

Thirty-eighth annual report on the sanitary condition of the Strand District, London.

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THIRTY-EIGHTH ANNUAL REPORT

ON THE

SANITARY CONDITION

OF THE

STRAND DISTRICT, LONDON.

BY

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F.R.S.ED.,

MEDICAL OFFICER OF HEALTH.

Printed by Order of the Board.



THIRTY-EIGHTH ANNUAL REPORT

ON

THE SANITARY CONDITION

OF THE

STRAND DISTRICT, LONDON.

TO THE STRAND DISTRICT BOARD OF WORKS.

GENTLEMEN,

Estimating the resident POPULATION of the District for the year 1893 on the same basis as explained in last year's report, it stands at 25,233, and is divided among the three registration sub-districts thus:—

St. Anne	...	...	...	12,200
St. Mary	...	...	...	5,760
St. Clement	...	...	...	7,273

The total number of BIRTHS registered in the District was 607, giving a rate of 24·05 per 1,000 inhabitants, as against 23·13 in 1892 and 24·5 in 1891. The birth-rate in London for 1893 was the same as the previous year, viz. :—30·9 per 1,000.

TABLE shewing the number of BIRTHS occurring in the Strand District and in each of its three Registration Sub-Districts during each of the seven years ending December 31, 1894.

YEAR.	Strand District.	St. Anne.	St. Mary.	St. Clement.
1887 ...	747	403	133	186
1888 ...	735	417	152	166
1889 ...	678	381	128	169
1890 ...	560	321	113	126
1891 ...	640	334	134	172
1892 ...	590	310	125	155
1893 ...	607	330	109	168

TABLE shewing the Number of BIRTHS (Male and Female) occurring in the Strand District, and each of its three Registration Sub-Districts, in the Fifty-two Weeks of the Year ending December 31st, 1893.

	Male.	Female.	Total.	Rate per 1,000 of Population in 1893.	Rate per 1,000 of Population in 1892.
1. St. Anne... ..	175	155	330	27·05	25·12
2. St. Mary... ..	62	47	109	18·92	21·66
3. St. Clement ...	79	89	168	23·09	21·24
	316	291	607	24·05	23·13

DEATHS.

The total number of deaths, after correction,* which were registered as properly belonging to this District, during the year was 671, as compared with 640 recorded during the preceding year. Upon the basis of the estimated population already referred to, this is equivalent to an annual death-rate of 26·59 per thousand residents throughout the District, as compared with 20·9 per thousand, the corresponding number for the whole Metropolis during the year.

In Tables I. to V. in the Appendix are set forth the various details concerning the deaths which have taken place in the Strand and its Sub-Districts during the twelve months. Table IV. has been re-arranged, and two new Tables (Nos. I. and II.) have been introduced by order of the Local Government Board, who desire to have a return of the deaths throughout the country on a uniform plan. It shows that, excluding the Poland Street and Edmonton Workhouse deaths, 686 deaths occurred in the District; that 259 of these were of persons who did not belong thereto, and that 244 persons belonging to the District died outside its bounds. In Table V. the rates are set out for the Strand and its Sub-Districts, and for the whole Metropolis, whereby comparisons may be instituted.

The ages at which death occurred in the 671 deaths belonging to this District are shewn below :—

* The correction above referred to consists in *omitting* all deaths which took place in hospitals and kindred institutions within this district of persons not properly belonging to it; and, on the other hand, of *including* every death of such of its inhabitants as has occurred in hospitals, infirmaries, lunatic asylums, &c. throughout the Metropolis generally, and also those of paupers belonging to the several parishes of which the district is constituted, which have happened in the workhouses of the Strand and Westminster Unions respectively.

TABLE shewing the Number of DEATHS, at Four several Periods of Life, taking place in the Strand District during the Years 1891, 1892 and 1893 respectively.

	DEATHS AT AGES BELOW.				
	At all Ages	5 Years and under.	Between 5 and 25 Years.	Between 25 and 65 Years.	Above 65 Years.
Year 1891	696	206	44	301	145
„ 1892	640	221	43	268	108
„ 1893	671	203	33	308	127
Percentage of the total Deaths:—					
Year 1891		29·5	6·3	43·3	20·9
„ 1892		34·5	6·7	41·9	16·9
„ 1893		30·2	4·9	45·9	18·9

Deaths under 1 year of age.—The same number of infants—viz., 125—died in 1893 as in 1892; but as the births were more numerous in 1893, the deaths per 1,000 births—viz., 205—is less by 7 than that in 1892. This is, however, an excessive rate compared with that of London, viz., 164. The causes of these deaths were similar to those of 1892, except in regard to zymotic diseases, where deaths from diarrhoea replace those from measles.

This excessive infant mortality has been in existence for many years, and, as I pointed out in my last report, was prevalent over all the Central London Districts. It must be taken as a sign of the general unfitness of such districts for residential purposes and

to conditions of life in which there must be poverty, ignorance and neglect.

The same causes which produce this large infantile death-rate tell also, in a measure, upon the health of the older members of the community; thus we find that diseases of the respiratory organs (excluding consumption) were responsible for 23·5 per cent. of the total deaths; tubercular diseases (consumption, &c.) for 16·3 per cent.; and other zymotic or specific diseases for 12·3 per cent. These three groups of diseases which are responsible for more than half all the deaths in this District can be attributed in great measure to causes which may be prevented.

Diseases of the Respiratory Organs are, of course, largely due to cold and damp; but over-crowding, with the insanitary conditions resulting therefrom, the want of sufficient food and clothing must also be reckoned, as tending to their production. In certain parts of the Strand all these factors play important parts.

Tubercular Diseases cause the next largest number of deaths, viz.:—109 (16·3 of the total) at the rate of 4·31 per 1,000 inhabitants. Of these the disease affected the lungs in 91, in 9 the brain, in 2 the bowels; while 7 deaths are ascribed to general tuberculosis or to some manifestation of the disease in parts not already mentioned. Many factors are concerned in the production of this disease, as the want of pure air and light, sedentary and other occupations in badly ventilated workshops and rooms, over-crowding, privation, intemperance; but it must also be taken into account that tubercular disease is due to a micro-organism, and that the conditions just mentioned are those which are favourable to its growth and spread.

Its infective nature is to a large extent hidden in this country, but in warmer countries it has for long been recognised as an infectious disease, and strict measures of disinfection are resorted to. A number of observations have established the fact that a house in which a case of pulmonary consumption has been for some time may become infected, so that members of fresh families taking up residence therein may fall victims to this complaint. The principal method by which the disease is spread is through the material which is coughed up by consumptives. This contains the germs in abundance, and when expectorated frequently lodges on places where it dries, as on the street, floors, carpets, handkerchiefs, &c. After drying it is apt to become broken up and diffused throughout the air as dust, and as the germs it contains are preserved in the dust, they may be inhaled with it by other persons.

The question of notification of tubercular disease was discussed last year at the Congress of The British Institute of Public Health in Edinburgh. The gain thereby would be that houses and workshops occupied by consumptives might be properly cleansed on their leaving them, and that instructions might be given to the patients to carry out the simple measures necessary to prevent spread of the complaint. Such direction, however, might very well come from the medical man in attendance, and it might be well to prepare a set of instructions for their use.* I have, during the last year, investigated and recorded a number of the cases wherein death has occurred, with a view to observing

* At the North London Consumption Hospital a printed slip containing such instructions is handed to out-patients ; but, of course, there is no means of seeing that they are acted upon.

whether other cases appear in the same house and to have the places cleansed ; but the frequent changing of the place of abode in London renders it difficult to trace subsequent cases. I trust that the inspection of work-rooms and the dwellings of the workers which your Board has undertaken will do much to remove conditions favourable to this disease, because the real remedy for this disease is undoubtedly the raising of the standard of bodily health. Persons suffering from consumption cannot be prevented working, but they ought reasonably be made to take such precautions as will prevent the risk of infection of their fellow workers, and the rooms in which they work should be regularly cleansed in a thorough manner. After a person so suffering has died or removed to another residence, I am of opinion that the premises should be thoroughly cleansed—especially so is this necessary when the house consists of only one or two rooms.

ZYMOTIC DISEASES.

