from either Small Pox or Scarlet Fever and only one from Diphtheria. The death rate of those Zymotic Diseases which are included in the Infectious Diseases Notification Act was 0.12.

Other Diseases. These are grouped under five heads in the Mortality Table. The percentage of deaths from some of the diseases under these heads is as follows:—

Class II. Tubercular 10·1, Cancer 5 2. There was a decrease in the Tubercular Diseases, and an increase of 1 per cent. in Cancer, as compared with the previous year.

Class III. Local—Respiratory formed 19·1 as against 15·8 last year. Nervous 13·7, Digestive 5·8.

Diseases of the organs of respiration formed about one fifth of the total mertality and even more if the deaths from Influenza are included under this head, a large part of the latter had dangerous lung complications, and there appears very little doubt that some of the former were similarly complicated by the influenza malaria. The long continued dense fogs of 1889 and 1890 had much to do with the large mortality under this head during the year 1890.

There was a considerable decline in the deaths from nervous and digestive diseases.

TABLE VI.

COMPARATIVE TABLE OF NON-ZYMOTIC MORTALITY.

Causes of Death		1889.	1890.
Tubercular		50	49
Other Constitutional Diseases	on-	21	34
Nervous		77	68
Circulatory		37	28
Respiratory		65	95
Digestive		35	29
S Urinary		13	13
Generative		7	3
Locomotory			
(Integumentary			
Premature Birth	1		
Malformation Low Vitality	}	44	45
Age		20	40
Violence		9	9
Ill-defined or Not specified	}		3

Age at Death. Infant Mortality. The number of deaths of infants under one year of age was 120, under five 170, and under 20, 190. They respectively formed 24·2, 34·3 and 38·3 per cent. of all deaths, as compared with 25·1, 37·3 and 41·7 of the previous year, the percentage being lower all round. There was an increase in the mortality from Tubercular diseases at these ages, and a decrease in nervous and respiratory diseases.

Senile Mortality. There were 40 deaths from old age unassociated with disease, double the number of the year before, 18 of these were of males and 22 of females, they formed 8.0 per cent. of all deaths.

The total number of deaths that took place at 60 and upwards was 173, 93 of these were at 70 and upwards, and no less than 9 reached the age of 90 and upwards. I give below a tabular statement of deaths at high ages with the age at different periods and the sex of the deceased, they formed 18.1 per cent of all deaths.

TABLE VII.

Age.	Males.	Females.	Total.
At 70 and under 75	12	22	34
75 ,, ,, 80	9	18	27
80 ,, ,, 85	9	4	13
85 ,, ,, 90	4	6	10
99 ., ,, 95	4	3	. 7
95 ,, ,, 98	1	1	2
	39	54	93

Parish Poor. The figures relating to the sickness and mortality of the poor of the parish are given in Table X., they show very favourably as regards zymotic diseases, from which no deaths occurred. In the other classes, respiratory diseases formed a large proportion of

the cases that came under treatment. The total mortality was 10 being 5 per cent of the cases treated.

Inquests. Seventeen inquests were held with the following verdicts:—

I. Natural Heart Disease Congestion of Lungs Congestion of Brain Spasm of Glottis Fit—Rickets Convulsions  II. Accidental Tetanus from injury to thumb Poisoning by Carbolic Acid Injury to Liver Pistol Wound Fall Injury to head, fall from bed III. Suicidal By Carbolic Acid ,, Drowning		3 1 1 1 2—9 1 1 1 1 1—6 1—2
Uncertified Deaths.  Probably natural causes, ,, Convulsions, ,, Rheumatism, Heart disease ,, Heart Disease, ,, Bronchitis	$     \begin{array}{c}       4 \\       2 \\       1 \\       1 \\       \hline       1 \\       \hline       9     \end{array} $	17

The Notification of Infectious Diseases Act continues to work very satisfactorily and without friction. The profession co operate cordially in getting cases of infectious disease removed, where there is insufficient means of isolation, and I find a greater willingness on the part of relatives to have their sick removed to Hospital, where they are known to receive every care and attention.

I received 150 notifications of infectious diseases during the year, of these 87 were of Scarlet Fever. The cases were generally of a very mild character, 41 were removed to Hospital, the remainder were treated at home, there was only one death, which occurred in Hospital.

There were 23 Notifications of Diphtheria and 2 deaths, one at home and one in Hospital.

Seventeen cases of Typhoid Fever were notified, resulting in four deaths.

Twenty of Erysipelas and no deaths, and three of Puerperal Fever with three deaths.

The deaths from diseases included in the Act, give a rate of 0.19 per 1,000 of the population.

The Sanitary legislation of the year has resulted in several new and important Acts of Parliament, which whilst giving Medical Officers of Health increased powers, have largely added to their duties and responsibilities.

Under the Customs and Inland Revenue Act, Section 26 (2), I have examined 250 dwellings, the owners of which applied for certificates to exempt them from inhabited house duty, I gave certificates in a limited number only, the larger number not having in my opinion the requisite Sanitary arrangements to entitle them to exemption, though the rent of each tenement did not exceed 7/6 a week. As the Medical Officer of Health has to determine for himself what are proper Sanitary arrangements, I take my stand on the ground that each tenement should be a house in itself, having its own entrance, water supply, water closet and dust-bin.

Sanitary Proceedings. A summary of the principal sanitary works of the year will be found in table XIII. During the year 4721 houses were inspected, an increase of 329 upon the number inspected in 1889. This represents an enormous amount of most important sanitary work accomplished. 481 notices were served to remedy defects or abate nuisances, and only 7 second notices were required.

