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

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REPORT

ON THE

SANITARY STATE

OF THE

HACKNEY DISTRICT,

FOR THE QUARTER ENDING

July 3rd, 1858,

BY

JOHN W. TRIPE, M.D.

MEDICAL OFFICER OF HEALTH TO THE DISTRICT.

Member of the Council of the Meteorological Society, &c.

Printed by Order of the Board.

BY

CHARLES POTTER, 16, WARWICK PLACE, KINGSLAND.

1858.

REPORT.

To the Board of Works for the Hackney District.

GENTLEMEN,

The sanitary state of your District during the second quarter of this year has been good, for although the deaths, even after allowing for increase of population, have been somewhat in excess as compared with those which were registered during the corresponding quarter of last year, yet the new cases of sickness attended by the Parochial Medical Officers and at the German Hospital, which afford very valuable evidence of the sanitary condition of the district, have been very much below the average number. There have been registered five cases of Diptheria, and an excess of deaths in new-born children from premature birth, debility, and atrophy. There has also been an unusual mortality of children, of all ages, from measles, and of those 1 year old from hooping-cough, and a slight increase from diarhœa, but considering the extraordinarily hot weather, which so increased the mortality of the whole of London, the mortality from diarrhœa, was less than might have been expected.

The localities in which I have made sanitary inspections during the quarter having been reported in my weekly minutes, need not be again enumerated, especially as there was but one point of general importance, viz : the question as to whether or not you would allow dust-contractors and others to deposit refuse in pits from which gravel had been dug. I think your decision to prosecute parties who shall bring refuse into the district, or allow deposits on their ground will be attended with good results ; and I feel assured that it cannot be too widely known that individuals will not be allowed to deal with their property in such a manner, as to cause injury to the public health. For although individual liberty has long been the boast of England, yet there is a point beyond which it cannot be tolerated with safety ; and private good should always be made to give way to the public welfare. Indeed, the working of the Metropolis Local Management Act may often be characterised as a war of the community against individuals for the common good.

A return which has just been made to the House of Commons in accordance with a resolution of the House, will place this in a striking light. The return embraced the following particulars—

" 1.—The number of houses in respect of which your Medical Officer of " Health has recommended the issue of orders for sanitary improve- " ment since January 1st. 1856.

" 2.—The number of houses in respect of which orders for sanitary im- " provements have been issued since January 1st. 1856. by the " Board of Works for Hackney District.

" 3.—The number of houses in which the sanitary improvements thus " ordered have been afterwards certified by the Officer of the Hack- " ney Board to have been satisfactorily executed.

" 4. The number of other nuisances injurious to health similarly " certified to have been remedied."

The number of nuisances abated or in progress, to June 30th, 1858, is as follows :—

Houses drained into the Sewer	814
Cesspools emptied...	846
Houses cleaned and repaired	356
Drains „ „	544
Other Nuisances abated...	1453
Works in progress	79
Total	4092

The large number of nuisances abated speaks well for the energy and perseverance of Mr. Valentine, the Inspector of Nuisances, especially when we find that only 30 persons have been summonsed to the Police Courts, and 2 prosecuted at common law. The plan, however, which has been adopted at this Board on my recommendation, of requiring persons to attend here previously to proceedings being taken in the Police Courts, has strengthened our hands considerably, for no less than 165 persons have been summonsed here during two years, of whom 141 have done the works required. This plan has therefore saved a great amount of trouble to the officers and of expense to the district. In all these cases, as well as in a very large number of others, I made personal inspection of the premises complained of, to ascertain in what degree they were injurious to health and the urgency or otherwise of the works requisite for abatement of the nuisances.

In connection with nuisances, I may mention the conviction which has been obtained against Mr. Robins, of Homerton, for carrying on a manufactory of Japanned cloth in such a manner as to prove a nuisance to the neighbourhood. He pleaded guilty to the indictment on the day fixed for trial, and agreed to move from the manufactory at Christmas next ensuing.

The births registered during the thirteen weeks have been 580 in number, and the deaths 346, so that the excess of births over deaths was 233, or at the rate of 167 births to each 100 deaths, whilst the numbers for the whole metropolis were 107,193 deaths to 169,170 births or at the rate of 158 births to each 100 deaths. This comparison affords

a satisfactory proof of the good state of the public health in Hackney district.

The number of deaths in Hackney District during this quarter was 347 against 318 in the corresponding quarter of last year, and the number in the whole Metropolis was 107,193, against 100,205 during the second quarter of last year, or after allowing for the different rate of increase, of 107 deaths in Hackney District and in the Metropolis against each 100 during the corresponding quarter of 1857, It is therefore evident that London was not so healthy this year as last, and that Hackney shared *pro rata* in the increased mortality. The extreme alternations of temperature experienced during the quarter of this, as compared with those of the preceeding year account for this increase.

Of the total births 31 were registered in Stamford Hill sub-district 48 in Stoke Newington ; 217 in Hackney ; 103 in South Hackney ; and 181 in West Hackney. Of the total deaths 32 were registered in Stamford Hill ; 22 in Stoke Newington ; 163 in Hackney; 48 in South Hackney, and 92 in West Hackney sub-districts.

Of the 347 deaths from all causes, 77 were registered as having been produced by zymotic diseases ; 19 by dropsy, cancer, and other maladies having an uncertain seat ; 53 from tubercular diseases ; 32 from affections of the brain and spinal cord ; 11 from diseases of the heart and great vessels ; 53 from affections of the lungs ; 25 from diseases of the stomach, liver, &c. ; 6 from kidney affections ; 14 from premature birth ; 33 from old age ; and 8 from suicide or other violence.

The number who died at different ages were as follows : 83 died during the first year of life, 14 of whom as above stated, were registered as caused by premature birth. The others were 86 between 1 year and 20 years of age ; 42 who were above 20 but under 40 ; 46 above 40 and under 60 ; 68 above 60 and under 80, and 22 who were above 80 years of age.

The meteorology of the quarter has been very unusual, the temperature having varied enormously, the highest thermometer reading having

been 93·4°, the lowest 28·2°. affording a range of 65·2. The mean temperature of the quarter was 55·1° and of the dew point was 45·3°, the mean humidity only 70·2° (saturation being 100) so that although the usual amount of rain fell, viz., 6·08 (or perhaps a little below the mean) yet the air was unusually dry in each month. The month of April was about an average temperature, May was about 1 degree below the average, and June was nearly 6 degrees above it. The quantity of ozone registered was about one fifth less than during the corresponding period of 1857.

The day on which the greatest heat occurred was the 16th. of June, when it reached 93·4° at Hackney, 94·5° at Greenwich, 97·6° in the Commercial Road, 94·8 at St, Thomas's Hospital, 94·9 at St. Mary's Hospital, Paddington, and 92·0 at Hammersmith.

I remain,

Gentlemen,

Your obedient Servant,

JOHN W. TRIPE.

Aug. 21. 1858.

TABLE I.

Deaths registered in the District of Hackney during the Thirteen Weeks ending July 3, 1858.

Causes of Death.	Ages. Under 1*	0 and under 20.	20 and under 40.	40 and under 60	60 and under 80.	80 and above	Total	
I. Zymotic :								
Small-pox	..	...	...	..	...	...	...	
Measles	5	18	...	...	...	...	18	
Scarlatina	...	6	...	...	...	..	6	
Hooping Cough	12	19	...	...	...	...	19	
Croup	...	...	...	...	...	...	...	
Thrush	...	...	...	...	...	...	...	
Diarrhœa (Bowel Complaint)	4	6	...	..	...	1	7	
Dysentery	..	.	..	...	..	...	...	
Cholera	...	...	...	...	...	...	...	
Influenza	...	..	...	...	...	...	...	
Scurvy and Purpura	...	...	...	...	...	...	...	
Ague	...	...	...	...	...	...	...	
Remittent Fever	...	...	...	...	...	..	...	
Infantile Fever	4	4	...	...	...	...	4	
Typhus Fever	1	5	3	2	4	..	14	
Puerperal Fever (Metria)		...	1	...	...	...	1	
Rheumatic Fever		...	...	...	...	...	...	
Erysipelas (Rose)	1	1	...	...	..	...	1	
Syphilis	2	2	...	...	..	...	2	
Noma (Canker)		...	...	...	...	...	...	
Diptheria	...	5	...	...	...	...	5	77
II. Dropsy, &c. :								
Hæmorrhage	1	1	...	...	...	...	1	
Dropsy	...	..	1	4	4	...	9	
Abscess	...	...	...	...	...	...	...	
Ulcer	..	...	..	...	...	...	..	
Fistula	...	...	...	...	1	...	1	
Mortification	...	...	...	...	1	...	1	
Cancer	..	..	...	5	2	...	7	
Gout	...	...	...	...	...	...	...	=19
III. Tubercular Diseases :								
Scrofula	...	...	...	1	..	...	1	
Tabes Mesenterica	4	5	...	...	...	...	5	
Phthisis (Consumption)	...	11	20	5	...	...	36	
Hydrocephalus (Water on Brain)	2	11	...	...	...	...	11	=53
IV. Brain and Nerves :								
Meningitis	1	4	...	1	...	...	5	
Cerebritis	1	1	...	...	...	...	1	
Apoplexy	...	...	1	3	2	..	6	
Palsy (Paralysis)	...	..	...	2	5	1	8	
Delirium Tremens	...	...	...	...	1	...	1	
Epilepsy	...	...	...	..	...	..	...	
Tetanus	...	...	...	...	...	...	...	
Insanity	..	..	1	...	..	...	1	
Convulsions	5	7	...	...	...	...	7	
Disease of Brain, &c.	...	2	...	...	...	...	3	
,, Spinal Cord	...	...	...	...	1	...	..	=32
Carried forward	53	108	27	23	21	2	181	

* These deaths in the first column are incorporated with those in the second.