12·3 per cent. of the deaths in 1893 were due to Zymotic or Specific Febrile Disease (excluding tubercular diseases). Although there was a large increase in the number of the cases of disease notified, as shown in the subjoined table, yet the deaths, 79, were 32 less than in the preceding year. This is accounted for by the comparative mildness of the scarlet-fever cases and by the absence of measles from the District during 1893. Measles is often looked upon as a trivial complaint, but from the complications which ensue, its effect upon the death-rate is a very marked one, and shows that the complaint deserves much more care than is usually bestowed upon it.

INFECTIOUS DISEASES NOTIFIED—In the Year ending 31st December, 1893.

Disease.	St. Anne, Soho.					St. Mary.					St. Clement.					Total for District.	
	Quarter ending 1 April.	Quarter ending 1 July.	Quarter ending 30 Sept.	Quarter ending 31 Dec.	TOTAL.	Quarter ending 1 April.	Quarter ending 1 July.	Quarter ending 30 Sept.	Quarter ending 31 Dec.	TOTAL.	Quarter ending 1 April.	Quarter ending 1 July.	Quarter ending 30 Sept.	Quarter ending 31 Dec.	TOTAL.	Year ending 31 Dec., 1893.	Year ending 31 Dec., 1892.
Small-pox	...	11	2	...	13	1	6	...	...	7	3	6	1	...	10	30	7
Diphtheria and Membranous Croup	3	10	9	6	28	2	10	8	5	25	5	10	3	8	26	79	33
Erysipelas	4	...	5	3	12	...	1	1	...	2	1	2	3	2	8	22	22
Scarlatina	2	12	32	15	61	3	6	13	5	27	18	8	18	11	55	143	111
Typhoid Fever	...	...	3	2	5	1	...	...	...	1	1	...	1	3	5	11	12
Puerperal Fever	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	1	1
					120					62					104	286	186

DEATHS FROM ZYMOTIC DISEASES.

Disease.	St. Anne.			St. Mary.			St. Clement.			Strand District.	
	Cases Notified in 1893.	Deaths in 1893.	Deaths in 1892.	Cases Notified in 1893.	Deaths in 1893.	Deaths in 1892.	Cases Notified in 1893.	Deaths in 1893.	Deaths in 1892.	Total Deaths in 1893.	Total Deaths in 1892.
Smallpox	13	1	0	7	0	0	10	0	0	1	0
Measles	...	2	29	...	0	12	...	0	13	2	54
Scarlatina	61	5	0	27	5	0	55	9	1	19	1
Diphtheria	28	5	3	25	10	3	26	6	2	21	8
Whooping Cough	...	5	6	...	2	4	...	4	2	11	12
Diarrhœa and English Cholera	...	9	5	...	2	1	...	2	2	13	8
Influenza	...	0	4	...	3	3	...	3	8	6	15
Enteric or Typhoid Fever ...	5	1	1	1	0	1	5	0	1	1	3
Puerperal Fever and Pyæmia	1	2	5	0	0	1	...	0	2	2	8
Erysipelas	12	1	1	2	1	1	8	1	2	3	2
Totals	120	31	54	62	23	26	104	25	31	79	111

The great increase in the cases of notified diseases, from 88 in 1891 to 186 in 1892 and 286 in 1893, is due to the epidemic of scarlet fever which so extensively prevailed throughout London in these two years. The total notifications received were at the rate of 11·3 per 1,000 of the population, against 3·4 and 7·3 in the two previous years respectively. Throughout the Metropolis the average rate was 16·1 per 1,000 for 1893, being 9·2 above the 1891 rate and 5·3 above the 1892 rate. 184, or 64 per cent., of the Strand cases were removed to fever hospitals, as shown in detail in Table II. (Form B). The amount paid for certificates notifying the existence of infectious disease was £26. 15s.

Smallpox.—2,930 cases were notified as Smallpox in the Metropolis in 1893, and 30 of these related to the Strand District; (but 1 case proved to be chicken-pox). The bulk of the cases occurred in March and April. Five of the cases were in persons ascertained to be unvaccinated, and one died. The Ambulance Committee of the Asylums Board report on the outbreak as follows :—

“ The introduction to and dissemination of Small-
“ pox within the Metropolis during the early part of
“ the year were mainly due to persons of the vagrant
“ class who entered London from places in the pro-
“ vinces where the disease was prevalent.

“ Principally through the medium of these persons
“ the disease was later on spread amongst the settled
“ population of London.

“ As a result, many of the Casual Wards, Salvation
“ Army and other Shelters, and Common Lodging

“ Houses became infected, and appeared likely to continue to act as centres for the further spread of the disease, in the absence of concerted action to counteract their influence. It had already been suggested to the various parochial authorities that an effective means to that end would be a systematic medical inspection of such places, but there appeared to be almost insuperable difficulties in the way of its uniform adoption, difficulties mainly due to the number of separate authorities exercising control over the various kinds of lodging places.*

“ We thought, however, that important assistance might be rendered to the various authorities if they could be kept informed as to the places from which patients had been admitted, and their movements prior to admission, so far as they could be ascertained, and, in accordance with our instructions, Dr. Brooke, the Medical Officer of the River Ambulance Service, has obtained much valuable information, and has forwarded it to the Clerk to the Board, who has circulated it weekly, in a digested form, amongst the Medical Officers of Health, the Medical Officers of Poor Law Infirmaries and Workhouses, the Police Superintendents, and other interested persons.”

Scarlet Fever.—No less than 143 cases of this disease were notified during the year in the Strand, and 44 per cent. of these occurred in the third quarter of

* It may be here noted that the Home Secretary has decided to transfer, by Provisional Order under sec. 10 of the “Local Government Act, 1888,” the powers of the Commissioner of Police with regard to common lodging-houses to the County Council. This will not apparently affect Salvation Army Shelters, which may possibly, however, be dealt with if registered under the bye-laws relating to houses let in lodgings or occupied by persons of more than one family.

the year. Some difficulty was experienced in obtaining admission into hospitals at this period from the accommodation at the disposal of the Asylums Board being fully occupied; but as shown on Table II., the Strand fared better than many districts in this respect, as 64 per cent. of its cases were removed, and it will be noted that the removals were proportionately greater from the poorer parts of the district. But although removal was obtained eventually, it was, in a number of cases of scarlet fever and diphtheria, not effected with sufficient rapidity to prevent the infection spreading to other members of the family or household, and in crowded neighbourhoods this is an important point. The deaths in the whole of London from scarlet fever were at the rate of 4.2 per cent. of the cases notified, and in the Strand District 13 per cent. (St. Anne 9 per cent., St. Mary 18 per cent., St. Clement 17 per cent.)

Diphtheria and Membranous Croup.—79 cases of this disease were notified, 53 were removed to hospital, and 21 died, being 26 per 100 cases notified, against 23 per cent. for the metropolis.

The great increase in London of this disease during the last few years, and its marked fatality, make it one of most serious importance, requiring careful investigation. The knowledge we at present possess is in many respects defective, and this, added to the difficulty of recognising the disease in the early stages, and in mild cases, must tend to promote its spread from person to person. For undoubtedly it is chiefly in this way that it is distributed either directly from the poison exhaled in breathing by persons or animals, or indirectly by the contamination of milk either by the

cow or the milkman. The questions which seem to me to require answering are—

- (1.) What are the conditions which favour the growth of the bacillus?
- (2.) What steps should be taken for its prompt recognition? and
- (3.) For the prevention of the further spread of the disease?

The solution to both the first and the last of these questions depends upon the prompt recognition of the disease, because, unless the diagnosis is correct, any conclusions which may be drawn must necessarily be fallacious. Without demonstrating the presence of the bacillus of diphtheria in each case, it is frequently impossible to say that a membranous inflammation of the throat is the true disease, and on the other hand cases have been recorded in which the bacillus has been found, while the symptoms and appearances were not at all characteristic. The necessity for making certain has been recognised by the New York Health Department, who have issued a circular* to medical men there, explaining the arrangements made for this purpose. They say: "The differential diagnosis between true and false diphtheria can be made by bacteriological examinations within twelve hours, while without their assistance it is difficult or impossible. The Health Department is now prepared to make use of bacterial cultures in all cases of suspected diphtheria." The circular then proceeds to say that the medical man in charge may obtain the necessary culture tube free of cost from various centres, to which

* *Journal of Laryngology*, October, 1893.

he will return it after inoculating it from the suspected throat, and the tubes will be daily sent on to the department from the local centre, or an officer of the Board on receiving a request will attend and make the inoculation. By noon on the following day the medical man receives the result of the culture by telephone or through the post.