Two cases were investigated by Magistrates and compulsory orders were obtained.

Ninety-nine houses were disinfected after Infectious diseases, and in no instance was there a recurrence of the disease.

Mr. Phimister, the Inspector of Nuisances, carries out the fumigation and disinfection of houses after infectious disease, under my direction, most satisfactorily. I have great confidence in sulphurous acid gas as a germicide, and much depends on the mode of application. The room must be hermetically sealed before the sulphur is ignited, and from a pound to a pound and a half of roll sulphur used to every 1,000 cubic feet of air space. Our practice is to leave the room closed for twenty-four hours. All infected articles are ordered to be left in the room. The walls of the disinfected room are afterwards stripped and it is cleansed and lime whited.

In thirteen years experience I have not had a single case of recurrence of the disease after this has been done.

Bedding, clothing, &c., was burnt in seven cases; this is only done in certain protracted cases.

The figures in respect of new sewers, of new drains and drains relaid, and syphon traps affixed, alterations of sinks to discharge outside and of baths and lavatory wastes, as well as rain-water pipes disconnected from drains, repairs of water-closets and water laid on, are all given in the Table as well as those relating to the removal of pig and other nuisances.

The Table will repay perusal and shows there is no falling off in sanitary work, but rather increased activity in all directions.

The bake-houses have been regularly inspected and are in good condition.

I personally inspected the cow-sheds and slaughterhouses and saw no reason to object to a renewal of the licenses.

In conclusion I have to thank the Sanitary Officers for their attention and assistance. Mr. Phimister carries out his responsible work with diligence and ability. Mr. Jones seconds him admirably, he is a painstaking and useful Officer.

F. F. SUTTON, M.D.,

Medical Officer of Health for Streatham.

#### TOOTING.

In estimating the population of Tooting I find by the light of the census recently taken, that the ordinary official method would lead to unreliable results. I have therefore taken as the basis of my calculation the number of inhabited houses. The population of Tooting for the middle of the year 1890 I estimate at 5,700.

Births, Birth-rate and Rate of Natural Increase. The birth-rate was 26.2 per 1,000 of the estimated population. The excess of births over deaths, or the rate of natural increase was 10.3 per 1,000.

Deaths and Death-rate. During the year 109 deaths were recorded, 56 males and 53 females. These include deaths in outlying Institutions. Exclusive of these there were 98 deaths in Tooting.

Deaths in Outlying Insti-Outlying Institutions. Eleven deaths took place in outlying Institutions. tutions during the year; two less than 1889. Of these 7 were males and 4 females. Four took place in the Union Infirmary and seven in General Hospitals.

The accompanying table I. gives particulars regarding nature of disease, age, and sex of such deaths. It is satisfactory to note that out of the eleven deaths only one was due to Zymotic disease.

TABLE 1.

Deaths in Outlying Institutions.

adispibah Fyadooli			SE	x.		AGE.		Ins	TITUT	IONS.
DISEASE.		Total.	Male.	Female.	Under 1.	1 to 60.	60 and upwards.	Union Infirmary	General & Special Hospitals.	Asylums Board Hospitals.
Small-pox					. ,					
Scarlet Fever										
Typhus Fever										
Enteric Fever										
Whooping Cough										
Measles									:.	
Other Zymotic Diseases		1		1		1				1
Tubercular Diseases	٠.					. :	. :	.:	. :	
Cancer		2	2			1	1	1	1	
Rheumatism		1		1		1		1		.,
Respiratory Diseases	٠.	1	1			1		.:	1	
Circulatory Diseases		1	1			1		1		
Nervous Diseases		2	1	1		2			2	
Other Diseases		3	2	1		2	1	1	2	
Violence										
Totals		11	7	4		9	2	4	6	1

All deaths recorded in Tooting will be found Deaths occuring in table II. with particulars as to causes of in Tooting. death, age, sex, and social position. Thirty-three deaths were of infants under one year of age, 21 over 60 years, and 5 from 80 and upwards. According to class distribution 2 took place amongst the gentry, 15 in the professional and mercantile classes, 29 in the middle and trading class, and 52 amongst the labouring population. The death-rate though somewhat higher than last year is to be explained owing to the large number of deaths recorded in the early part of the year-in the months of January and February-from respiratory diseases. Only two were directly attributed to Influenza, but on the other hand eleven were recorded as due to Bronchitis and eight to Pneumonia. There is very little doubt that the large majority of these were either directly or indirectly the result of the Influenza epidemic. Considering its widespread prevalence in this district as elsewhere, I think we may fairly congratulate ourselves on the comparatively small mortality caused by it, for though somewhat high it was very much lower than in many other places. Six deaths were caused by Phthisis, all of them males.

Five deaths were due to violence and in each case an inquest was held—one was homicidal—one suicidal, and the remaining three were caused by accident.

TABLE II.