TABLE I.—*Continued.*

Causes of Death.	Ages. Under 1	0 and under 20	20 and under 40	40 and under 60	60 and under 80	80 and above	Total.
Brought forward.....	53	108	27	23	21	2	181
V HEART AND BLOOD VESSELS :							
Pericarditis	..	...	..	1	...	...	1
Endocarditis	..	...	...	...	..	..	...
Aneurism	..	...	..	..	...	...	...
Disease of Heart, &c.	...	1	2	4	1	2	10=11
VI. LUNGS AND ORGANS OF RESPIRATION :							
Larygismus Stridulus ...	1	1	..	...	...	...	1
Laryngitis	...	5	...	...	...	...	5
Bronchitis...	5	10	...	8	7	2	27
Pleurisy	...	1	...	...	1	..	2
Pneumonia	2	10	2	1	3	...	16
Asthma	...	..	..	...	1	...	1
Disease of Lungs	...	1	..	...	...	...	1=53
VII. STOMACH AND DIGESTIVE ORGANS :							
Teething	1	4	...	...	...	...	4
Quinsey	...	..	...	...	...	..	...
Gastritis	...	...	...	...	2	...	2
Enteritis	..	1	...	...	1	...	2
Peritonitis	...	2	...	..	..	...	2
Ascites	...	...	...	..	...	..	...
Ulceration of Intestines... ...	1	1	...	...	1	...	2
Hernia (Rupture)	..	...	...	..	1	...	1
Intussusception	...	...	...	1	...	...	1
Disease of Bowels	...	...	...	..	...	...	...
Abdominal Tumour	...	...	...	...	...	...	...
Stricture of Intestinal Canal ...	1	1	...	...	...	..	1
Disease of Stomach, &c. ...	...	...	...	2	...	...	2
Disease of Pancreas	...	...	..	...	...	...	...
Inflammation of Liver (Hepatitis) ...	...	2	...	...	...	2
Jaundice	1	1	...	...	1	1	3
Disease of Liver	...	...	2	...	1	...	3
Disease of Spleen	...	...	...	..	..	..	...=25
VIII. KIDNEY, &c.:							
Nephritis	...	1	...	..	..	...	1
Nephria (Bright's Disease) ..	...	...	...	1	2	...	3
Diabetes	...	..	1	...	...	...	1
Stone	...	...	...	...	1	...	1
Cystitis	...	...	...	...	...	...	...
Stricture of Urethra	...	..	..	...	..	...	...
Disease of Prostrate Gland ...	...	...	...	...	..	...	...
Disease of Kidney	...	...	..	...	...	...	...6
IX. CHILDBIRTH:							
Childbirth (see Metria) ...	...	...	1	...	..	...	1
Disease of Uterus, &c.	..	...	...	...	...	...	...
Ovarian Disease	..	..	...	..	..	...	... 1
Carried forward ..	65	148	37	41	44	7	277

TABLE I.—*Continued.*

Causes of Death.	Ages.						Total.
	under 1	0 and under 20	20 and under 40	40 and under 60	60 and under 80	80 and above	
Brought forward	65	148	37	41	44	7	277
X. Joints Bones, &c.:							
Chronic Rheumatism	...	...	..	...	1	...	1
Disease of Joints	...	...	..	1	...	...	1
Disease of Bones ...	...	...	...	...	...	...	..
Disease of Spine	...	...	...	...	...	...	...
XI. Skin, Cellular Tissue, &c :							
Carbuncle and Boils	...	...	..	...	...	...	...
Phlegmon	...	...	...	...	...	...	...
Disease of Skin, &c.	...	...	...	...	...	...	...
XII. Malformation :							
Spina Bifida	...	...	...	...	...	..	...
Other Malformations	...	..	...	...	..	...	...
XIII. Premature Birth and Debility	14	14	...	...	...	...	14
XIV. Atropy	3	3	...	...	...	...	3
XV. Old Age and Decay... ...	...	...	...	...	18	15	33
XVI. Sudden Deaths	...	2	1	2	5	...	10
XVII. Violent Deaths							
Intemperance	...	...	...	...	...	...	..
Privation of Food	...	...	...	...	...	...	...
Want of Breast Milk	...	...	...	...	...	...	...
Neglect	...	...	...	...	..	..	..
Amputation of Leg	...	...	...	...	...	...	...
Poisoned Wounds	...	...	...	...	...	...	...
Burns and Scalds	...	...	...	...	..	...	...
Hanging (Suicide)	...	...	1	1	..	...	2
Suffocation	...	...	..	...	...	...	...
Drowning (Suicide)	1	2	...	1	...	...	3
Fracture and Contusions ..	...	...	2	...	..	...	2
Wounds	...	...	1	...	..	...	1
Other Violence	...	...	...	..	...	...	...
XVIII. Not Specified	...	...	...	...	...	...	
Totals	83	169	42	46	68	22	347
	Under 1	Under 20	20 and under 40	40 and under 60	60 and under 80	80 and above	Total.

TABLE II.

Summary of METEOROLOGICAL Observations taken daily during the undermentioned Weeks, at the Town Hall, Hackney, by Dr. Tripe.

1858 — Week Ending	Barometer.	Temperature of the Air.							Moisture		Mean weight of a cubic foot of air.	Rain	Ozone	Deaths registered from epidemic disease in the week which is subsequent to the date given	Deaths registered in the week which is subsequent to the date given.	Excess or minus of temperature in each week, when compared with mean for 43 years.
		Absolute.			Average											
	Mean of Seven Observations corrected.	Highest	Lowest	Range	Mean of seven daily Maximums.	Mean of seven daily Minimums.	Mean of seven daily Ranges.	Adopt. Mean Temperature	Mean Dew-point Temperature	Mean degree of Humidity saturation=100		Mean Weekly Amount.	Mean Daily Amount.			
	o	o	o	o	o	o	o	o	o	o	o	Inches.				o
April 10....	29·796	56·8	34·2	22·6	48·9	37·2	11·7	41·6	36·1	83·6	550·9	1·26	3·0	34	8	—4·9
,, 17....	29·971	73·0	28·2	44·8	57·3	39·1	18·2	46·6	38·5	74·2	548·5	0·20	2·4	31	6	+1·2
,, 24....	30·187	74·2	35·6	38·6	67·4	40·7	26·7	52·6	43·3	70·5	545·5	0·00	1·6	27	2	+5·8
May 1....	29·698	63·6	38·6	25·0	57·1	41·7	15·4	48·1	42·8	81·6	542·7	0·96	0·6	33	8	—1·5
,, 8....	29·920	63·0	34·6	28·4	58·2	38·1	20·1	46·0	37·0	71·8	548·3	0·26	1·0	28	6	—5·8
,, 15....	29·803	66·2	38·2	28·0	61·7	41·8	19·9	49·9	42·4	75·2	541·6	0·55	0·3	19	3	—1·9
,, 22....	29·940	69·8	44·6	25·2	65·0	47.6	17·4	54·7	43·9	66·5	537·3	0·24	0·4	24	6	+1·6
,, 29....	30·012	74·2	43·6	30·6	64·8	47·8	17·0	53·7	45·0	72·3	540·9	1·33	0·4	29	4	—0·9
June 5....	30·037	84·0	53·0	31·0	79·0	56·5	22·5	65·6	51·9	61·0	528·8	1·04	1·4	24	6	+9·6
,, 12....	29·928	81·4	51·6	29·8	76·8	55·0	21·8	64·2	54·4	72·1	528·8	0·08	1·6	28	6	+6·2
,, 19....	29·926	93·4	51·0	42·4	82·6	57·6	25·0	69·4	57·8	65·0	522·2	0·00	0·6	29	6	+8·5
,, 26....	30·196	85·0	51·0	34·0	79·2	54·8	24·4	65·1	49·9	60·0	533·1	0·08	0·7	22	5	+4·3
July 3....	30·053	77·4	48·6	28·8	70·6	51·9	18·7	59·1	45·3	59·4	537·9	0·08	2·0	27	10	—2·8
Means.	29·959	73·9	42·5	31·4	66·8	46·9	19·9	55·1	45·3	70·2	539·0	0·47	1·2	27	6	+1·5

NOTE.—All the Meteorological Instruments have been compared and certified by Mr. Glaisher. All the Observations have been corrected for error, for diurnal range, &c., and reduced by Glaisher Tables, last editions.