There is no reason why this example should not be followed in this country. The expense of carrying it out would be trifling compared with the outlay entailed when a throat affection is true diphtheria, or is supposed to be so. In London, the Metropolitan Asylums Board would be the proper authority to take this matter up, and arrangements might be made with some central bacteriological laboratory to provide the culture tubes and make the cultivations. A supply of tubes might be kept at the offices of the Boards and Vestries, and each Medical Officer of Health would deliver them to medical men applying, and would receive the report of the bacteriologist next day and convey it to the medical man in charge.

But I would go further than this, and require that no case should be allowed to be removed from isolation, either in hospital or at home, until it had been proved that the throat were free of the bacillus, because it has been shown that virulent diphtheria bacilli may be found for an indefinite time after the apparent cure of the malady, and infection may be spread thereby. Especially in cases treated at home, I am inclined to the opinion that the patients are allowed to mix with healthy persons at too early a stage, but, without the definite evidence given by finding the

bacilli still there, it would be difficult for a medical man to insist on further isolation when the patient was to outward view apparently well. If diphtheria is to be stamped out, I feel sure that greater insistence must be laid on this point before disinfection of premises and clothing are carried out.

Defective drainage and insanitary conditions play a part in the production of this disease, probably in two ways. They may lead to an unhealthy or weakened state of the throat which may thus prove to be a good soil for the growth of the bacillus (and in this way preceding attacks of scarlet fever may also act), or the action of impure air (from sewers, in overcrowded rooms and houses, &c.), may act as a stimulant to organisms, perhaps existing previously in a harmless state, and induce in them the virulence which leads to the serious effects we know as diphtheria.

The experience in the Hospitals of the Metropolitan Asylums Board during 1892, exhibits an example of a combination of these two actions, viz., of a previous predisposing disease and of overcrowding. No scarlet fever patients in one of the Hospitals had up to that year developed diphtheria, but during the summer of 1892, it became necessary to treat 24 patients in a ward intended for 18, and within three weeks 7 cases of diphtheria and 3 cases of other throat illness appeared. As soon however, as the crowding was abated, there was no further occurrence of the affection. Dr. Thorne Thorne, the Medical Officer of the Local Government Board, has pointed out how a similar result ensued in schools. The compulsory attendance of children who may be not sufficiently free from infection, with the small amount of cubic space required

and the defective character of the ventilation, lead to an intensifying of the poison and to a distribution of the disease among those who are more liable to the disease than older persons.

I have carefully considered the 79 cases notified in this district. The Medical Officer is not expected to visit cases unless there be some special attendant circumstances, therefore it may be that some of these cases were not suffering from diphtheria,* but undoubtedly there may have been a number of mild cases unnotified. 51 of the cases were among children under 10 years of age, and of the remaining 27, 15 were females; showing that the spread of the complaint is confined to women and children who are necessarily thrown more together than are the men, who thereby escape much of the risk of infection and at the same time are removed from the influence of the possible insanitary condition of the dwelling house. 27 of the cases were in St. Anne's District, 25 in St. Mary's, and 26 in St. Clement's. In the first-named they were for the most part isolated cases, but in the other two Districts cases were grouped more in the narrow and crowded streets. In 25 of the premises in which cases occurred works of sanitary improvement were necessary. Examined as to the distance of street sewer ventilators from houses affected, it appeared that the larger number were beyond 50 ft. from a ventilator, but one cannot say if the children played over these ventilators; and if they did, what effect might be produced thereby. Investigations are in progress by the

* One case I was led to visit from it being certified to be one of both diphtheria and small pox. I saw no evidence that the person was suffering from either of these diseases,

County Council and by other observers into the character of sewer air.

Cholera.—The meteorological conditions which tended to the increase of diarrhoea in the past year were also more favourable for the introduction of cholera, but fortunately the few cases gaining admission to London were promptly isolated. Whenever a death from diarrhoea is reported to me an examination of the dwelling in which it occurred is made, cleansing is carried out where necessary, and disinfectants are put down the drains. The arrangements made by the various authorities in previous years in case of epidemic were re-established during 1893 and improved. In order that the precise nature of the malady of persons suspected to be suffering from cholera might be promptly known, Dr. Klein was engaged by the County Council to make bacteriological examinations.

Enteric Fever.—11 cases were notified in 1893, being one less than in 1892. An analysis of these shows that 2 proved afterwards not to be enteric or typhoid fever; that 6 came into the District suffering from the complaint, and that 3 only appear to have contracted the disease in the District; in each of these cases there were drainage defects, and one house was generally dirty and over-crowded. Only one death resulted from this disease.

Principal Diseases of the Zymotic Class.—The Registrar-General classifies small-pox, scarlet fever, measles, diphtheria, whooping-cough, fevers (typhus, enteric and continued), and diarrhoea under this heading. The zymotic death-rates for London and the Strand District may be seen in Table V. (p. 172 in the Appendix). The Strand rate is 0·38 below that for London.

Attention has been drawn in previous reports to the power conferred upon the Asylums Board to allow the use of their ambulances for the removal of infectious cases to other places than their Hospitals. During last year advantage was taken of this throughout the Metropolis by 593 persons who otherwise might have used public conveyances.

DISINFECTION.

During the twelve months ending 31st December, 1893, 222 premises were purified and cleansed after infectious disease, and 5,080 articles were disinfected in your Board's apparatus.

Shelters.—Under Section 60 of the Public Health, London, Act, the Sanitary Authority shall provide, free of charge, temporary shelter or house accommodation for the members of any family in which dangerous infectious disease has appeared, who have been compelled to leave their dwellings for the purpose of enabling such dwellings to be disinfected. Your Board have hitherto taken a room temporarily when it was required to shelter persons turned out, but now a house has been leased, and will be at all times available for this purpose.

VACCINATION IN THE DISTRICT.

I am indebted to Mr. Geo. J. Milford and Mr. Snell, Vaccination Officers respectively of Westminster Union and Strand Union, for the subjoined details relating to the performance of Vaccination in those parts of the above Unions included in the Strand District.*

* The Vaccination Officers do not make their Reports to the Local Government Board until a later date, by which time those infants who were not old

	Births.	Successfully Vaccinated.	Insusceptible.	Died Unvaccinated.	Vaccination Postponed.	Removed and Address not known.	Remaining.
St. Anne	323	219	2	33	16	35	18
St. Clement and St. Mary	269	180	—	33	17	22	17
TOTALS	592	399	2	66	33	57	35

DISTRIBUTION OF DEATHS IN SUB-DISTRICTS AND PARISHES.

From the Tables in the Appendix may be seen the manner in which the deaths were distributed in the three Registration Districts. Thus, while the death rate was 26·59 for the whole district, it was only 23·6 in the parish of St. Anne, Soho, but in St Mary-le-Strand Sub-district (which includes St. Paul, Covent Garden, the Precinct of the Savoy, as well as the Holywell Ward of St. Clement Danes parish), it rose to 29·51, and in St. Clement Danes Sub-district it reached the high figure of 30·66 ; this is, however, below the rates of the last two years. When these figures are divided out among the parishes composing the district in contra-distinction to the Registration Sub-divisions, the parishes of St. Clement and St. Mary exhibit rates which call for serious enquiry.

enough, or whose vaccination was postponed, would probably have been vaccinated.

Parishes.	Estimated population	No. of Deaths.	Rate per 1000.
St. Anne	12,200	278	23·60
St. Clement Danes	8,546	280	32·7
St. Mary-le-Strand	1,580	62	39·24
St. Paul, Covent Garden	2,180	37	16·97
Liberty of the Rolls	433	10	23·09
Precinct of the Savoy	199	4	20·10
Temple, part of	95	—	—
The Strand District	25,233	671	26·59

I have during the year kept a record of the houses given as the addresses of persons who have died and by this means have been able to locate certain areas wherein this high rate has sprung. As I pointed out last year there is an indefinite floating population without fixed abode attracted to the neighbourhood of Covent Garden Market; these falling ill go to a hospital or poor-law infirmary; there are also in the workhouses and infirmaries of the district a number of old persons, the relics of the larger population which at one time occupied Clare Market, the site of the Law Courts and elsewhere. These two causes materially add to the number of deaths, as I find that 68 deaths referred to St. Mary or St. Clement sub-districts have no definite address, while some addresses no longer exist. But even after deducting these the death-rate of certain areas, notably in the neighbourhood of Drury Lane, is abnormally high. The fact that so many from that part of the district died in hospitals is evidence of the poverty existing which in itself is sufficient to

produce disease, but it cannot be denied that the general arrangement of the streets and courts, with the want of air and light, accentuates the tendency to ill-health, which exposure, deficient food and intemperance has initiated. It was hoped that the scheme of the County Council to make a new street from the Strand to Holborn would have cleared this area, but as that has fallen through and the Council appear to shirk dealing with other metropolitan schemes under Part I. of the "Housing of the Working Classes Act," it remains for your Board to deal with the conditions as best it can under the powers it possesses by closing all houses unfit for habitation, &c. But so long as the present defective Building Acts are in force your Board has no power to prevent back-to-back houses being rebuilt, except they have been previously condemned under Part II. of the "Housing of the Working Classes Act," an anomaly which should be rectified at an early date.