TOOTING.	Disease,	Si	EX.				A	GE.				So	CIAL	Posit	ION.
Population (Census) 34,851 Population in middle of 1890 5,700  CAUSES OF DEATH.	Total Deaths from each Class of Di &c., in the Sub-District.	Males.	Females.	Under I year.	From 1 to 5 years.	From 5 to 10 years.	From 10 to 20 years.	At 20 and under 40 years of age.	At 40 and under 60 years of age.	At 60 and under 80 years of age.	8 years and upwards.	Nobility and Gentry.	Professional Class, Merchants, Bankers, &c.		Industrial & Labouring Classes.
Small-pox Measles Scarlet Fever Typhus Fever Enteric Fever Puerperal Fever Diphtheria Whooping Cough Erysipelas Diarrhœa, Dysentery, and Cholera Other Zymotic Diseases  Totals of Zymotic Class  Gout and Rheumatism Cancer & other Tumours Other Constitutional Diseases Yabes Messenterica Hydrocephalus Scrofula	3 2 10 1	1	1	1 1 2 1 1 1	1		1	1	1 2 1	1 7			1		1
Nervous Circulatory Respiratory Digestive Urinary Generative Locomotory Integumentary	12 7 20  2	6 1 10	6 6 10  2 	9 10	1 4	· · · · · · · · · · · · · · · · · · ·		1 1 2	3 1 	1 2 4 	1	1	3 1  1	2 1 5 	9 3 14  1
Premature Birth and Low Vitality Congenital Defects Old Age	5 9 5	2 2 3	3 7 2	5 2	1					 5	4		3	2 2 2	3 4
VI. Illdefined and { Illdefined Not Specified ( Not Specified Totals	98	1 47	··  51	33		3	·· -6	10	9	21	5	4	15	29	1

Zymotic Mortality in Tooting Sub-district.

	1889	1890
Small-pox		
Measles	6	1
Scarlet Fever	1	
Typhus Fever		
Enteric Fever		1
Whooping-Cough	3	2
Epidemic		
Diarrhœa	1	3
Other Zymotic		
Diseases	1	2
Total Deaths from		
Zymotic Diseases	12	9
Zymotic Death-rate	2.4	1.6
Death-rate from all	~ 1	1.0
Diseases	13.16	18.6

In table III. will be found the number of Zymotic Mortality. cases of deaths from Zymotic disease. gratifying to be in a position to record that only 9 deaths took place this year as against 12 last year. This is more especially a cause for congratulation as the Zymotic death-rate is one of the safest indications of the health of a district. The general death-rate is very liable to be affected by accidental causes, and this is more particularly seen amongst small populations. There was 1 death from Measles as against 6 in 1889, and none from Scarlet Fever as against 1 last year. The 1 death recorded as due to Enteric Fever was not contracted in this district but imported from the parish of Paddington. Two deaths were recorded from Whooping Cough as against 3 last year. Three took place last year from Diarrhœa and 2 from "other Zymotic diseases." The Zymotic death-rate was 1.6. Last year it was 2.4.

The Notification of Infectious Diseases Act has on the whole worked smoothly in this district during the past year. It is to be regretted, however, that the enactment that the head of the household, as well as the Medical Attendant, should notify the outbreak of Infectious Disease, is practically a dead letter. If enforced, I cannot but think that it would give the parents or guardians as the case may be, more sense of responsibility than they at present evidently consider they owe to the public at large, and consequently more carefulness as regards strict isolation, etc.—as it is now, everything is left to the doctor.

Proceedings. It has not been found necessary to take legal measures in any case. All orders for abatement of nuisances have been attended to. The inspection of slaughter-houses and dairies has taken place as heretofore. In one case only, that of a dairy, was the renewal of a license opposed, and the application was refused owing to that opposition.

I have once again much pleasure in stating that Mr. Friedlander, the Inspector of Nuisances, has carried out the sanitary work in a very satisfactory manner and also, a highly important matter—with great tact and discretion.

C. de LISLE BROCK,

Medical Officer of Health for Tooting.

#### WANDSWORTH.

The exceptionally high standard of the health of this sub-district during the year 1889 was not maintained in the past year, which witnessed a great increase of sickness and mortality. Such result was to be anticipated as almost unavoidable in presence of the great amount of epidemic disease which prevailed generally throughout the whole metropolis. The increased mortality of this sub-district was mostly due to Measles and Whooping-Cough—chiefly the former, which was very fatal; to which causes may be added Influenza, for although but few deaths were recorded as having resulted primarily from this disease, yet the unusually high fatality from diseases of the Respiratory organs was doubtless either proximately or remotely attributable to its effects. Notwithstanding these adverse influences the heightened mortality of 1890 occurred in such a greatly increased population (as disclosed by the recent Census), that the death-rate will be found on perusal of the following pages to have been considerably below the average.

## VITAL STATISTICS.

Population. At the Census taken April 5th, 1891, the population of this Sub-district amounted to 46,720; in 1881 it numbered 28,005; in 1861 13,346; and in 1851 9,611; so that during the ten years 1851-61 it increased at an annual rate of 38.8 per 1,000; during the ten years 1861-71 at an annual rate of 48.2 per 1,000;

during 1871-81, 41.5 per 1,000; and during the past ten years the disproportionately large increase of 18,716 persons or 66.8 per 1,000 has taken place. The Subdistrict contains 2,433 acres, and the enumerated population therefore averaged 19.2 persons to the acre, in 1881 11 only. The inhabitants occupied 7,274 houses averaging 6.4 persons to each house; the number of inmates to each house in 1881 was 6.5; in 1871 6.6; and in 1861 it was 7.0 so that the sanitary disadvantages necessarily arising from a greater density of population, appear to have been to a considerable extent compensated by increased house accommodation. Estimated from the recent Census the mean population of the Sub-district during the year 1890 was 45,284.

Births, Birth-rate, Rate of Natural Increase. 1890 numbered 1412, 750 of males, 662 of females. Allowing for increase of population, the number is 15 less than the average of the preceding ten years. The birth-rate was 32.74 per 1,000, and the rate of natural increase, or excess of births over deaths, 16.79 per 1,000 of the entire population.