REPORT

ON THE

SANITARY STATE

OF THE

HACKNEY DISTRICT,

FOR THE QUARTER ENDING

OCT. 2nd, 1858,

BY

JOHN W. TRIPE, M.D.

MEDICAL OFFICER OF HEALTH TO THE DISTRICT.

Member of the Council of the Meteorological Society, &c.

Printed by Order of the Board.

BY

CHARLES POTTER, 16, WARWICK PLACE, KINGSLAND.

1858.

REPORT.

To the Board of Works for the Hackney District.

GENTLEMEN,

In consequence of Typhoid Fever having occurred in several localities of your District, I am induced to lay before you some of the details connected with the different cases. The worst outbreak was that which appeared in the vicinity of the Tottenham Road, on the confines of this and of the Islington District.

The first case appeared in the Middleton Road, in the house of a baker who was employed in Islington district, at a shop where there was a large cesspool which frequently smelt badly. Soon after his attack, and long before his death, a case occured in the baker's house, then two in the adjoining Public house, in which were accumulations of stable manure which smelt very badly. All these cases proved fatal. At the house in Middleton Road three deaths happened, viz., that of the father, of the eldest daughter, and eldest son. The house in the Middleton Road was well drained, but, on carefully examining it, I found an untrapped sink-stone from which the Widow stated that a bad smell frequently came. The house itself was not clean, and was somewhat overcrowded, but not sufficiently so to admit of your interference.

At all the other cases in the neighbourhood I found stinking privies, untrapped drains, and otherwise defective sewerage.

I have also visited several localities in which the same kind of fever broke out ; and in all cases, except one, I found open privies, or untrapped drains, through which disgusting odours made their way into the house. The way in which fever occurred in one house here, and another there, was worthy of notice, being quite distinct from the course which typhus fever would have pursued.

I would also remark, as a statement has appeared in the "Times" Newspaper, that this variety of Typhoid Fever is not contagious, that the mode in which it has spread in the district proves quite the contrary. In one case a child first showed symptoms of the disease, and as the

parents were told that the disease "was not catching," the mother put him into her own bed during the day, whilst she aired and made the child's. She did the same a day or two afterwards with her daughter's bed. Before a week had expired the father presented symptoms of it; next, a day or two afterwards, the daughter, aged 20, and both died.

In the Middleton Road, four out of six inmates took the disease from the father, and three died. I might add other cases, but these will suffice to make persons careful how they expose themselves unnecessarily to infection.

There have also been an increased number of deaths from Diptheria in this district, the disease having been, in some cases, extremely fatal; three children in one family having died from it. This disease I believe to be slightly contagious, but not to a greater extent than Typhoid Fever. It is not a new disease, but has prevailed more extensively of late years than previously, and appears to arise in part from local causes, as the worst cases usually take place in localities near which there are accumulations of decomposing animal and vegetable matter. The worst cases in this district happened near the Brook, which will, I trust, speedily be filled in. I should advise any family in which the disease shows itself, to remove for a time into some other neighbourhood, as it is in its worst form very intractable to curative means.

On comparing the mortality during this quarter with the corresponding one for last year we find that the total number of deaths have been 355 against 362, so that the general health of the inhabitants of this District has been better than usual. The total number of births have been 607 against 613 during the corresponding quarter last year.

It is very remarkable that in both these respects the District returns agree with those for all London. Why there should not only have less deaths in London, but also less births I cannot conceive, (we find a similar coincidence to have happened in 1853,) unless it be in consequence of the marriages having fallen off during the latter half of 1857. This however was not the case as regards 1852.

The excess of births over deaths was 254, or 2 more than in the corresponding quarter of 1857. The total excess of births over deaths during the three quarters of the present year has been no less than 692, so that the increase of population would be about $1\frac{1}{4}$ per cent. after allowing for that produced by the excess of immigration over emigration; which, during the 10 years 1841—51 was about 3 per cent annually.

Of the 607 births, 220 were registered in Hackney sub-district; 209 in West Hackney; 28 only in Stamford Hill; 42 in Stoke Newington; and 108 in South Hackney Sub-Districts.

Of the total deaths 157 were registered in Hackney; 102 in West Hackney; 21 in Stamford Hill; 17 only in Stoke Newington; and 56 in South Hackney Sub-Districts.

The ages at death in periods of 20 years were as follows, 185 deaths happened in young persons under 20 years of age, and of these 106 occurred in children under 1 year old; Of the remainder, 52 took place, in persons more than 20 but below 40; 39 in persons aged more than 40

and less than 60 ; 60 in persons who were above 60 but under 80, and 19 in those who were above 80 years of age.

The causes of death were varied, but by far the largest mortality was caused by the Zymotic class, as no less than 107 were registered from this group of diseases. Of the others, diseases of uncertain seat, dropsy, hærmorrage, &c. caused a mortality of 13 ; Tubercular diseases, 62 ; Diseases of the brain and nerves, 42 ; Affections of the heart, 19 ; Of the lungs only 22 ; Of the digestive organs, 13 ; From child-birth only 2 ; From premature birth no less than 20 ; From old age, 20 ; Sudden death, 3 ; From want of breast milk, 3 ; From violent deaths, 12.

There was not one death from small-pox ; 7 happened from measles ; 20 from scarlet fever ; 10 from hooping-cough ; 30 from diarrhœa, and 1 from Cholera which was of a severe kind, death having occurred in 30 hours from the attack. There were bad smelling drains and an open privy on the premises, and no other pre-disposing cause could be ascertained for the death, as the patient was a very regular and steady man.

The number of nuisances removed by Mr. Valentine, the Inspector of Nuisances were as follows :—

Cesspools emptied, filled up and drained into the sewer - -	592
Cesspools emptied - - - - - - - - - -	78
Horse, cow, pig and vegetable refuse removed - - - -	87
Foul and offensive drains cleansed or reconstructed - - -	34
Other nuisances - - - - - - - - - -	35
Total - -	826

The meteorology of the Quarter was remarkable for the high temperature of September which was 4 degrees above the average of the last 87 years. It was the hottest September during the present century, except in the years 1815 and 1818. The highest temperature recorded during the quarter was 88·0° and the lowest 41·6 ; so tha tthe extreme range was no less than 46·4°. The mean temperature was 61·1° or 0·1° above that of Greenwich. The mean humidity of Hackney wss 70·1, and of Greenwich 73·0. The amount of rain fall was less than the average.

I remain, GENTLEMEN,

Your obedient Servant,

J. W. TRIPE.

Nov. 18th. 1858,

TABLE I.

Deaths registered in the District of Hackney during the Thirteen Weeks ending October 2nd, 1858.

Causes of Death.	Ages.						Total
	Under 1	0 and under 20.	20 and under 40.	40 and under 60.	60 and under 80.	80 and above	
I. Zymotic Diseases :							
Small-pox	..	...	...	..	...	...	...
Measles	2	7	...	...	...	...	7
Scarlatina	9	19	1	...	...	..	20
Hooping Cough	4	10	...	...	...	...	...
Croup	...	...	...	...	...	...	0
Thrush	3	3	...	...	...	...	3
Diarrhœa (Bowel Complaint)	20	26	1	..	3	...	30
Dysentery	1	2	..	2	..	...	4
Cholera	...	...	...	...	1	...	1
Influenza	...	..	...	...	...	...	...
Scurvy and Purpura	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...
Remittent Fever	...	...	...	...	...	...	...
Infantile Fever	...	...	...	...	...	...	...
Typhus Fever	...	6	3	1	3	..	13
Puerperal Fever (Metria)	...	...	1	2	...	...	3
Rheumatic Fever	..	..	...	...	...	...	...
Erysipelas (Rose)	...	...	1	1	...	...	...
Syphilis	1	1	...	...	1	1	3
Noma (Canker)	...	...	...	...	..	...	..
Diptheria	...	...	...	...	...	...	...
	2	10	2	...	1	...	13 = 107
II. Dropsy, &c.:							
Hæmorrhage	...	...	...	...	...	...	...
Dropsy	...	1	1	2	1	...	5
Abscess	...	...	...	...	...	...	.
Ulcer	..	...	..	...	...	...	..
Fistula	...	...	...	...	..	...	...
Mortification	...	...	...	...	1	...	1
Cancer	...	...	...	2	3	2	7
Gout	...	...	...	...	...	...	... =13
III. Tubercular Diseases :							
Scrofula	...	...	...	...	..	...	...
Tabes Mesenterica	8	11	...	...	..	...	11
Phthisis (Consumption)	...	7	24	13	1	2	47
Hydrocephalus (Water on Brain)	3	4	...	...	...	...	4=62
IV. Brain and Nerves :							
Meningitis	..	1	...	...	1	...	2
Cerebritis	...	...	...	...	...	...	...
Apoplexy	...	...	1	1	3	..	5
Palsy (Paralysis)	...	..	1	2	7	...	30
Delirium Tremens	...	..	2	1	1	...	4
Epilepsy	...	...	1	..	...	..	1
Tetanus	...	...	...	...	...	...	...
Insanity	...	...	1	1	..	...	2
Convulsions	7	8	...	...	...	...	8
Disease of Brain, &c.	3	4	...	2	4	...	...10=42
,, Spinal Cord	...	...	...	...	...	..	..
Carried forward	63	120	39	29	31	5	224