SANITARY WORK.

During the year certain alterations have been made, the district has been divided into two sub-divisions, each of which has been allotted to an Inspector, who is responsible for all the sanitary work therein. This arrangement has worked satisfactorily. In addition, the staff has been strengthened by the appointment of an Inspector to carry out the duties imposed by the "Factory and Workshops Act" and by the bye-laws relating to houses let in lodgings. The duties of each Inspector as settled by your Board will be found at page 32 of this volume. I have to thank each of them for the way in which they have co-operated with me in carrying out

your Board's instructions and in the fresh arrangements which have been made.

The following list summarises the work carried out under the supervision of the department during the year :—

Houses and workshops inspected	...	...	3,094
Preliminary notices served	...	...	653
Orders made by the Board	...	...	26
Premises in which works have been carried out	...	...	707
Houses and Workshops :—			
Cleansed and Whitewashed	Throughout		33
	Partially ...		314
Ventilation improved, walls, ceilings and floors repaired	...	...	46
Roofs made water tight	...	...	27
Water closets :—			
Reconstructed and repaired	...	...	113
Additional provided	...	...	18
Water re-instated	...	...	45
Flushing apparatus repaired	...	...	45
Obstructions removed from	...	...	40
New pans and traps provided	...	...	24
Pans and traps cleansed	...	...	129
Drainage :—			
New drains constructed	...	...	103
Drains repaired	...	...	99
Sink and lavatory waste pipes disconnected and trapped	...	...	38
Rain water pipes repaired	..	...	13
Obstructions removed from drains	...		16
Paving required or repaired :—			
In yards	...	...	43
In basements	...	...	27

Dust and dung removal :—

Sanitary Bins provided *... ..	83
--------------------------------	----

Offensive refuse removed from premises...	31
---	----

Water supply :—

New service pipes laid on direct from main †	22
--	----

Cisterns repaired and cleansed	44
---------------------------------------	----

Re-instatement of water after being cut off by

Water Company	16
----------------------	----

Under-ground rooms :—

Use prevented as separate dwellings ...	33
---	----

Over-crowding abated :—

In tenements	56
---------------------	----

In houses	33
------------------	----

The numbers contained therein relating to the abatement of nuisances generally, to the diminishing of overcrowding, to the regular and systematic inspection of houses, more particularly of the class occupied as “tenement dwellings,” as well as the supervision of Clare Market and other street markets in respect of the sale of food, afford proof that these essentials of the sanitary enactments have been continually enforced throughout the district during the year.

The “Rag-and-bone” shops have been supervised ‡

* Under the Board's system of dust collection, fixed bins are gradually being disused and abolished.

† Constant supply being laid on to every house, water is recommended to be drawn direct from the Water Company's Mains.

‡ Those at present in the district are situate as follows, viz. :—

8, St. Anne's Court (Soho) ;

12, Moor Street (Soho) ;

18, Vere Street (St. Clement Danes) ;

19, Clare Street (St. Clement Danes).

and a beginning has been made in the inspection of workshops, which will be accompanied, I believe, with important results.

I have inspected each of the 28 remaining bakehouses * in the District, and in 20 of them works of sanitary improvement have been carried out.

In 7, the premises have been re-drained in whole or part.

In 2 instances waterclosets have been removed from unsuitable positions.

4 bakehouses required cleansing ; 5, repairs to floor and roof, and 2 improved ventilation.

The use of 1 bakehouse has been discontinued since last year.

26 of the bakehouses are underground, and some are of very limited extent ; but apart from these defects, the present general condition compares favourably with the bakehouses of other parts of London. They are inspected at frequent intervals by the Workshops Inspector.

The only slaughter-house remaining in the District at the beginning of 1893 has now been done away with.

The stables and mews, 62 in number, have been regularly inspected, more particularly in regard to the periodical removal of manure. The attention of occupiers of stables was drawn to the requirement of the

* The Bakehouses here referred to comprise the following, viz. :—

Bread Bakers...	...	...	...	23 ;
Pastry Cooks ...	...	...	...	2 ;
Confectioners ..	...	...	...	2 ;
Muffin Baker ...	...	...	...	1.

County Council's bye-laws relating to the provision, situation and cleansing of receptacles for dung, and compliance therewith requested by the end of 1893. In each instance the necessary work has been put in hand.

The number of houses and workshops inspected during the year was 3,094, and in 707 of these, works of sanitary amendment have been carried out. Six underground rooms inhabited separately as dwellings and not complying with the legal requirements have been closed. Overcrowding has been abated in 56 tenements in 33 houses under your Board's order. 5,992 visits to premises have been made by your Sanitary Staff during the year. The number of works of sanitary improvement carried out are larger than in 1892, and include a number of extensive and complicated schemes of re-drainage and re-construction.

Early in the year my attention was called, by an analysis of the death-rate, to the condition of Meard Street, Soho, and the leases of several of the houses falling in during the year, steps were taken for a thorough overhauling of the premises Nos. 8 to 20, while the houses on both sides of the street have been re-drained, extra waterclosets erected in better positions, the water supply improved, and greater air space provided in the rear by the removal of sheds, cisterns, old-fashioned dust bins, &c. The work has been satisfactorily carried out under the supervision of Inspector Fairey, who is now placed in charge of the St. Anne, Soho, part of the District.

The Theatres and Music Halls * in the District have

* There are 12 Theatres and Music Halls wholly in the district and 4 partly in the Strand, partly in St. Martin's parish.

been inspected during the year by me with Inspector Strutt. The sanitary arrangements in several of the older theatres were extremely defective and necessitated a complete renewal of the drainage works, with improved ventilation in dressing rooms and in the public retiring rooms. At the Royalty Theatre, the dressing rooms are in the basement of the building and most of them have no direct communication with the open air. The licensing authority should require better accommodation to be provided at this theatre. In the remaining theatres nothing requiring rectification was found in some, in others minor defects were discovered and remedied. The supervision of this work has been carried out satisfactorily by Inspector Strutt.

Legal Proceedings.—In only one case was it necessary to complain to a magistrate in order to enforce the requirements of your Board, viz., in respect of the Mona Hotel, where an order was made giving 28 days in which to complete the work. In several other cases the intimation of the fact that your Board had authorised legal proceedings to be taken, was sufficient to produce compliance with orders previously served.

Dilapidated Structures.—In Holles Street and Clare Market there are several houses which have been empty for some time and have been gradually falling to pieces; besides being dangerous to people passing, they became receptacles of rubbish, and as the County Council has powers to fence in and to demolish neglected and dilapidated buildings, complaint was made to the Council and magistrates' orders were obtained for that purpose.

BYE-LAWS.

The bye-laws made by the County Council and by your

Board, received the sanction of the Local Government Board in June and October respectively. They relate to the prevention of nuisance from and the removal of offensive matters through the streets, the removal of house refuse, the position and construction of water-closets and sufficient water supply thereto, the construction of dust and manure bins, the cleansing of cisterns, and the prevention of nuisances. Many architects and builders appear still to be in ignorance of them, and of the important sections of the Public Health Act of 1891, which affect them.

MORTUARIES IN THE DISTRICT.