Mortality. The total deaths registered were 787 in number, 350 of males and 437 of females, and were 55 more than the decennial average corrected for increase of population. As in the year preceding 108 of the number occurred in public institutions, viz.:—In the Middlesex (formerly Surrey) County Lunatic Asylum 71; in the Hospital for Incurables 19; in St. Peter's Hospital 2; in the Workhouse 7; and in the Prison 9.

Causes of Death. In the following Table all the causes of death are enumerated. They are classified in accordance with the system adopted by the Registrar-General, showing the age at death at eight periods with the number, sex and social position of the deceased, and particularizing the several diseases of the Zymotic class:—

TABLE I.
STATISTICS OF MORTALITY.

WANDSWORTH.	ss of trict.	SE	x.				A	GE.				1		CIAL	
Population (Census) 1881 28,004.  Official Population in middle of 1890 45,284.	al Deaths from each class of ase, &c., in the Sub-District.	.89	Females.	er I year.	1 to 5 years.	15 to 10 years.	From 10 to 20 years.	At 28 and under 40 years of age.	At 40 and under 60 years of age.	60 and under 80 years of age.	years and upwards.	Nobility and Gentry.	Professional Class, Merchants, Bankers, &c.	Middle and Trading Class, Shopmen, Clerks, &c.	Industrial and Labouring Classes.
CAUSES OF DEATH.	Total D Disease, A	Males.	Fem	Under	From	From	From	At 26	At 40	At 60	80 ye	Nobi	Profe	Midd	Indu
Small-pox  Measles Scarlet Fever Typhus Fever Enteric Fever Puerperal Fever Diphtheria Whooping Cough Erysipelas Diarrhœa, Dysentery, Cholera Influenza.	5 2 10	30  2  1 14 2 18 1	17  3 2 9 21	6 	39  1  5 18  5	3	:: :: :: :: ::		  3  1  1 5				2 5	2 10 1 9 1	3 1 9 2 24 23 6
Totals of Zymotic Class	145	68	77	57	68	5	1	2	11	1			8	27	110
Gout and Rheumatism Cancer & other Tumours Other Constitutional Diseases  Phthisis Tabes Mesenterica Hydrocephalus Scrofula	11 69 17 12	5 7 1 28 8 5 1	8 17 10 41 9 7	9 8 12 3	··· 2 4 4 7 1	:: :: :: :: :: :: :: :: :: :: :: :: ::	1 4 1	25 	1 11 23 	5 10  4 	2 1	i	3 1 1	8 8 2 13 5 5 1	4 12 9 52 11 6
Nervous Circulatory Respiratory Digestive Urinary Generative Locomotory Integumentary	177 42 17 6 2	55 16 85 21 5	48 24 92 21 12 6 2	18 2 43 11  1	18 1 36 2 	1 3 1	5 1 1 2 1 	10 10 8 6 1 6 1	20 7 27 8 5 	28 14 51 12 10 	3 5 8 ·······	3 6 1 1 1	7 4 4 4 4	32 16 46 13 6 2	61 20 121 24 10 3
Premature Birth, and Low Vitality, Congenital Defects Old Age	13 24	2i 6 5	20 7 19	36 13 	5					9	15	1 3		9 6 17	32 6 4
VI. Ill-defined and (Ill-defined	27	12	15	6	3	1	3	6	6	1	1		1	5	21
Not specified ( Not specified		1	i	i		::	::		1				1		i
Totals	787	350	437	220	151	14	20	81	121	145	35	18	40	221	508

The deaths that occurred in Hospitals and other institutions situated without the parish of Wandsworth, and which therefore do not appear on the death-register of this sub-district, are recorded in the following Table. They amounted to 153 in number, viz.:—In the Infirmary of the Union 89; in the Hospitals of the Metropolitan Asylums Board 25; and 39 in General and Special Hospitals.

TABLE 11

Deaths in Out-lying Institutions.

		SE	x.		AGE.		In	STITUTI	ONS.
DISEASE.	No.	Male,	Female.	Under 1.	1 to 60.	60 and upwards.	Union Infirmary.	General and Special Hospitals.	Asylums Board Hospitals
Small Pox Measles	3 1 3 5 12 26 5 2 29 14 28 20 3 14	 1  4  5 16 5 2 18 7 15 12 2 1	 3 1 2  1  7 10  11 7 13 8 1 13	1 3	10 21 2 11 18 4 15 11 3	1 2 3 1 11 10 13 7 14	1 1 1 1 1 2 22 8 17 11 11	1 11 4  6 5 3 6 3	7 2 · · · · · · · · · · · · · · · · · ·
Total	153	83	70	6	85	62	89	39	25

As has been explained in previous Reports, Death-rate. the usual method of calculating the death-rate from the number of the population and the number of deaths registered, cannot be satisfactorily employed in this Subdistrict without taking into consideration the disturbing influence of the Hospital for Incurables, St. Peter's Hospital and the Middlesex County Lunatic Asylum, the inmates of which institutions are derived almost entirely from without the Sub-district, undergo no natural increase and are necessarily subject to a high mortality; the latter unduly raising the death-register to such an extent as to render any calculation derived solely from that record entirely valueless. It becomes necessary therefore, in order to arrive at a determination of the natural deathrate, to eliminate from the calculation the mortality and population of the institutions referred to.

After correction made in the manner indicated the death-rate of the past year was 15.95 per 1,000 persons living at the middle of the year, or 1.05 less than that of the healthiest of the rural districts. If the deaths that occurred in the hospitals and other public institutions situated without the Sub-district be added, the death-rate would be 18.56.