TABLE I.—*Continued.*

Causes of Death.	Ages.						Total.
	Under 1	0 and under 20	20 and under 40	40 and under 60	60 and under 80	80 and above	
Brought forward.....	63	120	39	29	31	5	224
V. Heart and Blood Vessels:							
Pericarditis	.	...	..	...	...	...	...
Endocarditis	..	...	...	...	..	..	...
Dneurism	..	...	...	..	...	1	1
Disease of Heart, &c.	...	3	2	4	9	..	18=19
VI. Lungs and Organs of Respiration:							
Larygismus Stridulus ...	..	1	..	...	...	...	1
Laryngitis	...	4	...	...	1	...	5
Bronchitis...	3	6	...	1	...	...	7
Pleurisy	...	.	...	...	...	..	...
Pneumonia	2	4	...	1	1	...	6
Asthma	...	..	..	...	2	...	2
Disease of Lungs ..	...	1	..	...	...	...	1=22
VII. Stomach and Digestive Organs:							
Teething	...	...	..	...	...	...	...
Quinsey	...	..	..	...	...	...	...
Gastritis	..	...	...	...	...	...	...
Enteritis	1	3	2	..	...	...	5
Peritonitis	...	...	...	..	..	...	...
Ascites	...	...	...	...	...	...	...
Ulceration of Intestines ...	..	...	...	...	...	...	..
Hernia (Rupture)	..	...	1	1	...	...	2
Intussusception	...	...	...	..	...	..	...
Disease of Bowels	...	...	...	..	...	...	...
Abdominal Tumour	...	...	.	...	...	...	...
Stricture of Intestinal Canal ...	...	...	...	...	...	...	...
Disease of Stomach, &c. ...	...	...	...	...	...	...	...
Disease of Pancreas	...	...	...	...	...	..	...
Inflammation of Liver (Hepatitis)	...	...	1	...	...	..	1
Jaundice	..	...	...	...	..	..	..
Disease of Liver	...	1	1	1	1	...	4
Disease of Spleen	...	...	...	..	1	...	1=13
VIII. Kidney, &c.:							
Nephritis	...	...	...	..	..	...	..
Nephria (Bright's Disease) ..	...	...	3	...	2	1	5
Diabetes	...	..	...	...	...	...	1
Stone	...	...	...	...	2	...	2
Cystitis	...	...	...	...	...	...	...
Stricture of Urethra	...	..	..	...	..	...	...
Disease of Prostrate Gland ...	...	...	...	...	..	...	...
Disease of Kidney	...	...	..	...	...	...	=6
IX. Childbirth:							
Childbirth (see Metria) ...	...	...	1	1	..	...	1
Disease of Uterus, &c.	..	...	...	..	...	...	...
Ovarian Disease	..	..	...		..	...	1=2
Carried forward ..	69	143	49	39	50	7	288

TABLE I.—*Continued.*

Causes of Death.	Ages. under 1	0 and under 20	20 and under 40	40 and under 60	60 and under 80	80 and above	Total.
Brought forward	69	143	49	39	50	7	288
X. Joints Bones, &c. :							
Chronic Rheumatism	...	...	..	...	...	...	..
Disease of Joints	...	...	1	...	...	...	1
Disease of Bones ...	...	...	..	...	...	...	..
Disease of Spine	...	...	...	...	...	...	...
XI. Skin, Cellular Tissue, &c. :							
Carbuncle and Boils	...	...	..	...	...	...	...
Phlegmon	...	...	...	...	...	...	...
Disease of Skin, &c.	...	...	...	...	...	...	...
XII. Malformation :							
Spina Bifida	...	...	...	...	..	..	...
Other Malformations	...	..	...	...	..	...	...
XIII. Premature Birth and Debility	20	20	...	...	...	...	20
XIV. Atropy	6	6	...	...	...	...	6
XV. Old Age and Decay... ...	...	...	...	...	10	12	22
XVI. Sudden Deaths	3	3	...	...	...	...	3
XVII. Violent Deaths							
Intemperance	...	...	...	...	...	...	..
Privation of Food	...	...	...	...	...	...	...
Want of Breast Milk	3	3	...	...	...	...	3
Neglect	...	...	...	...	...	...	..
Amputation of Leg	...	...	...	...	..	..	..
Poisoned Wounds	...	1	...	...	...	...	1
Burns and Scalds	...	1	...	...	...	...	1
Hanging (Suicide)	...	...	...	..	...	...	...
Suffocation	2	2	...	...	...	...	2
Drowning (Suicide)	2	3	2	...	...	...	5
Fracture and Contusions ...	...	2	...	...	..	...	2
Wounds	...	...	...	...	..	...	...
Other Violence	1	1	...	..	...	...	1=15
XVIII. Not Specified	...	...	...	...	...	...	
Totals	106	185	52	39	60	19	355
		Under 20	20 and under 40	40 and under 60	60 and under 80	80 and above	Total.

TABLE II.

Summary of METEOROLOGICAL Observations taken daily during the undermentioned Weeks, at the Town Hall, Hackney, by Dr. Tripe.

1858 == Week Ending	Barometer.	Temperature of the Air.							Moisture		Mean weight of a cubic foot of air.	Ozone	Rain	Rain.		Deaths registered in the week which is subsequent to the date given.	Excess or minus of temperature in each week, when compare d with mean for 43 years.
		Absolute.			Average												
	Mean of Seven Observations corrected	Highest	Lowest	Range	Mean of seven daily Maxi-mums.	Mean of seven daily Mini-mums.	Mean of seven daily Ranges.	Adopt. Mean Temperature	Mean Dew-point Temperature	Mean degree of Humidity saturation=100		Mean Weekly Amount.	Mean Daily Amount.	No. of Days.	Amount:		
	o	o	o	o	o	o	o	o	o	o	o	Inches.					o
July 10....	29·775	71·4	48·5	22·9	67·1	49·9	17·2	56·4	47·3	72·5	533·9	1·4	7·0	5	1·22	25	—5·3
,, 17....	29·950	88·0	52·0	36·0	78·6	57·9	20·7	66 6	55·7	66·5	525·9	1·0	5·0	1	0 58	27	+4·2
,, 24....	29·903	78·2	51·2	27·0	75·3	53·9	21·4	62·3	52·1	69·8	529·7	0·6	8·0	4	0·44	27	+1·5
,, 31....	29·861	78·0	50·2	27·8	73·1	50·9	22·2	59·8	47·0	62·4	531·7	2·3	5·0	2	0·48	35	—2·4
Aug. 7....	30·037	78·8	46·8	32·0	76·1	52·7	23·4	62·7	50·1	64·7	531·9	0 2	5·0	1	0·06	26	—0·1
,, 14....	30·073	86·2	46·8	39·4	81·0	55·0	26·0	65·5	56·4	73·0	529·9	1·6	6·0	3	1·16	37	+3·4
,, 21....	29·79	81·4	50·2	31 2	73·4	56·9	16·5	63·2	53·3	70·2	526·9	0·6	5·0	4	0·64	27	+2·0
,, 28....	29·946	76·2	48·8	27·4	71·0	50·8	20·2	59·0	47·5	65·5	535·0	1·6	3·0	1	0·10	15	—1·0
Sept. 4....	29·715	72·8	45·8	27·0	68·9	51·6	17·2	59·6	47·4	69·0	529·4	0·0	8·0	2	0·24	37	+0·3
,, 11....	30·012	83·4	49·0	34·4	76·1	53·9	22·2	63·4	56·2	77·9	530·1	0·9	6 0	2	0·14	19	+1·9
,, 18....	29·858	73·3	47·8	25·5	69·1	53.8	15·3	59·9	51·3	73·3	531·4	0·0	9·0	3	0·40	28	+6·5
,, 25....	30·032	70·6	45·8	24·8	66·3	53·2	13·1	58·6	49·9	73·0	535·8	1·4	7·0	2	0·30	23	+3·0
Oct. 2....	30·036	72·0	41·6	30·4	66·4	51·6	14·8	57·9	50·6	74·0	537·4	0·9	6·0	2	0·08	21	+3·5
Means.	29·915	88·0	41·6	46·4	72·5	53·2	19·3	61·1	51·1	70·1	546·8	0·45	1·0	2	4	27	+1·3

NOTE.—All the Meteorological Instruments have been compared and certified by Mr. Glaisher. All the Observations have been corrected for error, for diurnal range, &c., and reduced by Glaisher Tables, last editions.

REPORT

ON WATERING THE ROADS,

AND ON THE

SANITARY STATE

OF THE

HACKNEY DISTRICT,

FOR THE QUARTER ENDING

JAN. 1st, 1859,

BY JOHN W. TRIPE, M.D.

MEDICAL OFFICER OF HEALTH TO THE DISTRICT.

Member of the Council of the Meteorological Society, &c.

Printed by Order of the Board.

BY

CHARLES POTTER, 16, WARWICK PLACE, KINGSLAND.

1859.

REPORT.