During the year, the number of dead bodies received into the mortuaries in the Strand district were as follows :—

	Total number of Bodies.	After Infectious Disease.	Post-mortem examinations made.
Strand Mortuary	58	5	21
St. Anne's „	15	—	9
Savoy Deadhouse... ..	6	—	—
Total	79	5	30

Complaints having been made by members of coroner's juries in reference to the condition of the deadhouse alongside of Savoy Chapel, I brought the matter under the attention of the Clerk of the Council of the Duchy of Lancaster. The deadhouse in question is not a suitable place for the reception of bodies, or for viewing them by juries. The authorities of the Duchy would be willing that dead bodies should be removed from the precincts of the Savoy to your

Board's mortuary where suitable arrangements are made for the holding of post-mortem examinations, but the Duchy forms a coroner's district in itself and as the coroner thereof is not the same as that of the rest of the Strand district, it places a legal barrier to the removal of bodies from one district into that of another coroner. The Strand district have done their part in providing a proper mortuary (out of the rates to which the inhabitants of the Duchy contribute). The difficulty might be got over by an arrangement between the coroners, as I understand is done in other parts of London, by the authorities providing a better mortuary, or by having one coroner for both districts.

INSPECTION AND ANALYSIS OF FOOD.

Subjoined is a list of food stuffs which have been destroyed during the year :—

Apples ...	...	1 bushel.	Oranges ...	...	1 box.
Bananas ...	...	5 baskets.	Pears ...	...	9 boxes.
Cabbages ...	...	2,940 heads.	Peas ...	...	14 sacks.
Cherries ...	...	2½ bushels.	Plums ...	...	292 boxes.
Currants...	...	2 boxes.	Tomatoes ...	...	284 boxes.
Grapes ...	...	23 barrels.	Turnip-tops ...	...	5 bags.
Greengages ...	...	60 boxes.			
Medlars ...	...	9 boxes.	Lobster ...	...	3,600 tins.

This does not represent all the food-stuffs disposed of by your Board, as much refuse fruit and vegetables are collected in Covent Garden Market in the special carts provided for the purpose. The custom is for inferior varieties of various food-stuffs to be sold with the intention that only what is good in it should be retailed to the public ; the rest the buyer is expected to pick out and throw into your Board's carts. If the retailer fails to do this, he is liable to have the food in his possession seized and destroyed, and no action

results against the wholesale seller. But if any article has been sold to the retailer for food, the person who so sold the same is liable, on conviction, to fine and imprisonment, unless he proves that at the time he sold the said article he did not know and had no reason to believe that it was in such condition. In a large number of cases food-stuffs were brought to your Board's Offices by persons who had bought them in a damaged condition, and finding they had made bad bargains, wished to recover the money paid for them by having the goods condemned. In such cases, if the articles are found to be bad they are seized and removed to your wharf, and a certificate is given of what has transpired, and generally the seller and costermonger arrange the matter between themselves. In two cases, however, in which, apparently, the seller had knowledge of the state of the articles sold, your Board proceeded against them, and the magistrate being satisfied that the seller or his servants must have known of the condition in which the articles were when sold, fined one £20 and costs, or in default one month's imprisonment for selling 72 boxes of tomatoes unfit for food; another £5 and costs for selling rotten cabbages. The question is one of considerable importance to fruit salesmen, and in the case of another Covent Garden salesman, who was prosecuted by Bermondsey Vestry at the County Sessions and found guilty by a jury, judgment was postponed until the decision of the Court for Crown Cases Reserved was given upon the legal points raised in the defence.*

* In another prosecution instituted by your Board, decided by Mr. Lushington (during the preparation of this report), notice of appeal has also been given, so that possibly doubtful points will be cleared up.

It would probably be better were only sound fruit sold in the market, but from the limited space, the large quantities dealt in, and the short time that it is in the seller's possession, this does not appear to be possible.

Questions were asked in the House of Commons of the President of the Local Government Board in reference to sale of unsound fruit, and the President (Mr. Fowler) replied that the authorities of the Strand District and of the City of London were exercising a careful supervision in this matter.

In reference to the large quantity of tinned lobsters seized, no action was taken for the reason that the goods were sold by auction under a debt warrant.

The Acts relating to the sale of food and drugs have been systematically enforced throughout the District as in former years, under the supervision of your Health Committee, and from the report of your Board's Analyst it will be seen that a varied number of articles have been examined by him, and at page 92 will be found a note of the prosecutions for adulteration with the results.

Complaints have been numerous throughout the country for some years about the lowness of the standard adopted in the Somerset House Laboratory, to which samples may be sent by magistrates who desire their opinion in cases brought before them. The chemists there have issued a report giving the results of a series of experiments made upon 273 single cows, and on the mixed milk of 55 dairies, and they have discovered that there has been a sensible improvement in the quality of milk since their previous investigation ten years ago as regards the proportion

of fat. The total solids in the milk from dairy or mixed milk varied from 11·68 to 14·34, the fat from 2·89 to 5·61, and the non-fatty solids from 8·4 to 9·7, but no information being given of the number of cows forming each of the 55 dairies no average can be struck, as it is evident there must be greater fluctuations in the quality of small as compared with large dairies.

I have the honour to be, Gentlemen,

Your obedient Servant,

FRANCIS J. ALLAN, M.D.,

Medical Officer of Health.

APPENDIX

TO THE

THIRTY-EIGHTH ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH.

APPENDIX

TO THE

THIRTY-EIGHTH ANNUAL REPORT.

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TABLE I.

Table of DEATHS during the Year 1893, in the Metropolitan Sanitary District of STRAND, classified according to DISEASES, AGES, and LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities. (Columns for Population and Births are in Form B.)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																										
	At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	(i)	1	2	3	4	FEVERS.					10	11	12	13	14	15	16	17	18	19	20	21	22				
													Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.														Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	TOTAL.				
STRAND DISTRICT	374	100	50	7	10	154	53	Under 5 5 upwds	5	4									1	2	9	9	—	—	3	38	1	3	75	150				
								5 upwds	—	—									1	—	—	—	3	—	44	58	29	10	79	224				
STRAND UNION CASUAL WARDS, BEAR YARD	26	4	—	—	1	18	3	Under 5 5 upwds														1								3	4			
								5 upwds																		6	2	2	12	22				
KING'S COLLEGE HOSPITAL ..	251	34	38	16	16	139	8	Under 5 5 upwds		17											3	1	—	—	1	12	2	3	33	72				
								5 upwds		1				6							1	1	—	—	9	28	21	17	95	179				
HOSPITAL FOR WOMEN, SOHO SQUARE	16	1	—	—	1	14	—	Under 5 5 upwds																						1	1			
								5 upwds																						15	15			
ST. PETER'S HOSPITAL	12					9	3	Under 5 5 upwds																							—	—		
								5 upwds																						12	12			
LOCK HOSPITAL, DEAN STREET	1					1	—	Under 5 5 upwds																							—	—		
								5 upwds																						1	1			
HOME HOSPITAL, DEAN STREET	1					1	—	Under 5 5 upwds																							—	—		
								5 upwds																						1	1			
HOSPITAL FOR DISEASES OF THE HEART, SOHO SQUARE ..	5	—	—	1	—	4	—	Under 5 5 upwds																		1	—	2	—	2	5			
								5 upwds																										
TOTALS ..	686	139	88	24	28	340	67	Under 5 5 upwds	—	5	21	—	—	—	—	—	—	—	1	2	12	11	—	—	4	50	3	6	112	227				
								5 upwds	—	—	1	—	—	6	—	—	—	—	1	—	1	1	3	—	54	92	54	29	217	459				
The subjoined numbers have also to be taken into account in judging of the above records of mortality.																																		
Deaths occurring outside the district among persons belonging thereto	244	15	15	9	7	127	71	Under 5 5 upwds	—	7	7	—	—	—	—	—	—	—	—	—	—	2	—	—	1	1	—	—	12	30				
								5 upwds	1	7	2	—	—	—	—	—	—	—	2	—	—	—	2	—	46	41	8	6	99	214				
Deaths occurring within the district among persons not belonging thereto ..	259	29	25	15	20	159	11	Under 5 5 upwds	—	—	9	—	—	—	—	—	—	—	—	—	1	1	—	—	1	10	2	3	27	54				
								5 upwds	—	—	1	—	—	5	—	—	—	—	1	—	1	—	—	—	10	22	24	22	119	205				

TABLE II.