The latter calculation however is unfavourably affected by the circumstance that while it includes the deaths of parishioners who have died without the Sub-district it does not exclude the deaths of non-parishioners who have died within the Sub-district, the number of which cannot be ascertained but may be fairly supposed to approximate the number of external deaths.

The following Table exhibits in comparison the Birth and Death rates for the past and ten preceding years:—

TABLE III.

Birth and Death Rates.

Years.			*Deaths	Death	rate.	Rate of	
	Births. Birth-rat		from all causes.	Corrected.	Un- corrected.	Natural Increase	
1880	810	30.53	484	15.45	17.67	15.08	
1881	901	33.70	507	17.43	17.97	16.61	
1882	972	35.28	544	17.49	18.70	17.79	
1883	907	32.07	499	16.17	16.71	15.90	
1884	1,072	36.72	576	17.23	18.77	18.84	
1885	1,122	37.37	€28	18.82	19.93	18.55	
1886	1,255	40.40	722	19.05	22.33	21.35	
1887	1,338	41.96	610	15.58	18.40	24.59	
1888	1,451	44.36	711	18 07	20.90	21.78	
1889	1,415	42.20	494	11.18	14.79	24.51	
1890	1,412	32.74	787	15.95	17.37	16.79	

\*Deaths in Outlying Institutions not included.

Causes of Death. The relative proportions in the causation of mortality borne by the several groups into which the diseases and other causes of death are classified are seen in table I. to have been numerically as follows, viz.:—To the Zymotic group 145 deaths are referred; to the Non-Zymotic 613; the latter including Constitutional 147, Local 388, Developmental 78; and to Violence 27; while in two instances the cause was ill-defined or not specified.

# ZYMOTIC DISEASES.

The total number of deaths that resulted from this group of diseases amounted to 145, 134 of which belonged to the Epidemic class. They were 98 more than in 1889 and 32 more than the average of the preceding ten years; they formed 18.4 per cent. of all deaths, and 3.2 per 1,000 of the population corresponding in the latter respect with the average rate. During the year 1889 (which however enjoyed an exceptional immunity from such diseases) they formed 9.5 per cent. of the total mortality, and 1.35 per 1000 of the population.

The following Table exhibits the total deaths that occurred from Zymotic diseases, specifying those that were due to the seven principal Epidemic diseases during the past and ten preceding years, and the relative proportion which they bore to the deaths from all causes. It also shews the increase and decrease of such deaths in 1890 compared with the annual average number in the ten years 1880-89, raised in proportion to increase of population:—

												18	90.
Diseases.	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	No. above corrected average.	No. below corrected average.
Small Pox Measles Scarlet Fever Diphtheria  Typhus The Cough Diarrhea Cholera	9	9 5	18	14	1 6	3 19	28	20	39	7	47	26	1.6
Scarlet }	24	19	9	5	5	3	6	1	4				10
Fever S Diphtheria.	4	4	3	11	4	6	10	2	5	6	10	3	
Typhus Enteric	6	1	9	12	4	4	8	6	5	4	5		2.5
Whooping Cough	15	12	26	5	17	24	31	8	40	6	35	12	
Diarrhœa Cholera	20	19	29	10	27	35	28	30	32	21	37	5	
Total Deaths from above Epidemic Diseases	78	69	94	57	64	94	111	67	125	44	134	32	
Other Zymotic Diseases	14	7	14	20	19	3	5	4	2	3	11		
Total Deaths from Zymotic Diseases	92	76	108	77	83	97	116	71	127	47	145	32	
Zymotic Death- rate per 1,000 population	3.35	2.71	3.72	2.57	2 70	3.07	3.58	2.14	3.73	1.35	3.2	=	=
Total Deaths from all causes	484	507	544	499	576	628	722	610	711	494	787	55	
Percentage of Deaths from Epi- demics to Deaths from all causes	16.1	13.6	17:2	11.4	11.1	14.9	15.3	10.9	17:5	8.90	17 0		0.6

The following are further details of the fatality of these diseases:—

entirely absent from the Sub-district. In reference to which the Official Return of public vaccination made by the Vaccination Officer to the Local Government Board may here be opportunely referred to. This document shews that of the 1,433 children whose births were registered in the Sub-district during the year 1889, 1,202 were successfully vaccinated; 90 died without having been vaccinated; in 25 the operation was postponed on account of sickness; 12 were certified as insusceptible and 3 removed to places the Vaccination Officer of which was duly apprised. The remaining 101, or 7 per cent., had removed to places which either could not be reached or could not be ascertained.

Measles. This disease which had been extensively prevalent and fatal from the middle of 1888 to the middle of 1889, when it gradually subsided, became again more prevalent in April of the past year and continued so to its termination. It was attended with much fatality, especially in the Summer and Autumn months, and caused no less than 47 deaths or 40 more than in the previous year, and 26 more than the decennial average.

Erysipelas. Although extensively prevalent this disease was attended with 2 deaths only.

Scarlatina. No death from this disease was registered as having occurred in the sub-district, but 3 deaths resulted in the Asylums Board hospitals and were 7 less than the decennial average.

Diphtheria. Ten deaths were due to this disease within the sub-district and 1 in hospital and together were 4 above the average.

Seven deaths, 5 from Enteric (or Typhoid) and 2 from Puerperal Fever were registered in the sub-district, and 5 from Enteric occurred in hospitals. The combined number is 2 above the average. There was no death from Typhus.

Whooping-Cough. From this disease 35 deaths were registered and 3 occurred in hospitals; and together were 15 in excess of the average.