To the Board of Works for the Hackney District.

GENTLEMEN,

In accordance with the Resolution passed by you that I should "draw up and present to the Board a Report upon the Sanitary effects and advantages to be derived from Watering Streets and Roads during the summer months," I beg to lay the following before you.

The chief object in a sanitary point of view to be obtained by watering the streets and roads is to prevent the dust from being blown about, and consequently inhaled by the passers by; but we must not lose sight of the cooling effect which it exercises, nor the increased humidity of the atmosphere which it induces. In very hot weather it is important to adopt all measures that will reduce temperature, as you may thereby assist in reducing the sickness and probably the mortality from diarrhœa. It is also advisable to increase the humidity of the air in large towns, as the meteorological observations lately made by the medical officers of Health, and other members of the Meteorological Society show that the air of the Metropolis is drier the nearer we approach the centre of London, even at the river side. The presence of pavement which prevents rain from soaking into the ground, and the absence of verdure which exhales moisture, contribute to this result.

Now, as the chief things for consideration in this present Report are the chemical and physical effects produced by Watering the Roads, it will be necessary in the first place to consider of what the road drift is composed.

Road-drift varies greatly in its composition according to the surface on which it occurs. On roads paved with blocks of granite it is chiefly composed of dried animal excrement, mixed with fine particles of granite and iron abraded by and from the shoes of the horses and tyres of the wheels; it also contains a small proportion of leather worn away from the shoes of passengers. Road-sweepings of this kind are readily saleable to agriculturists, and their value forms an item in the estimate of scavengers when contracting to keep the roads clean. On the other hand the road-drift of localities which have macadamised roads and gravelled foot-paths is composed chiefly of granite and sand mixed with a comparatively small quantity of animal excrement, which is valueless to farmers as manure. These differences are perceptible not only to

the purchasers of the drift and to the chemist, but to the passers-by, as I think anyone can testify who has inhaled a mouthful of it whilst passing over London Bridge or along any crowded thoroughfare.

When water in moderate quantity is poured on either variety of dust no chemical change important to health can occur, even in the hottest day in summer, because the water evaporates before any fermentative process can be set up; whilst the clouds of dust are temporarily prevented. But it is also evident that merely watering the roads cannot entirely prevent the annoyance when the paths, like most of those under your control, are covered with loose fine gravel.

It was my intention to have considered this matter statistically, but on carefully considering the whole subject I find it impossible to compare on this one point alone, your district with the whole of London, or even with any district which is paved with granite throughout. Thus the number of persons to an acre, the proportions of young children and of the aged to those in the prime of life, the condition of the inhabitants as regards the comparative presence or absence of comforts, by which I mean plenty of food and clothing, protection from the vicissitudes of weather, &c. vary so greatly in the different districts, and even in the same district at different times, that it could only lead to erroneous results if we attempted to draw conclusions from any one element in which they differ. I have however calculated the death rates from pulmonery diseases af all kinds in Hackney District, *per se*, and in London at large, and I find that the advantage considerably preponderates in favour of Hackney, for, whilst in all London at an average of some years 1 person died annually from pulmonary disease in each 150 living, in Hackney the average was only about 1 in each 190 living. There is however no doubt that the inhalation of fine hard particles, such as stone, sand (silex), or metal is injurious to health. The investigations which have been made by various medical men respecting the effects of fork-grinding and other similar trades, and the means which have been adopted for preventing injury to health sufficiently prove this. The following testimony from the last sanitary work published by the Board of Health, supports the position I have taken; Mr. Simon observes in regard to the tables formed by Dr. Greenhow that a high death-rate from pulmonary diseases "mainly depends on the local pursuit of particular branches of industry." "Two kinds of occupation are in this respect especially hurtful; first, those which give rise to mechanical irritation of the air passages, by diffusing in the air of work-places any considerable amount of metallic or earthy grit, or even of flax dust, or cotton or woollen fluff; secondly, those in which the operatives are exposed to abrupt changes of temperature." Towns in which the manufacture of metals is carried on (especially the manufacture of cutlery) are also shown to suffer a high rate of mortality from pulmonary disease.

In addition to the above testimony I know from my own experience that persons employed in any dusty trade, as bakers, stone cutters, &c, suffer very considerably from pulmonary affections.

From all these considerations I am undoubtedly of opinion that the inhalation of the dust which blows so profusely about your roads in the summer time, containing as it does so large a proportion of pulverized stone and sand, must prove decidedly detrimental to health; and that there is no sanitary objection to the watering of roads on the grounds of fermentation of the animal matter contained in the dust. We must not look to the mortuary tables alone for evidence of injury to health, but rather to the amount of personal discomfort suffered by those who are exposed to the influence of any annoying or irritating agent, for if it were otherwise, it is quite clear that no proceedings could be successfully instituted against persons causing a nuisance. So, in the same way, we must not look to the Hackney mortuary tables and say that because the duration of life is high and the rate of death from pulmonary and other diseases comparatively small, that no causes for ill health exist in the District, for there is still a great deal to be done, besides watering the roads, before the district will be in as good a sanitary condition as could be wished. I allude chiefly to the drainage works which have to be completed. It must not, however, be supposed that the drainage works have not been attended to as usual, for on the contrary there has not been so large a number of cesspools filled up and of privies converted into water-closets as during the past quarter; and the sewers are being completed with moderate speed.

The return of Mr. Valentine, for the past quarter, shows that no less than 950 nuisances have been removed, which may be classified as follows :—

Privies and cesspools emptied, filled up and connected with the sewer	793
Privies and cesspools emptied	33
Houses and rooms (tenements) cleaned and purified	29
Drains repaired and cleansed	43
Collections of animal refuse removed	27
Other nuisances	25
Total	950

The total number of births in the district have been 610, and of deaths 475, so that the excess of births over deaths have been 135; of the total births 36 were registered in Stoke Newington sub-district; 40 in Stamford Hill; 225 in Hackney sub-district; 123 in South Hackney; and 186 in West Hackney. Of the 475 deaths, 31 were registered in Stoke Newington; 19 in Stamford Hill; 200 in Hackney sub-district; 95 in South Hackney; and 130 in West Hackney. Of the 475 deaths in the district 109 were registered of children under 1 year of age, 116 of young persons above 1 year but under 20 years of age; 63 who were above 20 but under 40 years; 75 who were more than 40 but less than 60 years; 89 who were above 60 and under 80; and no less than 23 who were more than 80 years old,

Of the 475 deaths a very large proportion, viz. 58, arose from hooping-cough and scarlatina, 38 having been from scarlatina and 20 from hooping-cough. The mortality from hooping-cough was rendered so great by

inflammatory diseases of the lungs induce dby the extreme severity of the weather which produced a similar effect all over the metropolis, There was less fever than usual, 9 cases only having been registered, and there were 8 deaths from diphtheria, The total mortality from epidemic diseases was 97, Of the remaining 378 deaths, 26 were caused by diseases of uncertain seat, viz.: hœmorrhage, dropsy, mortification, cancer and gout. The two latter were unusually fatal; 12 deaths having occurred from cancer and 3 from gout. There were 73 deaths from tubercular diseases, including consumption; 55 deaths from diseases of the nervous system, of which no less than 13 happened from apoplexy.

As I have stated on other occasions we find this disease most fatal at those periods of the year which are attended by rapid oscillations in the readings of the thermometer and barometer. There were 20 deaths from diseased heart, and 90 from inflammatory disease of the lungs, against 80 during the corresponding period of last year. Of the 90 no less than 50 were attributed to bronchitis. There were also 28 deaths from diseases of the digestive organs; 7 from child-birth; 20 deaths of very young infants from premature birth, 28 of persons who were stated to have died from old age; also 9 sudden and 4 violent deaths.

As this Report has extended already beyond its usual limits I will not recapitulate any part of the contents of my weekly minutes, except to mention the necessity of kerbing all the roads and streets which have a continuous line of houses on either side. Also of keeping the footways in as firm a state and of using as little fine gravel in making them up as possible, so as to diminish the quantity of dust in dry weather. There is also another matter in connection therewith to which I wish to draw your attention, viz. the state of those streets which have not yet been dedicated.

The meteorology of the quarter was somewhat unusual, the temperature having been above the average in October and December and very considerably below it in November, especially on the 23rd. and 24th. when the temperature was lower than on any two consecutive days in November for the last 45 years. On many days the temperature was more than 10 degrees below the average. The mean pressure of the air was below the average in November and December, and above it in October. The amount of rain was less than usual, and the quantity of ozone noted was also unusually small.

I remain, GENTLEMEN,

Your obedient Servant,

J. W. TRIPE.

TABLE II.

Deaths registered in the District of Hackney during the Thirteen Weeks ending January 1st, 1859.