Table of POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1893, in the Metropolitan Sanitary District of STRAND, classified according to DISEASES, AGES, and LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities. (a)	POPULATION AT ALL AGES.			Registered Births.	Aged under 5 or over 5.	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.											NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.											
	Census 1891.	Estimated to middle of 1893.	1			2	3	4	5	6	7	8	9	10	11	TOTALS.	1	2	3	4	5	6	7	8	9	10	11	TOTALS.
(b)	(c)	(d)	(e)	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.		Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.		
SUB-DISTRICTS—				Under 5	1	15	8								24	1	7	6									14	
ST. ANNE, SOHO			320	5 upwds	12	45	20		5			1		12	95	12	28	8		4							52	
ST. MARY			108	Under 5	—	8	11							—	19	—	4	9		—							13	
				5 upwds	7	19	12		1					2	41	7	11	10		1							29	
ST. CLEMENT			161	Under 5	—	16	11							2	29	—	12	9		—							21	
				5 upwds	10	22	13		5					4	54	10	20	7		4							41	
ST. ANNE'S WORKHOUSE, POLAND STREET	25,919	25,233	10	Under 5																								
				5 upwds																								
STRAND UNION WORKHOUSE, EDMONTON			8	Under 5										—	—													
				5 upwds																								
DO. DO. CASUAL WARDS, BEAR YARD				Under 5										—	—													
				5 upwds										2	2													
KING'S COLLEGE HOSPITAL				Under 5		1	—								1	—	—										—	
				5 upwds		16	2								18	9	2										11	
ST. PETER'S HOSPITAL				Under 5			1								1		1										1	
				5 upwds			1								1		1										1	
HOSPITAL FOR DISEASES OF THE HEART, SOHO SQUARE				Under 5																								
				5 upwds		1									1		1										1	
TOTALS ..	25,919	25,233	607	Under 5	1	40	31	—	—	—	—	—	—	2	74	1	23	25	—	—	—	—	—	—	—	—	49	
				5 upwds	29	103	48	—	—	11	—	1	—	20	212	29	69	28	—	—	9	—	—	—	—	—	135	

TABLE III.

MORTALITY of the STRAND DISTRICT during the Year (52 weeks) ending December 30th, 1893.

REGISTRATION SUB-DISTRICTS.	Sub-Districts		LOCALITY AT TIME OF DEATH.										AGE AT TIME OF DEATH AS BELOW.														
			WORKHOUSES:						Metropolitan Infirmaries, Hospitals, &c.		Lunatic Asylums.		TOTALS.			Under 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards.	
			West-minster Union (St. Anne's Poland Street).		Strand Union (Edmon-ton) and Bear Yard.																						
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.F.														
1. St. Anne Soho ...	91	86	14	13	...	...	46	23	3	2	154	124	278	58	31	7	6	29	33	31	29	38	13	3			
2. St. Mary-le-Strand ...	47	53	...	...	12	8	26	18	4	2	89	81	170	31	20	4	4	19	22	19	23	22	6	...			
3. St. Clement Danes ...	52	44	1	...	14	13	55	36	3	5	119	104	223	36	27	7	5	18	31	21	33	32	13	...			
STRAND DISTRICT.	190	183	15	13	26	21	127	77	10	9	362	309	671	125	78	18	15	66	86	71	85	92	32	3			
	373		75				204		19		671																

TABLE IV.

DEATHS from all causes in the STRAND DISTRICT, and in each

NOTE.—The Deaths of Non-Residents occurring in Hospitals, &c., in the District, are beyond the limits of the

CAUSES OF DEATH.	AGES.											DEATHS IN EACH SUB-DISTRICT.			
	Under 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and up.	St. Anne.	St. Mary.	St. Clement.	TOTAL.
I.—ZYMOTIC DISEASES.															
1.—MIASMATIC.															
Smallpox	...	...	...	1	...	...	...	...	...	...	...	1	...	...	1
Measles	1	1	...	...	...	...	...	...	...	...	...	2	...	...	2
Scarlet Fever (Scarlatina) ...	2	10	5	1	1	...	...	...	...	...	...	5	5	9	19
Diphtheria (including Mem- branous Croup)	4	16	1	...	...	...	...	...	...	...	...	5	10	6	21
Whooping Cough	3	8	...	...	...	...	...	...	...	...	...	5	2	4	11
Enteric or Typhoid Fever ...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	1
Influenza	...	...	...	...	...	2	...	1	2	1	...	...	3	3	6
2.—DIARRHOEAL DISEASES.															
Diarrhœa and Dysentery ...	12	...	1	...	...	...	...	...	...	...	...	9	2	2	13
3.—MALARIAL DISEASES.															
4.—ZOOGENOUS DISEASES.															
5.—TUBERCULAR DISEASES.															
Tabes Mesenterica	1	1	...	...	...	...	...	...	...	...	...	2	...	...	2
Phthisis	...	4	4	7	28	24	13	10	1	...	...	43	20	28	91
Tubercular Meningitis, Hydro- cephalus	1	5	...	...	2	1	...	...	...	...	...	4	2	3	9
General Tuberculosis, Scro- fula, &c.	2	1	1	...	1	1	...	...	1	...	...	3	2	2	7
6.—VENEREAL DISEASES.															
Syphilis	4	...	...	...	...	...	...	...	...	...	...	3	..	1	4
7.—SEPTIC DISEASES.															
Erysipelas	1	...	...	...	...	...	...	...	2	...	...	1	1	1	3
Pyæmia, Septicæmia	...	...	...	...	1	1	...	...	...	...	...	2	...	...	2
II.—PARASITIC DISEASES.															
Thrush, and other Vegetable Parasitic Diseases	3	...	...	...	...	...	...	...	...	...	...	3	...	...	3
III.—DIETIC DISEASES.															
Alcoholism { a. Del. Tremens	...	...	...	...	2	1	...	...	...	...	...	...	...	3	3
{ b. Intemperance	...	...	...	...	3	4	1	2	1	...	...	3	2	6	11

TABLE IV. (continued).

REGISTRATION SUB-DISTRICT, during the 52 weeks ending 30th December, 1893.

excluded; and the Deaths of Residents occurring in Hospitals, &c., situated in London District, are included.

CAUSES OF DEATH.	AGES.											DEATHS IN EACH SUB-DISTRICT.			
	Under 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and up.	St. Anne.	St. Mary.	St. Clement.	TOTAL.
IV.—CONSTITUTIONAL DISEASES.															
Gout	...	...	...	...	2	...	...	...	...	...	...	...	1	1	2
Rheumatic Fever and Rheumatism of the Heart ..	...	...	1	...	2	1	...	1	...	...	...	4	1	...	5
Rheumatism	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cancer, Malignant Disease ...	...	...	...	3	3	5	6	5	2	...	...	11	5	8	24
Rickets	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Anæmia, Chlorosis, &c. ...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	1
Diabetes Mellitus	...	...	...	1	...	1	3	1	...	...	...	2	2	2	6
V.—LOCAL DISEASES															
1.—DISEASES OF THE NERVOUS SYSTEM.															
Inflammation of the Brain or Membranes	4	3	...	...	...	...	...	...	...	...	...	2	2	3	7
Apoplexy and Brain Paralysis	...	...	...	...	...	1	3	7	8	4	1	13	4	7	24
Insanity	...	...	...	3	3	3	4	3	1	...	...	3	6	8	17
Chorea	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1
Epilepsy	...	...	...	...	...	1	...	1	...	...	...	1	...	1	2
Convulsions	10	1	...	...	...	...	...	...	...	...	...	4	3	4	11
Teething	1	1	...	...	...	...	...	...	...	...	...	2	...	...	2
Disease of Spinal Cord ...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	1
Other Nervous Diseases ...	1	...	...	...	...	1	...	...	...	...	...	2	...	...	2
2.—DISEASES OF CIRCULATORY SYSTEM.															
Pericarditis	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1
Valvular Diseases of Heart...	1	...	1	1	...	1	3	3	...	...	...	3	4	3	10
Other Diseases of Heart ...	...	...	...	3	4	3	5	9	3	...	...	10	7	10	27
Aneurism	...	...	...	...	3	...	...	1	...	...	...	2	1	1	4
Embolism, Thrombosis ...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	1
Other Diseases of Blood Vessels	...	...	...	...	...	1	2	...	...	...	...	1	1	1	3
3.—RESPIRATORY ORGANS.															
Laryngitis	...	...	...	...	...	...	2	1	...	...	...	2	...	1	3
Bronchitis	24	8	...	1	3	7	9	21	24	5	...	42	30	30	102
Pleurisy	...	1	...	1	...	1	1	...	...	...	...	...	2	2	4
Pneumonia	3	6	1	1	3	10	11	5	6	...	...	16	11	19	46
Asthma, Emphysema ...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1
Other Lung Diseases ...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	2
4.—DIGESTIVE ORGANS.															
Quinsy	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1
Diseases of Gullet & Stomach	8	3	...	1	1	1	2	...	...	...	...	11	3	2	16
Enteritis	2	...	...	...	...	...	...	...	...	...	...	...	1	1	2
Peritonitis	...	...	...	...	1	...	...	...	...	...	...	1	...	...	1
Hernia	...	...	...	1	...	...	...	1	...	...	...	1	...	1	2
Obstruction of Intestines ...	...	...	...	...	1	1	1	...	...	...	...	1	1	1	3
Disease of Pancreas ...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	1
Cirrhosis of Liver	...	...	...	1	2	1	1	3	...	...	...	1	4	3	8
Other Liver Diseases ...	...	...	...	...	1	...	...	1	...	...	...	1	1	...	2

TABLE IV. (continued).