Diarrhosa. To this disease 35 deaths were referred and were 5 above the average. With two exceptions all of these deaths occurred to very young children, 30 of whom were under 1 year of age. This disease is usually the most fatal of the zymotic group, but is seen to have been largely exceeded by Measles in the past year.

Influenza. The epidemic of this disease which commenced in the latter part of 1889 continued through the first quarter of the past year and caused 7 deaths.

On again referring to the Table it is seen that all the diseases of the epidemic class, with the exception of Small-pox and Scarlatina, exceeded their respective averages, and that the excess from Measles and Whooping-Cough, especially the former, was unusually great.

# NOTIFICATION OF INFECTIOUS DISEASES.

The following Table shews the number of the several diseases notified, the number of patients sent to hospital and the number of deaths that resulted both in the Sub-district and in Hospital.

70

TABLE V.

DISEASE.	No. cases notified.	No. patients removed to Hospital	No. died in Hospital	No. died at Home	Total deaths in Hospital and at Home
Scarlatina	117	35	3		3
Erysipelas	70	13		2	2
Diphtheria	39	3	1	10	11
Membranous-Croup	2	1		1	1
Enteric Fever	29	11	5	5	10
Continued Fever	5				
Puerperal Fever	3			2	2
Total	265	63	9	20	29

From an examination of the figures it is seen that of the total 265 cases notified 29 deaths, or 11 per cent. (nearly) resulted, the fatality being a fraction over one tenth part of the cases treated at home, and one seventh of the cases treated in hospital; the greater mortality of the latter being most probably due to their greater severity. The figures also indicate the fatality of the several diseases notified in relation to their number. Thus the per case fatality of Scarlatina is seen to have been 2.5 per cent.; of Erysipelas 2.8; of Diphtheria 28.2; and of Enteric (or Typhoid) Fever 34.4 per cent. So that while the epidemic of Scarlatina and of Erysipelas, which ran side by side and appeared to be closely associated, were of a very mild character, those of Diphtheria and Enteric-fever were attended with great and probably more than their usual fatality. The other diseases were either unattended by fatality, as Continued Fever, or not sufficiently numerous, as Puerperal-fever and Membranous Croup, to admit of similar deductions. 76 per cent. of all the cases were treated at home.

With reference to the question as to the desirability of including Measles in the list of notifiable diseases it may here be observed that whereas the whole of the diseases notified in the past year resulted in 29 deaths, the deaths from Measles alone which is at present not notified amounted to 47. This would seem to suggest the propriety of employing the power which the "Infectious Disease Notification Act" affords of putting the procedure of Notification in force during the prevalence of any epidemic disease not included in the list contained in the Act, but against the spread of which disinfection and other sanitary measures can be successfully directed.

The subjoined Table shews the months in which the deaths from the seven principal epidemic diseases occurred and the total number in each quarter in relation to its mean temperature:—

TABLE VI.

DISEASE.	January	February	March	April	May	June	July	August	September	October	November	December				
	Mea	n Te 41·4	mp.	Mes	52.8	mp.	Mea	in Te 59·4	mp.	Mea						
Small Pox Measles Scarlatina Diphtheria Whooping Cough Diarrhea Fever	·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ··	··· ·· · · · · · · · · · · · · · · · ·	······································	·· 2 ·· 1 5 1	··· 2 ·· 4 1	3 1 2	8  2 7 1	15  6 19	3 4 5 2	3 1 1 1 1	10  2 3 	1 1 1				
Totals	2	10	3	9	7	6	18	40	14	6	15	4				
		15			22			72		25						

The deaths in the third quarter are seen to have exceeded by nearly a sixth part the combined numbers of the other quarters, and the excess to have been due to Measles and Infantile Diarrhoea.

#### Non-Zymotic Diseases

The diseases in this group contributed nearly one half of the total causes of death. They numbered 388, and were 130 more than in the year preceding and 13 more than the decennial average corrected for increase of population.

The most fatal of the group were Diseases of the Respiratory Organs the deaths from which amounted to 177 or 22.4 per cent. of all deaths, and were 54 in excess of the corrected average. Of the total number Bronchitis caused 102 or nearly twice the number of the previous year, and Pneumonia 67 or nearly three times the number of the same period. This excess was doubtless attributable to the effects of the extensive prevalence of Influenza.

The next most fatal of the group were Diseases of the Brain and Nervous system, the total deaths from which numbered 103 and were 48 less than the average. But the diminution corresponds with a decrease of deaths in the Middlesex County Lunatic Asylum and bears no relation to those proper to the sub-district, which cannot be accurately ascertained.

Diseases of the Digestive Organs resulted in 42 deaths, and were 3 above the average number.

Diseases of the Heart and Circulation caused 40 deaths, or 14 more than in the year preceding, but exceeded the average by one only.

To diseases of the Urinary Organs 17 deaths were due, and were 3 less than the average.

The remaining diseases of the group underwent no variation from their respective averages to an extent requiring comment.

Constitutional The total deaths from these diseases amounted to 147 and were 43 more than in the preceding year. The greatest number resulted from the Tubercular class which caused 99 deaths or more than twice the combined

number of the other diseases of this group, Consumption alone contributing 69 of the number. To Gout, Rheumatism, Cancer, Tumours, and other constitutional diseases 48 deaths were referred, and were 17 in excess of the average. Cancer alone contributed 24 of the number—an increase of 3 over that of the preceding year.

Violence. 27 deaths were the result of Violence and were 3 more than the average.

Ill-defined and not specified. Two such deaths were recorded and corresponded with the average.