Causes of Death.	Ages. Under 1	0 and under 20.	20 and under 40.	40 and under 60.	60 and under 80.	80 and above	Total
I. Zymotic Diseases :							
Small-pox	..	...	...	..	...	...	...
Measles	3	5	...	...	...	...	5
Scarlatina	3	38	...	...	...	..	38
Hooping Cough	10	20	...	...	...	...	20
Croup	...	...	...	...	...	...	...
Thrush	1	1	...	...	...	...	1
Diarrhœa (Bowel Complaint)	4	5	...	..	2	...	7
Dysentery	...	...	..	...	..	...	..
Cholera	...	...	...	...	...	...	...
Influenza	...	..	...	...	2	1	3
Scurvy and Purpura	...	1	...	...	...	...	1
Ague	...	...	...	...	...	...	...
Remittent Fever	...	...	...	...	...	..	...
Infantile Fever	...	...	...	...	...	...	...
Typhus Fever	...	4	5	...	...	..	9
Puerperal Fever (Metria)	...	...	1	...	..	...	1
Rheumatic Fever	...	3	...	...	...	...	3
Erysipelas (Rose)	.	...	1	...	1	...	2
Syphilis	2	2	...	...	..	...	2
Noma (Canker)	...	...	...	...	...	...	...
Diptheria	...	6	1	1	...	...	8 = 100
II. Dropsy, &c.:							
Hæmorrhage	1	1	...	1	...	...	2
Dropsy	...	1	...	...	4	...	5
Abscess	...	...	...	...	...	...	.
Ulcer	..	...	..	...	...	...	..
Fistula	...	...	...	...	..	...	...
Mortification	...	...	...	1	3		4
Cancer	...	..	...	4	7	1	12
Gout	...	...	...	...	3	...	3=26
III. Tubercular Diseases :							
Scrofula	...	1	...	...	..	...	1
Tabes Mesenterica	5	7	...	...	..	..	7
Phthisis (Consumption)	...	11	33	13	2	...	59
Hydrocephalus (Water on Brain)	3	6	...	...	...	...	6=73
IV. Brain and Nerves :							
Meningitis	1	4	1	1	...	...	6
Cerebritis	...	...	1	2	...	...	3
Apoplexy	...	...	1	7	4	1	13
Palsy (Paralysis)	...	..	...	1	7	...	8
Delirium Tremens	...	..	...	..	...	...	...
Idocoy	...	...	...	...	..	..	...
Epilepsy	...	...	...	...	...	...	...
Tetanus	...	...	...	...	...	...	...
Insanity	...	...	...	1	2	...	3
Convulsions	9	14	...	...	...	...	14
Disease of Brain, &c.	..	1	...	2	3	1	7
,, Spinal Cord	...	1	...	...	...	..	1=55
Carried forward	42	132	42	36	40	4	254

TABLE II.—*Continued.*

Causes of Death.	Ages. Under 1	0 and under 20	20 and under 40	40 and under 60	60 and under 80	80 and above	Total.
Brought forward.....	42	132	42	36	40	4	254
V HEART AND BLOOD VESSELS:							
Pericarditis	.	1	1	1	...	...	3
Endocarditis	..	...	1	...	..	..	1
Aneurism	..	...	...	..	...	..	...
Disease of Heart, &c.	1	1	1	3	9	2	16=20
VI. LUNGS AND ORGANS OF RESPIRATION:							
Laryngitis	2	10	...	...	...	...	10
Bronchitis...	12	17	5	10	17	1	50
Pleurisy	...	.	...	...	...	..	...
Pneumonia	16	22	4	...	...	...	26
Asthma	...	..	..	1	2	1	4=90
Disease of Lungs ...	...	..	..	...	...	...	
VII. STOMACH AND DIGESTIVE ORGANS:							
Teething	4	4	..	...	...	...	4
Quinsey	..	1	..	...	...	...	1
Gastritis	1	1	...	2	...	...	3
Enteritis	1	1	...	3	...	...	4
Peritonitis	...	1	1	...	..	...	2
Ascites	...	...	...	...	...	...	...
Ulceration of Intestines ...	..	...	...	..	...	...	..
Hernia (Rupture)	..	...	...	...	...	...	...
Intussusception	1	1	...	..	...	..	1
Disease of Bowels	...	...	...	..	...	...	...
Abdominal Tumour	...	...	.	...	...	...	...
Stricture of Intestinal Canal ...	...	...	...	...	...	...	...
Disease of Stomach, &c. ...	...	...	...	1	1	...	2
Disease of Pancreas	...	...	...	...	...	..	...
Inflammation of Liver (Hepatitis)	..	...	...	2	...	..	2
Jaundice	...	...	...	...	..	..	..
Disease of Liver	1	2	...	6	...	1	9
Disease of Spleen	...	...	..	..	...	...	=28
VIII. KIDNEY, &c.:							
Nephritis	...	...	...	1	..	...	1
Nephria (Bright's Disease) ..	...	...	...	2	2	..	4
Diabetes	...	..	1	...	...	...	1
Cystitis	...	...	...	...	...	...	...
Stricture of Urethra	...	..	..	...	..	...	...
Disease of Prostrate Gland ...	...	...	...	...	1	...	1
Disease of Kidney	...	...	..	1	...	...	1=8
IX. CHILDBIRTH:							
Childbirth (see Metria) ...	...	...	5	...	..	...	5
Disease of Uterus, &c.	..	...	...	..	...	...	...
Ovarian Disease	..	..	2	..	..	...	2=7
Carried forward ..	81	194	63	69	72	9	407

TABLE II.—*Continued.*

Causes of Death.	Ages. under 1	0 and under 20	20 and under 40	40 and under 60	60 and under 80	80 and above	Total.
Brought forward	81	194	63	69	72	9	407
X. Joints Bones, &c.:							
Chronic Rheumatism	...	...	..	...	...	...	..
Disease of Joints	...	...	...	...	...	...	...
Disease of Bones ...	...	...	..	...	...	...	..
Disease of Spine	...	...	...	...	...	...	...
XI. Skin, Cellular Tissue, &c.:							
Carbuncle and Boils	...	...	..	...	1	...	1
Phlegmon	...	...	...	...	...	...	...
Disease of Skin, &c.	...	...	...	...	...	...	...
XII. Malformation:							
Spina Bifida	...	...	...	...	..	..	...
Other Malformations	...	..	...	...	..	...	...
XIII. Premature Birth and Debility	20	20	...	...	...	...	20
XIV. Atropy	6	6	...	...	...	...	6
XV. Old Age and Decay... ...	...	...	...	...	14	14	28
XVI. Sudden Deaths	..	3	...	4	2	...	9
XVII. Violent Deaths							
Intemperance	...	...	...	...	...	...	..
Privation of Food	...	...	...	...	...	...	...
Want of Breast Milk	...	...	...	...	...	...	...
Neglect	...	...	...	...	..	..	..
Amputation of Leg	...	...	...	...	...	...	...
Poisoned Wounds	...	..	...	...	...	...	...
Burns and Scalds	...	...	...	...	..	...	..
Hanging (Suicide)	...	...	..	..	...	...	...
Suffocation	1	1	...	...	...	...	1
Drowning (Suicide)	...	..	...	...	...	...	...
Fracture and Contusions ...	...	...	...	1	..	...	1
Wounds	...	...	...	1	..	...	1
Other Violence	1	1	...	..	...	...	1
XVIII Not Specified	...	...	...	...	...	...	
Totals	109	225	63	75	89	23	475
		Under 20	20 and under 40	40 and under 60	60 and under 80	80 and above	Total.

TABLE I.

Summary of METEOROLOGICAL Observations taken daily during the undermentioned Weeks, at the Town Hall, Hackney, by Dr. Tripe.

1858 — Week Ending	Barometer.	Temperature of the Air.							Moisture		Mean weight of a cubic foot of air.	Ozone	Rain	Deaths registered from epidemic disease in the week which is subsequent to the date given.	Deaths registered in the week which is subsequent to the date given.	Excess or minus of temperature in each week, when compared with mean for 43 years.
		Absolute.			Average											
	Mean of Seven Observations corrected	Highest	Lowest	Range	Mean of seven daily Maximums.	Mean of seven daily Minimums.	Mean of seven daily Ranges.	Adopt. Mean Temperature	Mean Dew-point Temperature	Mean degree of Humidity saturation=100		Mean Weekly Amount.	Mean Daily Amount.			
	°	°	°	°	°	°	°	°	°	°	°	Inches.				°
Oct. 9....	29·800	66·6	36·0	30·6	61·1	44·9	16·2	52·4	42·1	68·5	538·0	0·52	0·1	5	29	—0·4
,, 16....	29·850	67·0	39·0	28·0	61·2	46·4	14·8	52 2	46·3	80·8	539·8	0·20	0·0	5	32	+2·5
,, 23....	29·816	62·2	42·2	20·0	59·0	46·2	12·8	51·6	47·8	87·3	539·2	0·38	0.6	5	28	+2·2
,, 30....	30·230	57·6	34·0	23·6	54·2	41·8	12·4	47·5	43·0	83·7	552·0	0·26	0·2	6	38	0·0
Nov. 6....	30·321	52·8	30·6	22·2	51·0	37·6	13·4	43 8	39·2	84·0	558·0	0 01	0·3	8	38	—2·7
,, 13....	30·190	50·2	29·0	21·2	46.6	32·6	14·0	39·4	35·0	82·8	560·7	0·00	0·0	10	32	—5·3
,, 20....	29·664	47·2	25·8	21 4	40·0	31·8	8·2	35·8	30·2	76·4	555·2	0·00	0·0	10	42	—7·0
,, 27....	29·692	57·4	21·4	36·0	43·6	32·2	11·4	37·8	35·0	86·4	553·3	0·24	0·0	9	48	—3·9
Dec. 4....	29·606	53·8	36·8	17·0	51·0	41·8	9.2	46·8	43·2	85·7	541·1	0·49	0.0	6	46	+4·7
,, 11....	30·246	50·2	31·0	19·2	40 2	33·8	6·4	36·8	34·0	86·4	564·7	0·00	0 0	7	42	—4·2
,, 18....	29·990	52·0	33·2	18·8	43·0	35.0	8·0	39·2	36·0	87·0	557·0	0·32	0·3	10	39	—1·1
,, 25....	29·568	55·6	35·4	20 2	49·0	39·0	10·0	47·0	40·6	84·8	542 6	0·80	0·0	5	40	+6·5
Jan. 1....	29·872	50·2	32·5	17·7	45·2	38·0	7·2	41·8	38·2	87 8	551·8	0·22	0·0	10	34	+4·4
Means.	29·910	55·6	32·8	22·8	49·6	38·8	11 1	43 9	39·3	83·2	550·3	0·26	0 1	7	38	+0·3