DEATHS from all causes in the STRAND DISTRICT, and in each

[illegible]

TABLE IV. (continued)

REGISTRATION SUB-DISTRICT, during the 52 weeks ending 30th December, 1893.

CAUSES OF DEATH.	AGES.											DEATHS IN EACH SUB-DISTRICT.			
	Under 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 & up	St. Anne.	St. Mary.	St. Clement.	TOTAL.
3.—SUICIDE.															
Wounds—Gunshot	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Wounds—Cut, Stab	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poison	..	..	..	..	..	1	..	..	..	..	..	1	..	..	1
Drowning	..	..	..	..	..	1	..	..	1	..	..	2	..	..	2
Hanging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Otherwise... ..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	1
4.—EXECUTION.															
VIII.—CAUSES NOT SPECIFIED OR ILL-DEFINED.															
Not specified	..	..	..	..	..	..	1	..	..	..	..	1	..	..	1
ILL-DEFINED.															
Marasmus	11	3	..	..	..	..	..	..	..	..	..	4	3	7	14
Debility	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
TOTALS	125	78	18	15	66	86	71	85	92	32	3	278	170	223	671

SUMMARY OF CAUSES OF DEATH.

I.—SPECIFIC FEBRILE, OR ZYMOTIC DISEASES ...	31	46	12	10	33	29	13	11	6	1	—	86	47	59	192
1. Miasmatic Diseases ...	10	35	6	3	1	2	—	1	2	1	—	19	20	22	61
2. Diarrhœal " ...	12	—	1	—	—	—	—	—	—	—	—	9	2	2	13
3. Malarial " ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Zoogenous " ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5. Tubercular " ...	4	11	5	7	31	26	13	10	2	—	—	52	24	33	109
6. Venereal " ...	4	—	—	—	—	—	—	—	—	—	—	3	—	1	4
7. Septic " ...	1	—	—	—	1	1	—	2	—	—	—	3	1	1	5
II.—PARASITIC DISEASES...	3	—	—	—	—	—	—	—	—	—	—	3	—	—	3
III.—DIETIC DISEASES ...	—	—	—	—	5	5	1	2	1	—	—	3	2	9	14
IV.—CONSTITUTIONAL DISEASES	1	—	1	1	5	8	8	8	5	2	—	17	9	13	39
V.—LOCAL DISEASES ...	54	26	5	4	21	41	44	58	63	14	1	128	90	113	331
1. Diseases of Nervous System ...	16	5	—	—	3	4	8	12	13	5	1	27	17	23	67
2. Diseases of Circulatory System...	1	—	1	1	4	8	8	10	10	3	—	17	14	15	46
3. Diseases of Respiratory System...	27	15	1	2	7	17	21	29	33	6	—	60	44	54	158
4. Diseases of Digestive System ...	10	3	1	1	3	6	5	2	5	—	—	17	11	8	36
5. Diseases of Urinary System ...	—	—	2	—	1	5	2	5	2	—	—	5	2	10	17
6. Diseases of Reproductive System	—	—	—	—	3	—	—	—	—	—	—	1	2	—	3
7. Diseases of Bones and Joints ...	—	1	—	—	—	1	—	—	—	—	—	—	—	2	2
8. Diseases of Integumentary System	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1
9. Diseases of Organs of Special Sense	—	1	—	—	—	—	—	—	—	—	—	1	—	—	1
10. Diseases of Gland-like Organs...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11. Diseases of Lymphatic System ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VI.—DEVELOPMENTAL DISEASES	24	1	—	—	—	—	—	3	12	15	2	30	12	15	57
VII.—VIOLENCE " ...	1	2	—	—	2	3	4	2	5	—	—	6	7	6	19
VIII.—ILL-DEFINED " AND NOT SPECIFIED CAUSES ...	11	3	—	—	—	—	1	1	—	—	—	5	3	8	16
TOTALS	125	78	18	15	66	86	71	85	92	32	3	278	170	223	671

TABLE V.—ANALYSIS and COMPARISON of LONDON and STRAND BIRTHS and DEATHS, for the Fifty-two Weeks ending 30th December, 1892.

Districts.	ANNUAL RATE PER 1,000 PERSONS LIVING.															Deaths under 1 year to 1,000 Births.	Districts.
	Births.	TOTAL DEATHS (Corrected).				DEATHS FROM											
		1890	1891	1892	1893	Principal Zymotic Diseases.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Violence.	Tubercular Diseases.		
London ...	30·9	21·5	21·4	20·64	20·9	3·07	0·04	0·39	0·37	0·76	0·54	0·16	0·80	0·76	—	164	London.
Strand ...	24·05	24·32	26·75	25·09	26·59	2·69	0·03	0·06	0·75	0·83	0·43	0·03	0·56	0·75	4·31	205	Strand.
<i>Registration Sub-Districts.</i>																	<i>Sub-Districts.</i>
St. Anne ...	27·05	22·58	23·37	21·15	23·60	2·29	0·08	0·16	0·41	0·41	0·41	0·08	0·73	0·49	4·26	175	St. Anne.
St. Mary ...	18·92	23·44	23·01	24·08	29·51	3·47	—	—	0·86	1·72	0·34	—	0·73	1·21	4·16	284	St. Mary.
St. Clement	23·09	30·03	35·66	32·47	30·66	2·97	—	—	1·23	0·82	0·50	—	0·51	0·84	4·53	214	St. Clement.

NOTE.—Where the deaths under any heading are too few to express as a rate per 1,000 within two places of decimals, 0·00 is inserted; where no deaths have occurred, it is expressed thus —.

Board of Works for the Strand District.



ANNUAL REPORT

OF THE

PUBLIC ANALYST,

CECIL H. CRIBB, B.Sc. (LOND.), F.I.C.

For the year ending 31st March, 1894.

To the Board of Works for the Strand District.

GENTLEMEN,

During the year ending March 30th last, I have analysed 238 samples of various foods and drugs, all of which were submitted to me by your Inspector under the sale of Food and Drugs Act. Tables III. to VI. show the nature and number of the samples analysed during each quarter, and the number found to be adulterated, inferior, or otherwise peculiar.

It will be seen that out of 238 samples examined, 27 (or 11·3 per cent.) were adulterated, 38 were of inferior quality or otherwise objectionable, and 3 were abnormal, so that 68 (or 28·5 per cent.) were other than genuine and normal. It is satisfactory to be able to record a decrease, slight it is true, in the number of adulterated samples compared with former years. The following Table (I.) shews the percentage of genuine and adulterated samples for 1892-3 and 1893-4 in the Strand District, and for 1892-3 in the whole metropolis, and throughout England and Wales.

TABLE I.

	Strand District.		Metropolis.	England and Wales.
	1892-3.	1893-4.	1892-3.	1892-3.
Genuine ...	68	88·7	83	87·7
Adulterated ...	32	11·3	17	12·3
Other than genuine and normal, inferior &c.	37·9	28·5		

The percentage of adulterated samples in the respective years are not strictly comparable owing to a slight change in the method of reporting. Previous to this year it was my custom to report all articles of food containing boracic acid, as adulterated; but recently the Vestry of St. George's, Hanover Square, wrote to the Local Government Board to ascertain their opinion as to whether boracic acid was or was not to be regarded as an adulterant. From the cautiously-worded reply of that body it is evident that they do not construe the presence of this substance as an offence under the Act, and at the same time are equally unwilling to commit themselves to any expression of opinion as to its non-injuriousness which might appear to sanction its use. In the present Report therefore, I have not included the samples containing this drug under *adulterated* samples, but have classed them separately. It is highly desirable that the frequent occurrence of such chemicals in articles of food should be made widely known so that the public may be put on their guard against what, in the case of infants, at all events, may prove a serious danger. Even if it were proved that the moderate employment of borax in food was productive of no harm to adults and healthy consumers, it would be most unwise for those responsible for the purity of the public food supply, to give their sanction to its presence, which would as a consequence very soon become almost universal in articles of food of a perishable nature.