The following Table shews the annual number of deaths from non-zymotic diseases in the eleven years 1880-90 with the increase and decrease of deaths in 1890 compared with the annual average number in 1880-89 raised in proportion to increase of population.

TABLE VII.

COMPARATIVE TABLE OF NON-ZYMOTIC MORTALITY.

Causes of Death.	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	No. above corrected average.	No. below corrected average.
Tubercular	60	51	69	64	85	90	87	111	114	72	99		3
Tubercular Other Constitutional	17	19	19	20	18	28	30	32	30	32	48	17	
Circulatory	23	121 28	106 28	116 25	128 22	145 36	151 46	115 32	112 45	90 26	103 40	1	48
Respiratory Digestive Urinary	89 21 11	90 28 4	87 28 20	69 35 13	70 47- 15	101 22 12	135 30 26	110 30 17	128 34 22	87 31 17	177 42 17	54	3
Locomotory	1 3	2	4		3 2	6 2	4	2	5	5 2	6 2	2 .3	
Integumentary Premature			1		••	3			1		1	•4	
Premature Birth Malformation Low Vitality Age	27	37	27	23	40	37	45	38	41	36	54	10	
Age	23	27	27	33	42	34	32	36	25	33	24		15
Violence Ill-defined or	11	20	18	32	21	15	17	13	23	15	27	3.5	
Not specified		4	1				3	2	4	1	2	=	=

The proportion per cent. which the total Deaths in relation to deaths, as well as those that resulted from Social position. zymotic diseases, bore to the social position of the deceased is exhibited in the following Table and compared with the average proportion of the previous ten years. The figures shew that there was a notable decrease in the relative mortality of the gentry, and that no death from zymotic disease occurred amongst them; the proportion of the total mortality was slightly greater and of the zymotic mortality considerably greater in the professional class; in the trading class the general mortality was much greater, but the zymotic less; and amongst the labouring classes, although as might be expected from the great prevalence of epidemics during the past year, the zymotic mortality was greater, there was a very considerable reduction of the total mortality amongst them.

TABLE VIII.

Social Position.	Total ]	Deaths.	Deaths from Zymotic Diseases.					
Bottal Tosifion.	1890.	Decennial average.	1890.	Decennial Average.				
Nobility and Gentry	2.28	3.21	0.00	1.12				
Professional Class, Merchants, Bankers, &c	5.09	5.03	5.51	4.72				
Middle & Trading Classes, Clerks, &c	28.08	23.82	18.62	18.88				
Industrial and Labouring Classes	64.55	67.94	75.87	75.28				
	100.00	100.00	100.00	100.00				

Infantile Mortality. The actual death-rate of infants calculated from the number of births registered and the number of deaths under one year of age that occurred during the year was 15.5 per cent., the average of the

preceding ten years being 12.9; the excess was due to a corresponding excess in the fatality from zymotic diseases.

The relative death-rate, or the proportion of deaths borne by infants under one year in relation to the total mortality was 27.9 per cent., the decennial average being 26.8 per cent; of children under 5 years of age 47.1, the average being 39.5; of all children and adolescents under 20 years 51.4 per cent, the average being 44.8

Senile Mortality. The number of deaths that occurred at 70 years of age and upwards was 102, exceeding that of the previous year by 26, and formed 12.8 per cent. of all deaths, the average being 12.4. The latter is considerably higher than that for all London, and in that respect affords a favourable indication of the general health of this sub-district.

The following Table shews the sex and age of the deceased, with the numbers at different periods. The females are seen to have greatly exceeded the males, both in number and in the attainment of high ages; the excess is usual, but was much greater in the past than in the previous year.

TABLE IX.

Age.	Males.	Females.	Total.				
At 70 and under 75	17	28	45				
75 ,, ,, 80	- 11	12	23				
80 ,, ,, 85	8	10	18				
85 ,, ,, 90	3	13	16				
	39	63	102				

The amount and nature of the sickness, with Sickness and Mortality amongst the its resulting fatality, that occurred amongst Parochial the Parochial Poor during the year, are ex-Poor.

hibited in Table XII. of the Introductory Report on the Entire District on page 20. The total number of new cases that came under treatment was 823, and the total number of deaths 30, or 3.6 per cent.; the average number of cases during the previous ten years was 662 with 30 deaths, or 4.5 per cent. The most numerous of the Non-Zymotic diseases were those of the Organs of Respiration; they amounted to 240, and resulted in 7 deaths. Of Epidemic diseases there were 135 cases with 8 deaths or a little under 6 per cent., which corresponds closely with the average. The number of cases and fatal results of these diseases were:-Influenza, 53 with 1 death; Measles, 35 with 3 deaths; Whooping-cough, 11 with 2 deaths; and Diarrhœa, 27 with 2 deaths. 1 case of Diphtheria and 8 of Erysipelas were unattended with fatality.

Inquests, Deaths from Violence, Uncertified Deaths.

The number of Inquests held during the year was 62, and exceeded that of the previous year by 27. The subjects of inquiry were 24 males and 38 females, whose deaths were thus referred:—To natural causes 30; to Violence 31, of which 22 were Accidental, 6 Homicidal, and 3 Suicidal; and in one instance the cause of death was undetermined. Every death during the past year was certified by medical testimony.