NOTE.—All the Meteorological Instruments have been compared and certified by Mr. Glaisher. All the Observations have been corrected for error, for diurnal range, &c., and reduced by Glaisher Tables, last editions.

REPORT

ON THE

SANITARY STATE

OF

HACKNEY DISTRICT,

FOR THE YEAR 1858.

BY JOHN W. TRIPE, M.D.,

MEDICAL OFFICER OF HEALTH TO THE DISTRICT.
MEMBER OF THE COUNCIL OF THE METEOROLOGICAL SOCIETY, ETC.

Printed by Order of the Board,

BY

JOHN COVENTRY, CHURCH STREET, HACKNEY.

1859.

ANNUAL REPORT.

To the Board of Works for the Hackney District.

Gentlemen,

THE last year has been, so far as this District is concerned, a year of drainage, for the Surveyor, Mr. Lovegrove, informs me that a very considerable length of Sewers has been constructed, and Mr. Valentine's reports shew that the owners of 1518 houses have emptied and filled up the cesspools existing on their premises, and connected them with the sewers. In addition to these works, 138 Drains have been cleansed and repaired, making a total of 1656 houses which have been benefitted through the notices of this Board. The total cost of these Works may be estimated at £ for the Sewers, and £7670 for the House Drains. Now, to obtain the performance of so large an amount of work, it has been necessary to summons only ten persons before the magistrates; but, I have, after personally inspecting the premises, required eighty-six persons to attend before you preparatory to summonses being issued, by which the work in seventy-six instances was done, a great amount of time saved to your officers, and a large cost to the owners of property.

But although much good has accrued to the District from these extensive drainage works, yet the benefit has not been so great as it otherwise would have been if an efficient plan of trapping and ventilating the drains had been in use. At present there are no efficient traps to be got, although those in use are of great value. Thus, on several occasions after houses had been drained into the sewers, the inhabitants complained of bad smells, and in some instances of illness, both of which were much relieved by the introduction of traps, which had been neglected when the drains were made. There have also been several fatal cases of fever, and

other similar diseases, in houses which drained into cesspools only, and in which very fetid smells were of common occurrence: the only really efficient plan of trapping and ventilating house drains is that patented by your Surveyor, Mr. Lovegrove. As it is extremely important to place this matter before the public in its true light, I propose briefly describing the old, and Mr. Lovegrove's plans.

In the old plan, when complete, all the inlets, whether in the house or in the yard and outbuildings, are supplied with a water-trap, and the outlet into the sewer with a flap or shakle-trap; or else a dip-trap is placed near the outlet. Now, when water is poured into the drain it drives out a corresponding quantity of air, unless there be a dip-trap, in which case a considerable pressure is exerted on all the bell-traps; when, if they or any joint be defective, the foul air will be driven into the house. If there be a shakle-trap, the water in escaping from the house drains separates it from the mouth of the outlet and fills the lower part, but allows the passage of air from the sewer into the house drain, to replace that which had been previously driven out. This current at times is so great, that on a large pailful of water being poured quickly down a water closet, I have seen a lighted candle blown out by the rush of air from a bell-trap which had become dry. A similar train of events takes place when the house drains are connected with a covered cesspool, but with greater certainty, because the cesspool being filled with drainage matters, and with air and the gases evolved during decomposition, the bulk of water poured in must displace in the cesspool a similar bulk of these noxious gaseous bodies If, therefore, the traps are in good order no great interchange of air and gases will occur; if not (and the film of water in a bell-trap is so thin as soon to admit of the free passage of air into and out of the sewer, unless frequently supplied with water), a free communication will exist between the houses and the sewers, and more danger will be incurred by the inmates than if they had no drainage at all.

Now, Mr. Lovegrove's plan provides a remedy for all these evils; for, not only are his water-traps at the inlets of a much better construction than those already employed, and the trap at the outlet also more efficient, (as it is composed of a dip-trap and shakle-trap), but especially because he provides the means of ventilating the house drain, and of allowing the bulk of air displaced by the

water poured into the drain to escape into the sewer instead of into the house. Further, if the air of the house drain should find its way into the house, it is not so highly charged with noxious compounds as under ordinary circumstances, and the air from the sewers cannot interchange with that of the house drain. I have seen a series of experiments tried with his apparatus, and found, on water being poured into a water-closet, that a strong current took place through the supply-valve into the house drain; that the air-valve opening into the sewer was strongly acted on, and allowed a ready passage of air into the sewer from the house drain, without any current from the sewer into the house, whilst the shakle-trap was not acted on until the water rushed out, and then no current of air passed into the house drain as with an ordinary trap.

In my Quarterly Reports for the year I have pointed out the most prominent occurrences as regards the sanitary condition of the District; and must, therefore, refer to them for many particulars which would otherwise have been enumerated here.

In my first Report I showed that, during the years 1847—55, there were 154 births to each 100 deaths; and during the past year, there were 2454 births against 1629 deaths: or, at the rate of 156 births to each 100 deaths. The deaths in all the public institutions, as well as the births, are included in these numbers; so that the proportion of births to deaths is smaller than it would have been had they been confined to the District proper.

The following Table shows the number of deaths in each Sub-district in each quarter :—

1858—Births in each Sub-district.

	Quarters.	Stoke Newington	Stamford Hill.	West Hackney.	Hackney.	South Hackney.	TOTALS.
	First	42	27	233	247	108	657
	Second ..	48	31	181	217	103	580
	Third	42	28	209	220	108	607
	Fourth ..	36	40	186	225	123	610
	Totals	168	126	809	909	442	2454
Per cent.	Births ..	6·7	5·1	32·9	37·3	18·0	100
	Pop. 1851	8·4	9·6	31·7	35·7	14·6	100

We see from the above that the smallest birth rate occurred in Stamford Hill Sub-district, where only 51 births were registered

out of each 1000 in the whole District. In 1851, the proportion of the population was 96 in each 1000; but as the population in the other Districts has increased more rapidly than in Stamford Hill, we should expect the per centage of births to be smaller now than in 1851. The proportionate numbers in the various Sub-districts are—in Stoke Newington, 67; in Stamford Hill, 51; in West Hackney, 329; in Hackney, 373; in South Hackney, 180 in each 1000 births in the District at large.

The total number of deaths in the District was 1629, of which 103 were registered in Stoke Newington Sub-district; 99 in Stamford Hill; 431 in West Hackney; 727 in Hackney; and 271 in South Hackney.

If the population has continued to increase since 1851 at the same rate as between 1841 and 1851, the number of inhabitants on June 30th would be 74959; and if the deaths be corrected by subtracting the 156 deaths which happened in the German Hospital and East London Union, we ascertain that 10 deaths happened in each 509 persons residing in the District; or, 196 deaths in each 10,000 inhabitants. This is a favourable death rate when contrasted with that for the whole of London, but it is larger than in the previous year. As pointed out in my Quarterly Report, ending January 2nd, the extremely cold weather in November had altered the death rate for the whole year, by the enormous increase in the number of deaths which it produced. It is also probable, as shown by the rates and other data, that the increase of population in the District has exceeded 4 per cent. per annum: and if so, the death rate would be proportionably diminished.

The following Table shows the number of deaths in each Sub-district during the different quarters; and, by comparison, the effect of the cold weather at the beginning and latter end of the year on the poorer Districts:—

1858—Deaths in each Sub-district.

Quarters.	Stoke Newington	Stamford Hill.	West Hackney.	Hackney.	South Hackney.	TOTALS.
First	33	33	197	107	72	452
Second ..	22	22	92	163	48	347
Third	17	23	102	157	56	355
Fourth ..	31	19	130	200	95	475
Totals ..	103	97	431	727	271	1629
Per cent.	6·3	5·9	26·5	44·6	16·7	100·0

We see from the above, that out of the total deaths 103 were registered in Stoke Newington; 97 in Stamford Hill; 431 in West Hackney; 727 in Hackney; and 271 in South Hackney Sub-districts.