As usual, milk is the most adulterated of the sub-

stances examined, in spite of the fact that the samples of it constitute more than one-third of the total number dealt with.

The following Table II. shows the number of milk samples found adulterated and the nature and extent of the adulteration.

TABLE II.

No. of Samples.	Percentage of Extraneous Water	Percentage of Fat Extracted.	Remarks.
2	3	—	One contained Boracic Acid.
2	4	—	
3	5	—	
1	6	—	
1	7	—	
4	8	—	
1	10	—	
1	12	—	
1	14	—	
1	18	—	
1	—	10	Contained Boracic Acid
1	5	30	
1	8	14	
1	9	20	

In addition to this, 17 samples were of inferior quality, 6 of which contained boracic acid, and 2 further samples which were of good quality, also contained that preservative.

Finally, 3 samples were abnormal. They contained excessive quantities of fat, viz. :—9·64, 7·20 and 5·64 per cent., the last sample being so inferior in other respects that, judged by ordinary standards, it contained at least 9 per cent. of added water. As was the case

last year, in a large number of instances the adulteration was only a seemingly trivial one, more than half of the watered samples containing amounts of added water under 10 per cent. This must not be taken as indicating an increase of honesty on the part of the milk vendors of the District, but rather the reverse. As I had occasion to write in a former report, "the wide prevalence of slight adulteration is an indication of deliberate and systematic fraud carried out by skilled adulterators, and as such is much more important than the very gross cases of sophistication, which are usually the first bungling attempts of a prentice hand."

It must be remembered that in these cases the percentages of added water were calculated on the assumption that the original milk before being tampered with, was of the lowest possible quality which genuine and normal milk is known to be.

Sixty-one samples of butter were examined, of which it is satisfactory to record that only two were found to contain foreign fat, to the extent of 90 per cent. in each case, one of the samples further containing boracic acid. A sample of a well known butter substitute, sold as margarine, contained 53 per cent. of foreign fat. It contained boracic acid, which was also present in no less than 22 of the otherwise pure butters.

None of the remaining samples call for special mention.

In all the more serious cases proceedings were taken against the vendors, and as a rule, convictions

resulted, and fines were inflicted. The latter, however, were in most cases so absurdly inadequate, that it is utterly useless to expect any great improvement in the quality of our food supply as long as offenders are treated with such leniency.

In one case of milk adulteration in which my certificate stated that the milk contained 5 per cent. of extraneous water, and had been deprived of at least 30 per cent. of its fat, the magistrate dismissed the summons. He stated that he found as a fact that the milk was poor milk, and that the cream alleged to have been abstracted might never have been present. No opportunity was given to the analyst to support his certificate, no evidence was given on the other side to contradict it. It was simply set on one side in favour of the private opinion of the magistrate, an opinion absolutely at variance with the only reliable evidence before him, and adopted in total ignorance of the facts on which alone such an opinion could be based, viz., the standard which the analyst had employed, and the numerical results of the analysis, *neither of which were stated on the certificate*. It is of course quite obvious that there is room for a certain amount of difference of opinion as to what standard should be used, or if the magistrate had had the analytical figures before him he might, although it would have been somewhat more than could be expected of him, have been able to judge from them whether too exacting a limit had been adopted; but in the absence of all information on this point not even a

magistrate could have the slightest right to an opinion as to whether a sample of milk was adulterated or merely poor in quality.

Your Health Committee took counsel's opinion as to appealing against this decision, but were advised that as the magistrate decided on a question of fact he could not be required to state a case. Fortunately such cases are rare, or the Adulteration Acts would speedily become a dead letter.

I have the honour to be Gentlemen,

Your obedient Servant,

CECIL H. CRIBB, B.Sc. (LOND.), F.I.C.

Public Analyst.

TABLE III.

Samples Analysed during the Quarter ending June 30th, 1893.

Description.	No.	Remarks.
Milk	14	Three samples contained extraneous water as follows:— One contained at least 14 per cent., also boracic acid. Two contained at least 8 per cent. Three samples were of inferior quality. One of which contained boracic acid.
Butter ..	10	None adulterated.
Olive Oil ...	7	One sample contained 50 per cent. of oil other than that of the Olive.
Cocoa... ..	2	Not adulterated.
Baking Powder	5	None adulterated. All the samples were free from alum, and contained a good proportion of available carbonic acid.
Gin	2	Both samples were well above the legal limit, being respectively 32·8° and 34° under proof. Limit for Gin=35° under proof.
Whiskey ...	3	The samples were also of good strength, being 19·3°, 20·3°, and 21·6° under proof respectively.
Seidlitz Powder	2	None adulterated.
Pickled Onions	4	„ „
TOTAL ...	49	

TABLE IV.

Samples Analysed during the Quarter ending September 30th, 1893.

Description.	No.	Remarks.
Milk	24	Five samples were of inferior quality. Two " " and in addition contained boracic acid. Four contained extraneous water as follows:— 1 contained at least 4 per cent. 1 " " " 5 " " and was also somewhat deficient in fat, and contained boracic acid. 1 contained at least 7 per cent. 1 " " " 8 " " One sample contained boracic acid, but was otherwise of good quality. The remaining samples were unadulterated.
Butter	15	Two samples contained boracic acid. The remainder were unadulterated.
Gin	4	One sample fell just below the legal limit, being 36·25 under proof. The remainder were unadulterated.
Whiskey	3	One sample was 25·96 under proof, being just below the standard. The rest were unadulterated.
Beer	2	Unadulterated.
Lime Juice	3	"
Prescription	6	"
TOTAL	57	

TABLE V.

Samples Analysed during the Quarter ending December 31st, 1893.

Description.	No.	Remarks.
Milk	21	3 samples were of inferior quality. 1 sample was of inferior quality, and contained boracic acid. 8 samples contained extraneous water as follows :— 2 contained at least 3 per cent. 2 " " 5 " one of which also contained boracic acid. 1 contained at least 6 per cent. 1 " " 10 " " 1 " " 12 " " 1 " " 18 " " 1 sample was watered to the extent of at least 9 per cent, had been deprived of not less than 20 per cent. of its fat and contained boracic acid. 1 sample was abnormal, containing 5.64 per cent of fat. It had probably been adulterated by the addition of at least 9 per cent. of water. 1 sample otherwise genuine, contained boracic acid.
Butter	14	10 samples contained boracic acid.
" Le Dansk "	1	The sample contained at least 53 per cent. of foreign fat, also boracic acid.
Lard	6	None adulterated.
Bread	6	" "
White Pepper	2	" "
Ground Ginger	6	" "
Vinegar	6	" "
Prescription ...	4	" "
TOTAL	66	

TABLE VI.

Samples Analysed during the Quarter ending 31st March, 1894.

Description.	No.	Remarks.
Milk	16	Four samples contained extraneous water, one at least 8 per cent. and the others 4 per cent. Two samples containing 8 per cent. and 5 per cent. of added water had been deprived of not less than 14 per cent. and 30 per cent. respectively of their fat. One sample had been deprived of at least 10 per cent. of its fat. Three samples were of inferior quality, two of which contained boracic acid. Two samples were abnormal. They contained respectively 9·64 and 7·20 per cent. of fat, and probably contained not less than 7 per cent. and 6 per cent. of extraneous water.
Butter	22	Two samples each contained 90 per cent. of margarine, and one of them boracic acid also. Ten other samples contained boracic acid
Brandy	1	None adulterated.
Whiskey	4	" "
Gin	5	One sample was 35·25 under proof, being just below the limit fixed by the "Act" for gin, viz. 35·0 under proof.
Cod liver Oil ..	6	None adulterated.
Lard	2	" "
Sweets	6	" "
Pepper	4	" "
Bread... ..	3	" "
TOTAL	69	