Further details and verdicts of the inquests are shewn in the following table:-

#### TABLE X.

Deaths from natural causes 12 18	Total.
" violence, viz:—	
Poisoning by Morphine   1	22
Suicidal $$ { Hanging $$ $$ $\frac{-}{1}$ $$ $\frac{2}{2}$ }	3
$Homicidal \qquad \begin{cases} Fracture \\ of skull \\ Injury to \\ head \\ Starva- \\ tion \\ Suffoca- \\ tion \\ Execution \\ \end{cases} Wilful \begin{cases} 1 \dots - \\ 1 \dots - \\ 1 \dots - \\ 1 \dots - \\ 2 \dots - \\ 1 \dots - \\ 2 \dots - \end{cases}$	6
Undetermined "Found dead" — 1	$\frac{1}{62}$

Sanitation. The Sanitary operations of the past year are detailed in Table XIII. on page 22. The total, which were no less than 12,225 in number, represent the accomplishment of a vast amount of work, which, in comparison with that of the year 1889, shews an unusally large increase amounting in the aggregate to 2,843

separate items of procedure. With four unimportant exceptions all the figures in the Table greatly exceed those of the previous year, the increase being most observable in the numbers relating to the inspection of houses, the serving of notices, the disinfection of houses after infectious diseases, and the general removal of nuisances. The number of houses inspected amounted to 4,933, shewing an increase of 538; of notices served 946—an increase of 503. The number of houses disinfected was 402, being an increase of 228—the result of a greater prevalence of epidemic diseases and the systematic disinfection of every house in which such diseases occurred. Sulphur-fumigation was as usual the means employed, the results of which were most satisfactory, for out of the total 402, in eleven instances only was a repetition of the process necessary in consequence of a further occurrence of disease; but in two only was there a recurrence beyond the period usually assigned to "incubation," during which the patient might have become affected; and these even, the intervals of which were 17 and 26 days respectively, may, in the present uncertain state of knowledge of the subject, have been within the period referred to. It is surprising that the recurrence of disease after disinfection was so very slight, seeing that over 76 per cent. of all the patients notified were treated at their own homes. Herein is a matter for much regret that parents and others do not more generally avail themselves of the great facility that is now afforded by the Metropolitan Asylums Board for the quick and safe removal of infected patients to the Hospitals specially provided for their treatment with advantages which cannot but rarely be secured at their own homes. For there can be no question that, on the occurrence of a case of infectious disease in a household, the prompt isolation of the patient by removal to Hospital, followed by immediate disinfection of the sick room, is the most effectual means that can be employed

for preventing the spread of the disease; and as the isolation of an infected patient is extremely difficult in most households, and certainly in the houses of the poor almost unattainable, removal of the patient to Hospital is most desirable, whether considered in relation to the best interests of the patient, of the other members of the household, or of the community at large.

Complaints to the number of 1,104 were brought to the notice of the Local Committee and received due attention. The number shews an increase of 355.

All the Cow-houses in the Sub-district, 16 in number, and the Slaughter-houses, 8 in number, were examined, and their sanitary condition and appliances certified as satisfactory prior to a renewal of their owners' licenses. All the Bake-houses, 37 in number, were as usual inspected twice in the year and found in a satisfactory state.

The whole of the Sanitary proceedings were carried out without the assistance of the law, with the exception of two instances in which it became necessary to obtain from the sitting Magistrate compulsory orders for their fulfilment.

I take this opportunity of bearing testimony to the very satisfactory manner in which the Sanitary Inspectors have performed their respective duties which have been unusually arduous during the past year.

## GEORGE EDWARD NICHOLAS, M.D.,

June 20th, 1891.

Medical Officer of Health for Wandsworth.

# REPORT OF THE PUBLIC ANALYST.

To the Board of Works for the Wandsworth District.

### GENTLEMEN,

In accordance with the annual custom, I beg to supplement my regular Statutory Reports by a short statement of the nature and amount of the work done under the Sale of Food and Drugs Act, during the year 1890.

The total number of samples submitted to me by the Inspector was 200, being the full amount he is at present authorised to buy during any single year. The articles examined included milk, butter, lard, coffee, pepper, mustard, oatmeal, baking-powder, arrowroot, tea, cheese, olive oil, sugar, honey, tapioca, condensed milk, and sundry drugs.

The impure samples were limited to milk, butter, lard, and coffee, and were 15 in number, which were thus distributed:—

Milk	 	 8 S	amples.
Butter	 	 4	,,
Lard	 	 2	"
Coffee	 	 1	"

Calculated upon the total number of each article examined, we find the following individual percentages of impurity:—

Name of Article.					E	Se	m	pl	es	1.					I	Pomp	er	cer	nta A	rtic	of	
Milk							.6	2									1	2	.9	0.		
Butter							3	3									1	2	.1	2.		
Lard								4									5	0	.0	0.		
Coffee					. ,	,	,2	8										3	5	8,		

All the drugs examined were not only pure but also accurately dispensed.

The fact still remains (as I have had occasion to point out frequently before) that the only class of traders who now resort to habitual adulteration are those who deal in dairy products. The real way to keep them in check is not by the infliction of an occasional paltry fine of 40s., but by continually visiting them, so that they never may know when they are safe. At present a man gets fined and he can straightway recoup himself by putting in an extra dose of water for the next few weeks, because he knows that the chances are very much against his being visited again for a long time, the Inspector being limited to take only 200 samples per annum, or in other words, not quite 4 samples a week. I am afraid that we will never be able to reduce the adulteration of milk below its present limit until the Inspector obtains the power to make a larger number of purchases than he at present possesses.

> I have the honor to be, Gentlemen,

Your obedient servant,

JOHN MUTER, Ph.D.; F.R.S. (Edin.); F.I.C.,

Public Analyst.

Management and the contract of the contract of