The above numbers being uncorrected give a very erroneous idea of the rate of deaths belonging to each Sub-district, for the deaths in the German Hospital, East-London Union, and Hackney Workhouse, are included in the returns for the Hackney Sub-district. To arrive at the truth we must, therefore, subtract the deaths in the East London Union and German Hospital, and distribute the mortality in the Hackney Workhouse over the whole District in proportion to the population. We then find the numbers to be as follows—

	Stoke Newington	Stamford Hill.	West Hackney.	Hackney.	South Hackney.	TOTALS.
Uncorrected.	103	97	431	727	271	1629
Corrected ..	109	103	457	509	286	1464
Percentages.	6·3	5·9	26·5	44·6	16·7	100·
Corrected ..	7·4	7·0	31·2	34·8	19·6	100·

In the Quarterly Reports a detailed account will be found of the ages at and causes of death, so that it is unnecessary to recapitulate them; but I propose showing the mortality in each quarter from the various groups of diseases.

Deaths in 1858.

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total.	per cent.
Zymotic Diseases	74	77	107	100	358	21·9
Diseases of uncertain seat	18	19	13	26	76	4·7
Tubercular Diseases	51	53	62	73	239	14·7
Diseases of the Brain	73	32	42	55	203	12·4
... ... Heart	24	11	19	20	74	4·5
... ... Lungs, &c	98	53	22	90	263	16·2
... ... Stomach, &c	26	25	13	28	92	5·6
... ... Kidneys	7	6	6	8	27	1·6
... ... Childbirth	1	1	2	7	11	0·7
... ... Bones, Joints, &c	1	2	1	.....	4	0·3
... ... Skin	.....	.....	.....	1	1	0·1
Malformations	1	.....	.....	.....	1	0·1
Premature Birth and Debility	15	14	20	20	69	4·2
Atrophy	8	3	6	6	23	1·4
Old Age	32	33	22	28	115	7·1
Sudden Deaths	12	10	3	9	34	2·1
Violent Deaths	11	8	15	4	38	2·4
	452	347	355	475	1629	100·

This table shews that the largest mortality for the year was induced by the zymotic class of diseases, which includes smallpox,

measles, scarlet fever, hooping cough, diptheria, diarrhœa, fever, erysipelas, and some other similar affections. The deaths from these causes were 358 in number; or, 21·9 per cent. of the whole. The next most fatal class of diseases was those of the lungs and organs of respiration (excluding consumption), as no less than 263 deaths were registered from these causes. Consumption is excluded, because it is a constitutional disease, and belongs to the tubercular class, which caused a mortality equal to 14·7 per cent. of the whole. Diseases of the brain were next in order of fatality, as 203 deaths were registered under this class; or, 12·4 per cent. Under the heading of "old age" we have 115 deaths; or, 7·1 per cent. From the above we perceive that 65·4 per cent. of the total number of deaths in this District, during last year, were caused by four groups of diseases; whilst, in 1857, 66·1 per cent. were recorded from the same diseases. Diseases of the stomach, liver, &c., caused a mortality of only 5·6 per cent.; of the heart, of 4·5 per cent.; from premature birth and debility, 4·2; whilst 2·4 per cent. were caused by accident or suicide.

The deaths from the severe chief epidemic diseases were unusually large during the past year—scarlatina and diptheria having prevailed to a most unusual extent. I would observe here, in connection with scarlet fever, that the most effectual means for preventing the spread of the disease in a family, where it has broken out, is to separate the persons who are afflicted with it from the rest of the family; to prevent any one entering the room, except for absolutely necessary purposes; to prohibit the female attendants wearing woollen dresses; and to place the patient in the top room of the house, which must be kept well ventilated. The same observations apply, though in a very far less degree, to diptheria, which appears to be more a local (endemic) than a contagious disease.

1858—Mortality from Epidemic Diseases.

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	TOTALS.
Smallpox	....	....	....	....	....
Measles	6	18	7	5	36
Scarlet Fever	12	6	20	38	70
Diptheria	1	5	13	8	27
Hooping Cough	15	19	10	20	64
Diarrhœa	6	9	30	7	50
Fever	15	14	13	9	51
Totals	55	69	93	87	304

This Table shows that the largest mortality from these diseases occurred in the quarter ending October 2nd; and the next, in that ending January 1st, 1859: that no death was registered from small pox, whilst no less than 76 deaths happened from scarlet fever, 27 from diptheria, 64 from hooping-cough, 50 from diarrhœa, and 51 from fever. These latter diseases have been gradually declining each year, and I do not doubt but that when the drainage works are completed, they will be materially diminished.

The following Table shows the number of deaths from the above-named diseases, corrected for increase of population :—

CORRECTED DEATHS,
FROM CERTAIN EPIDEMIC DISEASES.

Years.	Small Pox.	Measles.	Scarlet Fever.	Hooping Cough.	Diarrhœa.	Fever.
1855	17	7	84	56	29	73
1856	13	42	54	30	69	66
1857	1	23	43	59	72	61
1858	0	36	76	64	50	51

The mortality assigned to scarlet fever in this Table is too small as compared with other years, for 27 deaths were registered from diptheria in 1858, whilst two only were registered in 1857. There can be no doubt that several deaths from scarlet fever have been returned under the name of diptheria, for there is great difficulty at times in deciding to which disease a particular case should be assigned.

The following Table shews that the fourth quarter of the year was the most fatal, 475 deaths having been registered against 452 in the first or winter quarter. This is an exception to the rule; for, in the years 1853—7, the mortality was about 27 per cent. in the first quarter against 25 per cent. in the fourth. As beforementioned, the extremely cold weather in November produced so large a death rate as to disturb the rate of mortality for the whole year: the same cause also produced an increased number of deaths in young children, 24·4 per cent. of the whole mortality in 1858 having occurred in children under one year old, whilst only 22·4 per cent. happened at the same age in 1857. The greatest number of deaths in young children frequently occurs in the third quarter.

1858—Ages at Death.

Quarters.	Under 1 year.	Under 20 years.	Between 20 and 40.	Between 40 and 60.	Between 60 and 80.	Above 80.	Totals.	Per cent.
First	100	183	63	73	110	23	452	27·7
Second	83	169	42	46	68	22	347	21·3
Third.....	106	185	52	39	60	19	355	21·8
Fourth	109	225	63	75	89	23	475	29·2
Totals..	398	762	220	233	327	87	1629	100·
Per cent. ..	24·4	46·8	13·5	14·3	20·1	5·3	100·0	

From the above we ascertain, that of 1629 deaths registered in the District, including the German Hospital and East London Union, 398 occurred in children under one year of age; 374 who were above one year but under twenty; 220 in persons who were more than twenty but less than forty years of age; 233 in those who were above forty but under sixty; no less than 327 were more than sixty but under eighty; and 87 happened of persons who were above eighty years of age.

To calculate the death rate and average duration of life of the inhabitants of Hackney District, it is necessary to eliminate the deaths which have occurred in the German Hospital and East London Union. I ascertained, on posting up the returns of these Institutions to the District Registrar, that 6 deaths arose in children under one year of age; 19 between one and twenty years of age; 41 between twenty and forty; 38 between forty and sixty; 54 between sixty and eighty; and 7 above eighty years of age. Deducting, then, these deaths, 165 in number, from the total mortality of the District, we find that 1464 deaths belong to the District, and that the average age at death was 33·3 years; or, 33 years and 121 days. Now, as the population on the 30th day of June may be calculated at 74,408, and the mortality of the District was 1464, there would be 10 deaths in each 508 inhabitants; so that the expectation of life in the District may be assumed to be 45 years. The principle on which these calculations are founded has been explained in my preliminary Report: this calculation is not so favourable as for the year 1857, but it is more so than a similar comparison for the whole of London.

The nuisances abated by Mr. Valentine have been reported in each quarter, but the aggregate for the year is as follows:—

Privies and Cesspools emptied, filled up, and drained into the Sewer	1518
Privies and Cesspools emptied	277
Stable and other Refuse removed	261
Premises lime-washed, purified, and repaired	67
Filthy Premises, &c., cleansed	65
Pigsties cleansed and repaired, &c.	60
Choked Drains cleansed and repaired	138
Ditches cleansed	25
Other Nuisances abated	101
TOTAL	2512

To obtain the removal of so large a number of nuisances, it has been necessary to take summonses out against ten persons only. This extremely favourable result has been obtained partly by the plan of requiring the attendance at the Board of all parties who neglect or refuse to remove nuisances, after they have received the proper notices; partly by my personal inspection, and by the energy displayed by Mr. Valentine in following up the cases. There were 86 owners of property summoned to the Board, of whom 76 did the necessary work.

The meteorology of the year has been considered in each of the separate quarters, so that it is quite unnecessary for me to recapitulate.

I remain, Gentlemen,

Your obedient Servant,

JOHN W. TRIPE.

May, 1859.

Received, and ordered to be Printed and Distributed, in the usual way,

J. J. TANNER.

Chairman.

30*th June*, 1859.